Ten Steps

A Guide for Health Promotion and Empowerment of People Affected by Neglected Tropical Diseases

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american leprosy missions

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Health workers, community volunteers and affected persons in Angola, Brazil, Cameroon, China, DR Congo, Ghana, Ivory Coast, Liberia, Philippines and the U.S.A. over the last 30 years having leprosy, Buruli ulcer and other Neglected Tropical Diseases (NTDs) and health conditions

Expansion and combination of previous work of "*10 Tasks for people affected by Buruli ulcer who want to prevent disability – I can do it!*" and a Facilitator/Health Coach's Guide "*Community Based Training for Preventing Disability – Detect, Cure and Care*" by Lehman et al., sponsored by American Leprosy Missions and MAP International (*http://www.leprosy-information.org/*) and work started by *Legs to Stand On (LTSO)*

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Foreword

For centuries, the infectious diseases that are collectively known as neglected tropical diseases (NTDs) have caused immense suffering, disfigurement and lost human potential. A global effort to control these diseases is now underway, led by the World Health Organization and supported by a vast network of public and private partners. The primary focus of this effort has been to reduce the burden of – and in some cases even eliminate – the infectious agents that cause NTDs. Far less attention has been given to alleviating the suffering and improving the condition of those who already have these conditions.

Ten Steps: A guide for health promotion and empowerment of people affected by Neglected Tropical Diseases is a gift of compassion, a guide to compassionate action. It provides clear instruction in the essential practical skills needed to relieve suffering caused by NTDs, especially those that affect the limbs, such as leprosy and lymphatic filariasis. The guide is also highly relevant for people with other NTDs such as Buruli ulcer, as well as for managing skin wounds, the complications of diabetes and many other conditions.

The guide is written primarily for caregivers – health workers, traditional healers, community volunteers and teachers – who can serve as "Health Coaches" to empower affected persons, their families and their communities. It addresses not only physical health issues faced by those with NTDs, but also the crucially important problems of impaired participation, limitations in activity and stigmatizing attitudes that create barriers for people with NTDs. The authors provide both encouragement for self-care practices and instruction on when to seek further help.

Each of the ten steps is meant to be practiced, not merely read. For each step, the basics are presented first, with the possibility of expanding in the future to more advanced interventions for those with the appropriate training, experience or resources. Indeed, the guide is recommended for training people at community, local and even national levels. The spectrum of issues addressed in this volume is impressive, ranging from healthy eating and personal cleanliness to appropriate footwear and care of the skin and nails, wounds and scars.

Recent research shows that providing appropriate care for those with chronic NTD-related diseases actually improves community acceptance of drug-based interventions aimed at reducing transmission of the infectious agents that cause them. Caring for those with NTD-related diseases is not only the right thing to do from a humanitarian and ethical perspective; it also results in substantial societal and economic benefits that extend far beyond the affected individual.

I wish to thank the authors for their unwavering commitment to this project. *Ten Steps* reflects their collective wisdom, acquired through many years of dedicated work and innumerable conversations with colleagues and affected people around the world. I am grateful that they persevered in the face of many challenges. May this guide be a blessing to many.

David Addiss, MD MPH
Director, Children Without Worms
The Task Force for Global Health
July 7, 2015

Introduction to the Guide and Support Materials

Millions of people live with the physical, psychological and social challenges of Neglected Tropical Diseases and, for many, disability is an everyday reality. Morbidity management and disability interventions can have a clear and often immediate positive impact on the lives of the people affected.

Ten Steps: A guide for health promotion and empowerment of people affected by Neglected Tropical Diseases will enable health workers, communities and the people affected to identify common problems early, take appropriate actions to prevent or minimize complications, know when and where to refer, and understand how to monitor results. Since basic care at the community level is strikingly similar across diseases, this guide facilitates and promotes integrated, cross-cutting approaches. By empowering individuals, health workers and communities to competently and confidently face disease and care challenges, overall health outcomes can be improved.

The participation of people affected by NTDs and their communities is central to planning and implementing the *Ten Steps*. But they cannot do this without the broader support of the health system. The health worker, community volunteer, educator, traditional healer or other can act as a "coach" to develop awareness and capacities to take action. Thus, in this guide the training facilitator is referred to as the "Health Coach."

The *Ten Steps* package contains three sets of materials: a training guide, a summary card with key messages and actions, and a manager's executive summary of each step.

The steps within this guide are best understood and learned when participatory and problem-solving teaching methodologies are used within the local context. All steps can be taught together or individually, and repeated as often as needed until the care can be done adequately. Confidence will develop as skills are practiced and positive results are seen.

Since 2008, the *Ten Steps* model has helped to control disease, preserve mobility, prevent disability and create inclusive communities for people affected by NTDs, disability or other health conditions. It is our hope that the publishing of this updated *Ten Steps* guide will enable many more people and communities to benefit from its approach.

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American Leprosy Missions
July 7, 2015

Cross-Cutting Issues by Type of NTD

	Leprosy	Buruli Ulcer	Yaws	Leishmaniasis	Lymphatic Filariasis	Podoconiosis	Trachoma	STH
WASH & Nutrition Accessible & Available	X	X	X	X	X	X	X	X
Eye: Vision, Exposure, Trichiasis	X	X					X	
Sensory Loss	X	X						
Muscle Weakness	X	X						
Movement Limitation	X	X	X	X	X	X	X	
Dry Skin	X	X	X	X	X	X		
Wound Present	X	X	X	X	X	X	X	
Wound at or Near a Joint	X	X	X	X				
Scar	X	X	X	X			X	
Edema	X	X			X	X		
Footwear	X	X			X	X		X
Activity Limitation	X	X	X	X	X	X	X	
Participation Restriction	X	X	X	X	X	X	X	

Table of Contents

INTRODUCTION:
Terminology and Reflection on How to Give Help/Care

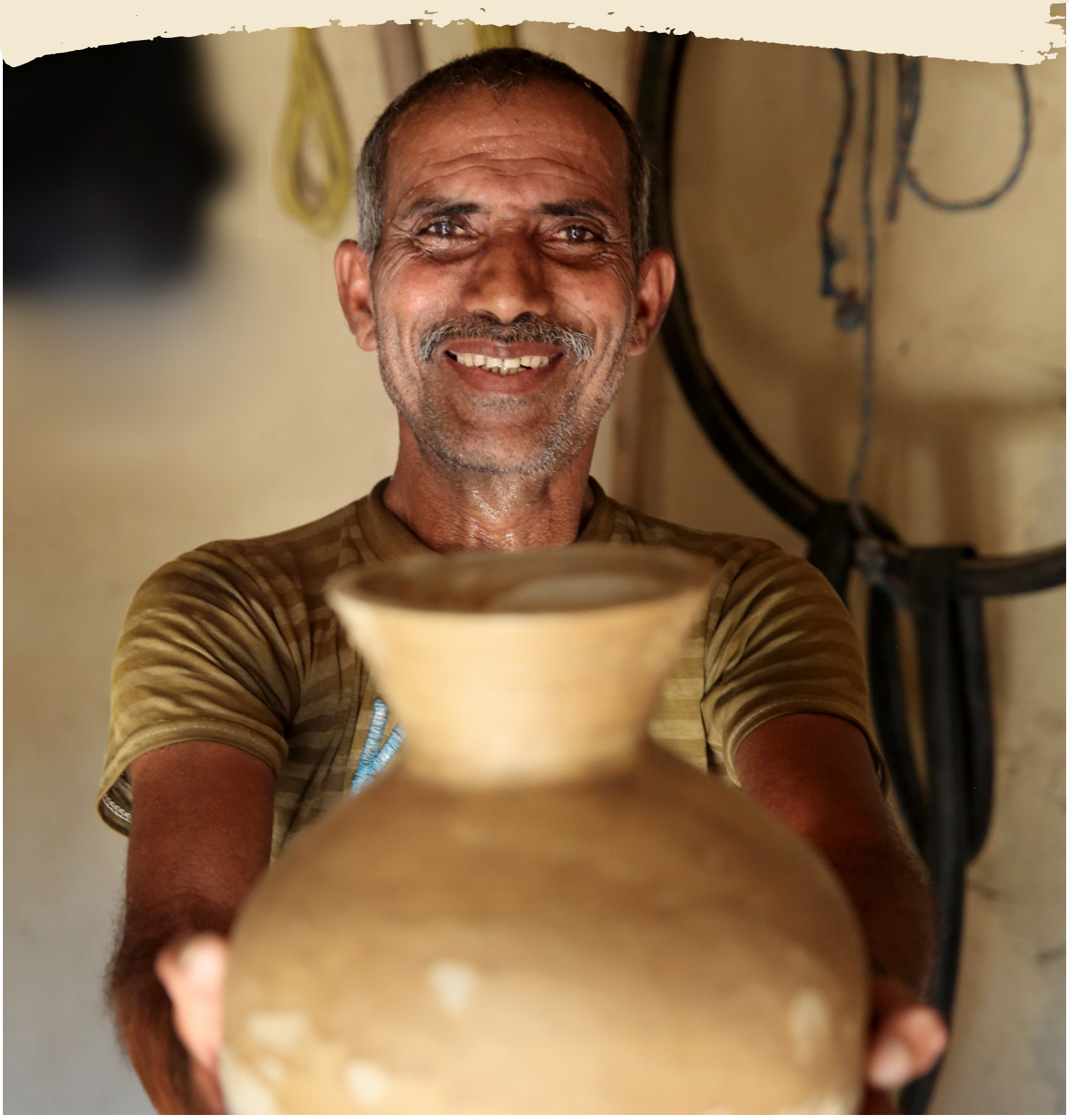


Photo credit: Tom Bradley

Introduction: Terminology and Reflection on How to Give Help/Care

Introduction

It is important to have consistent definitions for terms such as prevention, rehabilitation and disability. This module aims to clarify terms based on the World Health Organization (WHO) International Classification of Functioning, Disability and Health (ICF) framework and WHO Community-Based Rehabilitation (CBR) guidelines. They both help us appreciate how diseases and health conditions can affect the whole person. The five components of CBR – health, education, livelihood, social and empowerment – are important in ensuring the inclusion of persons with disability within their communities.

This module will help participants reflect on the causes of disability, the kinds of disability and what can be done to promote health, enablement and inclusion for all. Participants will also have the opportunity to reflect on how help and care is provided and what kind of help/care best enables and empowers.

Goals

1. Use uniform terminology when talking about disability, prevention and rehabilitation.
2. Develop confidence, enable and empower through participation.

Key Messages

1. Prevention is the action taken to stop complications/problems from happening or getting worse.
2. Rehabilitation includes all actions aimed at reducing the impact of disability on the individual, enabling them to achieve independence, social integration, a better quality of life and self-actualization.
3. "Disability" is the term which encompasses:
   - Changes or losses in physical or mental functions and/or structure
   - Activity limitations
   - Social restrictions
   - Environmental situations which impede function
4. CBR is a community development strategy that includes key elements of health, education, livelihood, social and empowerment.
5. Explain what kind of help and/or care best enables or empowers.

References

- *http://www.leprosy-information.org/*
- *http://www.who.int/classifications/icf/en/*
- *http://www.who.int/disabilities/publications/cbr/en/*
- *https://www.researchgate.net/profile/Johnson_Roch_Christian/publication/8668896_Development_of_a_questionnaire_assessing_Buruli_ulcer-induced_functional_limitation/links/0deec528ad4fee152e000000.pdf*

A Quick Supervisory Checklist

Health Coach Encourages/Teaches	Yes	No	Not Obs	Observations & Recommendations
1. Affected person and caregiver to participate in daily self-care				
2. Affected person to participate in family, school, work and community activities				
3. Affected person and caregiver to find solutions to specific participation restrictions				

Guidelines for Teaching the Module

Facilitator/Health Coach should use the local language and ensure that all terms are found in the local language.

Estimated time to do introduction: 4 hours

Learning Objectives

At the end of the module, participants will be able to:

1. Define the terms "prevention" and "rehabilitation."
2. Define the term "disability" based on the WHO ICF.
3. Explain how a disease or health condition can affect body structures and functions, the ability to do activities and social participation.
4. Give examples of how the environment or personal factors can influence disability (positively or negatively).
5. Give examples of help and care that enable and empower.
6. Know some of the tools that are available to identify activity limitations and participation restrictions.

List of Teaching Activities and Learning Materials

Activity 1

Definitions of Prevention and Rehabilitation

Activity 2

Understanding Disability (ICF and CBR)

Activity 3

Giving Help: A Story of Crossing the River

Activity 4

Identifying and Measuring Activity/Functional Limitation and Participation Restrictions

Handouts

- 0.1 WHO International Classification of Disability, Functioning and Health (ICF) Framework
- 0.2 WHO Community-Based Rehabilitation (CBR) Matrix
- 0.3 Story: Crossing the River
- 0.4 BUFLS (Buruli Ulcer Functional Limitation Score)
- 0.5 SALSA (Screening of Activity Limitation and Safety Awareness)
- 0.6 Participation Scale (Measure of Participation Restriction)

Introduction: Terminology and Reflection on How to Give Help/Care

Activity 1: Definitions of Prevention and Rehabilitation

Handouts

None

Equipment & Materials

- Flip chart stand and paper
- 4 – 6 colored markers
- 1 piece of flip chart paper per group
- 1 marker per group

Instructions for Teaching the Activity

Room Arrangement: Divide large group into smaller groups of four participants.

1. **Health Coach distributes large flip chart paper and markers to each group.**

2. **Health Coach asks each group to define what is meant by the words "Prevention" and "Rehabilitation."**

3. **Each group discusses and writes down their definitions on the paper.**

4. **Health Coach asks each group to read aloud their definition of the word "Prevention" with the Health Coach listing key words on the flip chart in the front of the group.**

5. **Health Coach completes any missing key points and suggests key prevention actions that will be emphasized during the training:**
   - Taking action to stop complications/problems from happening.
   - Taking action to stop a condition from getting worse.

6. **Health Coach asks each group to read aloud their definition of the word "Rehabilitation" with the Health Coach listing key words on the flip chart in the front of the group.**

7. **Health Coach groups responses by "Return to normal" and "Unable to return to normal."**
   - Return to normal function: regain movement and muscle strength; regain ability to do activities of daily living (ADL) and to participate socially.
   - If unable to return to normal functions:
     - Adapt environment and activities or use adaptations to allow activities to be done independently.
     - Ensure inclusion in family, play, school, work and community activities (social participation).

Activity 2: Understanding Disability (ICF and CBR)

Handouts

- 0.1 WHO ICF Framework
- 0.2 WHO CBR Matrix

Equipment & Materials

- Projector (optional) and/or handouts
- Flip chart stand & paper
- 4 – 6 colored markers

Instructions for Teaching the Activity

Room Arrangement: Participants sit in a circle

1. **Health Coach distributes handouts *0.1 WHO ICF Framework* and *0.2 WHO CBR Matrix*.**

2. **Health Coach introduces the ICF terminology and framework to discuss how health conditions affect physical/mental areas, activities and social participation. An example is given using a general health condition.**

3. **Health Coach asks the group to apply the ICF framework to a specific Neglected Tropical Disease (NTD) such as Buruli ulcer, leprosy or lymphatic filariasis.**

4. **Health Coach summarizes disability and its consideration of the whole person.**

5. **Health Coach briefly introduces the *WHO CBR Matrix* with the five elements of CBR within community development to create an inclusive community.**

Introduction: Terminology and Reflection on How to Give Help/Care

Activity 3: Giving Help: A Story of Crossing the River

Handouts

- 0.3 Story: Crossing the River

Equipment & Materials

- Flip chart stand, paper and pens

Instructions for Teaching the Activity

Room Arrangement: Participants sit in a circle

1. **Health Coach distributes the handout *0.3 Story: Crossing the River*.**

2. **Health Coach reads the story of Crossing the River or the story is acted out by three persons.**

3. **If acted out (dramatization):**
   - Choose three persons: one fisherman, two village persons going across the river to buy food and supplies. The Health Coach orients the three actors as to the story and its purpose and gives details about their roles.
   - The Health Coach orients the rest of the group to create a wide dangerous river on the floor with an island in the middle and "stepping stones" going to the island and also directly crossing the river.

4. **The story of the river crossing is told or acted out.**

5. **At the end of the story, the Health Coach asks the following questions:**
   - What was the difference in the kind of help given to each person?
   - What was the result of how each person was helped?
   - How did the fisherman feel about carrying the first person and leaving them on the island?
   - How did the fisherman feel about teaching the second person to cross the river using the stones?
   - How did each person who received help initially feel at the beginning and then how did they feel at the end of the story?
   - Is this story similar or different from how you provide help or care?
   - What kind of help or care enables and empowers?

Activity 4: Identifying and Measuring Activity/Functional Limitation and Participation Restrictions

Handouts

- 0.4 BUFLS (Buruli Ulcer Functional Limitation Score)
- 0.5 SALSA (Screening of Activity Limitation and Safety Awareness)
- 0.6 Participation Scale

Equipment & Materials

- Flip chart stand, paper and pens

Instructions for Teaching the Activity

Room Arrangement: Participants sit in a circle

1. **Health Coach states he/she wants to demonstrate how disease and health conditions can affect ability to do activities and participate in family, school and community life.**

2. **Health Coach distributes the handout *0.4 BUFLS*, *0.5 SALSA* and *0.6 Participation Scale* and reviews documents with the group and demonstrates how to use, document and score.**

3. **Health Coach simulates situations for participants to apply *BUFLS*, *SALSA* and *Participation Scale*.**

4. **One participant is selected to interview the Health Coach using *BUFLS,* a different participant to interview using *SALSA* and a last participant to interview using the *Participation Scale*.**
   - Situation 1 using *BUFLS*: Person with Buruli Ulcer having impairments on both legs that are limiting their ability to do daily activities.
   - Situation 2 using *SALSA*: Person with leprosy having sensory loss and clawing of fingers of both hands is having difficulty dressing and manipulating small objects.
   - Situation 3 using the *Participation Scale*: Person with a disease or disability that is causing them to experience participation restrictions at home, school or work and in the community.
   - All participants listen to Health Coach responses and record and score the functional limitation.
   - All participants check their work to make sure they recorded and scored accurately.

5. **The large group is divided into three groups and the results of one of the interview situations (1, 2 or 3) is given to each group. They are asked to discuss the situation for 15 minutes and to decide what they would do to improve the situation.**

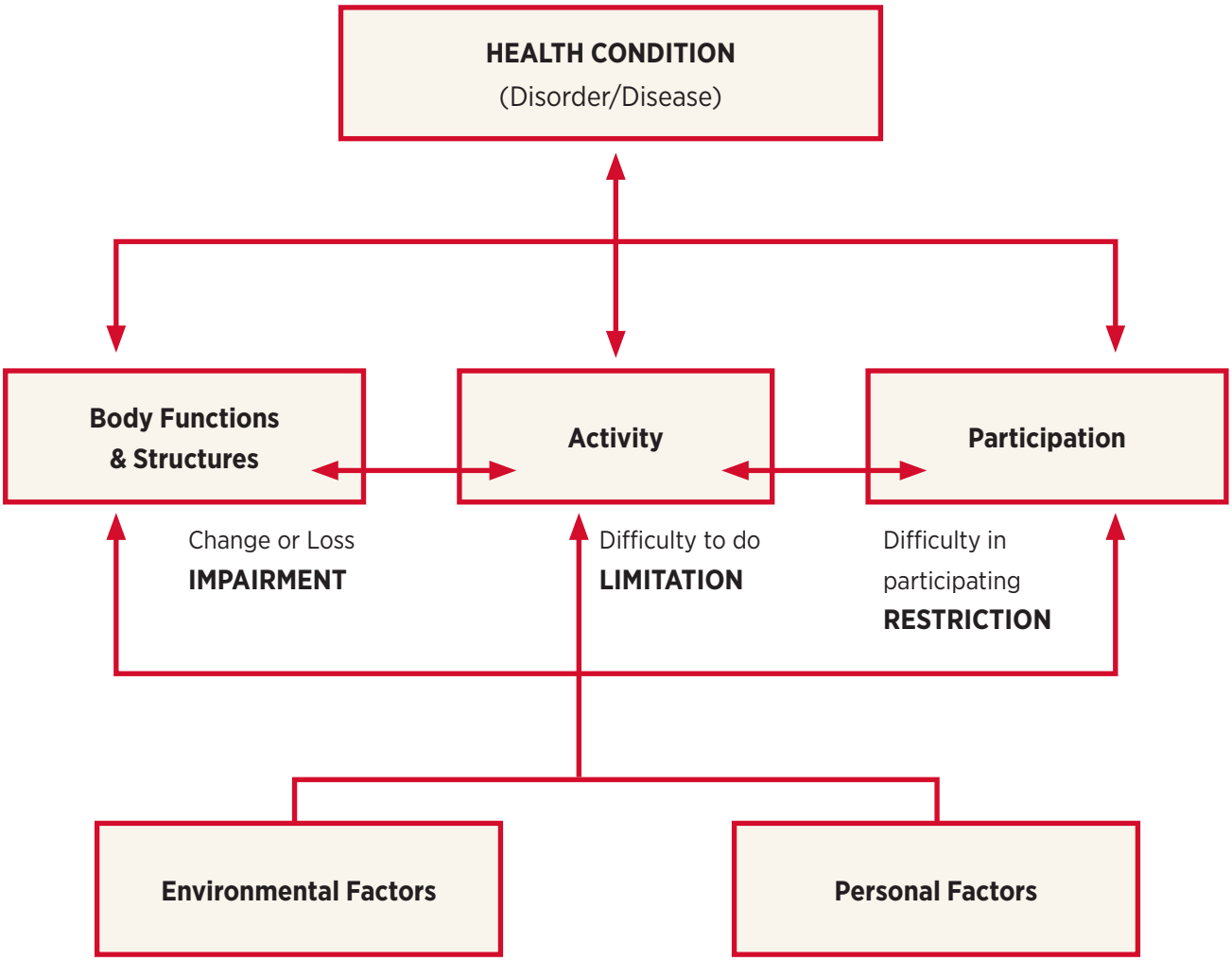
6. **All groups present to the others what they would do to resolve the activity limitation or participation restriction. After each presentation, the larger group discusses the actions recommended.**

Introduction: Terminology and Reflection on How to Give Help/Care

Conclusion

In conclusion, the Health Coach summarizes the key messages and clarifies any misconceptions or questions.

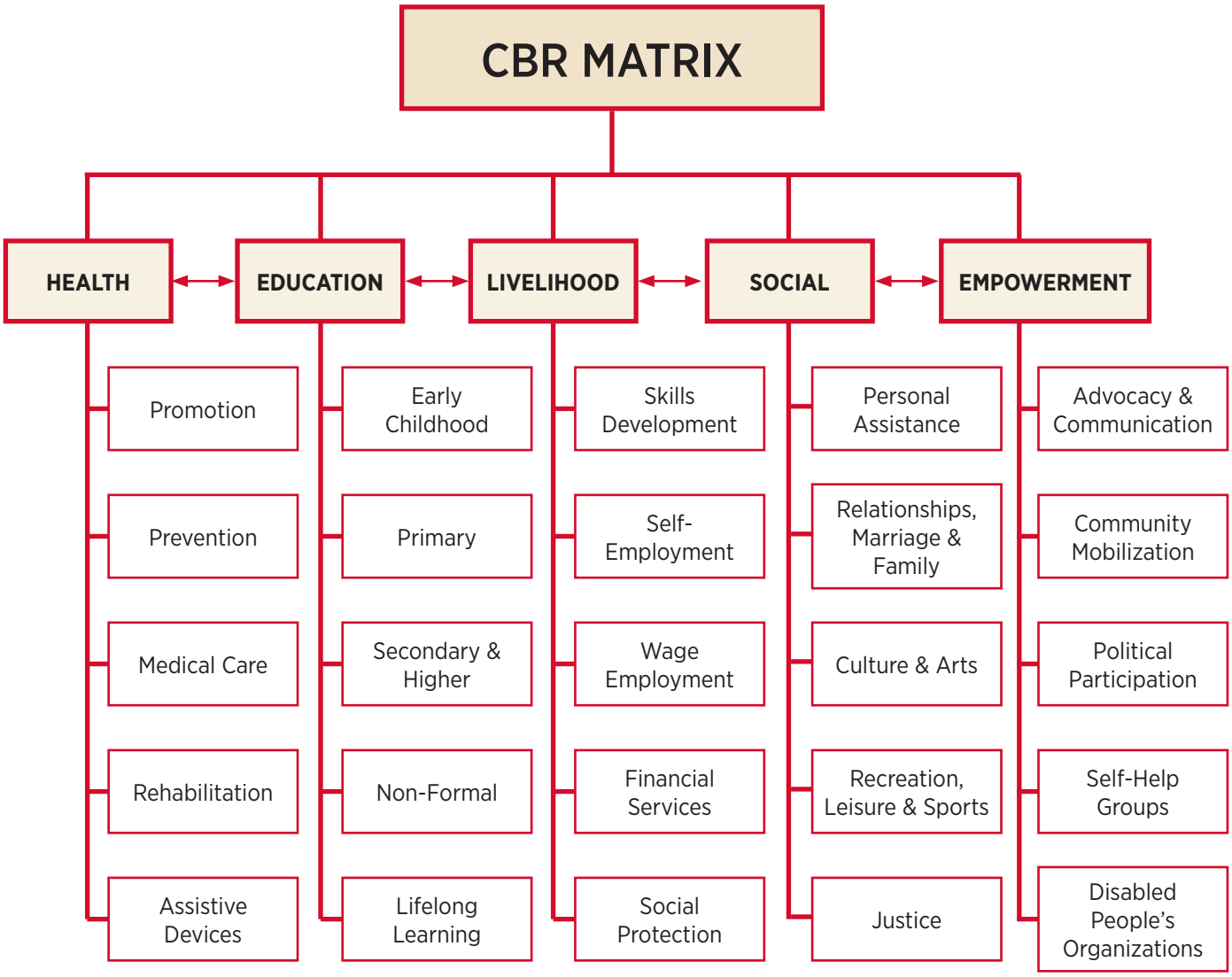
0.1: WHO International Classification of Functioning, Disability and Health (ICF) Framework



International Classification of Functioning, Disability and Health. WHO 2001

Introduction: Terminology and Reflection on How to Give Help/Care

0.2: WHO Community-Based Rehabilitation (CBR) Matrix



0.3 Story: Crossing the River

Actors

- Two villagers who live across the river on the opposite side of the market. They are both fearful of the water and do not know how to swim.
- One fisherman who knows the river well is not afraid of the river and knows how to swim.

Story

There is a village that is divided by a wide dangerous river with an island in the middle. There are homes on both sides of the river but the market to buy food and supplies is only on one side of the river. Two neighbors need to cross over the river to buy food and supplies. There are two ways of crossing the river. The easiest is to walk across the bridge and the other is to cross the river using the stones. One set of stones goes by way of the island in the middle of the river. The other set of stones goes directly across the river without passing by the island. The river is very fast moving and has crocodiles and dangerous snakes.

Imagine you are one of the villagers who needs to cross the river but you are very afraid of the water and do not know how to swim. You decide to walk across the bridge to the market with your neighbor to buy food and supplies for your family and for a birthday party. You must be back home before the children get home from school and before it gets dark.

You buy lots of supplies and food and start back home but you discover the bridge has broken and fallen down, making it impossible to use the bridge to get home. You have been told that it may take over a week to get the bridge repaired. Both of you are standing beside the river holding all of your purchases and crying. You are discussing how to get home and believe it is impossible. You expect your children home soon and you must finish the preparations for the birthday celebration. In addition, within a couple of hours it will be dark. Imagine how fearful you would be to use the stones if you did not know how to swim and knew that there were dangerous crocodiles and snakes in the river.

A fisherman is walking by the river and sees the both of you crying and he asks what is wrong. You tell him you cannot swim and you must get home soon. He tells you, “It is easy, I know how to walk across the river using the stones and I can carry you.” Both of you start to climb up on the fisherman’s back with all your purchases and he tells you that he can only carry one at a time. The fisherman picks up the first person with all their purchases on his back and starts to cross the river using the stones. He soon discovers with all the weight he cannot make it across the river but only as far as the island. He tells the first person that he is just too tired and can’t go further and that he must leave them on the island while he returns to help the other person.

On the way back the fisherman thinks about the difficulty and knows that he will not be able to carry the second person. When he arrives to the side of the river, the second person starts to climb up on his back to be carried. The fisherman says, “No, I can’t carry you. We must find another way for me to help you cross the river.” The fisherman says, “I have an

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Introduction: Terminology and Reflection on How to Give Help/Care

0.3 Story: Crossing the River (continued)

idea, you can cross by learning to walk on the stones." The second person begins to cry and says he can't swim and is afraid. The fisherman assures the second person that he will help him learn to cross the river and then holds out his hand to guide and teach the second where to step. Within a short time, the second person becomes confident in his ability to do it and tells the fisherman that he can let go of his hand. He demonstrates to the fisherman that he is able to follow him across the river to the other side. Both the fisherman and the second person jump with joy when they reach the other side. The second villager says, "I can do it!"

Both almost forget the first villager who was stuck on the island. Imagine being stuck on the island alone with nightfall coming soon. How would you feel? How would you feel if you were the second villager who learned to cross the river, stepping on the stones? How do you think the fisherman felt about leaving the first on the island and then teaching the second villager to cross alone? Now reflect on ways you help others and how others have helped you. Which way do you prefer? Why? How did participation or lack of participation affect your learning and confidence?

Providing Help & Care – Questions for Reflection:

1. **What was the difference in the kind of help given to each villager?**
2. **What was the result of how each villager was helped?**
3. **How do you think the fisherman felt about carrying the first person and leaving them on the island?**
4. **How do you think the fisherman felt about teaching the second person to cross the river using the stones?**
5. **How did each villager feel at the beginning and then how did they feel at the end of the story?**
6. **Is this story similar or different from how you provide help or care?**
7. **What kind of help or care can enable and empower?**

Handout 0.4: BUFLS (Buruli Ulcer Functional Limitation Score)

Adapted from 2009 Benin BUFLS Form

Date (dd/mm/yy): _____/_____/_____ Name: _____ Age: _____ Gender (circle): Male | Female Education Level: _____ Work: _____ Interviewer: _____		Not Applicable*	Can not do at all 2	Can do with difficulties 1	Can do easily, on normal level 0
Activity (Total 19)					
Preparation of Food and Eating	1. Fetching water from pump				
	2. Pound fufu/manioc				
	3. Pouring water from a bottle into a glass				
	4. Cutting vegetables with a knife				
Clothing and Personal Care	5. Putting on T-shirt				
	6. Wash yourself				
	7. Cleaning yourself after going to toilet				
Working	8. Using a cutlass				
	9. Heave loads on head				
	10. Carry harvest home				
	11. Open bottle with screw top				
	12. Tie a knot				
Mobility	13. Walking on level ground				
	14. Walking uphill				
	15. Walking downhill				
	16. Running				
	17. Squatting				
	18. Kneeling				
	19. Standing up from floor				
Total number of possible activities: 19 x 2 (max score) = 38 Total activities done: _____ x 2 = a. _____			Total x 2 b. _____	Total x 1 c. _____	Total x 0 d. 0

Percent of Functional Limitation Calculation: b+c+d = _____/a x 100 = _____% Functional Limitation

Comments:

* If more than six activities are "not applicable," no functional limitation score can be calculated.

Handout 0.5: SALSA (Screening of Activity Limitation and Safety Awareness)

Name: _____ Age: _____ Gender: _____ Occupation: _____

Clinical Record No. _____ Interviewer: _____ Date: ____/____/____

	ACTIVITY	SALSA SCALE Screening of Activity Limitation and Safety Awareness Circle the number on the line which responds to each question	If YES, how easy is it for you?			If NO, why not?	
			Easy	A little difficult	Very difficult	I don't need to do this	I physically cannot
1.	Mobility	**Can you see** (enough to carry out your daily activities)?	1	2	3	0	4
2.		**Do you sit or squat on the ground?**	1	2	3	0	4
3.		**Do you walk barefoot?** i.e. most of the time	1	2	3	0	4
4.		**Do you walk on uneven ground?**	1	2	3	0	4
5.		**Do you walk long distance?** i.e. longer than 30 minutes	1	2	3	0	4
6.	Self-care	**Do you wash your whole body?** (using soap, sponge, jug; standing or sitting ...)	1	2	3	0	4
7.		**Do you cut your fingers and toenails?** e.g. using scissors or clippers ...	1	2	3	0	4
8.		**Do you hold a cup or basin with hot contents?** e.g. drinks, food ...	1	2	3	0	4
9.	Work	**Do you work with tools?** i.e. tools which you hold in your hands to help you work ...	1	2	3	0	4
10.		**Do you carry heavy objects or bags?** e.g. shopping, food, water, wood ...	1	2	3	0	4
11.		**Do you lift objects over your head?** e.g. to place on a shelf, on your head, to hang clothes to dry ...	1	2	3	0	4
12.		**Do you cook?** i.e. prepare food both hot and cold	1	2	3	0	4
13.		**Do you pour hot liquids?**	1	2	3	0	4
14.		**Do you open/close screw-capped bottles?** e.g. oil, water ...	1	2	3	0	4
15.		**Do you open jars with screw-on lids?** e.g. jam, mayonnaise ...	1	2	3	0	4
16.	Hand Dexterity	**Do you handle or manipulate small objects?** e.g coins, nails, small screws, grains and seeds ...	1	2	3	0	4
17.		**Do you use buttons?**	1	2	3	0	4
18.		**Do you thread needles?** i.e. pass thread through the eye of a needle	1	2	3	0	4
19.		**Do you pick up pieces of paper, handle paper or put it in order?**	1	2	3	0	4
20.		**Do you pick up things from the floor?**	1	2	3	0	4
		Sub-total scores	(S1)	(S2)	(S3)	(S4)	(S5)

SALSA Score (Add up all subtotal scores S1+S2+S3+S4+S5) _____

Handout 0.6: Participation Scale (Measure of Participation Restriction)

Name: _____ Age: _____ Gender: _____ Occupation: _____

Clinical Record No. _____ Interviewer: _____ Date: ____/____/____

	Participation Scale	Not specified, not answered	Yes	Sometimes	No	Irrelevant, I don't want to, don't have to	NO problem	Small	Medium	Large	SCORE
1.	Do you have equal opportunity as your peers to find work?		0								
	[If "Sometimes" or "No"] How big a problem is it to you?						1	2	3	5	
2.	Do you work as hard as your peers do? (same hours, type of work, etc.)		0								
	[If "Sometimes" or "No"] How big a problem is it to you?						1	2	3	5	
3.	Do you contribute to the household economically in a similar way to your peers?		0								
	[If "Sometimes" or "No"] How big a problem is it to you?						1	2	3	5	
4.	Do you make visits outside your village/ neighborhood as much as your peers do? (except for treatment) e.g. bazaars, markets		0								
	[If "Sometimes" or "No"] How big a problem is it to you?						1	2	3	5	
5.	Do you take part in major festivals and rituals like your peers do? (e.g. weddings, funerals, religious festivals)		0								
	[If "Sometimes" or "No"] How big a problem is it to you?						1	2	3	5	
6.	Do you take as much part in casual recreational/ social activities as do your peers? (e.g. sports, chat, meetings)		0								
	[If "Sometimes" or "No"] How big a problem is it to you?						1	2	3	5	
7.	Are you as socially active as your peers are? (e.g. in religious/community affairs)		0								
	[If "Sometimes" or "No"] How big a problem is it to you?						1	2	3	5	
8.	Do you have the same respect in the community as your peers?		0								
	[If "Sometimes" or "No"] How big a problem is it to you?						1	2	3	5	
9.	Do you have opportunity to take care of yourself (appearance, nutrition, health, etc.) as well as your peers?		0								
	[If "Sometimes" or "No"] How big a problem is it to you?						1	2	3	5	

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Handout 0.6: Participation Scale (Measure of Participation Restriction) (continued)

	Participation Scale	Not specified, not answered	Yes	Sometimes	No	Irrelevant, I don't want to, don't have to	NO problem	Small	Medium	Large	SCORE
10.	Do you have the same opportunities as your peers to start or maintain a long-term relationship with a life partner?		0								
	[If "Sometimes" or "No"] How big a problem is it to you?						1	2	3	5	
11.	Do you visit other people in the community as often as other people do?		0								
	[If "Sometimes" or "No"] How big a problem is it to you?						1	2	3	5	
12.	Do you move around inside and outside the house and the village/neighborhood just as other people do?		0								
	[If "Sometimes" or "No"] How big a problem is it to you?						1	2	3	5	
13.	In your village/neighborhood, do you visit public places as often as other people do? (e.g. schools, shops, offices, market and tea/coffee shops)		0								
	[If "Sometimes" or "No"] How big a problem is it to you?						1	2	3	5	
14.	In your home, do you do household work?		0								
	[If "Sometimes" or "No"] How big a problem is it to you?						1	2	3	5	
15.	In family discussions, does your opinion count?		0								
	[If "Sometimes" or "No"] How big a problem is it to you?						1	2	3	5	
16.	Do you help other people? (e.g. neighbors, friends or relatives)		0								
	[If "Sometimes" or "No"] How big a problem is it to you?						1	2	3	5	
17.	Are you comfortable meeting new people?		0								
	[If "Sometimes" or "No"] How big a problem is it to you?						1	2	3	5	
18.	Do you feel confident to try to learn new things?		0								
	[If "Sometimes" or "No"] How big a problem is it to you?						1	2	3	5	

Comments:

Grades of participation restriction:

Without Significant Restriction	Mild Restriction	Moderate Restriction	Severe Restriction	Extreme Restriction
0 – 12	13 – 22	23 – 32	33 – 52	53 – 90

STEP 1:

Suspect, Identify and Treat Disease and/or Health Condition Early

Photo credit: Tom Bradley

Step 1: Suspect, Identify and Treat Disease and/or Health Condition Early

Introduction

Early detection of disease and completion of disease-specific antibiotic treatment are two of the most important ways to prevent impairments, limitations in function and restrictions in participation. Participants need to become aware that community development and other interventions such as medical/surgical, social, educational, agricultural and advocacy may also be needed to promote health, enablement and inclusion of all, including those with disability. This requires the involvement of people affected, families, health workers and the community.

Goal

Earlier diagnosis and care prevents or minimizes disability.

Key Messages

1. Look and feel for painless skin patches, lumps, swelling or ulcers while performing daily hygiene.
2. If these are noticed, a community health worker should be told immediately and a supervisor called to confirm the diagnosis.
3. If there is a specific disease, then it is important to take all the medicine within the time specified. Usually these medicines are provided by the health service free of charge.
4. In addition to taking specific medicine, there may be other problems to care for like wounds, swelling, movement limitations, scars, difficulty doing daily activities, social isolation, etc.
5. Early discovery and treatment of disease or health conditions can prevent or minimize disability.

References

Leprosy

- *http://www.leprosy-information.org/*
- McDougall, A., & Yuasa, Y. (2002). *A new atlas of leprosy.* Tokyo: Sasakawa Memorial Health Foundation. *http://www.leprosy-information.org/*

Buruli Ulcer

- *Buruli ulcer: Recognize and act now!* (2011). World Health Organization. *http://www.who.int/buruli/information/iec/en/index.html*

Yaws

- *http://apps.who.int/iris/bitstream/10665/75360/1/9789241504096_eng.pdf*
- *http://www.who.int/yaws/photos/en*

Lymphatic Filariasis

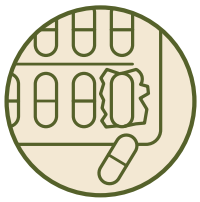
- *http://www.who.int/lymphatic_filariasis/resources/training/en*
- *Morbidity management and disability prevention in lymphatic filariasis.* (2013). *http://apps.searo.who.int/pds_docs/B4990.pdf*
- Global Alliance to Eliminate Lymphatic Filariasis (GAELF) *www.filariasis.org*

Podoconiosis

- *http://www.who.int/neglected_diseases/diseases/podoconiosis/en*

Trachoma

- *http://whqlibdoc.who.int/publications/2006/9241546905_eng.pdf*
- *http://www.cartercenter.org/health/trachoma/index.html*
- *http://www.who.int/blindness/causes/trachoma_documents/en* (trachoma grading)
- *http://www.who.int/blindness/causes/trachoma/en/*



A Quick Supervisory Checklist for Step 1

Diagnosis and Treatment	Yes	No	Not Obs	Observations & Recommendations
Identifies leprosy, BU and other NTDs early				
Completes disease-specific antibiotic treatment				
Correctly documents leprosy disability grade and EHF score				
Identifies leprosy reaction and nerve function impairment and treats adequately				
Identifies Limitations of Movement (LOM)				
Identifies complications requiring care				
Teaches affected person and caregiver how to:				
Suspect or identify a disease or complication and know where to go for help				
Complete disease-specific treatment				

Step 1: Suspect, Identify and Treat Disease and/or Health Condition Early

Guidelines for Teaching the Module

Health Coach/Facilitator should use the local language and ensure that all terms are found in the local language.

Estimated time: 4 hours

Learning Objectives

1. Know how to suspect or identify a Buruli ulcer or leprosy lesion, lymphatic filariasis, yaws, trachoma and other common Neglected Tropical Diseases (NTDs) and where go for confirmation.
2. Ensure completion of specific antibiotic treatment within disease-specific criteria.
3. List common problems that cause disability and the care needed to prevent disability.

List of Teaching Activities and Learning Materials

Activity 1

Health Promotion and Education to Suspect, Confirm and Treat Disease

Activity 2

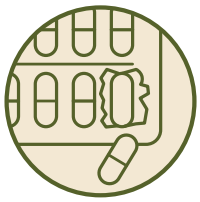
Identifying Cross-Cutting Issues in NTDs

Activity 3

Leprosy and Buruli Ulcer Impairment Forms (include activity as needed)

Handouts

- 1.1 Quick Check of Cardinal Signs and Treatment by Disease
- 1.2 Photos of Neglected Tropical Diseases
- 1.3 Comparison of Buruli Ulcer and Leprosy Characteristics (Part 1 and Part 2)
- 1.4 Characteristics of Lymphatic Filariasis and Podoconiosis
- 1.5 Characteristics of Yaws and Trachoma
- 1.6 Cross-Cutting Issues by Type of NTD
- 1.7 Leprosy: WHO Disability Grading and Eye, Hand, Foot (EHF) Score Form at Diagnosis and End of MDT
- 1.8 Leprosy: Vision and Nerve Function Monitoring Form
- 1.9 Buruli Ulcer: Impairment Recording Form (Part 1 and Part 2)



Activity 1: Health Promotion and Education to Suspect, Confirm and Treat Disease

Handouts

- 1.1 Quick Check of Cardinal Signs and Treatment by Disease
- 1.2 Photos of Neglected Tropical Diseases
- 1.3 Comparison of Buruli Ulcer and Leprosy Characteristics (Part 1 and Part 2)
- 1.4 Characteristics of Lymphatic Filariasis and Podoconiosis
- 1.5 Characteristics of Yaws and Trachoma

Equipment & Materials

- Flip chart stand and paper
- 4 – 6 colored markers
- 2 pieces of flip chart paper per group
- 1 marker per group
- Posters/Pictures of diseases common in the local area:
  - Leprosy
  - Buruli Ulcer
  - Yaws
  - Lymphatic Filariasis
  - Podoconiosis
  - Trachoma
  - Other

Instructions for Teaching the Activity

Room Arrangement: Divide large group into three smaller groups.

1. **Health Coach distributes handouts: *1.1 Quick Check of Cardinal Signs and Treatment by Disease, 1.2 Photos of Neglected Tropical Diseases, 1.3 Comparison of Buruli Ulcer and Leprosy Characteristics (Part 1 and Part 2), 1.4 Characteristics of Lymphatic Filariasis and Podoconiosis, 1.5 Characteristics of Yaws and Trachoma.***

2. **Health Coach lays out flip chart paper and colored markers. Posters and pictures of common diseases are placed on a large table for groups to use.**

3. **Health Coach gives each group two diseases and tells them to prepare a 10-minute community-based health message on each disease. It must include how to suspect the disease, confirm it and treat it. Most importantly, the groups must find a creative way to do the presentation so that it will stimulate "community participation."**

4. **The groups are given one hour to prepare "community-based" messages on each of their two diseases.**

5. **Each group will present to the other participants, "the community," who will score *each area* using the key below:**

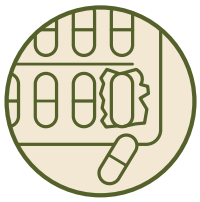
   Key to scoring:

☺☺☺ = 3	😐😐 = 2	☹ = 1
Very Good	**OK**	**Needs Improvement**

6. **Participants identify the highest scoring health message and discuss lessons learned from the presentations.**

Step 1: Suspect, Identify and Treat Disease and/or Health Condition Early

Diseases	Health Education Message: Areas to Score			
	Clear, concise message about suspecting, confirming and treating	**Presentation used easy-to-understand words**	**"Community" participation in presentation**	**Total Score**
Group 1				
Leprosy				
Buruli Ulcer				
Group 2				
Lymphatic Filariasis				
Podoconiosis				
Group 3				
Yaws				
Trachoma				



Activity 2: Identifying Cross-Cutting Issues in NTDs

Handouts

- 1.6 Cross-Cutting Issues by Type of NTD

Equipment & Materials

- Flip chart stand and paper
- 4 – 6 colored markers
- 1 piece of flip chart paper per group
- 1 marker per group

Instructions for Teaching the Activity

Room Arrangement: Group sits in semicircle and then in pairs.

