LEPROSY CONTROL IN SOUTH AFRICA

2011

PREFACE

Leprosy, a communicable disease, caused by *Mycobacterium leprae*, is a notifiable medical condition. Although the prevalence of leprosy is low, about 3000 people in South Africa need medical and social care. Hospitalisation is no longer recommended for routine management of leprosy patients as the emphasis is now on treatment in the community. New cases of leprosy are at risk of becoming disabled, especially if not diagnosed early or treated appropriately.

The objective of this guideline is to provide those involved in the treatment of leprosy with a clear and practical guide for managing leprosy patients. The outcome aimed for is appropriate management of these patients by ensuring timeous and appropriate treatment and therefore reducing morbidity and disability associated with the disease.

The prevalence of leprosy in South Africa, the detection or diagnosis of leprosy cases, the procedures to be adopted in cases of suspected leprosy, classification of leprosy and the treatment of the disease are covered in this document.

The updating of this document was initiated by the Department of Health and the Leprosy Task Group, a committee consisting of experts in the field of leprosy. The document was also subjected to a review by the Communicable Disease Control Officers in the nine provinces and The Leprosy Mission (Southern Africa).

It is envisaged that the quality of lives of people affected by leprosy will be improved through this document that would help guide health care workers caring for them.

DR A MOTSOALEDI, MP
MINISTER OF HEALTH

NATIONAL DEPARTMENT OF HEALTH

ACKNOWLEDGEMENTS

This guideline was updated by the Department of Health, The Leprosy Mission (Southern Africa) and other stakeholders. The guideline was also reviewed by Communicable Disease Control Officers in the nine provinces.

I wish to express my sincere gratitude to the members of the Leprosy Task Group which is a committee consisting of experts in the field of leprosy. The Leprosy Task Group comprised of members from the following organizations:

- National Department of Health
- World Health Organisation (WHO)
- The Leprosy Mission (Southern Africa)
- National Institute for Communicable Diseases (NICD)
- National Health Laboratory Services (MEDUNSA)
- Communicable Diseases Directorate, KwaZulu-Natal Department of Health

I would also like to thank the Provincial Communicable Disease Control Coordinators and members of the National Outbreak Response Team (NORT) for their valuable contributions towards updating this guideline.

I am confident that this guideline would greatly assist health care workers in managing leprosy patients and controlling the disease in the country.

DR Y PILLAY
ACTING DIRECTOR GENERAL: HEALTH

TABLE OF CONTENTS

1. Introduction

Leprosy (also known as Hansen's Disease), a communicable disease, caused by the microorganism *Mycobacterium leprae*, was declared a notifiable disease in South Africa in 1921. Notifications in 2005 gave an estimated prevalence of 0.013 per 10 000 of the population, with a concentration of cases in Mpumalanga, KwaZulu-Natal and Eastern Cape. However, early leprosy is more likely to be missed in other provinces and busy urban and peri-urban clinics where it is seen more rarely. World Health Organization (WHO) estimates that worldwide almost 300 000 new cases still occur every year, between 1-2 million persons are permanently disabled as a result of leprosy and that India, Brazil, Madagascar, Mozambique, Tanzania, and Nepal account for 90% of new cases.

Prevalence in South Africa is below 1 per 10 000 of the population, the WHO cut off point for considering leprosy as a public health problem. The Leprosy Mission (Southern Africa) estimates that about 3 000 people in South Africa, though no longer suffering from active disease have some degree of disability and need medical and social support. New cases of leprosy are at risk of becoming disabled, especially if not diagnosed early or treated appropriately.

Experts are not sure of exactly how *M. leprae* is transmitted; the most likely way is from person to person in respiratory droplets. Leprosy is curable in almost 100% of cases. However, once nerve damage occurs, the resulting disability is usually permanent. Persons receiving antibiotic treatment or having completed treatment are not able to transmit the disease.

The national policy is aimed at early diagnosis and treatment to prevent disability, finding and treating infected contacts by encouraging relatives of known patients to report for screening for possible leprosy and caring for those disabled by leprosy. Increased awareness in the public and health care community is an important part of the programme. In South Africa, hospitalisation for treatment was compulsory for active cases until 1977. The emphasis today is on treatment in the community.

