सत्यमेव जयते

Training Manual for Health Supervisors 2019

National Leprosy Eradication Programme

Central Leprosy Division, New Delhi and Central Leprosy Teaching & Research Institute, Chengalpattu TN

Directorate General of Health Services, Ministry of Health and Family Welfare

GOVERNMENT OF INDIA

NATIONAL LEPROSY ERADICATION PROGRAMME

(NLEP)

Training Manual for Health Supervisors

2019

Central Leprosy Division
Directorate General of Health Services
Ministry of Health and Family Welfare
Government of India

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दिनांक/Dated. 22/2/2019

Foreword

It is with great pleasure and humility, I am sharing that a standard Training Module for Health Supervisors has been prepared by Central Leprosy Division, DGHS, MOHFW, GOI with support of stakeholders of the National Leprosy Eradication Programme (NLEP). This document is prepared to standardize the training procedure being followed by different govt. & non govt. institutes for capacity building of Health Supervisors and other primary health care workers. Though, leprosy was declared as having been eliminated at the national level, in the year 2005 but it remains a significant public health concern for India. We understand that Leprosy is still a public health concern and due importance to its control in the country has been given. The commitment of the govt. may be measured by the fact that several innovations introduced under National Leprosy Eradication Programme (NLEP) from 2016-17 onward in phase wise manner, three pronged strategy for early case detection i.e., i. Leprosy Case Detection Campaign (LCDC) ii. Focussed Leprosy Campaign (FLC) and iii. Special plan for case detection in hard to reach areas. Other major innovations were Sparsh Leprosy Awareness Campaign (SLAC), Grade II disability case investigation and ASHA based Surveillance for Leprosy Suspects (ABSULS) for enhanced early case reporting.

Further, as it is known that appropriately trained peripheral personnel are essential to provide service delivery under a health programme. Hence, a standardized training manual for Health supervisors and other primary health care workers who play key role in service delivery accords highest importance. In view of the same, this standardized module is framed to maintain the uniformity in the course being taught by govt. and non govt. institutes which was not there till date. This manual contains basic information about leprosy disease, leprosy diagnosis and treatment, Disability Prevention Medical Rehabilitation (DPMR) services, referral for complicated cases, IEC activities and monitoring activities of the programme.

I wish the training module will serve its purpose and will get utilized by all the stakeholders as a teaching guide for NLEP, to train primary health care workers, who have limited access to learning material.

I congratulate and acknowledge all the experts and officials involved in preparation of this training module.

Anil Kumar

Dr. Anil Kumar

Dr. VINEET K. CHADHA
Director

सत्यमेव जयते

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PREFACE

After attaining leprosy elimination in 2005, the leprosy services were integrated into general health care system. With the change in epidemiology and integration of services into general health system, there is a shortfall in availability of manpower skilled for effective implementation of interventions aimed at eliminating the leprosy disease. India, being a major contributor to global burden of leprosy needs an adequately trained manpower to tackle the problem in the current scenario.

The principle in reducing the burden is to interrupt the chain of transmission, by early case detection and adequate treatment. The primary health care providers and health supervisors are entrusted with the key responsibility of implementing NLEP services in addition to other health programs. A standard training module needs to be in place to train the health workers in the general health care system to enhance their scientific knowledge and required skills to manage leprosy affected patients.

The learning objective of the module comprises essential topics on epidemiology of leprosy, clinical diagnosis, disease classification and management of cases including complications, follow up and referral mechanisms, scope of DPMR activities, record management, program monitoring & supervision and steps to improve patient compliance. Wherever necessary, color images are provided for self-explanation.

The module is kept comprehensive and simple, so that the general health care staff will deal confidently in providing the services. This training module is revised and adapted from previous modules published with the help of ILEP and partner organizations and updated to current national guidelines and policies.

I am sure, that the module will be of practical value and utilized to maximum by the intended health workers, which will build the capacity to achieve leprosy free India in near future.

I would like to express my gratitude and sincere appreciation to all technical experts and organizations involved in developing and revising the module and in publishing this excellent guide.

Dr. Vineet K. Chadha

TABLE OF CONTENTS:

Health Supervisors

The following categories of health staff are:

Health Supervisor (Male and Female)

NMS/NMA/HI/LI/PMW/MPHW/ANM/VHN

In a given situation of the State / District - the designated person from among the above category can be selected for the training and entrust with the NLEP tasks at the block/district level.

Learning Objectives:

- Able to suspect all types of leprosy cases
- Able to demonstrate the correct method of examination of skin lesions and counseling skills
- Able to record the patient details in prescribed format
- Able to follow up the patient till treatment completion
- Able to provide home based self-care training to patients
- Able to identify difficult to manage complications and refer them
- Correctly list out the problems and possible remedial measures
- Able to describe the methods of monitoring and supervision of the program

Chapter 1

1. Introduction

Leprosy is an infectious disease caused by a bacterium called *Mycobacterium leprae.* It affects mainly the nerves and skin. As the skin is affected, patches appear on the body. If the nerves are affected and damaged, loss of sensation on skin, weakness or paralysis of muscles or loss of sweating may occur. Damage to nerves causes permanent and progressive physical disabilities.

Every year, India is reporting around 125,000 new leprosy cases and contributes to about 60% of new cases detected globally. India achieved the goal of leprosy elimination at national level in December 2005 i.e., prevalence less than 1 new case per 10,000 population (No. of new cases on treatment under NLEP as on 31st March)

India is also contributing the highest number of Grade 2 Deformity among new cases (visible deformities) indicating delay in detection and child leprosy cases indicating continuing transmission of infection in the community.

Table: 1.1 Trend of leprosy new case detection in India

Year	New Cases detected	ANCDR per 10,000	Cases on record (31st March)	PR per 10,000	No. of G2D among new cases	G2D (%) among new cases
2007-08	1,37,685	1.17	87,228	0.74	3,477	2.53
2008-09	1,34,184	1.12	86,331	0.72	3,763	2.80
2009-10	1,33,717	1.09	87,190	0.71	4,117	3.08
2010-11	1,26,800	1.05	83,041	0.69	3,927	3.10
2011-12	1,27,295	1.03	83,687	0.68	3,865	3.04
2012-13	1,34,752	1.08	91,743	0.73	4,650	3.45
2013-14	1,26,900	0.99	86,134	0.68	5,256	4.14
2014-15	1,25,785	0.97	88,833	0.69	5,794	4.61
2015-16	1,27,334	0.97	86,028	0.66	5,852	4.60
2016-17	1,35,485	1.02	88,166	0.66	5,245	3.87
2017-18	1,26,164	0.93	90,709	0.67	4,552	3.61

Chapter 2

2. Epidemiology of Leprosy

2.1. Causative organism

Leprosy is caused by a bacterium called *Mycobacterium leprae*, which is similar to that which causes tuberculosis. It is a slow growing bacterium and one leprosy bacteria takes 12–14 days to divide into two. The presence of the bacteria can be demonstrated by taking smears from skin / nasal mucosa (slitting the skin & scraping the material with blade and spreading it on a glass slide, staining it with the Zeihl Neilson method and examining under the microscope). Usually skin smear in leprosy is taken from these sites (Skin lesion, earlobes)

2.2. Source of infection

Man is the only source of infection; it is transmitted from a leprosy affected person to a susceptible person, mainly via the respiratory tract (droplet infection). The major sites from which bacilli escape from the body of an infectious patient are nose and mouth. Nose appears to be the major portal of entry and exit of the bacteria.

Mode of spread: Leprosy spreads from person to person by droplet infection (while sneezing or coughing). Patients under treatment do not spread the disease. Disease does not spread by touch.

2.3. 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 6 months to even 40 years. The average incubation period for the disease is said to be 5-7 years.

2.4. Age

Leprosy can occur at any age and increased proportion of affected children indicates the presence of active transmission of the disease in the community. As the disease burden declines, leprosy is seen more in older age groups, proportionally.

2.5. Gender

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

2.6. Immunity

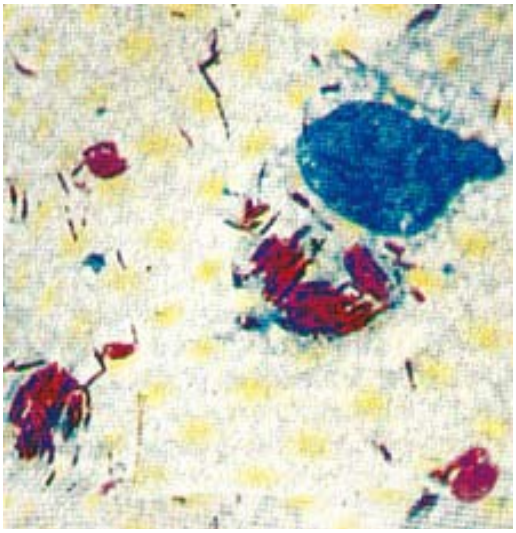
Occurrence of the disease depends on susceptibility/immunological status of an individual. Not all, but only a few persons exposed to infection develop the disease. This may be due to varying levels of immunity within the infected persons. Persons with high levels of immunity have well developed defense mechanisms that can resist the infection totally.

2.7. Infectivity

Although leprosy is a communicable disease, it has a very low infectivity. Of all the persons who are exposed to the infection in a community, 95% have total immunity and do not get the disease. Out of the remaining, 5% may develop the disease.

2.8. Socio-economic Factors

Leprosy is a disease generally associated with poverty and related factors like poor living conditions, overcrowding and poor nutrition status.



