PHYSIO THERAPY IN LEPROSY

PRESENTER:

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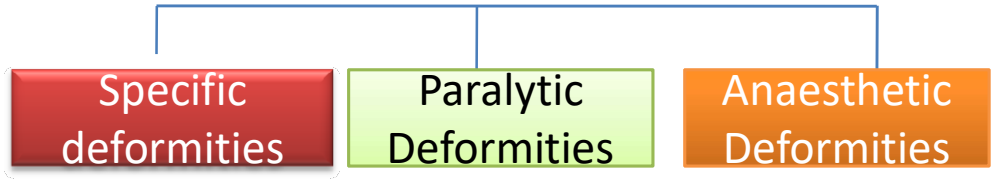
- Leprosy is a disease associated with deformities.
- Physiotherapy plays a vital role in correcting and preventing deformities.
- Prevention of deformities in Leprosy can only be achieved by early deduction of patients and early treatment with Anti-Leprosy drugs.
- By early deduction we are able to prevent nerve paralysis by that we are preventing deformities in Leprosy.

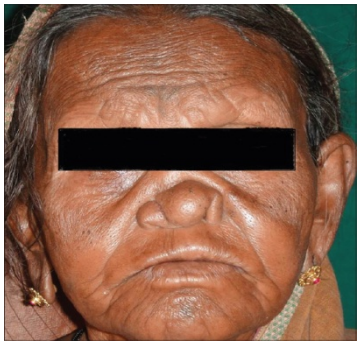
CLASSIFICATION OF DEFORMITIES IN LEPROSY

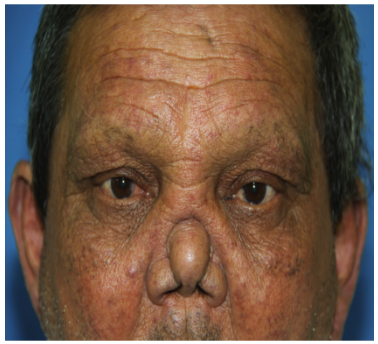
- We can classify deformities in to three types:

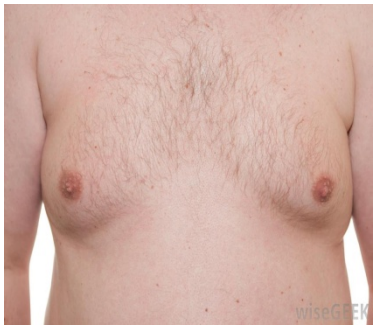


1.Specific Deformities

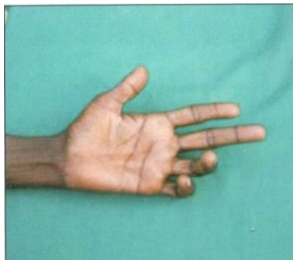
(a).Nasal depression (b).Loss of Eyebrows c). Gynecomastia



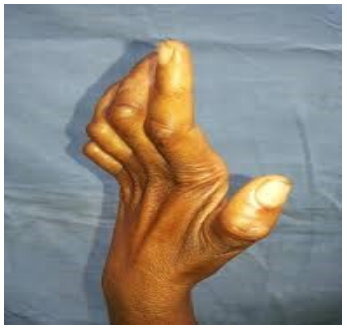




2.PARALYTIC DEFORMITIES:

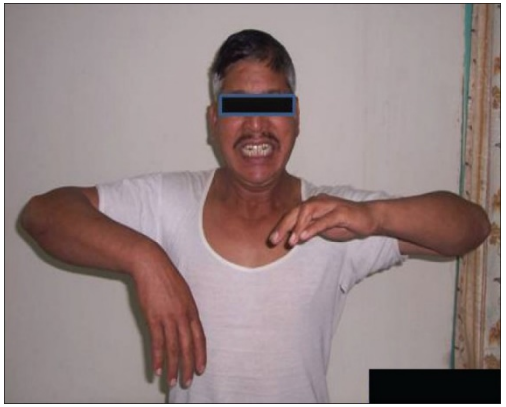


- Claw hand:
  - Ulnar Claw hand – Ulnar Nerve Paralysis
  - Total Claw hand- Ulnar and Median Nerve Paralysis