1.1 The role of the Leprosy Mission Southern Africa

The Leprosy Mission (Southern Africa) is the major partner of the Department of Health in the management and control of leprosy in South Africa. The aim of the Leprosy Mission is to support leprosy patients and their families in partnership with the Department of Health's Communicable Disease Control programmes at national and provincial level. The Leprosy Mission is an NGO that has been working in South Africa since 1949 and provides the following services:

- Training for all levels of health staff and the public in the recognition of and treatment of leprosy;
- Working in partnership with provincial health departments to run leprosy clinics at decentralized treatment points throughout the country;
- Home visits to leprosy patients and their families to provide counseling and further education about the disease; and
- The Leprosy Mission maintains a database of patients and has a wide range of resources available for people wishing to learn more about leprosy.

1.2 Role of the World Health Organisation In Provision Of Free Drug Therapy

Leprosy treatment is provided free of charge by the World Health Organisation (WHO) in collaboration with the manufacturers, Novartis/SANDOZ. WHO recommends that only multi-drug therapy (MDT) be used for the treatment of leprosy.

One of the components of leprosy MDT, namely Clofazimine, was deregistered by Novartis some years ago as it is not recommended as a stand-alone drug in leprosy treatment. MDT is supplied in blister packs and these packs are not registered in South Africa. However, as the drugs are supplied free of charge as part of the global campaign for the elimination of leprosy, the Hon Minister of Health accepted the drugs as a free donation to the country from Novartis. This made it possible to bring the MDT blister packs into the country. The Leprosy Mission is responsible for ordering annual supplies via the WHO and the Department of Health. These MDT blister packs are kept by the Leprosy Mission and supplied to leprosy treatment points as the need arises.

2. Goal and Objectives

2.1 Goal

This document aims to facilitate the management and control of leprosy in South Africa through internationally accepted and country appropriate means.

2.2 Objectives

1. To facilitate early diagnosis and management of cases.
2. To prevent disability and ensure rehabilitation of leprosy patients.
3. To strengthen reporting and follow up of leprosy patients.
4. To strengthen leprosy expertise in health care facilities to which leprosy cases can be referred.
5. To improve access to current effective treatment.

3. Disease Management

3.1 Detection of Leprosy Cases

Leprosy is a chronic infectious disease that usually affects the skin and peripheral nerves but has a wide range of possible clinical manifestations. History of contact with a known case of leprosy is most important and should result in a high index of suspicion.

3.1.1 Case definition (WHO operational definition)

A case of leprosy is a person having one or more of the following:

- Hypo-pigmented or reddish skin lesion(s) with definitive loss of sensation;
- Damage to the peripheral nerves, as demonstrated by loss of sensation and weakness of the muscles of hands, feet or face; and
- Skin smear positive for acid-fast bacilli or positive biopsy.

3.2 Procedures to be adopted in cases of suspected leprosy

When prevalence is low, as in South Africa, the following are recommended:

- Train health workers to recognize the early signs and symptoms
- Examine all household and other close contacts of new cases
- Increase community awareness, which leads to self-reporting

Initial screening by a local dermatology department is preferred where available (see Annexure A). Where dermatologists are not available, the patient should be referred to the designated local health care facility for leprosy management. Suspected cases seen at primary health care level should be referred to the nearest designated health care facility for confirmation of diagnosis and initiation of treatment.

3.3 Diagnosis

Diagnosis should be:

- Based on clinical signs and symptoms of leprosy
- Confirmed by a punch biopsy or skin smear

3.3.1 Symptoms of leprosy

Early signs and symptoms of leprosy include:

- Enlargement of peripheral nerves in specific sites and indications of peripheral nerve loss
- Diminished sensitivity to cotton wool touch, in a patch or lesion on the skin

If both signs are present treatment should be started at once while awaiting confirmation by punch biopsy.

Other signs:

The clinical manifestation of the disease varies between two polar forms:

1. Lepromatous multibacillary leprosy (MBL): symmetrical and bilateral nodules, papules, macules and diffuse infiltrations, usually numerous and extensive; involvement of the nasal mucosa may lead to crusting, obstructed breathing and epistaxis; ocular involvement leads to iritis and keratitis. Nerve involvement is late but when it occurs it is extensive.
2. Tuberculoid paucibacillary leprosy (PBL): skin lesions single or few, sharply demarcated, anaesthesic or hypoaesthesic; bilateral asymmetrical involvement of peripheral nerves tends to be severe. Borderline leprosy has features of both polar forms and is more labile. Indeterminate leprosy is characterised by hypopigmented maculae with ill-defined borders; if untreated, it may progress to tuberculoid, borderline or lepromatous disease.