(Fig: 2.1 Picture showing *M. Leprae* under microscope)

Salient features:

- Leprosy is a chronic infectious disease caused by *Mycobacterium leprae.*
- The disease is more important because it may lead to disability, the main cause for stigma.
- Only a small proportion of those infected may develop the disease
- The bacteria enter and exit the body through upper respiratory tract (nose)
- The incubation period is long and variable (average 5 – 7 years)

Chapter 3

3. Pathogenesis of leprosy

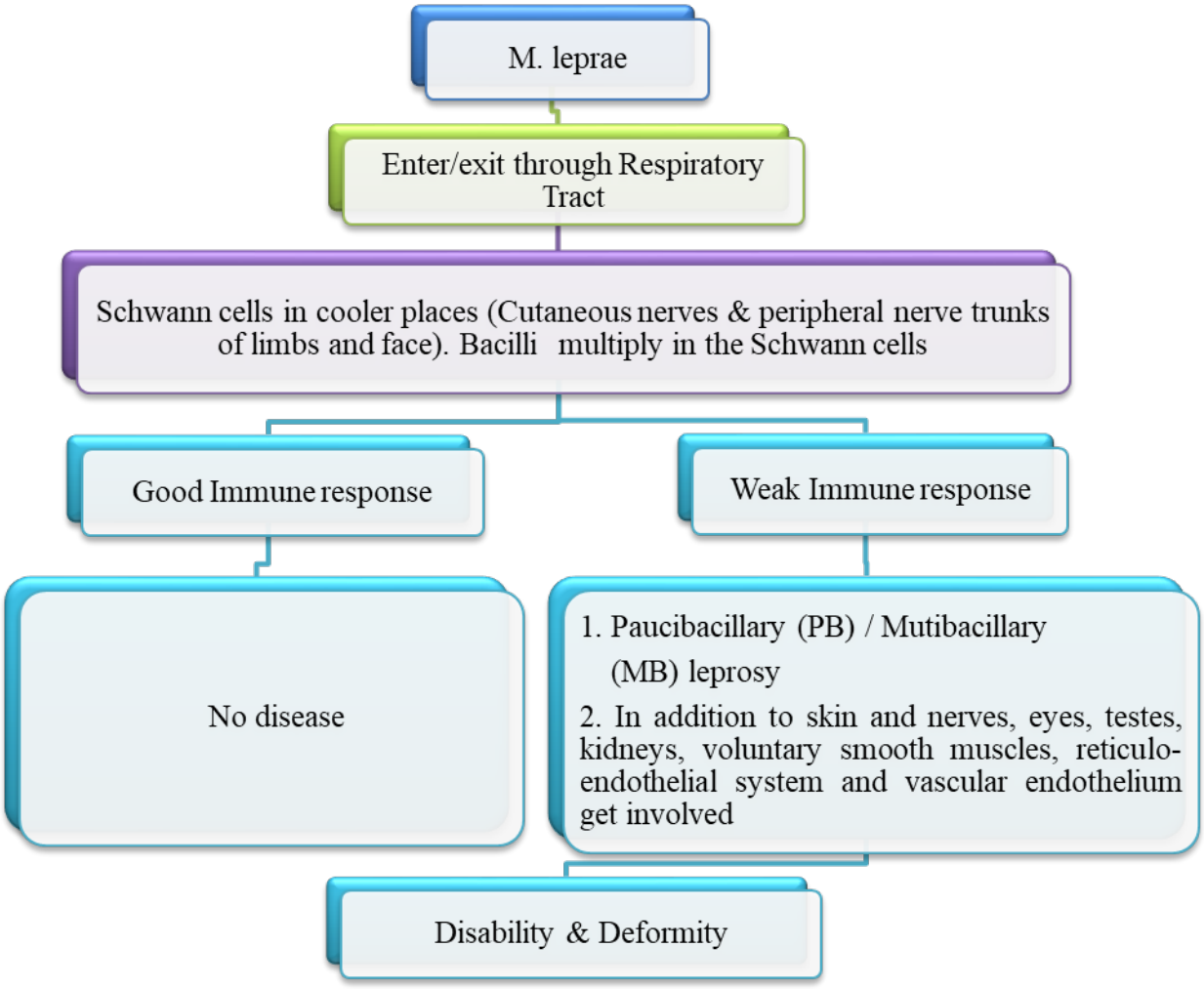


Fig: 3.1 Pathogenesis of Leprosy

Chapter 4

4. Clinical features and Diagnosis of Leprosy

4.1. Suspect in leprosy

The most common presentation of leprosy in early stages is a skin patch which may have been present for a period ranging from few months to a few years. A patch on the skin present since birth or milky white skin patches are unlikely to be due to leprosy. Common signs and symptoms of leprosy include:

- ✓ Pale or reddish patches on the skin (the most common sign of leprosy)
- ✓ Shiny or oily looking face
- ✓ Partial loss of eyebrows
- ✓ Loss of hair on the skin patch
- ✓ Numbness or tingling of the hands or feet
- ✓ Weakness of the hands, feet or eyelids
- ✓ Deformity in hands or feet
- ✓ Painful or tender nerves
- ✓ Painless swellings or lumps in the face or earlobes
- ✓ Painless wounds or burns on the hands or feet

Skin lesions may be the main presenting feature of the disease but some patients present with small lumps on the face, ear lobules, shiny and oily looking face with or without loss of eyebrows and some patients present with peripheral nerve damage and ulcers in hands and feet. Skin lesions can appear anywhere on the body. One or different types of skin lesions may be present in the same person.

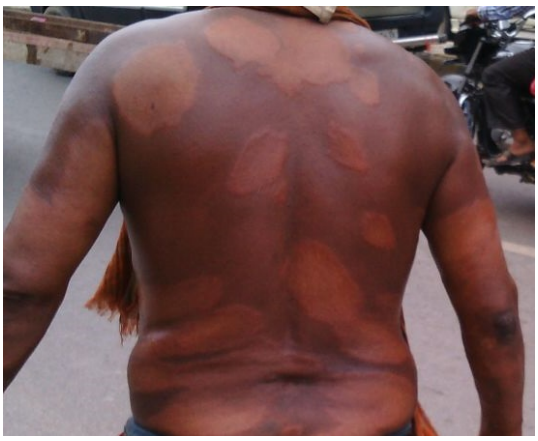


Fig: 4.1 Well defined raised erythematous patch.

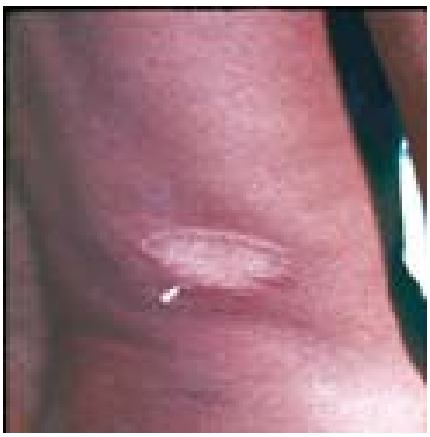


Fig: 4.2 Raised hypo-pigmented patch

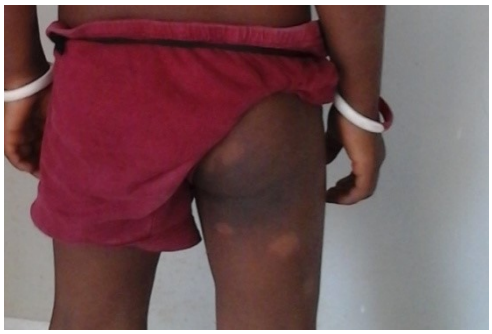


Fig: 4.3 Raised skin lesion with satellite lesions

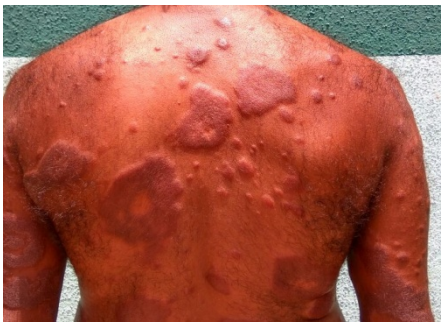


Fig: 4.4 Well defined skin lesions with central normal skin

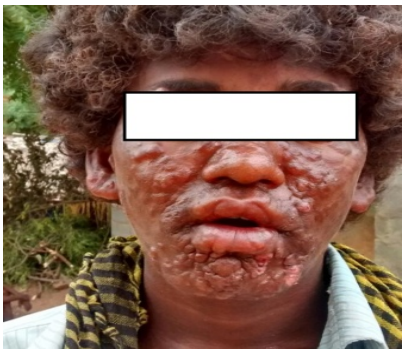


Fig: 4.5 Reddish or skin coloured nodules or smooth shiny diffuse thickening of skin without loss of sensation

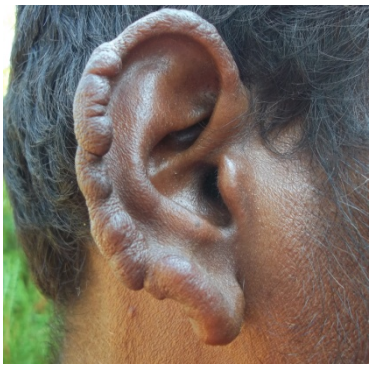


Fig: 4.6 Swelling/nodules in earlobes

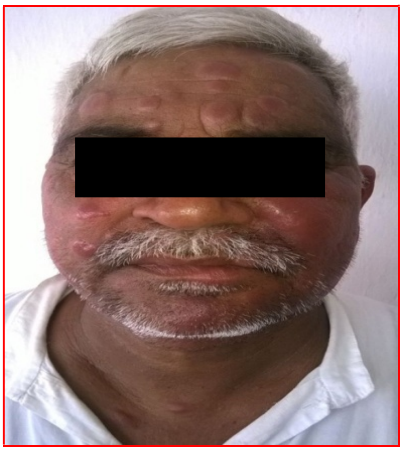


Fig: 4.7 Nodules on the face (small lumps)

Fig: 4.8 Well defined skin lesion of forehead

Cardinal signs:

At least one of the following cardinal (very important) signs must be present to diagnose leprosy.

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

2. *Involvement of the peripheral nerves, as demonstrated by definite thickening with / without loss of sensation and /or weakness of* the *corresponding muscles of hands, feet or eyes, supplied by that nerve.*

3. *Demonstration of M. leprae in the Skin Smear.*

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

4.2. Skin Examination

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

What should one look for in the skin?

The following features must be noted when examining a patch on the skin:

Site : This is useful for follow-up. Indicates the risk for nerve damage

Number: The number of lesions indicates the severity of the disease.

This is useful for disease classification and follow-up.

Colour: May be hypo-pigmented (lighter in colour than the rest of the skin), or erythematous (reddish). Lesions of leprosy are never depigmented. Erythematous colour can be used to identify disease activity or a reaction state.

Sensory deficit: This is useful for diagnosis when there are countable or a few numbers of patches on body. *Loss of sensation is a cardinal sign of leprosy.*

Tenderness on 'gentle tapping' - palpation/ feeling of nerve**:** This is called as neuritis.

Presence of infiltration: This term refers to change in skin texture, 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.

Also LOOK FOR sensory loss in hand/ foot and disability and deformity.

Sensory testing on skin lesion:

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

- You will need a light ball point pen (with plastic body) without cap.
- Explain to the person what you are going to do and demonstrate it.
- Touch the skin with tip of the pen lightly and 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). Touch the sites randomly not to set

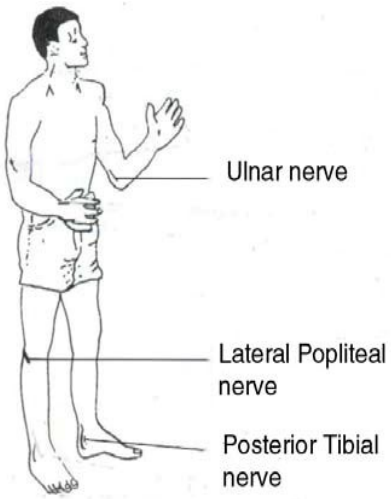
any pattern, give sufficient time to point out the site, keep minimum distance of 10 cm between two consecutive points touched, note time and specificity to locate and point out site touched.

