

BURULI ULCER

A guide for
field health workers

Recognize

Act now!



World Health
Organization

WHO Library Cataloguing-in-Publication Data

Buruli ulcer: recognize act now.

1. Mycobacterium infections, Atypical - prevention and control. 2. Mycobacterium infections, Atypical - diagnosis. 3. Mycobacterium infections, Atypical - therapy. 4. Mycobacterium ulcerans. I. World Health Organization.

ISBN 978 92 4 150122 4

(NLM classification: WC 302)

© World Health Organization 2011

All rights reserved. Publications of the World Health Organization can be obtained from WHO Press, World Health Organization, 20 Avenue Appia, 1211 Geneva 27, Switzerland (tel.: +41 22 791 3264; fax: +41 22 791 4857; e-mail: bookorders@who.int). Requests for permission to reproduce or translate WHO publications – whether for sale or for noncommercial distribution – should be addressed to WHO Press, at the above address (fax: +41 22 791 4806; e-mail: permissions@who.int).

The designations employed and the presentation of the material in this publication do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted lines on maps represent approximate border lines for which there may not yet be full agreement.

The mention of specific companies or of certain manufacturers' products does not imply that they are endorsed or recommended by the World Health Organization in preference to others of a similar nature that are not mentioned. Errors and omissions excepted, the names of proprietary products are distinguished by initial capital letters.

All reasonable precautions have been taken by the World Health Organization to verify the information contained in this publication. However, the published material is being distributed without warranty of any kind, either expressed or implied. The responsibility for the interpretation and use of the material lies with the reader. In no event shall the World Health Organization be liable for damages arising from its use.

Printed in France

This document was produced by the Department of Control of Neglected Tropical Diseases.

Photo front cover: Eric Lhoir

WHO/HTM/NTD/IDM/2011.2



CONTENTS

Acknowledgement	iii
Purpose of the document	iv
Basic information	2
What your community should know	4
Global distribution	6
Environmental factors	8
Clinical forms	12
Nodule	14
Plaque	18
Oedema	22
Small ulcers	26
Large ulcers	30
Lesions on the face	34
Specimen collection	38
Treatment	42
Antibiotics	44
Wound care	48
Prevention of disability (POD)	52
Surgery	56
Complications	60
Community education	64
Other skin conditions	68
Yaws	68
Leprosy	72
What can you do?	76
Basic recording form	78
Community registration form	80

ACKNOWLEDGEMENT

The World Health Organization would like to thank all those who contributed to the content of this document and provided photos.

This document was produced with the support of Anesvad, Spain. Anesvad is an NGO that works to promote and protect the right to health.
<http://www.anesvad.org>

PURPOSE OF THE DOCUMENT

The purpose of this document is to contribute to improved recognition of Buruli ulcer (*Mycobacterium ulcerans* infection) and encourage greater efforts in detecting cases at an early stage of infection. Today, patients can be cured with antibiotics if diagnosed early, thus avoiding unnecessary suffering and disability. We hope that all users of this document will help to achieve these objectives.





BASIC INFORMATION

- Buruli ulcer is caused by a germ that mainly affects the skin and bone.
- Buruli ulcer often occurs in communities near particular water bodies (for example in lakes, swamps, ponds and rivers).
- Buruli ulcer germs are transmitted from the environment to humans, but the exact mode of transmission is not known.
- Buruli ulcer affects people of all ages, sex and colour, but in Africa, children aged under 15 years are the most affected.
- Buruli ulcer mainly occurs on the arms and legs but it can affect any part of the body.
- Buruli ulcer can be treated in health centres or hospitals with specific medicines.
- Buruli ulcer disabilities can be prevented through early diagnosis, early treatment and prevention of disability (POD) activities.



Buruli ulcer is a natural disease and can be cured with specific antibiotics. Early diagnosis is important.





WHAT YOUR COMMUNITY SHOULD KNOW ABOUT BURULI ULCER

Your community should know that ...