*3.3.2 Confirmation by smear and/or biopsy**

(*Adapted from the Guidelines for the Control of Leprosy in the Northern Territory, October 2002)

Leprosy can be confirmed by a slit-skin smear or a punch biopsy.

3.3.2.1 Skin smears

Indications

1. For diagnosis where there is clinical suspicion of disease.
2. To monitor treatment in lepromatous (MBL) cases.
3. Suspicion of relapse after completion of MDT.

Preferred sites

1. Both ear lobes.
2. Suspicious skin patches – 2 smears – from the edge if the lesion is distinct, and from the centre if the lesion is indistinct.
3. Thickened skin on forehead above the medial border of the eyebrows.
4. Knees or elbows.
5. Previously positive sites.

(Sites 1 and 2 are minimum requirements)

Procedure

1. Wash microscope slide in water and dry with methylated spirits.
2. Clean earlobe with alcohol swab and let it dry.
3. Optionally, apply a topical anaesthetic to all sites and allow 30 minutes to anaesthetise the skin.
4. When desired effect achieved (test with sterile needle prick), wipe topical anaesthetic from skin (wearing gloves will prevent the examiner's finger tips from becoming numb).
5. Squeeze sample area or roll between index finger and thumb until it becomes bloodless (white). This requires a lot of pressure – initially using 2 hands to squeeze is helpful.
6. Make an incision about 5 mm long and 1-2 mm deep with a no. 15 scalpel blade.
7. Scrape one side of the incision with the slanted edge of the scalpel blade.
8. Tissue obtained should be spread on a small area of the slide in a central circle.
9. Fix the slide by passing the underside for 2 seconds over a naked flame (a lit match, cigarette lighter, or spirit lamp) until the slide feels slightly warm on the back of your hand.
10. Label slide with site of smear, and patient details, and place in cardboard holder.
11. A smear from different sites in the same patient is useful for diagnosis.

Nasal mucous membrane smears can also be taken, using a sterile cotton wool bud, and wiping firmly in the nasal passage. The smear is then prepared in the same way as for skin smears as outlined above from points 8 to 10. The results of slit skin smears are reported as the number of Acid Fast Bacilli (AFB) seen in the microscope's oil immersion or high-power fields (hpf), and this is represented by the logarithmic Bacterial Index.

3.3.2.2 Biopsies

Biopsies are used in combination with clinical signs to diagnose and classify leprosy cases. Biopsies can be taken from a number of sites including the earlobe, forehead, skin patches, and peripheral nerves in some circumstances.

The method for skin biopsies is:

1. Clean site and inject local anaesthetic deep into the subcutaneous tissue around the biopsy site. Do not inject intradermally as it ruins the biopsy.
2. Insert a cotton tie into the end of the site and use this as a retractor (forceps crush the tissues).
3. Excise an elliptical piece of skin approximately one centimetre long and the full skin thickness (about 5 mm deep).
4. Place most of the biopsy tissue into Buffered Formal Saline (10% formalin) and request histopathology with Wade-Fite stain for AFB, and fungal stains. Save a small piece of biopsy as a fresh specimen and request fungal culture.

3.4 Classification of patients

For the purposes of multi-drug therapy, patients should be classified as PBL (smear negative), or MBL (smear positive). Paucibacillary leprosy is milder and characterized by one or more hypopigmented skin macules. Multibacillary leprosy is associated with symmetric skin lesions, nodules, plaques, thickened dermis, and frequent involvement of the nasal mucosa resulting in nasal congestion and epistaxis. Patients are also classified according to the Ridley-Jopling classification system (see annexure B).

3.5 Treatment

Treatment programmes should form part of a community health service and the WHO recommended Multi-drug Treatment (MDT) regimen should be prescribed. All newly diagnosed cases must be started on an appropriate MDT regimen immediately.Anti-leprosy treatment for PBL and MBL should continue for 6 and 12 months respectively. Only if the lesions do not look healed should the patient be referred for expert opinion. Treatment of MBL may be continued for longer than 12 months at the discretion of the clinician to ensure fewer relapses.

3.5.1 Rationale for using WHO MDT

The MDT regimens developed by a WHO expert group have proved to be extremely effective, and reduced the global prevalence by more than 80% over the last ten years. It rapidly cures patients, interrupts further transmission of the disease and makes elimination of the diseases as a global health problem a possibility. The MDT regimes are “robust”, i.e. their efficacy is not impaired by minor irregularities in compliance.