1. **Health Coach asks for a volunteer to list participant responses on the flip chart.**

2. **Health Coach starts at one end of the semicircle and asks each person to identify one complication/problem/issue that people with NTDs face. Participants cannot repeat the same issue.**

3. **The group is asked to look at the list on the flip chart and identify which NTD or other health conditions face each specific issue listed. Responses are recorded.**

4. **Health Coach distributes handout *1.6 Cross-Cutting Issues by Type of NTD*. The cross-cutting issues on the handout are reviewed and any missing issues are listed on the flip chart paper.**

5. **The Health Coach divides the group into pairs.**

6. **Each pair is given a different issue. The pair has 10-15 minutes to discuss the issue and decide what communities could do to address this issue and how could they address the issue using only local resources.**

7. **All pairs return to the larger group and present their issue and how it could be addressed in the community, using local resources.**

Step 1: Suspect, Identify and Treat Disease and/or Health Condition Early

Activity 3: Leprosy and Buruli Ulcer Impairment Forms (include activity as needed)

Handouts

- 1.7 Leprosy: WHO Disability Grading and Eye, Hand, Foot (EHF) Score Form at Diagnosis and End of MDT
- 1.8 Leprosy: Vision and Nerve Function Monitoring Form
- 1.9 Buruli Ulcer: Impairment Recording Form

Equipment & Materials

- Flip chart stand and paper
- 4 – 6 colored markers
- Red ballpoint pen
- Black or blue ballpoint pen
- Cord cut to 6 meters
- Snellen E-Chart (optional)
- Roll of disposable paper towels

Instructions for Teaching the Activity

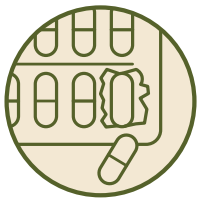
Room Arrangement: Group sits in semicircle and in pairs.

1. **Health Coach distributes handouts: *1.7 Leprosy: WHO Disability Grading and Eye, Hand, Foot (EHF) Score Form at Diagnosis and End of MDT, 1.8 Leprosy: Vision and Nerve Function Monitoring Form, 1.9 Buruli Ulcer: Impairment Recording Form.***

2. **Health Coach reviews the forms and demonstrates how to examine, document and score.**

3. **Health Coach discusses how results are used in leprosy and Buruli ulcer disease control programs.**

4. **Participants break into pairs and practice doing the vision and nerve function monitoring on each other. Health Coach observes the practice and corrects technique as needed.**



Conclusion

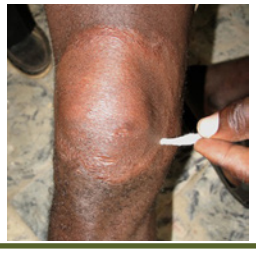
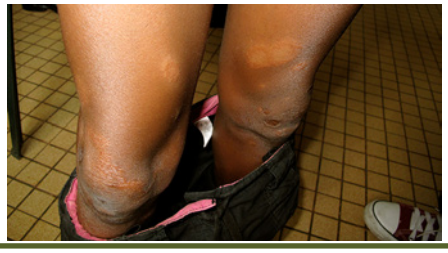
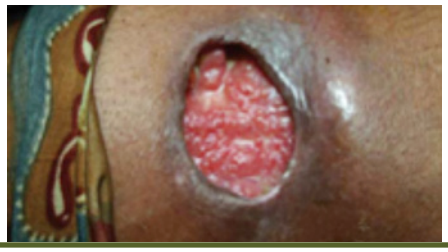
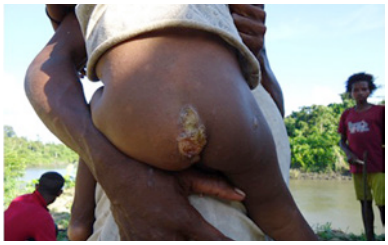
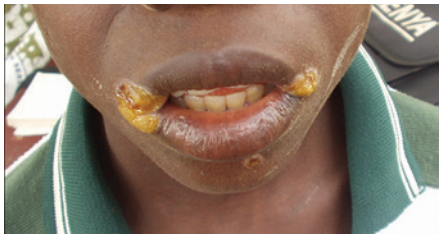
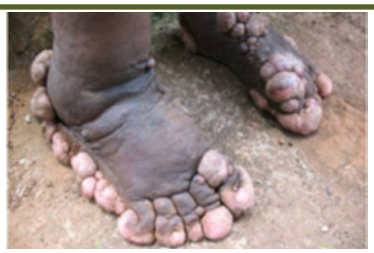
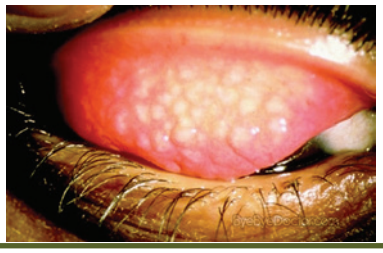
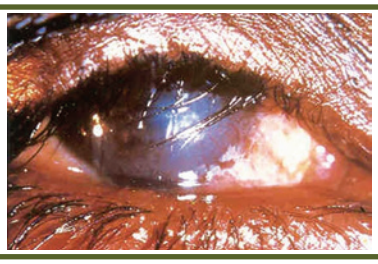
In conclusion, the Health Coach summarizes the key messages and clarifies any misconceptions or questions.

Step 1: Suspect, Identify and Treat Disease and/or Health Condition Early

Handout 1.1: Quick Check of Cardinal Signs and Treatment by Disease

Disease	Main Signs	Treatment	
Leprosy	Typical hypopigmented skin lesion, with loss of sensation Enlarged peripheral nerves Positive skin smear for acid-fast bacilli	PB (< 5 lesions)	6 doses of rifampicin and dapsone (6m/9m)
		MB (≥ 5 lesions)	12 doses of rifampicin, dapsone and clofazimine (12m/18m)
Buruli Ulcer	Nodule, plaque, edema or ulcer Ulcer has undermined edges and surrounding edema	Rifampicin and streptomycin for 8 weeks	
Lymphatic Filariasis	Lymphedema (swelling), elephantiasis (thickening skin/tissue) or hydrocele (scrotal swelling)	Single dose albendazole	
Podoconiosis	Abnormal inflammatory reaction (itching, burning and *elephantiasis-like* foot and leg) to mineral particles in irritant red clay soils drived from volcanic deposits	Symptomatic (morbidity management) Foot hygiene and protective footwear	
Yaws	Ulcer which heals and then breaks out again	Single dose of azithromycin	
Trachoma	Painful, itchy, red eyes	Single dose of azithromycin Surgery for trichiasis	

Handout 1.2: Photos of Neglected Tropical Diseases

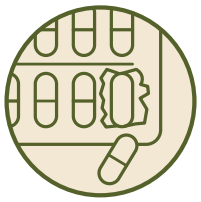
	Paucibacillary (PB)	Multibacillary (MB)
Leprosy		
Buruli Ulcer		
Yaws		
Lymphatic Filariasis and Podoconiosis		
Trachoma		

Photos: Linda F. Lehman, WHO Buruli Ulcer Initiative, *http://www.who.int/buruli/photos/Small_ulcer_Peru_large.jpg?ua=1;* Arry Pongtiku, *http://www.who.int/yaws/photos/en/, http://www.who.int/campaigns/world-health-day/2014/photos/lymphatic_large.jpg?ua=1; http://www.washethiopiamovement.com/images/stories/podo01.jpg; http://byebyedoctor.com/wp-content/uploads/2011/03/trachoma-2.jpg*; *http://www.cartercenter.org/health/trachoma/trachoma_grades.html*

Step 1: Suspect, Identify and Treat Disease and/or Health Condition Early

Handout 1.3: Comparison of Buruli Ulcer and Leprosy Characteristics – Part 1

	Leprosy	Buruli Ulcer
Cause	• *M. Leprae* infection. Mode of transmission: airborne. • Person must have lived in an endemic area.	• *M. ulcerans* infection, which produces a necrotizing toxin, called mycolactone. • Person must have visited or lived in an endemic area.
Location	• Cooler areas of the body: limbs, back, trunk, face, nose, eyes, ears, buttocks. • Not in armpits or groin.	• Lower limbs (60%). • Upper limbs (30%). • Other sites (10%) such as trunk, face.
Appearance	• Hyposensitive skin patch. Hypopigmented (light color) or reddish colour skin patch which has a loss of sensation. • Enlarged peripheral nerve with or without pain and/or with or without nerve function loss (decreased sensation and/or muscle strength) – peripheral neuropathy. • Positive slit skin smear.	• Ulcer with undermined edge. • Edema around the ulcer. • Location of wound is other than lower limb.
Pain	• No pain unless the patient has a reaction or neuritis.	• Little or no pain in the early stages, unless there is secondary infection.
Other Features	• Leprosy reactions and neuritis. • Acute loss of vision can happen with reaction. • Nerve function impairment: loss of sensation (eyes, hands and feet) and muscle weakness (eyes, hands and feet).	• More common in children. • Osteomyelitis.
Natural History What happens if not treated	• Indeterminate leprosy: can be self-healing. • Other forms will worsen and lead to disabilities when not treated.	• Can become very large. • Heals eventually with severe scarring and skin contracture, which may limit movement.



Handout 1.3: Comparison of Buruli Ulcer and Leprosy Characteristics – Part 2

	Leprosy	Buruli Ulcer
History Helps with diagnosis	• Has lived in an endemic area. • Has family or household contact who has had leprosy. • Children are likely infected by a household contact with untreated multibacillary disease. • Starts as a skin patch and/or enlarged nerve, if untreated may lead to permanent nerve damage and impairment.	• Lives in or has visited an endemic area. • Starts as a small lesion (nodule or plaque) but can lead to an extensive ulcer. May also start with edema (swelling of the limbs).
Treatment	• Multi-Drug Therapy (MDT) for PB (rifampicin and dapsone). • MDT for MB (rifampicin, dapsone and clofazimine). • Treat leprosy reactions and neuritis with corticosteroids (prednisolone). • Wound care. • Self-care practice (skin care and exercise) when there is nerve function loss and/or reactions. • Protective footwear for foot sensory loss. • Self-care groups at community level for prevention of disabilities (POD), empowerment and inclusion. • Possible surgical interventions: wound debridement, nerve decompression, reconstructive surgery after leprosy-specific treatment.	• Antibiotics specific for BU (rifampicin and streptomycin). • Wound care. • Prevent contractures with early movement and good positioning. • Possible surgical interventions: wound debridement, skin grafts and reconstructive surgery after BU-specific treatment.
Prevention	• Community health education for early detection and treatment.	• Community health education to identify and treat the disease early, when the ulcer is still small.

References:

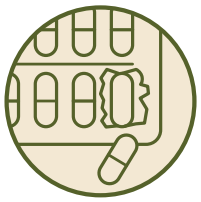
- *Buruli ulcer: Recognize and act now!* (2011). World Health Organization. *http://www.who.int/buruli/information/iec/en/*
- *http://www.leprosy-information.org/*
- McDougall, A., & Yuasa, Y. (2002) *A new atlas of leprosy.* Tokyo: Sasakawa Memorial Health Foundation. *http://www.leprosy-information.org/*

Handout 1.4: Characteristics of Lymphatic Filariasis and Podoconiosis

	Lymphatic Filariasis	Podoconiosis
Cause	• *Wuchereria bancrofti*: 90% • *Brugia malayi/Brugia timori*: 10% • There is a mosquito bite during which larvae enter the body. The larvae grow into adult worms that lodge in the lymphatic system. The adult worms produce microfilaria during 6–8 years. The microfilaria can be tested in the blood between 10 pm and 2 am (nocturnal periodicity).	• Genetically determined abnormal inflammatory reaction to red clay soils (from volcanic deposits).
Location	• Limbs and genitals.	• Limbs.
Appearance	• Most infections are acquired during childhood. – Lymphedema: swelling if tissue – Elephantiasis: thickened skin/tissue – Hydrocele: scrotal swelling • Lymphatic Filariasis (LF) symptoms generally start in the groin and move to the distal end of the lower limbs.	• Starts with itching of the foot and a burning sensation in the foot and lower leg. Early symptoms: edema of the sole of the foot, hyperkeratosis with the formation of moss-like papillomas and rigid toes. Later the limb may be swollen with multiple hard skin nodules. Podoconiosis is commonly bilateral and starts in the foot and progresses up.
Pain	• Depending on the swelling of the limbs.	• Depending on the swelling of the limbs.
Natural History What happens if not treated	• The acute phase will lead to chronic stages of elephantiasis and hydrocele.	• During the later stage the limbs will be swollen with hard nodules.
History Helps with diagnosis	• LF tends to occur at lower altitudes.	• Podoconiosis is found in the highlands of central Africa, Central America and Northwest India. The onset of symptoms is when people are between 10-20 years old. There is a progressive increase till 60 years. Diagnosis is based on location, history, clinical findings and absence of microfilaria/LF antigens.
Treatment	Treatment depends on the clinical signs and symptoms: • Single dose albendazole • Lymphedema treatment regimen: washing, bandaging, elevation and exercises • Surgical treatment for hydroceles	The treatment is preventive and symptomatic: • Avoiding/minimizing exposure to irritant soil (wearing shoes and covering floor surfaces in huts) • Lymphedema treatment regimen: washing, bandaging, elevation and exercises • Secondary prevention measures: elevation and compression
Prevention	• Single dose albendazole during 4-6 years is supposed to interrupt transmission at community level (given during Mass Drug Administration Campaigns). Vector control in terms of provision of mosquito nets is very important.	• See treatment.

References:

- *http://www.who.int/lymphatic_filariasis/resources/training/en*
- *http://www.who.int/neglected_diseases/diseases/podoconiosis/en*
- *Morbidity management and disability prevention in lymphatic filariasis.* (2013). *http://apps.searo.who.int/pds_docs/B4990.pdf*



Handout 1.5: Characteristics of Yaws and Trachoma

	Yaws	Trachoma
Cause	• Infection by *Treponema pallidum pertenue*.	• Infection of the conjunctiva by *Chlamydia trachomatis*.
Location	• Limbs, including palms of the hands and soles of the feet.	• Eyes.
Appearance	• Starts as hard swelling in skin (2-5 cm), which ulcerates, but then heals on its own within 6 months. Later, secondary ulcers appear.	• Initially a typical episode of conjunctivitis, which subsides. A chronic phase is indicated by white 'follicles' under the upper eyelid.
Pain	• Initially painless.	• Pain and conjunctival irritation.
Other Features	• Infection with *Haemophilus ducreyi* (the causative organism of chancroid) also causes similar skin lesions that may be more painful.	• Watery discharge. Secondary bacterial infection may occur.
Natural History What happens if not treated	• The primary stage heals within 6 months, but secondary lesions may occur months or years later. Eventually bone and joint destruction occurs, including destruction of the nasal cartilage and a sunken nose.	• If left untreated, the eyelid becomes scarred and distorted, so that the eyelashes rub against the cornea (this is called trichiasis). Trichiasis can be treated surgically, but if untreated it gradually leads to more and more corneal ulceration and scarring, followed by blindness.
History Helps with diagnosis	• Contact with other cases.	• Living in an endemic area.
Treatment	• Penicillin or azithromycin. Azithromycin is the drug of choice for *Haemophilus ducreyi* infection.	• Single dose of azithromycin. Surgery for trichiasis.
Prevention	• Good hygiene, treatment of cases.	• Good facial hygiene. Mass treatment with azithromycin.

References:

- *http://apps.who.int/iris/bitstream/10665/75360/1/9789241504096_eng.pdf*
- *http://whqlibdoc.who.int/publications/2006/9241546905_eng.pdf*
- *http://www.cartercenter.org/health/trachoma/index.html*
- *http://www.who.int/blindness/causes/trachoma_documents/en (trachoma grading)*
- *http://www.who.int/blindness/causes/trachoma/en*
- *http://www.who.int/yaws/photos/en*

Handout 1.6: Cross-Cutting Issues by Type of NTD

	Leprosy	Buruli Ulcer	Yaws	Leishmaniasis	Lymphatic Filariasis	Podoconiosis	Trachoma	STH
WASH & Nutrition Accessible & Available	X	X	X	X	X	X	X	X
Eye: Vision, Exposure, Trichiasis	X	X					X	
Sensory Loss	X	X						
Muscle Weakness	X	X						
Movement Limitation	X	X	X	X	X	X	X	
Dry Skin	X	X	X	X	X	X		
Wound Present	X	X	X	X	X	X	X	
Wound at or Near a Joint	X	X	X	X				
Scar	X	X	X	X			X	
Edema	X	X			X	X		
Footwear	X	X			X	X		X
Activity Limitation	X	X	X	X	X	X	X	
Participation Restriction	X	X	X	X	X	X	X	

Handout 1.7: Leprosy: WHO Disability Grading and Eye, Hand, Foot (EHF) Score Form at Diagnosis and End of MDT

Patient Name:_____ **Age:**_____ **Profession/Occupation**_____

Disability Grade and Eye, Hand, Foot Score (EHF) : _____ **At Diagnosis |** _____ **At End of MDT**

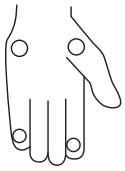
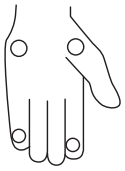
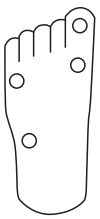
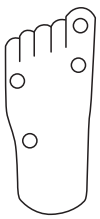
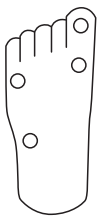
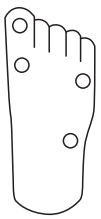
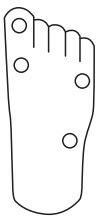
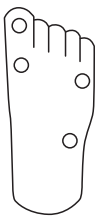
Grade	Eyes	R	L	Hands	R	L	Feet	R	L
0	No severe visual impairment (can count fingers at 6 meters; visual acuity > 6:60). No visible impairments. Normal blink reflex.	**DIAG**		Touch is felt on the palm of the hand No muscle weakness or visible impairment	**DIAG**		Touch is felt on the soles of feet No muscle weakness or visible impairment	**DIAG**	
		END			**END**			**END**	
Grade	**Eyes**	**R**	**L**	**Hands**	**R**	**L**	**Feet**	**R**	**L**
1	Loss of blink reflex and/or Inability to hold the eyelids closed against moderate force to open them. No severe visual impairment (can count fingers at 6 meters – visual acuity > 6:60).	**DIAG**		At least two points on the hand where touch is not felt (4g filament or light touch with ballpoint pen), and/or Muscle weakness is present on testing but there is no visible impairment.	**DIAG**		At least two points on the foot where touch is not felt (10g filament or light touch with ballpoint pen), and/or Muscle weakness is present (on testing) but there is no high-stepping gait when the patient walks, and there is no other visible impairment.	**DIAG**	
		END			**END**			**END**	
Grade	**Eyes**	**R**	**L**	**Hands**	**R**	**L**	**Feet**	**R**	**L**
2	**Visible impairment** of the eye due to leprosy. For example: iridocyclitis, lagophthalmos, corneal ulcer or scars, corneal opacity, ectropion, entropion, trichiasis, nodules on the sclera, irregularly shaped or pin-point pupil. **Severe visual impairment** (cannot count fingers at 6 meters, visual acuity less than 6:60 regardless of cause.)	**DIAG**		**Visible impairment** of the hand if it has occurred since the onset of loss of sensation and/or loss of muscle function due to leprosy. For example: Any bone loss, claw finger(s), muscle wastage, wrist drop, wound(s), deep cracks.	**DIAG**		**Visible impairment** of the foot if it has occurred since the onset of loss of sensation and/or loss of muscle function due to leprosy. For example: Any bone loss, claw toe(s), high-stepping gait (obvious foot drop), wound(s), deep cracks.	**DIAG**	
		END			**END**			**END**	

RESULTS OF EHF SCORE AND DISABILITY GRADE AT DIAGNOSIS AND END OF MDT

(dd/mm/yy)	Grade for **EYES**		Grade for **HANDS**		Grade for **FEET**		**EHF Score** a+b+c+d+e+f	**Maximum Grade**	**Signature**
At Diagnosis	R-a	L-b	R-c	L-d	R-e	L-f			
Date ___/___/___									
END of MDT	R-a	L-b	R-c	L-d	R-e	L-f			
Date ___/___/___									

Handout 1.8: Leprosy: Vision and Nerve Function Monitoring Form

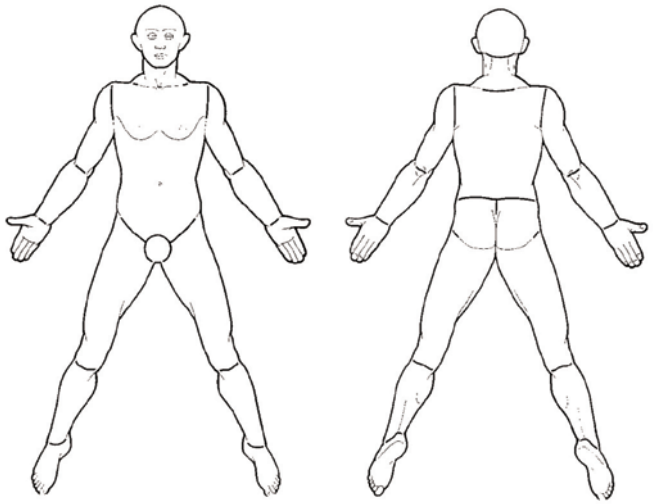
Name:_____ **Age:**_____ **Occupation**_____

Date (1)	Date (2)	Date (3)	Vision & Neurological Exam (Leprosy)	Date (1)	Date (2)	Date (3)
Right			**EYES**	**Left**		
_____m	**_____m**	**_____m**	**Visual Acuity** Note finger count in meters 0-6 or number on Snellen E-Chart	**_____m**	**_____m**	**_____m**
Yes No	**Yes No**	**Yes No**	**Cornea: Loss of Sensation** Blink decreased or decreased sensation with 5mm length dental floss	**Yes No**	**Yes No**	**Yes No**
P W N	**P W N**	**P W N**	**Loss of Muscle Strength Eye Closure** P=Paralyzed, W=Weak, N=Normal	**P W N**	**P W N**	**P W N**
____mm	**____mm**	**____mm**	**Lid Gap: Light Closure of Eyes** Measure lid gap in mm	**____mm**	**____mm**	**____mm**
____mm	**____mm**	**____mm**	**Lid Gap: Tight Closure of Eyes** Measure lid gap in mm	**____mm**	**____mm**	**____mm**
Yes No	**Yes No**	**Yes No**	**Visible Impairments of the Eyes**	**Yes No**	**Yes No**	**Yes No**
Right			**HANDS**	**Left**		
P E N	**P E N**	**P E N**	**Nerve Palpation: Ulnar** P=Painful, E=Enlarged, N=Normal	**P E N**	**P E N**	**P E N**
Evaluate Loss of Muscle Strength in Hands: P=Paralyzed, W=Weak, N=Normal						
P W N	**P W N**	**P W N**	**Little Finger Out** (abduction)	**P W N**	**P W N**	**P W N**
P W N	**P W N**	**P W N**	**Thumb Up** (abduction)	**P W N**	**P W N**	**P W N**
P W N	**P W N**	**P W N**	**Wrist Up** (extension)	**P W N**	**P W N**	**P W N**
			**Sensory Loss to Palm of Hands** Light Touch with Ballpoint Pen X = Loss of sensation ✓ = Feels touch			
Yes No	**Yes No**	**Yes No**	**Wounds on Hands**	**Yes No**	**Yes No**	**Yes No**
Yes No	**Yes No**	**Yes No**	**Visible Impairments of the Hands**	**Yes No**	**Yes No**	**Yes No**
Right			**FEET**	**Left**		
P E N	**D E N**	**D E N**	**Nerve Palpation: Fibular** P=Painful, E=Enlarged, N=Normal	**P E N**	**D E N**	**D E N**
P E N	**D E N**	**D E N**	**Nerve Palpation: Posterior Tibial** P=Painful, E=Enlarged, N=Normal	**P E N**	**D E N**	**D E N**
Evaluate Loss of Muscle Strength of Feet: P=Paralyzed, W=Weak, N=Normal						
P W N	**P W N**	**P W N**	**Foot Up** (dorsiflexion)	**P W N**	**P W N**	**P W N**
P W N	**P W N**	**P W N**	**Large Toe Up** (extension)	**P W N**	**P W N**	**P W N**
			**Sensory Loss to Sole of Feet** Light Touch with Ballpoint Pen X = Loss of sensation ✓ = Feels touch			
Yes No	**Yes No**	**Yes No**	**Wounds on Hands**	**Yes No**	**Yes No**	**Yes No**
Yes No	**Yes No**	**Yes No**	**Visible Impairments of the Hands**	**Yes No**	**Yes No**	**Yes No**
Signature	Signature	Signature		Signature	Signature	Signature

Handout 1.9: Buruli Ulcer Impairment Recording Form (Part 1)

Patient Initials: |___| |___| |___| ID#: |___| |___| |___|				
Evaluation:	1st: 0 weeks	2nd: 4 weeks	3rd: 8 weeks	4th: 1 year
Person Doing Evaluation – Print Name:			**DATE (dd/mm/yy):**	

KEY FOR RECORDING	
Wound Location:	
Scar Location:	
Joints with Movement Limitations:	
Edema:	
Amputation Location:	



DATE (dd/mm/yy): _____ /_____ /_____

PAIN	**YES**			**NO**
When is your pain worse?	**Day**	**Night**	**Same all the time**	**No Pain**
Pain Level: 0 – 10 0 = No Pain, 10 = Severe Pain, unable to use affected part	**At worst time:**			
What makes your pain worse?				
What makes your pain better?				

WOUND		
Wound Present	**YES**	**NO**
Wound size: Measurement calculation by ARANZ or other		

SCAR		
Hypertrophic scar present	**YES**	**NO**
Scar is dry	**YES**	**NO**
Scar is sticking / adhering to underlying structures (does not move as easily as observed unaffected side)	**YES**	**NO**

FUNCTIONAL LIMITATIONS (BUFLS – ATTACH TO THIS FORM)		
Functional limitation	**YES**	**NO**
Score: (Score / Total # activity score) x 100		**% Limitation**

Handout 1.9: Buruli Ulcer Impairment Recording Form (Part 2)

Patient Initials: |___| |___| |___| ID#: |___| |___| |___|				
Evaluation:	1st: 0 weeks	2nd: 4 weeks	3rd: 8 weeks	4th: 1 year

DOMINANT SIDE: Right Left

LIMITATIONS OF MOVEMENT (LOM) BU AFFECTED PART
Response based on comparing only BU side to unaffected side.

LOM of LOWER LIMB (LL): Sit in a chair with legs extended. Curl toes down and straighten. Sit with knees slightly bent with soles of the feet on the ground. Keep heels on the ground while raising feet. Press toes down while lifting the heels off the ground. Lie on stomach with feet off the edge of table/bed. Slowly bend knees to touch heels as close as possible to the buttocks then straighten the legs. Observe the hip, does it stay flat or lift up? If it lifts up there is a limitation at the hip.

• **Toe movement is less?** (curl/straighten)	YES	NO
• **Ankle movement is less?** (sit with knees bent, foot down)	YES	NO
• **Knee movement is less?** (lie on stomach, bend and straighten knee)	YES	NO
• **Hip movement is less?** (lie on stomach, hip lifts up when knee bends)	YES	NO
Total YES for LE:		

LOM of UPPER LIMB (UL): Raise arms up to shoulder height with elbows extended. Make a fist with both hands (DIP & PIP/MCP), move wrist up and down. Open (MCP/PIP/DIP) hands and show the palm of the hands, spreading fingers out and then bring together. Turn hands over (supinate), bend elbows so that the hands can touch the back shoulder (scapula). Extend arms out to each side (abduction) with thumbs up. Raise arms up above head until hands touch.

• **Thumb movement is less?**	YES	NO
• **Hand/Finger movement is less?**	YES	NO
• **Wrist movement is less?**	YES	NO
• **Elbow movement is less?** (flexion/extension, pronation/supination)	YES	NO
• **Shoulder movement is less?**	YES	NO
Total YES for UE:		

OTHER:

• **Trunk movement is less?** (side bending)	YES	NO
• **Head/Neck movement is less?** (rotation/side bending)	YES	NO
• **Other: _____ is less?**	YES	NO
Total YES:		

EDEMA OF BU-AFFECTED PART
Response based on comparing the size of the BU-affected side to the unaffected side.

LOWER LIMB: Sit with knees slightly flexed with feet on the floor. Observe and compare both Lower Limbs.			**UPPER LIMB:** Raise arms up to shoulder height with elbows extended. Make a light grip with both hands and observe the knuckles and rest of the Upper Limb.		
• **Toes/Foot have edema?**	YES	NO	• **Knuckles have edema?**	YES	NO
• **Ankle has edema?**	YES	NO	• **Wrist has edema?**	YES	NO
• **Lower leg has edema?**	YES	NO	• **Forearm has edema?**	YES	NO
• **Knee has edema?**	YES	NO	Bend elbows and touch clavicles with each hand. Observe swelling at the bony prominence of the elbow.		
• **Thigh has edema?**	YES	NO			
Total YES for LL:			• **Elbow has edema?**	YES	NO
			• **Upper arm has edema?**	YES	NO
			Total YES for UL:		

STEP 2:
Eat Healthily

Photo credit: Tom Bradley

Step 2: Eat Healthily

Introduction

A balanced daily diet with a mixture of different types of foods helps the body to grow normally, fight off diseases, provide energy for daily activities and heal wounds. Eating foods that are rich in protein (eggs, meat, fish, beans, nuts, dairy products), fresh fruit, vegetables and whole grains will help the body grow and heal faster. Eyes will be healthier if foods with vitamin A are eaten. Sources of vitamin A are found in breast milk, milk, yoghurt, cheese, eggs, red palm oil, red pepper, spinach, sweet potato, tomato, pumpkin, papaya, orange, fish, liver, carrots, cantaloupe melon, apricots, broccoli, butternut squash and cabbage.

Water makes up 60% of the body's weight. The body depends on water to cleanse it of waste and toxins, to carry nutrients to the cells and to provide a moist environment for the ears, nose and throat tissues. The amount of water required depends on where you live, how active you are and your state of health. Lack of water leads to dehydration, making it difficult for the body to function and making one feel tired. Water is lost through breath, perspiration, urine and bowel movements. Adequate amounts of foods containing water need to be consumed daily. If enough water is consumed, one will rarely feel thirsty and the urine will be colorless or light yellow. Eight to ten cups of water a day are recommended, but this may have to be adjusted according to individual and local circumstances.

Beliefs and culture influence what people eat as well as food availability and food cost. This module will help participants explore the reasons why people eat what they eat and increase awareness and knowledge on how to eat healthily.

Goal

Promote a healthy diet including water and foods that help the eyes fight off disease, give energy and help the body to grow and heal.

Key Messages

1. Eat as well as you can. Try to include the three food groups in each meal. Include many different colors of food each day.
2. Remember, a balanced daily diet helps the body to heal and grow normally, fights off diseases and gives energy for daily activities.
3. Drink adequate amounts (2 liters or 8–10 cups) of clean water daily.

References

- Francis, V., & Wiafe, B. (2007). Healthy Food for Healthy Eyes. In *The healthy eyes activity book: A health teaching book for primary schools* (2nd ed.). International Centre for Eye Health. *http://s160131.gridserver.com/wp-content/uploads/healthy-eyes-activity-book-for-primary-schools-05.pdf.*
- *http://www.mayoclinic.org/healthy-lifestyle/nutrition-and-healthy-eating/in-depth/water/art-20044256*

A Quick Supervisory Checklist for Step 2

Healthy Eating	Yes	No	Not Obs	Observations & Recommendations
1. Explains that eating healthily prevents disease and helps healing				
2. Explains which local foods help the body to heal (protein foods)				

Guidelines for Teaching the Module

Health Coach/Facilitator should use the local language and ensure that all terms are found in the local language.

Estimated time to do module: 1 hour

Learning Objectives

At the end of the module, participants will be able to:

1. Explain why it is important to drink water and eat foods that are healthy.
2. List the three basic food groups and give examples of local foods in each food group.
3. List three (3) reasons why people do not eat healthily.

List of Teaching Activities and Learning Materials

Activity 1

Group Discussion on Healthy Eating and Drinking

Activity 2

Healthy Meal Planning (Optional)

Activity 3

Healthy Eating Song (Optional)

Handouts

- 2.1 Healthy Food Groups
- 2.2 Healthy Eating Song

Step 2: Eat Healthily

Activity 1: Group Discussion on Healthy Eating and Drinking

Handouts

- 2.1 Healthy Food Groups
- 2.2 Healthy Eating Song

Equipment & Materials

- Flip chart stand and paper
- 4 – 6 colored markers
- *10 Step* Summary Card

Instructions for Teaching the Activity

Room Arrangement: Participants sit in a circle

Note: If teaching a community group, the Health Coach asks questions of the whole group, encouraging responses from all participants.

1. **Health Coach asks the participants to respond to the following questions without repeating what others have said. List group responses on flip chart.**
   - Name one food you eat regularly.
   - Give me one reason why we eat food.
   - Give me a reason why we drink water.

Note: The Health Coach notes if any reason for eating or drinking water is missing (eating: energy for activity, protection, healing and growth; drinking water: cleansing waste from body). If missing, then the Health Coach adds these at the end.

2. **Health Coach asks the participants to respond to the following without repeating what others have said. List group responses on flip chart.**
   - Name one food that is needed to heal the body.

Note: Health Coach discovers group's understanding of the need for foods high in protein to heal. Coach gives related homework.

3. **Health Coach points to the list of local foods and asks participants to respond to the questions below. Beside each identified food the Health Coach marks an "E" for energy, "P" for protection, and "H" for healing and growth.**
   - What foods are best for providing "high" **energy** to do daily activities?
   - What foods help to **protect** the body?
   - What foods are needed for the body to **heal and grow**?

4. **Health Coach asks the participants to respond to the following without repeating what others have said. Group responses are listed on the flip chart.**
   - List reasons why water and/or certain foods are, or are not, consumed.
   - Why don't people eat healthy foods?

Note: Health Coach guides group discussion and clarifies responses as needed. The group identifies barriers to healthy eating. If any common barriers are missing, the Health Coach completes the list (costs, limited access and availability, habit, etc.). The Health Coach gives related homework.

5. **Health Coach emphasizes the following key points:**
   - The need for drinking sufficient clean water (about 2 liters or 8-10 cups daily).
   - The importance of protein in helping the body to heal/repair.
   - Local foods with high protein content or food that help the body to heal.

6. **Health Coach distributes the handout *2.1 Healthy Food Groups* to participants.**

Optional Activity 2: Healthy Meal Planning

Handouts

- 2.1 Healthy Food Groups

Equipment & Materials

- A4 paper for each group

Instructions for Teaching the Activity

Room Arrangement: Divide participants into groups of three to four persons.

1. **Health Coach briefly discusses the importance of including foods from the three main food groups in each meal (Refer to handout *2.1 Healthy Food Groups*).**

2. **Each group will be given five minutes to plan one meal that includes all food groups.**

3. **Group records meal on A4 white paper.**

4. **Each group presents their meal to the larger group.**

Optional Activity 3: Healthy Eating Song

Handouts

- 2.2 Healthy Eating Song

Equipment & Materials

- None

Instructions for Teaching the Activity

Room Arrangement: Divide participants into groups of three to four persons.

1. **Health Coach distributes handout *2.2 Healthy Eating Song.***

2. **Health Coach gives each group 10 minutes to put the song to music and create a dance.**

3. **Each group presents to all participants.**

4. **Participants vote to select the best presentation.**

Conclusion

In conclusion, the Health Coach summarizes key messages and clarifies any misconceptions.

Homework Assignment and/or Things to Try at Home

1. **Participants discuss possible solutions for overcoming barriers to healthy eating and present the solutions the next day.**

2. **Record what you eat every day and sort by food group:**
   a. high-energy foods
   b. protective foods
   c. healing and growth foods

3. **Record the colors of the food you are eating. How many different colors did you eat each day?**

Handout 2.1: Healthy Food Groups

1. **What are the three basic food groups?**
2. **Which foods help your body to heal and grow?**
3. **Which foods help to protect you?**
4. **Which foods give you energy to get things done?**

Food Groups	Food Sources	Local Foods
Heal & Grow	• Meats • Poultry • Fish • Dairy products • Eggs • Beans	• Meat • Fish • Beans • Eggs • Milk • Groundnuts • Moringa leaves and seeds OTHER:
Protect	• Dairy products – milk – eggs – butter • Fresh fruit • Fresh vegetables	• Vegetables and fruits – okra – green leaves – tomatoes – onions – bananas – oranges – watermelon – groundnuts – Moringa leaves and seeds OTHER:
Energy	• Potatoes • Rice • Cereals • Pasta • Bread • Some fruits and vegetables	• Yams • TZ (porridge ball made with millet or corn flour and served with a stew) • Porridge • Rice • Fufu with stew • Banku with stew • Groundnuts • Moringa leaves and seeds OTHER:

Step 2: Eat Healthily

Handout 2.2: Healthy Eating Song

With permission Gertrude de Rooij

1. Moringa is a miracle tree. Yes, it is good for the whole family.

Chorus x 2

Food, food, food healthy food that does my body lots of good

2. I want to grow. I have to eat food like beans, eggs or meat.

Chorus x 2

Food, food, food healthy food that does my body lots of good

3. Oranges and tomatoes do me good. We call it protection food.

Chorus x 2

Food, food, food healthy food that does my body lots of good

4. Yam and TZ give energy. So that I can sing for you and me.

Chorus x 2

Food, food, food healthy food that does my body lots of good

STEP 3:
Practice Good Personal and Household Cleanliness

Photo credit: Tom Bradley

Step 3: Practice Good Personal and Household Cleanliness

Introduction

Individual and household behaviors are keys to preventing illness and infection. Soap and clean water should be used for daily bathing, for keeping faces clean and for handwashing. Handwashing should be done before food preparation, before eating and after toileting, and at other times when clean hands are needed. It is also important to wash food before eating and to keep clothing clean through regular washing.

Waste needs to be buried or stored/disposed of safely, and households kept free of material that attracts flies. It is important to explore common cleaning practices and discuss which methods are most effective and how they can be accomplished. Water and sanitation should be made safe for all and accessible to those with disabilities.

Goal

Practice daily hygiene and safe storage of waste to maintain health and prevent infection.

Key Messages

1. Bathing daily and washing face, hands, food and clothing with soap and water protect you from infections that cause sickness.
2. Wash, rinse and dry the body from top to bottom.
3. Wash and dry gently between the toes and in skin folds.
4. Repeat washing and rinsing of any body part until the water is clean/clear.
5. Ask for help if you cannot wash and dry areas that are difficult for you to reach or see.
6. Do not share the same towels and bed sheets with others.
7. Ensure faces are clean, waste has safe storage/disposal and that households are free of material that attracts flies.

References

- Benskin, L., & Kelly, M. (2002). *Handbook for health care in developing countries: A guide for promoting health in your community*. Searcy, Ark.: International Health Care Foundation.
- Dreyer, G. (2002). *New hope for people with lymphedema.* Recife, Brazil: NGO Armaury Coutinho and Division of Parasitic Diseases. *http://www.amaurycoutinho.org.br/login/index_php.php*
- *Handwashing: Clean hands save lives.* (2013). CDC. *http://www.cdc.gov/handwashing*
- *Learner's Guide: Training module on community home-based prevention of disability due to lymphatic filariasis*. (2003). Geneva: World Health Organization.
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- Ogden, S., & Emerson, P. (2013). How communities can control trachoma without a big budget. *Community Eye Health Journal*, *25*(79 & 80), 80-81
- Water, Sanitation and Hygiene: *http://www.washntds.org/download.php*, English Manual: *http://www.washntds.org/PDF/ALL%20WASH%20NTD%20Manual.pdf*, French Manual: *http://www.washntds.org/PDF/WASH%20MTN%20Manuel.pdf*
- Werner, D., & Thuman, C. (1999). *Where there is no doctor: A village health care handbook* (5th ed.). Berkeley, Calif., U.S.A.: Hesperian Foundation.
- *WHO guidelines on hand hygiene in health care: A summary.* (2009). Geneva: World Health Organization.

A Quick Supervisory Checklist for Step 3

Personal Cleanliness	Yes	No	Not Obs	Observations & Recommendations
1. Checks to see if face is clean				
2. Checks that waste is stored safely				
3. Checks access to water and sanitation				
4. Explains good handwashing with soap				
5. Explains importance of routine bathing				
6. Explains washing of food				

Guidelines for Teaching the Module

Health Coach/Facilitator should use the local language and ensure that all terms are found in the local language.

Estimated time to do the module: 1 hour and 30 minutes

Learning Objectives

At the end of the module, participants will be able to:

1. Explain why daily bathing and routine washing of face, hands, food and clothing are important.
2. Explain when it is important to wash hands.
3. Demonstrate how to wash and dry face, hands, body, legs and feet correctly.
4. Explain how to clean and dry dirty clothing, washcloths and bedding.
5. Explain how waste can be safely stored.
6. Explain what can be done to reduce flies.

List of Teaching Activities and Learning Materials

Activity 1

Group Discussion on Personal Cleanliness

Activity 2

Group Demonstration on Personal Cleanliness

Handouts

- 3.1 Good Handwashing
- 3.2 Good Washing and Drying of the Body
- 3.3 Good Individual and Household Cleanliness Practices

Step 3: Practice Good Personal and Household Cleanliness

Activity 1: Group Discussion on Personal Cleanliness

Handouts

- 3.1 Good Handwashing
- 3.2 Good Washing and Drying of the Body
- 3.3 Good Individual and Household Cleanliness Practices

Equipment & Materials

- Flip chart stand and paper
- 4 – 6 colored markers
- *10 Step* Summary Card

Instructions for Teaching the Activity

Room Arrangement: Participants sit in a circle.

Note: If teaching a community group, the Health Coach asks questions of the whole group, encouraging responses from all participants.

1. **Health Coach asks participants if they have clean water and sanitation that is available and accessible to all, including the elderly and disabled.**

2. **Health Coach asks what can be done to improve availability and access to clean water and sanitation.**

3. **Health Coach asks the participants to respond without repeating what others have said. Ask each question and record responses on flip chart before moving onto the next question.**
   - How often do you bathe and how do you bathe?
   - Why is it important to bathe daily and why is it necessary to wash hands, face, food and clothing?
   - Why might people not bathe, wash hands, face, food and clothing?
   - What are some of the sicknesses/ill health/ infections that may result when people do not bathe daily or regularly wash?
   - Explain how waste is safely stored/disposed so households are free of material that attracts flies.

4. **Health Coach distributes the handouts: *3.1 Good Handwashing, 3.2 Good Washing and Drying of the Body, 3.3 Good Individual and Household Cleanliness Practices.***

5. **Health Coach and participants read the handouts and complete any missing information that was not included in earlier discussions.**

Activity 2: Group Demonstration on Personal Cleanliness

Handouts

- 3.2 Good Washing and Drying of the Body

Equipment & Materials

- 1 basin large enough for a foot
- 1 bucket of water
- 1 cup
- 1 bar of soap
- 8 cotton washcloths
- 1 large towel

Instructions for Teaching the Activity

Room Arrangement: Participants sit in a circle.

Health Coach asks a participant to volunteer and has him or her:

- **List supplies needed to wash and dry the body.**
- **Explain and demonstrate the appropriate steps and techniques for washing and drying the whole body (see handout).**
- **Demonstrate how to dry between the toes and explain how they would dry if there were skin folds (see handout).**
- **Other participants observe and correct as needed.**

Conclusion

In conclusion, the Health Coach summarizes key messages and clarifies any misconceptions.

Homework Assignment and/or Things to Try at Home

1. **In one day, count the number of times you washed your hands and when they were washed (before preparing food, before eating, after toileting, or other).**

2. **In one day, count the number of times you saw open waste in or near your home.**

3. **Describe what you do to safely store or get rid of waste (human and animal feces, food scraps, excess moisture that attracts flies).**

4. **Describe what you did to make water and sanitation more easily available and accessible for all, including the elderly and disabled.**

Step 3: Practice Good Personal and Household Cleanliness

Handout 3.1: Good Handwashing

Global Handwashing Day Log, Landor Associates (2008) *http://www.globalhandwashing.org*

Keeping hands clean is one of the most important steps we can take to avoid getting sick and spreading germs to others. Many diseases and conditions are spread by not washing hands with soap and clean, running water. If clean, running water is not accessible, as is common in many parts of the world, use soap and available water. If soap and water are unavailable, use an alcohol-based hand sanitizer that contains at least 60% alcohol to clean hands.

Wash Hands with Soap

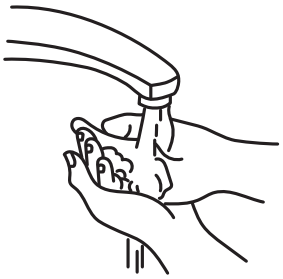
- **Before and after meals and snacks.**
- **Before caring for young children.**
- **After touching a public surface.**
- **Before and after preparing food, especially raw meat, poultry or seafood.**
- **After using the toilet.**
- **When hands are dirty.**
- **After touching animals.**
- **When you or someone around you is ill.**

Key Facts on Handwashing

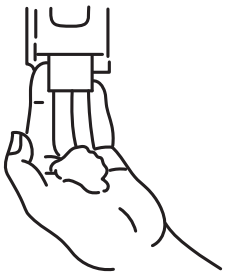
- Washing hands with water alone is not enough.
- Handwashing with soap is the single most cost-effective way to prevent disease.
- The critical moments for handwashing with soap:
  - after using the toilet or cleaning a child
  - before handling food
- Effective approaches focus on the handwasher with the use of reminders (slogans, images, jingles, etc.) in locations where critical moments of handwashing occur. Examples of slogans are, "No germs on me," "For truly clean hands always wash with soap," and "Clean care is safer care."