- While testing lesions over inaccessible areas (back, buttocks) the patient may be asked to count one each touch.

Remember:

- 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.

4.3. Nerve Examination



Remember the cardinal sign:

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

Fig: 4.9 commonly involved nerves in Leprosy

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
- Assessment of nerve function - sensory and motor

1. When palpating the nerves, you should look for two things: thickening and tenderness.
2. The patient should be properly positioned. The examiner should also be positioned correctly.
3. Locate the nerve correctly
4. Observe the patient's face while palpating the nerve to elicit tenderness.
5. Palpate gently with the pulp of the two fingers, not the tips of fingers
6. Always palpate across the course of the nerve
7. 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.

4.4. Commonly affected nerves in leprosy

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 examiners 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
- Identify the medial malleolus. Locate the nerve just below and behind medial malleolus (approximately at the mid-point 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.

Summary:

I. *Correct procedure should be followed while eliciting sensory loss and for examination of nerves.*
II. *Nerves commonly affected in leprosy are ulnar, lateral popliteal and posterior tibial.*

4.5. Assessment of Nerve Function

Voluntary Muscle Testing (VMT) - Voluntary muscle testing is done by first checking the range of movement to see whether the 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.

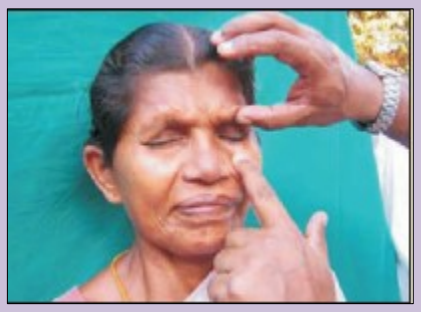


Fig.4.10 VMT for Facial nerve

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

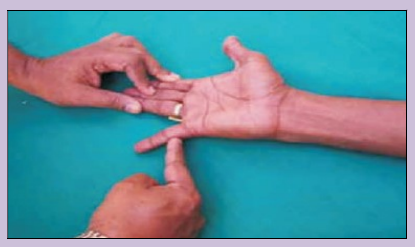


Fig.4.11 VMT for Ulnar nerve

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.

Fig.4.12 VMT for Radial nerve

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.

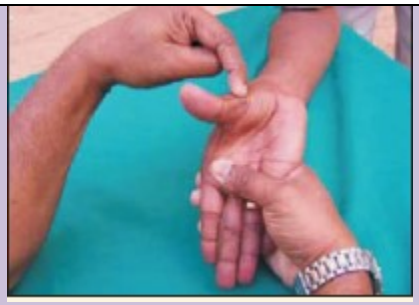


Fig.4.13 VMT for Median nerve

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

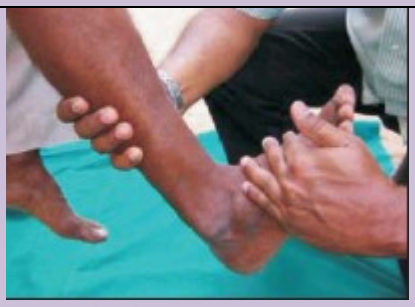


Fig.4.14 VMT for Lateral popliteal nerve

Sensory Testing (ST) - 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.

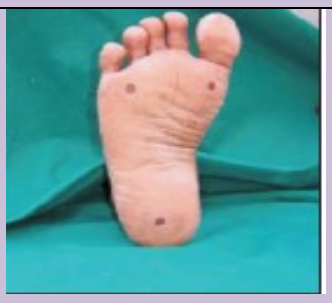


Fig.4.15 ST points in sole

Fig.4.16 ST points in palm

Chapter 5

5. Grading of Disability

5.1. WHO Disability Grading

Grade 0	No disability found.
Grade 1	Loss of sensation in hands (palm) and feet (sole) due to damage of peripheral nerve(s). **Eye is not given grade-1**
Grade 2	Visible damage or weakness / paralysis of muscles, cannot count fingers at 6 meters distance, red eye, corneal ulcer, lagophthalmos, foot drop, claw hand, wrist drop, wounds or ulcers, loss of tissue due to partial absorption of fingers or toes.

5.2. EHF Scoring

EHF score is the sum of the individual disability grades for each eye, hand and foot. The highest grade of disability given in any of the part is used as the Disability Grade for that patient. EHF score i.e. sum of all the individual disability grades for two eyes, two hands and two feet (0–12) should be recorded at each examination.

Scoring	Features	
Hands		
0	Sensation present	Muscle power normal (S)
1	Sensation absent	Muscle power normal (S)
2	Sensation absent	Visible deformity
Foot		
0	Sensation present	Muscle power normal (S)
1	Sensation absent	Muscle power normal (S)
2	Sensation absent	Visible deformity
Eye		
0	No lid gap	Blinking normal
2	Lid gap present	Cannot count fingers at 6 feet Corneal ulcer Corneal opacity
Definition of case of leprosy(WHO/NLEP) ➢ A new case of leprosy is defined as someone who has one of three cardinal signs and has not consumed even a single dose of MDT/started a course of MDT.		

Chapter 6

6. Classification and treatment

6.1. WHO classification of Leprosy

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 (Count the number of skin lesions + nerves involved)

S. No	Characteristics	PB (Pauci-Bacillary)	MB (Multi-Bacillary)
1	Skin lesions	1-5 lesions	6 and above
2	Peripheral nerve	No nerve / only one peripheral nerve involvement	More than one peripheral nerve involvement
3	Skin Smear	Negative at all sites	Positive at any site

6.2. Treatment 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:

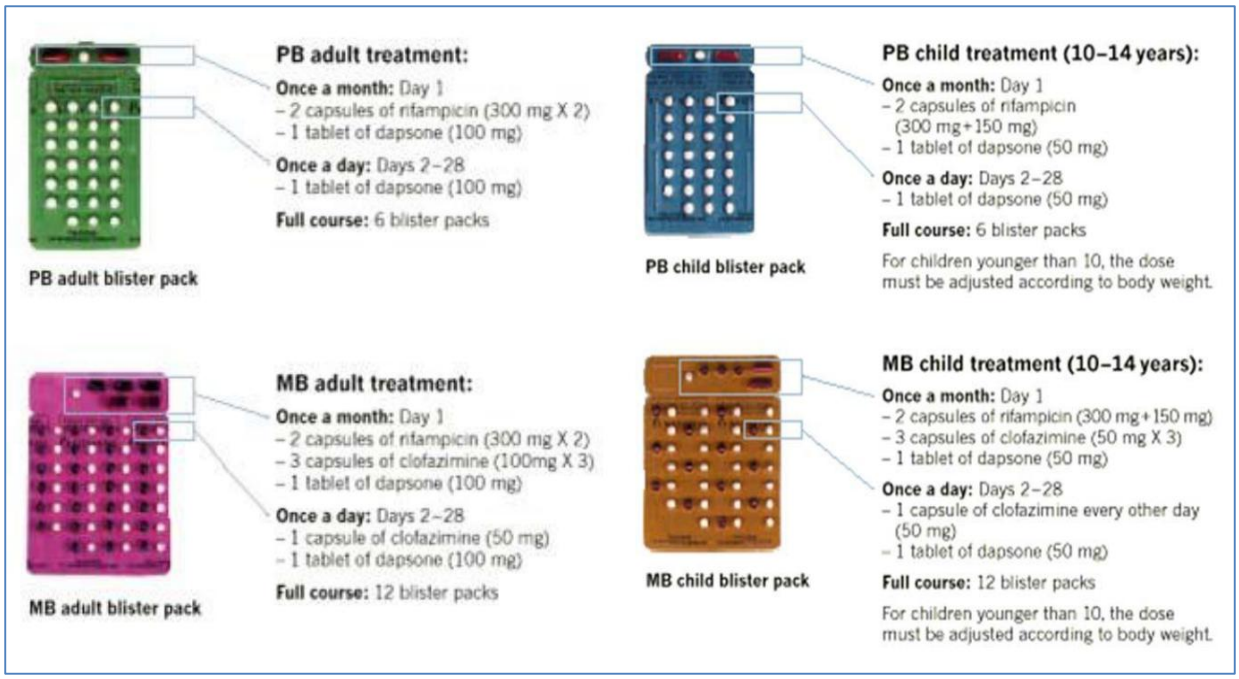
1. Cap. Rifampicin
2. Tab. Dapsone
3. Cap. Clofazimine

MDT is available as Blister Calendar Packs (BCP) at each PHC and Govt. hospitals free of cost. There are 4 types of BCP, two (Adult & Child 10 – 14 years of age) for MB cases and 2 (Adult & Child 10 – 14 years of age) for PB cases. In children below 10 years of age, the dose may be adjusted suitably as per the body weight.

Rifampicin : 10 mg/kg body weight, monthly once
Clofazimine : 1 mg/kg body weight daily and 6 mg/kg body weight, monthly once
Dapsone : 2 mg/kg body weight daily

Each pack contains drugs for 28 days. Drugs are to be taken orally. Pulse dose at the top of BCP is given supervised. Treatment is advised for a fixed duration. PB cases need MDT for 6 months and MB cases are given MDT for 12 months. Each patient is to be given information about regular intake of drugs and common side effects such as red coloration of urine after taking pulse dose. If patient has taken 6 PB or 12 MB BCP in stipulated period, h/she is released from treatment and sent to medical officer for assessment and advice.

Fig: 6.1 MDT Blister Calendar Packs



Based on the grouping, the patients can be given any one standard MDT regimen mentioned below. When the patient has completed the required number of doses (monthly pulses), he/she will be released from treatment (RFT).

6.3. MDT regimen (Adult)

Classification	Drugs used (Adult)	Dosage	Frequency of Administration	Criteria for RFT
MB leprosy	Rifampicin Dapsone Clofazimine Clofazimine	600mg 100mg 300mg 50mg	Once monthly Daily Once monthly Daily	Completion of 12 monthly pulses **(maximum in 18 months)**
PB leprosy	Rifampicin Dapsone	600mg 100mg	Once monthly Daily	Completion of 6 monthly pulses **(maximum in 9 months)**

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

Classification	Drugs used	Dosage (10-14 years)	Frequency of Administration	Criteria for RFT
MB leprosy	Rifampicin Dapsone Clofazimine Clofazimine	450mg 50mg 150mg 50mg	Once monthly Daily Once monthly Every other day	Completion of 12 monthly pulses
PB leprosy	Rifampicin Dapsone	450mg 50mg	Once monthly Daily	Completion of 6 monthly pulses

Those patients who are irregular in taking treatment are to be contacted to know the reasons and motivate them for completing treatment in stipulated period i.e. maximum 9 months for PB and 18 months for MB case. Flexibility in MDT delivery (accompanied MDT - more than one pulse dose at a time) may be adapted whenever it is essential.