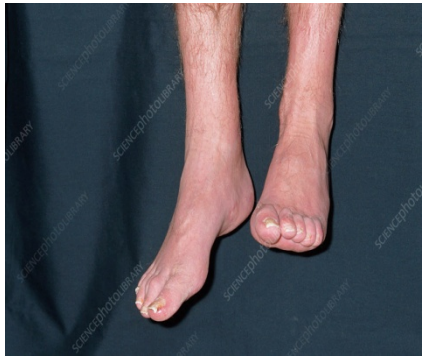


- Wrist Drop: Triple Nerve Paralysis

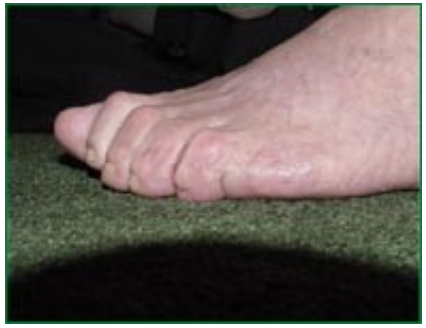
  * Ulnar, Median and Radial Nerve Paralysis



- Drop Foot: Lateral Popliteal Nerve Paralysis:



- Claw Toes: Posterior Tibial Nerve Paralysis



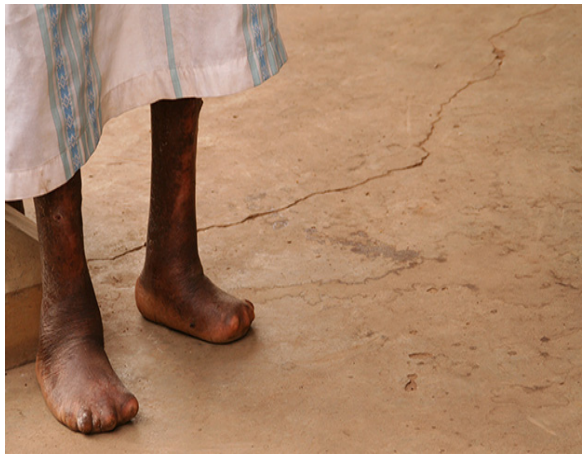
- Lagophthalmos : Facial Nerve Paralysis

3. Anaesthetic Deformities (or) Secondary Deformities

Plantar Ulcer

Shortening of Digits

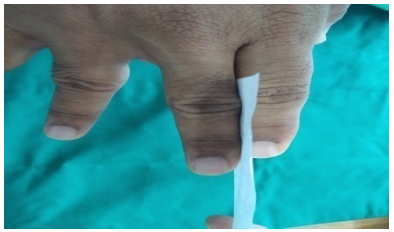
Loss of Toes

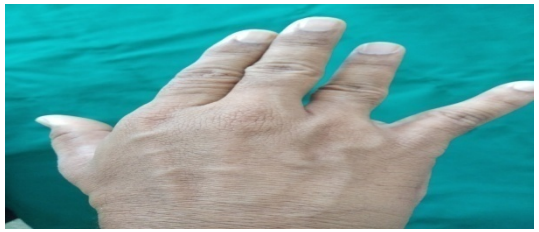


Shortening of Limbs

MANAGEMENT OF DEFORMITIES IN LEPROSY

Assessment of muscle, Nerves, Joints and Sensation

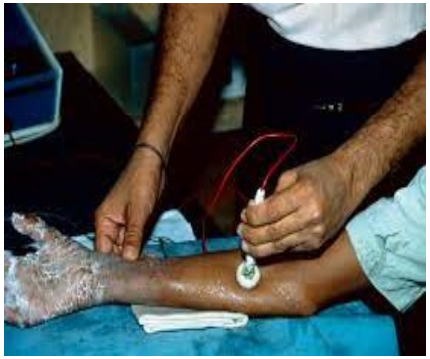




Wax Therapy

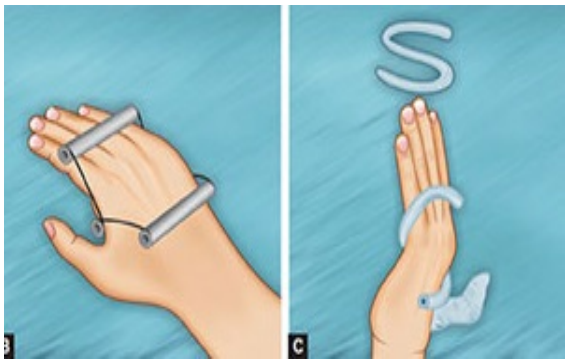
Exercise Therapy

Electrotherapy



Splinting

Health Education



Selecting Patients for RCS:

- The established Deformities in leprosy can be corrected by reconstructive surgery.