How to Wash Your Hands

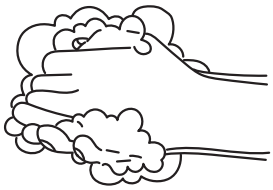
1. Wet your hands



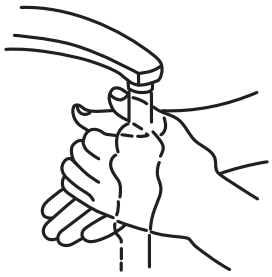
2. Apply soap



3. Lather and scrub hands for 20 seconds Remember to wash palms, between fingers & thumb, under nails and the backs of hands & fingers



4. Rinse for 10 seconds



5. Turn off tap with towel

6. Dry hands

Handout 3.2: Good Washing and Drying of the Body

Germs cause infections and disease, but we can fight them. Clean water and soap are your best weapons. By washing carefully with soap and water you remove dirt and germs. Germs like to grow in warm, moist places. They like to grow between toes and folds of skin. Remember to dry well between your toes and skin folds. It is easy; even children can learn to do it.

- **Wash/bathe often, at least once a day when the weather is hot or after working/playing hard.**
- **Wash the body gently with soap and clean water (not hot).**
- **Wash hands with soap and water first. Remember to wash hands often (see handout *3.1 Good Handwashing*).**
- **Before you wash/bathe, gather all the supplies you will need and have your footwear close by.**
  - Supplies: Bucket of clean water, large basin to fit the foot, rinse cup, soap, several soft clean cloths/towels for washing and drying. Alternatives to wash cloths include sponge/foam, net or loofah.
- **Always wash in the same order. Go from head to toe.**
  - Face: start at eyes then nose, mouth and ears. Remember the face alone may need to be washed several times a day, particularly in areas where there is trachoma.
  - Neck and trunk: start at neck, then armpits, chest and breasts, belly and back.
  - Arm and hand: start above elbow then work toward the hand.
  - Genital and anal areas: start at genitals then anal area.
  - Legs and feet: Start above the knee then work toward the foot and toes.

Tips

- **Use a soft plastic bag to wash between your toes and skin folds.**
- **Wash until the body part is clean and the rinse water stays clean.**
- **Some people will need help. Helpers can clean places you cannot reach. Get help. The germs will not hurt your helper.**
- **Look carefully to see if there are small breaks in the skin between toes and skin folds. To heal them you must wash and dry them well.**
- **If there are larger wounds on any body part, get help. See special instructions in Step 6 which is about care of wounds.**
- **Dry gently and well using a clean, soft cloth following the same order as washing (head to toe). Remember to dry well between toes and skin folds.**
- **Use a fan to dry bumps and skin folds that make it difficult to use a cloth.**

Step 3: Practice Good Personal and Household Cleanliness

Handout 3.3: Good Individual and Household Cleanliness Practices

The key to prevention of disease is not complex. Instead, simple individual and household behaviors are critical to ensure clean faces and the safe storage of materials that attract flies. All households should have access to a latrine and all household members should use it. Households and communities must engage in proper waste management to limit the amount of human and animal feces, food scraps and excess moisture. This will decrease the number of flies and the spread of disease. Important healthy behaviors include the following:

- **Clean the house often, including the surrounding area outside of the house.**
- **Encourage every household in your community to use a latrine.**
- **Dispose of children's waste safely. Waste must be thrown into the latrine or buried to eliminate breeding sites for flies.**
- **Fill cracks and holes in the walls or floor where bugs can hide.**
- **Use bed nets and, if available, put up screens over windows and doors.**
- **Spray thatched roofs to kill insects.**
- **Keep animals outside the house. Do not let animals walk on bedding or lick faces.**
- **Wash bed sheets and thin mats weekly and dry in the sun. Wash more often if they become soiled.**
- **Try to have a separate mat for each person. Avoid overcrowding, especially when sleeping.**
- **Put mattresses out in the sun to air, from time to time.**
- **Separate anyone who is sick.**
- **Teach families that sharing towels or cloths can put their loved ones at risk of infection. If someone has an eye infection, it is easily spread through towels, washcloths, pillows, bed sheets and clothes. These should be washed with soap to kill the germs before reuse.**
- **If there are bed bugs or scabies in the house, pour boiling water on the mat/bed and wash all clothes, cloths for washing and drying the body, sheets and blankets on the same day. Dry them in the sun.**
- **Handle the soiled or bloodstained clothes, bedding and towels of a sick person with care. To kill any germs, wash these in hot soapy water or add some chlorine bleach to the wash water. Hang in the sun to dry.**

STEP 4:

Care for Eyes

Photo credit: Tom Bradley

Step 4: Care for Eyes

Introduction

Good vision is important for performing activities at home, work, school and play. Vision is also needed to identify injuries and health problems early. Vision is even more important for people who have lost the ability to feel in their hands and feet, because they depend even more on their vision to perform self-care and other daily activities.

Fortunately, most blindness is avoidable. Washing the face often with clean water and soap can prevent serious eye infections that may lead to blindness. Other simple ways to preserve eye health include: eating healthy foods high in vitamin A such as sweet potatoes, carrots, dark leafy greens and chilis; taking childhood immunizations (measles); and protecting the eyes from dryness, sun glare and accidental injury.

The community can also promote behavioral and environmental changes to reduce factors contributing to eye infection and/or disease. Such changes include improving individual and household cleanliness, safely storing and/or disposing of human and animal waste, and eliminating the standing water that attracts flies.

It is also important to know the difference between healthy eyes and those with problems. Healthy eyes should be bright with clear corneas, black pupils (centers), and white eyeballs. The eyelids should open and close completely. There should be no eye pain, itching or blurring of vision. Eyes that are not like this should be referred. Sudden change or loss of vision is an emergency and should be referred to an eye specialist immediately.

Goal

Promote eye health and preserve vision.

Key Messages

1. A diet rich in vitamin A is good for eye health.
2. Good personal and environmental hygiene can prevent infection that can cause blindness.
3. Identifying eye problems early and taking action to provide care or referral can preserve vision.
4. Vision is critical to helping protect hands and feet with loss of feeling.

References

Prevention and Care

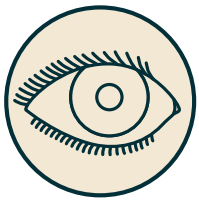
- Francis, V., & Wiafe, B. (2007). Healthy Food for Healthy Eyes. In *The Healthy Eyes Activity Book: A health teaching book for primary schools* (2nd ed.). International Centre for Eye Health. *http://s160131.gridserver.com/wp-content/uploads/healthy-eyes-activity-book-for-primary-schools.pdf*
- Gilbert, C. (1998). The importance of primary eye care. *Community Eye Health Journal*, *11*(26). International Centre for Eye Health, London.
- Kitadai, S., Caligaris, L., Bieskis, L., & Calvo, D. (2006). *Saúde Ocular às gestantes*. São Paulo: Área Técnica da Saúde Ocular.

E Chart

- *https://www.provisu.ch/PROVISU/Age/Echart_en.pdf*
- *http://www.lowvisiononline.unimelb.edu.au/Screening/images/Echart.gif*

Trachoma Grading: Grading should be done by somebody who is well trained and experienced through a standardization or certification process by the Global Trachoma Mapping Project.

- *http://www.trachomacoalition.org/resources/global-trachoma-mapping-project-training-mapping-trachoma*
- *http://www.who.int/blindness/causes/trachoma_documents/en*



A Quick Supervisory Checklist for Step 4

Care of Eyes	Yes	No	Not Obs	Observations & Recommendations
1. Correctly assesses visual acuity for distance and close up				
2. Identifies eye problems early: sudden vision loss, red eyes, pain, bumps on eyelid, eyelashes turning inward, corneal sensory loss, muscle weakness, eyelid gap, ulcer/injury				
Teaches affected person and caregiver how to:				
3. Keep face and eyes clean				
4. Safely dispose of waste and water				
5. Eat food high in vitamin A				
6. Inspect eyes and check vision daily				
7. Protect eyes during the day and night				
8. Strengthen weak eye muscles				

Step 4: Care for Eyes

Guidelines for Teaching the Module

Health Coach/Facilitator should use the local language and ensure that all terms are found in the local language.

Estimated time: 2-3 hours

Learning Objectives

At the end of the module, participants will be able to:

1. List simple actions that individuals can do to preserve eye health.
2. Describe individual and household behaviors that reduce factors contributing to eye infection and/or disease.
3. Demonstrate how to screen and detect basic vision and eye problems.
4. Describe how eye problems can be treated at the community level and when they need to be referred.

List of Teaching Activities and Learning Materials

Activity 1

Preventive Actions for Eye Health

Activity 2

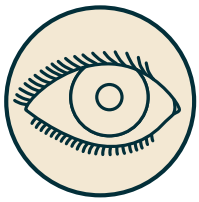
Vision and Basic Eye Screen

Activity 3

Community Eye Care and Referral

Handouts

- 4.1 Preventive Actions for Eye Health
- 4.2 Vision Screen Instructions
- 4.3 Instructions for Eye Screen
- 4.4 Individual Impairment Record Form (IIRF) – Vision & Eye Section
- 4.5 Trachoma Grading
- 4.6 Community Eye Care or Referral
- 4.7 Techniques for Eye Care



Activity 1: Preventive Actions for Eye Health

Handouts

- 4.1 Preventive Actions for Eye Health

Equipment & Materials

- Flip chart stand and paper
- 4 – 6 colored markers
- 5 pieces of A4 blank paper for each group
- 1 pen or colored marker per group

Instructions for Teaching the Activity

Room Arrangement: Participants are divided into small groups with three to four persons per group.

1. **Health Coach writes the following five categories on the flip chart:**
   - **Practice good personal hygiene**
   - **Practice good personal and household cleanliness**
   - **Eat healthy foods**
   - **Immunize**
   - **Protect eyes**

2. **Health Coach gives five pieces of blank A4 paper and one pen or colored marker to each group.**

3. **The Health Coach explains that each group will be making recommendations on specific actions that will promote good eye health and vision for each of the five categories.**

4. **Groups are given 10 minutes to discuss and make recommendations for each category.**

5. **Each group will write their recommendations down for each category on separate pieces of paper.**

6. **Health Coach begins the discussion with the first category, "Practice good personal hygiene," and asks for one group to report. Other groups add recommendations without repeating recommendations from the previous groups. The Health Coach or a volunteer will record each response on the flip chart.**

7. **The groups continue to present recommendations for remaining categories until all recommendations have been presented.**

8. **The Health Coach distributes the handout *4.1 Preventive Actions for Eye Health*.**

9. **The entire group reviews the handout and compares with their responses on the flip chart. Any missing preventive actions are added to the flip chart.**

Step 4: Care for Eyes

Activity 2: Vision and Basic Eye Screen

Handouts

4.2 Vision Screen Instructions
4.3 Instructions for Eye Screen
4.4 Individual Impairment Record Form (IIRF) – Vision & Eye Section
4.5 Trachoma Grading

Equipment & Materials

- Flip chart stand and paper
- 4 – 6 colored markers
- Water and soap to wash hands
- 1 roll of paper towels to dry hands
- 1 box of disposable gloves
- 1 box of cotton swabs or matchsticks to assist in turning over eyelids (optional)
- 1 measuring tape
- 1 torch or flashlight
- 1 small magnifying glass
- 2 Snellen E-Charts (see Appendix)
- 2 6-meter strings/cords knotted at every meter
- 2 eye covers (large spoon)
- 2 black-capped pointers/pens
- 2 pieces of A4 blank paper
- Copies of *4.4 IIRF – Vision & Eye Section* for practice in recording
- Pens/Pencils to record responses
- Torch/Flashlight for each pair
- Small magnifying glass for each pair
- Tissue box for each pair

Instructions for Teaching the Activity

Room Arrangement: Participants sit in a circle for Health Coach demonstration and then participants will be grouped in pairs.

1. **Health Coach distributes handouts: *4.2 Vision Screen Instructions, 4.3 Instructions for Eye Screen* and *4.4 Individual Impairment Record Form (IIRF) – Vision & Eye Section* to participants.**

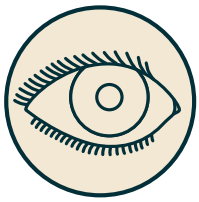
2. **Health Coach explains and demonstrates how to set up a vision screen area, emphasizing adequate lighting and accurate and consistent distance between people being examined and the Snellen E-Chart or finger count.**

3. **Health Coach requests one volunteer. He then explains and demonstrates how to do the vision and eye screens and how to record the results of the screens done on the volunteer.**

4. **Health Coach asks participants to set up a second vision screening area.**

5. **Health Coach divides the group into pairs.**

6. **The pairs practice doing the vision and eye screens on each other while the Health Coach observes and provides feedback on their screening and recording techniques and accuracy.**



Activity 3: Community Eye Care and Referral

Handouts

- 4.5 Trachoma Grading
- 4.6 Community Eye Care or Referral
- 4.7 Techniques for Eye Care

Equipment & Materials

- Flip chart stand and paper
- 4 – 6 colored markers
- 1 box of disposable gloves
- Water and soap to wash hands
- 1 roll of paper towels to dry hands
- 1 small bottle of clean water or physiological solution
- 1 small magnifying glass
- 1 pair of tweezers
- 1 bottle artificial tears
- 1 box of cotton swabs to assist applying ointment
- 1 tube of eye ointment
- 1 box of clean tissues
- 10 squares of gauze pads
- 1 roll of adhesive tape
- 1 pair of scissors
- 1 thin plastic folder and/or used x-ray film and/or posterboard to make eye shield
- 1-meter cord and/or thin elastic tape

Instructions for Teaching the Activity

Room Arrangement: Participants sit in a circle.

1. **Health Coach distributes handouts *4.5 Trachoma Grading, 4.6 Community Eye Care or Referral* and *4.7 Techniques for Eye Care*.**

2. **Health Coach reviews eye problems and explains and/or demonstrates appropriate community care and referral.**

3. **Health Coach asks for a volunteer and then demonstrates how to clean eyelids, use eye drops, apply eye ointment, remove eyelash and make and apply an eye patch.**

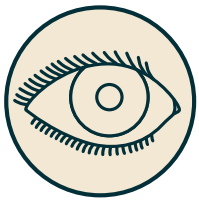
4. **Health Coach and participants discuss community care recommendations and issues related to referral.**

5. **Health Coach emphasizes the need to routinely examine eyelids in trachoma-endemic areas.**

Step 4: Care for Eyes

Conclusion

At the end of each teaching activity the Health Coach summarizes key messages and clarifies any misconceptions.



Handout 4.1: Preventive Actions for Eye Health

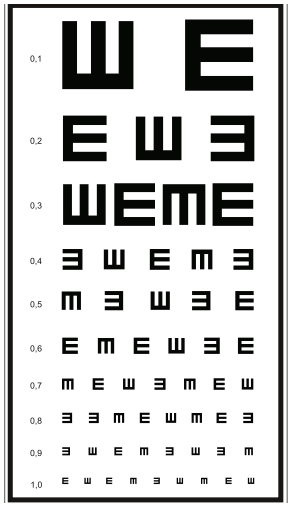
Preventive Actions	Details
1. Practice good personal hygiene	• Discourage face-seeking flies by washing face and hands frequently with soap and clean water. • Wash hands prior to and after touching the eye or playing with children. • Do not wipe sweat from eyes using dirty work shirts or other work/play clothing. • Prevent exposure of eyes to dust, pesticides and other contaminants. • Do not share personal items; e.g., handkerchiefs, cosmetics, towels, bedding.
2. Practice good personal and household cleanliness	• Properly store/dispose of household, animal and human waste (i.e. burn, bury, put in latrine) and move livestock away from house to reduce the number of flies. • Construct, use and maintain latrines and refuse pits.
3. Eat healthy foods	• Grow and eat foods high in vitamin A: – **Red, yellow and orange vegetables and fruits:** carrots, sweet potatoes, dark green leafy vegetables, butternut squash, mango, melons, apricots – **Lettuce:** red and dark green – **Liver and dairy products:** turkey, beef, chicken, other – **Herbs & spices:** paprika, red pepper, cayenne, chili powder, basil, parsley, oregano
4. Immunize	• Protect against disease with measles vaccine and other vaccines.
5. Protect eyes	• Shade eyes with wide-brimmed hat and/or sunglasses. • Protect eyes from injury during work activities such as woodworking, welding, etc. • Protect eyes from smoke, blowing sand, dirt and other debris. • For eyes that do not close completely, protect from dryness and debris. Use drops to moisten eyes frequently. During the day use glasses; at night use an eye shield/cover. Self-check vision daily. • For eyes with loss of feeling, “Think Blink” frequently and self-check vision daily.
6. Refer	• Contact supervisor and/or refer to hospital immediately if an eye injury occurs or one of the following is present: – Sudden change in vision with or without a red eye and/or with or without pain and/or “itchy” feeling. – Difficulty closing the eye completely, with the eye exposed during the day and while sleeping. – Eyelashes turned in and touching the eye, a cornea (eye) which is dull (not bright), a pupil that is no longer black and/or vision that is worse.

Step 4: Care for Eyes

Handout 4.2: Vision Screen Instructions

Preparation for Vision Screen

1. Gather together equipment and supplies: Snellen E-Chart (see Appendix), 6-meter length cord knotted at every meter, chair, eye cover (large spoon), black-tipped pointer/pen with black cap, sheet of blank paper, pencil/pen, flashlight and IIRF record form.
2. Use a 6-meter string or measuring tape to measure 5 meters from Snellen E-Chart to the back of the chair where person will sit.
3. Snellen E-Chart should be placed in a well-lighted area with no reflection off the chart. If outside, the sun should be behind the person taking the test.
4. Snellen E-Chart should be placed so that line 8 is at eye level.
5. Draw an "E" on a piece of paper and show the paper to the person. Ask the person to imagine that the "E" is a table with legs and have them use their hand to show the direction that the legs are pointing. Practice changing the direction of the "E" to make sure it is understood.
6. Explain to the person that you want to determine the smallest line they are able to see.
7. If the person is wearing glasses, test with glasses on.

Measuring Distance Vision with Tumbling E Eye Chart	
1. Ask the person to cover the left eye. Test the right eye.	
2. Tester places pointer vertically, below the largest letter without covering the letter. The tester asks the person to show the direction the legs are pointing.	
3. Tester proceeds down the chart to determine the smallest line that the person can read. Lines may be skipped to more quickly determine the smallest line visible. If the person cannot see more than half of the line tested, return to the preceding line and test.	
4. Record the line number on the IIRF recording form of the smallest line in which the person can see more than half of the Es.	
5. Ask the person to cover the right eye. Repeat the test with the left eye and record the results.	
6. If person cannot see the largest E, then use the finger counting test.	

Finger Counting
1. To test, the person remains sitting and covers the left eye.
2. The tester stands 6 meters away and holds up a set number of fingers. The person is asked to tell the number of fingers seen.
3. Repeat this process three times with a different number of fingers each time. If unable to see two out of three trials at 6 meters, the tester uses the knotted cord and steps 1 meter closer to the person and repeats the finger count. Record on the IIRF form the greatest distance at which fingers can be counted.
4. If no ability to count fingers at 1 meter, ask person to tell whether tester hand is moving or still. If no movement detected, check perception of light with a flashlight. Record movement, light perception, or no perception on the IIRF.
5. Cover the right eye and repeat finger counting three times using a different number of fingers.
6. Record on the IIRF form the best finger counting distance/movement/light perception or no light perception for each eye.

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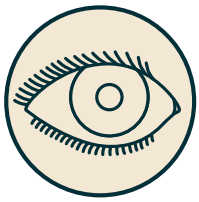

Handout 4.2: Vision Screen Instructions (continued)

Snellen E-Chart for children *http://www.provisu.ch*

(See Appendix)

1. Print the test page in A4 standard format. The child has to be located 1.6 meters (or 5 feet) away from the chart. If the test page is in another format, or if you wish to perform the test with the child facing the screen, you will have to calculate the distance at which the child must stand facing it, using the following formula: measure the height of the letter E (first line, 20/200) in millimeters. Then, divide the value of this measurement by 88. Finally, multiply it by 6. The result shows the distance at which the child must be placed, in in meters, e.g., (23/88) x 6 = 1.6 m.
2. Test the visual acuity with correction (e.g. glasses).
3. Test one eye at a time. Start with the right eye, covering the left one without pressing on it. Then, examine the left eye by doing the opposite. If the child is using correction glasses, you can cover the eye with a sheet of paper.
4. The child has to indicate the orientation of the branches of the letter E (top, bottom, right, left), from the largest E to the smallest. He can either use a small instrument that reproduces the shape of the optotype (E) and then orientate it in the same direction as the test showed, or indicate the orientation with his hand.
5. To make the examination easier and faster, another person can help you show the Es the child must read among the different lines of Es.
6. If the child can read the Es of the 10th line, his/her sight is optimal (visual acuity 20/20).
7. If his visual acuity is less than 20/20 (20/25, or the ninth line, is also acceptable for 3-year olds), or if you have doubts about the child's sight, visit your ophthalmologist.

NOTE: Take the results as a recommendation. The results do not indicate a diagnosis whatsoever. Performing the test does not mean the child should skip regular visits to his/her eye doctor, because you could easily miss signs that only a trained eye care practitioner would find.

Handout 4.3: Instructions for Eye Screen

Preparation for eye screen

Gather together equipment and supplies: flashlight/torch with batteries, magnifying glass, clean water and soap for washing hands, roll of paper towels, matchsticks, pens (red and blue/black) and IIRF Form.

Important: Wash hands with soap and water before and after each eye screen.

Complaints	**Ask**
Patient or family complaints or observations	Do your eyes have the following: pain, irritation, itching, gritty sand feeling, pain or discomfort to light, other? If yes, what symptom and which eye(s)? **Record on IIRF Form:** Circle symptom(s), Yes, R and/or L
History	**Ask**
Previous eye injury or problem. Type: _____	Have you ever had an injury or problem with your eyes? If yes, which eye(s) and what kind of injury or problem? **Record on IIRF Form:** Circle Yes, R and/or L and type of injury/problem
Recent change in vision. When _____ (in months)	Have you noticed any recent change in your vision? If yes, which eye(s) or both? When did you notice the change?_____ (estimate in months) **Record on IIRF Form:** Circle Yes, R and/or L.
Eye Conditions	
Increased tears and/or eye secretions	Observe eyes for excessive tearing and secretions. If yes, what sign(s) and which eye(s)? **Record on IIRF Form:** Circle sign(s), Yes, R and/or L
Eye redness	Observe eyes for redness. If yes, which eye(s)? **Record on IIRF Form:** Circle Yes, R and/or L
Eye redness with recent change in vision and/or pain	If there is eye redness, ask again if there is a change in vision and/or pain. **Record on IIRF Form:** Circle symptom(s), Yes, R and/or L
Eye is dull, has injury/ulcer, white center, white/reddish thick scar/skin on lower half or eye or on nasal side of eye	Observe eyes for dull area(s), injury/ulcer, white center (pupil), white/reddish thick skin on lower half of eye or on nasal side of eye. If yes, which eye(s)? **Record on IIRF Form:** Circle Yes, R and/or L
Eye closure is not complete with light closure	Observe eyes while asking person to close their eyes lightly as in sleeping. Lift the chin and observe for 10 seconds to see if closure is complete. If closure is not complete, which eye(s)? **Record on IIRF Form:** Circle Yes, R and/or L
Eye blink is less often than normal or absent *	Casually observe the frequency of blinking during the eye screen. If less than 10 blinks per minute, which eye(s)? **Record on IIRF Form:** Circle Yes, R and/or L

** Note: People may blink more frequently if they feel an eyelash or other irritation. Loss of the ability to feel results in fewer blinks per minute and dry eyes. Average number of blinks is 10 – 30 per minute (fewer blinks if intently watching something like a TV, computer screen, etc.).*

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Handout 4.3: Instructions for Eye Screen (continued)

Eye Conditions	
Upper/lower eyelid(s) are turned inward	With eyes open, observe the border of the eyelids of each eye from the side. If eyelids are turned inward, which eyelid(s)? **Record on IIRF Form:** Circle Yes, R and/or L
Upper/lower eyelid(s) are turned outward	With eyes open, observe the border of the eyelids of each eye from the side. If eyelids are turned outward, which eyelid(s)? **Record on IIRF Form:** Circle Yes, R and/or L
Upper/lower eyelashes are turned inward touching the eye	With eyes open, observe eyelashes of each eye from the side. Gently lift/pull eyelid(s) away from the eye and observe eyelash position. If eyelashes are turned inward touching the eye, which eye(s)? **Record on IIRF Form:** Circle Yes, R and/or L
Turn out the upper eyelid(s): inside lid is red	Ask the person to relax and look down. Take the upper eyelid and lashes between the thumb and forefinger and pull the lid straight out. Place a matchstick or finger of the other hand on the eyelid near the border to help turn out the upper lid. Hold and observe for redness. Repeat the process with the other eye. If the inside lid(s) is red, which lid(s)? **Record on IIRF Form:** Circle Yes, R and/or L
Turn out eyelid(s): inside lid has bumps/lumps/bands	Turn out eyelid as previously described. Hold and observe for bumps/lumps/bands. Repeat the process with the other eye. If the inside lid(s) is red, which lid(s)? **Record on IIRF Form:** Circle Yes, R and/or L

Handout 4.4: Individual Impairment Record Form (IIRF) – Vision & Eye Section

Vision Screen (see handout 4.2 for instructions on how to do the vision screen)

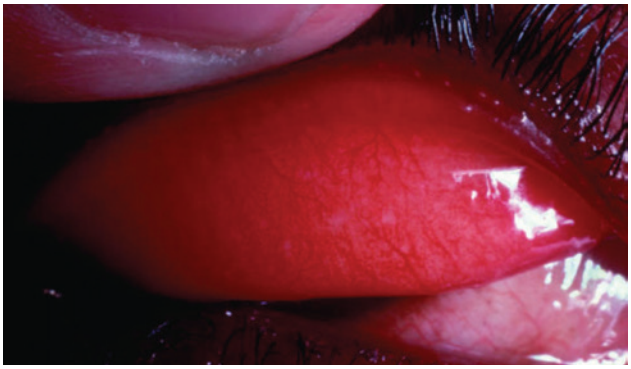
Uses glasses for distance	Yes	No
Uses glasses for close up (reading, handwork, sorting beans, etc.)	Yes	No
Snellen E-Chart: Vision for each eye. If glasses are used for distance, test with glasses	Right Line No. _____	Left Line No. _____
Finger count: Number of meters able to count fingers starting at 6 meters	Right Meters _____	Right Meters _____

Eye Screen (see handout 4.3 for instructions on how to do the eye screen)

Complaints			
Pain (R, L), irritation (R, L), itching or gritty feeling like sand (R, L), sensitivity to light (R, L) – Circle complaint and side	Yes	R	L
History			
Previous eye injury or problem. Type: _____	Yes	R	L
Recent change in vision. When_____(in months)	Yes	R	L
Eye Conditions			
Increased tears and/or eye secretions	Yes	R	L
Eye redness	Yes	R	L
Eye redness with recent change in vision and/or pain	Yes	R	L
Eye is dull, has injury/ulcer, white center, white/reddish thick scar on lower half of eye or on nasal side of eye	Yes	R	L
Eye closure is not complete with light closure	Yes	R	L
Eye blink is less often than normal (less than 10 blinks per minute) or absent	Yes	R	L
Upper/lower eyelid(s) are turned inward	Yes	R	L
Upper/lower eyelid(s) are turned outward	Yes	R	L
Upper/lower eyelashes are turned inward touching the eye	Yes	R	L
Turn out eyelids: inside lid is red	Yes	R	L
Turn out eyelids: inside lid has bumps/lumps/bands	Yes	R	L

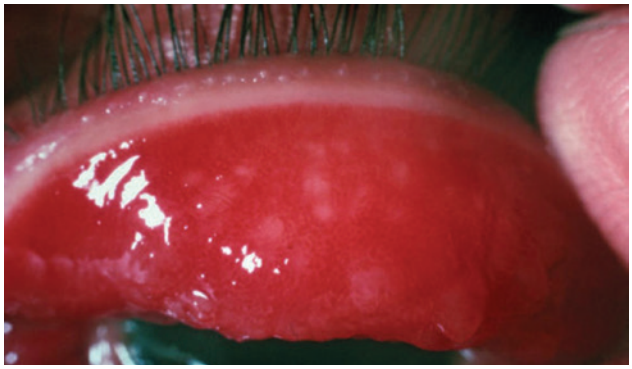
** Note: People may blink more frequently if they feel an eyelash or other irritation. Loss of the ability to feel results in fewer blinks per minute and dry eyes. Average number of blinks is 10 – 30 per minute (fewer blinks if intently watching something like a TV, computer screen, etc.).*

Handout 4.5: Trachoma Grading



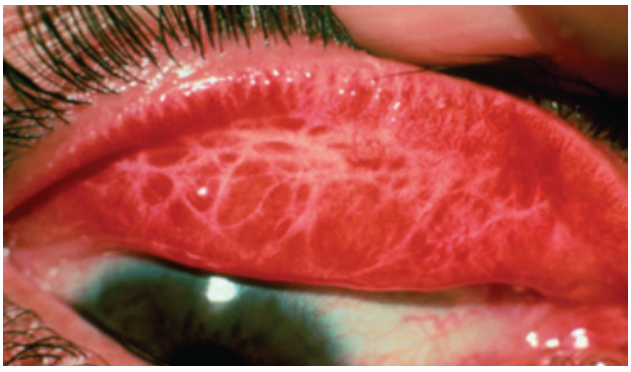
TF Trachomatous Inflammation – Follicular

The presence of five or more follicles in the upper tarsal conjunctiva.



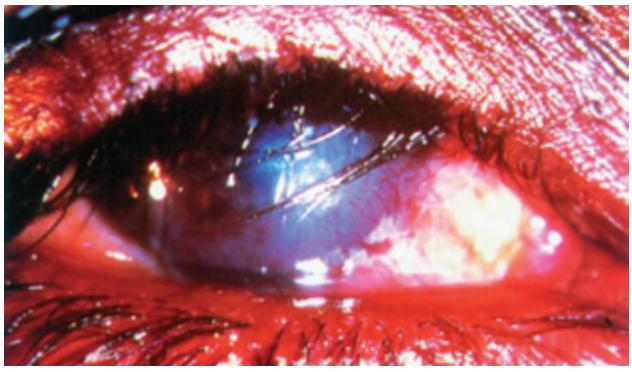
TI Trachomatous Inflammation – Intense

Pronounced inflammatory thickening of the tarsal conjunctiva that obscures more than half of the normal deep tarsal vessels.



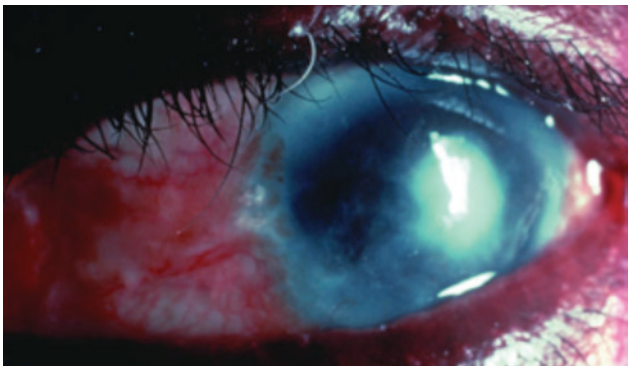
TS Trachomatous Scarring

The presence of scarring in the tarsal conjunctiva.



TT Trachomatous Trichiasis

At least one eyelash rubs on the eyeball or evidence of recent removal of in-turned eyelashes.



CO Corneal Opacity

Easily visible corneal opacity over the pupil.

http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1705737

Step 4: Care for Eyes

Handout 4.6: Community Eye Care or Referral

Problems Identified by Vision & Eye Screen	Community Care	Refer for Complete Eye Exam and Diagnosis
1. Sudden decrease in vision with pain (glaucoma) 2. Complaints of pain and/or sensitivity to light with recent change in vision	• Urgent, refer **immediately**	Urgent, refer **immediately**.
3. White, dull area which is an ulcer or foreign body	• Clean, cover	Urgent, refer **immediately**.
4. Vision loss is greater in one eye compared to the other with no other problems	• Place on list for possible corrective lenses	Refer **as soon as possible**. Schoolchildren are a priority for corrective lenses.
5. Cannot see smaller than line 6 on the E Chart in either eye	• Place on list for possible corrective lenses	Refer **if possible**. Schoolchildren are a priority for corrective lenses.
6. Cannot see the largest E (line 1) on eye chart or cannot count fingers at 6 meters (leprosy) or 3 meters (other)	• Consider eyes "at risk," "blind" or "Grade 2" in leprosy programs • Practice good personal and environmental hygiene • Self-care training for persons with sensory loss in hands and/or feet	In leprosy, refer **immediately**. Others, refer **as soon as possible**.
7. Unable to count fingers at 3 meters with dull white central area present (cataract)	• Good personal and environmental hygiene • Adaptive training for low vision	Refer **as soon as possible** for surgery.
8. Complaints: burning, itching, sand-like feeling 9. Red eye 10. Inability to close eyes	• Good personal and environmental hygiene • Artificial tears to moisten eyes (given by health worker) • Practice "Think Blink"	If **not improved in 1–2 weeks**, refer.
11. Forgets to blink	• Assist with or strengthen eye closure • Protect eyes	

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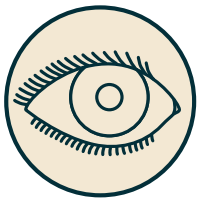

Handout 4.6: Community Eye Care or Referral (continued)

Problems Identified by Vision & Eye Screen	Community Care	Refer for Complete Eye Exam and Diagnosis
12. Excessive tearing 13. Lower eyelid turning out	• Teach to dry the eyes safely with a clean cloth • Health education for self-care	Refer to remove eyelashes or other foreign body **immediately**. Refer for correction of lower lid position **as possible**.
14. Secretions	• Clean • Good personal and environmental hygiene • Protect eyes	If **not improved in 1–2 weeks**, refer.
15. Inside eyelid is red, has bumps/lumps	• Clean • Practice good personal and environmental hygiene • Artificial tears to moisten eyes (given by health worker)	Refer **immediately** for possible trachoma.
16. Eyelid turned inward, has bands inside eyelid 17. Eyelashes turned inward touching the eye	• Place on list for corrective surgery • Good personal and environmental hygiene • Artificial tears to moisten eyes (given by health worker)	Refer **as soon as possible** for surgical correction of eyelid and eyelashes.
Groups at Risk		
18. Children	• Avoid playing in sandy areas that might have cat feces	
19. Females prior to pregnancy	• Vaccinate for measles, TB, other	
20. Pregnant women	• Avoid ingestion of food or water contaminated with cat feces • Screen for gonorrhea, syphilis, HIV	
21. Mothers with gonorrhea	• Use 1% silver nitrate drops in eyes of newborn within one hour of birth	

Step 4: Care for Eyes

Handout 4.7: Techniques for Eye Care

Daily self-check of vision • Dry eye • Difficulty closing eyes completely • Forget to blink enough	If the eye is dry and not moist enough, vision will become blurry. 1. Stand and look at the same object, the same time of day. 2. Check clarity of object with each eye separately. 3. If vision seems worse or more blurry. "Think blink" for five minutes and recheck. If vision improves, you need to remember to blink more often. If worse, seek help.
Always wash hands with soap and water before proceeding with eye care.	
Cleaning the eye	1. Wash eye by putting clean water into a cupped hand and place over the eye, with the eye open. 2. Rinse the eye thoroughly by tilting the head forward and backward. 3. Wash hands with soap and water again and repeat with other eye if needed.
Cleaning the eyelids	1. When cleaning the upper eyelid, look down and gently lift the upper lid up. Moisten a cotton swab, gently rolling the swab across the eyelid, away from the eye. 2. When cleaning the lower eyelid, look up and gently lower the lower lid down. Moisten a cotton swab, gently rolling the swab across the eyelid, away from the eye.
Putting in eye drops • Used to moisten eye • Used if there is an infection • Used if there is glaucoma (high eye pressure)	Follow the doctor's prescription and practice putting drops in eye without touching the eyelashes or eye. If unable to do the following, get help. 1. Look up. 2. With the thumb and index finger, gently pinch and pull out the lower eyelid making a small "pouch." 3. Place one drop in the "pouch," gently close the eye and release pinch. 4. Keep eye gently closed for a 20-30 seconds. 5. If a second drop is needed, wait about five minutes and repeat the same procedure.
Using eye ointment • Used at night to keep eye moist • Used if there is an infection	Follow the doctor's prescription and practice putting ointment in the eye without touching the eye. If unable to do the following, get help. 1. On a clean cotton swab, place a "pin-head size" of ointment on the tip of the swab. 2. Look up and gently pull out the lower eyelid creating a "pouch." 3. Gently place the cotton swab on the lower lid and roll the ointment into the "pouch." 4. Gently close the eye and release the pinch. 5. Keep the eye gently closed for 20-30 seconds.

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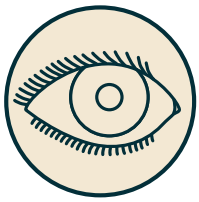

Handout 4.7: Techniques for Eye Care (continued)

Protection during the day • Protect eyes which cannot close completely • Protect eyes which forget to blink often	In order to decrease eye exposure to the sun and the drying effects of the wind, and to protect the eye from dirt and other foreign objects: 1. Use a broad-brimmed hat. 2. Use sunglasses.
Protection during the night • Protect eyes which cannot close completely	In order to decrease eye exposure and drying effects of the constantly open eye at night, and to protect the eye from dirt and other foreign objects falling into the eye at night: 1. Put in eye ointment/oil prior to sleeping. 2. Cover the exposed eye with an eye shield/cover that does not touch the eye (dome or cone shaped).
Making an eye shield/cover	If someone is unable to close his/her eye completely (Lagophthalmos), the following eye shield/cover is safest to use at night or when covering the eye if there is an ulcer. It prevents the patch from touching the eye that cannot close completely. 1. Cut a circle out of a piece of cardboard or used, cleaned transparent x-ray film or other thin plastic sheet. 2. Make a cut from one edge of the circle to the middle and stop. 3. Overlap the edges, making a cone. 4. Put adhesive tape on the inside and outside to hold the dome/cone shape. 5. Tape the cone over the eye or attach elastic or ties to fix the patch in place over the eye. Note: Patients whose hands cannot feel, prefer the shield/cover to be transparent when it is necessary to cover both eyes.
Foreign body/Eyelash turned in and touching the eye	If the foreign body is metal, do not try to remove but close the eye, cover and send immediately to the doctor. If other: 1. Look for a foreign body/eyelash without turning over the upper eyelid. If the foreign body/eyelash is not found: 1. Ask the person to look down but not to close the eye. 2. Take the eyelid between the thumb and forefinger and with a matchstick/cotton tip or finger, turn the eyelid up so the whole inner eyelid (conjunctiva) is in view. 3. Look for the foreign body/eyelash. 4. When you have found it, carefully remove with a clean moistened cotton swab or the tip of a clean moistened cloth. If eyelashes are turning in and touching the eye: 1. If only one or two, remove with clean tweezers. 2. If many, refer for surgical removal.

STEP 5:

Care for Skin and Nails

Photo credit: Rowan Butler

Step 5: Care for Skin and Nails

Introduction

The skin covers the body, keeps in body fluids and keeps out dirt and germs. The skin has nerves which allow us to feel touch, pressure and pain. It also helps us know the differences between hot and cold and smooth and rough surfaces. Nails are special parts of the skin formed by its hard outer layer to protect the tips of the fingers and toes. Healthy skin and nails can enhance the body's natural beauty, the image we present to the outside world. However, the skin can be damaged by the sun, physical injury (e.g. blisters, cracks, tears or burns) and/or chemical injury (e.g. pesticides or strong soap). Proper skin care keeps the skin clean, soft and flexible. The nails can be frequently damaged by fungal infection. Keeping the nails clean and properly cut prevents injury and infection.

The first signs of health problems/illness often appear in the skin and nails. It is important to develop the daily habit of looking at and caring for the skin and nails. Therefore, good vision and lighting are essential to identify problems early and take action.

Goal

Practice good skin and nail care daily to improve appearance, protect against injury, prevent infection and preserve full joint mobility.

Key Messages

1. Look carefully at the skin and nails daily. If a problem such as a crack or wound is identified, take action to care for it and/or seek help.
2. Practice good skin and nail care, daily.
3. Arms, hands, legs and feet with loss of feeling are at high risk for injury. Take extra care to prevent damage when doing skin and nail care and protect them during the day, at work, at play and when walking.

References

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- *http://orthoinfo.aaos.org/topic.cfm?topic=a00154*
- *http://www.who.int/lymphatic_filariasis/resources/training/en*
- *I can do it myself: Tips for people affected by leprosy who want to prevent disability.* (2007). New Delhi: WHO Regional Office for South-East Asia. *http://www.searo.who.int/entity/global_leprosy_programme/publications/prevention_disability.pdf*
- *Morbidity management and disability prevention in lymphatic filariasis.* (2013) *http://apps.searo.who.int/pds_docs/B4990.pdf*

A Quick Supervisory Checklist for Step 5

Care for Skin and Nails	Yes	No	Not Obs	Observations & Recommendations
1. Feels and observes skin and nail conditions in adequate lighting				
2. Identifies skin and nail problem and takes action				
3. Demonstrates good skin care and nail care				
4. Identifies skin areas with sensory loss				
Teaches affected person and caregiver how to:				
5. Do daily self-care of skin and nails				
6. Protect skin which has sensory loss				

Guidelines for Teaching the Module

Health Coach/Facilitator should use the local language and ensure that all terms are found in the local language.

Estimated time for teaching the task: 2–3 hours

Learning Objectives

At the end of the module, participants will be able to:

1. Explain and demonstrate healthy skin and nail care practices.
2. Identify common skin and nail problems which are listed on the handout *5.2 Individual Impairment Record Form (IIRF) – Skin and Nail Section.*
3. Describe how skin and nail problems can be treated at the community level and when they need to be referred.

List of Teaching Activities and Learning Materials

Activity 1

Skin and Nail Screen

Activity 2

Preventive Actions for Healthy Skin and Nails

Activity 3

Discussion and Demonstration on Community-Based Skin and Nail Care and When to Refer

Handouts

- 5.1 Instructions for Skin and Nail Screen
- 5.2 Individual Impairment Record Form (IIRF) – Skin and Nail Section
- 5.3 Preventive Actions for Healthy Skin and Nails
- 5.4 Community-Based Skin and Nail Care or Referral
- 5.5 Techniques for Skin and Nail Care (table with pictures)

Step 5: Care for Skin and Nails

Activity 1: Skin and Nail Screen

Handouts

- 5.1 Instructions for Skin and Nail Screen
- 5.2 Individual Impairment Record Form (IIRF) – Skin and Nail Section

Equipment & Materials

- Flip chart stand and paper
- 4 – 6 colored markers
- Sensory testing devices:
  - Cotton
  - Feather
  - Hot/cold tubes or ether
  - Pen
  - Nylon monofilament (10g)
  - Finger
- Copies of 5.1 IIRF-Skin and Nail Screen forms
- Blue or black pen
- Red pen

Instructions for Teaching the Activity

Room Arrangement: Participants sit in a semicircle with Health Coach and volunteer seated in the front.

1. **Health Coach distributes handouts *5.1 Instructions for Skin and Nail Screen* and *5.2 Individual Impairment Record Form (IIRF) – Skin and Nail Section***

2. **Health Coach asks for a volunteer.**

3. **Health Coach explains and demonstrates on the volunteer how to do the Skin and Nail Screen and how to record the results.**

4. **Health Coach divides the group into pairs.**

5. **The pairs practice doing the Skin and Nail Screen on each other and recording the results. The Health Coach observes and provides feedback on their screening and recording techniques.**

Note: The following problems put the person at risk for additional complications.

- *The loss of feeling to hands and feet puts them at high risk for injury. Extra care and good vision are needed to prevent damage when doing skin and nail care.*
- *A serious arterial problem may exist if one foot feels colder when compared to the other foot. The person should be referred immediately to the nearest reference center for further evaluation. Until further evaluation is completed, protect the cold foot from injury, do not walk on the foot and use a mobility aid such as a cane, crutches, walker, etc.*

Activity 2: Preventive Actions for Healthy Skin and Nails

Handouts

- 5.3 Preventive Actions for Healthy Skin and Nails

Equipment & Materials

- Flip chart stand and paper
- 4 – 6 colored markers
- 7 sheets of A4 blank paper per group
- One colored marker per group

Instructions for Teaching the Activity

Room Arrangement: Participants are divided into small groups with three to four persons per group.

