

National Leprosy Eradication Programme

Training Manual *for* Medical Officer



Central Leprosy Division
Directorate General of Health Services
Ministry of Health and Family Welfare (GoI)
Nirman Bhawan, New Delhi



**National Leprosy Eradication
Programme (NLEP)**

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for
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Table of contents

National Leprosy Eradication Program (NLEP) Training manual for Medical Officer (MO) – CHC/PHC

Sl. No.	Topic	Page Nos.
	<i>Foreword</i>	
	<i>Preface</i>	
1.	Introduction: National Leprosy Eradication Programme	5
2.	Epidemiology	6
3.	Pathogenesis of Leprosy	8
4.	Diagnosis of Leprosy	9
5.	Grouping/Classification	15
6.	Management of Leprosy	16
7.	Leprosy Reaction	19
8.	Relapse	22
9.	Disability and Its Management	22
10.	Ulcer Care	25
11.	Supervision & Monitoring	26
12.	I.E.C	28
Annexures		
	Annexure 1: Role of Medical Officer at PHC	30
	Annexure 2: Training Curriculum	31
	Annexure 3: Simplified Information System (SIS) Formats	32
	Annexure 4: DPMR Formats	37
	Glossary	42

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FOREWORD

The National Leprosy Eradication Programme (NLEP) was started in the year 1983 with the objective of achieving eradication of the disease from the country. Elimination has been achieved against this dreaded disease in 2005 when the leprosy recorded cases load had come down to less than 1 case for 10,000 Population at National level. Although the country has achieved elimination of leprosy as a public health problem, yet new case detection has remained about to 1.3 lacks annually. These newly detected cases have to be provided quality leprosy services through the General Health Care system so that they are diagnosed and treated early with MDT.

Medical officer at PHC/CHC is the key person to treat leprosy. Availability of this training manual should help in standardizing the training given to the Medical Officers, who in turn have to provide service to the persons affected by leprosy and also to teach the Health Workers under them.

I am sure the manual prepared by experts & central leprosy division will be used by the Medical Personnel working in the General Health Care system and make practical use of the same. I would like to acknowledge, all experts who helped in bringing out the training manual.

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PREFACE

Medical officers working at Community Health Centre (CHC)/ Primary Health Center (PHC)/ Dispensary play a key role in diagnosis & treatment of Leprosy. They should be well versed with the basics of Leprosy, Multi Drug Therapy (MDT), Disability Prevention & Medical Rehabilitation (DPMR), Supervision & Monitoring and other components of National Leprosy Eradication Programme (NLEP). This training manual will help in building their capacity in the above aspects. It is expected that after 3 days training, the medical officers will:

- be able to demonstrate the correct method of examination of skin lesions/peripheral nerves and counseling skills;
- correctly diagnose the disease;
- be able to describe how to manage reactions/neuritis
- be able to identify difficult to manage complications and refer them
- correctly list out the problems and possible remedial measures
- be able to describe the methods of monitoring and supervision of the program.

To achieve these learning objectives, medical officers have to concentrate on developing clinical and managerial skills required to manage a case of Leprosy. I presume that Medical Officers understand that skills development needs continued practice. Minimum essential contents have been included in this manual and more will be required to read before and practice after the 3 days training. I hope this manual will be useful in capacity building of medical officers in management of Leprosy.

I would like to thank International Federation of Anti Leprosy of Associations (ILEP) and the core group, for developing and revising the Medical Officers manual and for supporting its printing



(Dr. C. M. Agrawal)



Let's Fight Leprosy & Make Leprosy a History
Website: www.nlep.nic.in



National Leprosy Eradication Programme

The National Leprosy Control Program was launched by the Govt. of India in 1955. Multi Drug Therapy came into wide use from 1982 and the National Leprosy Eradication Program was introduced in 1983. Since then, remarkable progress has been achieved in reducing the disease burden. The National Leprosy Eradication Programme is 100% centrally sponsored scheme. MDT is supplied free of cost by WHO.

Following are the programme components –

- (i) Decentralized integrated leprosy services through General Health Care System.
- (ii) Training in leprosy to all General Health Services functionaries.
- (iii) Intensified Information, Education & Communication (IEC).
- (iv) Renewed emphasis on Prevention of Disability and Medical Rehabilitation and
- (v) Monitoring and supervision.

Results (Objectives) to be achieved during 12th plan period i.e. 2012-2017 are as follow-

- Improved early case detection
- Improved case management
- Stigma reduced
- Development of leprosy expertise sustained
- Research supported evidence based programme practices
- Monitoring supervision and evaluation system improved
- Increased participation of persons affected by leprosy in society
- Programme management ensured



2 Epidemiology

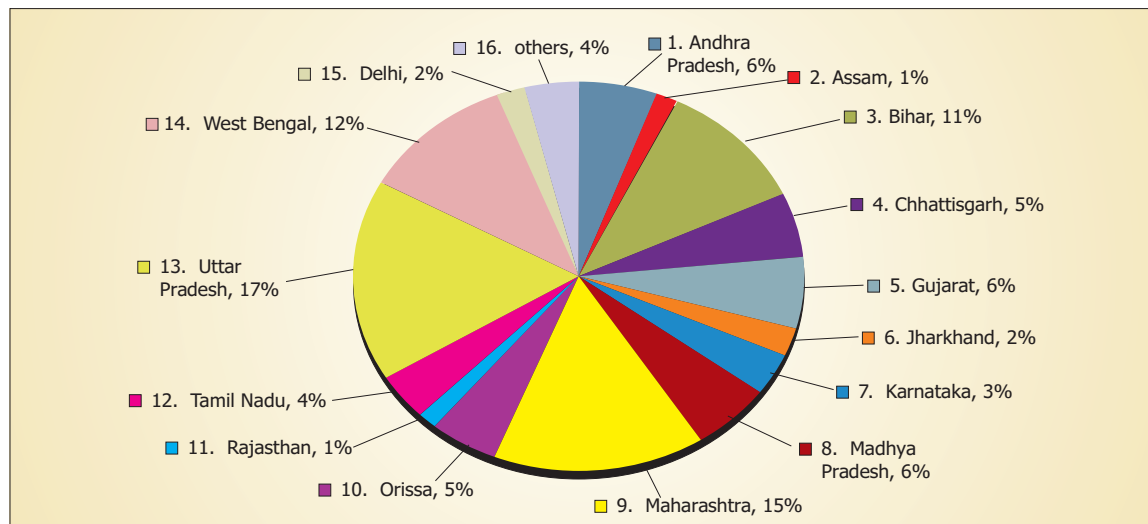
Definition

Epidemiology is the study of distribution and determinants of the disease (Leprosy) in a specified population (i.e., population covered by the health centre) and to apply this knowledge for the control of that disease.

Leprosy in India:

India contributes to more than 50% of new cases detected globally every year. India achieved goal of leprosy elimination in December 2005. 32 states/UTs achieved elimination. 3 States / UTs viz. Bihar, Chhattisgarh and Dadra & Nagar Haveli has remained with PR between 1 and 2.3 per 10,000 population. A total of 1.27 lakh new cases were detected during the year 2011-12, which gives ANCDR of 10.35 per 100,000 population. A total of 0.83 lakh cases are on record as on 1st April 2012 given the Prevalence Rate (PR) of 0.68 per 10,000 Pop. On a new leprosy cases detected during 2011-12 indicates the proportion of MB (49.0), Female (37.0), Child (19.7), and visible deformity (3.0). Total of 3865 persons with Gr. II disability detected in the new leprosy cases during 2011-12 which gives the Gr. II disability rate of 3.14 per million pop. In addition 4817 Gr. I cases were recorded which is 3.78% of the new cases during the year. A total of 12305 new child cases were recorded which gives the child case rate of 1.0 per 100000 pop.

Distribution of cases in different Indian states 2011-12



Determinants of Leprosy

Agent: Leprosy is caused by *Mycobacterium leprae* intracellular, obligatory parasite. It is a slow growing bacillus and one Leprosy bacillus takes 12-14 days to divide in to two. It is an acid-fast bacillus and is stained red by a dye called carbol fuchsin.

Source of infection: Untreated Leprosy affected person (Human beings) is the only known source for *M leprae*.



Portal of exit: The major sites from which bacilli escape from the body of an infectious patient is respiratory tract especially nose. Only small proportion of those suffering from Leprosy can transmit infection.

Transmission of infection: Leprosy is transmitted from untreated Leprosy affected person to a susceptible person through droplets, mainly via the respiratory tract.