Criteria For Selecting the patients for RCS:

- ❖ The patient must be free from any kind of infection
- ❖ The patient must be BI negative
- ❖ He/ She must be RFT atleast 6 months before
- ❖ The Transfer muscle must be grade 5/5.
- ❖ The patient must be free from contracture of the joint where the surgery to be done.
- ❖ Patient must be willing to undergo surgeries.

Pre-Operative Physiotherapy

- Before surgery makes sure that there is no stiffness or Extensor lag of the PIP joints of the fingers.
- If there is stiffness in the PIP joints of the fingers, release it by passive stretching and serial cylindrical splinting once in 2 days.
- Isolated exercises to be given to the transferring muscles.
- Pre-operative measurements to be taken and recorded for future reference.

POST OPERATIVE MANAGEMENTOF 2 FINGER/4 FINGER AC/PA/LASSO

- Immediately after surgery, keep the part elevated to avoid post-operative edema.
- Post Op IV antibiotics for 3 – 5 days, after that oral antibiotic.
- After 24 hours, start Flexion and Extension of the I.P. joints of all fingers and the Thumb as well.
- Daily inspection for any infection or Post-Operative complications to be done, up to 14 days from the date of surgery.
- 14^{th} days i.e. end of 2^{nd} week sutures to be removed.
- If no complications are there e.g. infection or gaping of wound, apply M.C.P. block, leaving the I.P. joints of the fingers completely free to carry out regular flexion – extension.

- If there is infection, delay the application of MCP block, and to protect the MCP flexion achieved by surgery, provide a posterior slab which can be periodically removed to facilitate regular dressings. Once the infection is managed, MCP block can be given.
- MCP block is to be removed on the 35th days i.e. end of 5th week.
- Initially patient will be concerned about the flexion at the MCP joint. Convince him by telling him that it will gradually get stretched.
- Give a spiral splint to prevent the MCP joint from getting over stretched.
- Instruct him not to massage any more. Spiral splint to be used for 6 months Post-operatively.
- Teach the new pattern of finger closure, i.e. MCP Flexion first and I.P. Flexion next.
- Health Education.

PRE OPERATIVE MANAGEMENT FOR DROP FOOT CORRECTION BY TIBIALIS POSTERIOR TRANSFER:

- SEE THAT THERE IS NO Tendo Achilles contracture.
- Give isolation exercises to the tibialis posterior.

POST OPERATIVE MANAGEMENTFOR DROP FOOT CORRECTION BY TIBIALIAS POSTERIOR TRANSFER:

- Attach a piece of rubber to the heel portion of the post-operative plaster cast.
- Post Op IV antibiotics for 3 – 5 days, after that oral antibiotic.
- Make the patient to do regular Flexion – Extension of the knee joint. Static quadriceps exercises and movement of the toes within the plaster cast should be carried out by the patient.
- Suture removal on the end 3rd week after neatly bivalving the plaster cast – 21st day
- Start post-op., re-education to the transferred T.P. tendon.
- Ask the patient to keep the operated leg on the other leg in a horizontal plane and to attempt inversion, which in turn should produce dorsiflexion.

- Continue this “Eliminated Gravity Exercise” up to 27th day – end of 4th week.
- Maintain the post-operative position of the foot with the help of the bi valved plaster cast.
- On 28th day, start “against gravity exercise” i.e. dorsi flexion when the foot is kept hanging.
- From 35th day on wards coordination exercise” i.e. alternate dorsi flexion – Plantar flexion of both the feet.
- 41st day, "partial weight bearing” i.e. making the patient to stand in between parallel bars and in front of a mirror.
- 42nd day, "gait training”, and the patient perfects his heel to toe gait i.e. normal gait.
- Footwear with drop foot strap to be provided on discharge and this is to be worn for 6 months.

Releasing of Contracture in Leprosy Deformities:

- Patient usually develop contracture of PIP and DIP joints in long standing Claw hand.
- Passive movements are given gently for contracture fingers everyday and serial cylindrical splinting is applied to maintain the maximum stretch position of PIP and DIP joints of the fingers.
- This is continued till we get zero degree contracture angle at PIP and DIP joints.

Releasing of Thumb Web Contracture:

- ❑ Passive stretching of the thumb web is done by the Physiotherapist everyday.
- ❑ Thumb web splints is applied after stretching to maintain the stretched position of the web.
- ❑ This is continued till we get the sufficient web space i.e., 45 degrees to 50 degrees of web space passively.

Releasing of Tendo Achilles Contracture:

- We advise a patient to do all the stretching exercises of the ankle.

- ✓ Steps climbing
- ✓ Squating Exercises
- ✓ Ramp Walking
- ✓ Passive Stretching of the foot by the patient using a Cloth

Thank You!!!