- Buruli ulcer is a disease caused by a germ
- Buruli ulcer is not caused by witchcraft
- Buruli ulcer is not due to a curse
- Buruli ulcer is not a punishment
- Buruli ulcer cannot be transmitted through direct contact with an affected person
- Buruli ulcer can be cured with specific antibiotics
- Treatment is free of charge



Buruli ulcer is a natural disease and can be cured with specific antibiotics. Early diagnosis is important.





GLOBAL DISTRIBUTION OF BURULI ULCER

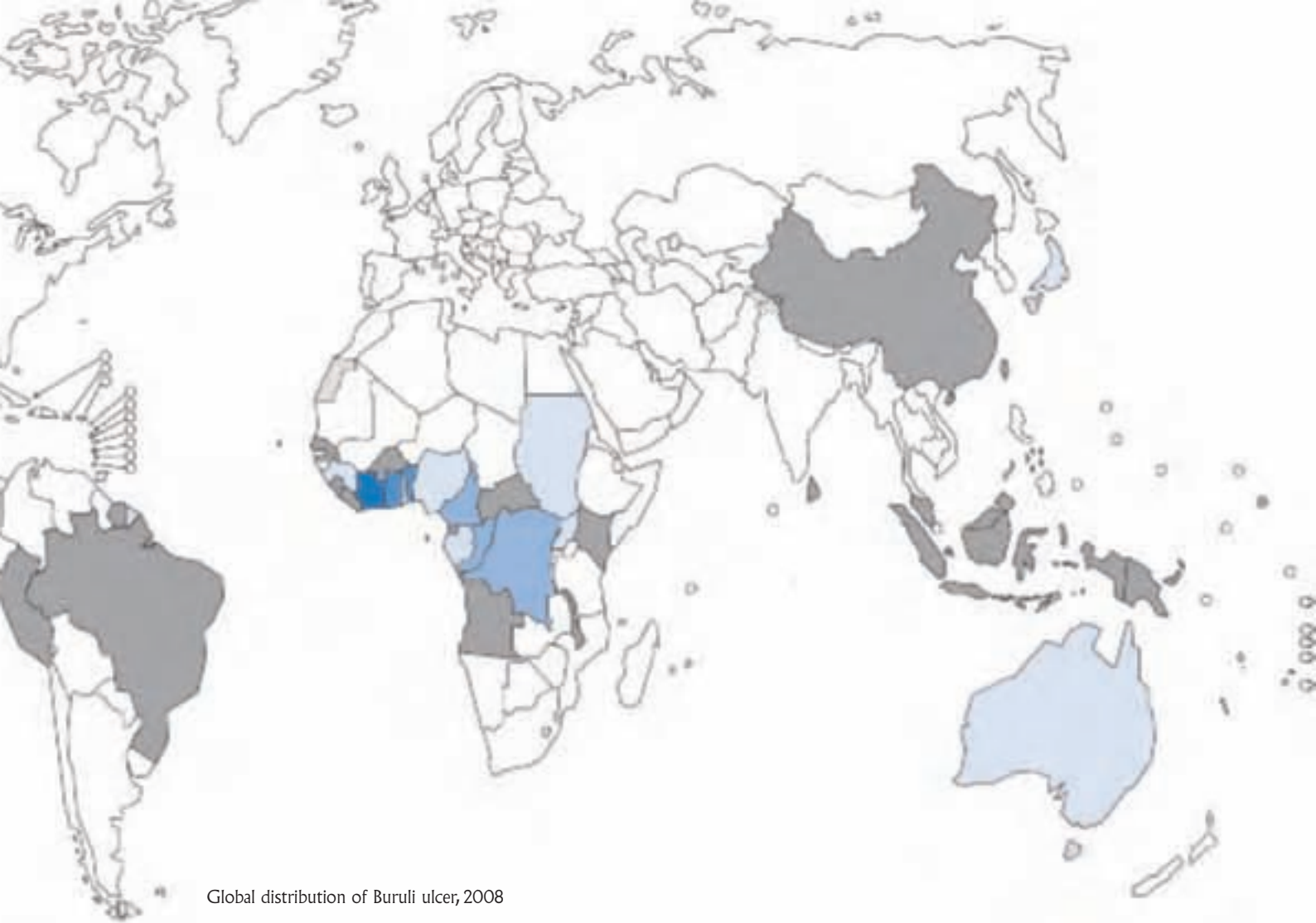
Buruli ulcer is still considered a “mystery” disease that some people do not know about. As a result, it is under-reported (or poorly documented).

