

# Know your Assistive Technology Devices

## Metal Ankle Foot Orthosis

### Care & maintenance



Dewendra Prasad  
RO (MD)/ Coordinator B.P.O.  
NIEPMD, Chennai  
Ph.: 8072267210

# Metal Ankle Foot Orthosis

## *Who are the Users?*

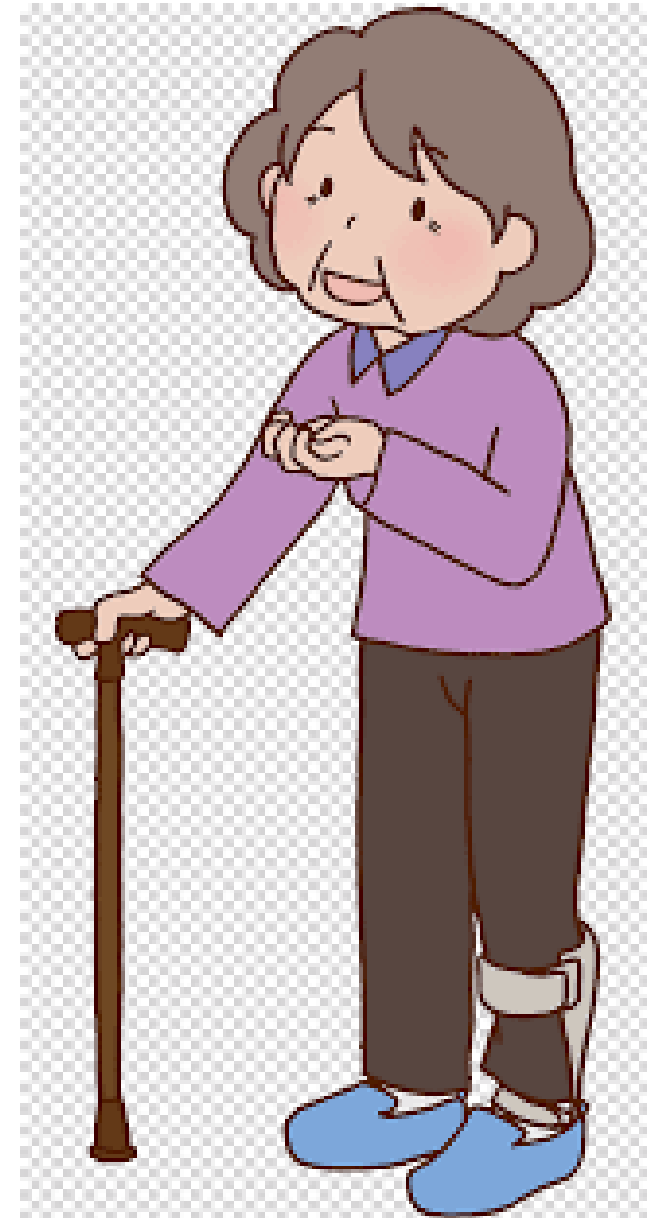
- Person affected with ***NEUROMUSCULOSKELETAL(Nerve/muscle/bone) Dysfunction in Lower Limb*** (Below the knee Joint Level) due to:-

1. Accident/ Trauma
2. Polio/ Leprosy
3. Born with Deformity
4. Cerebral Palsy/ Meningomycele
5. Paraplegia/ Hemiplegia

*Leads to .....*

Contd... *Leads to .....*

1. *Incoordination* in Natural Joints
2. *Imbalance* in Muscular action
3. *Disturbed* Sensory Information
4. *Unbalanced* Gait/ Mobility Pattern
5. *Fall* during walking
6. *Increased* Energy Demand
7. *Reduced* independent Functional Activities
8. *Restriction* in Participation
9. *Isolation* in society



# How it Helps?

1. *Improve* Natural Joint Coordination (Uses Mechanical Joint as assistant )



2. *Prevent* Natural Joint Deformity



3. *Assist or Resist* Muscle Action (Uses Mechanical Joint Design & Function)



