

- The government gives incentive to patients undergoing RCS.
- Customized micro-cellular rubber (MCR) shoes are crucial for preventing ulcers.
- Assistive devices like hand grips and crutches are useful for daily chores.

What a general physician can do for leprosy:

- Promptly diagnose and manage leprosy following NLEP guidelines.
 - Consider leprosy as priority for eradication.
 - Get the contact tracing done and SDR administered at the earliest.
 - Screen the family members for leprosy as a priority.
 - Counsel patients on drug adherence, and signs and symptoms of lepra reactions.
- Diagnose and treat lepra reactions at the earliest.
- Guide patients on appropriate self-care and assistive devices, motivate for RCS if required.
- Identify the need for surgical intervention and facilitate.
- Address stigma and mental well-being of the affected.
- Educate family and community on leprosy.
- Monitor and mentor frontline workers as applicable.
- Refer for specialist care as and when required.
- Report cases detected in private practice as per guidelines issued by the state government, leprosy is a notifiable disease.

References:

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Leprosy post-exposure prophylaxis with single dose rifampicin (LPEP): an international feasibility programme:



Effectiveness of single dose rifampicin in preventing leprosy in close contacts of patients with newly diagnosed leprosy: cluster randomised controlled trial:



Chemoprophylaxis in contacts of patients with leprosy: systematic review and meta-analysis:



Number of people requiring post-exposure prophylaxis to end leprosy: A modelling study:



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KEY FACTS ON LEPROSY FOR GENERAL PHYSICIAN

Early detection, treatment, care, and prevention of leprosy is crucial for interruption of leprosy transmission and mitigation of suffering.

Why is Leprosy important for General Physician (GP):

- India reported 1,00,957 cases of leprosy in 2024-25, more than half of total cases reported globally.
- By 2027, India intends to reduce the incidence of leprosy by 50% (National Strategic Plan & Roadmap of leprosy 2023-27).
- The GPs form the backbone of public health system.
- Often, the GP is the first to be consulted by a person affected by leprosy.

General information about leprosy:



- Oldest known bacterial disease caused by *Mycobacterium leprae* which cannot be grown in artificial media.
- Transmitted through oral/nasal droplets.
- Primarily disease of peripheral nerves and skin.
- Long incubation period - 2 to 5 years, at times even more.
- Clinical diagnosis is supreme, even the slit skin smear (SSS) test may miss around 30% of cases.
 - Definite loss of sensation in a pale (hypopigmented) or reddish skin patch
 - Thickened or enlarged peripheral nerve, with loss of sensation and/or weakness of the muscles supplied by that nerve
 - Microscopic detection of bacilli in a Slit-Skin Smear (SSS)
- As per the new guidelines of the National Leprosy Eradication Programme (NLEP) issued in January 2024, a case with one to five skin patches with sensory loss is classified as paucibacillary (PB) leprosy; and with six or more patches and/or the involvement of one or more nerves is classified as multibacillary (MB) leprosy.
- SSS positive cases are classified as MB.
- Diagnosis of leprosy is primarily clinical, SSS can be done for doubtful cases. Research is underway for better diagnostic tests.
- Predisposing factors are poor nutrition, poor sanitation, and overcrowding.
- A GP should always keep leprosy in mind whenever managing any patient presenting with skin or nerve lesion.

- Multi-drug therapy (MDT) comprising of rifampicin, clofazimine and dapsone cures leprosy, is provided free by government.
- The PB and MB cases are treated by 6 and 12 months of MDT respectively, which can be completed in 9/18 months.
- The incidence of drug resistance, particularly of rifampicin, is reported to be about 2% in new cases while 5.11% in cases of relapse*.

*National Guideline for Surveillance of Antimicrobial resistance in leprosy, 2023

Prevention of Leprosy:



- In India, Single dose of Rifampicin (SDR) is administered for prevention of leprosy among contacts. It is provided free of cost by all government health facilities.
- SDR can reduce the occurrence of new cases among contacts by 57%.
- Around 20 eligible contacts need to be administered SDR for desired results following the eligible criteria.
- A contact for SDR administration is defined as a person who had prolonged regular or interrupted contact with an index case during the last one year. The time period of contact should be 3 months (cumulative) and 20 hours/ week.
- Children below two years of age and pregnant women should not be given SDR.
- SDR should not be given to those who have taken rifampicin in last two years for any reason or have signs/symptoms of tuberculosis or leprosy. Persons having liver or kidney disease or any other serious health problem should also not be given SDR.
- Enhanced chemoprophylaxis* called PEP++ is under trial.
- BCG vaccine is known to help.

* Hinders et al, 2024; *The PEP++ study protocol: a cluster-randomised controlled trial on the effectiveness of an enhanced regimen of post-exposure prophylaxis for close contacts of persons affected by leprosy to prevent disease transmission; BMC Infectious Diseases (2024) 24:226; https://doi.org/10.1186/s12879-024-09125-2*

Lepra reaction, disability, and its management:

Lepra reaction



- Lepra reaction (immune response of body towards lepra bacilli) is an emergency condition.
- It is not a failure of treatment with MDT, so treatment must be continued.
- Types of lepra reactions –
 - type 1 or reversal reaction and
 - type 2 or Erythema Nodosum Leprosum (ENL)
- Type 1 reaction can occur in both PB and MB cases, while type 2 occurs in MB cases.
- Clinical features of Type 1 reaction: inflammation in the skin patches, redness and warmth, tenderness of nerves and loss of function, and swelling of limbs or face. The patches are not usually painful, but there may be some discomfort. Some patches may not have been clearly visible before, so one may think that the inflammation has brought out new patches. Systemic signs are absent in type 1 reaction.
- Clinical features of Type 2 reaction: have more systemic signs like fever and joint pain. Appearance of painful nodules on the skin, involvement of organs like kidney, testes and eyes are common.
- Easily managed with prednisolone, rarely may require thalidomide, clofazimine and methotrexate.
- Around 20–50% of all leprosy patients can have lepra reactions.
- Reaction can occur multiple times in the same individual, before, during and after release from MDT treatment (RFT).
- Damages nerve and cause disability.
- May cause irreversible disability if not managed promptly.

Disability & Management:



- Disabilities due to leprosy may occur in hands, feet, eyes, or face. They are classified as:
 - Grade 1: loss of sensation in palm and sole but no visible deformity
 - Grade 2: any visible deformity e.g., lagophthalmos (difficulty in closing eyes), claw hand, foot drop and ulcers, saddle nose, etc. In eyes, only grade 2 disability occurs
 - Self-care and reconstructive surgery (RCS) are required for halting and correcting disabilities. Appropriate physiotherapy may reverse contractures.
 - Criteria for selection of cases for RCS
 - Age: 15 - 45 years
 - Duration of muscle paralysis - at least one year and preferably not longer than 3 years; for lagophthalmos 6 months
 - The joints should be supple, severe contractures or stiff joints are not suitable
 - No infection of the skin with scabies, no deep cracks, wounds, or ulcers