6.5. Advantages of MDT

- MDT kills the bacilli (*M. leprae*) in the body and thus stops the progression of the disease and prevents further complications.
- 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.
- Using a combination of two or three drugs instead of one drug, will ensure effective cure and there are less chances of development of resistance to the drugs.

6.6. Pre-treatment evaluation

Before starting treatment, one must look for the following:

a) Jaundice: If the patient is having jaundice, you will have to wait until jaundice subsides.
b) Anaemia: If the patient is anaemic, treat anaemia simultaneously.
c) Tuberculosis: If the patient is taking Rifampicin, ensure that she/he continues to take Rifampicin in the dose required for the treatment of tuberculosis along with other drug regimen 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.

Chapter 7

7. Management of MDT Side effects

MDT is very safe and serious side effects are very rare. However the management of common adverse effects is as follows:

Table: 7.1 Side effects of MDT and Management

Side effects	Drug	Management
Minor:		
Red coloured urine	Rifampicin	Reassurance
Brown discoloration of skin	Clofazimine	Counseling
Gastro intestinal upset	All the three drugs	Give drugs after food
Anaemia	Dapsone	Give iron & folic acid
Major:		
Itchy skin rash	Dapsone	Stop Dapsone, refer to Medical Officer
Allergy, urticaria	Dapsone & Rifampicin	Stop the drug, treat the reaction or refer to Medical Officer
Jaundice	Rifampicin	Stop Rifampicin, refer to Medical Officer
Shock, purpura, renal failure	Rifampicin	Stop Rifampicin, refer to Medical Officer

Chapter 8

8. Pre- treatment Counseling

Patient and his/her family members should receive help and counseling so that the disease can be treated in the best possible manner. Patient should be counseled on every visit to the health facility. It is extremely important to provide counseling to all the patients at the time of treatment initiation, during the course of MDT and at the time of treatment completion or released from treatment (RFT).

Patients who are absent should be contacted immediately to identify the reasons and take corrective actions. Flexibility in MDT delivery (more than one pulse dose at a time) may be adapted whenever it is essential. Adequate counseling at the start of treatment will encourage the patient to be regular and complete the treatment in time.

Basic facts regarding the disease:

- The disease is curable
- About the treatment.

Basic facts regarding the treatment:

- Duration of treatment
- Regularity of treatment
- The number of tablets / capsules to be taken and their frequency
- Possible side effects (like red coloration of urine, darkening of the skin) and what to do when they occur.
- The need to consult the doctor at the health center, in case of symptoms like raised painful skin lesions, pain in the joints, fever, swelling of hands and feet or if any problem arises at any time, during or after release from treatment.
- Patches may not disappear or sensory loss may remain after completion of treatment, which is normal and does not need prolonging MDT
- Possible obstacles to treatment and suggestions to overcome them.
- Importance of self-care for patients with disability.

Additionally, (a) Residual signs, disability / deformity which will not be cured with MDT, but needs self-care to prevent further deterioration and (b) any warning signs of reaction or progression of disease should be brought to the notice of the health worker.

Counseling to family members:

- Support the patient for successful completion of treatment.
- Support the patient's self-care practices.

At the time of treatment completion or release from treatment (RFT)

Please note that: (1) He/ She can no longer spread the disease to others; (2) Symptoms may take time to subside (3) On completion of full course of prescribed treatment the symptoms disappears/subsides. (4) Change in skin color due to Clofazimine pigmentation in MB cases will subside and may disappear after completion/stopping of MDT (5) need not worry about dryness of the skin, application of oil/ White Petroleum jelly will help.

Summary:

It is important that the patient learns:

- That he/she can lead a normal life
- That leprosy is caused by a germ and is curable
- Treatment is for either 6 or 12 months depending upon disease classification
- Tablets must be taken every day at home
- A new blister-pack is needed every 28 days
- Common side-effects include red coloured urine and darkening of skin
- That consultations and treatment are free of charge
- That leprosy is no longer infectious once treatment has started
- Regular treatment cures leprosy and prevents disabilities
- Close contacts may develop leprosy, so screening of contacts is necessary and should be brought for examination at the next visit
- That the skin patches take time to disappear and sometimes may not disappear
- Existing disability may or may not improve with treatment, depending upon grading.
- Patient needs to take care of anesthetic and affected / deformed parts of the body especially hands, feet and eyes
- New disability can occur at any time but it can be managed.
- Leprosy reactions can occur any time, and can be treated
- Various skills will need to be learnt to help prevent and manage disability. Advice to be given to patient when full course of treatment is over
- Explain that established deformities, especially sensory loss, may not recover, if this was complete at the start of the treatment. Often patients and their relatives get disheartened because the patient continues to get ulcers on the anesthetic parts.
- Explain that over / continued treatment of cured cases with MDT does not increase the chance of recovery of nerve damage
- Explain that stopping chemotherapy does not mean stopping patient care. If she/he needs treatment (e.g. for ulcers) or needs to do exercises, required services should be arranged for.
- Advice patients to come for checkup IMMEDIATELY, if they think that their disease appear to be coming back; they may be getting a RELAPSE.

Chapter 9

9. Lepra reaction and Management

9.1. Lepra Reactions

It is an acute inflammatory response and can occur at any time before, during or after treatment. It is characterized by inflammation in skin patches or nerves or appearance of nodules (ENL). If untreated, it may cause disability. Prompt diagnosis and management with steroids will prevent damage to the nerves. Patients with the following characteristics are more likely to develop lepra reactions:

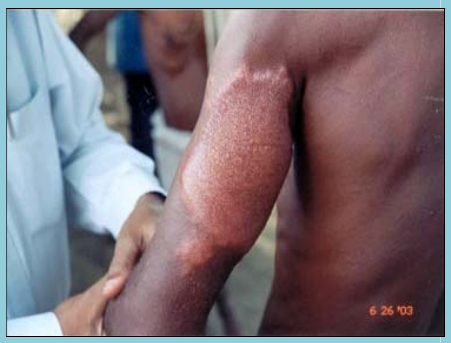
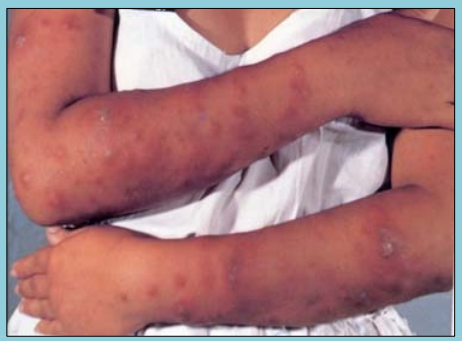
- Multiple lesions
- Lesions close to the peripheral nerve
- Lesions on the face
- Postpartum period

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

There are two principal types of lepra reactions, Type1 and Type 2.

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

Table: 9.1 Difference between type 1 and type 2 lepra reaction

Features	Type 1 reaction	Type 2 reaction
Picture	 **Fig: 9.1 Raised active patch with satellite lesion**	 **Fig: 9.2 Nodules and ulcers in ENL**

Skin	Existing lesions suddenly become red, swollen, warm, and tender. New lesions may appear. Lesions when sub siding may show scales on the surface	Red, painful, tender, subcutaneous (deep) 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 commonly 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

9.2. Management of Lepra reaction

Type 1 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. Necessary precautions for administering steroid should be taken in patients with diabetes, peptic ulcer, hypertension, etc.	40 mg once a day for the first 2weeks, 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
Note: In case of neuritis (involvement of peripheral nerve), the period of treatment may be prolonged according to the response; from 20mg onwards, the dose for each period would be for 4 weeks.	

Type 2 reaction:	
Features	**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); along with Clofazimine 100mg (3 times a day) with gradual tapering, depending upon the response and duration not exceeding 12 months.
Neuritis	Prednisolone regimen as for neuritis in Type 1 reaction

Important points to remember:

- Take the guidance and recommendations of the medical officer to manage the patient with reaction.
- If a patient develops lepra reaction during treatment, do not stop MDT (complete the course of MDT).
- Lepra reactions, which occur after completion of treatment, should also be managed as mentioned above and MDT should not be started again for such cases.
- Steroid therapy should not be stopped abruptly

Indications for referral:

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

9.3. Relapse

A patient after being declared as cured (RFT) comes with reappearance or increase in the number of lesions, it should be ruled out for lepra reaction (if new lesions appeared within 3 years after RFT). If more than 3 years after RFT, it is more likely to be relapse and should be referred to medical officer.

Relapse should be treated with **MB regimen** whatever may be the disease classification at the previous episode of the disease.

- **Incidence of relapse after MDT is negligible.**

Chapter 10

10. Process of deformities in leprosy

Disabilities in leprosy patients can occur as a result of nerve damage. 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 and poor follow up by health system.