3.5.2 Drugs used in MDT

The drugs used in MDT are a combination of Rifampacin, Clofazimine and Dapsone. Treatmet regimens are shown in Table 1 and 2.

Rifampacin

The drug is given once a month. Toxic effects have rarely been reported in the case of a monthly administration. The urine may be slightly reddish in colour for a few hours after its intake.

Clofazimine

Clofazimine is most active when administered daily, is well tolerated and virtually nontoxic in the dosage used for MDT. The drug may cause brownish-black discolouration and dryness of the skin. This disappears within a few months of stopping treatment and should be explained to the patient starting the MDT regimen for MBL .

Dapsone

Dapsone is very safe in the dosage used in MDT. Side-effects are rare but the main one is allergic reaction, causing itchy skin rashes and exfoliative dermatitis. Therefore patients known to be allergic to any of the sulfa drugs should not be given Dapsone.

Table 1: Multi-Drug Treatment Regimens for MBL

Adult Dosage (Multibacillary Leprosy)			Child dosage (Multibacillary Leprosy 10-14 years)		
Drug	**Day 1**	**Day 2-28**	**Drug**	**Day 1**	**Day 2-28**
Rifampicin	600mg	–	**Rifampicin**	450mg	–
Clofazimine	300mg	50mg	**Clofazimine**	150mg	50mg/alt days
Dapsone	100mg	100mg	**Dapsone**	50mg	50mg

12 Month course to be completed within a period of 12 to 18 months

Table 2: Multi-Drug Treatment Regimens for PBL

Adult Dosage (Paucibacillary Leprosy)			Child dosage (Paucibacillary Leprosy 10-14 years)		
Drug	**Day 1**	**Day 2-28**	**Drug**	**Day 1**	**Day 2-28**
Rifampicin	600mg	–	**Rifampicin**	450mg	–
Clofazimine	–	–	**Clofazimine**	–	–
Dapsone	100mg	100mg	**Dapsone**	50mg	50mg

6 Month course to be completed within a period of 6 to 9 months.

FOR CHILDREN BELOW 10 YEARS OF AGE THE DOSE MAY BE ADJUSTED, FOR EXAMPLE:
Rifampacin 300 mg, Dapsone 25 mg and Clofazimine 100 mg once a month and 50 mg twice a week in case of multibacillary leprosy. **In the case of paucibacillary leprosy, Rifampicin 300 mg once a month and Dapsone 25 mg daily.**

3.6 Complications

The complications of leprosy can be divided into the following categories:

- Nerve function impairment and its associated deformities and disability;
- Adverse effects of treatment; and
- Leprosy reactions.

Nerve function impairment and its associated deformities and disability

Most physical disability caused by the infection results from damage to inadequately protected anaesthetic limbs, or from acute nerve palsies during immunologically mediated 'reactions' that occur as part of natural history of the infection, or following successful antimicrobial therapy. It is also important to note the high frequency of 'silent'

progressive or recurrent neuritis among leprosy reactions, which can lead to significant morbidity. The most important aspects of successful prevention of disability are early diagnosis and treatment, early recognition and aggressive management of reactions, and continued education and motivation of the patient in the care of damaged skin, eyes and limbs. The disease still attracts significant social stigma, and patients may fail to recognise their own disease or deliberately conceal it to avoid potential ostracism. Physical rehabilitation and social integration are crucial in the management of leprosy patients.

Adverse Effects of Treatment

Serious side effects of leprosy treatment are rare. The most serious side effects are:

- A serious allergy to one of the drugs;
- Jaundice;

If either of these happens, treatment must be stopped and the patient referred to a leprosy clinic. The patient may have other, less serious side effects, but when this happens it is important to continue the treatment. These less serious side effects are:

- Rifampicin turns the urine red;
- Dapsone sometimes causes black spots on the skin. These may itch but they are not dangerous; and
- Clofazimine can change the colour of the skin. In light skinned people, the skin can appear slightly orange; in other people, the skin may go darker. It is not dangerous and will disappear after treatment is completed.

Leprosy reactions

Most of the impairments related to leprosy are a result of nerve damage. Nerve damage is a result of reactions as discussed below.