1. **Health Coach writes the following seven categories on the flip chart:**
   - Good personal hygiene
   - Moisturizing the skin and scars
   - Removing callus
   - Trimming nails
   - Good environmental hygiene
   - Healthy eating
   - Protecting skin and nails

2. **Health Coach explains that they will be making recommendations for preventive actions for skin and nail health that fall into these seven categories.**

3. **Groups are given 20 minutes to discuss and make recommendations for each category. Each group records their recommendations for the seven categories on separate sheets of paper.**

4. **After 20 minutes, the Health Coach asks for a volunteer to record the group's recommendations for each of the seven categories on the flip chart.**

5. **Health Coach begins the discussion with the first category, Good Personal Hygiene, and asks for one group to report. Other groups add recommendations without repeating recommendations noted from the previous groups.**

6. **The groups continue to present recommendations for the remaining categories until all recommendations have been presented.**

7. **The Health Coach distributes the handout *5.3 Preventive Actions for Healthy Skin and Nails*.**

8. **The entire group reviews the handout and adds any missing preventive actions on the flip chart.**

Step 5: Care for Skin and Nails

Activity 3: Discussion and Demonstration on Community-Based Skin and Nail Care and When to Refer

Handouts

- 5.2 Individual Impairment Record Form (IIRF) – Skin and Nail Section
- 5.4 Community-Based Skin and Nail Care or Referral
- 5.5 Techniques for Skin and Nail Care (table with pictures)

Supplemental handouts:

- 3.2 Good Washing and Drying of the Body
- 3.3 Good Individual and Household Cleanliness Practices

Equipment & Materials

- Flip chart stand and paper
- 4 – 6 colored markers
- 1 pen
- 5 sheets of A4 blank paper
- 1 bucket with clean water
- 1 basin with plastic liner
- 1 plastic dropcloth to place under the basin
- 1 plastic bag to dispose of contaminated material
- 2 sheets of No. 80 wet/dry sandpaper
- 2 sheets of No. 100 wet/dry sandpaper
- 1 pumice stone
- 5-7 thin cotton washing & drying cloths
- 1 small container of moisturizing cream (local is best i.e. shea butter, cacao butter, etc.)
- 2 tongue blades (use to remove moisturizer from container)
- 1 toenail clipper
- 1 sheet of EVA or microcellular rubber (0.5 meter x 0.5 meter x 3/4mm thickness)
- 1 sheet of EVA or microcellular rubber (0.5 meter x 0.5 meter x 1cm thickness)
- 1 sheet of "furniture or bedding foam" (0.5 meter x 0.5 meter x 1cm thickness)
- 1.5 meters of cotton cloth
- 1 cane
- 1 pair of crutches
- 1 cutlass or fufu pounder

Instructions for Teaching the Activity

Room Arrangement: Participants sit in a semicircle.

1. **Health Coach distributes handout and reviews problems that are identified by the handout *5.2 IIRF-Skin and Nail Section* and explains appropriate community-based care and referral found in handout *5.4 Community-Based Skin and Nail Care or Referral*.**

2. **Health Coach and participants discuss community-based care recommendations and issues related to referral.**

3. **Health Coach distributes handout *5.5 Techniques for Skin and Nail Care (table with pictures)* and demonstrates how to do the following:**
   - Soak and hydrate skin
   - Rub/scrape callus and skin cracks
   - Trim nails
   - Care for scars
   - Check footwear size and choose appropriate footwear
   - Adapt common work tools
   - Use mobility aids (cane/stick, crutches)

Conclusion

In conclusion, the Health Coach summarizes key messages and clarifies any misconceptions.

Handout 5.1: Instructions for Skin and Nail Screen

Preparation for skin and nail screen:

Gather together equipment and supplies: sensory test device(s), IIRF form, red pen and blue/black pen or pencil.

Wash hands with soap and water before and after each screen.

Complaints	Ask
Patient or family complaints or observations	Do you currently have any of the following skin or nail complaints: Itching, burning, tingling, pins and needles, numbness, feels like ants crawling, feels heavy, feels cold or hot, pain? If yes, what symptom(s)? **Record on IIRF form:** Circle symptom(s), Yes, R and/or L
History	**Ask**
Previous skin injury (scar) or problem	Have you ever had an injury or problem with your skin? If yes, where and what kind of injury or problem? **Record on IIRF form:** Circle Yes, R and/or L and type of injury/problem. Mark location on body chart.
Previous nail injury or problem	Have you ever had an injury or problem with your nails? If yes, what kind of injury or problem? **Record on IIRF form:** Circle Yes, R and/or L and type of injury/problem.
Skin and Nail Conditions	**Observe, feel and ask**
Swelling in arm(s), leg(s), eye(s)/ face, scrotum, other	Do you have any swelling? Observe to identify swelling (compare sides). **Record on IIRF form:** Circle Yes, R and/or L. Mark on body chart.
Skin Lesions: nodule, lump, bump, patch, thick infiltrated	Do you have any nodule(s), lump(s), bump(s), knob(s) or patches? Observe to identify skin lesions. **Record on IIRF form:** Circle sign(s), Yes, R and/or L. Mark on body chart.
Can't feel touch or temperature	Choose device for testing touch. Lightly touch person in area with sensation to demonstrate test. Ask them to respond, "yes" when they feel the touch. Ask person to close eyes. Lightly touch each selected area with device three times. If not felt two out of three times, record as loss of feeling. **Record on IIRF form:** Circle device used, Yes, R and/or L for: skin patch, tip of thumb, tip of little finger, great toe.
Cold foot	Feel and compare temperature of each foot. Identify if one foot is cold in comparison to the other. **Record on IIRF form:** Circle Yes, R and/or L.
Nail problems	Look at fingernails and toenails. Identify if too long, ingrown, thick, thin, brittle or discolored. **Record on IIRF form:** Circle condition(s), Yes, R and/or L
Very dry skin and/or skin cracks	Do you have dry skin or skin cracks? Identify areas of dry skin and/or cracks. **Record on IIRF form:** Circle condition(s), Yes, R and/or L. Mark cracks as wounds on body chart.
Scar problems	Do you have a scar that is dry, cracked or limiting motion? **Record on IIRF form:** Circle condition(s) Yes, R and/or L
Thick hand callus	Look at palms of hands to identify areas with thick callus. **Record on IIRF form:** Circle Yes, R and/or L
Thick foot callus on bottom of foot	Look at bottom of feet to identify areas with thick callus. **Record on IIRF form:** Circle Yes, R and/or L

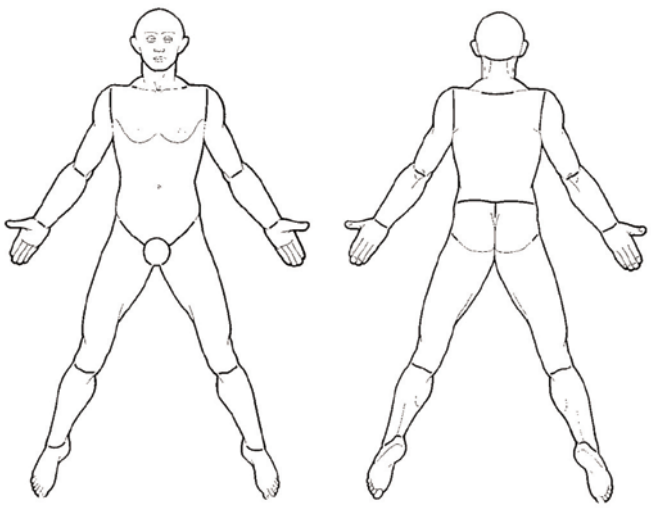
Handout 5.2: Individual Impairment Record Form (IIRF) – Skin and Nail Section

(See Handout 5.1 for instructions on how to do skin and nail screen)

Complaints:			
Pain, itching, burning, tingling, pins and needles, numbness, feels like ants crawling, feels heavy, feels cold or hot, skin feels leathery, hard	Yes	R	L
History:			
Previous skin injury or problem. Type: _____	Yes	R	L
Previous nail injury or problem. Type: _____	Yes	R	L
Skin and nail conditions: (circle area, test or condition that applies)			
Swelling in arm(s), leg(s), eye/face, scrotum, other: _____	Yes	R	L
Skin lesions: Nodule, lump, bump, knob, patch, thick infiltrated, other	Yes	R	L
Can't feel touch and/or temperature. Write below what device was used when sensation was not felt: cotton, feather, finger, pen, 10g filament, ether, hot/cold tubes, other (name)			
• Skin patch on body. Did not feel: _____	Yes	R	L
• Tip of thumb. Did not feel: _____	Yes	R	L
• Tip of little finger. Did not feel: _____	Yes	R	L
• Great toe. Did not feel: _____	Yes	R	L
One foot is cold compared to the other	Yes	R	L
Nail problems: too long, ingrown, thick or thin, brittle or discolored	Yes	R	L
Very dry skin and/or skin cracks	Yes	R	L
Scar problems: dry, cracked, thick and/or limiting motion	Yes	R	L
Thick callus on hand	Yes	R	L
Thick callus on bottom of foot	Yes	R	L

Key for Recording	
Skin Lesion	
Crack	
Wound	
Scar Location	
Joint with Movement Limitations	
Swelling	
Location of Amputation	

Body Map



Step 5: Care for Skin and Nails

Handout 5.3: Preventive Actions for Healthy Skin and Nails

Preventive Actions	Details
1. Practice good personal hygiene	• Use good washing and drying of the body, personal clothing and bedding. • Look and feel for skin and nail problems daily. • Remind persons with loss of sensation to check footwear for hard or sharp objects. • If limited feeling, vision and/or movement, ask for help.
2. Moisturize the skin and scars	Moisturizing skin prevents dryness, soothes (decreases itching) and keeps skin/scar soft and flexible. Soft, flexible skin resists injury. • Use local products for moisturizing: e.g., shea butter, coconut oil, cocoa butter, palm oil, mineral oil. • The best time for moisturizing is after bathing or soaking the dry areas. • Rub the moisturizer into the skin/scar slowly, avoiding areas between toes and skin folds. • Massage and gently stretch skin/joints through their full range of motion.
3. Remove calluses	A callus builds up over areas of high pressure. In persons with a loss of feeling in the hand/foot, a thick callus can cause skin breakdown and should be removed. • After washing, soak hands/feet in clean water until the skin is soft. • As skin softens, rub/scrape off callus with abrasive object; e.g., wet/dry sandpaper, rough stones, files. • Adapt work tools and footwear to reduce pressure and friction.
4. Trim nails	Nails must be trimmed to keep from turning under and/or growing into the skin. • Use clean nail clippers to cut straight across the nail. • File any rough/sharp edges with sandpaper or file.
5. Practice good personal and household cleanliness	• Construct, use and maintain latrines and refuse pits. Dispose of rubbish and feces. • Keep livestock away from house to reduce flies. • Clear overgrown brush near home and eliminate standing water to reduce insects and other pests. • See also handout *3.3 Good Individual and Household Behaviors*.
6. Eat healthy foods	• Grow and eat dark green leafy vegetables, dark yellow and orange vegetables and fruits. • Eat, as often as possible, foods high in protein (nuts, beans, eggs, fish, meat, milk, etc.) and use natural oils (coconut, olive, etc.).
7. Protect skin and nails	• Avoid the sun during the hottest time of the day. Rest in the shade. • Protect skin/scars from the sun by wearing a wide-brimmed hat, long sleeves and pants especially if you have skin problems (scars, wounds, etc.) and/or are taking certain medication. • Wear protective gloves and footwear to avoid injury and disease (burns, cuts, infection, worms).

Handout 5.4: Community-Based Skin and Nail Care or Referral

Problems Identified by Skin and Nail Screen *	**Community-Based Care** (self-care and/or assisted care)	**Contact Supervisor and Refer for Clinical Exam, Diagnosis or Other**
1. Skin lesion(s): nodule, lump, bump, knob, patch	• Practice good personal hygiene.	Refer **as soon as possible.**
2. Skin dryness	• After daily bathing or soaking, moisturize to prevent dryness using local products. • Protect hands when using harsh soaps, chemicals, hot water, etc.	If dryness does not improve with good moisturizing practices after **one month**, refer.
3. Skin cracks from dryness	• Soak and moisturize daily, cover with plastic wrap for 15 minutes, then gently scrape. • Scrape in parallel with line of the crack. • Wear footwear.	If dryness does not improve with good moisturizing practices after **one month**, refer.
4. Cracks from wet skin between the fingers, toes or in skin folds	• Wash daily with soap and water. • Dry carefully between toes, fingers and in skin folds. • Talk to supervisor about use of antiseptic or antifungal cream. • Follow clinical treatment instructions.	If not improved within **one week**, refer.
5. Long nails	• Wash with soap and water and soak until nail is softer. • Trim straight across the nail and file off all rough/sharp edges. • If limited feeling, vision and/or movement, ask for help.	If the nail is too thick to cut, refer **as possible** for trimming with better tools.
6. Ingrown toenails	• Wash feet daily with soap and water. • Check that shoe length is not too short.	Refer **as soon as possible** for clinical exam and excision.
7. Thick, thin, brittle or discolored nails	• Practice healthy eating and good hygiene. • Follow clinical treatment instructions.	Refer **as soon as possible** for clinical exam and treatment.
8. Callus	• Soak until the callus is soft. Then rub/scrape off callus and moisturize. • Adapt work tools and footwear to reduce pressure and friction and encourage their use.	If not improved within **two to four weeks,** refer for more aggressive callus removal and more advanced methods for reducing pressure and friction.

Continues on next page

Step 5: Care for Skin and Nails

Handout 5.4: Community-Based Skin and Nail Care or Referral (continued)

Problems Identified by Skin and Nail Screen *	**Community-Based Care** (self-care and/or assisted care)	**Contact Supervisor and Refer for Clinical Exam, Diagnosis or Other**
9. Scars	• Soak and moisturize daily, cover with plastic wrap 15 minutes. • Massage to free the scar. • Move and stretch the area affected by the scar. • Protect from sun and injury.	If no improvements with good community care in **one to two months**, refer. If deep cracking or further loss of motion occurs, **refer as soon as possible**.
10. Swelling	• Practice good personal hygiene. • Elevate as much as possible day and night unless elevation causes pain. • Do pumping exercise frequently.	If pain or swelling increases, refer **immediately.**
11. Cold foot	• Rest and protect until seen by the referral center. • Do not walk on cold foot, use a mobility aid.	Urgent, refer immediately.
12. Loss of feeling*	• Practice good personal hygiene and self-care. • Protect from injury. • Adapt work tools and footwear to reduce pressure and friction and encourage their use.	If recent loss of feeling in skin patch, hands or feet, refer **as soon as possible**.

** Do the "Number Recognition on Bottom of Foot Test" to see if vision and movement is adequate to look at skin and nails on the foot and to do self-care. Test by doing the following:*

- *Write a 2-3cm number with a black pen on the bottom of the foot, over the bone just below the base of the great toe.*
- *Ask the person to look at the number on the sole of the foot and tell the number they see.*
- *If unable to see the number due to poor vision or mobility, a helper or family member should check the skin daily and do foot and toenail care.*

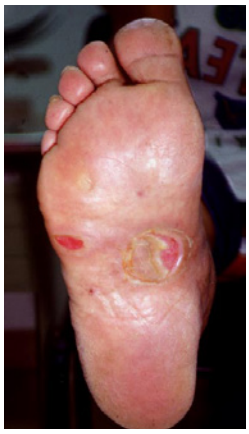
Handout 5.5: Techniques for Skin and Nail Care

Preventive Actions

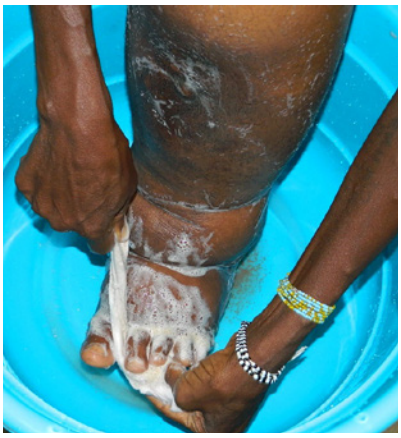
1. Observe skin, hands, feet and footwear daily.
2. Wash and dry in between fingers, toes and skin folds.
3. Moisturize dry skin and scars.
4. Remove calluses.
5. Protect skin and nails.
6. Keep nails trimmed.
   - Cut nails straight across, not too short.
   - Avoid cutting into the corners of toenails. If you do notice an ingrown toenail, seek help as it can lead to infections.
   - Use a nail file to smooth the nail.
   - After cutting and filing, check each toe to ensure you've not cut or bruised yourself. If you cut or injure yourself, seek medical help immediately.

Details

Identify problem early



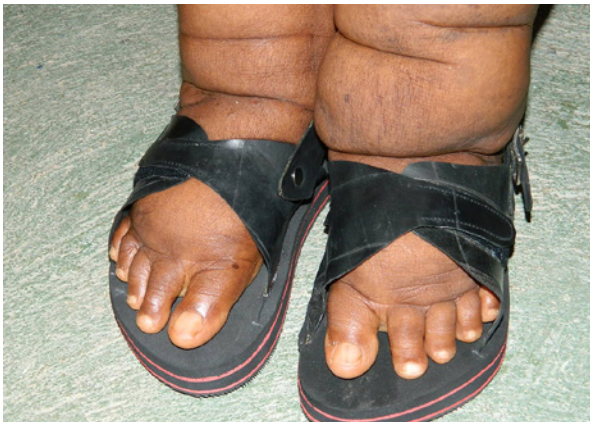
Keep clean



Moisturize

Remove callus

Protect



Photos: Linda Lehman

STEP 6:

Care for Wounds

Photo credit: Tom Bradley

Step 6: Care for Wounds

Introduction

A wound is an injury or break in the skin or nail, including cracks and blisters. It is important to heal a wound as quickly as possible because it is an entry point for dirt and germs. When the wound is at or near a joint, special actions may be needed to preserve movement. Good wound care helps wounds heal quickly and prevents complications such as infection, pain and movement limitations. Moisture-retentive dressings speed healing and reduce pain and incidence of infection in chronic and acute wounds. This helps to preserve limbs and mobility, leading to improved participation and quality of life.

The purpose of this step is to provide basic training for the management of simple, uncomplicated wounds at the community level. Large or complicated wounds require advanced wound management and should be referred.

Goal

Practice wound care that aids in healing, prevents complications and improves quality of life.

Key Messages

1. Wounds will heal more quickly and with fewer problems if the six basic principles of wound management are applied during daily wound care.
2. Moisture-retentive dressings speed healing, reduce pain and reduce incidence of infection in chronic and acute wounds.
3. Keep dressing as clean and as dry as possible during bathing and other daily activities; change if wet.
4. Exercises and movement can be done when there is a wound, but movement is restricted for approximately 7-10 days after skin grafting.
5. Contact your community health worker if you notice these situations: excessive fluid soaking through wound dressing; or increased bad odor, pain, swelling, wound size, warmth or fever.
6. Handle and dispose of contaminated material safely.

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Step 6: Care for Wounds

A Quick Supervisory Checklist for Step 6

Care for Wounds	Yes	No	Not Obs	Observations & Recommendations
1. Organizes materials before starting wound care				
2. Washes hands before wound care procedure				
3. Uses gloves appropriately				
4. Removes gauze and bandages without damaging new skin				
5. Cleans wound with clean water or saline solution to remove debris and dead tissue without damaging new skin				
6. Moves joints near or at the wound before new dressing and bandage is applied				
7. Applies clean Vaseline gauze or other moisture-retentive dressing				
8. Bandages with light compression distal to proximal				
9. Bandages without restricting movement				
10. Tapes end of bandage, does not tie a knot to secure bandage				
11. Follows special care procedures for skin grafts under 10 days old				
12. Disposes of contaminated material safely				
Teaches affected person and caregiver how to:				
13. Keep bandage clean and dry				
14. Change bandage if outer bandage becomes wet				

Guidelines for Teaching the Module

Health Coach/Facilitator should use the local language and ensure that all terms are found in the local language.

Estimated time: 4–6 hours

Learning Objectives

At the end of the module, participants will be able to:

1. Explain each of the six basic principles of good wound care:
   - Control underlying health conditions and/or diseases
   - Protect the wound and surrounding skin from physical or chemical injury
   - Keep the wound moist (not too wet and not too dry)
   - Keep the wound and surrounding skin clean, remove dead skin and tissues, and treat infection when needed
   - Control or reduce swelling to decrease pain, improve healing and preserve movement
   - Preserve skin and joint movement
2. Identify common problems contributing to delayed wound healing
3. Demonstrate how to change a wound dressing including removal of old dressing, cleaning the wound, applying a new dressing and securing dressing with a bandage
4. Identify actions to prevent loss of movement during wound healing
5. Explain ways to protect yourself and control infection; e.g., wash hands, safe handling and disposal of contaminated material.

List of Teaching Activities and Learning Materials

Activity 1

Wound Screening

Activity 2

Principles and Actions for Wound Screening

Activity 3

Steps for Wound Dressing Change and Wound Dressing Dramatization

Activity 4

Correct Wound Dressing Simulation

Activity 5

Practice Bandaging Hands & Fingers and Feet & Toes

Activity 6

Identifying Ulcer Type, Wound Management and Prevention of its Reoccurrence

Handouts

- 6.1 Instructions for Screening Wounds
- 6.2 Individual Impairment Record Form (IIRF)-Wound Section
- 6.3 Community Wound Care or Referral
- 6.4 Scenarios for Wound Care Screening and Recording
- 6.5 Principles and Actions to Improve Wound Healing
- 6.6 Wound Care Decision Tool
- 6.7 Artzberger Hand and Finger Bandaging
- 6.8 Artzberger Foot and Toe Bandaging
- 6.9 Types of Ulcers and Characteristics – Part 1 and Part 2
- 6.10 Photos of Ulcers

Step 6: Care for Wounds

Activity 1: Wound Screening

Handouts

- 6.1 Instructions for Screening Wounds
- 6.2 Individual Impairment Record Form (IIRF) – Wound Section
- 6.3 Community Wound Care or Referral
- 6.4 Scenarios for Wound Care Screening and Recording

Equipment & Materials

- Flip chart stand and paper
- 4 – 6 colored markers
- Copies of 6.2 IIRF – Wound Section, 1 form per pair
- 1 stool or chair to support a leg
- 1 red marker for drawing location of wound
- Pen/pencil

Instructions for Teaching the Activity

Room Arrangement: Participants sit in a semicircle with two chairs placed in the front. One chair is for the wound patient. The other chair is for the Health Coach.

1. **Health Coach distributes handouts *6.1 Instructions for Screening Wounds, 6.2 IIRF-Wound Section, 6.3 Community Wound Care or Referral and 6.4 Scenarios for Wound Care Screening and Recording*.**

2. **Health Coach asks for a volunteer, if no patient is available with a wound.**

3. **Health Coach selects one wound care scenario on handout *6.4 Scenarios for Wound Care Screening and Recording* and draws wound on volunteer to match the wound care scenario. The scenario details are written on the flip chart.**

4. **Health Coach demonstrates how to do the screen and record the results.**

5. **Health Coach discusses handout *6.3 Community Wound Care or Referral* with participants and together they decide what problems were identified in the scenario they observed and what care should be done.**

6. **Health Coach asks participants to count off 1, 2, 3, 4, 5, 6, etc. and repeats to divide the group into pairs.**

7. **Health Coach chooses one wound scenario from handout *6.3* for each pair.**

8. **The pairs are given 10-15 minutes to complete the screening and recording, and decide what care is needed using handout *6.3*.**

9. **The pairs start by drawing the wound from the scenario on one person in the pair. Then, the pair works together to complete the screening process, recording results and deciding care.**

10. **Each pair shares their wound scenario, their documentation and care plan with the larger group.**

11. **Health Coach and group provide feedback on the scenario presented by each pair.**

Note: Examiner and participants must remember to wash hands with soap and water before and after screening demonstration.

Activity 2: Principles and Actions for Wound Healing

Handouts

- 6.5 Principles and Actions to Improve Wound Healing

Equipment & Materials

- Flip chart stand and paper
- 4 – 6 colored markers
- 6 sheets of flip chart paper, 1 piece for each group

Instructions for Teaching the Activity

Room Arrangement: Initially the participants are divided into six groups and then present their work to the large group.

1. **Health Coach divides the large group into six groups.**

2. **Health Coach writes on the flip chart the following six principles for improving wound care and assigns one principle to each of the six groups:**
   - Control underlying health conditions and/or diseases
   - Protect the wound and surrounding skin from physical or chemical injury
   - Keep the wound moist (not too wet and not too dry)
   - Keep the wound and surrounding skin clean, remove dead skin and tissues, and treat infection when needed
   - Control or reduce swelling to decrease pain, improve healing and preserve movement
   - Preserve skin and joint movement

3. **Health Coach distributes paper and markers to each group.**

4. **Health Coach explains that each group will discuss their principle and make a list of the actions they would recommend to accomplish this principle. The responses are recorded on paper. The group selects one person to present for the group.**

5. **Groups are given 10 minutes to complete the task and then all groups join together for each group to present.**

6. **Health Coach asks which group wants to present first. The paper, with listed actions, is taped up on the wall or on the flip chart.**

7. **After each group presents, the Health Coach asks other participants if they have additional actions to recommend.**

8. **After all groups have presented, the Health Coach distributes handout *6.5 Principles and Actions to Improve Wound Healing*.**

9. **The entire group reviews the handout and adds any missing actions on the corresponding flip chart paper.**

Step 6: Care for Wounds

Activity 3: Steps for Wound Dressing Change and Wound Dressing Dramatization

Handouts

- 6.6 Wound Care Decision Tool

Equipment & Materials

- 1 copy of *6.2 IIRF – Wound Section* forms
- Pen/pencil
- Foot stool
- 1 handwashing kit (basin, cup, bucket of water, soap and paper towels
- 1 wound care kit (waste disposable pad, kidney basin, scissors, forceps)
- Consumable materials for wound care (dressings and bandages)
- 10 gauze compress 10 X 10 cm, clean
- 1 roll of plaster tape (adhesive tape)
- 2 (10 cm) crepe bandages, clean
- 5g cotton wool, clean
- 1 bottle of alcohol
- 4 water sachets
- 4 pairs of disposable gloves, size 7½

Instructions for Teaching the Activity

Room Arrangement: Participants sit in a semicircle with two chairs and either a stool or another chair at the opening of the semicircle.

1. **Health Coach reviews handout *6.6 Wound Care Decision Tool* with participants.**
2. **Health Coach asks participants to watch the dramatization of a wound dressing change. They are informed that the dramatization will be done with many errors. They are advised to observe and note on paper the errors performed during the wound dressing change. The errors identified will be discussed at the end of the dramatization.**
3. **Health Coach asks for a volunteer to play the role of the "patient."**
4. **Health Coach asks participants to review and study handouts as dramatization is being set up.**

Set up for dramatization:

5. **The Health Coach explains the purpose of the dramatization to the volunteer outside of the classroom and how to play the role of "patient."**
6. **Health Coach prepares the "patient":**
   - Draws a wound with a marker on the ankle
   - Covers the wound with a gauze dressing and tape in place
7. **The "patient" and Health Coach return to the classroom.**

Dramatization:

Note: When dramatization starts, participants can stand closer to the procedure.

8. **Health Coach changes the wound dressing making the following errors:**
   - Does not organize materials prior to starting
   - Forgets to wash hands and change gloves
   - Forgets to cover stool before placing "patient's" leg on it
   - Rips dressing off "patient" causing pain and drops dirty dressing on the floor
   - Leaves the wound open for a long time and contaminates the wound (coughs over the wound, turns back or reaches over the wound when retrieving supplies, writing pen, cell phone)
   - Vigorously scrubs the wound with cotton dipped in alcohol and then throws contaminated cotton on the floor
   - Fans or blows over the clean wound to dry the alcohol
   - Bandages the ankle too tightly with foot pointing down, making it difficult for patient to raise the foot up for walking
   - Forgets to check and exercise ankle motion with and without bandage
9. **Health Coach asks the participants what errors they observed.**
10. **Health Coach emphasizes the importance of allowing the patient to move when the dressing is removed and reminding the patient to frequently move throughout the day.**

*Note: Movement is **not** allowed for approximately 10 days following a skin graft. Talk with the surgeon and confirm when movement can be started again.*

Activity 4: Correct Wound Dressing Simulation

Handouts

- 6.6 Wound Care Decision Tool

Equipment & Materials

- Flip chart stand & paper
- 4 – 6 colored markers
- 1 handwashing kit (basin, cup, bucket of water, soap and paper towels)
- 1 wound care kit (waste disposable pad, kidney basin, scissors, forceps)
- Consumable materials for wound care (dressings and bandages)
- 1 roll of plastic food wrap, clean
- 1 small container of honey for dry or necrotic wound (optional)
- Boiled banana leaf (optional)
- Boiled potato peel (optional)
- Cotton dress cloth, clean
- 10 gauze compress 10 X 10 cm, clean
- 1 roll of plaster tape (adhesive tape)
- 5g cotton wool, clean
- 1 bottle of alcohol
- 4 water sachets
- 4 pairs of disposable gloves, size 7½
- 4 large polyethylene (plastic) bags to cover the floor and stool or chair
- 4 small polyethylene (plastic) bags for contaminated material
- 2 (10cm) rolls of crepe elastic bandages
- 2 (12cm) rolls of crepe elastic bandages

Instructions for Teaching the Activity

Room Arrangement: Participants sit in a semicircle with two chairs and either a stool or another chair at the opening of the semicircle.

1. **Health Coach asks the participants for a volunteer to demonstrate good technique when doing the step-by-step dressing change procedures described in handout *6.6*.**

2. **Wound dressing change is done correctly on the same "patient" with help and feedback from the group.**

Note: One participant should read out loud handout 6.6 Wound Care Decision Tool.

3. **During the dressing procedure, the Health Coach reminds participants of the six basic principles of wound management:**
   - Control underlying health conditions and/or diseases
   - Protect the wound and surrounding skin from physical or chemical injury
   - Keep the wound moist (not too wet and not too dry)
   - Keep the wound and surrounding skin clean, remove dead skin and tissues and treat infection when needed
   - Control or reduce swelling to decrease pain, improve healing and preserve movement
   - Preserve skin and joint movement

4. **Health Coach checks to see if the bandage wrinkles or is tight at the ankle. If there is a problem, Health Coach corrects the bandaging.**

5. **Health Coach asks the patient if the bandaging feels more comfortable and allows for ankle movement needed for walking.**

Activity 5: Practice Bandaging Hands & Fingers and Feet & Toes

Handouts

- 6.7 Artzberger Hand and Finger Bandaging
- 6.8 Artzberger Foot and Toe Bandaging

Equipment & Materials

- Flip chart stand and paper
- 4 – 6 colored markers
- 1.5–2cm rolls of crepe elastic bandages (2 rolls per pair)
- 10cm rolls of crepe elastic bandages (2 rolls per pair)
- 12cm rolls of crepe elastic bandages (2 rolls per pair)

Instructions for Teaching the Activity

Room Arrangement: Initially participants sit in a semicircle with three chairs at the opening of the semicircle, followed by working separately in pairs.

1. **Health Coach asks for three volunteers. They are seated in front for bandaging demonstration.**

2. **Health Coach distributes handout *6.8 Artzberger Hand and Finger Bandaging* and *6.9 Arzberger Foot and Toe Bandaging* to participants.**

3. **Health Coach demonstrates correct bandaging techniques for fingers, upper limb (hand and arm) and lower limb (foot and leg).**

4. **During demonstration, Health Coach emphasizes:**
   - Factors affecting bandage pressure
     - Bandage width (a narrower bandage has higher pressure)
     - Bandage overlap (more overlap has higher pressure)
     - Type of wrap (spiral and figure eight)
     - Bandage tension (not too tight)
     - Distance around the limb (narrow wrist/ankle areas vs. arm/leg)
   - Bandaging from bottom to top (finger up arm, toes up leg)
   - Checking if full joint movement can be done when bandaged
   - Fixing the end of the bandage with tape vs. tying a knot

5. **Health Coach divides the group into pairs and distributes three different sizes of bandages (two of each size 0.5–2cm, 10cm, 12cm) to each pair.**

6. **Participants practice bandaging fingers, upper limb (arm/hand) and lower limb (leg/ankle) of their partner.**

7. **Health Coach will observe bandaging and correct as needed.**

Activity 6: Identifying Ulcer Type, Wound Management and Prevention of its Reoccurrence

Handouts

- 6.9 Types of Ulcers and Characteristics – Part 1 and Part 2
- 6.10 Photos of Ulcers

Equipment & Materials

- Flip chart stand and paper
- 4 – 6 colored markers

Instructions for Teaching the Activity

Room Arrangement: Participants sit in a semicircle.

1. **Health Coach distributes handouts *6.9 Types of Ulcers and Characteristics – Part 1 and Part 2* and *6.10 Photos of Ulcers*.**

2. **Health Coach divides the large group into five small groups and assigns each group a specific type of ulcer. (See table below.)**

3. **The groups are asked to use the handouts to prepare a five-minute presentation that will be given to the larger group.**

4. **The groups are given 15-20 minutes to develop their presentation and are encouraged to find creative ways to do the presentation that will help the larger group learn to identify their specific types of ulcer, how to address key issues in wound management and how to prevent its reoccurrence.**

5. **Each group is given five minutes to present. Allow time at the end of each presentation for questions and clarifications.**

Type Ulcer	**Cause**	**How to recognize** (Key characteristics)	**Key issues to address in wound management**	**Actions to take to prevent reoccurrence**
1. Neurotrophic				
2. Buruli				
3. Venous				
4. Arterial				
5. Malignancy				

Step 6: Care for Wounds

6.1 Instructions for Screening Wounds

Preparation for wound screen:

Gather together equipment and supplies: IIRF-wound section, pen or pencil, soap, clean water, gloves, plastic trash bag for contaminated material, disposable paper towels. Wash hands with soap and water before and after each screen.

For teaching purposes, assume screen begins after dressing has been removed and wound has been cleaned. However, in the community or health center, it is important to assess wound drainage: quantity, color, odor, etc. as you remove each wound dressing. See handout *6.6 Wound Care Decision Tool*.

Number of wounds	**Count number of wounds and record the total number of wounds on IIRF form. Mark wound(s) on body chart.**

Type of wound	***Note: If there are more than three wounds, choose the three most serious wounds and label W1, W2 and W3 on body chart.***
Crack(s) from dryness	Observe and record on IIRF form: Circle Yes, R and/or L. Mark on body chart.
Crack(s) between fingers, toes and/or base of skin folds	Observe and record on IIRF form: Circle fingers, toes and/or base of skin folds, Yes, R and/or L. Mark on body chart.
Blister(s)	Observe and record on IIRF form: Circle hands, feet, other, Yes, R and/or L. Mark on body chart.
Wound	Observe and record on IIRF form: Yes, R and/or L. Mark on body chart.

Continues on next page

6.1 Instructions for Screening Wounds (continued)

Signs of infection	Ask and observe:
Pain: new or increased	Do you have new pain or is the wound pain worse? Record on IIRF form: Circle Wound(s) with new pain or if pain is worse (Wound 1, Wound 2 and/or Wound 3).
Bad odor/smell: present or worse	Do you notice the smell/odor of the wound is bad or worse? Record on IIRF form: Circle Wound(s) if smell/odor is bad or worse (Wound 1, Wound 2 and/or Wound 3).
Localized warmth: present or increased	Does the skin surrounding the wound(s) feel warm or getting warmer? Record on IIRF form: Circle Wound(s) with warmth that is new or worse (Wound 1, Wound 2 and/or Wound 3).
Swelling of skin around wound: present or increased	Is there swelling or increase in swelling of skin surrounding the wound(s)? Record on IIRF form: Circle Wound(s) with swelling that is new or worse (Wound 1, Wound 2 and/or Wound 3).
Sudden increase in wound leakage/drainage	Is there increase of wound drainage/leakage on dressing(s)? Record on IIRF form: Circle Wound(s) with sudden increase in drainage/leakage (Wound 1, Wound 2 and/or Wound 3).

Condition of wound	Ask and observe:
Wound is too wet	Is the outer bandage wet after one day? Record on IIRF form: Circle Wound(s) with outer bandage that is wet after one day (Wound 1, Wound 2 and/or Wound 3).
Wound surface is too dry	Is there pain when dressing is removed or dressing sticks to the wound or wound bleeds when dressing is removed? Record on IIRF form: Circle Wound(s) with pain or sticking when dressing removed (Wound 1, Wound 2 and/or Wound 3).
Wound is worse	Is the wound larger and/or deeper? Record on IIRF form: Circle Wound(s) that are larger and/or deeper (Wound 1, Wound 2 and/or Wound 3).

Handout 6.2: Individual Impairment Record Form (IIRF) – Wound Section

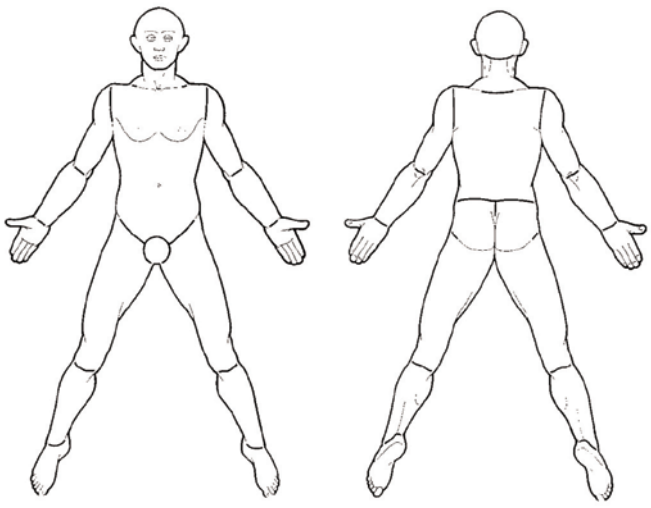
(See handout 6.1 for instructions on how to do screen)

Key: R = Right and L = Left, 1 = Wound 1, 2 = Wound 2, 3 = Wound 3

Number of wounds				
Type of wound				
One or more cracks from dryness	Yes		R	L
Crack(s) between fingers, toes, and/or base of skin folds	Yes		R	L
Blister(s) location: hands, feet, other	Yes		R	L
Wound	Yes		R	L
Signs of infection				
Pain: new or increased	Yes	1	2	3
Bad odor/smell: present or worse	Yes	1	2	3
Localized warmth: present or increased	Yes	1	2	3
Swelling of skin around wound: present or increased	Yes	1	2	3
Sudden increase in wound leakage/drainage	Yes	1	2	3
Condition of wound				
Wound is too wet (fluid on outer bandage after one day)	Yes	1	2	3
Wound is too dry (pain or dressing sticks or bleeding when dressing removed)	Yes	1	2	3
Wound is worse (larger and/or deeper)	Yes	1	2	3

Key for Recording	
Skin Lesion	
Crack	
Wound	
Scar Location	
Joint with Movement Limitations	
Swelling	
Location of Amputation	

Body Map



Handout 6.3: Community Wound Care or Referral

Problems Identified with Wounds on Screen*	Community Care	Contact Supervisor and/ or Refer for Clinical Exam, Diagnosis or Other
1. Scars with cracks	• Soak and moisturize daily, cover with plastic wrap for 15 minutes. • Massage to free the scar. • Move and stretch the area affected by the scar. • Straighten the scarred area and immobilize until healed. • Protect from sun and injury.	If no improvements with good community care in **two weeks**, refer. If deep cracking or further loss of motion occurs, **refer as soon as possible**.
2. Feet with dryness, callus and cracks	• Soak and moisturize daily, cover with plastic wrap for 15 minutes, then gently scrape/rub. • Scrape/rub parallel with line of the crack. • Wear socks and footwear.	If dryness and cracks do not improve with good moisturizing practices after **two weeks**, refer.
3. Clawed fingers with dryness, callus and cracks	• Soak and moisturize daily, cover with plastic wrap for 15 minutes then gently scrape/rub. • Scrape/rub in parallel with line of the crack. • Straighten finger(s) and immobilize, until healed.	If dryness and cracks do not improve with good moisturizing and immobilization practices after **two weeks**, refer.
4. Cracks from wet skin between the fingers, toes or in skin folds	• Wash daily with soap and water. • Dry carefully between toes, fingers and in skin folds. • Talk to supervisor about use of antiseptic or antifungal cream. • Follow clinical treatment instructions.	If not improved within **one week**, refer.
5. Ingrown toenails	• Wash feet daily with soap and water. • If possible, after washing gently, lift nail edge to prevent more ingrowth. • Check that shoe length is not too short.	**Refer as soon as possible** for clinical exam and excision if needed.
6. Wound(s) to sole of foot 7. Wound to palm of hand(s) and/or finger(s) 8. Wound or injury to other part of body	• Clean well with running clean water or saline solution. • Cover to keep clean. • Rest and protect from injury. • Use walking device, adapted footwear and/or tools. • Observe daily. If better, continue. If worse, get help.	If not improved within **one week**, refer.

** Note: Check vision and mobility to see if it is adequate to do self-care.*

The Health Coach will explain and demonstrate how to check person's ability to see the skin on the bottom of each foot.

- Health Coach draws a number with a black pen on the sole of the foot over bone at the base of the great toe.
- Health Coach asks the person to view the sole of the foot and tell the number they see.
- If unable to see, daily skin checks, foot and toenail care must be done by a helper and/or with the aid of a mirror.