Portal of entry: Respiratory route appears to be the most probable route of entry for the bacilli.

Incubation period: Incubation period (Duration from time of entry of the organism in the body to appearance of first clinical sign and symptom) for Leprosy is variable from few weeks to even 20 years. The average incubation period for the disease is said to be 5–7 years.

Host factors

Age: Leprosy can occur at any age but is usually seen in people between 20–30 years of age. Increased proportion of affected children in the population indicates the presence of active transmission of the disease in the community. As the disease burden declines, it is seen more in older age groups.

Gender: Disease occurs in both the genders. However, males are affected more as compared to females

Immunity: Occurrence of the disease depends on susceptibility/immunological status of an individual.

Socio-Economic Factors: Leprosy is a disease generally associated with poverty and related factors like overcrowding. However, it may affect persons of any socioeconomic group.

Factors influencing susceptibility

- **Age:** Children are more susceptible than adults.
- **Individual immunity :** May be determined by certain genetic factors which influence the susceptibility of an individual
- **Climate:** Leprosy is prevalent in tropical and subtropical climates.



3 Pathogenesis of Leprosy

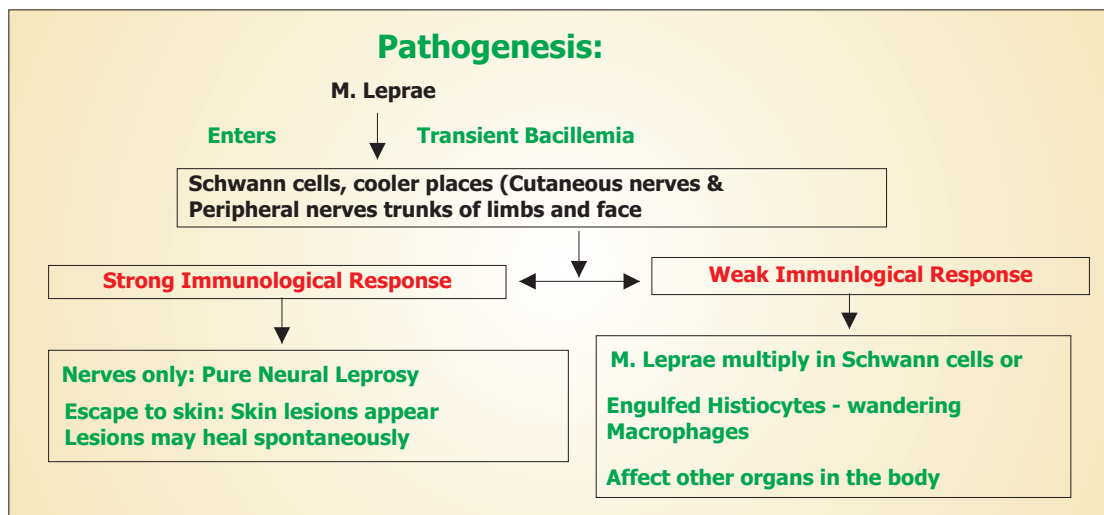
Onset of leprosy is insidious. It affects nerves, skin and eyes it may also effect mucosa (mouth, nose pharynx), testis, kidney, voluntary/smooth muscles, reticulo-endothelial system and vascular endothelium.

Bacilli enter the body usually through respiratory system. It has low pathogenicity, only a small proportion of infected people develop signs of the disease. Though infected, majority of the population do not develop the disease. After entering the body, bacilli migrate towards the neural tissue and enter Schwann cells. Bacteria can also be found in macrophages, muscles cells and endothelial cells of blood vessels.

After entering Schwann cells or macrophages; fate of the bacterium depends on the resistance of the infected individual towards the infection organism. Bacilli start multiplying slowly (about 12-14 days for one bacterium to divide into two) within the cells, get liberated from the destroyed cells and enter other unaffected cells. Till this state person remains free from signs and symptoms of leprosy.

As the bacilli multiply, bacterial load increases in the body and infection is recognized by the immunological system. Lymphocytes and histocytes (macrophages) invade the infected tissue. At this stage clinical manifestation may appear as involvement of nerves with impairment of sensation and /or skin patch. If it is not diagnosed and treated in the early stages, further progress of the disease is determined by the strength of the patient's immune response.

Specific and effective cell mediated immunity (CMI) provides protection to a person against leprosy. When specific CMI is effective in elimination / controlling the infection in the body, lesions heal spontaneously or it produces pauci bacillary (PB) type of leprosy. If CMI is deficient; the disease spreads uncontrolled and produces multi bacillary (MB) leprosy with multiple system involvement. Sometimes, the immune response is abruptly altered, either following treatment (MDT) or due to improvement of immunological status, which results in the inflammation of skin or / nerves and even other tissues, called as leprosy reaction.





4 Diagnosis of Leprosy

- A case of leprosy is diagnosed by eliciting cardinal signs of leprosy through systematic clinical (and wherever required bacteriological) examination.
- At least one of the following cardinal (unique & very important) signs must be present to diagnose leprosy.
 - a) Hypopigmented or reddish skin lesion(s) with definite sensory deficit
 - b) Involvement of the peripheral nerves, as demonstrated by definite thickening with loss of sensation and weakness of the corresponding muscles of the hands, feet or eyes,
 - c) Demonstration of M leprae in the lesions.

The first two cardinal signs can be identified by clinical examination alone while the third can be identified by examination of the slit skin smear.

- A person with cardinal signs of leprosy and yet to complete full course of MDT may be called as “case of leprosy”.

Differential Diagnosis

There are many skin diseases and neurological condition which mimic leprosy. To differentiate, cardinal signs of leprosy should be kept in mind. Any skin patch since birth, Milky white (de pigmented) or itchy is less likely to be leprosy. The common skin diseases under differential diagnosis may be psoriasis, secondary syphilis, vitiligo, birth marks, PKDL, lupus vulgaris etc. In cases of plantar ulcer or deformed hand or feet, nerve examination should be conducted to rule out other conditions.

Clinical Examination

Clinical examination includes careful interview of patient to get detailed history and examination of skin and nerves.

- A. Case History:** The leprosy history should elicit the following:
- Name, sex, age (year of birth), address, occupation etc.
 - Presenting complaints and their duration (A patch of a few days or that which is present since birth or an itchy patch is unlikely to be leprosy)
 - History of recurrence (a recurrent lesion which “comes and goes” will not be due to leprosy)
 - Any deformity, the time of its onset, and nature of its progress;
 - Treatment history - treatment taken, what drugs for how long.
 - Any other associated illness (jaundice, cough, swelling of the feet at present or in the recent past)
 - Any other person in the family or close contacts having similar disease or had the disease and was treated



B. Skin examination: Remember the cardinal sign:

Hypo-pigmented or reddish skin lesion(s) with definite sensory deficit.

- Choose a place where good light is available
- As far as possible, choose a place where there is privacy
- Always examine the whole skin from head to toe as much as possible.
- Use the same order of examination always so that you do not forget to examine any part of the body.



The following features must be noted when examining a patch on the skin Site: This is useful for follow-up.

Number: The number of lesions indicates the severity of the disease. This is useful for grouping and follow-up.



Color: May be hypo-pigmented (lighter in color than the rest of the skin), or erythematous (red). Lesions of leprosy are never de-

pigmented. Erythematous color can be used to identify disease activity or a reaction state. (Active lesions or those in reaction are often red).

Sensory deficit: This is useful for diagnosis. Loss of sensation is a cardinal sign of leprosy.

Tenderness on gentle tapping: This is seen in reaction states.

Presence of infiltration:

This term refers to skin, which is thickened, shiny and erythematous. All three features must be present in the same area. Diffuse infiltration may be the only early presenting sign in severe forms of leprosy.

Nodules may be found in the skin in severe forms of leprosy.





Testing the sensation over skin

It is very important to pick up the skill of eliciting sensory loss in skin patch.

- You will need a light ballpoint pen (with plastic body) without cap.
- Explain to the person what you are going to do and demonstrate it.
- Touch the skin with the tip of pen lightly, ask the individual to point to the spot touched with his index finger.
- Repeat this procedure a few times until the patient is familiar and comfortable with the procedure.
- Now ask the patient to close his eyes and repeat the procedure (first on the normal skin then over the affected area).
- While testing lesions over inaccessible areas (back, buttocks) the patient may be asked to count on each touch.

Remember:

- Do not use other “instruments” like pin, cotton wool, feather, etc.
- When testing for sensation, touch the skin lightly with the pen. Do not stroke.
- The pen should be perpendicular to the surface of the skin.
- Do not keep asking the patient whether he feels the touch. You may get misleading results.
- Proceed from the normal skin to the patch.
- Give only one stimulus at a time.
- Vary the pace of testing.