4. *Improve* balance posture (Biomechanical Realignment of body segments)



5. *Improve* Gait/Mobility Pattern



6. *Minimize* energy Demand



7. *Improve* Independent Functional Activities



8. *Increased* Participation



# How it should be ?

• **Prescribed** by Registered Professionals(Physiatrist, PMR, Orthotist )



• **Designed & Fabricated** by Registered Professionals(Orthotist)



• **Biocompatible & Biomechanically** Designed & Fabricated



• **Comfortable & Wearable** (Feel free to use it)



• **Light weight & Durable** (Minimizes Expenditure)



• **Easy to put on & Put Off** (Simple in design)



• **Satisfied** the needs of user



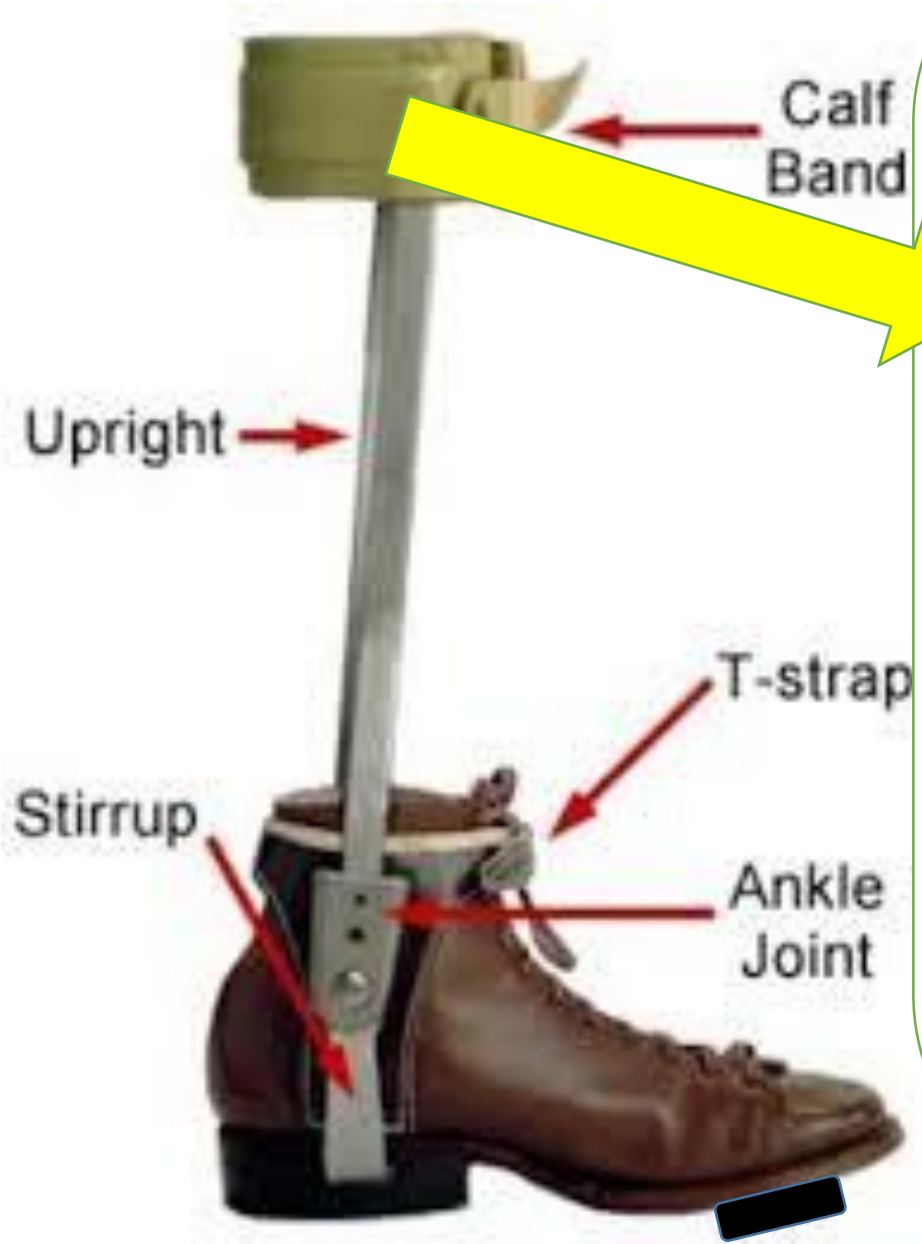
# What you should know?