Step 6: Care for Wounds

Handout 6.4: Scenarios for Wound Care Screening and Recording

Scenario No. 1: Fisherman

Complaints: Itching and pain
Location of problem: Right and left leg and foot
Problem(s): Dry skin, heel cracks (3), cracks between toes (4)
Duration: One month

Scenario No. 2: Middle-aged mother

Complaints: Too much wound leakage and smell
Location of problem: Left, inside ankle above the bone
Problem(s): Wet wound with no pain or infection; dressing soaked within a couple of hours of dressing change.
Duration: One year

Scenario No. 3: Soccer (futbol) player

Complaints: Pain with movement and at rest (day and night)
Location of problem: Behind right knee
Problem(s): Infected puncture wound with increased local warmth, swelling, pain and bad smell
Duration: One week

Scenario No. 4: Vendor at the market

Complaints: Family and others complain of a bad odor
Location of problem: Bottom of left foot on the bone under the first toe
Problem(s): Infected ulcer on foot with loss of feeling; leakage into footwear and bad odor
Duration: Heals and breaks down repeatedly for the last three years

Scenario No. 5: Young child of 3

Complaints: Crying and screaming with dressing change
Location of problem: Chest and left armpit (hollow under the arm)
Problem(s): Uninfected burn from scalding water
Duration: One week

Scenario No. 6: 10-year-old student

Complaints: Recent bump which opened up into a wound with undermining edges (lifts away from skin and a cotton swab can be placed under the edge)
Location of problem: Inside of right elbow
Problem(s): Nodule that has developed into an uninfected ulcer and has gradually increased in size
Duration: One month

Scenario No. 7: Young mother

Complaints: Too painful to use hand in daily activities and is getting worse
Location of problem: Palm and web space (between thumb and first finger) of left hand
Problem(s): Infected knife cut with increased pain, warmth, swelling and bad odor
Duration: Two weeks

Handout 6.5: Principles and Actions to Improve Wound Healing

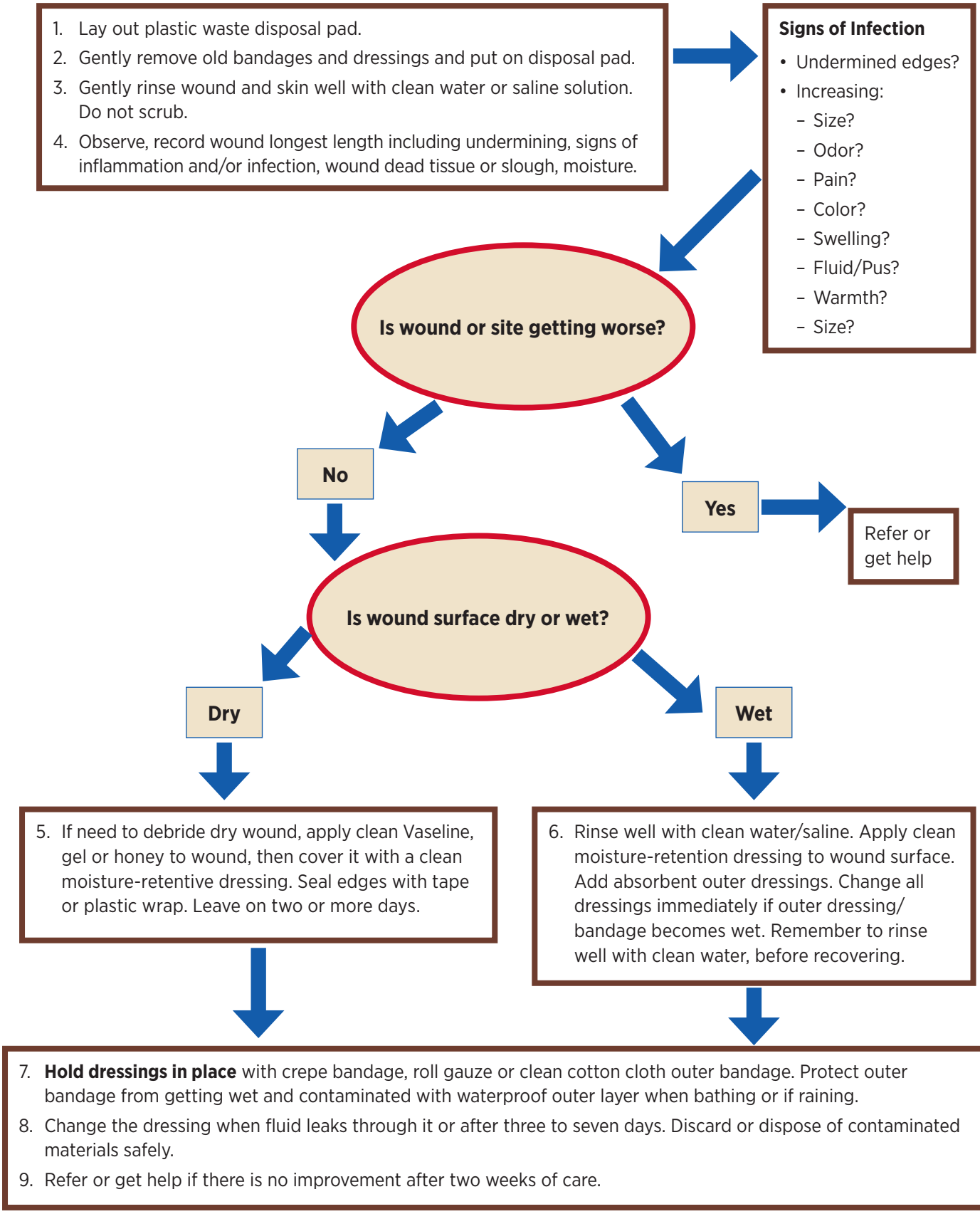
Principles	Actions
1. Control underlying health conditions and/or diseases	• Healthy eating, good personal and environmental hygiene. See handouts *3.2 Good Individual and Household Behaviors* and *3.3 Preventive Actions for Healthy Skin and Nails* • Correct use of disease-specific medications; e.g. antibiotics (leprosy, Buruli ulcer, other), insulin (diabetes), antivirals (HIV) • Regular follow-up for chronic (on-going) health conditions (problems)
2. Protect wound and surrounding skin	• Protect from physical (mechanical) injuries: – Removal of wound dressings stuck to the wound – Excessive pressure on the wound during standing, walking, sitting and/or lying – Excessive pressure on the wound from tight bandages – Repeated rubbing from hand tools, footwear, etc. • Protect from chemical injuries: – Do not put anything on the wound that you would not put in your eye • Protect from dirt and germs (cover the wound) • Protect wound and surrounding skin from drying and excessive moisture by sealing with waterproof tape or film top dressing*
3. Keep the wound moist	• Keep the wound moist but not too wet and not too dry – Use appropriate type of moisture-retentive dressing** – Adjust frequency of dressing change as needed
4. Keep the wound and surrounding skin clean, remove dead skin and tissues and treat infection when needed	• Change dressing regularly or as needed: – Gently wash the wound and surrounding skin thoroughly with clean water or saline to remove excess secretions and wound debris (dead skin and tissues) – Gently pat dry the surrounding skin – If wound is infected, seek health worker for antibiotic
5. Control swelling	• Elevate affected part as needed • Frequent, gentle active movement of the affected part by the patient • Apply light pressure with bandaging starting distally and working upward
6. Preserve skin and joint movement	• Position affected part to prevent contractures • Mobilize skin/scars that are sticking to underlying structures • Move affected part frequently through full range of motion

** Examples of waterproof films: tape, adhesive film, unused plastic wrap*

*** Examples of moisture-retentive dressing: Vaseline or zinc paste around intact skin which seals a moisture-retentive film top dressing*

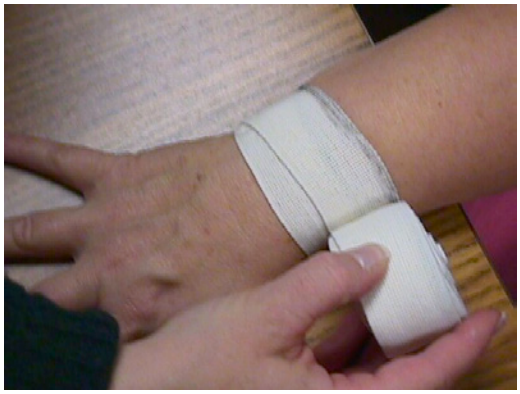
Step 6: Care for Wounds

Handout 6.6: Wound Care Decision Tool

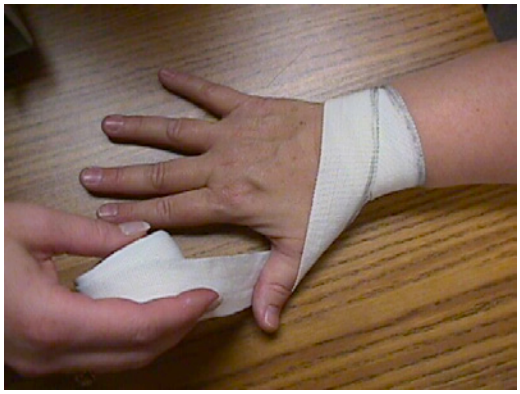


Handout 6.7: Artzberger Hand and Finger Bandaging

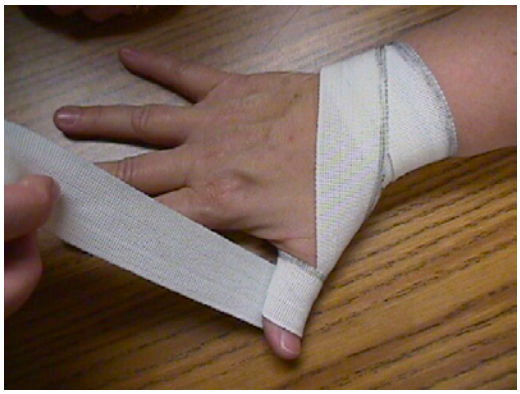
1. Use tape and hold bandage end at ulnar (lateral) side of wrist, wrap two times around wrist, spreading the bandage.



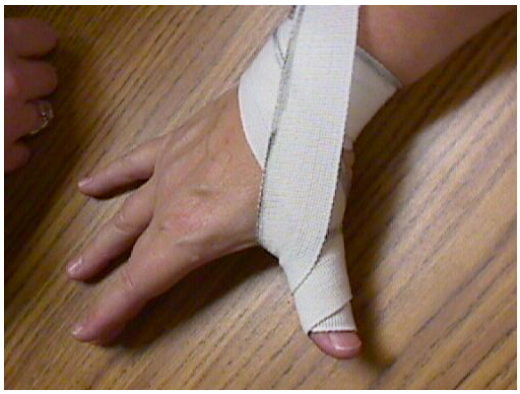
2. Come up on radial side (outer side) of thumb starting at base and angling up.



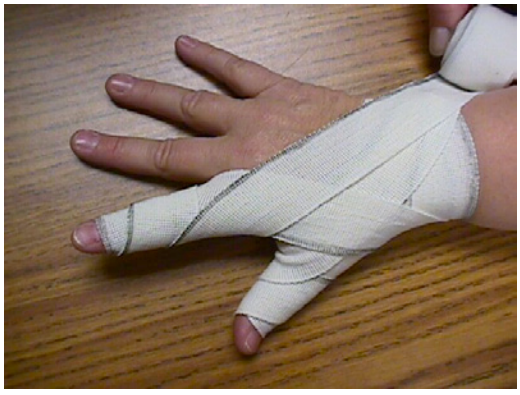
3. Do 360° wrap around thumb at base of nail.



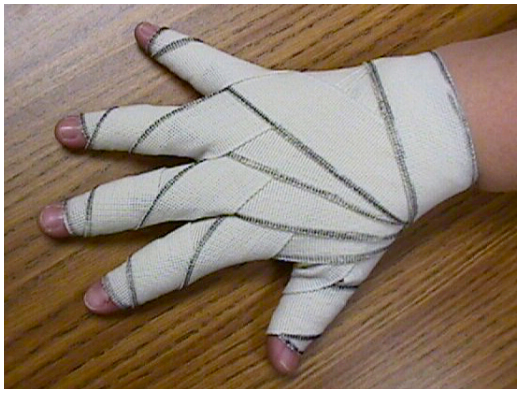
4. Continue overlapping 360° wraps to thumb web, end at lateral (ulnar) side of wrist.



5. Wrap around volar side of wrist and angle bandage up to nail bed, between the second and third fingers and do 360° wraps to finger web space, returning to lateral side of wrist.



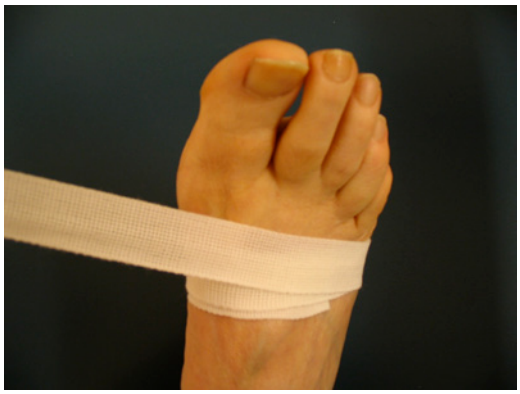
6. Continue for each finger and end by wrapping the wrist and as far up as needed.



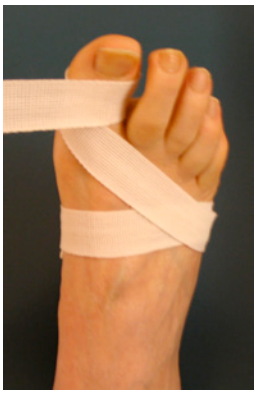
Step 6: Care for Wounds

Handout 6.8: Artzberger Foot and Toe Bandaging

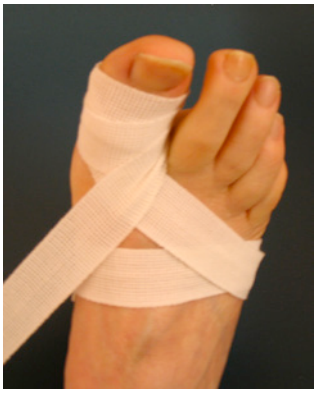
1. Use tape and hold bandage end to outside (lateral) side of foot near little toe, wrap two times around foot, spreading the bandage.



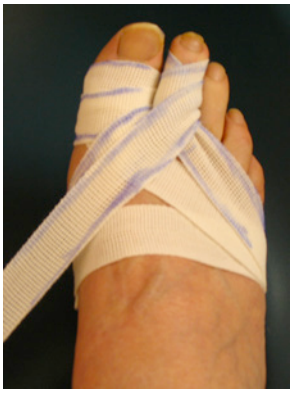
2. Come up on radial side (outer side) of big toe starting at base and angling up and around toe at base of nail.



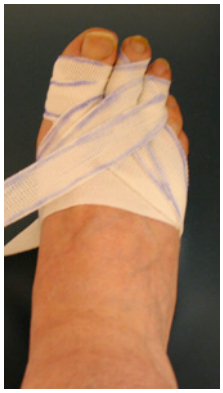
3. Then wrapping at 360° around big toe returning to medial side of foot.



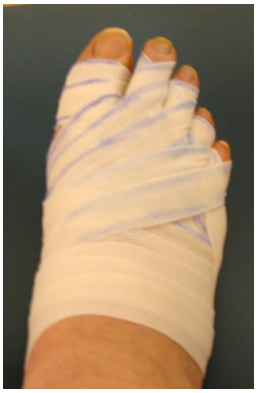
4. Wrap around bottom of foot coming up at an angle from lateral side of foot to the nail bed of the second toe and wrap 360° around toe, returning to medial side of foot.



5. Wrap around bottom of foot coming up at an angle from lateral side of foot to the nail bed of the third toe and wrap 360° around toe, returning to medial side of foot.



6. Continue until all toes have been wrapped and then continue to wrap up the foot.



Handout 6.9: Types of Ulcers and Characteristics – Part 1

	Venous	Arterial (Ischemic Ulcer)	Pressure	Neurotrophic Diabetes / Leprosy
Cause	Venous stasis Minor trauma is often the immediate cause	Arteriosclerosis and/or hypertension and/or diabetes Very rare in people who have never smoked	Constant pressure, due to chronic immobility in elderly, spinal cord injured, disabled or obese	Diminished or absent sensation due to nerve damage Repetitive mechanical stress causing trauma, which goes unnoticed
Location	Usually inner part of lower leg but can be circumferential from mid-calf to just below the malleoli (ankle bone) Often involves both legs	Distal legs Heels Dorsum of feet and toes	Bony prominences, especially sacrum, buttocks, hips, heels and malleoli (ankle bones)	Under calluses or over pressure points Leprosy: sole of feet and hands Diabetes: only the feet
Appearance	Irregular border/edge Shallow ulcer Moist red granulating base or dark necrotic tissue Dark pigmentation of skin surrounding the wound Edema of lower legs Eczema in the surrounding skin Serous discharge Varicose veins	Irregular borders/ edges or round "punched out" border Deep ulcer Multifocal; greyish granulation tissue Tendency to become necrotic (dry and black gangrene) Foot is pale, blue and cold	Stages: • starts superficial with redness and increased local warmth • forms a blister or erosion • progresses deeper and often associated with thick necrotic tissue	Circular border/ edge, punched-out appearance Chronic inflammation of tissues surrounding the ulcer (warm to touch and pink) Superficial or deep Frequently associated with callus at the edge Frequently associated with trauma (nail, rock, nylon thread, burn, etc.)
Pain	Moderate to severe pain Pain relieved with elevation of leg, which helps venous drainage	Severe pain, worse at night when lying down Pain increases when legs are up and decreases when legs are down	Pain is variable	Often completely painless, because of the nerve damage
Other Features	Pulse present (can be hidden if important edema)	Chronic ischemia: • Pulse is reduced or absent • Foot is pale, blue and cold, hairless, nail dystrophy • Wasting of calf muscles	Varied with lesions of epidermis and other deeper tissues	Can be infected or not In diabetes the foot is often hairless, with no perspiration

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Step 6: Care for Wounds

Handout 6.9: Types of Ulcers and Characteristics – Part 1 (continued)

	Venous	Arterial (Ischemic Ulcer)	Pressure	Neurotrophic Diabetes / Leprosy
Natural History What happens if not treated	Over 80% of leg ulcers in the USA are venous ulcers Even if it heals, there is a strong tendency to recurrent ulceration	Rarely heals without improved arterial supply	Rarely heals on its own	No rest and continued daily activities prevents healing Remain painless, so often ignored by patient
History Helps with diagnosis	Feet and legs swell during the day but in the morning after sleeping the swelling is less	Pain when legs and feet are up and is less when feet are down Foot/feet feel cold	Person has difficulty changing positions, staying for long periods of time in one place without moving May report difficulty feeling and therefore does not feel the need to change positions	Person states they didn't feel the injury, they don't know how it happened Sometimes associated with foreign body trauma (nail, rock, nylon tread, burn, etc.)
Treatment	Wound care Elevation Compression Deep "belly breathing" with self Manual Edema Mobilization (MEM)	Wound care Arterial surgery Maintain the head higher than legs and feet	Wound care Strict routine to relieve continuous pressure (pillows, towels, foam rolls, positional change etc.)	Wound care Enforced rest and protection of limb
Prevention	Elevate legs Use compression (stockings, bandages) during the day but remove at night Deep "belly breathing" plus MEM Walking Calf and ankle exercises Prevent trauma Raise feet of bed	Treat hypertension, obesity & diabetes Stop smoking Raise head of bed Prevent trauma	Periodic relief of pressure in wheelchair (cushion, push up) and bedridden (position change) patients Protect bony prominences Provide good nutrition	Community health education to identify and treat the disease early Monitor sensation Daily inspection and skin care (hydrate and lubricate) Protect during daily activities Use footwear

Handout 6.9: Types of Ulcers and Characteristics – Part 2

	Buruli Ulcer	Tropical Ulcer	Malignancy
Cause	*M. ulcerans* infection, which produces a necrotizing toxin, called mycolactone Person must have visited or lived in an endemic area	Bacterial infection (non-specific) Small skin wounds allow entry of organisms	Squamous cell carcinoma can develop in chronic wounds Other malignant tumors are not associated with ulcers
Location	Lower limbs (60%) Upper limbs (30%) Other sites (10%) such as trunk, face	Most often on lower limb (mostly around ankles) Sometimes on thighs and arms	In a chronic wound, anywhere on the body
Appearance	Ulcer with undermined edge Edema around the ulcer Location of wound is other than lower limb	Regular round/oval shape with clearly defined borders/ edge Not significantly undermined edge Edema around the ulcer with dark pigmentation	Often a recently appearing cauliflower-like mass, growing out of the wound surface; may bleed easily
Pain	Little or no pain unless there is secondary infection	Painful in acute phase Less pain in chronic phase	Initially, there is no pain
Other Features	More common in children Osteomyelitis	More common in children, teenagers and women	The underlying ulcer will usually have been present, off and on, for more than 10 years
Natural history What happens if not treated	Can become very large Heals eventually with severe scarring and skin contracture, which may limit movement	Size is limited by immune response May heal if general health is good	Slowly progressive malignancy, spreading to local lymph nodes and then to other parts of the body
History Helps with diagnosis	Lives in or has visited an endemic area Starts as a small lesion (nodule or plaque) but can lead to an extensive ulcer May also start as an edema (swelling of the limbs)	Lives in or has visited tropical rural areas Small traumatic wounds to lower limbs exposed to mud or contaminated water Starts as a pustule; when this ruptures there is foul-smelling, blood-stained pus	History of long-standing chronic ulcer (greater than 10 years)

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Step 6: Care for Wounds

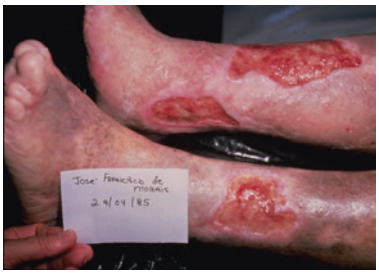
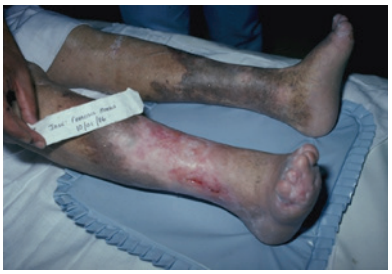
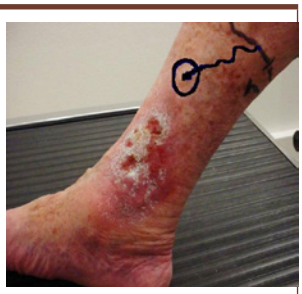
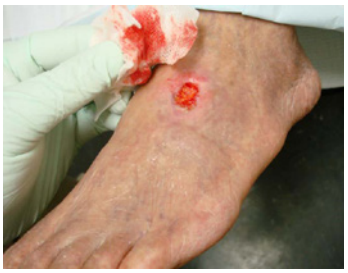
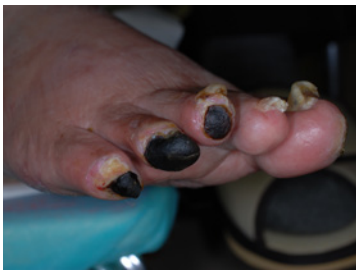
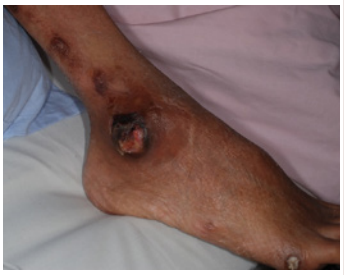
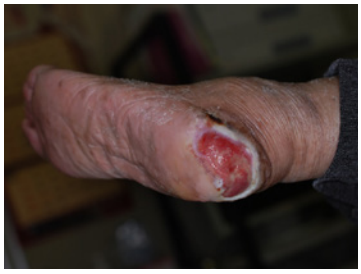
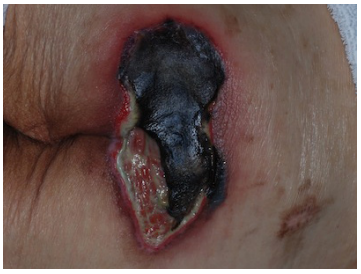
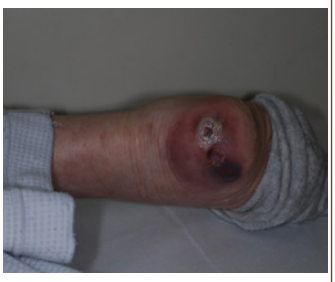
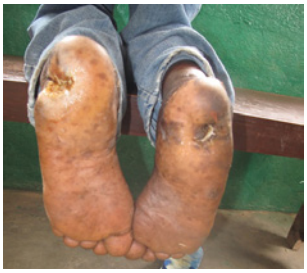
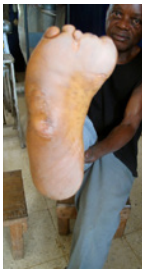
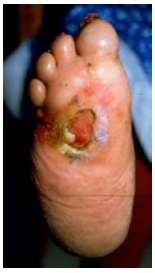
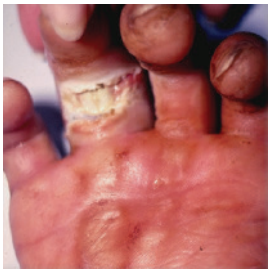
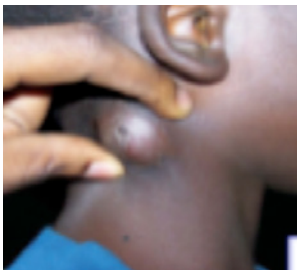
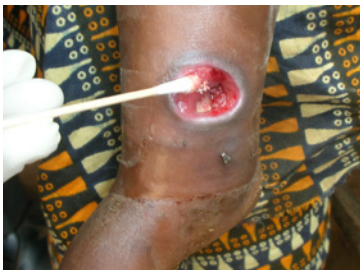
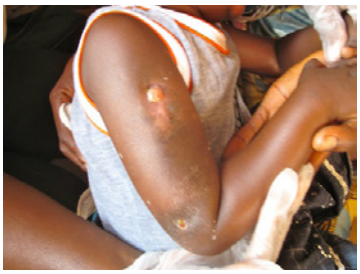
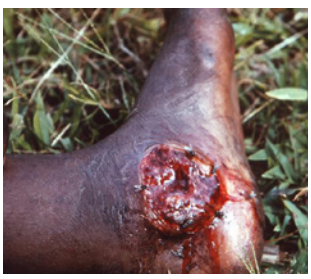
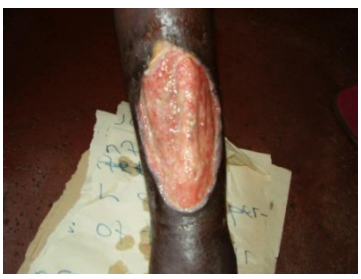
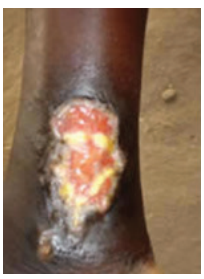
Handout 6.9: Types of Ulcers and Characteristics – Part 2 (continued)

	Buruli Ulcer	Tropical Ulcer	Malignancy
Treatment	Antibiotics for BU Wound care Prevent contractures with early movement and good positioning Possible skin grafts after BU-specific treatment	Antibiotics Wound care Prevent contractures with early movement and good positioning Possible skin graft after specific treatment	Wide excision or amputation may be curative in the early stages, but once it has spread, only palliative care is possible
Prevention	Community health education to identify and treat the disease early, when the ulcer is still small	Wear shoes Prevent insect bites and other wounds Clean and dress small wounds Clean mud off the legs	Chronic wounds must be helped to heal and stay healed Surgery and skin grafting may be necessary

References:

- *Buruli ulcer: Recognize and act now!* (2011). World Health Organization. (*http://www.who.int/buruli/information/iec/en/index.html*)
- *http://www.ifd.org/protocols/tropical-ulcer*
- *Manual de Condutas para Úlceras Neurotróficas e Traumáticas.* (2002). Ministério da Saúde, Secretaria de Políticas de Saúde. Brasilia: Departamento de Atenção Básica, Área Técnica de Dermatologia Sanitária.

Handout 6.10: Photos of Ulcers

Venous Ulcer	  
Arterial (Ischemic ulcer)	  
Pressure Ulcer	  
Diabetes or Leprosy (Neurotrophic Ulcer)	   
Buruli Ulcer	  
Tropical Ulcer	  

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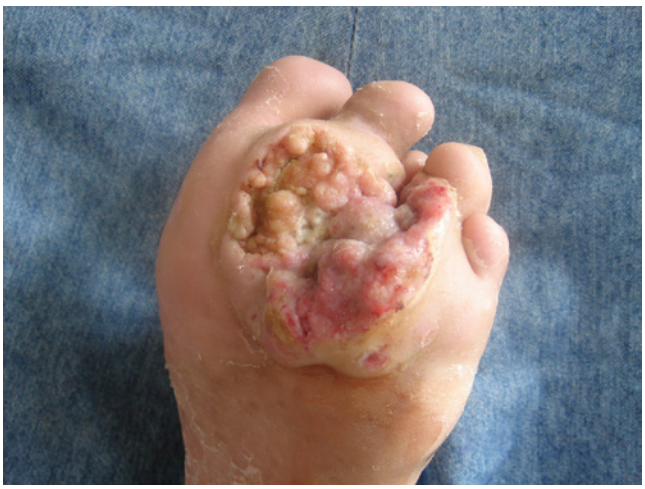
Handout 6.10: Photos of Ulcers (continued)

Suspected malignancy in Leprosy and Buruli Ulcer patients	
 	**Characteristics of malignancies** • Invasive • Rapid growing • Bleeding • Bad smell **Squamous cell carcinoma can develop in chronic wounds** • Often a recently appearing cauliflower-like mass, growing out of the wound surface; may bleed easily. • The underlying ulcer will usually have been present, off and on, for more than 10 years. • Slow progressive malignancy, spreading to local lymph nodes and then to other parts of the body. • Wide excision or amputation may be curative in early stages, but once it has spread, only palliative care is possible. • Chronic wounds must be helped to heal and stay healed. Surgery and skin grafting may be necessary.

Photos: Linda F. Lehman (Venous Insufficiency, Leprosy, BU-Osteomyelitis and Malignant BU), WHO BU http://www.who.int/buruli/en (BU nodule and ulcer), CDC/ K. Mae Lennon, http://www.lhsc.on.ca/Health_Professionals/Wound_Care/venous.htm (last venous ulcer photo), Tulane Medical School; Clement Benjamin (Tropical Ulcer), http://www.nadermo.org/index.php/gallery/diseases/diseases-2-10-20, 2-1-11 (Tropical Ulcers), Creating the Ideal Microcosm for Rapid Incorporation of Bioengineered Alternative Tissues Using An Advanced Hydrogel Impregnated Gauze Dressing: A Case Series. The Foot and Ankle Online Journal 1 (9): 2 (Arterial ulcer), Hubert Vuagnat and the University of Geneva Wound Care Group (arterial and pressure ulcer), Paul Sauderson (Malignant Ulcer in Leprosy), Rie Yotsu Dept of Dermatology National Center for Global Health and Medicine Tokyo

STEP 7:
Care for Scars

Photo credit: Rowan Butler

Step 7: Care for Scars

Introduction

A scar forms when a wound or burn heals. It results if the skin's injury is deeper than its outer layer (epidermis). The scar is never as strong, flexible or protective as the original skin and is at higher risk for injury. Therefore, the scar requires lifelong protection from moisture loss, trauma and sun damage. Good scar care decreases pain, minimizes itching and improves flexibility and appearance. It also decreases adhesions and soft tissue contractures that can limit movement. The scar's strong contracting forces can restrict movement and/or cause a visible impairment sometimes called "deformity." Early, careful positioning and exercise to oppose these forces can help preserve joint mobility. If caregivers, health workers and affected persons neglect scar care, it can lead to unnecessary complications.

Goal

Practice scar care that improves appearance, preserves movement and prevents complications that may lead to disability.

Key Messages

1. Scars at or near a joint are at higher risk of restricting movement.
2. Complete healing of a scar takes 1–2 years, and the scar is never as strong, flexible or protective as the original skin. Therefore, scars require lifelong protection from moisture loss, trauma and sun damage.
3. Keep the scar soft and flexible by soaking or applying wet compresses, applying moisturizers, and gently mobilizing the scar.
4. Early, careful positioning and exercise stretches the scar's strong pulling forces in the opposite direction to prevent movement limitation or to regain movement.
5. Sun-damaged scars and those that repeatedly break down and re-heal over time have a higher risk of developing cancer.

References

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- Esselman, P. (2007). Burn rehabilitation: An overview. *Archives of physical medicine and rehabilitation, 88*(2), S3-S6.
- Lehman, L., et al. (2006). *Buruli ulcer: Prevention of disability/POD*. Geneva: WHO Press. *http://www.who.int/buruli/information/publications/BU-0POD-presentation.pdf*
- Lehman, L. (2012). *Buruli ulcer drug trial protocol: Patient home self-care.* WHO.
- Hill, S., Kowalske, K., & Holavanahalli, R. (2011). *Wound care and scar management: Based on research by burn injury model systems.* University of Washington Model Systems Knowledge Translation Center (MSKTC). *http://www.msktc.org/burn/factsheets/Wound-Care-And-Scar-Management*
- Simonet, V. (2008). *Prevention of disability in Buruli ulcer: Basic rehabilitation.* Geneva: WHO Press. *http://whqlibdoc.who.int/hq/2008/WHO_HTM_NTD_IDM_GBUI_2008.1_eng.pdf*

A Quick Supervisory Checklist for Step 7

Care of Scars	Yes	No	Not Obs	Observations & Recommendations
1. Identifies scars at risk (dry and/or at or near a joint)				
2. Keeps scars hydrated and flexible (water and Vaseline, shea butter or other)				
3. Keeps scars flat and mobile (compression and massage)				
4. If scar is contracting and limiting movement, positions and stretches it in the opposite direction				
Teaches affected person and caregiver how to:				
5. Do self-care to keep scar hydrated, flexible and stretched to permit full movement				
6. Protect the scar from injury (sun, work, play)				

Guidelines for Teaching the Module

Health Coach/Facilitator should use the local language and ensure that all terms are found in the local language.

Estimated time: 2 hours

Learning Objectives

At the end of the module, participants will be able to:

1. Identify scars at risk for causing movement limitation.
2. Demonstrate how to teach affected persons to care for their scars (hydrate, moisturize, mobilize, stretch and protect).
3. Demonstrate how to apply light compression to a new (less than two years old) thick and raised scar to make the scar flatter and more flexible, and to improve scar appearance.

List of Teaching Activities and Learning Materials

Activity 1

Scar Screening and Home Self-Care Program

Activity 2

Problem Solving for Scar Scenarios

Handouts

- 7.1 Scar Screening Instructions
- 7.2 Individual Impairment Record Form (IIRF) – Scar Section
- 7.3 Preventive and Referral Actions for Scar Care
- 7.4 Home Self-Care Activities for Scar Care
- 7.5 Home Recording Form for Self-Care Practices
- 7.6 Scar Care Scenarios

Step 7: Care for Scars

Activity 1: Scar Screening and Home Self-Care Program

Handouts

- 7.1 Scar Screening Instructions
- 7.2 Individual Impairment Record Form (IIRF) – Scar Section
- 7.3 Preventive and Referral Actions for Scar Care
- 7.4 Home Self-Care Activities for Scar Care
- 7.5 Home Recording Form for Self-Care Practices

Equipment & Materials

- Flip chart stand and paper
- 4 – 6 colored markers

Instructions for Teaching the Activity

Room Arrangement: Participants sit in a semicircle.

1. **Health Coach distributes handouts, *7.1 Scar Screening Instructions, 7.2 IIRF – Scar Section, 7.3 Preventive and Referral Actions for Scar Care, 7.4 Home Self-Care Activities for Scar Care* and *7.5 Home Recording Form for Self-Care Practices*.**

2. **Health Coach reviews and demonstrates how to do scar screen and record findings.**

3. **Health Coach uses handout *7.3 Preventive Actions for Scar Care* to reinforce issues affecting scar care:**
   - Complete healing of a scar takes one to two years and the scar remains more fragile than the original skin.
   - Scars that "stick" to the underlying structures can be very painful and limit movement. Therefore, it is important to mobilize the scar.
   - Early care and light compression can improve the appearance of a scar.
   - Dry scars that crack increase the risk of infection.
   - Dry scars that are less flexible may break down and cause the recurrence of a wound.
   - Scars that repeatedly break down and re-heal over time have a higher risk of developing cancer.
   - Thick, strongly contracted scar(s) at or near a joint cause loss of motion.
   - Scars exposed to sunlight are at risk of sunburn and skin cancer.

4. **Health Coach distributes and reviews handouts *7.4 Home Self-Care Activities for Scar Care* and how to check off care completed at home on handout *7.5 Home Recording Form for Self-Care Practices.***

Activity 2: Problem Solving for Scar Scenarios

Handouts

- 7.6 Scar Care Scenarios (3 scenarios)

Equipment & Materials

- Flip chart stand and paper
- 4 – 6 colored markers
- 3 copies of each type of scar scenario
- 1 bucket of clean water or 6 plastic bags of drinking water
- 6 small containers of moisturizers: Vaseline, shea butter, cocoa butter, other
- 1 sheet of furniture foam 1 meter x 1 meter x 0.5–1cm thickness
- 12 cloth bandage rolls (10–12cm x 2 meters)
- 6 10–12cm elastic (short-stretch) bandages
- 1 sheet of protective material approximately the size of A4 paper: cardboard, used x-ray film, plastic folder, large water bottle, other
- 1 pair large scissors that can cut the protective material
- 1 pair knee-high socks
- 1 roll of sticky adhesive tape (0.5cm width)

Instructions for Teaching the Activity

Room Arrangement: Health Coach divides the large group into smaller groups of three to four persons.

1. **There are three different scenarios of persons with scars. The Health Coach will distribute the different scenarios, giving one scenario to each group.**

2. **Each small group will be given 15 minutes to read and discuss how to take care of the scar situation described in their group scenario.**

3. **Health Coach asks which small group wants to present their scenario first. Each group has five minutes to present their scenario and care to the larger group.**

4. **At the end of each small group presentation, the larger group is given five minutes to discuss key care issues for the specific scenario.**

5. **After all groups have presented, the Health Coach summarizes and reinforces the following key care issues for each scenario:**

Scenario No. 1: Boy playing football

- Teach scar care to both father and son.
- Soak in water or wet compresses followed by application of shea butter or local moisturizer.
- Mobilize scar.
- Rest and stretch (positioning day and night).
- Protect leg from sunburn and scrapes/scratches (options: cover scar with bandage or wear knee-high sock).
- Protect the shin of the leg. A shin protector can be made out of cardboard, used x-ray film or a plastic sheet/bottle and lining it with padding such as foam.
- Encourage the boy's safe participation in football and help the father to know how the boy can play football safely.

Scenario No. 2: Woman pounding fufu

- Teach woman how to care for the scar at home.
- Wash hands and elbow with soap and water to prevent infection.
- Soak scarred elbow in water or use wet compresses followed by application of shea butter or other local moisturizer.
- Mobilize scar, gently.
- Rest and stretch (positioning day and night).
- Move and stretch often during the day.
- Encourage the women to continue pounding fufu.

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Step 7: Care for Scars

Activity 2: Problem Solving for Scar Scenarios (continued)

Scenario No. 3: Man doing farm work

- Teach the farmer self-care for his scar.
- Soak scarred leg and ankle in water or use wet compresses followed by application of shea butter or other local moisturizer.
- Mobilize scar, gently.
- Rest and stretch (positioning day and night).
- Move and stretch often during the day.
- Protect leg/ankle from sunburn and scratches (options: wear long trousers, cover scar with bandage or knee-high socks).
- Encourage farmer to continue his participation in farming activities.

Conclusion

In conclusion, the Health Coach summarizes key messages and clarifies any misconceptions.

Handout 7.1: Scar Screening Instructions

Gather together equipment and supplies: sensory test device(s), IIRF record form, pen or pencil.

Wash hands with soap and water before and after each screen.

Complaints	**Ask**
Patient or family complaints or observations	**Ask the following:** Do you currently have any of the following complaints with your scars: itching, painful, limiting movement, not attractive, other: _____ **Record on IIRF form:** Circle symptom(s), Yes, R and/or L.
History	**Ask**
Previous scar cracks or injury	Have you ever had your scar crack open or be injured during your daily activities? If yes, where and what kind of injury? **Record on IIRF form:** Circle Yes, R and/or L and if cracked or injured. Mark location on body chart.
Scar Conditions	**Observe, feel and ask**
Scar is at or near a joint	Is the scar at or near a joint? If yes, **Record on IIRF form:** Circle Yes, R and/or L. Mark on body chart.
Scar is dry	Is the scar dry? If yes, **Record on IIRF form:** Circle Yes, R and/or L.
Scar is sticking to or adhering to underlying structures	Touch and move the scar. Does the scar stick or not move easily across underlying structures as compared to unaffected side? If yes, **Record on IIRF form:** Circle Yes, R and/or L.
Scar is very thick and less than one year old	Observe and feel the scar. Is the scar thick, raised and less than one year old? If yes, **Record on IIRF form:** Circle Yes, R and/or L.

Step 7: Care for Scars

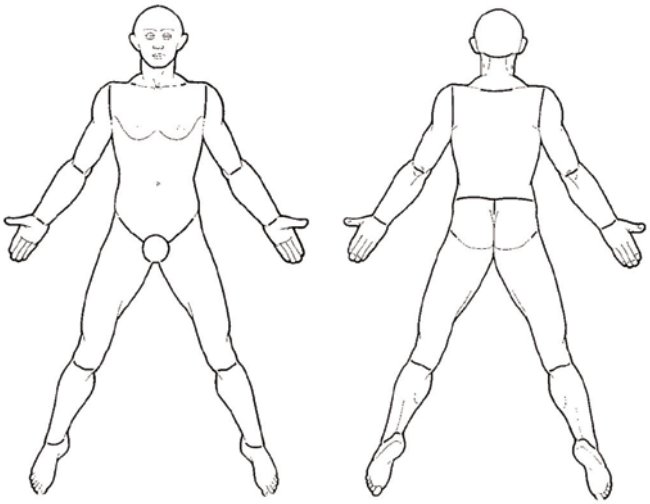
Handout 7.2: Individual Impairment Record Form (IIRF) – Scar Section

(See handout 7.1 for instructions on how to do a scar screen)

Complaints:			
Scar is itching, painful, limiting movement, not attractive, other: _____	Yes	R	L
History:			
Previous scar cracks or injury. Type: _____	Yes	R	L
Scar conditions: (circle area, test or condition that applies)			
Scar is at or near a joint	Yes	R	L
Scar is dry	Yes	R	L
Scar is sticking to or adhering to underlying structures	Yes	R	L
Scar is very thick and less than one year old	Yes	R	L

Key for Recording	
Skin Lesion	
Crack	
Wound	
Scar Location	
Joint with Movement Limitations	
Swelling	
Location of Amputation	

Body Map



Handout 7.3: Preventive and Referral Actions for Scar Care

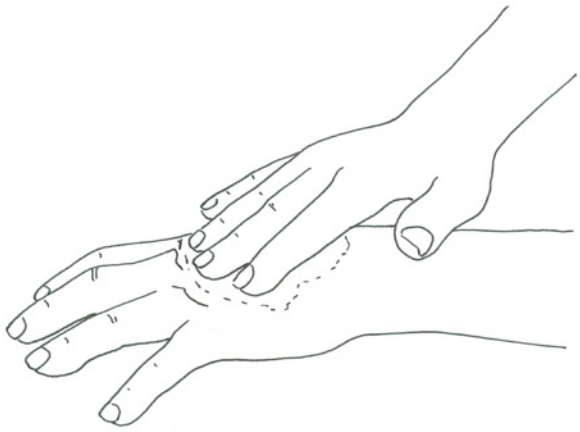
Problem	Action Details
1. Dry scars	Moisturizing dry scars soothes itching. It keeps scars soft and flexible so they can resist cracks with stretching movements during daily activities. • Use local products for moisturizing; e.g., shea butter, coconut oil, cocoa butter, palm oil, mineral oil. • The best time for moisturizing is after bathing or soaking the dry areas. • Rub the moisturizer into the skin/scar slowly, avoiding areas between toes and in skin folds.
2. Scars sticking to underlying structures	Use local moisturizer and gently mobilize scars: • To keep scars from sticking to underlying structures. • To massage and gently stretch skin/joints to maintain full range of motion.
3. Strong contracting forces of scars limiting movement when scar is at or near a joint	Prevent loss of movement by: • Carefully positioning day and night opposite the scar's strong contracting forces. Splints for maintaining and gently stretching scars may be needed at night. • Frequently exercising in the opposite direction of the scar's strong contracting forces.
4. Fragile, easily injured	Protect from: • Sunburn and injury during daily activities. • Repeated breakdown and re-heal over time, which has a higher risk of developing cancer.
5. Thick scars less than one year old	Constant light pressure (23hrs of 24hrs) with scars less than one year old: • Helps scars become flatter. • Helps improve appearance.
6. Thick scars limiting movement	If no improvements with good community care in one to two months, refer for progressive splinting, physical rehabilitation and surgical correction. If deep cracking or further loss of motion occurs, refer as soon as possible.

Step 7: Care for Scars

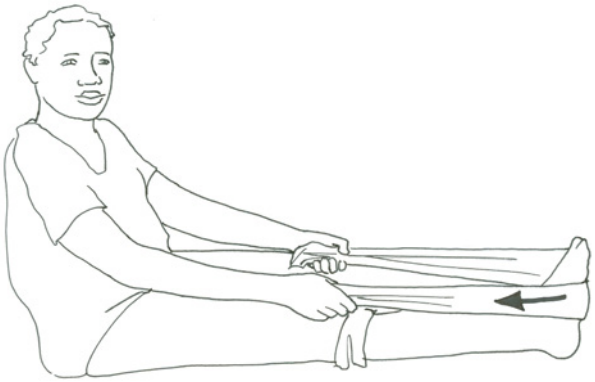
Handout 7.4: Home Self-Care Activities for Scar Care

1. Hydrate & Lubricate Scar

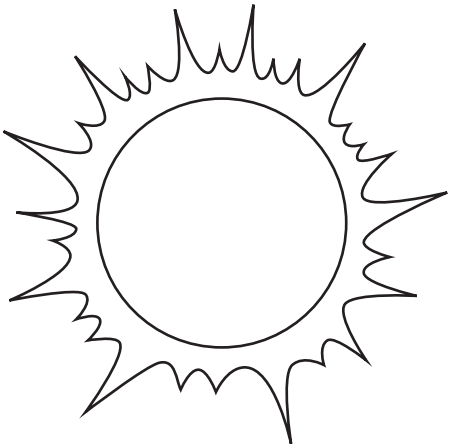
2. Mobilize Scar



3. Move & Stretch the Area Affected by the Scar



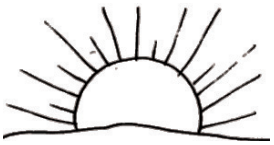
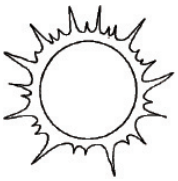
4. Protect Scar from Injury & Sunburn



Illustrations: Valerie Simonet and WHO/NTD

Handout 7.5: Home Recording Form for Self-Care Practices

	✓ the activities to be done at home
1. **Elevate and Exercise** – 10 minutes (3–4 songs)	
2. **Move and Stretch** – Stretch 10 seconds x 10 times	
3. **Rest and Stretch** – 10 minutes (3–4 songs)	
4. **Scar Care** – Hydrate, Lubricate, Mobilize Scar, Move, Stretch & Protect	

Start Date: (dd/mm/yy) ____/____/____			
	Morning	**Afternoon**	**Night**
Day 1			
Day 2			
Day 3			
Day 4			
Day 5			
Day 6			
Day 7			
Day 8			
Day 9			
Day 10			
Day 11			
Day 12			
Day 13			
Day 14			

At the end of the 14 days, how is your scar?
(Circle if Better or Worse)

Better 

Worse 

Date patient demonstrates to health worker (dd/mm/yy): ____/____/____

Patient is able to demonstrate self-care correctly? ____Yes or ____No

Reference: Lehman, L. (2012). *Buruli ulcer drug trial protocol: Patient home self-care.* WHO.

Step 7: Care for Scars

Handout 7.6: Scar Care Scenarios

Scar Care Scenario No. 1: Boy playing football
You are following up with a young boy of 12 years old in his village who has recently completed his Buruli ulcer antibiotic treatment. He has a scar on his right shin. The father has told the son not to play football because he does not want him to hurt the scar. You find out that the boy is playing football without his father's knowledge. How will you manage this situation? What kind of care would you teach the boy?

Scar Care Scenario No. 2: Woman pounding fufu
You are following up with a woman 32 years old in her village who has a scar from a recently healed burn on her left elbow. The scar is very thick, raised and dry. You notice the scar is cracking. Talking with the woman you discover she first noticed the crack after pounding fufu. She wonders if she should stop pounding fufu. How will you manage this situation? What kind of care would you teach the woman?

Scar Care Scenario No. 3: Man doing farm work
You are following up with a 54-year-old farmer in his village who has a large scar on his left lower leg and ankle from a recent accident. He is worried about injuring the scar when he goes to the fields to work all day. He usually wears short trousers when he works in the fields. How will you manage this situation? What kind of care would you teach this man?

STEP 8:

Care for Swelling (Edema)

Photo credit: Rowan Butler

Step 8: Care for Swelling (Edema)

Introduction

Swelling from any cause requires attention. In all types of swelling, early detection and action to reduce swelling can prevent complications and produce the best outcomes. Complications that may occur include: severely enlarged limbs and body parts, frequent infections and wounds that are hard to heal. Swollen limbs are heavy, painful and difficult to move. This limits the ability to do daily activities and can restrict participation in family, school, work, leisure and community activities. In addition, it is difficult to find footwear and clothes that fit.