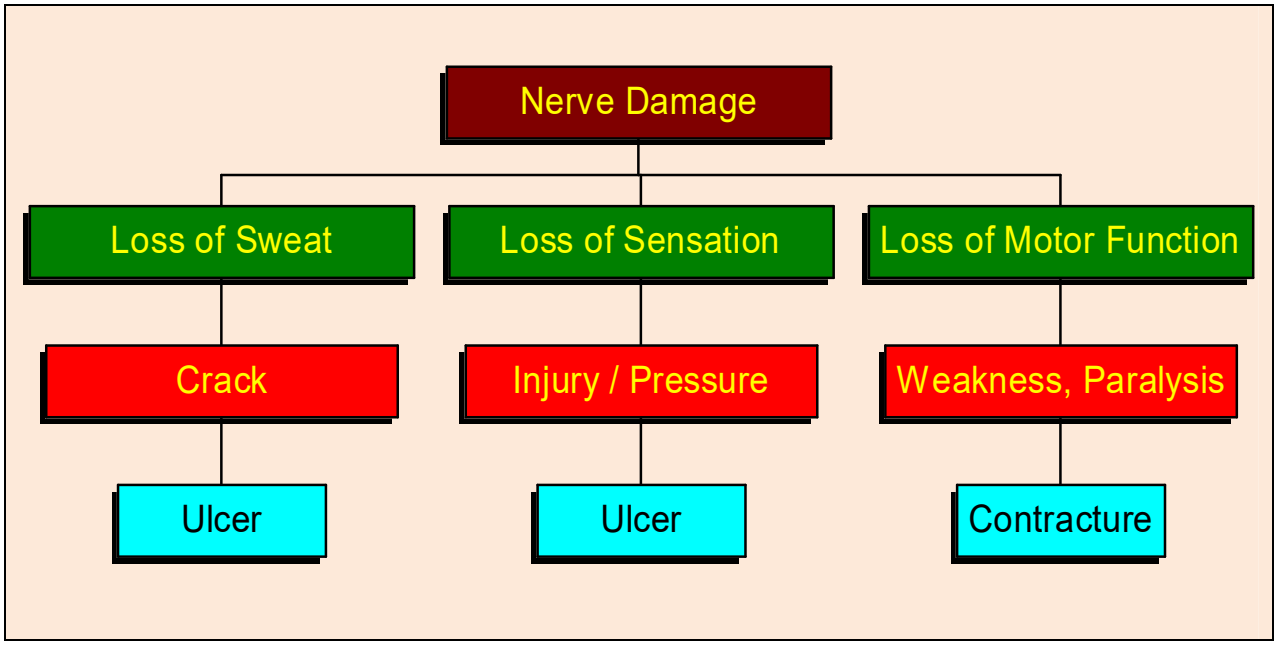
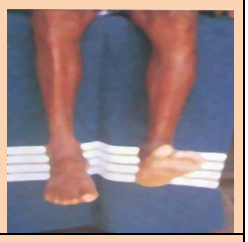
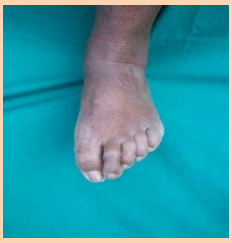
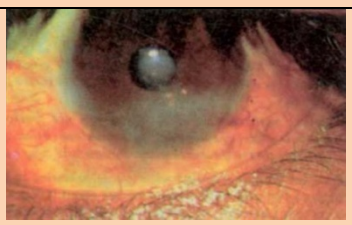


Fig: 10.1 Flow Chart showing the process of deformity in hands and feet

Disabilities in relation to peripheral nerves that are damaged

Site	Nerve damage	Features	Picture
HAND	Ulnar nerve	Clawing of 4th and 5th fingers 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(apposition) Loss of sensation over the thumb, index and middle fingers 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, loss of sensation and sweat over the back of the hand	
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 and sweat over the sole of the foot	

Site	Nerve	Features	Picture
EYE	Facial nerve	Inability to close the eye (Lagophthalmos)	
	Trigeminal nerve	Loss of sensation over cornea	

Chapter 11

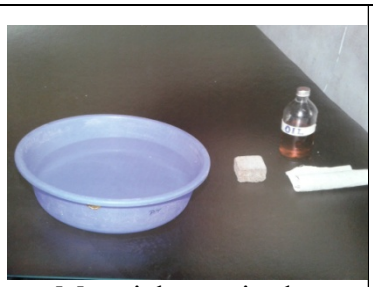
11. Disability Prevention and Medical Rehabilitation (DPMR)

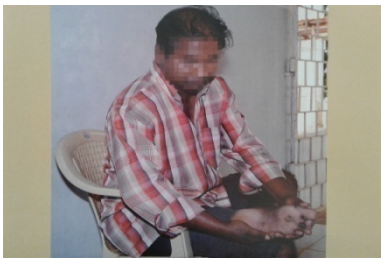
Self-care practices are essential to prevent worsening of disabilities and heal the ulcers. A person with disability needs to learn & adopt these practices such as prevention from external injuries on anesthetic hands, feet or eyes, soaking, scraping and oiling of dry anesthetic skin and active /passive exercises to prevent contractures. All disabled persons need to be motivated to learn and adopt self–care practices.

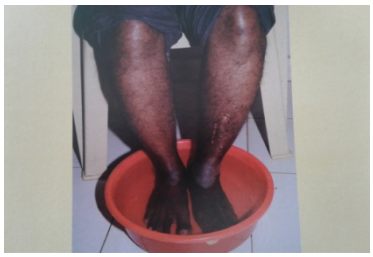
Efforts are made to ensure that persons with disability do not worsen. For example, a person with anaesthesia in the foot should not develop ulcers. Patients should be helped to manage their disabilities by self-care practice.

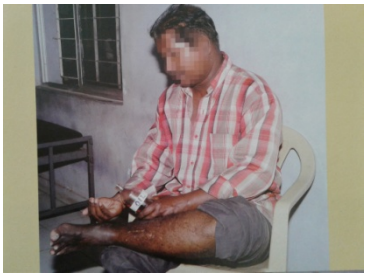
Affected part	Management
Anaesthetic hand / feet	➢ Inspect the hands / feet daily for hot, tender spots. ➢ Soak the hands/ feet for about half an hour in water. ➢ Scraping hard skin (if fissures /cracks present) using any stone without sharp edges. ➢ Apply cooking oil when hands/feet are wet. ➢ Protect hands against heat & friction. ➢ Walk slowly with short steps. ➢ Use MCR footwear for anaesthetic feet.
Blister or ulcer without discharge	• All of the above & clean with soap & water. • Dress with clean cloth.
Hands/Feet with infection	• All of the above &Antibiotics. • Refer to specialized centre
Paralysis	• Oil massage and passive movements to keep the joints mobile
Lagophthalmos	• Check eyes daily for redness. • Wear protective spectacles. • Keep the eye(s) covered with a pad while sleeping.
Redeye, Corneal ulcer	• Refer to specialized centre.

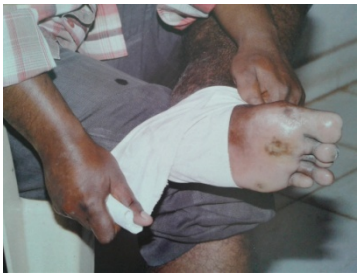
11.1. Self-care for foot


Materials required


Daily inspection


Soaking in water

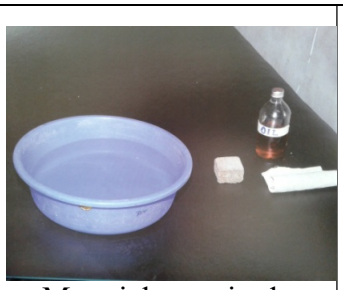

Apply oil


Bandaging

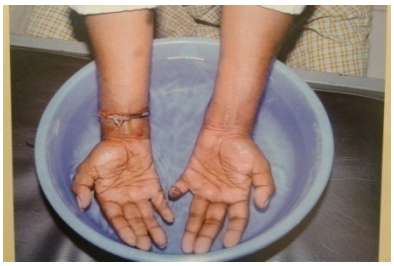

Protective footwear (MCR)

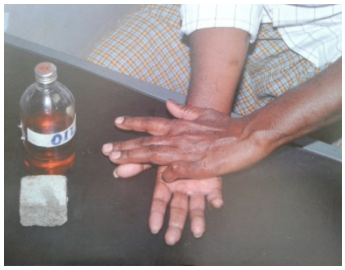
Fig: 11.1 Self-care practices for foot

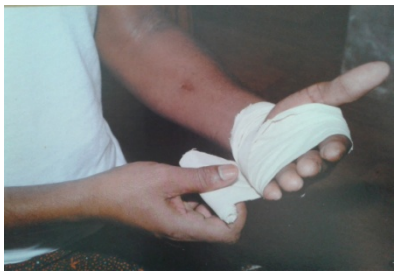
11.2. Self-care for hands


Materials required


Daily inspection


Soaking in water

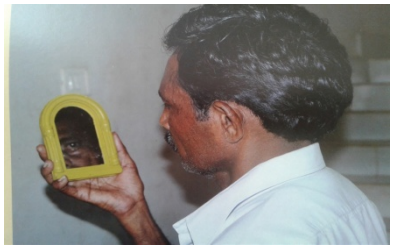

Apply oil


Bandage

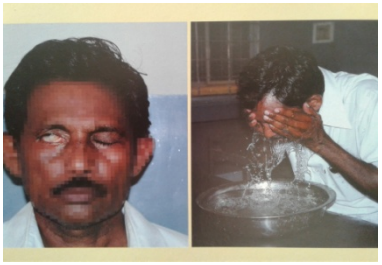

Protective measures

Fig: 11.2 Self-care practices for hand

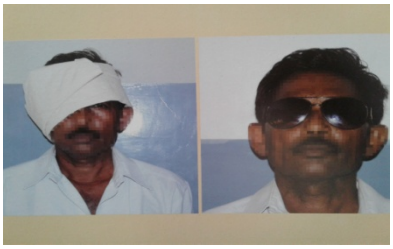
11.3. Self-care for Eyes



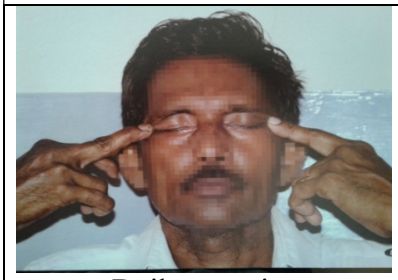
Daily inspection in mirror



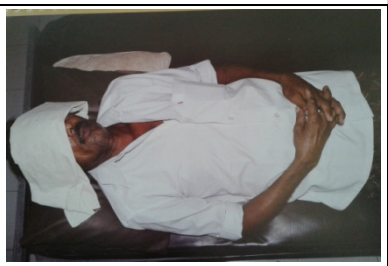
Face wash in clean water



Protective measures during the day



Daily exercise



Protective measures during sleep

Fig: 11.3 Self-care practices for eyes

11.4. Re-Constructive Surgery (RCS) in leprosy

Some deformity cases can be corrected through Re-constructive surgery. The role of health worker is of paramount importance in sustaining the results of re-constructive surgery.