ARE YOU A **NEW USER**? If YES: You/Caregiver **must Know**:-

1. *Aims & Objectives* of Prescription (Fulfil your biomechanical needs)
2. *Wearing Schedule* (Strictly follow wearing instruction)
3. *Materials* used in fabrication (To avoid any allergic effect)
4. *Parts/ Components* of device (Being an assistant)
5. *Care & Maintenance* (Avoid undue breakdown)
6. *Follow Up* Schedule (Review yourself & Device)
7. *Referral* , If any

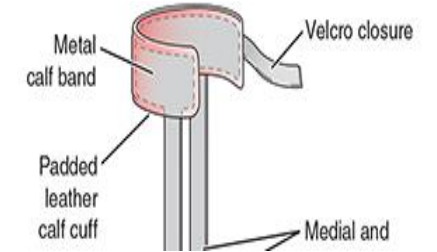


# Parts/ Components



## CALF BAND:

Materials: stainless Steel OR Aluminium Made  
Fastening: Velcro Hook & Loop Or Metal Buckle  
Padding: Soft Foam  
Covering: Leather OR Rexin Plus Foam  
Position: Below the Neck of fibula (Lateral Thin Bone) & Over the Calf Muscle



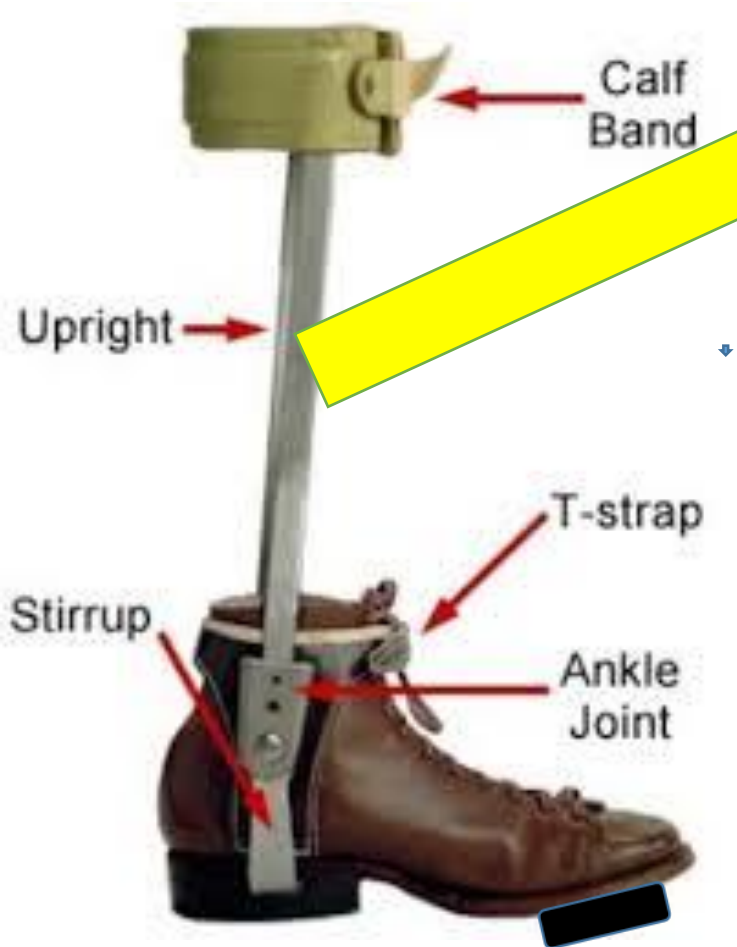
## What You Should Do?