C Nerve examination:

Remember the cardinal sign:

"Involvement of the peripheral nerves, as demonstrated by definite thickening with a loss of sensation with or without weakness of the corresponding muscles of the hands, feet or eyes. "

Examination of nerves in all the patients is very important for diagnosis, grouping and for prevention of deformity. This involves two aspects:

- palpation of the nerves for thickening, tenderness and consistency and assessment of nerve function - sensory and motor

Palpation of Nerves

- a) The patient should be properly positioned. The examiner should also be positioned correctly.
- b) Locate the nerve correctly
- c) Observe the patient’s face while palpating the nerve to elicit tenderness.
- d) Palpate gently with the pulp of the two fingers, not the tips of fingers,
- e) Always palpate across the course of the nerve.
- f) Feel along the nerve as far as possible in both directions.

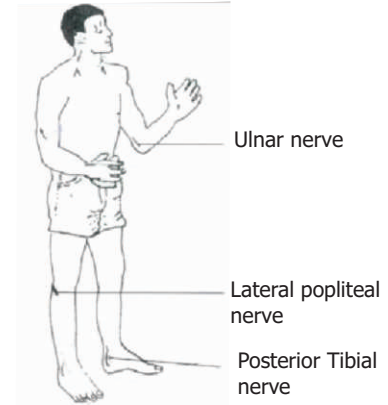


The peripheral nerves most commonly affected in leprosy are

Ulnar, Lateral Popliteal and Posterior Tibial nerve.

Other nerves, which may be affected are –

Facial, Trigeminal, Median and Radial.



Ulnar nerve

- Site: In the groove above and behind medial epicondyle of the elbow.
- Position of patient: Both the patient and examiner facing each other.
- To examine right ulnar nerve, ask the patient to flex the elbow joint slightly. Hold the right wrist with your left hand.
- With the right hand feel for the medial epicondyle.
- Pass behind the elbow and feel the ulnar nerve in the groove.
- Gently palpate with pulp of 2 fingers (index & middle) and feel across the nerve, constantly watching facial expression for signs of tenderness.
- Trace the nerve proximally as far as to ascertain the length of the swelling.

Lateral popliteal nerve

- Site: back of the knee, behind the head of fibula.
- Position of patient: Patient standing with knees slightly flexed (not total) and examiner squatting.
- Identify the head of fibula on the lateral aspect of knee in line with lower end of patella.
- Pass backwards and feel the nerve just behind the fibular head.
- Gently palpate with pulp of 2 fingers (index & middle) and feel across the nerve, constantly watching facial expression for signs of tenderness.
- The palpable course of the nerve is very short.

Posterior tibial nerve?

- Site: Below and behind the medial malleolus
- Position of Patient: to rest the ankle on thigh
- Identify the medial malleolus. Locate the nerve just below and behind medial malleolus (approximately at the midpoint between medial malleolus and heel)
- Palpate with the pulp of finger and feel across the nerve constantly watching facial expression for signs of tenderness.
- The palpable course of the nerve is very short.



Assessment of Nerves Function

Voluntary Muscle Testing (VMT)

- Voluntary muscle testing is done by first checking the range of movement to see whether movement is normal, reduced or absent due to paralysis. If movement is normal, a test for resistance is then done. Press gently in the opposite direction while asking the patient to maintain position, resisting pressure as strongly as possible. Then gradually press more firmly and judge whether resistance is normal, reduced or absent. The grading of the result can be done as follows:
 - S (Strong) = Able to perform the movement against full resistance
 - W (Weak) = Able to perform the movement but not against full resistance
 - P (Paralysed) = Not able to perform the movement at all.

VMT for Facial Nerve:

- Ask the patient to close his eyes and keep them lightly closed as if in sleep.
- If there is no gap, ask him to close the eye tightly and try to pull the lower lid down and see whether the patient is able to keep his eyes closed against resistance.

Able to keep his eye closed against resistance

Grade 'S'

A gap visible between the upper and lower eyelids

Grade 'P'

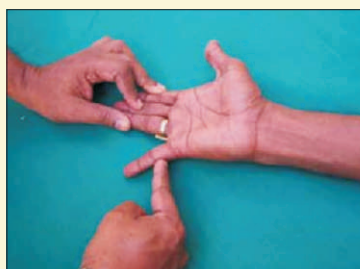
Not able to keep his eye closed

Grade 'W'



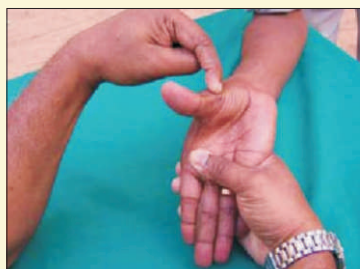
VMT for Ulnar Nerve:

- Ask the patient to push his little finger out in the same plane as palm. To test for weakness, push the little finger towards the hand while the patient tries to hold it in the test position. The pressure should be applied at the base of little finger. Grade the muscle power as 'S', 'W' or 'P'.



VMT for Median Nerve:

- Ask the patient to hold his thumb at right angle to the palm. To test for weakness, push the thumb towards index finger while the patient tries to hold it in the test position. The pressure should be applied at the base of thumb. Grade the muscle power as 'S', 'W', or 'P'.





VMT for Radial Nerve:

- Ask the patient to make a fist and then dorsiflex the wrist. To test for weakness, press the hand downwards as shown in the diagram while the patient tries to hold it in the test position. Grade the muscle power as 'S', 'W', or 'P'.



VMT for Lateral Popliteal Nerve:

- Lift the foot off the ground and support at calf region. Then ask the patient to dorsiflex his foot fully. To test for weakness, push the foot downwards while the patient tries to hold it in the test position. Grade the muscle power as S', 'W', or 'P' as described above.



Sensory test (S.T.)- Method of sensory test over the skin supplied by nerve is same as that for testing a patch. Given below are the suggested spots for testing sensation over the palms and soles.



Points for ST in sole



Points for ST in palm

Efforts are made to ensure that persons with disability do not worsen. For example a person with anaesthesia in the foot should not develop ulcers. Patients should be helped to manage their disabilities by self-care practice.

5

Grouping/Classification



Grouping or classification of leprosy cases

After making a diagnosis of leprosy, one should group the patient based on certain characteristics. This is important because it helps in selecting the correct combination of drugs for a given patient.

Criteria for grouping

	<i>Characteristic</i>	<i>PB (Pauci Bacillary)</i>	<i>MB (Multi Bacillary)</i>
1	Skin lesions	1 - 5 lesions	6 and above
2	Peripheral nerve	No nerve / only one nerve involvement	More than one nerve
3	Skin smear	Negative at all sites	Positive at any site

Grading Of Disabilities

Hands & Feet

- Grade 0: No anaesthesia, over palm/sole no visible deformity or damage
- Grade 1 : Anaesthesia present, over palm/sole but no visible deformity or damage
- Grade 2 : Visible deformity or damage present

Eyes

- Grade 0 : No eye problem due to leprosy; no evidence of visual loss
- Grade 2: Severe visual impairment (vision worse than 6/60; inability to count fingers at six meters), lagophthalmos, iridocyclitis and corneal opacities.

EHF score: It is some of the individual disability guide for each eye, hand and feet. EHF score can range for 0 to 12.





6 Management of Leprosy

The treatment of leprosy is in the form of Multi Drug Therapy (MDT) which is the combination of two or three of the following drugs:


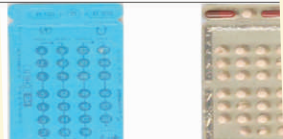
- a) Cap. Rifampicin
- b) Tab. Dapsone
- c) Cap. Clofazimine
 - i. MDT kills the bacilli (*M. leprae*) in the body and thus stops the progression of the disease and prevents further complications.
 - ii. As the *M. leprae* are killed, the patient becomes non-infectious and thus the spread of infection in the body is reduced. Moreover, spread of infection to other persons is also reduced.
 - iii. Using a combination of two or three drugs instead of one drug alone will ensure effective cure and there are no chances of development of resistance to the drugs.
 - Based on the grouping, the patients can be given any one of the standard MDT regimens mentioned below. In children, the dose may be adjusted suitably.
 - When the patient has completed the required number of doses (monthly pulses) of standard MDT regimens, s/he is released from Treatment - RFT.

MDT regimen (Adult)

The appropriate dose for children under 10 years of age can be decided on the basis of body weight.