During the usually chronic course of leprosy, acute episodes (reactions) may occur. Any type of leprosy, except an early indeterminate form, may undergo a sudden inflammatory phase of exacerbation. Reactions are more common in patients with multibacillary leprosy. Reactions can occur before, during or after treatment. Reactions may occur spontaneously or may be precipitated by inter-current infections (viral, malaria etc.), anaemia, mental and/or physical stress, puberty, pregnancy, parturition or surgical interventions.

Reversal reactions most commonly occur in the first 6 months of starting treatment. Other drugs such as progesterone, potassium iodide, vitamin A, etc. may precipitate reactions. The precipitating factors may not be obvious in some cases.

Two types of hypersensitivity **(Type 1 and Type 2)** are believed to underlie the bewildering clinical manifestations that may appear during reactions. During reactions inflamed skin lesions and nerves may be extremely painful and tender.

Acute neuritis may cripple patients with borderline leprosy overnight, while acute iritis may rapidly result in blindness. In patients with borderline-lepromatous leprosy, Type 1 and Type 2 lepra reactions may occur simultaneously. The summary of the reactions is shown Table 3.

Type 1 or reversal lepra reaction is an example of Type IV hypersensitivity (allergic) reaction (Coombs and Gell). About 25% of leprosy patients are likely to experience type 1 reactions.

Type 1 lepra reaction is considered severe if:
- The pain and tenderness in the nerves is severe;
- Paralysis or anaesthesia threatens to follow the neuritis;
- The skin is so severely inflamed that it is likely to ulcerate;
- Red, raised skin lesions overly or are around the eye; and
- Raised, red skin lesions near a nerve trunk.

Type 2 lepra reaction (erythema nodosum leprosum) (ENL) is humoral hypersensitivity and it is an example of Type III hypersensitivity (allergic) reaction (Coombs and Gell). It is not associated with alteration in the cell-mediated immunity (CMI). Type 2 lepra reaction may be mild or severe, intermittent or continuous.

Intermittent Type 2 lepra reaction: This may be mild or severe. Mild intermittent Type 2 reaction is characterized by attacks of ENL lasting for about two weeks and followed by a reaction-free period of a month or two. In such cases ENL may be associated with mild nerve pain or tenderness without loss of function. There is often some fever and malaise. Intermittent Type 2 lepra reaction is graded as severe if it is accompanied by:
- High temperature and general malaise;
- The skin lesions become pustular and/or ulcerate;
- The nerves become painful or if loss of nerve function develops; or

Continuous Type 2 lepra reaction: Attacks of ENL come in quick succession and therefore there is no reaction-free period. Such reactions are commonly severe and need almost continuous treatment with corticosteroids for 2–3 months. Continuous Type 2 lepra reaction may persist for several months. Erythema nodosum leprosum (ENL) lesions can be mistaken for erythematous papulonodules which may develop in relapsing cases of multibacillary leprosy. In patients with multibacillary leprosy relapse may manifest as a clinical worsening of existing lesions or the appearance of new lesions which may resemble erythema nodosum leprosum. However, ENL nodules or plaques develop suddenly in crops, after a few days. They are usually painful and blanch on pressure.

Reversal reactions have to be differentiated from relapse in PBL. It is essential that this distinction is made correctly so that proper treatment can be given. Individuals with the highest risk of relapse are those who have received inadequate chemotherapy. The large majority of relapses occur with drug-sensitive organisms. The diagnosis of relapse must be confirmed by slit-skin smear examination (and preferably by biopsy). In paucibacillary patients it is often difficult to distinguish between relapse and reversal reactions. A therapeutic test with corticosteroids given orally for two to four weeks may be helpful in distinguishing a relapse from reversal reactions. In reversal reactions improvement is seen within four weeks while in patients with relapse the lesions are unaffected.

Table 3: Summary of leprosy reactions

	Mild	Severe
Type 1	Red, raised skin lesions (not on face)	Red, raised skin lesion on face
	New enlargement of nerves – not tender	Red, raised skin lesion near major nerve trunk
		Ulcerating skin lesions
		Recent sensory impairment (less than six months)
		Recent motor impairment (less than six months)
Type 2	New, tender, red lumps (ENL). Not associated with the leprosy patches (subcutaneous nodules)	Iritis/Iridocyclitis
	New enlargement of the nerves – non tender	Ulcerating ENL
		Involvement of other organs (e.g. testes)
		Severe oedema

3.7 Prevention

The mainstay of preventing transmission and complications of leprosy is the early detection and treatment of cases.

