Prevention of disability in Buruli ulcer: basic rehabilitation
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PRACTICAL FIELD GUIDE

Valérie Simonet
This guide has been made possible thanks to individual contributions from many people: proofreading, technical advice on the proposed essential interventions or the format of the guide, field trials, photo shoots, not forgetting the support and goodwill that have enabled me to bring this project to a successful conclusion.

This guide has been re-read and reviewed by specialists in various fields (physiotherapists, occupational therapists, nurses and physicians), field workers targeted by this guide who are not rehabilitation professionals, and personnel involved in Buruli ulcer control programmes.

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Drawings: Valérie Simonet

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What is prevention of disability (POd)?

- POD is a set of measures to ensure that persons affected by the disease do not present with sequelae that prevent them from resuming their former activities or developing in their school, professional, social or family environment.
- POD mainly comprises awareness-raising, antibiotic treatment, surgery, wound care, rehabilitation, nutrition and psychological support.

What is this guide?

- A tidy toolbox where you can easily find the commonest tools for rehabilitating Buruli ulcer (BU) affected persons. Wound care is also included because it is a closely related topic.
- A training tool for peripheral health centres in areas where BU is endemic.
- A teaching tool for people affected by BU and their families.

Using this guide

- The guide should be integrated into a practical training workshop.
- Carers who receive this training should previously have attended general BU control workshops and worked with BU people.
- The chapters are presented as 9 modules. These correspond to the skills that carers at peripheral health centres must acquire to prevent BU disability at their level.
- At the start of each module, the learning objectives help trainers and learners to understand what must be done to acquire the skill.
- Module 8 contains ready-reference cards designed to be copied and given to people affected by BU and their families. They are an important tool for teaching the essential interventions to be carried out at the village level.
- An asterisk (*) indicates that a word is explained in the glossary at the end of the guide.
- For additional background material, refer to the WHO manual *Buruli ulcer/Prevention of Disability (POD)*, which expands on most of the concepts dealt with in this guide.
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**Glossary**

All asterisks in the text refer to definitions listed in the glossary

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Objectives

- Understand why disability should be prevented, and how
- Understand my role in preventing disability
- Understand the role of the persons and their families
- Understand the role of community health workers

I understand my role in preventing BU-related disabilities
Why is it so important to prevent disability?

For as long as there is a wound, the person believes that the limb is protected by not moving it.

Most disabilities are avoidable

Buruli ulcer (Bu) is a disease that very often results in disability, i.e. a limitation of the activities that the person must perform or in which he/she participates as member of a family or community.

Loss of mobility or deformity is very often the result of ignorance resulting in inappropriate behaviour.

I don’t want it to hurt. I want a scar to form over the wound, so I avoid moving my knee.

At first I had a wound, and now, I can’t move my arm any more.

NOTE
A limb that can no longer move normally will eventually stiffen!
When the wound is closed, the person believes he/she is cured

Deformity of the affected part of the body is possible. Anyone affected by BU can develop a disability if certain essential interventions explained in this guide are not performed.

NOTE
"Scarring" does not mean: "cure"!

The scar is active for one to two years after the wound has closed: it may thicken, stick and shorten and thus seriously limit mobility.

A scar has formed, but unless the parents are taught how to carry out certain essential interventions, this child will be unable to flex his/her fingers to grasp objects properly.

When the wound closed, the scar shortened and the person did not receive the necessary training to avoid deformity. Two years later, this deformity has become irreversible.
How can I prevent disabilities?

If certain preventive interventions are carried out, loss of mobility can be avoided!

To avoid most of the disabilities, it is enough to perform certain essential interventions (see explanation below). They are effective only if performed regularly.

Devoting a bit of time to these interventions every day for a few months can spare a person a lifetime of disability.
For BU persons and their families, it can be very difficult and costly to receive outpatient treatment at a health centre or hospital.

Essential POD interventions should be performed daily over several months.

Persons affected by BU and their families must therefore be able to perform essential POD interventions in their village.

What is my role in preventing disability?

1 I make sure that, to the extent possible, BU persons who report or are referred to the health centre avoid developing disabilities
   • I assess the situation.
   • As much as I can, I carry out essential POD interventions where feasible.
   • I teach essential POD interventions to affected persons and their families.
   • I teach POD basics to community health workers in the affected person’s village.

2 I liaise between the community and the referral centre or hospital
   • I monitor persons affected by BU after hospitalization.
   • I identify and refer complex cases.

Health workers learn that it is important for people to know how to look after their skin.

Community health workers raise public awareness, help people and their families to take care of themselves and refer individuals who would benefit from case management to the health centre. They are occasionally called upon to perform local wound care.

Brief training for community health workers is therefore necessary so that they can then encourage people in the village to perform POD activities.

However, it is my role to assess progress and decide which interventions are suitable for the person affected by BU.
Objectives

- Identify the person's problems
- Record these problems in the medical file

I identify the principal problems that might lead to disability
How can I identify the person's problems?

During the initial consultation, I spend time with the person and his/her family in order to evaluate:

- the activities limited by the disease. We shall work together to minimize or eliminate these problems using essential POD interventions.
- the physical problems I can identify from the list established in the Basic form, module 9 (p. 87).