	Drugs used (adult)	Dosage	Frequency of Administration	Criteria for RFT	
MB leprosy	Rifampicin Dapsone Clofazimine Clofazimine	600 mg 100 mg 300 mg 50 mg	Once monthly Daily Once monthly Daily	Completion of 12 monthly pulses	
PB leprosy	Rifampicin Dapsone	600 mg 100 mg	Once monthly Daily	Completion of 6 monthly pulses	

MDT regimen (Child - 10-14 years of age)

MB leprosy	Rifampicin Dapsone Clofazimine Clofazimine	450 mg 50 mg 150 mg 50 mg	Once monthly Daily Once monthly Every other day	Completion of 12 monthly pulses	
PB leprosy	Rifampicin Dapsone	450 mg 50 mg	Once monthly Daily	Completion of 6 monthly pulses	

The appropriate dose for children under 10 years of age can be decided on the basis of body weight.

- Rifampicin: 10 mg per kilogram
- Clofazimine: 6 mg per kilogram monthly and 1 mg per kilogram per body weight daily
- Dapsone: 2 mg per kilogram body weight daily.



Regarding fitness of patient for MDT, before starting treatment one must look for the following:

- a) Jaundice : If the patient is jaundiced, you will have to wait until jaundice subsides.
- b) Anaemia: If the patient is anaemic, treat the anaemia also simultaneously.
- c) Tuberculosis: If the patient is taking Rifampicin, ensure that he continues to take Rifampicin in the dose required for the treatment of tuberculosis along with other drugs required for the treatment of leprosy.
- d) Allergy to sulpha drugs: If the patient is known to be allergic to sulpha drugs, Dapsone should be avoided. Clofazimine may be used instead.

To ensure the regularity of treatment

- Adequate counseling at the start of treatment will encourage the patient to be regular and complete the required number of doses of MDT.
- Patients who are absent should be contacted immediately to identify the reasons and take corrective actions.
- Flexibility in MDT delivery accompanied MDT (more than one pulse dose at a time) may be adapted whenever it is essential.
- The explanation a patient receives at the beginning of treatment is very important. It helps the patient to be regular and to complete the treatment in time.
- Patients who have completed treatment before and return with extension of old lesions and/or appearance of new lesions could be relapse or the reaction. They should be referred to district nucleus or specialized centre.
- All patients who fail to collect drugs should be contacted immediately and effort should be made to ensure that the patient resumes treatment. Whenever a PB patient has missed more than three months of treatment or MB patient more than 6 months of treatment they should be declared as defaulter. They should re-examined after retrieval on regimen accordingly.
- Patients migrating to another place in the middle of treatment could be given all the remaining doses of MDT with proper counseling. The patient is made RFT in the register at the expected month of completion of treatment.
- Treatment register (LF 02) and drug stock register (LF 03) are maintained at the health facility by pharmacist or any other identified person. The MO of the health facility should ensure that the treatment cards and registers are updated regularly.
- At least 3 months drug stock should be maintained at the district whereas at the health facility level 2 months buffer should be available. PHCs with no case in the last 3 months need not keep any stock.
- District leprosy office should estimate the amount of drugs of all categories required for the whole year taking into consideration the stock in hand (with expiry date) and number of new cases expected.
- Each health facility will prepare and submit monthly progress report (LF 04) to the block level PHC which will compile the reports and send the consolidated report to DLO.



Side Effects of Anti-Leprosy Drugs:

Dapsone



7 Leprosy Reaction

It is acute inflammatory response occurring in the course of the disease. It can occur at any time before, during or after treatment. It must be promptly diagnosed and treated to prevent any disability. Patients with the following characteristics are more likely to develop leprosy reactions:



- Multiple lesions
- Lesions close to the peripheral nerve
- Lesions on the face
- Postpartum period

These patients should be monitored more frequently for early detection of reaction and its prompt management.

There are two principal types of Leprosy reactions. Type 1 and Type 2.

- Type 1 Leprosy Reaction also known as Reversal Reaction may occur both in PB and MB leprosy.
- Type 2 reaction is also known as Erythema Nodosum Leprosum (ENL) and occurs only in MB leprosy.

Skin or nerves or both may be affected in reaction.

Features	Type 1 (Reversal reaction)	Type 2 (ENL reaction)
Skin	Existing lesions suddenly become red, swollen, warm, and tender. New lesions may appear. Lesions when subsiding may show scales on the surface	Red, painful, tender, subcutaneous nodules (ENL) appear commonly on face, arms and legs. They appear in groups and subside within a few days even without treatment
Nerves	Nerves close to the skin may become enlarged, tender and painful (neuritis) with loss of nerve function	Nerves may be affected but not as common or severe as in Type 1
Other organs	Rarely affected	Other organs like eye, joints, bones, testes, kidney may be affected
General symptoms	Not common	Fever, joint pains, fatigue
		



Managing a patient with Lepra Reaction

Type 1 Lepra Reaction:

The patient will need Corticosteroids in addition to rest and analgesics. The drug of choice is Prednisolone. The usual course begins with 40-60 mg daily in single dose preferably in the morning (up to a maximum of 1mg/kg of body weight), and the reaction is generally controlled within a few days. The dose is then gradually reduced fortnightly and eventually stopped. Proper precaution should be taken in patients with diabetes, peptic ulcer, hypertension, etc. Necessary precautions for administering steroid should be taken.

Schedule for Prednisolone therapy for an adult patient in type 1 reaction:

40 mg once a day for the first 2 weeks, then
30 mg once a day for weeks 3 and 4
20 mg once a day for week 5 and 6
15 mg once a day for weeks 7 and 8
10 mg once a day for weeks 9 and 10, and
5 mg once a day for weeks 11 and 12

In case of neuritis, (involvement of peripheral nerve) the period of treatment may be prolonged according to the response. From 20 mg onwards the dose for each period would be for 4 weeks. Response to steroid therapy is generally seen within two weeks. Review the progress every two weeks. If there is no response the same dose may be continued for further two weeks. If there is good response, the dose may be tapered according to the schedule.

It is also important to provide rest to the affected nerve, if involved, until symptoms clear, by applying a padded splint or any suitable alternative material to immobilise the joints near the affected nerve. The aim is to maintain the limb in the resting position to reduce pain and swelling and prevent worsening of the nerve damage.

In case of reaction not responding to treatment after 4 weeks with prednisolone or at any time showing signs of worsening the patient should be referred to the nearest referral centre.



Type 2 Lepra reaction (ENL):

Type 2 reaction	Treatment
Mild: few nodules, mild fever	Analgesics
Severe: severe pain over nodules, tendency for ulceration, high fever, involvement of internal organs	Steroid - Prednisolone whole course not exceeding 2 to 3 weeks (same dose as for Type 1 reaction but faster tapering)
Neuritis	Prednisolone regimen as for neuritis in Type 1 reaction

Clofazimine is also effective for Type 2 reaction but is less potent than corticosteroids and often takes 4-6 weeks to develop its full effects, so it should never be started as the sole agent for the treatment of recurrent Type 2 reaction. However, clofazimine may be extremely useful for reducing or withdrawing corticosteroids in patients who have become dependent on them. The dose required in such cases is 300 mg daily (maximum of 1 month), which may be given in three divided daily doses to minimize the gastro intestinal side effects. It is tapered gradually to 100 mg daily. The total duration of clofazimine therapy should not exceed 12 months. Response will be seen after 2 - 4 weeks after starting the drug. Often, type 2 reaction may recur due to precipitating causes like infection, stress or helminthic infestation. Lepra reaction may subside faster or less likely to recur if precipitating factor is treated.

- If a patient develops lepra reaction during treatment, do not stop MDT (complete the course of MDT).
- Leprosy reactions, which occur after completion of treatment, should also be managed as mentioned above. MDT should not be started again for such cases.

Indications for referral include:

- Failure to respond after 4 weeks of steroid treatment
- Eye involvement
- Other systemic involvement
- Recurrent lepra reactions



8 Relapse

Relapse is defined as the re-occurrence of the disease at any time after the completion of a full course of treatment. Relapse is indicated by the appearance of new skin lesions and, in the case of an MB relapse, by evidence on a skin smear of an increase in BI of two or more units. It is difficult to be certain that a relapse has occurred, as new lesions may appear in leprosy reactions

PB relapses are difficult to differentiate from reversal reactions. If there are signs of recent nerve damage, a reaction is very likely. The most useful distinguishing feature is the time that has passed since the person was treated: if it is less than three years a reaction is most likely, while if it is more than three years, a relapse becomes more likely. A reaction may be treated with steroids, while a relapse will not be greatly affected by a course of steroids, so using steroids as a 'therapeutic trial' can help clarify the diagnosis.