If swelling does not go down, or lasts longer than three months, it may become a permanent condition called *lymphedema*. Lymphedema needs to be referred. The high protein content of lymphedema attracts bacteria and increases the risk of infection. These infections are called "acute attacks" and may be life threatening. When lymphedema affects the genital area, referral for surgical treatment may be necessary.

Lymphedema requires lifelong self-care management to control the swelling and infections. Without treatment, the condition worsens and may progress to *elephantiasis*. It is called elephantiasis because the skin becomes hard, thick, knobby and severely enlarged, resembling an elephant's leg.

Early treatment and self-management produce the best results and can prevent progression. Teaching the affected person and their family/caregiver to practice daily skin and nail care, elevation and frequent movement of the swollen body part is essential. Additional reduction can be experienced when Manual Edema Mobilization (MEM) is added to self-care practices. MEM includes deep "belly breathing," light lymphatic self-massage, exercise and light compression with foam, bandages or Lycra® undergarments or clothing.

Note: If the swelling is caused by infection, massage should not be used as it can spread the infection by moving fluid through the nodes (specific filter points which remove germs from the body) faster, before all germs can be destroyed. If it is unclear whether or not there is an infection, massage only one set of nodes that is closest to the swollen area. If there are no increased signs of infection, then massage can include additional nodes.

Goal

Swelling is detected early and action is taken to prevent complications and progression to lymphedema.

Key Messages

1. All swelling requires immediate attention.
2. Early detection and action to reduce swelling can prevent complications and produce the best outcomes.
3. Early care for swelling and good self-care practices can prevent progression of the swelling to lymphedema and/or decrease frequency of "acute attacks" in lymphatic filariasis.
4. It is essential to teach the affected person and their family/caregiver the signs of infection and to practice daily skin and nail care, elevation and frequent movement of the swollen body part.
5. Additional reduction can be experienced when Manual Edema Mobilization (MEM) is added to self-care practices. MEM includes deep "belly breathing," light lymphatic self-massage, exercise and light compression with foam, bandages or Lycra® undergarments or clothing.
6. Decreasing the swelling usually lessens the pain and improves movement/mobility.
7. If care does not improve the condition, confirm that care practices are being done and being done correctly.
8. If swelling gets worse, seek help from the community health worker and/or referral center.

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Step 8: Care for Swelling (Edema)

A Quick Supervisory Checklist for Step 8

Care of Swelling	Yes	No	Not Obs	Observations & Recommendations
1. Identifies edema and takes appropriate action				
Teaches affected person and caregiver how to:				
2. Elevate affected part, exercise and move frequently combined with "belly breathing" and light compression				
3. Confirm if swelling is better or worse				

Guidelines for Teaching the Module

Health Coach/Facilitator should use the local language and ensure that all terms are found in the local language.

Estimated time to teach the task: 3 hours

Learning Objectives

At the end of the module, participants will be able to:

1. Detect swelling by comparing one side of the body with the other side.
2. Identify the most common causes of swelling (infection, limbs in gravity-dependent positions without movement, inflammation and diseases affecting the heart, blood, vessels and kidneys).
3. Describe the basic blood flow (circulatory system) of the body (heart, lungs, arterial, venous, lymphatic).
4. List complications that result from swelling.
5. Demonstrate how to elevate and move to reduce swelling.
6. Identify when additional action(s) are needed to reduce swelling.
7. List additional actions that can be used when elevation and movement aren't enough to reduce and control swelling (deep "belly breathing," light lymphatic self-massage, light compression with foam and bandages, diet, medicines).
8. Know when infection is present and that massage of nodes can spread the infection by moving the fluid through the nodes faster, not allowing all germs (pathogens) to be destroyed.
9. Demonstrate the correct techniques of deep "belly breathing" and lymphatic self-massage (Manual Edema Mobilization – MEM).
10. List situations when compression with foam and bandages should not be used (poor circulation, a blood clot in a vein; a infected wound with pus, a warm, inflamed and painful limb, severe pain with compression).
11. Demonstrate correct compression with foam and bandages for the upper and lower extremities.

List of Teaching Activities and Learning Materials

Activity 1

Swelling: Detection, Care and Causes

Activity 2

Reduce Swelling with Elevation, Light Compressive Bandaging and Movement

Activity 3

MEM Components of "Belly Breathing," Exercise and Self-Massage

Activity 4

Light Compression with Foam and Bandages

Handouts

- 8.1 Instructions for Screening Swelling (Edema)
- 8.2 Individual Impairment Record Form (IIRF) – Swelling (Edema) Section
- 8.3 Swelling and Lymphedema
- 8.4 Preventive and Referral Actions for Swelling (Edema)
- 8.5 Home Self-Care for Edema of Upper Limb
- 8.6 Home Self-Care for Edema of Lower Limb
- 8.7 Home Recording Form for Self-Care Practices
- 8.8 Foundation for Edema Care – Upper Limb: Manual Edema Mobilization (MEM) – Breathing, Exercise and Self-Massage by Artzberger 2007, VHI Kits
- 8.9 Foundation for Edema Care – Lower Limb: Manual Edema Mobilization (MEM) – Breathing, Exercise and Self-Massage by Artzberger 2007, VHI Kits
- 6.7 Arzberger Hand and Finger Bandaging
- 6.8 Artzberger Foot and Toe Bandaging

Step 8: Care for Swelling (Edema)

Activity 1: Swelling: Detection, Care and Causes

Handouts

- 8.1 Instructions for Screening Swelling (Edema)
- 8.2 Individual Impairment Record Form (IIRF) – Swelling (Edema) Section
- 8.3 Swelling and Lymphedema
- 8.4 Preventive and Referral Actions for Swelling (Edema)

Equipment & Materials

- Flip chart stand and paper
- 4 – 6 colored markers

Instructions for Teaching the Activity

Room Arrangement: Participants sit in a semicircle with two chairs facing the group (one for a volunteer or patient and the other for the Health Coach).

1. **Health Coach distributes and reviews handouts, *8.1 Instructions for Screening Swelling (Edema), 8.2 IIRF – Swelling (Edema) Section*.**

2. **Health Coach asks for a volunteer to sit in the front of the group and exposes arms and legs for the group to check for swelling.**
   - Participants observe the Health Coach looking for swelling by comparing one side of the body with the other side as written in *8.1 Edema Screening Instructions*.
   - Participants observe recording on the *8.2 IIRF – Swelling (Edema) Section*.

3. **If there is a patient with edema, the Health Coach will ask them to sit in the front of the group and exposes arms and legs for the group to inspect the areas with edema.**
   - Participants observe the location of the swelling and record the location on the *8.2 IIRF – Swelling (Edema) Section.*
   - Participants are asked what could be done to decrease the swelling.

4. **Health Coach asks participants the following questions, and responses are recorded on a flip chart.**
   - When and where have you noticed swelling in yourself and others?
   - What do you think caused the swelling?
   - What kind of difficulties or complications can result from the swelling?
   - What can be done to reduce the swelling?

5. **The Health Coach reinforces the following about infection and pre-existing hard swelling:**
   - **Signs and symptoms of infection:** generalized redness or red streaks, increased warmth, swelling and pain, body chills or fever, pus-like drainage or foul smell from the wound.
   - **Treatment:** Systemic antibiotics are used as soon as possible to treat infection. Antibiotic ointments are not effective.
   - **Care:** No massage of areas with infection.
   - **Pre-existing hard swelling:** The difficulty moving fluid out can facilitate infection growth and reduce the ability to fight off infections.

6. **Health Coach distributes the handouts *8.3 Swelling and Lymphedema* and *8.4 Preventive and Referral Actions for Swelling (Edema)*.**

7. **Participants review the handouts and complete information missing on the flip chart.**

Activity 2: Reduce Swelling with Elevation, Light Compressive Bandaging and Movement

Handouts

- 8.4 Preventive and Referral Actions for Swelling (Edema)
- 8.5 Home Self-Care for Edema of Upper Limb
- 8.6 Home Self-Care for Edema of Lower Limb
- 8.7 Home Recording Form for Self-Care Practices

Equipment & Materials

- Flip chart stand and paper
- 4 – 6 colored markers
- 2 chairs
- 2 sheets of thin furniture foam (approximately 3cm x 9cm x 1m)
- 1 sheet of thick furniture foam (approximately 20cm x 50cm x 50cm)
- 8 "short stretch" bandages
- 1 pair scissors
- 1 utility knife or serrated knife
- Cord or material to tie foam roll

Instructions for Teaching the Activity

Room Arrangement: Participants sit in a semicircle with two chairs facing the group.

1. **Health Coach distributes handouts, *8.4 Preventive and Referral Actions for Swelling (Edema), 8.5 Home Self-Care for Edema of Upper Limb, 8.6 Home Self-Care for Edema of Lower Limb, 8.7 Home Recording Form for Self-Care Practices*.**
2. **Health Coach reviews the handouts with the participants.**
3. **Health Coach asks for two volunteers to sit in the front chairs. One volunteer is labeled as having a swollen arm/hand and the other is labeled as having a swollen leg/foot. If possible, use a patient(s) with swollen arm/hand and/or leg/foot instead of a volunteer.**
4. **Health Coach asks for two different volunteers to use the information on the handouts and materials to demonstrate the following care for "soft" swelling (edema):**
   - **Care for Arm and Hand Swelling**
     - Demonstrate positioning and bandaging used during the day and used at night.
     - Demonstrate movement/exercise that reduces swelling.
   - **Care for Leg and Foot Swelling:**
     - Demonstrate positioning and bandaging during the day and at night.
     - Demonstrate movement/exercise that reduces swelling.
5. **Health Coach and participants observe demonstrations and make additional comments or corrections.**
6. **The Health Coach reinforces the following care differences between soft swelling and hard swelling:**
   - "Soft swelling" will decrease when the arm/hand and leg/foot are raised up/elevated along with frequent movement.
   - "Hard swelling " will not reduce without using light compressive bandages 23 of 24 hours every day. The bandages will provide warmth and light compression which helps soften the hard edema. It becomes fluid-like, allowing the edema to flow out. Activities 3 and 4 will address additional care activities.
   - When bandages are removed in "hard swelling," the swelling will return within one hour until the "hard edema" is out and skin contracts.
7. **Health Coach emphasizes the importance of frequent strong muscle contraction with at least 70 degrees of movement to reduce swelling. The Health Coach asks all participants to do the following movements 10 times:**
   - **Upper Limb – Arm and Hand**
     - Raise the arms up and down.
     - Tightly close the hand and open the fingers and thumb **as much as possible.**
   - **Lower Limb – Leg and Foot**
     - Sitting, move the ankle in circles and then move the foot up and down.
     - Standing, raise heels to stand on tiptoes then back on heels raising toes up.
     - Standing with back supported by a wall, squat, sliding the back down the wall. Hold for 10 seconds and then return to standing.

Note: Health Coach reinforces the importance of the pumping action of the muscles in reducing swelling.

Step 8: Care for Swelling (Edema)

Activity 3: MEM Components of "Belly Breathing," Exercise and Self-Massage

Handouts

- 8.8 Foundation for Edema Care – Upper Limb: Manual Edema Mobilization (MEM) – Breathing, Exercise and Self-Massage by Artzberger 2007, VHI Kits
- 8.9 Foundation for Edema Care – Lower Limb: Manual Edema Mobilization (MEM) – Breathing, Exercise and Self-Massage by Artzberger 2007, VHI Kits

Equipment & Materials

- Flip chart stand and paper
- 4 – 6 colored markers
- Cane stick/Round stick/Dowel rod (wood or PVC) – cut into 60cm lengths for each participant and Health Coach
- 1 cloth (cotton or plastic) to lay on the floor

Instructions for Teaching the Activity

Room Arrangement: Participants sit in a semicircle.

1. **Health Coach explains to all participants that they will be learning how to do deep "belly breathing" and light lymphatic massage to move fluid from the limbs into the body's circulation where it will be removed from the body by the kidneys.**

Note: This causes an increased need to urinate. Therefore, urination before performing this activity is recommended.

2. **Health Coach distributes the following handouts: *8.8 Foundation for Edema Care – Upper Limb: Manual Edema Mobilization (MEM) – Breathing, Exercise and Self-Massage by Artzberger 2007, VHI Kits* and *8.9 Foundation for Edema Care – Lower Limb: Manual Edema Mobilization (MEM) – Breathing, Exercise and Self-Massage by Artzberger 2007, VHI Kits***

3. **Health Coach follows the sequence on handouts *8.8* and *8.9*. The Health Coach demonstrates each technique. Participants practice deep "belly breathing," exercise and light self-massage over critical sites (MEM).**

4. **Deep "Belly Breathing" – The Health Coach and participants practice deep "belly breathing" (diaphragmatic breathing) using the following sequence:**
   - While sitting, place hands over stomach.
   - Inhale through the nose, making the navel move out toward hands. If unable to do, tell the person to push their stomach out as if to show someone they are pregnant and to inhale at the same time filling the stomach.
   - Slowly, exhale through puckered lips, hands follow navel in. Try to squeeze the buttocks at the same time.
   - Health Coach checks each participant to see that the breathing is being done correctly. (Place hand on chest to see that it does not move.)

5. **Health Coach explains and demonstrates how deep belly breathing can be used during daily activities (e.g. pounding fufu, hoeing) and at rest.**

6. **If possible participants practice "belly breathing" lying down on the floor, with a partner checking to see that the breathing is done correctly. Repeat breathing at least three to four times and up to 10 times.**

Continues on next page

Activity 3: MEM Components of "Belly Breathing," Exercise and Self-Massage (continued)

7. **Exercise – "Figure 8" – Health Coach explains that exercise should be done immediately following "belly breathing." The Health Coach distributes sticks/rods/canes and teaches participants to do a "figure 8" exercise for the trunk and arm. Health Coach leads participants in the following exercise:**
   - Standing, cane/stick is held at waist height with arms straight.
   - Cane/Stick is raised above the head.
   - Twisting and bending at the trunk, the Cane/Stick is dipped down and up to draw a large figure eight pattern.
   - Return stick/cane stretched above the head. Repeat five to 10 times.

8. **Light Self-Massage at Axilla (MEM) – Health Coach teaches participants light self-massage at axilla (armpit) for arm/hand and leg/foot swelling.**
   - Start at uninvolved side first.
   - Using full weight of the flat hand with flat fingers in the hollow of the arm (hairy part), make 10 to 20 circles in the same place, pausing briefly after each circle.
     Note: If caregiver is doing this, they should have a cloth over their hand.
   - Repeat in-place circles at involved armpit side.

9. **Health Coach teaches additional exercises to participants and participants practice:**
   - **Exercise – "Chicken Wings"**
     - With thumbs in armpits, or on chest, and elbows at sides, lift elbow toward ears then lower to sides. Repeat five to 10 times.
   - **Exercise – "Buttocks squeeze"**
     - While sitting, squeeze buttocks together; hold for 10 seconds. If difficult to understand how to do, have them think of squeezing tight to hold a $100 bill. Repeat five to 10 times.

10. **For arm swelling, the Health Coach asks participants to LIGHTLY stroke from back of hand to shoulder 15 times, then stroke from palm of hand to armpit 15 times.**

11. **Health Coach asks participants to repeat deep "belly breathing"**
    - While sitting, place hands over stomach.
    - Inhale through the nose, making the navel move out toward hands. Have patient place hand on chest. If it rises, they have to start over and think about pushing stomach out as if to show someone they are pregnant and to inhale at the same time filling the stomach.
    - Slowly, exhale through puckered lips, hands follow navel in with squeezing the buttocks.
    - Health Coach checks each participant to see that the breathing is being done correctly. (Place hand on chest to see that it does not move.)

12. **Light Self-Massage at Hip Crease (MEM) – Health Coach teaches participants light self-massage at hip crease for leg and foot swelling.**
    - With small finger side of hand against hip crease on involved side, gently press heel of hand down and then roll it upward toward outside of hip. Repeat 10 times.

13. **Health Coach reminds participants of the importance of doing exercise immediately following deep "belly breathing."**

Continues on next page

Step 8: Care for Swelling (Edema)

Activity 3: MEM Components of "Belly Breathing," Exercise and Self-Massage (continued)

14. Health Coach asks all participants to do the following exercises:

- **Exercise – "Buttocks Squeeze"**
  - While sitting, squeeze buttocks together, Hold for 10 seconds. If difficult to understand how to do, have them think of squeezing tight to hold a $100 bill. Repeat five to 10 times.
- **Exercise – "Leg Swing Forward and Backward"**
  - Stand and support self while swinging uninvolved leg and hip forward and backward. Repeat five to 10 times. Repeat with other leg and hip.
- **Exercise – "Trunk Backward Arch and Forward Bend"**
  - Inhale through nose while extending arms above head, arching back and fisting hands.
  - Exhale through pursed lips while bending at the waist, keeping arms and hands stretched to the floor. Repeat five to 10 times.

15. For leg swelling, the Health Coach asks participants to LIGHTLY stroke from top of foot to hip joint 15 times and from back of ankle to buttocks 15 times.

16. Health Coach asks participants to repeat deep "belly breathing."

17. Health Coach summarizes the importance of doing the following:

- Combine breathing with exercise/activity as often as possible throughout the day.
- Do breathing and exercises slowly.
- For arm swelling, LIGHTLY stroke from back of hand to shoulder and then stroke from palm of hand to armpit.
- For leg swelling, LIGHTLY stroke from top of foot to hip joint and from back of ankle to buttocks.
- Drink fluids before, during and after breathing and exercise activities.

Note: Observe for complaints of shortness of breath, fatigue, chest pain, etc. following breathing, exercise and MEM. If observed, refer to doctor for evaluation and possible need for diuretics.

Activity 4: Light Compression with Foam and Bandages

Handouts

- 6.7 Artzberger Hand and Finger Bandaging
- 6.8 Artzberger Foot and Toe Bandaging

Equipment & Materials

- Flip chart stand and paper
- 4 – 6 colored markers
- 2 chairs
- Furniture foam strips (approximately 0.5mm–1cm x 10cm x 1m), 4 strips per pair
- Cotton cloth strips (8-10cm x 1.2m) and roll, 4 strips per pair
- Cotton cloth strips or bandage (1cm x 1.2m) and roll, 4 strips per pair
- 8cm crepe bandage, 4 bandages per pair
- 10cm crepe bandage, 4 bandages per pair
- 2cm crepe bandage, 4 bandages per pair
- Scissors, 1 per pair
- Rolls of masking tape or sticky tape, 1 roll per pair

Instructions for Teaching the Activity

Room Arrangement: Participants sit in a semicircle.

1. **Health Coach asks participants the following questions and records the responses on a flip chart.**
   - **Questions:**
     - What is the difference between bandaging for wound dressings and bandaging used to reduce swelling?
     - What are some of the problems you have seen with bandaging?
     - In what situations would compression with foam and bandages be useful?
     - Are there any situations where compression with foam and bandages should not be used?

2. **Health Coach distributes and reviews the following handouts: *6.7 Arzberger Hand and Finger Bandaging* and *6.8 Artzberger Foot and Toe Bandaging.***

3. **Health Coach calls attention to conditions when compression with foam (0.5–1cm thickness) and bandages are not used:**
   - Poor circulation.
   - A blood clot in a vein.
   - A wound with pus, warm, red and painful.
   - Inflamed and painful limb, severe pain with compression.

4. **Health Coach reviews the process for applying foam and light compression bandages:**
   - Prepare the limb before bandaging.
   - Clean (see personal cleanliness step 3).
   - Moisturize (see personal cleanliness step 3).
   - Protect skin with a light cloth and cover with a layer of foam (0.5 – 1cm thickness).
   - If an entry lesion/crack or wound is present, cover with a dressing to control the wound drainage to prevent contamination of the compression bandage.
   - Start bandaging at the end of the limb and work upwards.
   - Use consistent tension when applying the bandage. The light compression bandage pressure must not limit blood. Two to three fingers should be able to go under the bandage at both ends. Pressure is “cone” shaped where the distal part is slightly tighter than the top.
   - Avoid wrinkles.
   - Always check that the bandage does not restrict movement.
   - Bandages should be removed daily to bathe and perform skin care.
   - Clean bandages should then be reapplied.

5. **Health Coach demonstrates cutting of foam into strips, application of foam and bandaging method for hand/arm and foot/leg on a volunteer.**

6. **Participants divide into pairs and practice compression method with foam and bandages, one doing hand/arm and the other doing foot/leg.**

7. **Health Coach checks that the bandaging is done correctly.**

Step 8: Care for Swelling (Edema)

Conclusion

In conclusion, the Health Coach summarizes key messages and clarifies any misconceptions.

Handout 8.1: Instructions for Screening Swelling (Edema)

Preparation for screening swelling:

Gather together equipment and supplies: sensory test device(s), IIRF record form, pen or pencil.

Wash hands with soap and water before and after each screen.

Complaints	**Ask**
Patient or family complaints or observations	Do you currently have any of the following complaints: limb feels heavy, skin feels tight, leathery, hard, itches, burns, tingles, feels numb, feels like ants crawling, feels like pins and needles, painful, feels cold or hot, skin has enlarged wart-type areas? If yes, what symptom(s)? **Record on IIRF form:** Circle symptom(s), Yes, R and/or L.
Swelling in arm(s), leg(s) or other	Do you have any swelling in arms, legs, other? If yes, circle arms, legs or fill in other: _____ **Record on IIRF form:** Circle symptom(s), Yes, R and/or L.
History	**Ask**
Previous problems with swelling	Have you ever had swelling before? If yes, when and where? **Record on IIRF form:** Circle Yes, R and/or L. Record when and where.
Areas with swelling	**Compare both sides and determine if there is swelling**
Upper Limb (UL)	Compare both sides and determine if there is swelling in the knuckles, wrist, forearm, elbow and/or upper arm: • Raise arms up to shoulder height with elbows extended. Make a tight fist with both hands and observe the knuckles and rest of the upper limb. • Bend elbows and touch clavicles with each hand. Observe swelling at the bony prominence of the elbow. **Record on IIRF form:** Circle Yes, R and/or L. Record total number of Yes responses for UL. Mark area with swelling on body chart.
Lower Limb (LL)	Compare both sides and determine if there is swelling in the toes/feet, ankles, lower leg, knee and/or thigh: • Sit with knees slightly flexed with feet on the floor. Observe swelling in toes, ankles, knees and thighs. **Record on IIRF form:** Circle Yes, R and/or L. Record total number of Yes responses for LL. Mark area with swelling on body chart.
Other Areas: face, eyes, breast, trunk, genitalia, other	Observe if there is swelling in other locations: Face/Eyes, Breast, Trunk, Genitalia, Other: _____ **Record on IIRF form:** Circle Yes, R and/or L. Record total number of Yes responses for Other. Mark area with swelling on body chart.

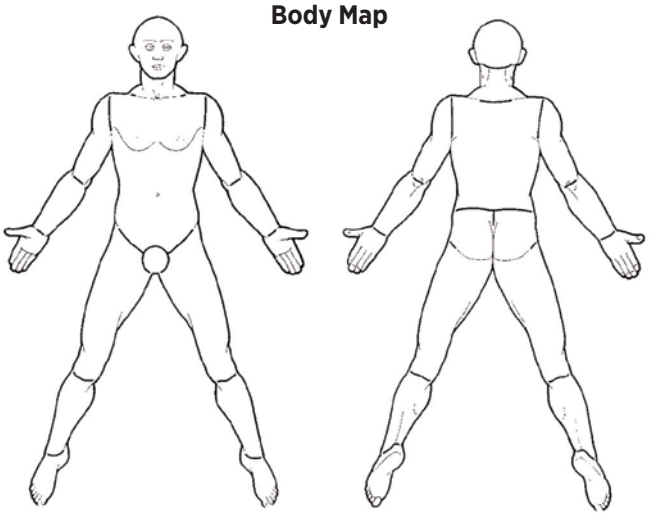
Handout 8.2: Individual Impairment Record Form (IIRF) – Swelling (Edema) Section

(See handout 8.1 for instructions on how to do screen)

Complaints			
Limb feels "heavy," skin feels tight, leathery, hard, itches, burns, tingles, feels numb, feels like ants crawling, feels like pins and needles, painful, feels cold or hot, skin has enlarged wart-type areas.	Yes	R	L
Swelling in arm(s), leg(s), other: _____	Yes	R	L
History			
Previous problems with swelling? When?_____ Where?_____	Yes	R	L
Examination of areas with swelling (edema). Compare both sides.			
Upper Limb (UL) – arm and hand: Raise arms up to shoulder height with elbows extended. Make a tight fist with both hands and observe the knuckles and rest of the upper limb.			
• Knuckles have swelling	Yes	R	L
• Wrist has swelling	Yes	R	L
• Forearm swelling	Yes	R	L
Bend elbows and touch clavicles with each hand. Observe swelling at the bony prominence of the elbow			
• Elbow has swelling	Yes	R	L
• Upper arm has swelling	Yes	R	L
Total number of Yes responses for UL			
Lower Limb (LL) – legs and feet: Sit with knees slightly flexed with feet on the floor. Observe and compare both lower limbs.			
• Toes/feet have swelling	Yes	R	L
• Ankle has swelling	Yes	R	L
• Lower leg has swelling	Yes	R	L
• Knee has swelling	Yes	R	L
• Thigh has swelling	Yes	R	L
Total number of Yes responses for LL			
Other Areas: Compare both sides			
• Face/eyes have swelling	Yes	R	L
• Breast has swelling	Yes	R	L
• Trunk has swelling	Yes	R	L
• Genitalia has swelling	Yes	R	L
• Other areas with swelling: _____	Yes	R	L
Total number of Yes responses for Other Areas			

Key for Recording	
Skin Lesion	
Crack	
Wound	
Scar Location	
Joint with Movement Limitations	
Swelling	
Location of Amputation	

Body Map



Handout 8.3: Swelling and Lymphedema

Note: *If swelling does not go down or lasts longer than three months it may become a permanent condition called lymphedema. Most swelling is caused by damage to the lymph system from trauma, surgery, disease, cancer, paralysis, and chronic venous insufficiency.*

Identify swelling early and take action to decrease the swelling as quickly as possible. This will keep the soft swelling from getting hard.

Patient History	What started the swelling? • Dependent position of limbs for a long period of time standing or sitting • Health condition or disease • Surgery (mastectomy, reconstructive surgery, other) • Surgical removal of lymph nodes and/or radiation • Trauma to tissue destroying multiple lymphatics • After childbirth leg(s) swelled and only reduced a little • After repetitive impact in sports, work or other • Obesity • Repeated deep venous thrombosis • Live in or have visited endemic areas for lymphatic filariasis
Observation and physical exam	Do you see any of these things? (be sure to look at the trunk, head, and neck) • Multiple new or old scars • Increase in fluid retention in tissue near incisions or scars • Decrease in movement (range of motion – ROM) • Decrease in muscle strength • Decrease in sensation • Decrease in function • Fatigue • Way of walking is different
Skin exam	Does the skin feel or look different? • "Hard" (indurated) limbs or areas with pitting that last 30+ seconds or hardly indent (fibrosis) • "Hard" areas do not indent (fibrosis) • "Orange peel" indents (frequent cellulitis or reoccurring skin ulceration) • Lumps, bumps, nodules • Thickening of tissue at base of big toe or middle joint of toe/finger is square in appearance and skin cannot be lifted (Stemmer's sign)
Other exams for lymphedema diagnosis	Referral-level exams: • Ultrasound to see live worms in scrotal lymphatic filariasis • Computed tomography to see number of nodes. If fewer nodes, may be a congenital cause; "lymphatic lakes" seen • MRI • Lymphoscintigraphy – best to see present or non-present lymphatic structures in the extremities. Radioactive material injected into subcutaneous tissues and gamma camera traces radioactive material. (six-hour test)

Step 8: Care for Swelling (Edema)

Handout 8.4: Preventive and Referral Actions for Swelling (Edema)

Preventive Actions	Details
1. Good personal hygiene	• Gently use clean cloth to wash swollen limbs and in between skin folds, fingers and toes with soap and water. • Gently dry the limb and in between skin folds, fingers and toes. • If entry lesions seen between toes/fingers or skin folds, apply topical anti-fungal cream to the affected areas. • Never put tissue paper between folds. If needed, use cloth and change several times a day.
2. Footwear	• Select footwear that protects feet from dirt and injury. • It should fit correctly and adjust to the volume changes of the feet.
3. Elevation (effective only for soft fluid edema)	• Raise the elbow to shoulder height, the hand higher than the heart and the feet higher than the hips as much as possible day and night unless elevation causes pain.
4. Combine strong muscle contraction ("pumping exercise") with elevation of affected limb during the day and at night	See handouts *8.5 and 8.6 Home Self-Care for Edema.* **Upper Limb:** • When sitting or standing try to keep the affected arm and hand higher than the heart. Support arm on back of chair and combine with frequent tight squeezing of affected hand to pump the edema out. • At night, position the affected arm and hand with pillow or foam roll so they are higher than the heart. **Lower Limb:** • When sitting, try to keep the affected leg up combined with moving the foot in circles, up and down, squeezing and stretching toes to pump out swelling. • When standing, frequently go up and down on tiptoes to pump out swelling. • At night, position the affected leg and foot with pillow or foam roll so they are higher than the heart.
5. Move as frequently as possible	• Do daily activities and exercise. • Exercise: Bend at waist to touch floor, reach up with arms stretching the trunk and arms, do "chicken wings" moving arms up and down, tighten buttocks, swing legs forward and backward.
6. Combined breathing, exercise and Manual Edema Mobilization – MEM	See handout *8.8 Foundation for Edema Care* • Combine "belly breathing," exercise and light node stimulation (Manual Edema Mobilization – MEM) at navel, at armpits and hip crease (inguinal) every two hours or as often as possible.
7. Use light compression	• Use constant light pressure on swollen areas using lightweight Lycra®-type sleeves, pants or thin foam with light bandaging from tip of fingers/toes up to arm/leg.

Continues on next page

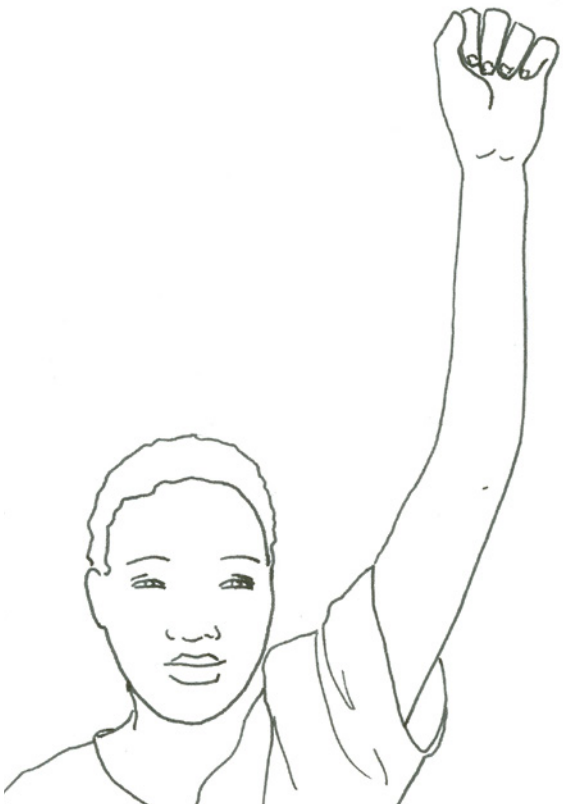
Handout 8.4: Preventive and Referral Actions for Swelling (Edema) (continued)

Preventive Actions	Details
8. "Acute Attack" Signs: Redness of the skin, skin feels warm, pain or tenderness, swelling, headache, fever, vomiting Good hygiene and use of footwear can prevent frequency of "acute attacks"	**Do:** • Cool limb in clean, cool (ice) water. • Take 500 mg paracetamol three times a day if there is a fever. • Wash as usual. • Rest and elevate as much as possible. • If infected, refer immediately for antibiotics. **Do Not:** • Put limb in hot water. • Scratch skin or burst blisters. • Exercise. • Bandage limb.
9. If edema does not respond to elevation and movement	• Refer immediately.
10. If pain or swelling increases	• Refer immediately.

Step 8: Care for Swelling (Edema)

Handout 8.5: Home Self-Care Activities to Reduce Swelling in the Arm and Hand (Home Self-Care for Edema of Upper Limb)

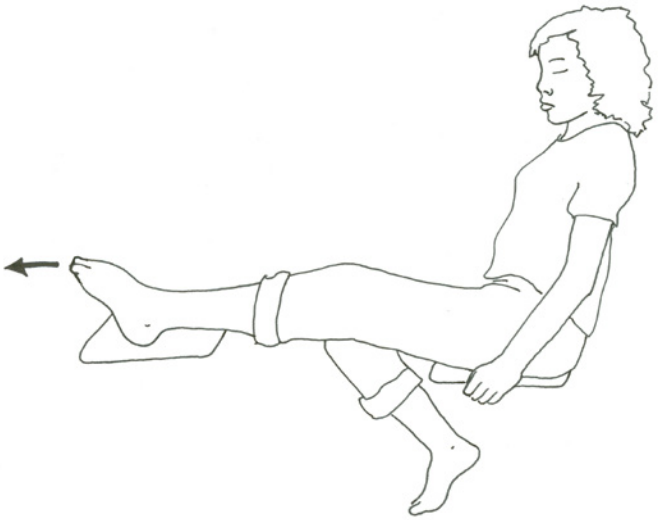
Elevation & Exercise

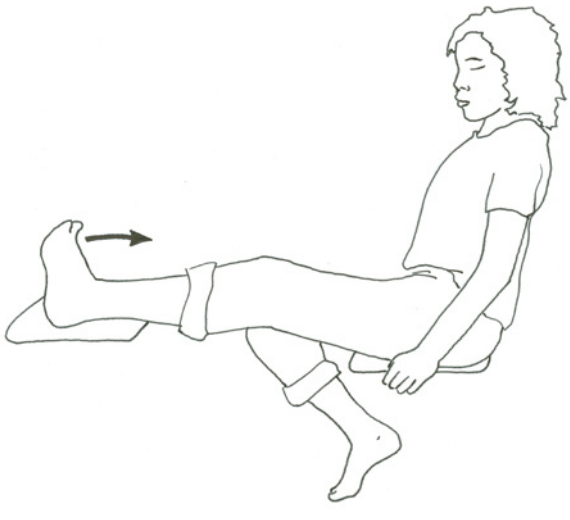


Illustrations: Valerie Simonet and WHO/NTD

Handout 8.6: Home Self-Care Activities to Reduce Swelling in the Leg and Foot (Home Self-Care of Edema of Lower Limb)

Elevation & Exercise



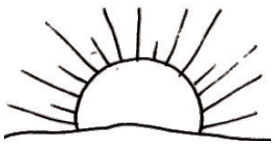
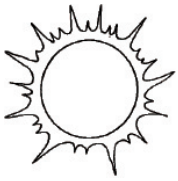


Illustrations: Valerie Simonet and WHO/NTD

Step 8: Care for Swelling (Edema)

Handout 8.7: Home Recording Form for Self-Care Practices

	✓ the activities to be done at home
1. **Elevate and Exercise** – 10 minutes (3–4 songs)	
2. **Move and Stretch** – Stretch 10 seconds x 10 times	
3. **Rest and Stretch** – 10 minutes (3–4 songs)	
4. **Scar Care** – Hydrate, Lubricate, Mobilize Scar, Move, Stretch & Protect	

Start Date: (dd/mm/yy) ____/____/____			
	Morning	**Afternoon**	**Night**
Day 1			
Day 2			
Day 3			
Day 4			
Day 5			
Day 6			
Day 7			
Day 8			
Day 9			
Day 10			
Day 11			
Day 12			
Day 13			
Day 14			

At the end of the 14 days, how is your scar?
(Circle if Better or Worse)

Better 

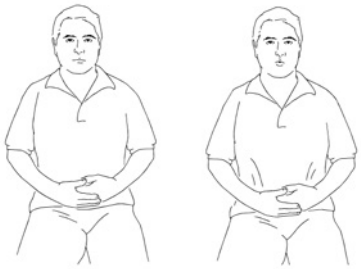
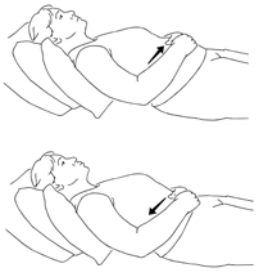
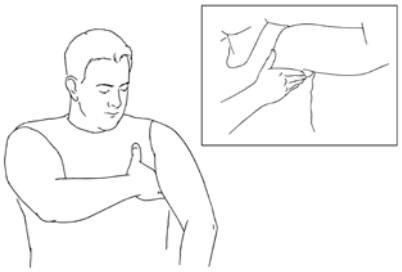
Worse 

Date patient demonstrates to health worker (dd/mm/yy): ____/____/____

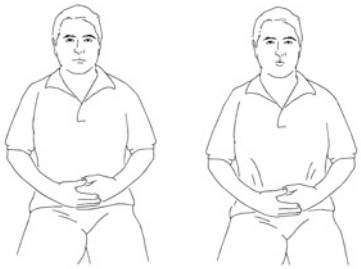
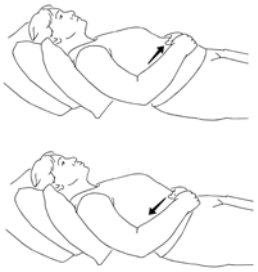
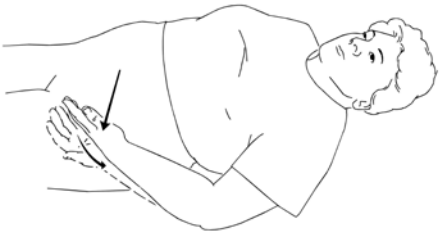
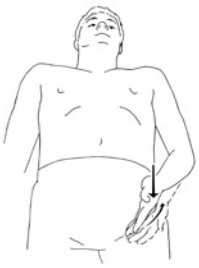
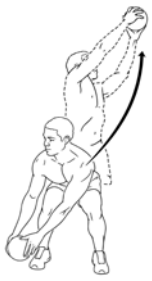
Patient is able to demonstrate self-care correctly? ____Yes or ____No

Reference: Lehman, L. (2012). *Buruli ulcer drug trial protocol: Patient home self-care.* WHO.

Handout 8.8: Foundation for Edema Care – Upper Limb: Manual Edema Mobilization (MEM) – Breathing, Exercise and Self-Massage by Artzberger

1. Diaphragmatic Breathing – "Belly Breathing"		
2. Exercise: Raising Arms Overhead With and Without Cane/Stick		
3. Exercise: Big Diagonal Movements (PNF patterns)		
4. Self-Massage Axilla		
5. Exercise: Chicken Wing Movements		
6. Buttock Squeeze		

Handout 8.9: Foundation for Edema Care – Lower Limb: Manual Edema Mobilization (MEM) – Breathing, Exercise and Self-Massage by Artzberger

1. Diaphragmatic Breathing – "Belly Breathing"		
2. Self-Massage		
3. Exercise: Trunk flexion and extension (Bend to touch floor than stretch arms up as high as possible)		
4. Exercise: Buttocks Squeeze		
5. Exercise: Big Diagonal Movements (PNF patterns)		
6. Exercise: Big Diagonal Movements (PNF patterns)		

STEP 9:

Care for Movement Limitations

Photo credit: Tom Bradley

Step 9: Care for Movement Limitations

Introduction

Higher risk for movement limitations is observed when wounds, burns and/or scars are at or near a joint. Some limitation of movement may also occur when a lesion is not near a joint or is a result of muscle weakness or paralysis. Identifying limitations in movement early and taking immediate action to restore full movement is important, and prevents joint stiffness and contractures. Preserving mobility is key to doing daily activities and participating fully in family, school, work and community life. Teaching the affected person and their family how to do daily movement/exercise helps prevent or restore lost movements. Movement and exercise start at the time of diagnosis, continue during disease-specific treatment and may need to continue for one to two years after the lesion is healed or continue for a lifetime, if there is muscle weakness or paralysis. The participation of the affected person in their self-care and other daily activities is critical for improving movement and strength.

Goal

Identify body structures (eyes, limbs, etc.) at risk for movement limitation early and take action to prevent or improve loss of movement.

Key Messages

1. The goal is to have the movement on the affected side be the same as the unaffected side.
2. Best results come from doing a few exercises many times a day.
3. Frequent movement/exercise is needed even when a wound is present and may need to be continued after the wound is healed.
4. Movement/exercises should be learned and practiced by the affected person or done with assistance from the family/friend/caregiver.
5. Movement/exercise may cause discomfort, but should not cause intense pain.
6. Movement causing severe pain is a sign that movement/exercise is excessive and the exercise needs to be modified.
7. If a limitation in movement increases, the community health worker or nurse should be contacted immediately.

References

- Lehman, L. (2012). *Buruli ulcer drug trial protocol: Patient home self-care.* WHO.
- Lehman, L., et al. (2006). *Buruli ulcer: Prevention of disability/POD.* Geneva: WHO Press. *http://www.who.int/buruli/information/publications/BU-0POD-presentation.pdf*
- Lehman, L., Orsini, B., Fuzikawa, P, Lima, R., & Gonçalves, S. (2009). *Para Uma Vida Melhor: Vamos Fazer Exercicios.* (2nd ed.) American Leprosy Missions and ILEP, 1997 Belo Horizonte, MG Brasil.
- Simonet, V. (2008). *Prevention of disability in Buruli ulcer: Basic rehabilitation.* Geneva: WHO Press. *http://whqlibdoc.who.int/hq/2008/WHO_HTM_NTD_IDM_GBUI_2008.1_eng.pdf*

A Quick Supervisory Checklist for Step 9

Care of Swelling	Yes	No	Not Obs	Observations & Recommendations
1. Identifies Limitation of Movement (LOM) comparing affected with unaffected side				
2. Begins movement and exercise at diagnosis and continues during daily activities				
3. Positions, if necessary, during day and night to improve movement				
4. Monitors if strength, movement and ability to do daily activities is better or worse and refers to rehabilitation specialist when necessary				
5. Restricts movement following skin graft or restricts movement immediately following tendon transfer according to surgeon's protocol				
Teaches affected person and caregiver how to:				
6. Improve strength and movement through daily activities, exercise and positioning				

Guidelines for Teaching the Module

Health Coach/Facilitator should use the local language and ensure that all terms are found in the local language.

Estimated time to teach the task: 3–4 hours

Learning Objectives

At the end of the module, participants will be able to:

1. Demonstrate normal body movements.
2. Identify body structure at risk for movement limitations; e.g., when a wound is on or near a joint, when there is muscle weakness or paralysis.
3. Identify movement limitations by comparing both sides of the body.
4. Count and record the number of areas with movement limitation.
5. Implement movement/exercise within games, daily activities, etc. so that mobility is improved or preserved.
6. Know when movement/exercise should not be done.
7. Know when mobility difficulties and movement limitations need the help of a rehabilitation specialist.

Step 9: Care for Movement Limitations

List of Teaching Activities and Learning Materials

Activity 1

Normal Movement

Activity 2

Identifying and Recording Movement Limitations

Activity 3

Preventing Movement Limitations and Providing Care for Persons with Movement Limitations

Activity 4

Managing "At Risk" Situations to Prevent or Minimize Movement Limitations (positioning and exercise)

Handouts

- 9.1 Instructions for Screening Movement Limitations
- 9.2 Individual Impairment Record Form (IIRF) – Limitation of Movement (LOM) Section
- 9.3 Actions to Prevent Movement Limitations
- 9.4 Community Care for Movement Limitations or Referral
- 9.5 Home Self-Care Activities to Move and Stretch Arms and Hands
- 9.6 Home Self-Care Activities to Move and Stretch Legs and Feet
- 9.7 Home Self-Care Activities to Rest and Stretch Arms and Hands
- 9.8 Home Self-Care Activities to Rest and Stretch Legs and Feet
- 9.9 Home Self-Care Exercises for Persons Affected by Hansen's Disease (Leprosy)
- 9.10 Home Recording Form for Self-Care Practices
- 9.11 Instructions for Activity 4 – Managing "At-Risk" Situations to Prevent or Minimize Movement Limitations Through Positioning and Exercise

Activity 1: Normal Movement

Handouts

- None

Equipment & Materials

- None

Instructions for Teaching the Activity

Room Arrangement: Participants stand in a circle allowing enough space to do movements.

1. **Health Coach explains that the groups will learn normal joint movements by starting at the head and working down to the toes.**

2. **Starting at the head/neck, the Health Coach asks one participant to demonstrate one motion. Other participants are asked to show any other motions for that joint before moving to the next joint.**

3. **Health Coach will demonstrate any movements that are missed by the group.**

4. **All participants do the joint movements.**

Activity 2: Identifying and Recording Movement Limitations

Handouts

- 9.1 Instructions for Screening Movement Limitations
- 9.2 Individual Impairment Record (IIRF) – Movement Limitation Section

Equipment & Materials

- Flip chart stand and paper
- 4–6 colored markers

Instructions for Teaching the Activity

Room Arrangement: Participants sit in a semicircle.