- Patients to be selected as per **the eligibility criteria in DPMR guidelines for referral** to undergo RCS**.**
- Provision of amount of Rs. 8000 for every major surgery, to cover wage loss and travel.
- Persons affected by leprosy with disabilities are eligible for disability pension as per the State norms**.**

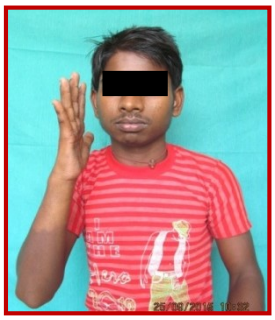
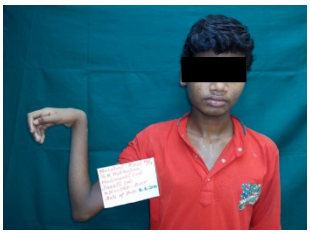
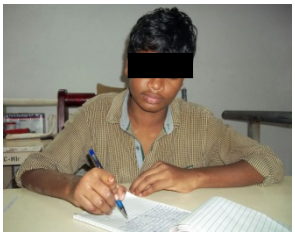
Affected nerve	*Before RCS*	*After RCS*
(Ulnar nerve) Ulnar claw correction	Right side ulnar claw 	Correction after surgery 
(Radial nerve) Wrist drop correction	 Right side wrist drop	 Correction after surgery
(Lateral Popliteal nerve) Foot drop correction	 Left side foot drop	 Correction after surgery
(Facial nerve) Lagophthalmos correction	 Lid gap on right side	 Correction after surgery

Fig: 11.4 Deformity correction - before and after RCS

Chapter 12

12. Screening of Contacts and Chemoprophylaxis

12.1. Screening of family and social contacts

The contacts of leprosy affected persons are at higher risk of getting the disease compared to general population. It is important to screen the contacts including social contacts for early identification of disease and initiation of treatment to prevent disabilities.

Examination of contacts should be carried out for signs or symptoms of leprosy, as they are in physical proximity to the index case. The categories are family contacts, household contacts, neighborhood contacts and social contacts.

- Family contacts comprise of all family members. However, if a family member has been away due to reasons eg: work or education during the last 1 year, then he will not be included among contacts.
- Household contacts are people living in the same house as the index case.
- Neighborhood contacts would comprise of all people living in 3 houses on either side and 3 houses across the street from the index case.
- Social contacts are all people with whom the index case is in contact for more than 20 hrs per week for a cumulative of 3 months or more.

12.2. Chemoprophylaxis (Post-exposure prophylaxis)

Post-exposure prophylaxis, in which a single dose of Rifampicin, with dosage based on weight, is given (after ruling out the disease) to contacts of an index case. In this document, single dose Rifampicin prophylaxis is referred as Post-Exposure-Prophylaxis (PEP).

Weight	Dose of Rifampicin
> 35 kg	600 mg
20-35 kg	450 mg
< 20kg	10-15mg/kg body weight

Chapter 13

13. Special activities to achieve elimination

As per the epidemiology of leprosy disease, it is essential to go for early case detection and treatment, in order to interrupt the transmission of disease agent (*M. Leprae*) in the community and to achieve elimination status. In this view, National Leprosy Eradication Programme undertakes three pronged strategies for early detection of leprosy cases in the community.

1. **Leprosy Case Detection Campaign (LCDC)**

   LCDC, a unique initiative of its kind under NLEP is implemented in selected high endemic districts annually. The districts are identified by Central Leprosy Division in discussion with States based on the prevalence rate > 1/10000 population/or new cases with Grade 2 deformity. The selected population is enumerated and physically examined by ASHA and Male volunteers from the community. The identified suspects are referred to PHC for confirmation, treatment and further follow- up.

2. **Focused Leprosy Campaign for hotspots (FLC)**

   The village/Urban area where even a single Grade 2 disability case is detected must be considered as hotspot, as it is indicating that cases are being detected very late and there can be several hidden cases in the community. FLC is organized in hotspots of low endemic districts which are not selected for LCDC. House to house visit by ASHA and Multipurpose Health Workers, to examine each and every resident of the households of area must be carried out under intimation to NLEP. The suggestion for case search in different areas is as under:

   - In village, case search needs to be done in each house of whole village
   - In urban area, 300 households must be covered around the location of case identified

3. **Case detection in Hard to reach areas**

   Area specific plans as per local need may be formed as per the local requirement, and the same local people may be empowered by making them aware and providing material resources.

Chapter 14

14. IEC and Counseling

Counseling: The provision of professional assistance and guidance in resolving personal psychological problems.

Patient should receive help and counseling so that the disease can be treated in the best possible manner. Patient should be counseled on every visit to the health facility. It is important for the patient and family to learn that:

- He/she can lead a normal life
- Leprosy is caused by a germ and is curable
- Treatment is for either 6 or 12 months depending upon disease classification
- Tablets must be taken every day and at home itself
- A new blister-pack is needed every 28-days
- Common side-effects include red coloured urine and darkening of skin. No need to worry, as the same will pass off quickly
- Consultations and treatment are free-of-charge at the nearest health centre.
- Leprosy is no longer infectious once treatment is started
- Regular treatment cures leprosy and prevents disabilities
- Close contacts may develop leprosy and should report for examination on next visit
- Skin patches take time to disappear and sometimes may not disappear
- Existing disability may or may not improve with treatment, depending upon grading
- Patient needs to take care of anesthetic and affected / deformed parts of the body especially hands, feet and eyes. Must practice self-care regularly.
- New disability can occur at any time, but it can be treated
- Leprosy reactions can occur any time, and can be treated
- Various skills will need to be learnt to help prevent and manage disability. Advice is given to patient to stop treatment when full course of treatment is completed.
- Established deformities which are complete at the start of the treatment, especially sensory loss, may not recover. Often patients and their relatives get disheartened because the patient continues to get ulcers on the anesthetic parts.
- Over / continued treatment of cured cases with MDT does not increase the chance of recovery of nerve damage.
- Stopping chemotherapy does not mean stopping patient care. If he/she needs treatment (eg. for ulcers) or need to do exercises, required services will be arranged to take care.
- Advice patients to come for checkup IMMEDIATELY, if they think that their disease appears to come back; they may be getting a RELAPSE.

Message to the community:

- Any pale coloured patch on the skin, shiny or oily looking face, thickening of ear lobules could be leprosy, consult the nearest Govt. health facility for evaluation and treatment.
- Leprosy is curable and deformity can be prevented if detected and treated at the earliest.
- Treatment for leprosy is from 6 to 12 months and is available free of cost in all the Govt. health facilities.
- Deformities in leprosy can be corrected through surgery, free of cost at public health facilities.

Role of ASHA in NLEP:

- Generate awareness to reduce stigma and encourage self-reporting.
- Identify/suspect a Leprosy affected person, its complications and refer to health centre.
- Help the health worker in ensuring regularity and completion of treatment.
- Encourage the Leprosy affected person to take regular treatment and complete the treatment.
- Encourage the Leprosy affected person having disability to practice self-care (as advised by doctor/Health worker) to prevent deformity.

Chapter 15

15. Supervision and Monitoring

Supervision - Health supervisors need to assess the performance of health workers functioning at sub-centers and at PHCs using a check list. Supervision is a way to ensure staff competence and effectiveness through observation, discussion, support and on-the-job training. Supervisor should know the job responsibilities of the persons to be supervised. The supervisor should be able to identify and rectify the 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 records and reports.

The strategy of National Leprosy Eradication Programme is early case detection, prompt treatment with MDT and prevention of disability among the patients. Data is continuously collected on all these activities and consolidated into a Monthly Progress Report (MPR). 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 (monitoring) and take immediate corrective action in case of deficiencies. All the cases detected should be brought under treatment. Treatment compliance should be at least 95%. Timely discharge of cases should take place and records should be properly maintained.

Recording & reporting: Supervisor needs to ensure records & monthly reports (ULF 01-ULF 06of USIS) in terms of correctness & completeness and timely submission of reports.

Chapter 16

16. Monitoring Indicators

(Actual numbers and avoid rates)

Number of leprosy cases detected during the year	
Number of cases put on treatment	
Number of contacts (family and neighbour) enumerated	
Number of contacts examined (among above)	
Number of leprosy cases detected (among above)	
Number of new leprosy cases with G2 disabilities detected	
Number of Focal Leprosy Campaigns done	
Number of Persons affected by leprosy with deformities living in the area	
Number of Persons affected by leprosy with deformities trained in self-care	
Number of Persons requiring MCR footwear (among above)	
Number provided MCR footwear during the year	
Number of Persons requiring Re-constructive surgery (RCS)	
Number of RCS done	
Number of cases facing discrimination, stigma in need of attention	

Annexure I

Job Description of ANM or MPW at Sub Centre

1. During her/his visit to PHC, the ANM/MPW should collect patient cards of the new leprosy affected persons from his/her area, to whom first dose have been given at the PHC.
2. He / She should deliver the subsequent doses to the patients referred from PHC/APHC. (After confirmation of diagnosis and dispensing first dose, the patient should be told to collect his further BCPs i.e. second dose onwards from the respective S/C or from ANM/MPW of the area)
3. ANM/MPW should ensure that the pulse dose is taken in their presence by the patient.
4. He/she should enter the date of the subsequent doses in the patient card.
5. He/she should counsel the patient about the disease, side effects, complications, regularity of treatment etc.
6. He/she should update/ get updated the treatment register when visiting the PHC.
7. He/she should follow up the absentee cases and ensure regularity of treatment.
8. ANM/MPW should encourage the patient to bring his/her contacts to the PHC for checkup.
9. He/she should be alert, to suspect cases and refer to the PHC for confirmation.
10. He / She should keep coordination with ASHA in the village to suspect cases & follow up treatment for completion in time.
11. He/she should be alert, to refer cases with complications to the PHC.

Job Description of Health Supervisor at PHC/District level

1. Improve the quality of services by supervision/on-the-job-training and new case validation
2. Ensure proper recording and reporting as per USIS of NLEP. Complete the patient case card (ULF- 01), EHF scoring, contact survey, reactions etc.
3. Ensure the availability of MDT drugs, supportive drugs, drugs for leprosy reaction and other logistics.
4. Assist MO/DLO in referral of difficult cases, compilation of monthly/quarterly or annual reports and in analysis of NLEP progress in the area.
5. Involve persons affected by leprosy in planning, decision making and providing leprosy services.