- Today, Buruli ulcer is reported in 33 countries worldwide.
- Within countries, Buruli ulcer occurs in some localized places.
- Your local health authorities can provide information on where Buruli ulcer occurs and how many cases have been reported.



**CHECK if the place you live in is affected by
Buruli ulcer**





Global distribution of Buruli ulcer, 2008

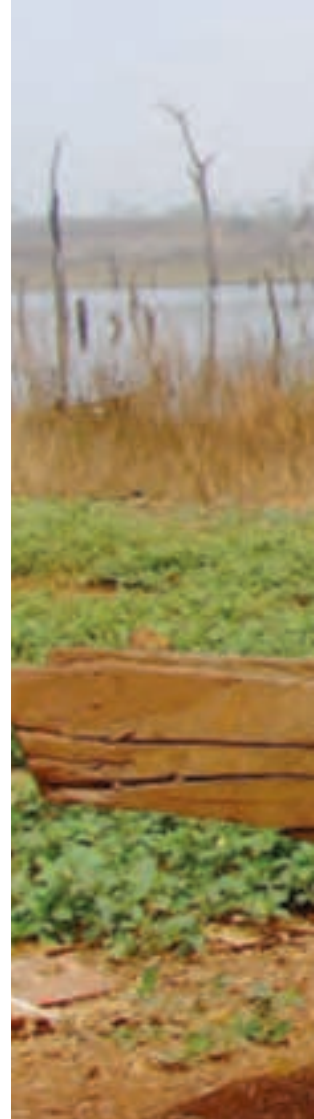
ENVIRONMENTAL FACTORS

Certain environmental conditions may favour the occurrence of Buruli ulcer.

- Buruli ulcer often occurs in tropical areas near particular water bodies, such as slow-flowing rivers, ponds, swamps and lakes.
- The germ that causes Buruli ulcer lives in the environment, but the exact place is not known.
- The mode of transmission is still not known.



**Wear protective clothing and treat ANY wound.
Good personal hygiene is essential.**







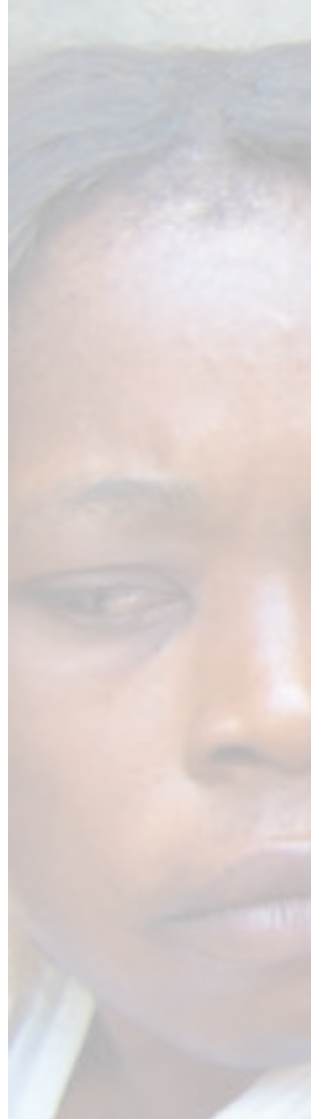
CLINICAL FORMS

Buruli ulcer presents in two different forms and it is important to know them. These are the non-ulcerative and ulcerative forms.

1. Non-ulcerative forms are nodules, plaques and oedema.
2. The ulcerative form may be small or large with the typical undermined edges.



In addition to the clinical forms, WHO has recently introduced a new classification based on sizes of lesions. These are Categories I, II and III.





NON-ULCERATIVE FORMS

1. NODULE

A nodule is a small, firm and painless swelling under the skin of about 3 centimetres maximum in diameter.



RECOGNIZE the different forms of Buruli ulcer and act before it is too late!