Role of Bacille Calmette-Guerin vaccine (BCG):

Contacts of known cases should receive BCG vaccine to reduce spread of the disease .

Prevention of complications

Health workers should be able to recognise (early) signs and symptoms of leprosy. Suspect cases need referral to health care facilities identified as being able to confirm the diagnosis. Clinics remain responsible for total personal care. After diagnosis at the referral centre, where treatment commences, the patient needs to attend the clinic or health centre monthly to:

- Continue the treatment for the recommended period;
- Receive care for ulcers if needed;
- To receive health education and to be taught self care for ulcers; and
- Have sensory and motor functions tested (at least three monthly).

To prevent (further) disabilities;

- Patients are referred for special footwear and other protective devices when they experience sensory loss is found;
- Reactions and complications are be referred to a centre with the necessary expertise; and
- Advice is sought from the Leprosy Mission on psycho- social support to help patients and their families deal with the condition.

Health workers need to actively work on decreasing stigma, taking into account that leprosy is not very infectious in the first place and becomes non-infectious 24 hours of commencing treatment.

3.8 Rehabilitation

Programmes for the disabled should be community based, following a holistic approach. People affected by leprosy are in need of physical, psychological, spiritual, social and economic rehabilitation. The Department of Health has partnerships e.g. with The Leprosy Mission, CBO's and NGO's to mobilise resources to support the patients in the community.

Specific messages and approaches for leprosy patients:

- Leprosy can be cured and disabilities can be prevented;
- If a patient already has disabilities, they must be shown how to prevent further deterioration;
- A holistic approach towards treatment and rehabilitation is needed in the care of leprosy patients. They may need to deal with the socio-economic impacts of the disease, as well as its spiritual implications;
- Where further support is needed, the client/patient should be referred to the social workers at the hospital or to other local social workers or organizations for people living with disabilities and/or churches, for the appropriate support; and
- The Leprosy Mission Social Worker may be approached for advice if other avenues are not available.

Patients should be assessed at the time of diagnosis for disabilities and referred to the nearest physiotherapy and occupational therapy departments for further assessment and support. Therapists have an important role to play in monitoring muscle and sensory functions and the education and training of the patient with a view to preventing disabilities. Assessment forms and disability prevention manuals are available free of charge from the Leprosy Mission.

4. Programme Management

4.1 Implementation

4.1.1 National level

The following essential activities will be the responsibility of the National Department of Health in collaboration with The Leprosy Mission (Southern Africa):

- To ensure completeness of leprosy notification;
- To produce an annual report; and
- To identify a leprosy expert to act as advisor to the Department of Health and other Stakeholders.

4.1.2 Provincial level

The province level will be responsible for ensuring the following:

- Confirmation of diagnosis;
- Initiation and completion of treatment;
- Notification of cases;
- Facilitate training of health workers on the recognition and management of complications;
- Admission of patients for the treatment of reactions and complications if necessary;
- Identify local experts for the diagnosis and management of leprosy patients;
- Identify facilities with expertise in leprosy diagnosis and management; and
- Ensure rehabilitation of leprosy patients.

The Leprosy Mission supports the above services by:

- Supervising leprosy clinics;
- Supervising leprosy treatment;
- Providing training for health workers in the recognition and treatment of leprosy;
- Conducting home visits to leprosy patients to provide education about the disease; and its treatment and to identify undiagnosed leprosy patients amongst the household contacts; and
- Facilitates the rehabilitation of leprosy patients.

4.2 Notifications and Surveillance

Surveillance allows the identification of geographically high-risk areas, so that a targeted approach can be followed to eliminate leprosy.

Notification to the Department of Health is done on the GW 17/5 form (for cases) and GW 17/4 form (for deaths). The completed GW 17/5 and GW 17/4 forms are sent weekly from local authority to district offices to the appropriate provincial office and then to the national Department of Health.

It is important that the diagnostic (referral) centre concerned should send a letter to the local or district authority where the patient resides to inform them of the patient and details of contacts, so that appropriate follow-up can be done. A copy of the letter should also be sent directly to the provincial Communicable Disease Control (CDC) Coordinator.

This procedure should be undertaken with due respect to patient's right to knowledge of whom is to be told and how, to dignity, confidentiality and the need to identify early cases among his or her contacts.

Monitoring and evaluation of leprosy control activities should be part of the routine activities of the provincial CDC.