Annexure II

Checklist for Supervision for District / State

Name of the Supervisor: Date of Supervision:

Name of Health Facility: District:

1	Recording correct diagnosis with classification	Yes / No
2	Verifying/ assessing nerve functions	Yes / No
3	Demonstrating patient counseling	Yes / No
4	Adequate availability of MDT	Yes / No
5	Stock register maintained	Yes / No
6	Referral and feedback system appropriate	Yes / No
7	Management of reactions	Yes / No
8	POD and self-care activities	Yes / No
9	Capacity building of in-house staff	Yes / No
10	Master register maintain	Yes / No
11	Timely submission of MPR by 5th of every month	Yes / No
12	Punctuality of staff ensured	Yes / No
13	IEC material displayed properly	Yes / No
14	Cleanliness of dispensary premises	Yes / No
15	Maintenance of proper records for ASHA involvement and payment of incentive in time	Yes / No

Annexure III

U.L.F. 01

NATIONAL LEPROSY ERADICATION PROGRAMME (NLEP) PATIENT CARD										
Subcentre			PHC							
Block/CHC		District		State						
Registration Number						SC	ST	Others		
Name						Age:	Female	Male		
Address (with mobile No.)										
Duration of signs/ symptom in months	…… Duration of disability, if any……..									
Mode of detection	Voluntary / by ASHA / referred by other / by contact survey / other mode									
Classification	PB	MB	New Case		Other Cases (specify)					
Disability	Gr-I	Gr-II	EHF score							
Date of First Dose										
AFTER ENTERING ABOVE INFORMATION IN THE PHC TREATMENT RECORD, THIS PATIENT CARD IS TO BE TRANSFERRED TO SUB-CENTRE 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 (MB final)
Date of Discharge	Date:				RFT/otherwise deleted (specify)					
End Status	EHF Score:	Follow up required (after RFT) for reaction, deformity, Ulcer or eye care:								
THIS CARD IS TO BE MAINTAINED AT SUB-CENTRE AFTER EVERY DOSE UPDATE THE PHC TREATMENT RECORD AFTER ACHIEVEING END STATUS THE MPW SHOULD SIGN THIS CARD AND RETAIN AT SUB-CENTRE FOR FUTURE REFERENCE					Signature of Sub Centre MPW					
CONTACT SURVEY IN MB/CHILD CASE	No. Examined-	Cases Detected: MB- PB-								
Record of Lepra Reaction/Neuritis										
Type – I/II	Neuritis - Yes/No									
Prednisolone doses issued with dates at PHC/District hospital Dates of MCR footwear if issued - Date of referral for RCS - Contact examination done on ……new cases suspected/confirmed…….										
NB: this patient card is for use for the new cases as well as other cases. In urban situation this card can be used by changing sub-centre/PHC/CHC with appropriate health unit area/region.										

Annexure IV

TREATMENT REGISTER FOR NEW CASES

U.L.F. 02/A

PHC _____ Block PHC/CHC _____

Districts _____ State/UTs _____ Fiscal Year _____

Reg. No.	Sub Centre	Name	Address with mobile tel. number	Age	Sex M/F	ST / SC	PB / MB	Dis-ability grade I / II	Date of First Dose	Date of Subsequent doses											Date of RFT
										2	3	4	5	6 (PB Final)	7	8	9	10	11	12 (MB Final)	

Annexure V

TREATMENT REGISTER FOR OTHER CASES

U.L.F. 02/B

PHC _____ Block PHC/CHC _____

Districts _____ State/UTs _____ Fiscal Year _____

Reg. No.	Sub Centre	Name	Address with mobile tel. number	Age	Sex M/F	ST / SC	PB / MB	Dis-ability grade I / II	Date of First Dose	Date of Subsequent doses											Date of RFT	Category of case*
										2	3	4	5	6 (PB Final)	7	8	9	10	11	12 (MB Final)		

*** Category of case – Relapse, re-entered for treatment completion, referred and changing in classification of MB / PB**

Annexure VI

NLEP – LEPROSY MDT DRUG STOCK RECORD

U.L.F. 03

Use separate page for each category of MDT [MB(A) / MB(C) / PB (A) / PB (C)] – Specify category _____
(Same format to be used at PHC/District/State levels – Please specify level with name along with next highest level state)

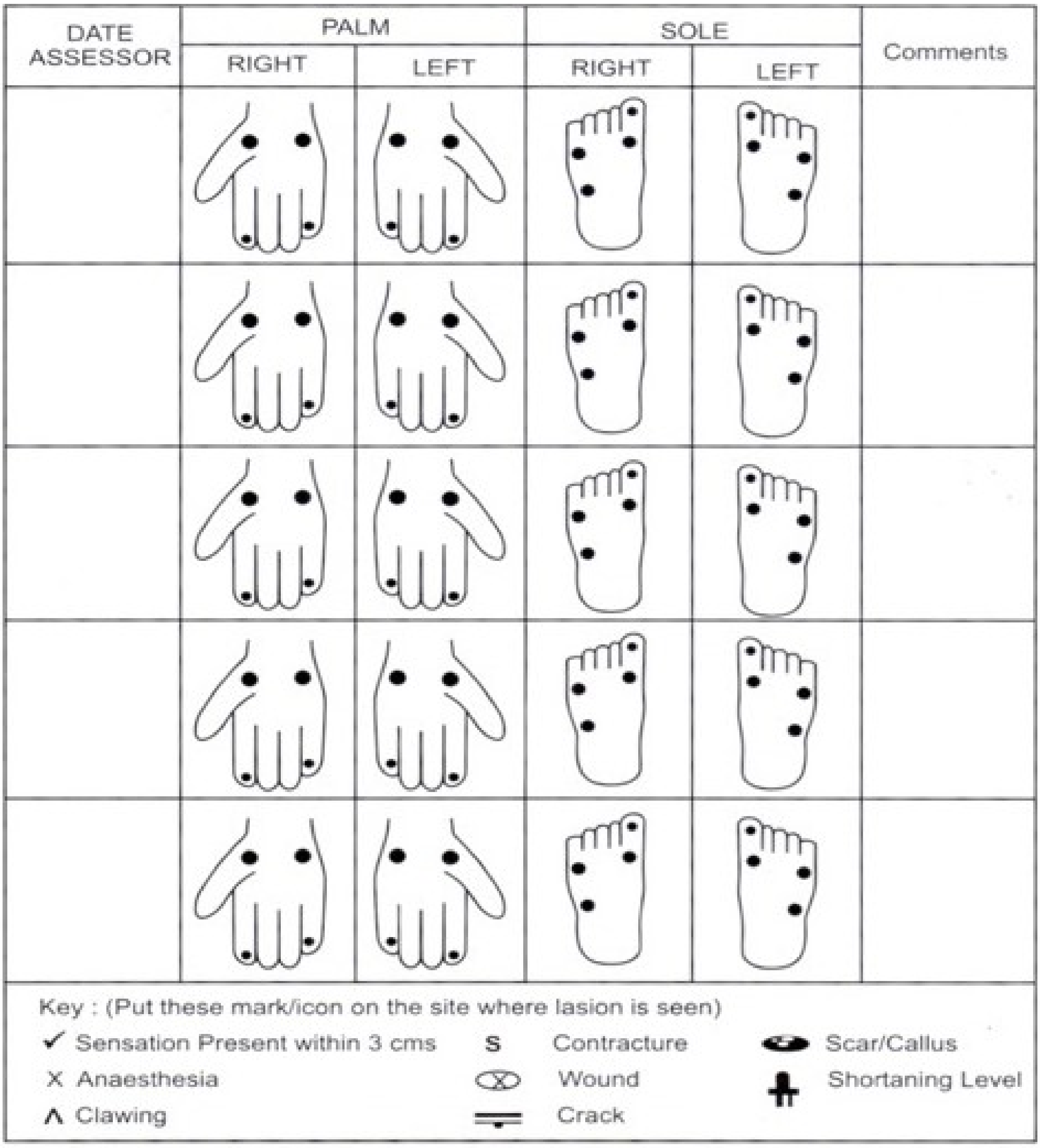
PHC _____ Block PHC/CHC _____

Districts _____ State/UTs _____ Fiscal Year _____

Transaction Date	RECEIPT					EXPENDITURE					Balance in Hand	Stock in Patient Month
	Quantity Received	From Where	Vide Ref. No.	Batch No.	Expiry Date	Quantity Received	From Where	Vide Ref. No.	Batch No.	Expiry Date		

U.L.F. 04 (Page 1)

SENSORY ASSESSMENT



DATE ASSESSOR	PALM		SOLE		Comments
	RIGHT	LEFT	RIGHT	LEFT	

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

✓ Sensation Present within 3 cms	S Contracture	Scar/Callus
X Anaesthesia	Wound	Shortaning Level
ʌ Clawing	Crack	

ASSESSMENT OF DISABILITY & NERVE FUNCTION

U.L.F. 04 (Page 2)

Name:_____ Village: _____Date of Registration:_____

S/O.W/O.D/O: _____ Sub-Centre: _____Date of RFT:_____

Age / Sex: _____Registration 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 : Counting fingers at 6 meters
0 = Normal
1 = Blamed Vision
2 = Unable to count finger

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

Annexure VIII

DISABILITY REGISTER

U.L.F. 05

PHC / CHC _____ Districts _____ State/UTs _____

Sl. No.	Name of the Patient	Age / Sex	Address Village / Sub-Centre / PHC with phone number	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 Score	Neuritis	Reaction Type I / Type II	DPMR Services Provided				Refer with date				New Disability developed after starting of prednisolone			Referral Services provided / Follow up taken up / Remarks
				Steroid / Dose / Duration	Self-Care Practice	Ulcer Treatment	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

Annexure IX

NLEP MONTHLY REPORTING FORM U.L.F. 06 (Page 1)

PHC/ BLOCK PHC REPORT

PHC : _____ Block :_____

District : _____ State : _____

Reporting Month : _____ Year : _____

1	No. of balance cases at the beginning of the month			1.1 New Cases		1.2 Other Cases
		PB				
		MB				
		Total				
2	No. of new Leprosy Cases detected in the reporting month			During Reporting Month		
				PB	MB	TOTAL
		Adult				
		Child				
		Total				
	Among new cases – number from other states	Total				
3	Among new leprosy cases detected during the reporting month, number of	Female				
		Disability	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 (1.1+2-4)					
6	Number of "Other Cases" recorded and put under treatment	(I) Relapse				
		(II) Reentered for treatment				
		(III) Referred				
		(IV) Reclassified				
		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 (1.2+6-7)					
9	Total number of cases under treatment at the end of month	New + Others (5+8)				
10	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 (New & Others)	Patient Months BCP
MB (A)					
MB (C)					
PB (A)					
PB (C)					

NB. Please calculate patient-t Month Blister packs for MB (A), MB (C),PB (A), PB (C) Quantity in the month of March, June, September and December and include the same in that respective Monthly Report.

REMARKS (If any):- Signature of Medical Officer

Annexure IX (Cont.)