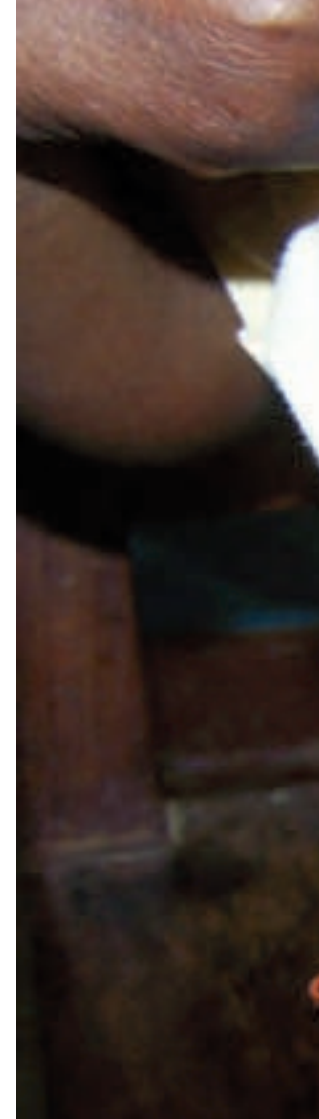
NON-ULCERATIVE FORMS

2. PLAQUE

A plaque is a large, firm and painless swelling of more than 3 centimetres in diameter with clearly marked raised borders.



**RECOGNIZE the different forms of Buruli ulcer and
act before it is too late!**







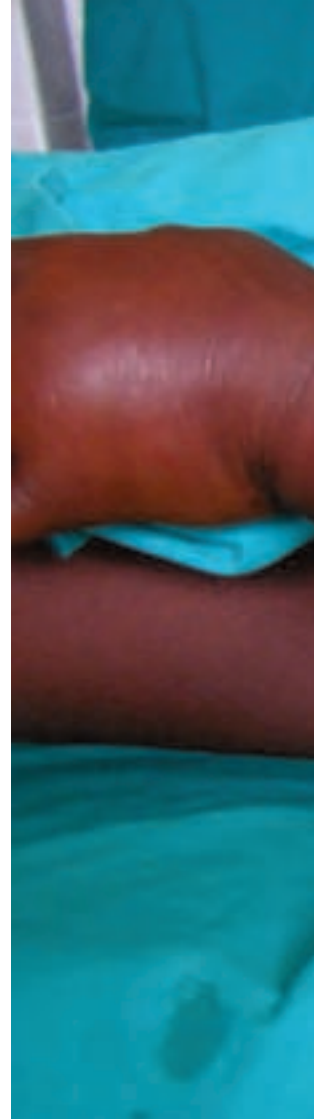
NON-ULCERATIVE FORMS

3. OEDEMA

Oedema is a large painless swelling usually involving the whole arm, leg, or face limiting movements of the affected part.



RECOGNIZE the different forms of Buruli ulcer and act before it is too late!







ULCERATIVE FORMS

1. SMALL ULCERS

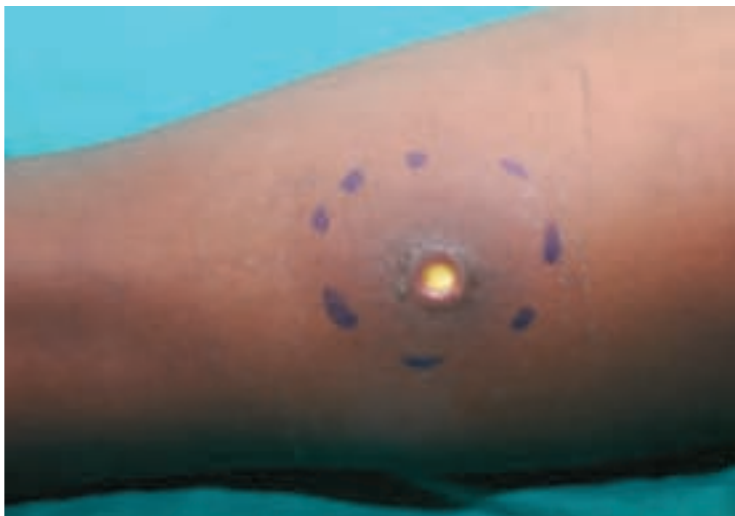
Typical ulcers are generally not painful; they have undermined (loose) edges and often have whitish-yellowish “cotton-wool like” slough in the centre.



