

Know your prosthesis TRANS TIBIAL PROSTHESIS/ BELOW THE KNEE PROSTHESIS



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WHO ARE THE USER?

PERSON Affected with :

AMPUTATION (LOSS) OF LOWER LIMB

(Below the Knee Joint Level)

- DUE TO:

Congenital Limb Absence

Trauma & Accident

Peripheral Vascular Disease

Leprosy



Leads to...

I. PHYSICAL DIMENSIONAL LOSS:

- Amputation (Loss) below the Knee Joint(Through the Tibia Bone)
- Segment of Tibia Bone
- Ankle Joint
- Foot Segment



II. PERSONAL (Psychosocial) LOSS:

- Incomplete Body Image(Incompleteness)
- Independent Mobility
- Self Confidence
- Motivation
- Aesthetic
- Participation



How it helps?

I. PHYSICAL DIMENSIONAL :

Compensate the Loss

Replace the Lost Parts

Mimic the Function

II. PERSONAL (Psychosocial) :

Fulfil the Completeness

Improve Functional Independent Mobility

Boost the Self Confidence

Improve the Motivation

Improve the Aesthetic Look

Assist in Day to Day Activities

Increase the Participation



How it should be?

- Prescribed by Physiatrist, Orthopaedic Surgeon & Prosthetist



- Biomechanically Designed & Fabricated



- Biocompatible (Skin Compatible)



- Light Weight & Strong (Save Energy Expenditure)



- Comfortable (Happy to Wear It)



- Durable & Less Expensive



- Cosmetic Appealing



- Simple & easy to Repair



- User Friendly



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



About Your Prosthesis: Design

CONVENTIONAL

Fabricated from :

Wood + Rubber+ Resin OR HPDE (Plastic)

Heavy Weight & Less Cosmetic

Less Care & Maintenance



MODULAR

Fabricated from:

Thermoplastic + Metal + Cosmetic Cover

Light Weight + More Cosmetic

More Care & Maintenance



About Your Prosthesis: Parts/ Components

SOFT SOCKET INSERT/Liner :

Protect Your Stump from direct contact with Socket

Material: Soft High Temperature Thermoform

SOCKET:

Your **STUMP FIT** Inside IT (Stump Receiver)

Material: Wood + Plastic Resin Laminate/ High Temperature Thermoplastic

Position: **Proximally** Attached with Cuff Suspension OR Thigh Corset

Distally Attached with Wooden Extension Shine Piece OR Socket Adapter

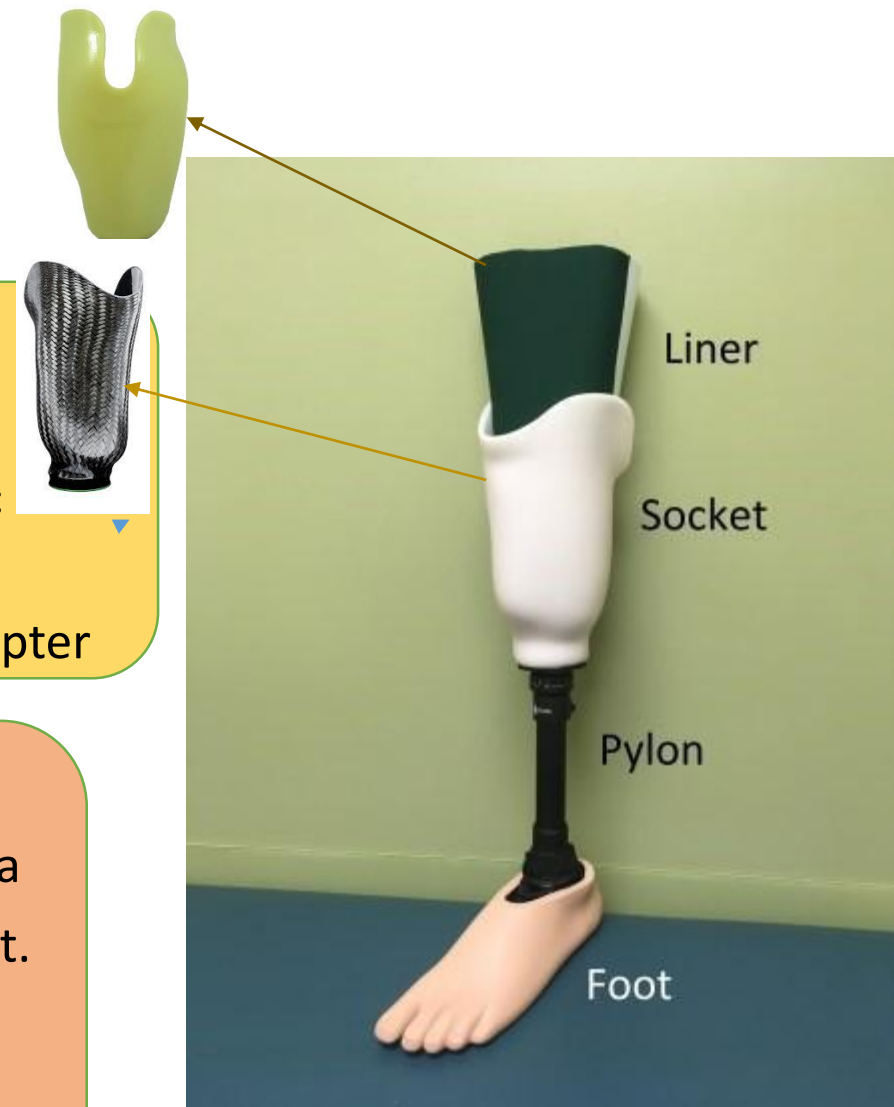
CARE & MAINTENANCE: SOCKET & SOFT SOCKET INSERT

Wash daily with mild soap and water. **Rinse thoroughly** with a cloth wet in warm water. **Dry thoroughly** and allow to air overnight.