I use the Assessing activity limitations form in module 9 (p. 88);

Inability to open or close the eyes or mouth properly, turn the head or bend the torso in either direction also represent loss of mobility. These points should be checked if there is a lesion on the face, neck or torso.

I indicate the site of the problems on the diagram using the corresponding symbols.

- open wound
- œdema
- scar
- loss of mobility
- amputation
How should I record problems in the medical file?

Example 1

To know which essential interventions to perform, I must refer:

- to module 3 for the wound
- to module 5 for the scar
- to module 6 for mobility

When I ask the girl to move her arm, I note that she cannot extend her elbow or wrist.

Here is how I record the problems:

- Extension of the elbow
- Extension of the wrist
How should I record problems in the medical file?

**Example 2**

To know which essential interventions to perform, I must refer:

- to module 4 for œdema
- to module 5 for the scar
- to module 6 for mobility

Compared with his left side, I note that this child has problems flexing the fingers and extending the wrist on his/her right side.

Here is how I record the problems.
Objectives

- Identify actions to implement
- Correctly perform management of an uninfected wound
- Give nutritional advice

module 3

I treat the wounds
## How can I identify the actions to implement?

### WHAT I SEE

<table>
<thead>
<tr>
<th>Granulation: pale pink to deep dark “beefy” red, granular appearance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extensive budding: raising of the granulation tissue forming an irregular surface of small buds</td>
</tr>
<tr>
<td>Hard or soft fibrin deposit: pale ivory, yellowish, brownish, greenish, much exudate, moist necrosed tissue</td>
</tr>
</tbody>
</table>

### WHAT I DO

- Cleanse with saline solution
- Hydrate the edges of the wound
- Protect and moisturize*
- If there is much exudate, an absorbent dressing should be used and changed before there is "strike-through"

* With moist compresses, Vaseline compresses or a more sophisticated dressing such as hydrogel

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A properly cared-for wound heals more quickly and reduces the risk of loss of mobility!
AVOID PAIN!
The intensity of the pain and repetition of painful episodes reinforces the pain pathways and makes people more “sensitive” to pain. People do not become accustomed to pain, they become even more sensitive to it. Pain also triggers anxiety and makes it difficult for an individual to take part in rehabilitation exercises, particularly children.

How can I indentify the actions to implement?

**WHAT I SEE**

- **Hard or soft necrosed tissues**: blackish or brownish, no bleeding, thick, dry

- **Infection**: yellowish, brownish or greenish exudate, often with unpleasant odour, pain, redness, warmth, swelling, inflamed lymph glands

*With moist compresses, Vaseline compresses or a more sophisticated dressing such as hydrogel

**WHAT I DO**

- Cleanse with saline solution
- Moisten the area with compresses for about 10 minutes
- Gently remove the necrosed tissue
- Hydrate the edges of the wound
- Protect and moisturize*
- If there is much exudate, an absorbent dressing should be used and changed before there is “strike-through”

- Use antiseptic for limited time only
- Course of oral antibiotics (not topical)
- Hydrate the edges of the wound
- Protect and moisturize*
- If there is much exudate, an absorbent dressing should be used and changed before there is “strike-through”

Remarks:

- A saline solution substitute can easily be made up by adding three tablespoons of salt to one litre of **boiled water**. This solution cannot be stored and must be used the same day.
- A spray provides an excellent means of moistening compresses and wounds.
How should I manage uninfected wounds?

- If necessary, I administrate an analgesic half an hour before changing the dressing (see «AVOID PAIN!» in the previous page).
- I settle the person, explain the procedure and treat him/her as a partner (it is preferable to participate rather than passively submit).
- I generously moisten the compresses already on the wound with saline solution and wait a few minutes before removing them. The persons may remove the compresses if they wish so, first having washed and dried their hands.
- I remove all the necrosed tissue, dead skin and fibrin that it is possible to remove without causing bleeding.
- I use antiseptics only with persons with immunodeficiency or with bone, tendon or cartilage involvement.
- I ask the person to move joints 2 or 3 times in all directions with full range of motion, then reapply dressing.
- I dry the skin around the wound and apply a hydrating agent (hydrating cream, palm oil, shea nut butter, etc.) to the edges of the wound (closed skin) in order to prevent drying out and maceration.
- I apply a new dressing to open wounds: Vaseline-permeated gauze or absorbent dressings if there is much exudate.
- I replace the bandage, observing these basic principles:
  - leave any joints not affected free to move;
  - always separate fingers and toes;
  - avoid tourniquet effect;
  - light compression on the dressing (using a bandage) facilitates quicker scar formation and controls oedema: the chapter on oedema control contains information about bandaging techniques. Where no oedema is present, only one layer of bandage is necessary.
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Fibrin deposits and necrosed tissues are not signs of infection. They should be gently removed from the wound to encourage quicker scarring but it is USELESS and even HARMFUL to use antiseptics if no infection is present. Antiseptics will attack the scar tissue and delay scarring.

Remarks concerning recent grafts

The first dressing should not be touched for approximately 5-7 days (as per surgeon’s instructions). If part of the graft has not taken 10 days after the operation, it will no longer take and the necrosed parts will need to be gently removed as they slow down scarring. Over the next three weeks, if there are still some parts on which scars have not yet formed, the need for further grafts may be considered.