A relapsed case is treated with MDT regimen-PB or MB as per grouping after relapsed

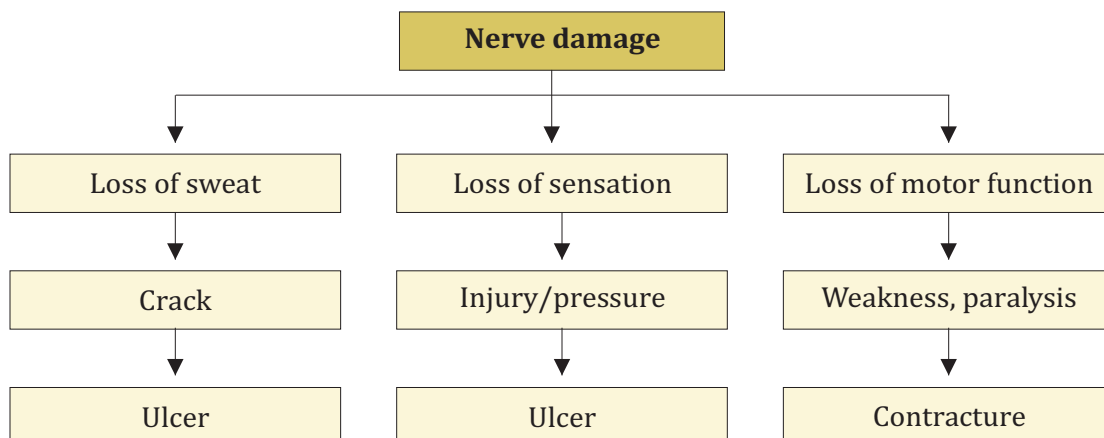
Incidence of relapse after MDT is very negligible.

9 Disability and its Management

Disabilities in leprosy are mainly due to damage to peripheral nerves. Nerve damage can occur as part of lepra reaction with signs of acute inflammation. It can also occur during the course of the disease without any obvious signs and symptoms of inflammation. Early detection and treatment of leprosy and early detection and treatment of nerve dysfunction would prevent the occurrence of disability.









Damage to the nerves results in impairment of sensory, motor and autonomic functions, leading to anaesthesia, paralysis of muscles in eyes and extremities, loss of sweating and fissures/cracks/ulcers over extremities. These disabilities can worsen because of neglect by the patient.

Process of deformity in the hands and feet:





Disabilities in relation to peripheral nerves that are damaged

Site	Nerve	Feature	
Hand	Ulnar nerve	Clawing of 4th and 5th finger Loss of sensation and sweat over the little finger and the inner half of ring finger	
	Median nerve	Inability to move the thumb away (abduction) and touch the tips of other fingers (opposition). Loss of sensation over the thumb, index, middle and outer half of ring finger	
	Ulnar & median	Clawing of all five fingers Loss of sensation and sweat over the whole palm	
	Radial nerve	Wrist drop that is inability to extend at wrist joint	
Foot	Lateral Popliteal Nerve	Foot drop. Loss of sensation over the lower leg and dorsum of the foot	 
	Posterior tibial nerve	Claw toes. loss of sensation & sweat over the sole of the foot	 
Face	Facial nerve	Inability to close the eye (lagophthalmos)	
	Trigeminal nerve	Loss of sensation over cornea	

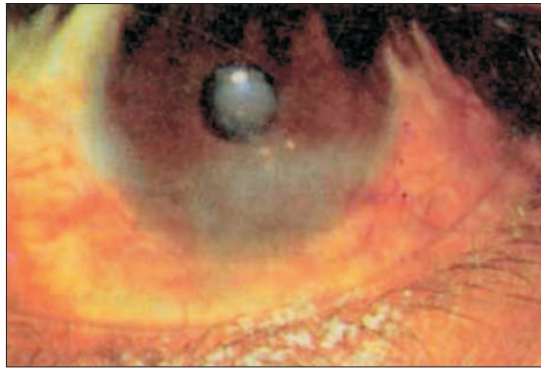


Process of changes in the eyes:

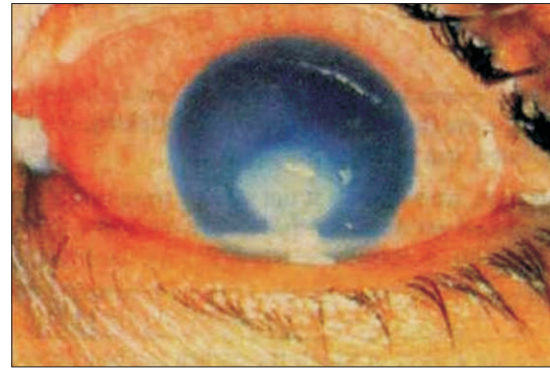
Lagophthalmos



Exposure keratitis- Corneal ulcer



Corneal anaesthesia



Disability can be prevented by:

- a. Detecting leprosy patients as early as possible (early diagnosis of leprosy before disabilities and deformities are set in) and treating them with MDT.
- b. Adequate counseling at the start and during treatment covering the following point for high risk patients.
- c. Possible signs and symptoms of reaction, and the need to report immediately in case of nerve pain, loss of sensation, weakness, tingling/paraesthesia in the hand, face and foot.
- d. Detecting loss of nerve functions early (early diagnosis of lepra reaction / Neuritis).
- e. Check muscle strength and sensation (VMT and ST) i.e. assessment of nerve functions among patients at high risk regularly to detect complications early.
- f. Managing early loss of nerve function appropriately.

If the patient has recent nerve function loss, he should be given a course of steroids.



Management of complicated ulcers:

All wounds are the result of tissue stress. Common causes of ulcer include:

- Sudden injury (e.g. sharp objects that cut or pierce through the skin like thorns or broken glass or burns)
- Repetitive pressure, friction or shear forces (e.g. foot ulcers from walking or hand ulcers from using unprotected hand tools)
- Dryness of skin leading to cracks & fissures
- Secondary infection in macerated skin of web space with candidiasis can lead to deep abscess
- Rarely rat bite can also produce an ulcer on toes, mainly after using vegetable oil on feet.

There are a few major principles that should be remembered when planning ulcer management. If these principles are followed, simple ulcers will heal without any medication:

- Rest
- Good wound environment
- Hygiene
- Protection

Rest:

Almost all wounds will heal if they are rested. Almost all wounds will get worse if they are not rested. Regardless of the cause of injury, the first line in treatment of wounds is to remove the cause of tissue stress and then to allow the injured part to rest so that damaged tissue can repair itself. So long as the person with a wound is healthy, damaged tissue will repair itself. Rest doesn't necessarily mean that the patient must stay in bed (although for foot ulcers this is often the best option). If the person is unable to rest it may still be possible to rest the injured body part by splinting, crutches and standard MCR footwear used in leprosy.

Complications to be referred for management

- Severe side effects of MDT drugs
- Leprosy reaction not responding to steroids even after 4 weeks
- Suspected relapse
- Eye complications
- Severe ENL with involvement of internal organs
- Infected chronic ulcers in foot.
- Patients with disability eligible and willing for Reconstructive Surgery



11 Supervision & Monitoring

Supervision - It is a way of ensuring support and guidance to the staff to enable them to perform their job effectively and efficiently. For this the person who supervises should be competent and should know the job responsibilities of the staff working under him. The supervisor should be able to identify and rectify problems interfering in the implementation of various activities by the subordinate staff. This is done by observing the functioning of staff, through reviews during field visits using checklists, during monthly meeting and review of reports.

Monitoring - The strategy of National Leprosy Eradication Programme is early case detection, prompt treatment with MDT and prevention of disability among patients. Data is continuously collected on all these activities and consolidated into a monthly progress report. Certain indicators are generated out of these reports and are used in assessing the progress. This process helps in knowing whether the activities being carried out by the programme are proceeding according to the plan and take immediate corrective action in case of deficiencies / deviation. All cases detected are brought under treatment. Treatment compliance should be at least 95%. Timely discharge of cases should take place and records should be properly maintained. It is also important to review the integration status through a set of indicators). It is essential to know the impact of the program (evaluation) through the use of indicators. (For additional details refer to SIS guidelines)

Indicators - An indicator is a calculation, which is used to measure progress in implementation of various activities. It can help in assessing how well the leprosy control programme is functioning. For example, one can assess whether all cases are detected without any delay; cases detected are promptly brought under treatment and discharged after adequate therapy. Calculation and analysis of indicators may be done as per government guidelines.