RECOGNIZE the different forms of Buruli ulcer and act before it is too late!







ULCERATIVE FORMS

2. LARGE ULCERS

Typical ulcers are generally not very painful; they have undermined (loose) edges and often have whitish-yellowish “cotton-wool like” slough in the centre.



RECOGNIZE the different forms of Buruli ulcer and act before it is too late!







LESIONS ON THE FACE

Lesions on the face should be suspected in any person living in an endemic area, particularly children, who present with painless and gradual swelling of the face.



RECOGNIZE the different forms of Buruli ulcer and
act before it is too late!



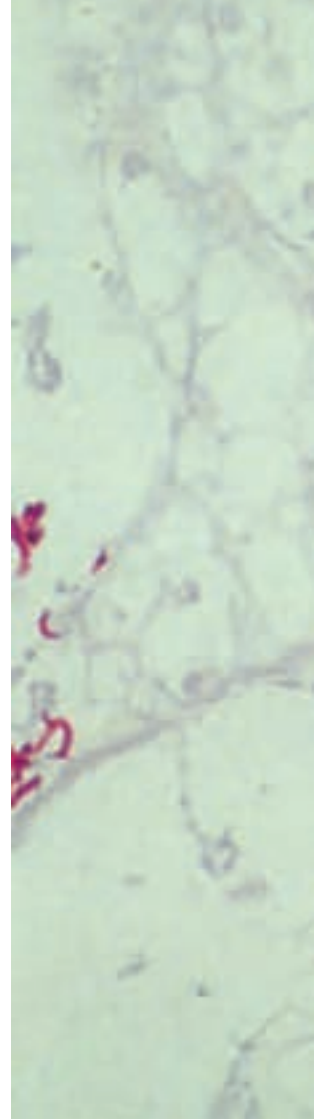


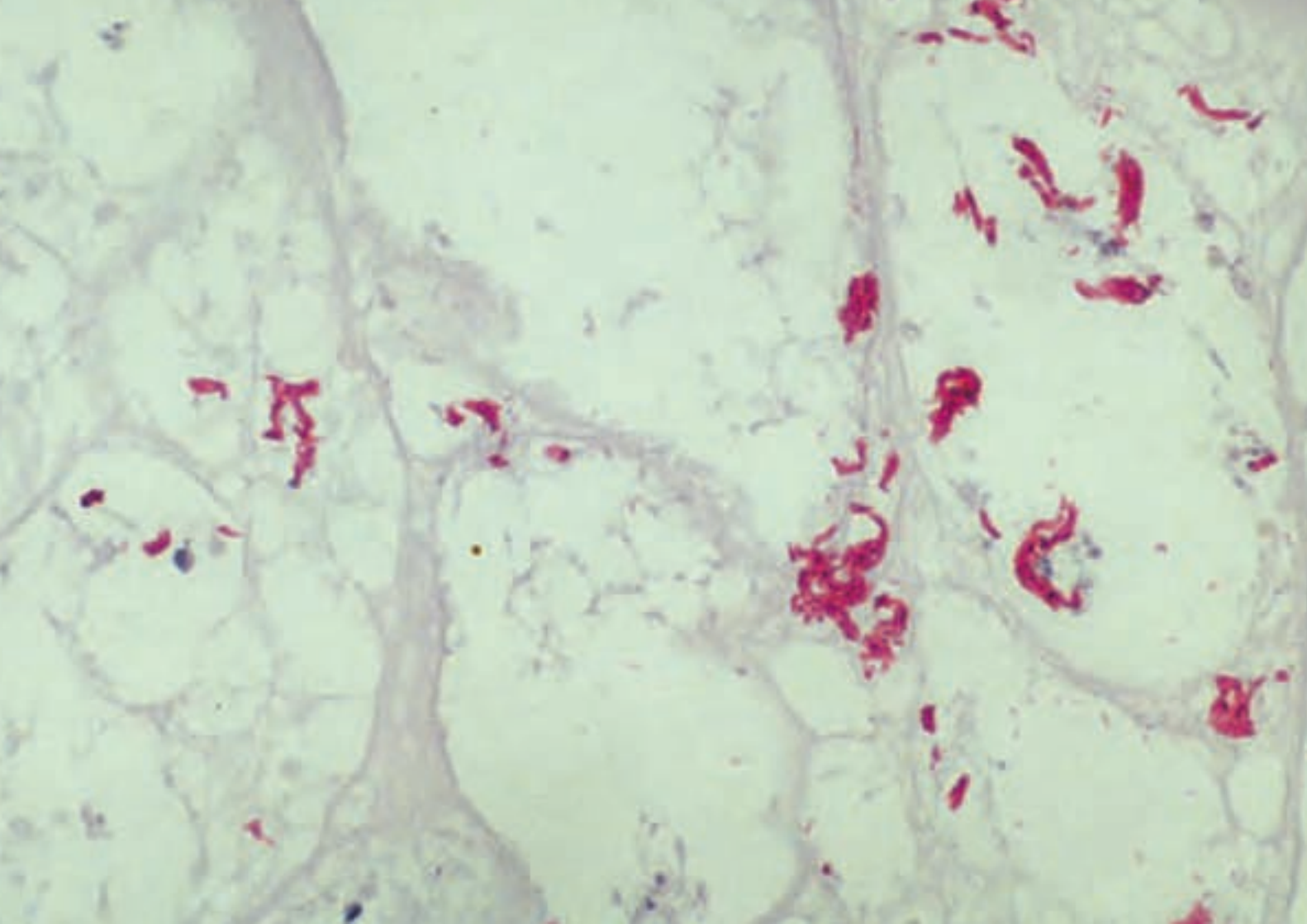
SPECIMEN COLLECTION

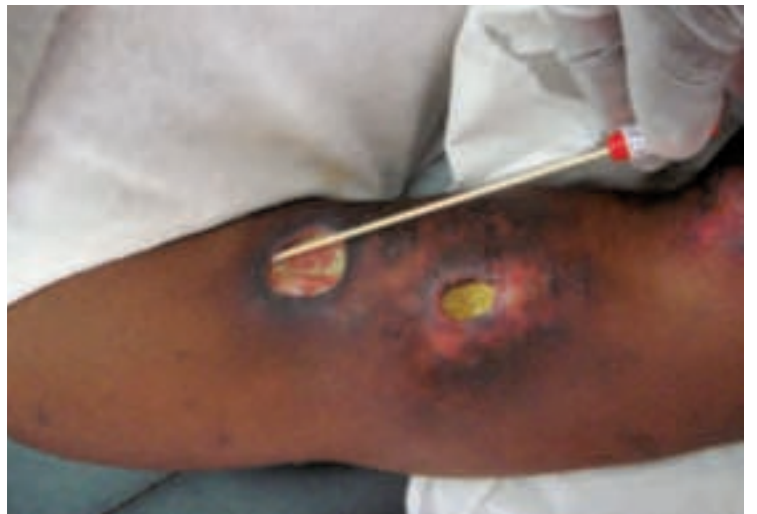
In addition to clinical diagnosis, it is important to take specimens to confirm Buruli ulcer in the laboratory. Two methods are commonly used by trained health workers: fine-needle aspiration and swabs. In the majority of cases which are ulcers, swab is sufficient and should be obtained from the undermined edges of the ulcer.



Remember to take correct specimens for each case for laboratory confirmation.