Check the position after wearing  
Check for any Tearing/ Worn out in padding & Covering Materials  
Check for Rust in Metal Buckle Check for any waste cloth clogging in Velcro hook & Loop  
Avoid overtightening the fastenings  
Check for any Rivet Joint Loosening(try to move in Upward & Downward direction, if it move give attention for repair/ replacement )

## STORING:

Avoid direct contact with high heat, heavy rainfall/ Muddy Area  
Do Regular Cleaning with dry cloth  
Polish Regularly (if Leather Used)

# Parts/ Components



## UPRIGHTS:

Materials:- Stainless Steel OR Aluminium

Covering/ Padding: NO

Shape: Rectangular & Bend to Conform Body Shape

Fastening:- Proximally- attached with calf Band

Distally- attached with metal ankle joint

Position: Follows Mid Section of Leg part(Medial & Lateral)

## WHAT YOU SHOULD DO?

Check for any Abnormal Deformation in shape & Bend

Check for loosening of rivet joint at calf Band & metal Ankle joint

Check for any Crack OR Cut

Is Sufficient Clearance between the upright & Skin of leg part?

Does it follow the Mid section of leg Part?

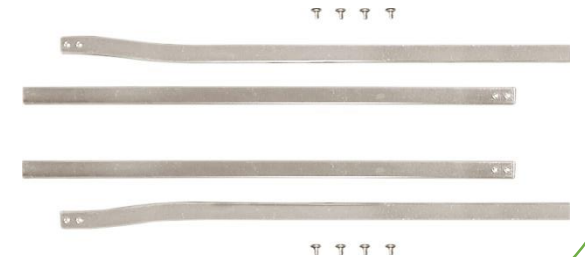
If you observe any **WRONG GOING** report to registered professional

## STORING:

Clean it with dry cloth only

Don't hammer & Cut it

Don't try to Shape or Bend yourself





# Parts/ Components



## METAL ANKLE JOINT:

Material: Stainless Steel OR Low carbon Steel

Padding/ Covering : NO

Position: Over the Anatomical Ankle Joint

Proximal- Attached with Upright

Distally- Attached with Stirrup Split(Nuts Screw Joint)