Annexure A: List of Dermatologists Assisting in the Management of Leprosy

PROVINCE	DERMATOLOGIST	TELEPHONE	FAX NUMBER
Eastern Cape	Dr L la Grange	043 708 2456	043 761 1158
Kwazulu-Natal	Dr R Singh	031 208 0695	031 208 0697
Gauteng	Dr L Wentzel	012 335 3303	012 335 9635
Free State	Dr L Sinclair	051 405 2546	051 448 3504
Mpumalanga	Dr I S Ukpe	082 8089679	
North-West	Dr K Lee	018 462 6838	018 462 4253
Gauteng	Dr N Grilo	011 454 2486	011 616 3757
Gauteng	Professor J Schulz	012 488 3644	011 488 3457
Gauteng	Dr M Motsoaledi	012 521 4001	012 521 5831
Western Cape	Professor G Todd	021 404 3376	021 447 8232
Limpopo	Dr A Sema	015 287 5000	015 297 2604

Annexure B: Histological Classification of Leprosy

Histological Feature	TT	BT	BB	BL	LL
Granuloma	Epithelioid cells with or without Giant cells, in Foci	Like TT	Epithelioid cells but not giant cells	(a)Histiocytes evolving to epithelioid cells; scanty foamy change. Lymphocytes scanty. (b)Histiocytes sometimes foamy; no large globi. Many lymphocytes	Active: Macrophages round or spindle-shape, with many bacilli. Regressive: Histiocytes with fatty change; foam cells or globi often large, multinucleate
Lymphocytes	Dense zone of infiltration Round foci of granuloma	Like TT	Usually scanty. If present they are diffusely through granuloma.	(a) Scanty (b) Numerous occupying whole segments of granuloma, or forming perineural cuffs	Scanty, diffuse
Nerves	Those in granuloma usually destroyed beyond recognition. Occasional caseation.	Greatly swollen by Schwann cell proliferation. Perineural sheath intact	Moderate Schwann cell Proliferation. Sheath intact	No cell proliferation in nerve bundle, which is often structureless. May be infiltration of histiocytes in perineurium	May show structural damage but not infiltration or cuffing
Subepidermal Zone	Granuloma extends to basal layer of epidermis. No clear zone	Clear subepidermal zone, usually narrow	Clear subepidermal zone, broad or narrow	Like BB	Like BB
Bacilli in Granuloma	None seen	0-3 +	3-5 +	5 or 6 +	5 or 6 +

TT: Tuberculoid Leprosy, – BT: Borderline Tuberculoid Leprosy, – BB: Borderline Leprosy, – BL: Borderline Lepromatous Leprosy, – LL: Lepromatous Leprosy

Annexure C: List Of Provincial Facilities For Leprosy Management

PROVINCE	HOSPITAL	TELEPHONE	FAX NUMBER
Gauteng	1. Kopanong Hospital	016 428-7000	016 428-1148
	2. Chris Hani Baragwanath	011 933-8000	011 938-1005
	3. Tambo Hospital	011 898-8000	011 892-0358
	4. Kalafong Hospital	012 318-6400	012 373-4710
	5. Sizwe Tropical Disease Hospital	011 315-0519	
Mpumalanga	1. Piet Retief Hospital	017 824-1200	017 824-1222
	2. Ermelo Hospital	017 811-2031	017 811-5104
	3. Embuleni Hospital	017 883-0093	017 338-0044
	4. Bethal Hospital	017 647-6341	017 647-1328
	5. Standerton Hospital	017 712-2323	017 719-1112
	6. Themba Hospital	013 796-9400	013 796-0339
	7. Witbank Hospital	013 656-2111	013 656-1316
	8. Shongwe Hospital	013 781-3000	013 781-3012
Limpopo	1. Letaba Hospital	015 303-1711	015 303-0207
	2. Tshilidzini Hospital	015 964-1061-8	015 964-1492
	3. Mankweng Hospital	015 267-0330	015 267-0206
	4. St Ritas Hospital	013 298-1004	013 298-1067
	5. Warmbath Hospital	014 736-2121	014 736-5762
	6. Philadelphia Hospital	013 983-0112	013 983-1016
North West	1. Tshepong Hospital	018 465-3999	018 465-5160
	2. Jubilee Hospital	012 717-9300	012 717-7404
	3. Rustenburg Hospital	014 590-5100	014 592-3789
	4. Bophelong Hospital	018 383-2005/6	018 383 3207
	5. Taung District Hospital	053 994-8100	053 994-1009