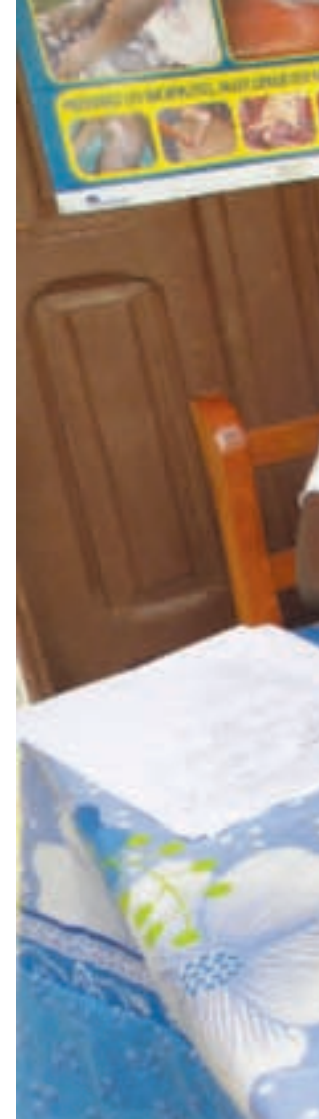
TREATMENT

Treatment of Buruli ulcer requires four different but complementary approaches, depending on the stage of the disease:

1. Specific antibiotics for 8 weeks
2. Wound care
3. Prevention of disability
4. Surgery



Treatment of Buruli ulcer requires multi-disciplinary teams including patients and family members.





TREATMENT

1. USING SPECIFIC ANTIBIOTICS

Today, Buruli ulcer is treated with specific antibiotics requiring 8 weeks of treatment. However, early detection is important to achieve good results.

Other complementary treatments may be required, depending on the extent of the disease (wound care, disability prevention, skin grafting).



Know that Buruli ulcer can be cured with antibiotics ONLY ...







TREATMENT

2. WOUND CARE

In addition to the antibiotics, people with Buruli ulcers need clean dressing of the wounds (ulcers) to improve healing. For small ulcers, the dressing wound is simple and can be done at the local health centre or by the patient or family members. For large ulcers, hospital treatment is necessary.



Wounds should be dressed with clean materials in a clean environment.







TREATMENT

3. PREVENTION OF DISABILITY

Disability is the main problem caused by Buruli ulcer. This can be prevented through simple exercises, antideformity positioning, elevation and mobilization of the affected limb. Large ulcers, plaques and oedema especially around joints commonly lead to disability; special attention should be given to these forms of the disease.



Early and frequent exercising of the affected part of the body are important to prevent joint stiffness, restricted movement and disability.







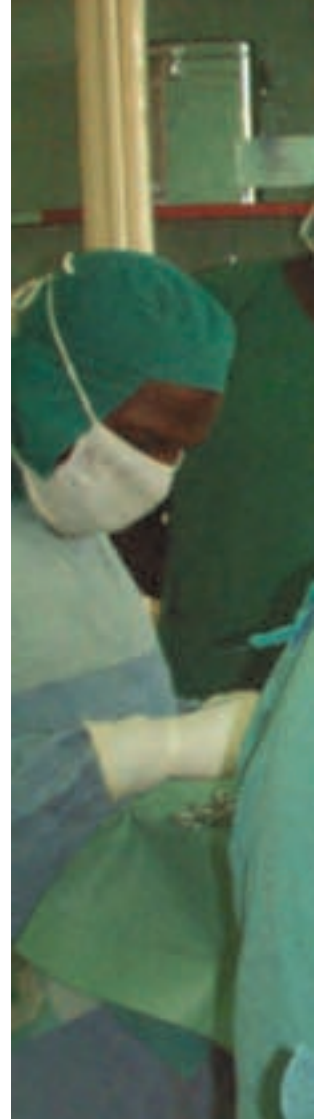
TREATMENT

4. SURGERY

For large ulcers, surgery is often needed in addition to antibiotics to heal the ulcer faster.



For some patients, skin grafting is a necessary part of treatment to heal the ulcer quickly.







COMPLICATIONS ARE AVOIDABLE

In some places (countries or districts), disabilities resulting from Buruli ulcer are severe and frequent. Efforts to detect cases early should be intensified.



Disabilities are preventable. Early detection is the solution.





EDUCATION IN THE COMMUNITY

Anyone living in an area endemic for Buruli ulcer should know how to recognize the disease so that action can be taken as soon as it appears. There is no vaccine to prevent the disease so the only solution is early detection of cases, and effective treatment.