1. **Health Coach asks one or two participants to explain and demonstrate how to identify a movement limitation.**

2. **Health Coach will correct or reinforce the rule to compare both sides to determine limitation of movement/loss of motion (LOM).**

3. **Health Coach distributes handouts: *9.1 Instructions for Screening Movement Limitations* and *9.2 IIRF – Movement Limitation Section.***

4. **Health Coach demonstrates the set of standard movements for the Upper Limb and Lower Limb that are described on the screening form.**

5. **Participants practice doing the standard movements described on the screening form.**

6. **Health Coach reviews the handouts and shows participants how to record LOM on the recording form.**

7. **Health Coach asks three or four participants to give examples of what conditions increase the risk for LOM.**

8. **Health Coach reinforces the following:**
   - A wound, burn or scar at or near a joint increases the risk for LOM.
   - If no lesion is present at or near a joint, some limitation may also occur when adhesions are present (sticking of underlying soft tissues that limit movement and cause pain).
   - Always evaluate LOM by comparing both sides.
   - Movement/exercise must be started early (when problem identified) during treatment and may need to continue after the injury/wound has healed (lifelong).
   - Movements affecting a graft must be avoided the first 10 days after skin grafting.
   - If there is a severe LOM or if LOM is getting worse, the person needs to be referred, preferably to a specialist (physiotherapist and/or surgeon).

Step 9: Care for Movement Limitations

Activity 3: Preventing Movement Limitations and Providing Care for Persons with Movement Limitations

Handouts

- 9.3 Actions to Prevent Movement Limitations
- 9.4 Community Care for Movement Limitations or Referral

Equipment & Materials

- Flip chart stand and paper
- 4–6 colored markers
- 1 blank flip chart paper for each group
- 1 marker per group

Instructions for Teaching the Activity

Room Arrangement: Initially, participants sit in semicircle. Later participants are divided into groups of four persons to a group.

1. **Health Coach starts at one end of semicircle and asks each participant to name something that can prevent movement limitations without repeating what another participant has said.**

2. **Health Coach or volunteer participant records responses on flip chart.**

3. **Health Coach distributes the handout *9.3 Actions to Prevent Movement Limitations* to participants and asks them to compare their responses recorded on the flip chart to responses on handout *9.3*.**

4. **The Health Coach divides the paper on the flip chart into three columns with each column labeled: 1. Problems that can affect movement, 2. What can be done at the community level and 3. What needs to be referred.**

5. **Health Coach asks participants to list on the flip chart problems that can affect movement. Responses are recorded under the number 1 column.**

6. **Health Coach divides participants in groups with four persons per group and gives each group a blank sheet of flip chart paper and a marker.**

7. **Each group is asked to look at each problem listed and decide what can be done about the problem within the community and what should be referred. Responses are recorded on the flip chart paper.**

8. **Each group presents to the large group. A summary of all the groups' responses are recorded on the flip chart under columns 2 and 3.**

9. **The Health Coach distributes the handout *9.4 Community Care for Movement Limitations or Referral*.**

10. **Participants are asked to review handout *9.4* and complete any information missing from the responses that were recorded on the flip chart.**

11. **Health Coach reinforces:**
    - The need to identify mobility difficulties or problems that can cause movement limitation and take action.
    - The importance of involving and empowering the affected person and caregiver to do daily exercise and finding solutions for mobility difficulties.
    - The importance of encouraging the person to participate and do daily activities.

Activity 4: Managing "At Risk" Situations to Prevent or Minimize Movement Limitations (positioning and exercise)

Handouts

- 9.5 Home Self-Care for Moving & Stretching the Upper Limb
- 9.6 Home Self-Care for Moving & Stretching the Lower Limb
- 9.7 Home Self-Care for Resting & Stretching the Upper Limb
- 9.8 Home Self-Care for Resting & Stretching the Lower Limb
- 9.9 Home Self-Care Exercises for Persons Affected by Hansen's Disease (Leprosy)
- 9.10 Home Recording Form for Self-Care Practices
- 9.11 Instructions for Activity 4 – Managing "At-Risk" Situations to Prevent or Minimize Movement Limitations Through Positioning and Exercise

Equipment & Materials

- Flip chart stand and paper
- 4–6 colored markers

Write body parts on small pieces of paper as detailed on handout, fold in half and place in one container for participants to select

- Marker pens for drawing wound on specific body part OR use pieces of paper
- Paper tape
- 2 chairs
- Plastic to lay on the floor
- Cane stick/Round stick/Dowel rod (wood or PVC) – cut to 60cm in length
- Cord to use to make foam rolls when needed
- Cord 1 m in length to attach empty plastic water bottles to stick
- Empty plastic water bottles, large and small
- 2 clean cloth rolls 15cm x 2m
- Ball
- Used double bed flat sheet
- 2 furniture foam (approximately 3cm x 15cm x 1m)
- 1 furniture foam (approximately 20cm x 50cm x 50cm)
- 1 pair scissors
- 1 utility or serrated knife

Instructions for Teaching the Activity

Room Arrangement: Initially, participants sit in a semicircle. Later, the Health Coach divides the participants into pairs.

1. **Health Coach distributes the following handouts: *9.5 Home Self-Care for Moving & Stretching the Upper Limb, 9.6 Home Self-Care for Moving and Stretching the Lower Limb, 9.7 Home Self-Care for Resting and Stretching the Upper Limb, 9.8 Home Self-Care for Resting and Stretching the Lower Limb, 9.9 Home Self-Care Exercises for Persons Affected by Hansen's Disease (Leprosy), 9.10 Home Recording Form for Self-Care Practices*.**

2. **Health Coach reviews home self-care handouts and practices exercises with the participants.**

3. **Health Coach distributes the handout *9.11 Instructions for Activity 4 – Managing "At-Risk" Situations to Prevent or Minimize Movement Limitations Through Positioning and Exercise*.**

4. **Health Coach and participants use the instructions on handout *9.11* to do activity 4.**

5. **Health Coach summarizes and provides coaching insights:**
   - Include caregivers/family members when teaching the affected person the exercises and how to monitor for changes.
   - Assistance: Either the affected person assists themselves with their unaffected side or another person helps to do movement/exercise.
   - Home exercises should be done as often as possible during the day.
   - Movement causing severe pain is a sign that movement/exercise needs to be modified.
   - If there is a severe LOM or if LOM is getting worse, the person needs to be referred, preferably to a specialist (physiotherapist and/or surgeon).

Step 9: Care for Movement Limitations

Conclusion

In conclusion, the Health Coach summarizes key messages and clarifies any misconceptions.

Handout 9.1: Instructions for Screening Movement Limitations

Preparation for screening swelling:

Gather together equipment and supplies: IIRF form, pen or pencil.

Wash hands with soap and water before and after each screen.

Dominant side	Ask: Which side do you prefer to use for writing, eating, working? **Record on IIRF form:** Circle right or left.
Complaints	**Ask**
Patient or family complaints or observations	Do you currently have difficulty with movement? If yes, what movements are difficult? **Record on IIRF form:** Circle , Yes, R and/or L. Write which movement(s) are difficult.
History	**Ask**
Previous injury or problem causing movement limitations	Have you ever had an injury or problem that affected your ability to move? If yes, explain what kind of injury or problem. Where and what kind of movement difficulty? **Record on IIRF form:** Circle Yes, R and/or L and write explanation. Mark location on body chart.
Areas with Limitation of Movement (LOM)	**Compare both sides of the body to identify a movement limitation. Follow the set movement procedures:**
Upper Limb (UL): Raise arms up to shoulder height with elbows extended. Make a fist with both hands (curl fingers down), move wrist up and down. Open hands (curl fingers up) and show the palms of the hands, spreading fingers out and then bring fingers together. Turn hands over (palms up) and lift thumbs up. Bend elbows so that the hands can touch the back of the shoulders. Extend arms out to each side with thumbs up. Raise arms up above head until hands touch.	
Upper Limb (UL)	Is there LOM of thumb, hand/fingers, wrist, elbow or shoulder? **Record LOM on IIRF form:** Circle Yes, R and/or L. Record total number of Yes responses for LOM UL. Mark area with LOM on body chart.
Lower Limb (LL): Sit in a chair with legs extended. Curl toes down and straighten. Sit with knees slightly bent with soles of the feet on the ground. Keep heels on the ground while raising feet. Press toes down while lifting the heels off the ground. Lay on stomach with feet off the edge of table/bed. Slowly bend knees to touch heels as close as possible to the buttocks then straighten the legs. Observe the hips: Do they stay flat or lift up? If the hip(s) lift(s) up there is a limitation at the hip.	
Lower Limb (LL)	Is there LOM of toes, ankle, knee or hips? **Record LOM on IIRF form:** Circle Yes, R and/or L. Record total number of Yes responses for LOM LL. Mark area with LOM on body chart.
Other: Trunk, head and neck (including eyes), mouth and other	
Other	Is there LOM of trunk, head (including eyes) and neck, mouth and other? **Record LOM on IIRF form:** Circle Yes, R and/or L. If other, record the other. Record total number of Yes responses for other. Mark area with LOM on body chart.

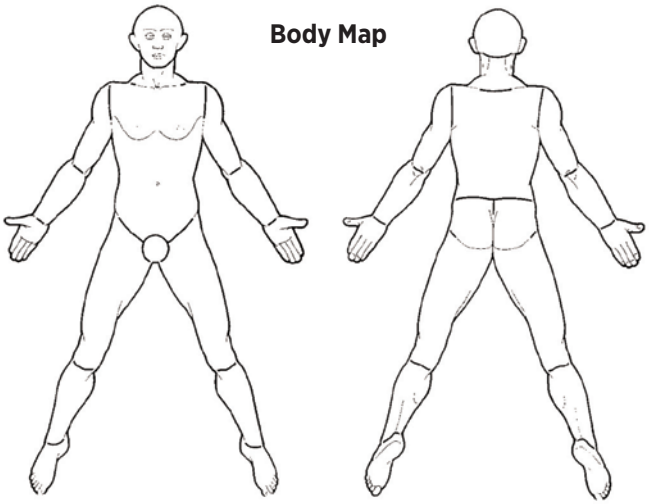
Handout 9.2: Individual Impairment Record Form (IIRF) – Limitation of Movement (LOM) Section

Dominant side: Right dominant | Left dominant

Complaints			
Do you currently have difficulty with movement? If yes, what movements are difficult? _____	Yes	R	L
History			
Previous injury or problem causing movement limitations? Explain: _____	Yes	R	L
Examination of areas for LOM (limitations of movement). Compare both sides.			
Upper Limb (UL) – arms and hands: Raise arms up to shoulder height with elbows extended. Make a fist with both hands (curl fingers down), move wrist up and down. Open hands (curl fingers up) and show the palms of the hands, spreading fingers out and then bring fingers together. Turn hands over (palms up) and lift thumbs up. Bend elbows so that the hands can touch the back of the shoulders. Extend arms out to each side with thumbs up. Raise arms up above head until hands touch.			
• Thumb movement is less? spread fingers, lift thumb	Yes	R	L
• Hand/finger movement is less? fingers out/in, curl fingers down/up	Yes	R	L
• Wrist movement is less? wrist up/down	Yes	R	L
• Elbow movement is less? bend/straighten	Yes	R	L
• Shoulder movement is less? arms to front up/down, side up/down	Yes	R	L
Total number of Yes LOM responses for UL			
Lower Limb (LL) – legs and feet: Sit in a chair with legs extended. Curl toes down and straighten. Sit with knees slightly bent with soles of the feet on the ground. Keep heels on the ground while raising feet. Press toes down while lifting the heels off the ground. Lay on stomach with feet off the edge of table/bed. Slowly bend knees to touch heels as close as possible to the buttocks then straighten the legs. Observe the hips: Do they stay flat or lift up? If the hip(s) lift(s) up there is a limitation at the hip.			
• Toe movement is less? curl/straighten	Yes	R	L
• Ankle movement is less? sit with knees bent, move foot up/down	Yes	R	L
• Knee movement is less? lay on stomach, bend and straighten knees	Yes	R	L
• Hip movement is less? lay on stomach, hip lifts up when knees are bent	Yes	R	L
Total number of Yes LOM responses for LL			
Other Movements. Compare both sides.			
• Trunk movement is less? bend forward/backward, side to side, twist side to side	Yes	R	L
• Head (include eyes) and neck movement is less? rotate, bend to each side, close and open eyes	Yes	R	L
• Mouth movements less? open, close, blow out, side-to-side movement	Yes	R	L
• Other movement: _____ is less?	Yes	R	L
Total number of Yes LOM responses for Other Areas			

Key for Recording	
Skin Lesion	
Crack	
Wound	
Scar Location	
Joint with Movement Limitations	
Swelling	
Location of Amputation	

Body Map



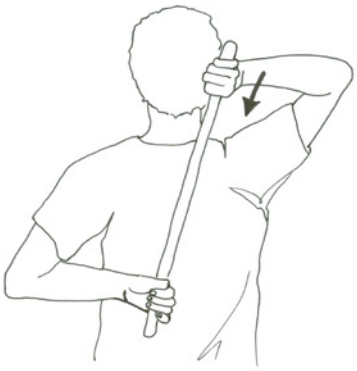
Handout 9.3: Actions to Prevent Movement Limitations

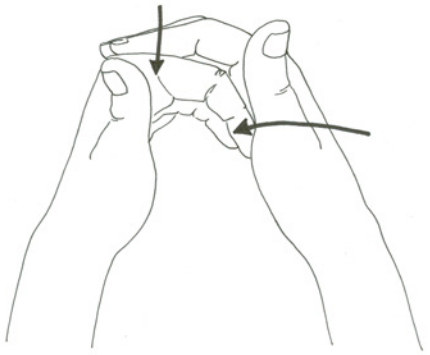
Preventive Actions	Details
1. Identify if the location of lesion (scars, injury, wounds, ulcers) is at or near a joint.	• Identify limitation early and take action. Ask patient to do body movements with both sides of the body and compare one side with the other. • If the movement is less, take action with exercises and positioning to regain or improve movement to look the same as the other side. • Avoid habits that may be comfortable but can cause loss of full movement. For example sitting or lying in bed with elbows bent, hips and knees bent, or with feet and toes downward or pulled down with bed covers. • Teach affected person and caregiver daily home/bedside exercises and positioning to make affected part move the same as the unaffected part.
2. Keep skin and scars soft and flexible.	• Hydrate and lubricate skin and scars to keep them from cracking during daily activities and exercise.
3. Reduce or prevent swelling. 4. Reduce or prevent pain.	• Reduce swelling and pain as quickly as possible. It will make movement easier and less painful. • Elevate the swollen parts and move often. • Wrap with light compressive dressings. • Affected person is taught to do appropriate positioning and exercise within his/her pain tolerance in a home and/or bedside self-care program. • Exercise shorter periods of time and more frequently. • If pain and/or swelling increases 15 minutes after exercise, the exercise time and resistance should be reduced. • If there is great pain when touching and/or moving the affected part, the patient should be referred for x-ray and consult a specialty doctor.
5. Movement does not improve or becomes worse even when exercises, positioning and activities are done at home and health center.	• Refer to a specialist (physiotherapist, surgeon) for evaluation and assistance with rehabilitation program.
6. "Clawed" fingers with cracks.	• Stretch and straighten flexible "clawed" fingers using rubber-tubing cut in half. Place on the finger to open it to its full length during healing and protect it from further injury or infection. – Remove and clean rubber tubing daily prior to bathing and exercise. – Replace clean tubing on the finger until healed. – Teach affected person to maintain full passive movement with daily stretching exercises. • If tight "clawing" of fingers makes them difficult to straighten, **refer as soon as possible:** – For therapist or nurse to apply a progressive plaster finger splint to slowly open fingers. – Change splints daily or every other day, after stretching exercises are done. – Teach affected person to maintain full passive movement with daily stretching exercises.

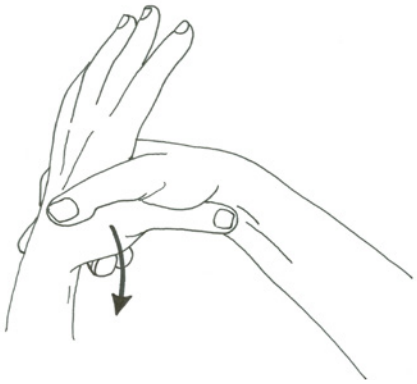
Handout 9.4: Community Care for Movement Limitations or Referral

Problems Identified on Movement Limitations Screen	Community Care for Movement Limitations	Contact Supervisor and Refer for Clinical Exam, Diagnosis and Other
1. Location of injury. Wound is at or near a joint	• Encourage participation in daily activities and move as much as possible.	
2. Limitation of movement identified	• If the movement is less on the affected side, take early action with exercises and positioning to regain or improve movement to look the same as the other side. • Teach affected person and caregiver daily home/bedside exercises to make affected part move the same as the unaffected part. • Avoid habits that can cause further limitations.	If no improvements with good home and community care in **two to four weeks**, refer to a specialist (physiotherapist, surgeon) for evaluation and assistance with rehabilitation. If further loss of motion occurs, **refer as soon as possible**.
3. Dry skin/cracks	• Soak and moisturize daily to prevent cracking during daily activities and exercise. • If cracks are on flexible "clawed" fingers, stretch or straighten fingers with rubber tubing cut in half. This will protect it from further injury or infection. a. Remove and clean rubber tubing daily prior to bathing and exercise. b. Replace clean tubing on the finger until healed. c. Teach affected person to maintain full passive movement with daily stretching exercises.	If deep cracking with or without infection, **refer as soon as possible**. If tight "clawing" of fingers makes them difficult to straighten, **refer as soon as possible:** • For therapist or nurse to apply a progressive plaster finger splint to slowly open fingers. • Change splints daily or every other day, after stretching exercises are done. • Teach affected person to maintain full passive movement with daily stretching exercises.
4. Dry scars	• Soak and moisturize daily, cover with plastic wrap for 15 minutes. • Massage to free the scar. • Move and stretch the area affected by the scar. • Protect from sun and injury.	If no improvements with good community care in **one to two months**, refer. If deep cracking or further loss of motion occurs, **refer as soon as possible**.
5. Swelling	• Practice good personal hygiene. • Elevate as much as possible day and night unless elevation causes pain. • Do strong pumping exercise frequently. • Use light compression bandages.	If pain and/or swelling increases, **refer immediately**.
6. Pain	• Affected person is taught to do appropriate positioning and exercise within his/her pain tolerance in a home and/or bedside self-care program. • Avoid forceful passive exercises to increase joint movement. • Exercise shorter periods of time and more frequently. • Gradually increase the use of weights in exercise or resistance in activities.	**Refer immediately**, if there is great pain when touching the affected part and with movement. An x-ray needs be done (osteomyelitis, fracture).

Handout 9.5: Home Self-Care Activities to Move and Stretch Arms and Hands



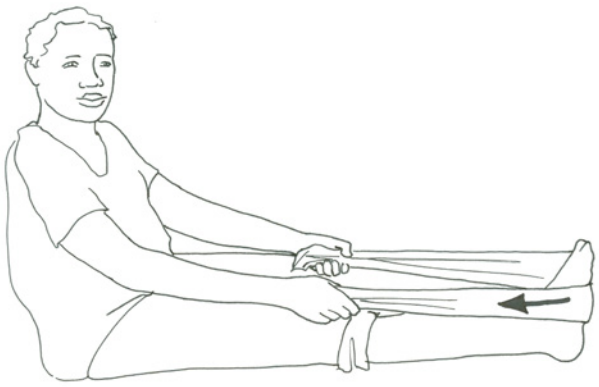


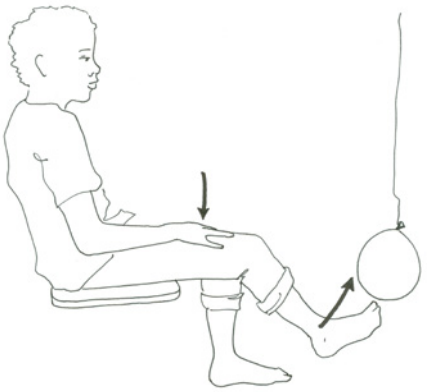


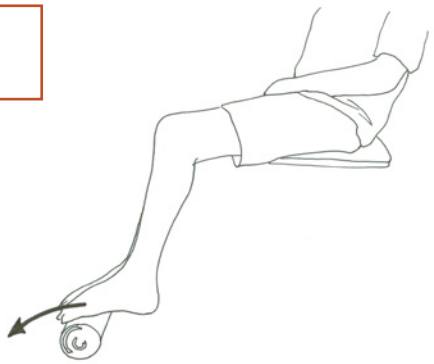
Illustrations: Valerie Simonet and WHO/NTD

Step 9: Care for Movement Limitations

Handout 9.6: Home Self-Care Activities to Move and Stretch Legs and Feet

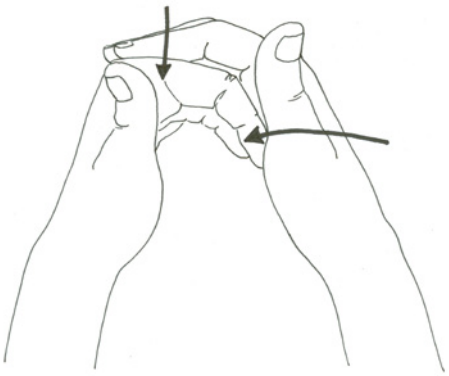


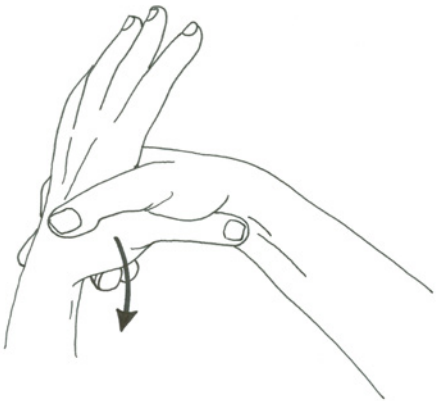


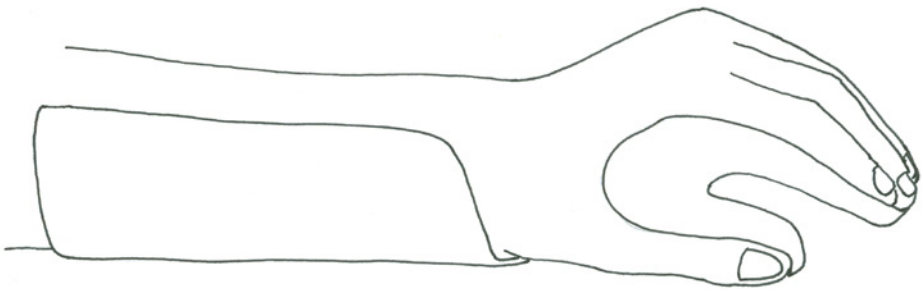


Illustrations: Valerie Simonet and WHO/NTD

Handout 9.7: Home Self-Care Activities to Rest and Stretch Arms and Hands



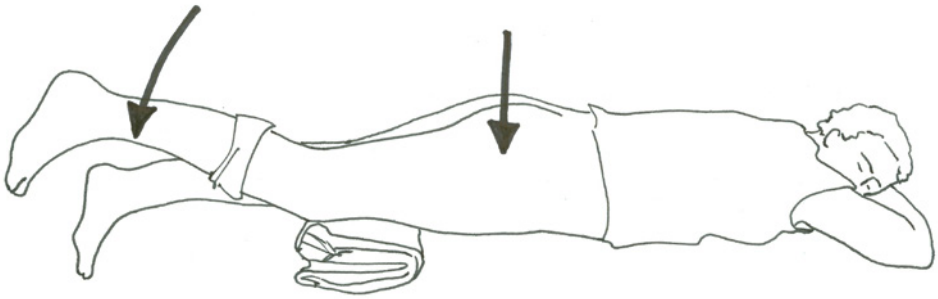


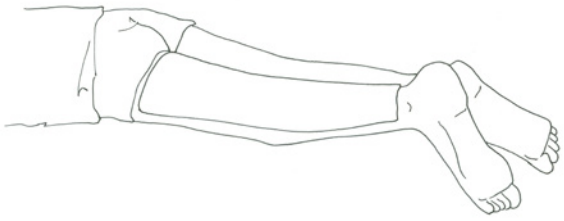


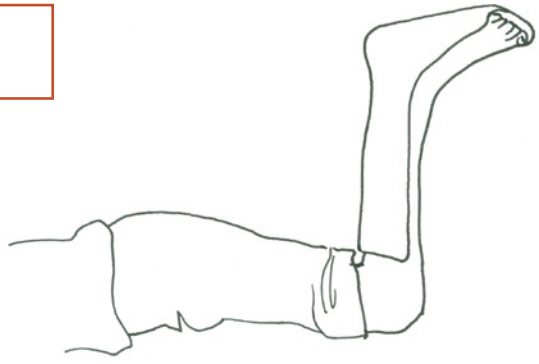
Illustrations: Valerie Simonet and WHO/NTD

Step 9: Care for Movement Limitations

Handout 9.8: Home Self-Care Activities to Rest and Stretch Legs and Feet

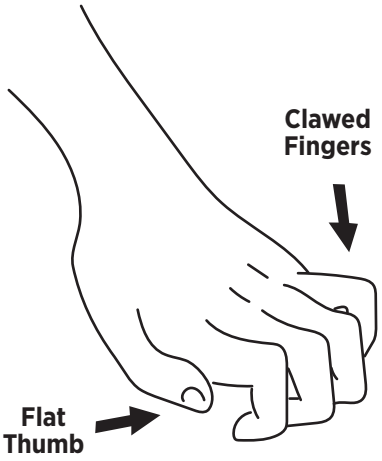
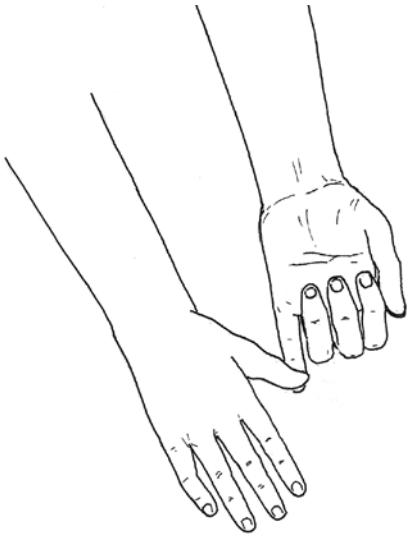
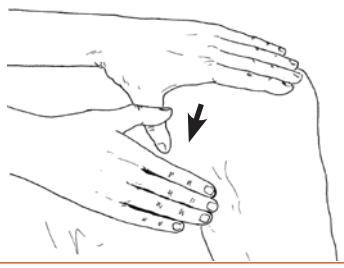
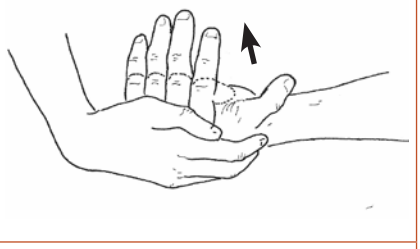
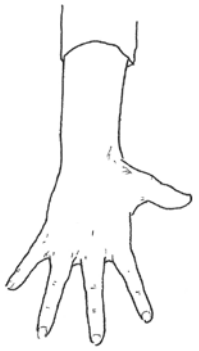
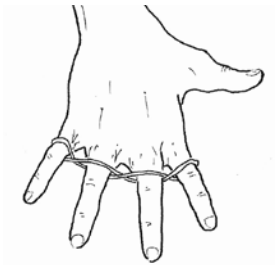
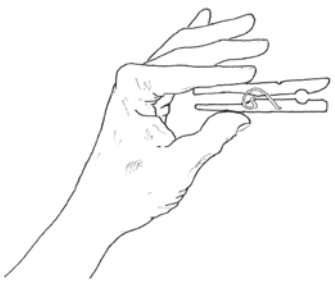






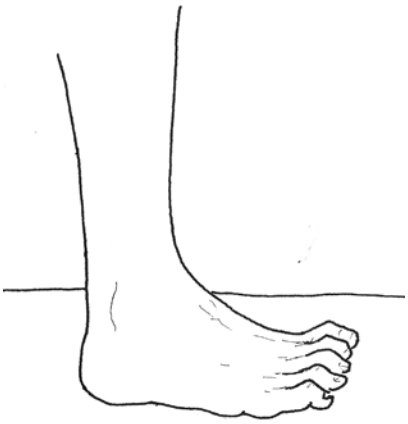
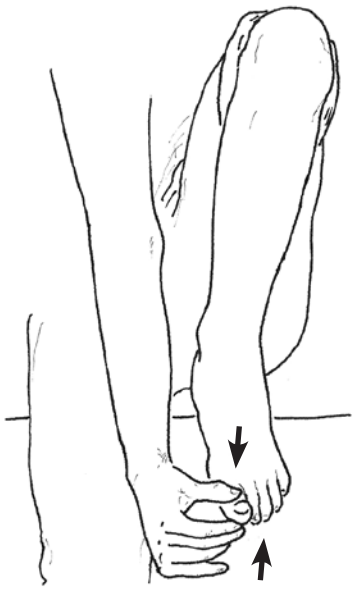
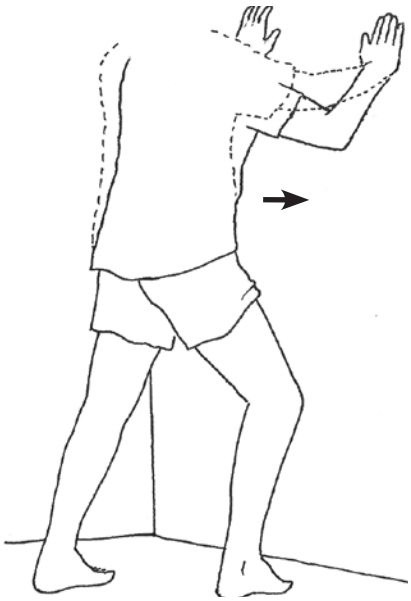
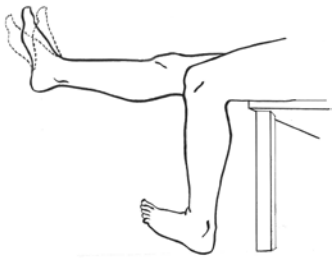
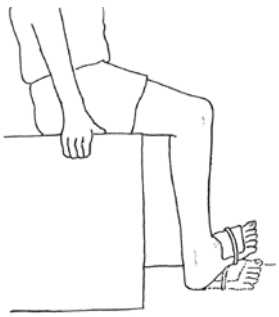
Illustrations: Valerie Simonet and WHO/NTD

Handout 9.9: Home Self-Care Exercises for Persons Affected by Hansen's Disease (Leprosy)

Problem	Excercise
Eye Weakness or Paralysis Difficulty closing the eye 	
Hand Weakness or Paralysis Difficulty straightening fingers and thumb, separating fingers and pinching 	      

Reference: Adapted from: Lehman, L., Orsini, B., Fuzikawa, P, Lima, R., & Gonçalves, S. (2009). *Para Uma Vida Melhor: Vamos Fazer Exercicios.* (2nd ed.). American Leprosy Missions and ILEP, 1997 Belo Horizonte, MG Brasil.

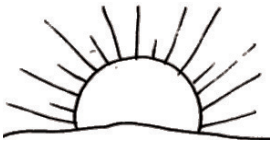
Handout 9.9: Home Self-Care Exercises for Persons Affected by Hansen's Disease (Leprosy) (continued)

Problem	Excercise	
Toe Weakness or Paralysis Difficulty straightening toes 		
Foot Weakness or Paralysis Difficulty lifting foot 		 

Reference: Adapted from: Lehman, L., Orsini, B., Fuzikawa, P, Lima, R., & Gonçalves, S. (2009). *Para Uma Vida Melhor: Vamos Fazer Exercicios.* (2nd ed.). American Leprosy Missions and ILEP, 1997 Belo Horizonte, MG Brasil.

Handout 9.10: Home Recording Form for Self-Care Practices

	✓ the activities to be done at home
1. **Elevate and Exercise** – 10 minutes (3–4 songs)	
2. **Move and Stretch** – Stretch 10 seconds x 10 times	
3. **Rest and Stretch** – 10 minutes (3–4 songs)	
4. **Scar Care** – Hydrate, Lubricate, Mobilize Scar, Move, Stretch & Protect	
5. Exercises for Persons Affected by Hansen's Disease (Leprosy)	

Start Date: (dd/mm/yy) ____/____/____	 **Morning**	 **Afternoon**	 **Night**
Day 1			
Day 2			
Day 3			
Day 4			
Day 5			
Day 6			
Day 7			
Day 8			
Day 9			
Day 10			
Day 11			
Day 12			
Day 13			
Day 14			

At the end of the 14 days, how is your scar?
(Circle if Better or Worse)

Better 

Worse 

Date patient demonstrates to health worker (dd/mm/yy): ____/____/____

Patient is able to demonstrate self-care correctly? ____Yes or ____No

Reference: Lehman, L. (2012). *Buruli ulcer drug trial protocol: Patient home self-care.* WHO.

Handout 9.11: Instructions for Activity 4 – Managing "At-Risk" Situations to Prevent or Minimize Movement Limitations Through Positioning and Exercise

Instructions for Health Coach & Participants

1. **Health Coach lays out materials for the activity on a front table.**

2. **Health Coach writes locations of the lesion (wound, burn, scar) or muscle paralysis on 21 individual pieces of paper using the list provided in the table below.**

3. **Fold papers in half and put into one container. Mix well.**

4. **Health Coach divides group into pairs.**

5. **Health Coach chooses a piece of paper from the container, then all participants choose a piece of paper from the container.**

6. **Health Coach demonstrates what participants are supposed to do using the piece of paper selected.**

7. **The Health Coach then asks for pairs to work together for 20 minutes to discuss the body location written on their piece of paper. Each pair will decide how to demonstrate correct positioning and exercise for their situation. Health Coach reminds pairs to demonstrate using available materials.**

8. **Participants tape paper to the body area indicated on the paper or draw a circle on the location with a marker. Each pair will present their specific situations and respond to the following questions:**
   - Which direction is the pull when a crack, wound, burn or scar is healing at this location?
   - Which direction is the pull if there is muscle weakness or paralysis?
   - What is the best position during the day and at night to prevent joint tightness?
   - What exercise or movement will stretch the body opposite the directions of pull of healing wounds or pulls from weak or paralyzed muscles?

9. **Each pair will present their situation to the whole group by answering the questions and demonstrating the positioning and exercise/ movement needed.**

10. **At the end of each pair's presentation, all participants fill out information on the table below. If there are some body part locations not presented, the Health Coach and participants will discuss the missing information, so the table can be completed at the end of the activity 4. It can also be given as homework to be completed for the next day.**

Location of Lesion			
Arm & Hand Location	**Direction of pull when wound is healing**	**Best position during day and night**	**Exercise to maintain or regain full movement**
1. Front and inner side of shoulder and armpit (axilla)			
2. Front of elbow			
3. Back of elbow			
4. Front of wrist			
5. Back of wrist			
6. Thumb web space			
Arm & Hand Location	**Direction of pull when muscle is weak/paralyzed**	**Best position during day and night**	**Exercise to maintain or regain full movement**
7. Clawed fingers and flat thumb from weak/paralyzed muscles			
Leg & Foot Location	**Direction of pull when wound is healing**	**Best position during day and night**	**Exercise to maintain or regain full movement**
8. Upper inside part of thigh near genitalia			
9. Front of knee			
10. Back of knee			
11. Top of ankle			
12. Back of heel, including heel cord			
13. Top (dorsum) of foot and toes			
Leg & Foot Location	**Direction of pull when muscle is weak/paralyzed**	**Best position during day and night**	**Exercise to maintain or regain full movement**
14. Drop foot from weak/ paralyzed muscles			
15. Clawed toes from weak/ paralyzed muscles			
Other Body Location	**Direction of pull when wound is healing**	**Best position during day and night**	**Exercise to maintain or regain full movement**
16. Side of face extending to mouth			
17. Front of neck			
18. Back of neck			
19. Front of trunk including chest and stomach			
20. Lateral side of trunk extending from armpit (hollow of arm) to top of hip.			
Other Location	**Direction of pull when muscle is weak/paralyzed**	**Best position during day and night**	**Exercise to maintain or regain full movement**
21. Inability to close eye due to weak/paralyzed muscles			

STEP 10:
Use Protective Footwear

Photo credit: Dennis Janisse

Step 10: Use Protective Footwear

Introduction

Basic footwear keeps the feet clean, comfortable, cushioned and protected. Wearing footwear prevents contact with dirt, germs, hot/cold and rough surfaces, and foreign debris (chemicals, sand, rocks, glass, nails, etc.). Footwear also protects the feet from injuries. Pain and areas of pressure can be reduced when appropriate footwear and accommodative insoles are used. Footwear should be comfortable and adjust for swelling, loss of motion and unusual shapes of the toes and feet.

People without feeling in their feet are often unaware of objects inside the footwear or foot injuries because they can't feel pain. Therefore, people without feeling in their feet need to check daily their feet and the inside of the footwear. Good foot care combines the wearing of appropriate footwear with the practice of good skin and nail care of the feet. Identifying early signs of skin damage (redness, warmth, callus, crack, blister, small wounds) and taking immediate action to rest, relieve pressure and/or go for help will help injured areas or wounds heal faster without complications.

It is important to learn how to select footwear. Footwear needs to be periodically cleaned, repaired and replaced. The following are considerations when selecting footwear:

- Match the footwear to the specific foot needs
- Fit the footwear to the foot
- Know what footwear to avoid
- Identify local footwear that is appropriate, affordable and, as much as possible, esthetically pleasing to the person using the footwear

Sometimes the person will need to be referred for custom footwear, assistive technology to facilitate walking or surgery. People who have or have had a history of a wound on the sole of the foot and/or have unusually shaped toes or feet may need to be referred for custom-made shoes and insoles or orthotics. Persons with a drop foot can use an assistive device to help them lift the toes during walking and protect their foot from injury. Referral for surgical correction of the foot may also be needed. Remember that using properly fitting footwear is a key element of good foot care and is effective in preventing disease, injury and infection.

Goals

Select and wear footwear that protects the feet and meets specific foot needs.

Repair and replace worn footwear and special footwear when needed.

Key Messages

1. Using footwear can reduce infections and injuries.
2. At-risk feet with sensory loss need good daily self-care practices along with adequate protective footwear.
3. Unusual foot shapes may require custom-made and fit footwear.

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Step 10: Use Protective Footwear

A Quick Supervisory Checklist for Step 10

Use Footwear	Yes	No	Not Obs	Observations & Recommendations
1. Checks to see if adequate footwear is used for disease and injury prevention				
2. Identifies person with sensory loss to sole of feet who is at risk of injury				
3. Assures footwear is repaired and adapted as needed				
Teaches affected person and caregiver how to:				
4. Select appropriate footwear that is available at the local level				
5. Inspect and clean footwear daily as part of daily foot self-care practices				

Guidelines for Teaching the Module

Health Coach/Facilitator should use the local language and ensure that all terms are found in the local language.

Estimated time: 2–3 hours

Learning Objectives

At the end of the module, participants will be able to:

1. Describe the benefits of using footwear and when footwear should be used
2. Demonstrate how to check fit of footwear and select properly fitting footwear
3. Identify which feet are at risk of injury and in need of footwear
4. Identify which feet need to be referred for assistive devices and/or custom-made footwear and insoles

List of Teaching Activities and Learning Materials

Activity 1

Who Needs Footwear?

Activity 2

Does the Shoe Fit? Sandals, Shoes, Modifications?

Activity 3

Heel-to-Toe Walk or Foot Drop?

Handouts

- Annex 3: Individual Impairment Recording Form (IIRF)
- 10.1 Footwear Indications
- 10.2 Selecting the Correct Footwear Size
- 10.3 Dorsiflexion Assist (Dynamic Elastic) Strap

Activity 1: Who Needs Footwear?

Handouts

- Annex 3: Individual Impairment Recording Form (IIRF)
- 10.1 Footwear Indications

Equipment & Materials

- Flip chart stand and paper
- 4–6 colored markers
- 20 pages of A4 paper
- Tape

Instructions for Teaching the Activity

Room Arrangement: Participants sit in a semicircle and in four small groups.

1. **Health Coach writes on the flip chart the table below:**

NTD / Disease / Other	Needs Footwear: Yes / No	If Yes, Why is Footwear Needed?
Buruli Ulcer		
Diabetes		
Leishmaniasis		
Leprosy		
Lymphatic Filariasis		
Podoconiosis		
Social Transmitted Helminths (STH)		
Trachoma		
Yaws		
Other:		
Other:		
Other:		

2. **Health Coach divides the group into four small groups and gives each group five pages of A4 size blank paper. All groups are given 15 minutes to list and justify who needs footwear and why.**

3. **While still in small groups Health Coach distributes *Annex 3: Individual Impairment Recording Form (IIRF)*. Each group is given an additional 10 minutes to decide which "Yes" response would indicate a need for footwear and/or possible modifications with footwear. Each group lists the "Yes" responses.**

4. **Health Coach requests all groups to return to a semicircle and asks for a volunteer to write responses, when presented, on the flip chart.**

5. **All groups return to a semicircle and each NTD/Disease/Other is identified and each group's response is discussed and recorded on the large flip chart.**

6. **Health Coach distributes handout *10.1 Footwear Indications* and completes any missing information or clarifies as needed.**

7. **The group discusses the "Yes" responses from the IIRF and lists those indicating a need for footwear or possible need for footwear modifications.**
   Some conditions: Complaints of foot numbness/tingling, findings of sensory loss, swelling, cold feet, decreased movement, excessive callus, clawing of toes, pain, wounds, injuries, etc.

8. **Health Coach reinforces the importance of identifying "risks" and taking action to ensure person affected and family understand why protective footwear is needed.**

Step 10: Use Protective Footwear

Activity 2: Does the Shoe Fit? Sandals, Shoes, Modifications?

Handouts

- 10.2 Selecting the Correct Footwear Size

Equipment & Materials

- Flip chart stand and paper
- 4–6 colored markers
- 2 pieces of A4 paper for each participant
- Pen/Pencil for each participant

Instructions for Teaching the Activity

Room Arrangement: Participants sit in a semicircle and then work in pairs.

1. **All participants are asked to stand in a large circle and look at each other's footwear. The Health Coach asks the group to choose those participants who they believe have footwear that fits.**

2. **Participants return to their seats in the semicircle and Health Coach distributes two pieces of A4 paper to each participant.**

3. **Each participant is asked to remove their shoes and to trace around their feet while sitting and then while standing. They do one foot at a time without removing their foot from the paper.**

4. **After all participants have traced both feet when sitting and standing, the Health Coach asks if the foot is the same size when sitting as when standing?**

5. **Health Coach asks participants to place their footwear on top of their foot tracing and to check if any part of the foot is outside the footwear area.**

6. **Participants identify which participants have tracings in which the feet are within the area of their shoe.**

7. **Health Coach distributes handout *10.2: Selecting the Correct Footwear Size* and reviews with participants.**

8. **Health Coach asks the group to divide into pairs and to evaluate the footwear of their partner following the instructions on handout *10.2* and to determine if adequate or not.**

9. **Each pair presents their finding to the group.**

10. **The group chooses which participant is using the best footwear based on criteria presented in the handout.**

Activity 3: Heel-to-Toe Walk or Foot Drop?

Handouts

- 10.3 Dorsiflexion Assist (Dynamic Elastic) Strap

Equipment & Materials

- Example of dorsiflexion assist strap
- Examples of insole material of different density (hardness) and thickness

Instructions for Teaching the Activity

Room Arrangement: Participants sit in a semicircle.

1. **Health Coach walks across the room demonstrating a heel-to-toe walking pattern and then a toe-to-heel (foot drop) walking pattern**

2. **Health Coach asks if any participants have seen someone walk with this toe-to-heel walking pattern and what caused this problem.**

3. **Health Coach discusses toe and foot weakness or paralysis in leprosy and how it can lead to a "foot drop." Health Coach asks participants the cause of this weakness and what should be done. (i.e., neuritis, treatment of reaction/neuritis is acute, strengthening of weak muscles, stretching, self-care, footwear modifications, surgery).**

4. **Health Coach asks for a volunteer who has lace-up shoes, preferably tennis shoes. The Health Coach places the dorsiflexion assist strap around the ankle and then the elastic hook strap is attached to the end of the shoelaces to pull the foot up.**

5. **Health Coach asks participant to push down and then relax so that participants can see the dynamic action of the strap to pull the toes and foot up.**

6. **Health Coach asks participant to walk across the floor demonstrating the action of the dorsiflexion assist strap.**

7. **Health Coach clarifies that this particular strap does not work for people with a fixed contracture or with a foot pulled down by spasticity resulting from a stroke or cerebral palsy.**

8. **Health Coach demonstrates different insoles of varying density (hardness) and thickness and describes how to choose and fit to the footwear.**

Step 10: Use Protective Footwear

Conclusion

In conclusion, the Health Coach summarizes key messages and clarifies any misconceptions.