Type: Movable OR Non Movable Type

### WHAT YOU SHOULD DO?

Clean it with dry Cloth

Check for Proper Position

Check for Proper Clearance between skin and metal part

Check for motion, if it is movable type

Do Regular Oiling/Grease in joint, if it is movable type

Check for loosening of Nut& Screw Joint

Check for Rivet Joint loosening

### STORING:

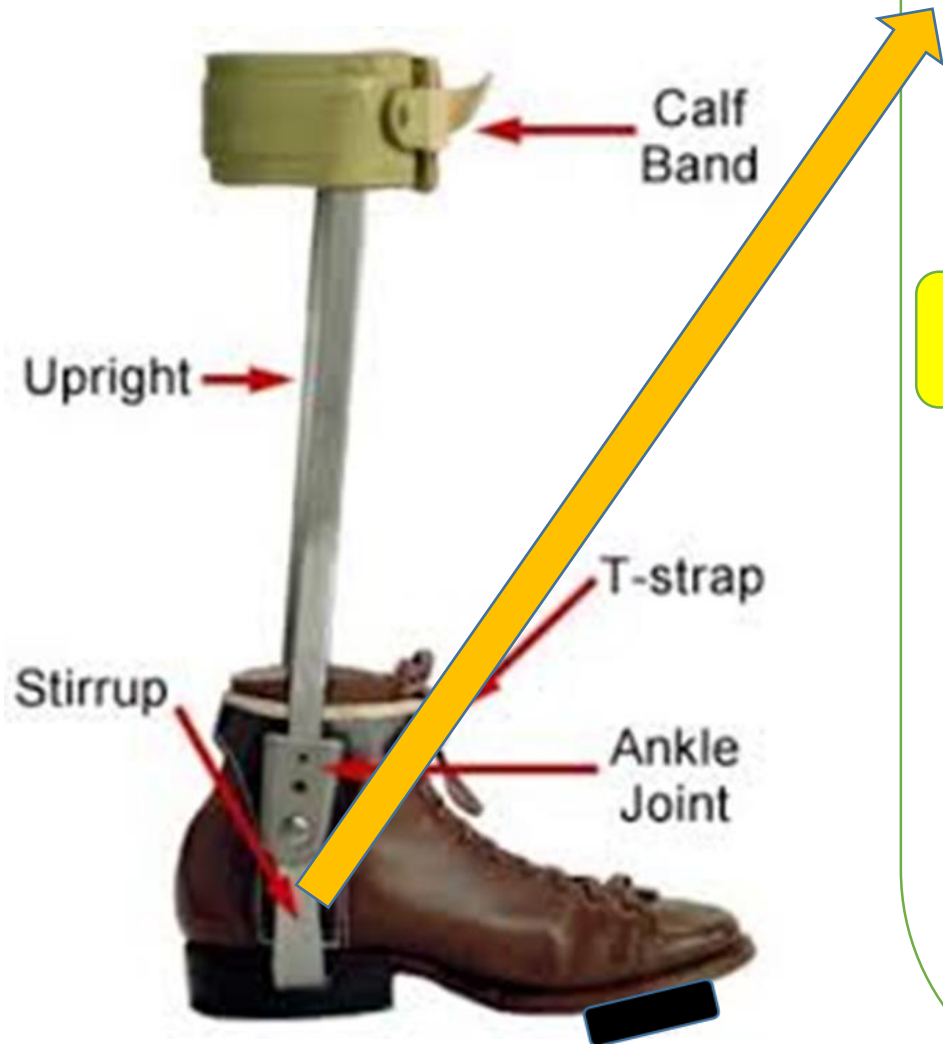
Don't Overtight Nut & Screw

Don't Hammer

Avoid heavy rainfall/ Muddy area



# Parts/ Components



## METAL STIRRUP SPLIT:

Material: Stainless Steel OR Low carbon Steel

Padding/ Covering : NO

Position: Below the Anatomical Ankle Joint(Mid of Two Ankle Bone)

Proximal- Attached with Metal Ankle Joint

Distally- Attached with Stirrup Plate

Type: Detachable Type (Mostly); Sometimes Non Detachable

Shape: "L" Shaped

DETACHABLE TYPE GIVES YOU CHOICE TO CHANGE OTHER TYPES OF SHOE

SO KEEP STOCK OF MORE THAN ONE TYPES OF SHOE

YOU CAN REQUEST SERVICE PROVIDER TO FABRICATE MORE THAN ONE PAIR OF STOCK SHOE

## WHAT YOU SHOULD DO?

Clean it with dry Cloth

Check for Proper Position

Check for Proper Clearance between shoe and metal part

Check for loosening of Nut & Screw Joint

## STORING:

Don't Overtight Nut & Screw

Don't Hammer

Avoid heavy rainfall/ Muddy area

Don't Over Spread out the lower part while Changing the other

type of shoe



# Parts/ Components



## “T” STRAP :

Material: Chrome & Lining Leather

Position: Around the Natural Ankle Joint( Medial OR Lateral Side )

Proximal- Encircled the Ankle Joint & Fastened with Buckled on the opposite side Metal Ankle Joint

Distally- Attached with Inner Sole of Shoe

Shape: “T” Shaped

## WHAT YOU SHOULD DO?

Check for Proper Position

Clean it with dry Cloth

Do Regular Polish

Don't overtight (Remember it is a Corrective Strap so Pull up to correct position only)

## STORING:

Avoid heavy rainfall/ Muddy area

If Any Sign of Tear OR Worn Out OR Deformation

Report to Service Provider



# Parts/ Components



## METAL STIRRUP PLATE:

Material: Stainless Steel OR Mild Carbon Steel

Padding/ Covering : NO

Position: Attached with the Mid Sole of Shoe

Proximal- Attached with Stirrup Split

Distally- Fixed in Heel Region of Shoe

Type: Detachable Type (Mostly); Sometimes Non Detachable

Shape: "T" Shaped



## WHAT YOU SHOULD DO?

Check for Proper Position

Check for Proper Riveting (**REMEMBER IT IS FOUNDATION OF YOUR DEVICE**)