Records Keeping - Records And Reports Under NLEP

(Primary level)		
☞	Patient card	LF - 01
☞	PHC treatment record	LF - 02
☞	Leprosy drug stock record	LF - 03
☞	NLEP monthly reporting form	MLF - 04
☞	Disability Register	Form - P. I
☞	Assessment of Disability and Nerve Function	Form - P. II
☞	Referral Slip	Form - P. III
☞	Prednisolone Card	Form - P. IV

INDICATORS

I	II	III	IV	V	VI
	<i>Indicator</i>	<i>Numerator</i>	<i>Denominator</i>	<i>Source of data</i>	<i>Use</i>
1	Prevalence	No. of patients registered at given point of time	Corrected census population	Treatment register Census	Assess impact of the programme Assess operational efficiency
2	New Case Detection rate	No. of new cases registered in a year	Mid year population	Treatment register census	Assess impact of the programme
3	Proportion of child cases among new cases	No. of child cases among new cases registered in a year	Total no. of new cases registered during the year	Treatment register	Assess impact of the programme
4	Proportion of disabled among new cases	No. of new cases registered during the year with grade II disability.	Total no. of new cases detected during the year	Treatment register	Efficiency in case detection (extent of delay)
5	Proportion of MB cases among new cases	No. of new MB cases registered during the year	Total no. of new cases detected during the year	Treatment register	Assess impact of the programme
6	Treatment completion rate - MB	No. of MB cases completing treatment among MB cases started treatment 2 years previously	No. of MB cases started treatment 2 years previously	Treatment register	Reflects operational efficiency in case holding
7	Treatment completion rate - PB	No. of PB cases completing treatment among PB cases started treatment 1 year previously	No. of PB cases started treatment 1 year previously	Treatment register	Reflects operational efficiency in case holding
8	Proportion of health facilities providing correct diagnosis in 95% of cases	No. of health facilities providing correct diagnosis in 95% of cases	Total no. of health facilities	Screening of a sample of new cases detected in the health facilities by the district nucleus	Reflects competence in diagnosis of leprosy
9	Proportion of health facilities providing correct classification in 95% of leprosy patients	No. of health facilities doing correct classification in 95% of cases	Total no. of health facilities	Screening of a sample of new cases detected in the health facilities by the district nucleus	Reflects competence in classification of leprosy
10	Proportion of health facilities maintaining SIS records correctly.	No. of health facilities maintaining SIS records correctly.	Total no. of health facility by district nucleus	Screening of records at health	Efficiency in maintaining records.
11	Proportion of health facilities having 1 month stock of MDT for each category of patients under treatment	No. of health facilities having 1 month stock of MDT	Total no. of health facilities	Verification of records and drug stock by district nucleus	Efficiency in drug stock management
12	Proportion of health sub-centres referring suspects	Number of health sub-centres referring suspects in a year.	Total no. of functional health sub-centres	Screening of records at health facility by district nucleus	Involvement of PHC staff in case finding
13	Proportion of health sub-centres providing follow-up treatment.	Number of health sub-centres providing follow-up treatment.	Total no. of functional health sub-centres with patients on treatment	Screening of records at health sub-centre by district nucleus	Involvement of PHC staff in patient management
14	Proportion of health facilities preparing correct MPR and sending in time.	Number of health facilities preparing correct MPR in time	Total no. of health facilities	Reports available at district	Efficient management of information





Role of Medical Officer in IEC & Counseling

It is well known that problems like delay in reporting by untreated cases, hiding the disease, poor drug compliance, irregular self care practices and discriminations are due to lack of awareness and stigma attached with leprosy. It is essential to make the people aware about early signs & symptoms of leprosy, free availability of full course of effective & safe treatment, disabilities are preventable and discrimination is unjustified. Medical officers should be aware about facts about leprosy, standard messages to be disseminated, language & media to be used for spreading messages and frequency of disseminating messages. Interpersonal communication with persons affected, influential persons, village health sanitation committee and decision makers at all levels in the form of advocacy, address, counseling, training and focused group discussion will be helpful in reducing stigma. Demonstration of rational behavior, no distances, no isolation is a strong force to change the behavior. Setting examples will reduce discriminations. M.O. need to guide health workers in organizing rallies, film shows or campaigns along with using mass media during anti leprosy day and other occasions builds attitudes in communities. Developing team of local volunteers in tribal and difficult to reach areas for increasing awareness & changing attitudes may prove a sustainable tool.

Standard messages for different target persons may be –

1. Leprosy is a disease, not the curse of God.
2. Leprosy is completely curable if treated in time.
3. Full course of treatment is available free of cost in all government hospitals and health centers
4. Disabilities/Deformities due to leprosy are not inevitable and can be corrected by reconstructive surgery, self-care and simple exercises.
5. Leprosy do not spread by touch, nor it is hereditary.

Counseling of persons affected, family members and community around is often required to treat patients and remove discrimination. The objective of counseling is to encourage the needy person to realize about the existence of the problem and think analyzes and find the cause and reason behind it. Further it is hoped that the needy person himself would act and do something to solve the problem. This act of doing something to solve the problem is his/her own decision; however, it may incorporate the guidance given by the counselor. In counseling decision to act or not to act should solely be taken by the needy person. And under any circumstance it should not be enforced.

Advocacy with decision makers at all level also helps in rationale policy & practices and laws in favor of national program and to restore the lost functions & social status of affected persons

IEC – Components

- Information - knowledge based on scientific facts and figures.
- Education - Process of bringing out ability of a person/community through learning
- Communication Process of transmission of information, ideas, attitudes, or emotion from one person (or group) to another (or others) primarily through symbolic messages.



Purpose of communication is to transmit right information and develop mutual understanding.

Aim: Change in behaviour including

- Affecting Cognitive – Knowledge
- Affective -Behaviour & Attitude
- Psycomotor – skills/ practices

IEC Plan

- Assess Needs and knowledge levels
- Define Tools and Methods
- Include NRHM IEC Plan
- Implement IEC activities
- Evaluate Knowledge levels and behaviour change

IEC -Features of a good message

- Content: Should be Clear short, specific and need based
- Appeal: Must lead to/ ask for an action
- Relationships: Express relationship among health care system and community (including persons affected by leprosy)
- Emotions: Convey pleasing emotions, concern, care and motivation

IEC - Key Messages

- Leprosy is Curable
- The disease is caused by leprosy germs and can be cured with medicines (MDT) that are available free of charge in all the health facilities.
- Early signs & symptoms of leprosy
- Leprosy usually starts as a patch with loss of sensation or as numbness and tingling in hands &/ feet. Consult health worker on occurrence of any of these.
- Disabilities can be prevented
- Early detection with appropriate treatment helps prevent disability due to leprosy.
- No place for segregation
- Accept persons affected by leprosy in society
- Treat the potential with compassion and empathy. Discrimination of patients is inhuman.

IEC- Generic Information

- Deformities and disabilities are unfortunate remnant conditions of leprosy, which can be avoided if treated early.
- Treated persons even with residual disability do not spread bacteria.
- People do not contract leprosy by dressing ulcers and attending to leprosy patients.
- Continued self- care by patients themselves improves their physical impairments and social life.
- Some deformities can be corrected by operations to restore appearance and function.
- Treated person affected by leprosy can lead a normal life and become economically independent.



ROLE OF MEDICAL OFFICER

Clinical:

- Examine suspects reported/referred, confirm the diagnosis and register them as PB or MB.
- Prepare case card and start MDT
- Diagnose and manage the complications of Leprosy.
- Treat cases with ulcers and refer complicated ulcer
- Diagnose leprosy reactions type 1 & 2, neuritis and quite nerve paralysis. Treat them with - Prednisolone regime or refer them if not manageable
- Screen and refer willing cases for reconstructive surgery
- Ensure timely RFT after completion of MDT
- EHF scoring at the time of diagnosis and RFT
- Counsel the cases with specific problem
- Ensure provision of MCR/protective footwear for needy persons
- Ensure follow-up of cases referred back from referral center
- Ensure adequate self-care training is given to all patients with grade 1 & 2 disabilities

Managerial:

- plan, implement and monitor activities
- Supervise the performance of health workers responsible for NLEP
- Ensure proper recording (LF1, LF2, LF3, DPMR) and reporting (MLF4, 5 & SOE) as per guidelines
- Ensure availability of two patient-months BCP, Prednisolone and other supportive drugs
- Ensure implementation of IEC/BCC activities as per approved plan
- Coordinate with local bodies/CBOs for welfare of affected people
- Organize and participate in monthly review meetings
- Monitor implementation of NLEP activities every months to improve early case detection , treatment completion, logistics and recording-reporting.