Community education strategies include:

- House-to-house
- School
- Training workshops
- Video shows



**Inform people about the disease and treatment options,
and encourage them to seek treatment early.**





Complications of Buruli ulcer



Recognizing Buruli





RECOGNIZE AND REPORT OTHER SKIN CONDITIONS

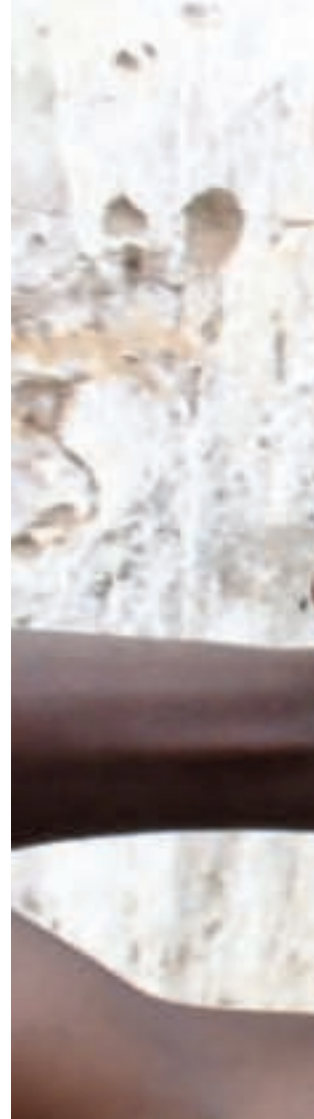
1. YAWS

During case-finding activities in communities to detect Buruli ulcer, it is also important to identify and report on other skin conditions such as yaws.

Treatment of yaws requires a single injection of benzathine penicillin.



Yaws is an example of skin conditions that can be found in affected communities.







RECOGNIZE AND REPORT OTHER SKIN CONDITIONS

2. LEPROSY

During case-finding activities in communities to detect Buruli ulcer, it is also important to identify and report on other skin conditions such as leprosy.

Treatment of leprosy requires 6–12 months of multi-drug therapy.



Cases of leprosy have reduced but still occur in some communities.

Early detection is essential to prevent disability.





WHAT CAN YOU DO?

Everyone has a role to play to fight Buruli ulcer.

- You can be the link between your community and the health centres or hospitals.
- You can help to increase awareness about Buruli ulcer in your community and encourage those affected to report early.
- You can identify people with suspected Buruli ulcer, and register and refer them to the nearest health centre or hospital.
- You can help to manage simple cases and supervise those on treatment in your community.
- You can support and follow up patients who have returned to the community after treatment at health centres or hospitals.



**YOU can play an important role in fighting diseases
in your community. Get involved!**





BASIC RECORDING FORM

FOR VILLAGE VOLUNTEERS

This form may be used by the village volunteers to record basic information on each Buruli ulcer case identified in the community.



Record and report EVERY case!

EXAMPLE OF BASIC INFORMATION TO BE RECORDED

Family name _____ First name _____

Name of village _____

Age _____

Sex F M

Date _____

[dd/mm/yr]

Patient classification: new recurrenceLocation of lesion: leg arm chest abdomen back face neckClinical form: nodule plaque oedema ulcerCategory: I II IIILimitation of movement: yes no

COMMUNITY REGISTRATION FORM

FOR VILLAGE VOLUNTEERS

This register may be used by the village volunteers to report cases seen in the community within a particular month.



Record and report EVERY case!

DISTRICT _____ NAME OF COMMUNITY _____

N°	Date dd/mm/yr	Name	Age	Sex	Patient Classification		Category			Location of lesions	Clinical forms	Referred	
					New	Recurrent	I	II	III			Yes	No
1													
2													
3													
4													
5													
6													
7													
8													
9													
10													
11													
12													
13													

Name/Signature of the village volunteer _____ Date: _____

Recognize Buruli ulcer

Global Buruli Ulcer Initiative
Department of Control of Neglected Tropical Diseases (NTD)
World Health Organization
20, Avenue Appia
1211 Geneva 27, Switzerland

<http://www.who.int/buruli/en/>

Act now!