Check for loosening of Rivet joint

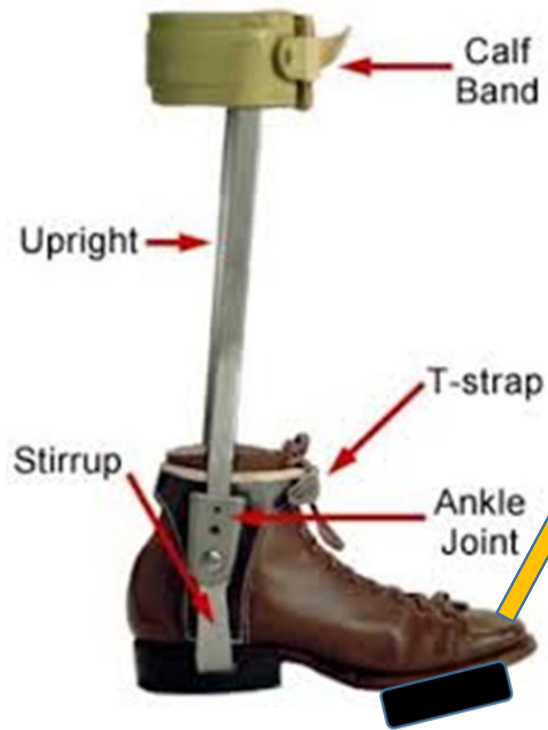
Check for Shoe Sole condition

## STORING:

If any loosening OR Sole damage & Exposing it IMMEDIATELY  
CONSULT SERVICE PROVIDER



# Parts/ Components



## ORTHOPAEDIC SHOE:

Material: Chrome & Lining Leather, Rubber

Position: Most Distal Component (**FOUNDATION OF DEVICE**)

## WHAT YOU SHOULD DO?

Check for Proper Fitting

Check for Proper Riveting with stirrup Plate (**REMEMBER IT IS FOUNDATION OF YOUR DEVICE**)

Check Inside for any Foreign Object, before Donning

Check for Outer Sole Damage & Upper

Check for Any Intruders(Sharp Object like Nail, Glass Piece etc.)

Check for Shoe Lace/ Velcro Hook & Loop

Always Wear Socks

## STORING:

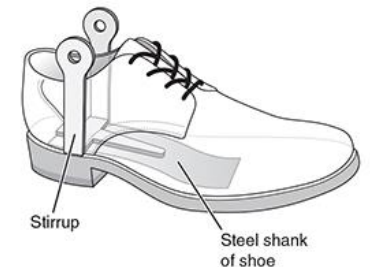
Do Polishing as & when required

Avoid Heavy Rain & Muddy Area

Use a shoehorn to slide the heel into the shoe

Keep in shady area

***Always stock two pairs of shoes***



# WEARING SCHEDULE

I. **OLD USER:-** FOLLOW THE INSTRUCTIONS & YOURSELF EXPERTISE

II. **NEW USER:** *Every time inspect thoroughly, Before Donning and After Doffing*

- *Day 1:* For every one hour wear one hour break & repeat whole day
- *Days 2:* Wear for two hours, inspect skin, wear it again for two hours & repeat for the whole days
- *Days 3:* If Every things normal, increase wearing time one hour every day & do keep checking skin regularly

*Please Remember:*

1. *If there is any skin blister, skin damages, Scratching or Bruising DO NOT USE IT, IMMEDIATELY CONSULT SERVICE PROVIDER*
2. *If there is any redness & disappears within 20-30 minutes of rest, continue to wear*

For More Information:

write us- [niepmd@gmail.com](mailto:niepmd@gmail.com) Contact us- +91-044-27472046, 8072267210