Operational:

- Attention is to be paid for early case detection and avoid any delay in starting treatment adopting possible modalities of case detection as per region/population.
- Facilitate timely payment to ASHA for case detection and treatment completion
- Supervised pulse therapy of MDT should be practiced. Extend facility of accompanied MDT to genuine cases.
- Answer the question asked by patient or his relative.

TRAINING CURRICULUM

<i>Topic/ Session</i>	<i>Learning objective</i>	<i>Approx. duration</i>	<i>Contents</i>	<i>Teaching method</i>	<i>Material required</i>	<i>Remarks</i>
Introduction of leprosy and NLEP	Describe epidemiology (agent-host-environment) and components of NLEP	1 hour	What is leprosy? How does it transmit? Programme Components, NLEP guidelines	Interactive lecture	Power point, Handouts	
Diagnosis, classification, MDT	Demonstrate eliciting cardinal signs Prescribe MDT course for a given case	2 hours	Signs & Symptoms to suspect, cardinal signs, PB/MB grouping, MDT regime, RFT; Counseling for better compliance, side effects of MDT	Live case demonstration	Leprosy patients, power point, BCP, handouts	
Leprosy Reactions	Differentiate type 1 and type 2 reactions and prescribe appropriate treatment Demonstrate nerve function assessment	2 hours	Types of Reactions, quite nerve paralysis, acute neuritis, prednisolone regime, referral	Case demonstration and re-demonstration by trainee	Reaction cases, PPT & handouts	
Assessment and management of disability	Enumerate risk conditions, grading disability and calculate EHF score of a given case	1 hour	Cases at risk of developing disability, WHO grading, EHF scores, footwear and assistive devices, POID camps	Interactive lecture	Exercise sheets and handouts	
Ulcer Care & Self Care	Demonstrate ulcer care and counseling skill for self care	2 hours	Pre-ulcerative conditions, treatment of simple ulcers, referral of complicated ulcers, self care	Case demonstration, role play	Ulcer cases, dressing materials	
Surgical treatment of leprosy	Enumerate eligibility criteria for surgical treatment	1 hour	Indications for surgery, referral for surgery, follow-up of surgery	Interactive lecture	Handouts	
Recording and reporting at PHC level	Prepare MPR, calculate NLEP indicators with given data	1 hour	SIS formats in leprosy, updating records, NLEP indicators, preparation and submission of reports	Exercise	Exercise sheets & handouts	
Supervision and monitoring of NLEP at PHC level	Prepare a checklist for supervision, analyse the indicators	1 hour	On-job training of health workers & ASHA, monthly review meetings	Interactive lecture	Handouts	
Information, Education and Communication (IEC) & Behaviour Change Communication (BCC)	Facilitate group meeting	1 hour	Counseling, group meetings, advocacy and dissemination of messages through media/IPC, school health programmes	Interactive lecture	Handouts	
Drugs and other logistics	Check indent	1 hour	MDT, supportive drugs, prednisolone, footwear, dressing materials etc.	Exercise	Exercise sheets & handouts	



NATIONAL LEPROSY ERADICATION PROGRAMME (NELP)

PATIENT CARD

Sub centre					PHC						
Block/CHC				Districts				State			
Registration Number:							SC	ST	Others		
Name							Age	Female	Male		
Address											
Classification	PB	MB	New Case	Other Type (Specify)							
Visible Deformity	Yes	No	Remarks								
Date of First Dose											
AFTER ENTERING ABOVE INFORMATION IN THE PHC TREATMENT RECORD, THIS PATIENT CARD IS TO BE TRANSFERRED TO SUB CENTER FOR DELIVERY OF SUBSEQUENT DOSES						Signature of Medical Officer					
Date of subsequent doses:											
	2	3	4	5	6 PB (Final)	7	8	9	10	11	12
Date of discharge											
End Status	RFT			Others (specify)							
this card is to be maintained at sub centre. after every dose, update the PHC treatment record. after achieving end status, the MPW should sign this card and retain at sub centre FOR FUTURE REFERENE						Signature of Sub centre MPW					
Guidelines to fill-up this card											
Registration Number	Running number for the fiscal year at PHC level										
Classification	PB- 1 to 5 patches and/or 1 nerve affected MB – 6 and more patches and/or 2 or more nerve affected										
New Case	A leprosy patient who has not taken MDT drugs anywhere earlier										
Other Type	Includes Immigrant, Relapse, Referral or Restart of treatment										
End Status	RFT – Released From Treatment OTHERS – DEFAULTER (Case of PB or MB consecutively absent for a period of 3/6 months from the last dose)/ DIED/MIGRATED/ UNKNOWN										
<i>*In Urban situation, this same card I to be used. However, appropriate Health Unit, Area and Region may be Indicated in the place of Sub center/PHC/Block</i>											

NATIONAL LEPROSY ERADICATION PROGRAMME (NLEP) – PHC TREATMENT RECORD

PHC _____ Block PHC/ CHC _____

DISTRICT _____ State _____ Fiscal Year _____

Reg No.	Sub Centre	New/ Others	Name	Address	Age	Sex M/F	SC/ ST	PB/ MB	Visible Defor. Y/N	Date of first dose	Date of Subsequent Doses												Date of RFT	Remarks				
											2	3	4	5	6 PB (final)	7	8	9	10	11	12							





NLEP MONTHLY REPORTING FORM

PHC _____	Block _____
District _____	State _____
Reporting Month _____	Year _____

1.	No. of balance new cases at the beginning of the month	PB			
		MB			
		TOTAL			
2.	No. of New Leprosy Cases detected in the reporting month	During reporting month			
			PB	MB	TOTAL
		Adult			
		Child			
		Total			
3.	Among new leprosy cases detected during the reporting month, number of	Female			
		Deformity	Grade-I		
			Grade-II		
		SC			
		ST			
4.	Number of New leprosy cases deleted during the month	RFT -			
		Otherwise deleted			
		Total			
5.	Number of New leprosy cases under treatment at the end of the month (1+2-4)				
6.	Number of "other cases" recorded and put under treatment	(i) Relapsed			
		(ii) Reentered for treatment			
		(iii) Referred			
		(iv) Reclassified			
		(v) From other states			
		Total			
7.	No. of 'other cases' deleted from treatment	RFT			
		Otherwise deleted			
		Total			
8.	No. of other cases under treatment at the end of reporting month				
9. Leprosy Drug Stock at the end of the reporting month (if required use extra sheets) :					
Blister Pack	Quantity	Expiry Date	Total stock	No. of patients under treatment	Patient month BCP
MB (A)					
MB (C)					
PB (A)					
PB (C)					



NLEP – MONTHLY PROGRESS REPORT

(Form PHC/CHC/Block PHC to District)

PHC/BLOCK PHC/CHC _____ Month _____

<i>S No.</i>	<i>DPMR activity</i>	<i>During the month</i>	<i>Cumulative total From April till date</i>
1	No. of Reaction cases recorded		
2	No. of Reaction cases managed at CHC-		
	at District Hospital-		
3	No. of suspected relapse cases referred by PHC		
4	No. of Relapse cases, confirmed at district hospital		
5	No. of patients provided with foot-wear		
6	No. of patients provided with self care kit		
7	No. of patients referred for RCS to tertiary units		
8	No. of patients-RCS done		
9	No. of ulcer case managed		
10	No. of ulcer case referred to secondary level		
11	No. of cases developed new disability		
12	No. of cases provided Gr-I MCR footwear		
13	No. of cases referred for Gr-II MCR footwear		
14	No. of cases referred for skin smear examination for AFB to secondary level		
15	No. of cases found AFB +ve		
16	No. of cases attended DPMR clinic		
17	No. of ASHA /HW trained		
18	No. of new cases referred /confirmed by ASHA		

DISABILITY REGISTER

Annexure 4.1
DMPR Format (Form - PI)

PHC/ CHC _____ District _____ State _____

Sl. No.	Name of the patient	Age/ Sex	Address Village/ Sub-centre/ PHC	New/ UT/ Old case	MB/ PB	New Case (NC) / UT case/ RFT	Disability Gr-I/ II	Site of disability					
								Eye		Hand		Foot	
								Gr-0	Gr-II	Gr. I	Gr:II	Gr:I	Gr:II
1	2	3	4	5	6	7	8	9	10	11	12	13	14