PROVINCE	HOSPITAL	TELEPHONE	FAX NUMBER
Free State	1. Pelonomi Hospital	051 405-1911	051 405-1770
	2. Manapo Hospital	058 718-3200	058 718-3334
	3. Umtata Hospital	047 502-4400	047 502-4968
	4. Butterworth Hospital	047 491-4161	
	5. Maluti Clinic	039 256-0118	
	6. Nessie Knight Hospital	047 557-0722	
	7. Umzimkhulu Hospital	039 259-0310	
	8. Cecilia Makewani Hospital	043 708-2111	043 761-1158
	9. Thornhill Clinic	043 851-1070	
	10. Mooiplaas Clinic	043 851-1539	
	11. Sotho Clinic	043 831-1013	043 831-1338
	12. Komga Clinic		
	13. Schauderville Clinic		
Northern Cape	1. Kimberley Hospital	053 802-9111	053 802-2432
	2. Gordonia Hospital	054 338-6100	054 332-5047
Kwazulu-Natal	1. Madadeni Hospital	034 374-9221	
	2. Edendale Hospital	033 395-4911	033 395-4060
	3. Manguzi Hospital	035 592-0150	035 592-0158
	4. Prince Mshiyeni Hospital	031 907-8111	031 907-3334
Western Cape	1. Grootte Schuur Hospital	021 404 9111	
	2. Tygerberg Hospital	021 938 4911	

Annexure D: Contact Persons at the Leprosy Mission (Southern Africa) for the Leprosy Clinics

Central contact number: 011 440 6323 Central Fax: 011 440 6324
Central email: peter@tlm.co.za

PROVINCE	RESPONSIBLE PERSON	TELEPHONE	FAX NUMBER	Email
Gauteng, Mpumalanga Limpopo, Free State, Northern Cape and North West	Mr. Simon Ntsimane	083 492 4234 011 440 6323	011 440 6324	simon@tlm.co.za
KwaZulu-Natal	Mr. Lucky Kunene	031 907 1833 072 329 1992	031 907 1833	kunenel@telkomsa.net
Eastern Cape and Western Cape	Ms Nomsa Mpushe	073 894 6592 040 656 2463	040 654 1815	nmpushe@yahoo.com
Psycho-Social Care	Ms Erna Moller	082 731 9857 011 440 6323	011 440 6324	erna@tlm.co.za

Annexure E: Communicable Disease Control Resource Offices

PROVINCE	ADDRESS	TEL. NO.	FAX. NO.
National	Department of Health Private Bag x828, Pretoria, 0001	012- 395 8096	012-395 8905/6
Northern Cape	Department of Health, Northern Cape Province Private Bag x5049, Kimberly, 8301	053-830 0526/29	053-830 0065
Limpopo	Department of Health, Limpopo Province, Private Bag x9302, Polokwane, 0700	015-293 6062/3	015-293 6281
North West	epartment of Health, North West Province Private Bag x2068, Mmabatho, 0273	018-397 2600/2353	018-397 2627/2656
Western Cape	Department of Health, Western Cape Province P.O. Box 2060, Cape Town, 8001	021-483 5707/3156	021-483 2682
Eastern Cape	Department of Health, Eastern Cape Province Private Bag x0038, Bisho, 5605	040-608 1175	040- 609 4255/3597
Free State	Department of Health, Free State Province P.O. Box 517, Bloemfontein, 9300	051-408 1595/1794	051-408 1961/1074
Gauteng	Department of Health, Gauteng Province Private Bag x085, Marshalltown, 2107	011-355 3867	011-355 3171/3338
Mpumalanga	Department of Health, Mpumalanga Province Private, Bag x1128, Nelspruit, 1200	013-766 3411/3078	013-766 3474/3
KwaZulu-Natal	Department of Health, KwaZulu-Natal Province Private Bag x9051, Pietermaritzburg, 3200	033-395-2051	033-342 5830

To order copies of these guidelines, fax this form to:

health

Department:
Health
REPUBLIC OF SOUTH AFRICA

Director-General
National Department of Health
Directorate: Communicable Disease Control

Private Bag X828
Pretoria, 0001
Republic of South Africa

Telephone	Fax
(012) 395 8000	(012) 395 8905/6

CLINICAL GUIDELINES ON LEPROSY CONTROL IN SOUTH AFRICA

NAME: ……

ADDRESS: ……

……

……

CODE: …… NUMBER OF COPIES REQUESTED: ……