Handout 10.1: Footwear Indications

Disease or Foot Situation	Type of Footwear Needed	Other Care
Soil transmitted helminths (STH)	Use proper fitting footwear (sandals and/or shoes) found commercially or at the market	• Good food washing, foot hygiene and waste disposal
Persons with leprosy/diabetes/ lymphatic filariasis with normal foot structure and sensation		• Self-care and daily checks of feet and footwear • Repair and replace footwear as needed
Podoconiosis	Socks and closed shoes	• Good foot hygiene after working or playing in the environment
Persons with ***sensory loss*** to sole of foot (leprosy, diabetes, or other neuropathies such as toxic or alcohol)	Adequate fitting extra depth footwear which allows for soft .05–1cm EVA insert and has a firm, thicker outer sole to protect against sharp objects (thorns, glass)	• Self-care and daily checks of feet and footwear • Repair and replace footwear as needed
Persons with unusually sized or shaped feet with high-pressure areas, with or without sensory loss	Custom-made insoles and footwear to fit the foot	• Self-care and daily checks of feet and footwear • Repair and replace footwear as needed
Foot drop from weakness or paralysis ***but not from spasticity***	Dynamic dorsiflexion assist strap	• Daily checks of feet and use of assist strap
Persons with ***sensory loss*** to sole of foot (leprosy, diabetes, or other neuropathies such as toxic or alcohol ***with injury/ulcer***)	Adequate-fitting, extra-depth footwear which allows for custom-made insert and has a firm, thicker outer sole to protect against thorns, glass	• Contact HCW • Rest and wound care • Self-care and daily checks of feet and footwear • Repair and replace footwear as needed • Refer to surgeon for debridement, if needed
Work puts feet at risk of injury	Properly fitting shoes with protection	• Periodic cleaning, repair and replacement as needed

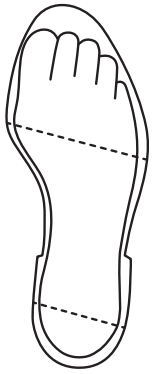
Step 10: Use Protective Footwear

Handout 10.2: Selecting the Correct Footwear Size

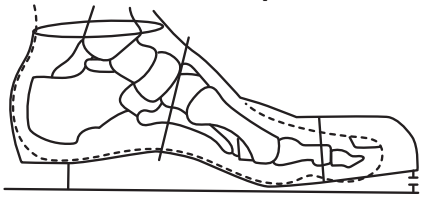
To choose the correct footwear, check the following while standing:

- Distance from heel to end of large toe (or second toe if longer) + 1cm
- Distance from heel to end of fifth toe
- Distance from heel to first metatarsal head
- Distance from heel to fifth metatarsal head
- Width around foot at first and fifth metatarsal heads
- Width at heel
- Height (depth) from arch to top dorsal part of foot
- Height (depth) from bottom of foot to top of toes

Footwear Length and Width



Footwear Depth

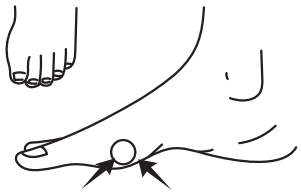


Shoe/Sandal Fit

"Fit the shoe to the foot, not the foot to the shoe." (Dennis Janisse)

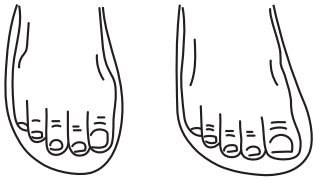
1. **The widest part of the foot should fit the widest part of the shoe**

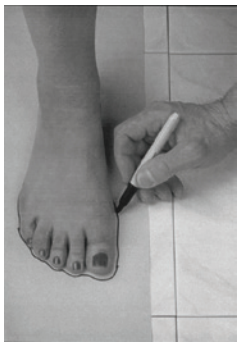
   WHY: The widest part of the shoe should also be the "break" point of the shoe. The shoe should bend in the same position as the foot.

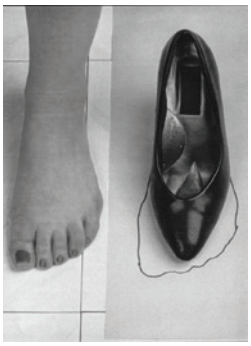


2. **The shape of the shoe must fit the shape of the foot**

   FORE FOOT TEST: While standing, draw around the foot and then lay the shoe on top of the image drawn. Does the fore foot fit within the shoe?







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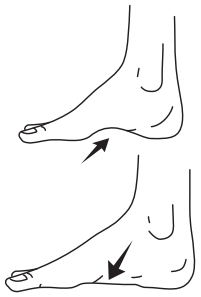
Handout 10.2: Selecting the Correct Footwear Size (continued)

3. Ask person to stand and inspect for:

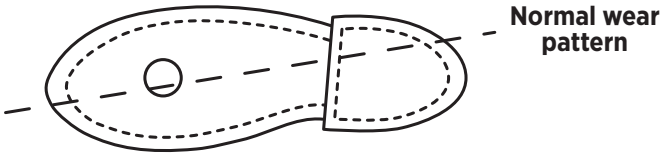
- Correct length and width
- Comfort
- Heel fit
- Satisfactory closures

Observation: Foot will elongate during weight bearing from about 0.6cm–1cm. Some heel slip is normal but not always tolerated.



4. Visual inspection of footwear :

- Are there existing modifications of the footwear or insoles or orthotics?
- Does the user have good sensation or do they have a loss of foot sensation?
- What is the current fit of the shoe or sandal?

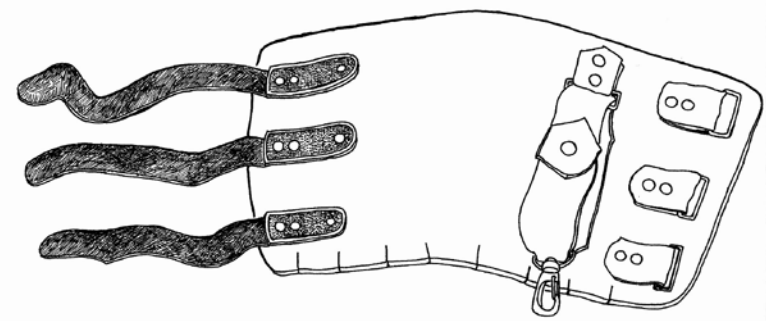
• Check sole wear	• Wear should be evenly distributed • Firm and thick enough to prevent thorns or other sharp objects from penetrating the shoe
• Heel wear pattern should show wear distribution on the outside of the heel	
• Vamp (front part of footwear)	• Should fit snug, not too tight over the foot and give adequate toe room • When insoles or orthotics added, is the room still adequate?
• Arch	• Hugs arch area and ball of the foot • Fits at the widest part of the footwear
• Lacing or closures	• Too close or too far apart • Person needs easy opening and closure
• Inside of the shoe	• Should show normal wear; lining intact, no odor, stains from wounds or excessive sweating • Are nails, rough stitching or other things which can injure the foot found inside?
• Check insoles	• Are protective/accommodative insoles needed? • Are soft insoles of 0.06-1cm found in footwear of people with sensory loss? • Is there adequate room inside the shoe to insert the insole?
• Check the foot for injury or pressure areas (redness, callus) caused by footwear	• No rocks, nails or rough stitching should be felt • Lacing and closures not pulled too tight • Foot bandages do not make footwear too tight • Special accommodative insoles may be needed along with the footwear to improve foot function and decrease areas of pressure

Step 10: Use Protective Footwear

Handout 10.3: Dorsiflexion Assist (Dynamic Elastic) Strap

(Elastic attached to lift foot and toes up when the foot dorsiflexors are weak or paralyzed)

Image: Leather/stiff cloth with EVA soft protective backing with Velcro straps. Hook attached to elastic strap/elastic tire tubing strap.



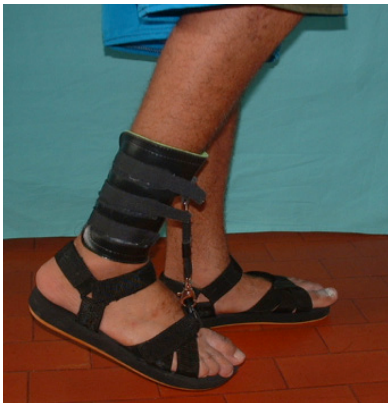
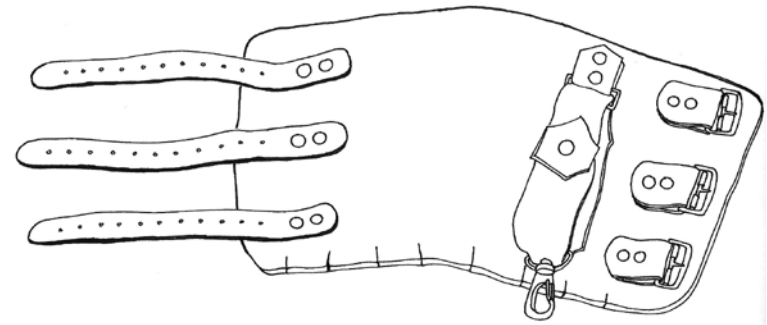


Image: Leather/stiff cloth with EVA soft protective backing with leather straps. Hook attached to elastic strap/elastic tire tubing strap.



Note: Does not effectively work for a foot drop with contractures or spasticity caused by a stroke, cerebral palsy or other.

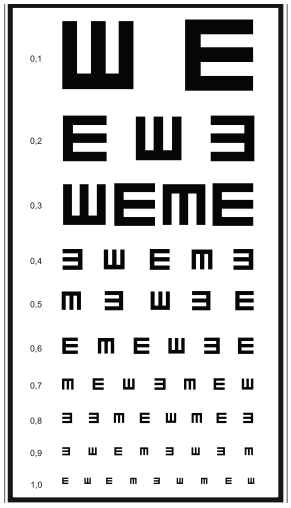
Appendix

Photo credit: Tom Bradley

Annex 1: Snellen E-Chart

Preparation for Vision Screen

1. Gather together equipment and supplies: Snellen E-Chart (see Appendix), 6-meter length cord knotted at every meter, chair, eye cover (large spoon), black-tipped pointer/pen with black cap, sheet of blank paper, pencil/pen, flashlight and IIRF record form.
2. Use a 6-meter string or measuring tape to measure 5 meters from Snellen E-Chart to the back of the chair where person will sit.
3. Snellen E-Chart should be placed in a well-lighted area with no reflection off the chart. If outside, the sun should be behind the person taking the test.
4. Snellen E-Chart should be placed so that line 8 is at eye level.
5. Draw an "E" on a piece of paper and show the paper to the person. Ask the person to imagine that the "E" is a table with legs and have them use their hand to show the direction that the legs are pointing. Practice changing the direction of the "E" to make sure it is understood.
6. Explain to the person that you want to determine the smallest line they are able to see.
7. If the person is wearing glasses, test with glasses on.

Measuring Distance Vision with Tumbling E Eye Chart	
1. Ask the person to cover the left eye. Test the right eye.	
2. Tester places pointer vertically, below the largest letter without covering the letter. The tester asks the person to show the direction the legs are pointing.	
3. Tester proceeds down the chart to determine the smallest line that the person can read. Lines may be skipped to more quickly determine the smallest line visible. If the person cannot see more than half of the line tested, return to the preceding line and test.	
4. Record the line number on the IIRF recording form of the smallest line in which the person can see more than half of the Es.	
5. Ask the person to cover the right eye. Repeat the test with the left eye and record the results.	
6. If person cannot see the largest E, then use the finger counting test.	

Finger Counting
1. To test, the person remains sitting and covers the left eye.
2. The tester stands 6 meters away and holds up a set number of fingers. The person is asked to tell the number of fingers seen.
3. Repeat this process three times with a different number of fingers each time. If unable to see two out of three trials at 6 meters, the tester uses the knotted cord and steps 1 meter closer to the person and repeats the finger count. Record on the IIRF form the greatest distance at which fingers can be counted.
4. If no ability to count fingers at 1 meter, ask person to tell whether tester hand is moving or still. If no movement detected, check perception of light with a flashlight. Record movement, light perception, or no perception on the IIRF.
5. Cover the right eye and repeat finger counting three times using a different number of fingers.
6. Record on the IIRF form the best finger counting distance/movement/light perception or no light perception for each eye.

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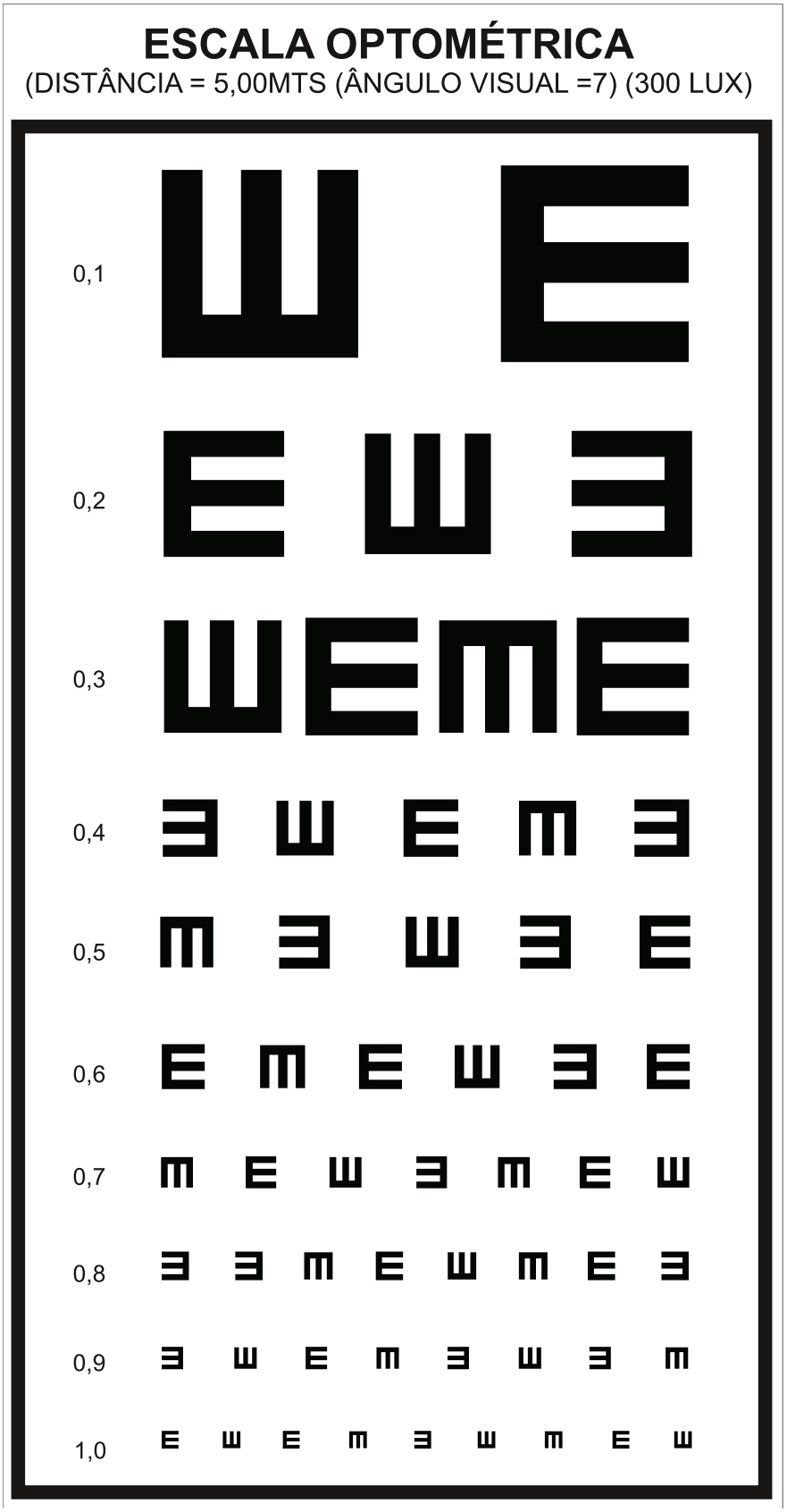

This visual is for reference only. For an accurate chart, have a professional print made on A2 paper at 100% size. Download art from leprosy.org/ten-steps.

Annex 2: Snellen E-Chart for Children

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1. Print the test page in A4 standard format. The child has to be located 1.6 meters (or 5 feet) away from the chart. If the test page is in another format, or if you wish to perform the test with the child facing the screen, you will have to calculate the distance at which the child must stand facing it, using the following formula: measure the height of the letter E (first line, 20/200) in millimeters. Then, divide the value of this measurement by 88. Finally, multiply it by 6. The result shows the distance at which the child must be placed, in meters, e.g., (23/88) x 6 = 1.6m.

2. Test the visual acuity with correction (e.g. glasses).

3. Test one eye at a time. Start with the right eye, covering the left one without pressing on it. Then, examine the left eye by doing the opposite. If the child is using correction glasses, you can cover the eye with a sheet of paper.

4. The child has to indicate the orientation of the branches of the letter E (top, bottom, right, left), from the largest E to the smallest. He can either use a small instrument that reproduces the shape of the optotype (E) and then orientate it in the same direction as the test showed, or indicate the orientation with his hand.

5. To make the examination easier and faster, another person can help you show the Es the child must read among the different lines of Es.

6. If the child can read the Es of the 10th line, his/her sight is optimal (visual acuity 20/20).

7. If his visual acuity is less than 20/20 (20/25, or the ninth line, is also acceptable for 3-year olds), or if you have doubts about the child's sight, visit your ophthalmologist.

NOTE: Take the results as a recommendation. The results do not indicate a diagnosis whatsoever. Performing the test does not mean the child should skip regular visits to his/her eye doctor, because you could easily miss signs that only a trained eye care practitioner would find.

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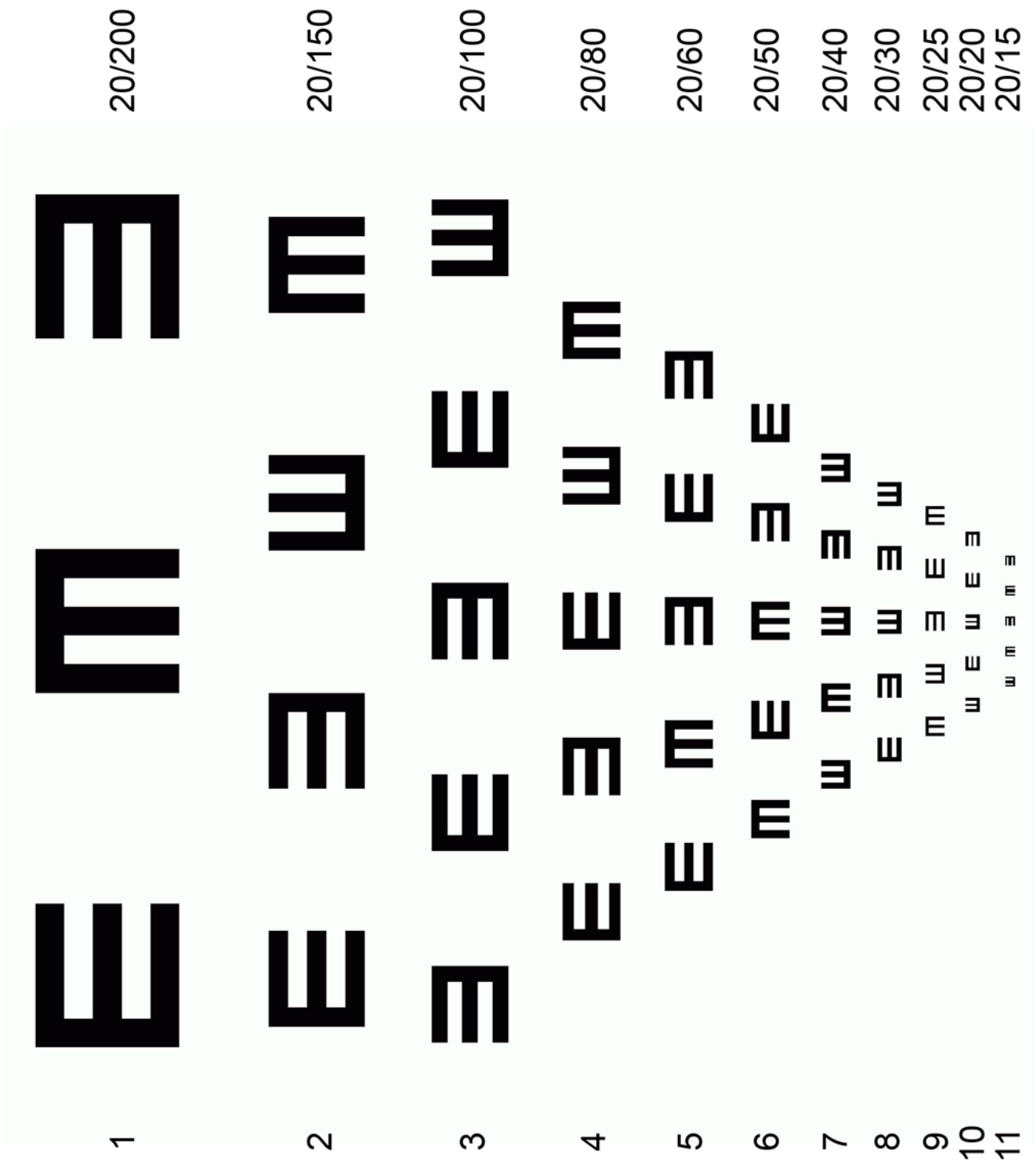


For an accurate chart, print on A4 paper at 100% size. Download art from leprosy.org/ten-steps.

Annex 3: Individual Impairment Recording Form (IIRF)

Name: _____ Age: _____ M | F Occupation: _____

Ground surface around home or work (check): ☐ Flat ☐ Uneven ☐ Must walk/climb up and down

Check clean water source: ☐ Bore well ☐ River ☐ Other_____ Distance to water source: _____ minutes

Previous Injury and/or Medical Treatment: _____

SKIN AND NAIL

Complaints:			
Pain, itching, burning, tingling, pins and needles, numbness, feels like ants crawling, feels heavy, feels cold or hot, skin feels leathery, hard	Yes	R	L
History:			
Previous skin injury or problem. Type: _____	Yes	R	L
Previous nail injury or problem. Type: _____	Yes	R	L
Skin and nail conditions: (circle area, test or condition that applies)			
Swelling in arm(s), leg(s), eye/face, scrotum, other: _____	Yes	R	L
Skin lesions: Nodule, lump, bump, knob, patch, thick infiltrated, other	Yes	R	L
Can't feel touch and/or temperature. Write below what device was used when sensation was not felt: cotton, feather, finger, pen, 10g filament, ether, hot/cold tubes, other (name)			
Skin patch on body. Did not feel: _____	Yes	R	L
Tip of thumb. Did not feel: _____	Yes	R	L
Tip of little finger. Did not feel: _____	Yes	R	L
Great toe. Did not feel: _____	Yes	R	L
One foot is cold compared to the other	Yes	R	L
Nail problems: too long, ingrown, thick or thin, brittle or discolored	Yes	R	L
Very dry skin and/or skin cracks	Yes	R	L
Scar problems: dry, cracked, thick and/or limiting motion	Yes	R	L
Thick callus on hand	Yes	R	L
Thick callus on bottom of foot	Yes	R	L

WOUND – Key: R = Right and L= Left, W1 = Wound 1, W2 = Wound 2, W3 = Wound 3 (If more than 3, choose 3 most serious)

Number of wounds				
Type of wound				
One or more cracks from dryness	Yes		R	L
Crack(s) between fingers, toes, and/or base of skin folds	Yes		R	L
Blister(s) location: hands, feet, other	Yes		R	L
Wound	Yes		R	L
Signs of infection				
Pain: new or increased	Yes	1	2	3
Bad odor/smell: present or worse	Yes	1	2	3
Localized warmth: present or increased	Yes	1	2	3
Swelling of skin around wound: present or increased	Yes	1	2	3
Sudden increase in wound leakage/drainage	Yes	1	2	3
Condition of wound				
Wound is too wet (fluid on outer bandage after one day)	Yes	1	2	3
Wound is too dry (pain or dressing sticks or bleeding when dressing removed)	Yes	1	2	3
Wound is worse (larger and/or deeper)	Yes	1	2	3

SWELLING / EDEMA – Compare both sides and observe swelling at the bony prominences.

Complaints			
Limb feels "heavy," skin feels tight, leathery, hard, itches, burns, tingles, feels numb, feels like ants crawling, feels like pins and needles, painful, feels cold or hot, skin has enlarged wart-type areas.	Yes	R	L
Swelling in arm(s), leg(s), other: _____	Yes	R	L
History			
Previous problems with swelling? When?_____ Where?_____	Yes	R	L

SWELLING / EDEMA (CONTINUED) – Compare both sides and observe swelling at the bony prominences.

Examination of areas with swelling (edema). Compare both sides.			
Upper Limb (UL) – arm and hand: Raise arms up to shoulder height with elbows extended. Make a tight fist with both hands and observe the knuckles and rest of the upper limb.			
• Knuckles have swelling	Yes	R	L
• Wrist has swelling	Yes	R	L
• Forearm swelling	Yes	R	L
Bend elbows and touch clavicles with each hand. Observe swelling at the bony prominence of the elbow			
• Elbow has swelling	Yes	R	L
• Upper arm has swelling	Yes	R	L
Total number of Yes responses for UL			
Lower Limb (LL) – legs and feet: Sit with knees slightly flexed with feet on the floor. Observe and compare both lower limbs.			
• Toes/feet have swelling	Yes	R	L
• Ankle has swelling	Yes	R	L
• Lower leg has swelling	Yes	R	L
• Knee has swelling	Yes	R	L
• Thigh has swelling	Yes	R	L
Total number of Yes responses for LL			
Other Areas: Compare both sides			
• Face/eyes have swelling	Yes	R	L
• Breast has swelling	Yes	R	L
• Trunk has swelling	Yes	R	L
• Genitalia has swelling	Yes	R	L
• Other areas with swelling: _____	Yes	R	L
Total number of Yes responses for Other Areas			

SCAR

Complaints:			
Scar is itching, painful, limiting movement, not attractive, other: _____	Yes	R	L
History:			
Previous scar cracks or injury. Type: _____	Yes	R	L
Scar conditions: (circle area, test or condition that applies)			
Scar is at or near a joint	Yes	R	L
Scar is dry	Yes	R	L
Scar is sticking to or adhering to underlying structures (scar does not move easily as observed in unaffected skin or as compared to unaffected side)	Yes	R	L
Scar is very thick and less than 1 year old	Yes	R	L

LIMITATIONS OF MOVEMENT (LOM) – Responses based on comparing both sides of the body. Dominant Side: Right | Left

Complaints			
Do you currently have difficulty with movement? If yes, what movements are difficult? _____	Yes	R	L
History			
Previous injury or problem causing movement limitations? Type: _____	Yes	R	L
Examination of areas for LOM (limitations of movement). Compare both sides.			
Upper Limb (UL) – arms and hands: Raise arms up to shoulder height with elbows extended. Make a fist with both hands (curl fingers down), move wrist up and down. Open hands (curl fingers up) and show the palms of the hands, spreading fingers out and then bring fingers together. Turn hands over (palms up) and lift thumbs up. Bend elbows so that the hands can touch the back of the shoulders. Extend arms out to each side with thumbs up. Raise arms up above head until hands touch.			
• Thumb movement is less? spread fingers, lift thumb	Yes	R	L
• Hand/finger movement is less? fingers out/in, curl fingers down/up	Yes	R	L
• Wrist movement is less? wrist up/down	Yes	R	L
• Elbow movement is less? bend/straighten	Yes	R	L
• Shoulder movement is less? arms to front up/down, side up/down	Yes	R	L
Total number of Yes LOM responses for UL			
Lower Limb (LL) – legs and feet: Sit in a chair with legs extended. Curl toes down and straighten. Sit with knees slightly bent with soles of the feet on the ground. Keep heels on the ground while raising feet. Press toes down while lifting the heels off the ground. Lay on stomach with feet off the edge of table/bed. Slowly bend knees to touch heels as close as possible to the buttocks then straighten the legs. Observe the hips: Do they stay flat or lift up? If the hip(s) lift(s) up there is a limitation at the hip.			
• Toe movement is less? curl/straighten	Yes	R	L
• Ankle movement is less? sit with knees bent, move foot up/down	Yes	R	L
• Knee movement is less? lay on stomach, bend and straighten knees	Yes	R	L
• Hip movement is less? lay on stomach, hip lifts up when knees are bent	Yes	R	L
Total number of Yes LOM responses for LL			
Other Movements. Compare both sides.			
• Trunk movement is less? bend forward/backward, side to side, twist side to side	Yes	R	L
• Head (include eyes) & neck movement is less? rotate, bend to each side, close and open eyes	Yes	R	L
• Mouth movements less? open, close, blow out, side-to-side movement	Yes	R	L
• Other movement: _____ is less?	Yes	R	L
Total number of Yes LOM responses for Other Areas			

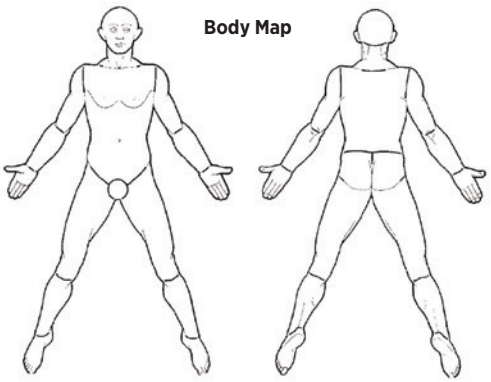
VISION AND EYE SCREEN

Uses glasses for distance	Yes	No
Uses glasses for close up (reading, handwork, sorting beans, etc.)	Yes	No
Snellen E-Chart: Vision for each eye. If glasses are used for distance, test with glasses	Right Line No. _____	Left Line No. _____
Finger count: Number of meters able to count fingers starting at 6 meters	Right Meters _____	Right Meters _____

Complaints			
Pain (R, L), irritation (R, L), itching or gritty feeling like sand (R, L), sensitivity to light (R,L) – Circle complaint and side	Yes	R	L
History			
Previous eye injury or problem. Type: _____	Yes	R	L
Recent change in vision. When _____ (in months)	Yes	R	L
Eye conditions			
Increased tears and/or eye secretions	Yes	R	L
Eye redness	Yes	R	L
Eye redness with recent change in vision and/or pain	Yes	R	L
Eye is dull, has injury/ulcer, white center, white/reddish thick scar on lower half of eye or on nasal side of eye	Yes	R	L
Eye closure is not complete with light closure	Yes	R	L
Eye blink is less often than normal (less than 10 blinks per minute) or absent	Yes	R	L
Upper/lower eyelid(s) are turned inward	Yes	R	L
Upper/lower eyelid(s) are turned outward	Yes	R	L
Upper/lower eyelashes are turned inward touching the eye	Yes	R	L
Turn out eyelids: inside lid is red	Yes	R	L
Turn out eyelids: inside lid has bumps/lumps/bands	Yes	R	L

Key for Recording	
Skin Lesion	
Crack	
Wound	
Scar Location	
Joint with Movement Limitations	
Swelling	
Location of Amputation	

Body Map



Needs Other Assessments	**YES**
1. Leprosy WHO Grading and EHF Score	
2. Leprosy Nerve Function Assessment	
3. BU POD Assessment	
4. Trachoma Assessment	
5. Lymphatic Filariasis/Podoconiosis Assessment and other lymphatic conditions	
6. Detailed Wound Measurements and Assessment	
7. Functional / Activity Limitation Assessment, which? _____	
8. Participation Restriction Assessment, which? _____	
9. Depression, which? _____	
10. Stigma – Self, Community, which? _____	
11. Other, which? _____	

Annex 4: Supervisory Checklist

Health Service: **Time of Day Service is Provided:** Morning | Afternoon

Community: **District:**

Supervisor (print name):

Date of Supervision: **Date of Next Supervision:**

Supervision Checklist for Case Management

TASKS	YES	NO	Not Obs	Observations & Recommendations
Diagnosis and Treatment				
1. Identifies leprosy, BU and other NTDs early				
2. Completes disease-specific antibiotic treatment				
3. Correctly documents Leprosy Disability Grade and EHF score				
4. Identifies leprosy reaction and treats adequately				
5. Identifies Limitations of Movement (LOM)				
6. Identifies complications requiring care				
Teaches affected person and caregiver how to:				
7. Suspect or identify a disease or complication and know where to go for help				
8. Complete disease-specific treatment				
Healthy Eating				
1. Explains that eating healthily prevents disease and helps healing				
2. Explains which local foods help the body to heal (protein foods)				
Personal Cleanliness				
1. Checks to see if faces are clean				
2. Checks that waste is stored safely				
3. Checks access to water and sanitation				
4. Explains good handwashing with soap				
5. Explains importance of routine bathing				
6. Explains washing of food				
Care of Eyes				
1. Correctly assesses for visual acuity for distance and close up				
2. Identifies eye problems early				
Teaches affected person and caregiver how to:				
3. Keep face and eyes clean				
4. Safely dispose of waste and water				
5. Eat food high in vitamin A				
6. Inspect eyes and check vision daily				
7. Protect eyes during the day and night				
8. Strengthen weak eye muscles				
Care of Skin and Nails				
1. Feels and observes skin and nail conditions in adequate lighting				
2. Identifies skin and nail problems and takes action				
3. Demonstrates good skin care and nail care				
4. Identifies skin areas with sensory loss				
Teaches affected person and caregiver how to:				
5. Do daily self-care of skin and nails				
6. Protect skin with sensory loss				
Care for Wounds				
1. Organizes materials before starting wound care				
2. Washes hands before wound care procedure				
3. Uses gloves appropriately				
4. Removes gauze and bandages without damaging new skin				
5. Cleans wound with clean water or saline solution to remove debris and dead tissue without damaging new skin				
6. Moves joints near or at the wound before new dressing and bandage is applied				
7. Applies clean Vaseline gauze or other moisture-retentive dressing				
8. Bandages with light compression distal to proximal				
9. Bandages without restricting movement				
10. Tapes end of bandage, does not tie a knot to secure bandage				
11. Follows special care procedures for skin grafts under 10 days old				
12. Disposes of contaminated material safely				

TASKS	YES	NO	Not Obs	Observations & Recommendations
Care of Scars				
1. Identifies scars at risk (dry and/or at or near a joint)				
2. Keeps scars hydrated and flexible (water and Vaseline, shea butter or other)				
3. Keeps scars flat and mobile (compression and massage)				
4. If scar is contracting and limiting movement, positions and stretches it in the opposite direction				
Teaches affected person and caregiver how to:				
5. Do self-care to keep scar hydrated, flexible and stretched to permit full movement				
6. Protect the scar from injury (sun, work, play)				
Care of Swelling				
1. Identifies edema and takes appropriate action				
Teaches affected person and caregiver how to:				
2. Elevate affected part, exercise and move frequently combined with "belly breathing" and light compression				
3. Confirm if swelling is better or worse				
Care of Movement Limitations				
1. Identifies LOM comparing affected with unaffected side				
2. Begins movement and exercise at diagnosis and during daily activities				
3. Positions, if necessary, during day and night to improve movement				
4. Monitors if strength, movement and ability to do daily activities is better or worse and refers to rehabilitation specialist when necessary				
5. Restricts movement following skin graft or restricts movement immediately following tendon transfer according to surgeon's protocol				
Teaches affected person and caregiver how to:				
6. Improve strength and movement through daily activities, exercise and positioning				
Footwear				
1. Identifies person with sensory loss to soles of feet who is at risk of injury				
2. Checks to see if adequate footwear is used				
3. Assures footwear is repaired and adapted as needed				
Teaches affected person and caregiver how to:				
4. Select appropriate footwear that is available at the local level				
5. Inspect and clean footwear daily as part of daily foot self-care practices				
Other				
1. Includes affected person and family in treatment and care plan and implementation				
2. Assesses the person's ability to do daily activities and participate in family, school, work and community life				
3. Advocates for accessible and available community services, water and sanitation for all, including the elderly and disabled				
4. Gets additional help or refers when necessary				
5. Teaches affected person and caregiver when to seek help and where to go				
Assessment and Documentation				
1. Assesses the patient correctly and records accurately on appropriate forms (disease and disability)				
2. Uses results to determine if outcomes are better, worse or the same				
Logistics at Health Service				
1. Accessible clean water				
2. Accessible sanitation				
3. Adequate lighting				
4. Adequate ventilation				
5. Essential medicines, materials and supplies				
6. Adequate organization of work space				
7. Waste management				
8. Technical support				
9. OTHER:				

Primary Knowledge/Skill Focus During Supervision

Key Issues Requiring Additional Attention

Persons Supervised / Contacted & Function

Contact Information

Signature of Supervisor(s) and Date:

Recommendations for supervision visits:

- When possible, send the supervision checklist to the health service prior to the visit and request them to identify in which areas they need further "on-the-job training."
- Review results of supervision checklist with health service.
- Leave a copy of the supervision checklist with comments.
- Schedule next supervision visit.
- Schedule additional technical support on supervision visits as needed.

Annex 5: Self-Perception of Abilities

Name: _____ Profession: _____

Work Responsibility: _____ Health Service: _____

Municipality/Village: _____ Region: _____

OBSERVATION: Write the date when you feel you have learned how to do the following tasks. For the tasks not learned yet, ask the supervisor for help. When learned, write the date under Yes, I know and I can do.

TASKS	Yes, I know and I can do (date: dd/mm/yy)	Need to learn
Diagnosis and Treatment		
1. Do simple community education messages about diseases, treatment and care		
2. Identify leprosy, BU and other NTDs early		
3. Provide specific antibiotic treatment and how to ensure treatment is completed		
4. Document on disease-specific forms		
5. Determine Leprosy Disability Grade and EHF at beginning and end of leprosy treatment		
6. Identify and treat leprosy reaction		
7. Determine Limitations of Movement (LOM) for BU Forms		
8. Identify and treat LOM		
9. Identify and treat acute attack in LF		
10. Identify and treat hydrocele		
11. Identify and treat trachoma		
12. Identify and treat other NTDs and their complications		
Teaches affected person and caregiver how to:		
13. Suspect or identify a disease or complication and know where to go for help		
14. Complete disease-specific treatment		
Healthy Eating		
1. Teach about local foods that can help prevent disease and and promote healing		
2. Work with individuals and community to improve healthy food sources and availability		
Personal and Household Cleanliness		
1. Get the community to check that children's faces are clean		
2. Get the community to check that waste is stored safely		
3. Get the community to check access to water and sanitation for all		
4. Get community to practice household cleanliness, routine handwashing with soap, washing of food, daily bathing and cleaning of clothing and bedding		
Care of Eyes		
1. Check visual acuity for distance and close up		
2. Observe eyes and identify eye problems early, such as acute vision loss, trichiasis (eyelashes turned in touching cornea), lagothalmos (inability to close eye completely), etc.		
Teach community and affected persons to:		
3. Keep face and eyes clean		
4. Dispose of waste and water		
5. Eat food high in vitamin A		
6. Observe eyes and check vision daily		
7. Protect eyes during the day and night		
8. Strengthen weak eye muscles		
Care of Skin and Nails		
1. Observe skin and nail conditions in adequate lighting		
2. Identify skin and nail problems and take action to improve		
3. Identify skin areas with sensory loss		
4. Demonstrate good skin care and nail care		
Teach community and affected persons to:		
5. Do daily self-care of skin and nails		
6. Protect skin that has sensory loss during daily activites		
Care for Wounds		
1. Organize materials before starting wound care		
2. Wash hands before wound care procedure		
3. Use gloves appropriately		
4. Remove gauze and bandages without damaging new skin		
5. Clean wound with clean water or saline solution to remove debris and dead tissue without damaging new skin		
6. Move joints near or at the wound before new dressing and bandage is applied		
7. Apply clean Vaseline gauze or other moisture-retentive dressing		
8. Bandage with light compression distal to proximal		
9. Bandage without restricting movement		
10. Tape end of bandage, does not tie a knot to secure bandage		
11. Follow special care procedures for skin grafts under 10 days old		
12. Dispose of contaminated material safely		

TASKS	Yes, I know and I can do (date: dd/mm/yy)	Need to learn
Care of Scars		
1. Identify scars at risk (dry and/or at or near a joint)		
2. Keep scars hydrated and flexible (water and Vaseline, shea butter or other)		
3. Keep scars flat and mobile (compression and massage)		
4. Position and stretch joint in the opposite direction of pull of scar contraction		
Teach community and affected persons to:		
5. Do self-care to keep scar hydrated, flexible and stretched to permit full movement		
6. Protect the scar from injury (sun, work, play)		
Care of Swelling		
1. Identify edema and take appropriate action		
Teach community and affected persons to:		
2. Elevate affected part, exercise and move frequently combined with "belly breathing" and light compression		
3. Confirm if swelling is better or worse		
Care of Movement Limitations		
1. Identify LOM comparing affected with unaffected side		
2. Begin movement and exercise at diagnosis and during daily activities		
3. Position, if necessary, during day and night to improve movement		
4. Monitor if strength, movement and ability to do daily activities is better or worse and refer to rehabilitation specialist when necessary		
5. Restrict movement following skin graft or immediately following tendon transfer according to surgeon's protocol		
Teaches affected person and caregiver how to:		
6. Improve strength and movement through daily activities, exercise and positioning		
Footwear		
1. Check use of footwear to protect feet from disease and/or injury		
2. Identify person with sensory loss to soles of feet who is at risk of injury		
3. Check to see if adequate footwear is used		
4. Assure footwear is repaired and adapted as needed		
Teach community and affected persons to:		
4. Select appropriate footwear that is available at the local level		
5. Inspect and clean footwear daily as part of daily foot self-care practices		
Other		
1. Include affected person and family in treatment and care plan and implementation		
2. Assess the persons ability to do daily activities and participate in family, school, work and community life		
3. Advocate for accessible and available community services, water and sanitation for all, including the elderly and disabled		
4. Get additional help or refer when necessary		
5. Teach affected person and caregiver when to seek help and where to go		
Assessment and Documentation		
1. Assess the patient correctly and record accurately on appropriate forms (disease and disability)		
2. Use assessment to determine treatment		
3. Use follow-up assessment results to determine if outcomes are better, worse or the same		
Logistics at Health Service		
1. Know when and where to refer		
2. Know who to contact for technical support and referral		
3. Ensure clean water is available and accessible		
4. Ensure sanitation is available and accessible		
5. Ensure adequate lighting		
6. Ensure adequate ventilation		
7. Ensure essential medicines, material, supplies and lab exams are available		
8. Ensure work activities and work space are organized to improve work efficiency and minimize cross contamination		
9. Ensure safe storage of contaminated material and waste		
10. OTHER:		

Ten Steps
SUMMARY CARD

A Guide for Health Promotion and Empowerment of People Affected by Neglected Tropical Diseases

By Linda F. Lehman, Mary Jo Geyer and Laura Bolton | July 2015 | www.leprosy.org/ten-steps

The Health Coach and person affected know how to:

Step 1: Suspect, Identify and Treat Disease and/or Health Condition Early

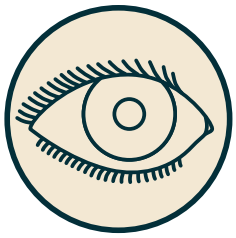
1. Look and feel for painless skin patches, lumps, swelling or ulcers while performing daily hygiene.
2. Complete treatment correctly.
3. Suspect a disease and/or identify a complication and know who to contact and where to go for help.

Step 2: Eat Healthily

1. Eat local foods, particularly colorful foods such as red, yellow and green fruits and vegetables and dairy products.
2. Drink 8-10 cups of liquids daily such as clean water, juice, etc.

Step 3: Practice Good Personal and Household Cleanliness

1. Bathe daily and wash face, hands, food and clothing with soap and water.
2. Safely dispose of human, animal and household waste and excess water to discourage flies.
3. Avoid sharing towels and bedding.



Step 4: Care for Eyes

1. Eat foods rich in vitamin A such as sweet potato, butternut squash, dark leafy greens, mango and other tropical fruit.
2. Wash face and practice good personal and environmental hygiene.
3. Check vision and eyes for changes or problems and know who to contact and where to go for help.
4. Protect eyes from injury during daily activities and from getting dry.

Step 5: Care for Skin and Nails

1. Look at skin and nails daily to identify and care for problems such as cracks and wounds. Keep skin soft and flexible and nails cleaned and trimmed.
2. Protect skin from sun exposure, especially scars and skin that has lost sensation. Use long sleeves, trousers, sunscreen, gloves, appropriate footwear, etc.

Step 6: Care for Wounds

1. Follow the key wound care principles, which will help the wound heal faster. Use moisture-retentive dressings.
2. Keep dressing clean and dry and know how to change it.
3. Identify if the wound is getting worse and/or infected (warmth, fever, bad odor, increased pain, swelling, wound size, etc.). Know who to contact and where to go for help.
4. Safely dispose of contaminated wound care materials.
5. Preserve skin and joint mobility by moving the affected part often and positioning it opposite of the contracting pull of healing skin.

Step 7: Care for Scars

1. Keep scars soft, flexible and stretched opposite the "pulling in" forces of a healing wound or healed scar.
2. Move affected part often when scars are at or near a joint to prevent movement limitations.
3. Loosen scars sticking to underlying structures with gentle massage.
4. Protect scars from moisture loss, injury and/or sunburn.

Step 8: Care for Swelling (Edema)

1. Check for swelling and take action to reduce it as quickly as possible to prevent complications, lessen pain and improve mobility.
2. Elevate affected part and improve lymphatic drainage with "belly breathing," self-massage, frequent exercise and light compression (MEM technique). Seek help if swelling is not reduced.
3. Discontinue elevation if it increases pain.

Step 9: Care for Movement Limitations

1. Check for movement limitations by comparing both sides.
2. Combine good positioning with frequent stretching exercises to improve strength and mobility. If no improvement, seek help.
3. If pain severely increases after exercise/activity, modify the exercise/activity.

Step 10: Use Protective Footwear

1. Identify who needs to use protective footwear and select footwear that protects the feet from injury and infection.
2. Combine good self-care hygiene practices with protective footwear for feet with sensory loss.
3. Know who to contact and where to go for help for unusual foot shapes or special needs requiring custom footwear.

american
leprosy missions

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