Ulcer Simple/ Complicated	EHF	Neuritis	Reaction / Type-I/ Type-II	PMR Services Provided			Refer to secondary with date		New Disability developed after starting of prednisolone			Referral Services provided/ Follow up taken up/ Remarks			
				Steroid/ dose/ duration	Self care practice	Ulcer Dressing	Other if any	RCS	Complicated Ulcer	Eye	Reaction not responding to steroid		Eye-(Gr-II)	Hand (Gr-I/ Gr-II)	Foot (Gr-I/ Gr-II)
15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30





Disability Assessment form for primary level

ASSESSMENT OF DISABILITY & NERVE FUNCTION

Name _____ Village _____ Date of Registration _____

S/O,W/O, D/O _____ Sub-centre _____ Date of RFT _____

Age/Sex _____ MDT No. _____ Referred by _____

Occupation _____ MB/PB _____ Date of assessment _____

RIGHT						LEFT				
					← Date →					
					Vision (0, 2)					
					Light closure lid gap in mm					
					Blink present/ Absent					
					Little Finger Out					
					Thumb up					
					Wrist Extension					
					Foot up					
					Disability Grade Hands					
					Disability Grade Feet					
					Disability Grade Eyes					

On Date						
Max. (WHO) Disability Grade						
EHF Score						
Signature of Assessor						

Muscle power: S=Strong, W=Weak, P=Paralysed

Score of vision: 0=Normal, 2= Blurred vision, unable to count finger, lagophthalmos, Corneal anaesthesia, ulcer, opacity

EHF= maximum score=12 (2 for each eye, 2 for each hand, 2 for each foot)

WHO Grading 0, I, II

(This card should be filled up at time of registration and repeated after 3 months (Once in 2 weeks in case of neuritis / reaction)



SENSORY ASSESSMENT

DATE/ ASSESSOR	Palm		Solo		Comments
	RIGHT	LEFT	RIGHT	LEFT	

Key: (Put these mark/icon on the site where lesion is seen)

✓ Sensation Present within 3 cms	s Contracture	Scan/Callus
X Anaesthesia	⊗ Wound	⊕ Shortening Level
^ Clawing	⊢ Crack	

Primary Level Care



REFERRAL SLIP

(To be used by ASHA/HW/MO PHC/MOCHC)

PHC _____ District _____ Date _____

Name of the person to be referred: _____

SL. No in referral register _____

Age and Sex : _____

Address : _____

Clinical finding: _____

Reason / indication for referring: _____

Referred to: _____

Referred by: _____

(Designation & place/ Signature)

Action taken at referral centres: _____

Instructions for follow up: _____

Referred back by _____

(Dr. _____ Designation & place _____)

Signature & date:



PREDNISOLONE CARD
(This card should be kept with the patient)

Annexure 4.4 (Form - PIV)

Instruction

- Take Prednisolone tablets as single dose daily with milk / food but never on empty stomach
- Restrict salt intake till on Prednisolone
- Inform soon if you notice black stool (malena), pain upper abdomen or vomiting
- Inform immediately if discharge in planter ulcer, any focus of infection, persisting cough, mild fever or any deterioration
- Don't stop Prednisolone before completion of regimen, even if there is improvement or deterioration.
- Report for review / check up and next dosage, every fortnight

Page 4

NATIONAL LEPROSY ERADICATION PROGRAMME
PREDNISOLONE - CARD

Name of the Patient

Reg.No./MDT No.

Type MB / PB

Date / Due Date off RFT

Indication for Prednisolone therapy :
.....

Date of starting Prednisolone

Signature of MO / Supervisor

Page 1

PREDNISOLONE RECORD

Dosage	Date of Issue	Next due date	Sign.
40mg x 2 wk.			
30mg x 2 wk.			
20mg x 2 wk.			
Do (if required)			
15mg x 2 wk.			
Do (if required)			
10mg x 2 wk.			
Do (if required)			
5mg x 2 wk.			
Do (if required)			

Page 2

Other drugs issued

.....

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.....

Progress / Remarks

.....

.....

.....

.....

Signature of MO

Name

Place

Page 3



GLOSSARY

Abduction - Movement away from anatomical central line of body

Anesthesia - Loss of sensation

Cardinal sign - Essential / unique sign

Clawing - Deformity of hand where there is hyperextension of joints between fingers and palm and flexion of joints of the fingers

CMHO - Chief Medical & Health Officer - Authority for all health aspects in a district

Deformity - Abnormal appearance, disfigurement

Disability- A difficulty in carrying out certain activities considered normal for a human being. A disability results from impairment. Activity limitation and restricted participation is included under disability.

DLO - District Leprosy Officer

DLS - District Leprosy Society

Endemic - Continuous presence of disease

ENL - Erythema Nodosum Leprosum - Type 2 lepra reaction characterised by nodules in the skin

Erythematous - Red in colour

Exfoliative dermatitis - Condition characterized by universal erythema and scaling. Very often seen as drug reaction (e.g. Dapsone)

Exposure keratitis - Damage to cornea due to constant exposure.

Foot drop - Inability to flex foot at ankle due to paralysis

GHC - General Health Care

Haemolytic anaemia - Anaemia produced by destruction of red blood cells (can be caused by Dapsone).

Hepatitis - Inflammation of liver

Ichthyosis - Condition where the skin is dry and scaly like that of a fish

Incubation Period - Time interval between entry of organism and onset of symptoms

Jaundice - Condition characterized by yellowness of skin, Mucous, membranes and white of eyes

Lagophthalmos - Inability to close the eye due to paralysis of eye lid

Leprosy Reaction - Acute inflammatory manifestations in skin and/or nerves in leprosy

MB - Multi Bacillary (more than 5 skin lesion or more than 1 nerve trunk involvement or bacteriologically positive)

MCR - Micro Cellular Rubber for making footwear

MDT - Multi Drug Therapy

MPR - Monthly Progress Report

NCDR - New Case Detection Rate

Nephritis - Inflammation of the kidney

Neuritis - Inflammation of nerve

NLEP - National Leprosy Eradication Programme



Nodule - Swelling in the skin

Edema - A local or generalized condition in which the body tissues contain an excess amount of fluid

Opposition - Bringing together pulp of thumb with pulp of other fingers

Palpate - To 'palpate' is to examine by touch

PB - Pauci Bacillary. Cases with less bacilli (upto 5 skin lesions or upto 1 nerve trunk involvement)

PHC - Primary Health Centre

Plantar - Referring to the sole of the foot

Prevalence - Number of cases per 10000 population

Relapse - Re-occurrence of disease after cure

RFT - Release From Treatment (the end of treatment)

Scaling - Visible shedding of surface layer of skin in the form of scales.

SLO - State Leprosy Officer

ST - Sensory Testing

Ulcer - Discontinuity of the skin or mucous membrane

VMT - Voluntary Muscle Testing

Wrist drop - Inability to extend wrist due to paralysis of muscles supplied by Radial nerve

Self-care

Hands & Feet

- Inspect the hands/ feet daily for hot, tender spots



- Soak the hands/feet for about half an hour in water.
- Scraping hard skin (if fissures/ cracks present) using any stone without sharp edges.



- Apply vasatine or cooking oil when hands/ feet are wet.
- Protect hands against heat & friction.



- Walk slowly with short steps. Use footwear for anaesthetic feet.



- Clean the wound with soap & water. Dress with clean cloth.
- Consult medical officer if ulcer is foul smelling
- Oil massage and passive movements to keep the joints mobile



Eyes

- Check eyes daily using mirror.
- Wear protective devices
- Put moistening eye drop
- Red / painful eye, consult doctor



Active & Passive Exercise for weak muscles



Ulnar weakness or paralysis

Active Exercises

- Straighten the fingers of the weak hand repeatedly.
- Keep the wrist straight.
- Stabilize the joint between the hand and the fingers with palm of other hand. Extend the fingers keeping the same position

Passive Exercises

- Straighten the clawed fingers repeatedly using his other hand.



Median weakness or paralysis

Active:

- Straighten the weak thumb and hold it straight for a few seconds. Use the other hand to hold the weak thumb steady

Passive:

- Straighten the paralysed thumb using the other hand.
- Hold the base of thumb with the other hand and pull it away towards the palm.



Lateral Popliteal Nerve Paralysis (footdrop)

Active:

Practice bending the foot up and holding it in this position for a few seconds.

Passive:

Practice it with the leg straight. Pull the foot up using a towel. Repeat this movement several times.

Facial nerve

pull the outer corners of eye repeatedly to strengthen eye lid muscles





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