NLEP MONTHLY REPORTING FORM U.L.F. 06 (Page 2)
PHC/ BLOCK PHC REPORT

S. No.	Indicators	During Reporting Month		
		PB	MB	Total
1	No. of New Leprosy cases recorded			
2	No. of reaction cases managed at PHC			
3	No. of reaction cases referred to Dist. Hospital / Other Inst.			
4	No. of relapse cases suspected and referred			
5	No. of relapse cases confirmed at district hospital			
6	No. of cases developed new disability after MDT			
7	No. of patient provided with footwear			
8	No. of patient provided with self-care kit			
9	No. of patient referred for RCS			
10	No. of new cases confirmed at PHC out of referred by ASHA			
11	No. of case completed treatment through ASHA			
12	No. of ASHA paid incentives			
13	No. of Contacts examined			
14	No. of cases detected amongst contacts			
15	No. of cases voluntarily reported, out of new cases recorded (Sl.No.1)			

Signature of the Medical Officer

Annexure X

Case studies:

- **Programme Management and Treatment**

Case 1:
Rahman, 35 years old male, on his visit to health center for treatment of his son, was diagnosed to be suffering from leprosy and was registered for treatment. While checking the treatment register at the end of the month, you noticed that he has not come to collect medicine for the fourth month.

- **Epidemiology**

Case 1:
Sushma, a multipurpose health worker of a sub-centre in your area informs you that an old woman, on treatment for leprosy, has been abandoned by the family members, and she (Health worker), is unable to convince the family members to keep her in the house.

Case 2:
Lacchu, 42 years old male, came to health center for treatment of skin lesions. He told the doctor that around two years back he had noticed a light coloured (hypo-pigmented) patch on his thigh but, as it caused no problem he did not seek any treatment. Recently he developed two more similar patches and got worried. He has been diagnosed as suffering from leprosy and has been registered for treatment.

Case 3:
Asim,13 years old boy, has been brought to health center with a wound on the palm of right hand. The wound is painless and claw deformity of the little finger of the right hand was noticed on examination. On eliciting a detailed history it was learnt that the deformity of the little finger developed around six months back and he has been taking treatment for it from a local traditional healer.

Annexure XI

National Leprosy Eradication Programme (NLEP)
Training of Health Supervisors

Pre / Post test Question paper

Total Marks : 30 **Total time: 30 mins**

Name of the Participant: **Date:**

Name of the District / PHC:

1) Leprosy is caused by
- a) Virus
- b) Parasite
- c) Bacteria
- d) Others

2) Leprosy spreads through:-
- a) Blood
- b) Air
- c) Skin to skin contact
- d) Water

3) **Leprosy disease mainly affects:**
- a) Muscles
- b) Skin and nerves
- c) Bones and joints
- d) Kidney

4) Cardinal signs of Leprosy include all, EXCEPT:-
- a) Hypo-pigmented patch with loss of sensation
- b) Thickening of peripheral nerves
- c) Presence of Mycobacterium Leprae in skin smears
- d) De-pigmented patch

5) Approximate number of new cases of leprosy reported under NLEP in India each year?
- a) Less than 50,000
- b) 50,000 - 100000
- c) 100000 - 150000
- d) 150000 - 200000

6) Which are the nerves affected in Leprosy?
- a) Ulnar nerve
- b) Lateral Popliteal nerve
- c) Median nerve
- d) All the above

7) PB leprosy means

a) 1 - 5 skin lesions with 2 nerves involvement
b) 1- 5 skin lesions with 1 nerve involvement
c) 6 or more skin lesions
d) None of the above

8) MB Leprosy means

a) 1- 5 skin lesions without any nerve involvement
b) 1- 5 skin lesions with one nerve involvement
c) One nerve involvement without any skin lesions
d) 6 or more skin lesions without any nerve involvement

9) PB-MDT treatment for adults

a) 600 mg Rifampicin, 100 mg Dapsone monthly and 100mg Dapsone daily for 12 months
b) 600 mg Rifampicin, 100 mg Dapsone monthly and 100mg Dapsone daily for 6 months
c) 600 mg Rifampicin, 100 mg Dapsone monthly and 100mg Dapsone daily for 9 months
d) 600 mg Rifampicin, 100 mg Dapsone monthly and 100mg Dapsone daily for 24 months

10) Drugs given for MB-MDT

a) Dapsone
b) Rifampicin
c) Clofazimine
d) All the above

11) Which of the following patients should receive PB-MDT therapy?

a) 6 skin lesions and one thickened nerve. Skin smear 2+
b) Single skin lesion and 2 nerves thickened. Skin smear negative
c) 2 skin lesions and one thickened nerve. Skin smear negative
d) Single skin lesion and single nerve thickened. Skin smear 1+

12) Which of the following statement is false?

a) PB-MDT is of 6 months duration to be completed in 12 months
b) MB-MDT is of 12 months duration to be completed in 18 months
c) In children below 10 year, drug dose depends on body weight
d) MB-MDT may be given for more than 12 months if BI is high.

13) All are true about MDT in Leprosy, EXCEPT:-

a) It reduces the transmission of disease to others
b) Reduces chances of drug resistance
c) Treatment duration is short and fixed
d) It has no side-effects

14) If a patient of Leprosy is co-infected with tuberculosis, which of the following is done:

a) No change required in therapy
b) Dose of Rifampicin to be given as per tuberculosis.
c) Dose of Rifampicin to be given as per Leprosy
d) Dapsone should not be given

15) Which of the following conditions is a warning sign mandating stoppage of one or more MDT drugs in a patient of Leprosy?

a) Jaundice and loss of appetite
b) Flu-like illness
c) Vomiting
d) Reddish discoloration of urine

16) A patient on MB-MDT developed brownish pigmentation and dryness of the skin. Which of the following statements regarding this is false?

a) It is due to Clofazimine
b) Application of oil may be beneficial
c) The pigmentation is permanent and patient has to be counseled accordingly
e) The pigmentation is reversible

17) In all of the following conditions, MDT may be safely given except:

a) HIV positive patient
b) Severe jaundice
c) Pregnant woman
d) Co-infection with tuberculosis

18) Leprosy Reaction can develop at any-time:

a) Onset of the disease/before starting the treatment
b) During treatment
c) After completion of the treatment
d) All of above

19) Symptoms of Lepra-Reaction are:

a) Appearance of subcutaneous nodules in crops
b) Severe constitutional disturbance
c) Painful and tender enlarged nerves
d) All the above

20) Which of the following conditions predisposes to development of reaction or neuritis?

a) Multiple lesions
b) Lesions close to a peripheral nerve
c) Lesions over the face
d) All of the above

21) All of the following are common features of type 1 lepra reaction except:

a) Increased redness over previous lesions

b) Severe constitutional symptoms requiring hospitalization

c) Painful and tender, enlarged nerves

d) Swelling of hands and feet

22) Type II reaction is characterized by all, except:

a) Multiple crops of erythematosus tender nodules/plaques

b) Neuritis

c) Type IV hypersensitivity change

d) Arthritis

23) Treatment for Lepra – Reaction:

a) Chloroquine

b) Dapsone

c) High dose Rifampicin

d) Prednisolone

24) Treatment of Neuritis in the acute phase involves:

a) Active exercises

b) Passive exercises

c) Rest of the affected limb in "neutral" position and steroid therapy

d) Surgical exploration

25) As per NLEP Guidelines, which of the following is defined as a case of relapse?

a) Incompletely treated previously, now presenting with new lesions

b) Patient who fails to complete the treatment with in maximally allowed time

c) Patient referred from one health centre after first dose of MDT

d) Patient who has developed new lesions at any time after the completion of a full course of treatment

26) As per NLEP Guidelines, defaulter for MB leprosy?

a) Patient unable to complete 12 BCP in 18 months

b) Patient completed 12 BCP in 18 months

c) Patient unable to complete 6 BCP in 9 months

d) Patient completed 6 BCP in 9 months

27) The incentive paid to RCS beneficiary under NLEP is:

a) Rs. 3000

b) Rs. 5000

c) Rs. 8000

d) Rs. 10000

28) LCDC refers to:

a) Leprosy Control Disease Campaign

b) Leprosy Case Detection Campaign

c) Leprosy Case Detection Centre

d) Leprosy Case Disability Campaign

29) Hot spot for Focused Leprosy Campaign:

a) Relapse case of leprosy
b) Old case of Leprosy
c) Grade II disability case
d) PB case

30) Post Exposure Prophylaxis for contacts of leprosy is:

a) Single dose Rifampicin
b) Single dose Clofazimine
c) Single dose Dapsone
d) Single dose Ofloxacin

Glossary:

Abduction : Movement away from anatomical central line of body
ANCDR : Annual New Case Detection Rate
Anesthesia : Loss of sensation
ANM : Auxillary Nurse Mid-wife
ASHA : Accredited Social Health Activist (volunteer from the community identified to act as a link between the health service and the community)
AWW : Anganwadi Worker
BCP : Blister Calendar Pack
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
CLD : Central Leprosy Division
CLTRI : Central Leprosy Teaching & Research Institute
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
DPMR : Disability Prevention and Medical rehabilitation
EHF Score : Eye, Hand and Foot Score
ENL : Erythema Nodosum Leprosum
Erythematous : Red in colour
FLC : Focused Leprosy Campaign
G2D : Grade 2 Deformity
Foot drop : Inability to move the foot up i.e, dorsiflexion due to paralysis of muscles
HI : Health Inspector
HS : Health Supervisor
Hepatitis : Inflammation of liver
IEC : Information Education and Communication
Impairment : Any loss or abnormality of psychological, anatomical structure or function caused by the disease or injury
Incubation Period : Time interval between infection 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
LCDC : Leprosy Case Detection Campaign

LI	: Leprosy Inspector
MB	: Multi Bacillary
MCR	: Micro Cellular Rubber for making footwear
MDT	: Multi Drug Therapy
MO	: Medical Officer
MPHW/MPW	: Multipurpose Health Worker / Multipurpose Worker
MPR	: Monthly Progress Report
Neuritis	: Inflammation of nerve
NLEP	: National Leprosy Eradication Programme
NMA	: Non-Medical Assistant
NMS	: Non-Medical Supervisor
Nodule	: Elevated growth of abnormal tissue
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	: Examine by touch
PB	: Pauci-Bacillary
PEP	: Post Exposure Prophylaxis
PHC/APHC	: Primary Health Centre / Additional Primary Health Centre
Plantar	: Referring to the sole of the foot
PMW	: Para Medical Worker
POD	: Prevention of Disability
PR	: Prevalence (Number of cases on treatment per 10000 Population as on 31st March)
Reaction	: An inflammatory episode that might occur during the course of Leprosy
Relapse	: Re-occurrence of disease after RFT
RCS	: Re-constructive Surgery
RFT	: Release from Treatment (the end of treatment)
Scaling	: Visible shedding of surface layer of skin in the form of scales
S/C	: Sub-Centre
SLO	: State Leprosy Officer
ST	: Sensory Testing
Ulcer	: Discontinuity of the skin or mucous membrane
VHN	: Village Health Nurse
VMT	: Voluntary Muscle Testing
WHO	: World Health Organization
Wrist drop	: Inability to extend wrist due to paralysis of muscles supplied by Radial nerve

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