Regularly **Check For Any Crack** Or Tear

STORING:

Keep Away From High Heat Area



About Your Prosthesis: Parts/ Components

CUFF SUSPENSION/BELT:

Integral Part of Conventional Design

Helps to Suspend when your limb is OFF the Ground(Swing Time)

Material: Leather + Metal Buckle

Position: *Proximally* Encircle the Lower Thigh(Above the Knee Joint)

Distally Attached with Medial & Lateral Border of Socket



CARE & MAINTENANCE:

Never **Overtighten** around the Thigh

Keep **clean and dry** & Use Leather Polish .

If becomes **stained and smelly**, Report Prosthetist.

STORING:

Keep Away From Moisture & Watery Area



Remember : In Modular Design it is **OPTIONAL**

About Your Prosthesis: Parts/ Components

THIGH CORSET WITH METAL KNEE JOINT:

Part of Conventional Design (*If Your Stump is Very Very Short*)

Helps to Suspend when your limb is OFF the Ground(Swing Time)

Material: Leather + Metal Upright & Joint + Lace

Position: *Proximally* Encircle the Mid Thigh(Above the Knee Joint)

Distally Attached with Medial & Lateral Border of Socket



CARE & Maintenance:

Keep clean and dry & Use Shoe Polish cleansing.

Oil the Metal Joint

If becomes stained and smelly, Report Prosthetist.

Hear for Noise, Report Prosthetist

STORING:

Keep Away From Rain + Moisture Area



Remember : In Modular Design it is **OPTIONAL**

About Your Prosthesis: Parts/ Components

SLEEVE SUSPENSION :

Integral Part of Modular Design

Helps to Suspend when your limb during *OFF* the Ground (Swing Time)

Material: Neoprene Rubber

Position: *Proximally* Encircle the up to Mid Thigh (Above the Knee Joint)

Distally Encircle the Proximal end of Socket



CARE & Maintenance:

Keep **clean and dry** & Use saddle soap for cleansing.

Don't Over stretch while Donning & Doffing

In Case of **stained and smelly & any Tear Or, Hole** , Report Prosthetist

STORING:

Keep Away From Rain + Moisture Area



About Your Prosthesis: Parts/ Components

SUCTION VALVE :

Optional Part of Modular Design (*Attached with socket*)

Helps to Suspend when your limb during *OFF* the Ground (*Swing Time*)

Material: Nylon (Mostly)

Position: *Distally* on Medial Surface of Socket



CARE & MAINTENANCE:

Clean regularly with Soft Brush

Prevent Accumulation of Powder, Lint or Dust

Keep the spring in the valve tight

Replace the rubber gasket frequently

Never use tools to tighten or loosen the valve.

Turn clockwise for Tightening & *counter-clockwise* for loosening with the fingers

Remove at Night it will allow cross ventilation

In Case of Continuous LEAK, Consult Prosthetist



About Your Prosthesis: Parts/ Components

SOCKET & ANKLE FOOT ADAPTOR/CONNECTOR: (An Integral Part of Modular Design)

Material: Metal (Mild Steel /Stainless Steel/ Titanium, OR NYLON)

Position: *Proximally* Attached with Socket
Distally Attached with Ankle Foot Assembly

★ REMEMBER: Not Visible from outside (Covered with Cosmetic Foam Cover)

CARE & MAINTENANCE:

Never change any Alignment by screwing & Unscrewing the Allen Key Screw.

Hear for Any Kind of **Prosthetic Sound...**

Immediately Report to Prosthetist



REMEMBER: MOST FREQUENTLY DEMANDED REPAIR & REPLACEMENT



About Your Prosthesis: Parts/ Components

PYLON:MODULAR DESIGN

Connector Between the Socket Adaptor & Ankle Foot Assembly Adaptor

Compensate your Limb Length Loss (Tibia & Fibula Bone)

Material: Metal (Mild Steel /Stainless Steel/ Titanium, OR NYLON)

Function: Transfer your Body Weight to the Ground through Prosthetic Foot

CARE & MAINTENANCE:

Don't try to rotate with your hand; **Hear** for any **PROSTHETIC SOUND!!!**

If, YES Immediately report Your Prosthetist



SHIN PIECE/ EXTENSION BLOCK: CONVENTIONAL DESIGN

Compensate your Limb Length Loss (Tibia & Fibula Bone)

Connector Between the Socket & Ankle Foot Assembly (Through Nut & Bolt)

Material: Wood or HDPE Plastic

Function: Transfer your Body Weight to the Ground through Prosthetic Foot

CARE & MAINTENANCE:

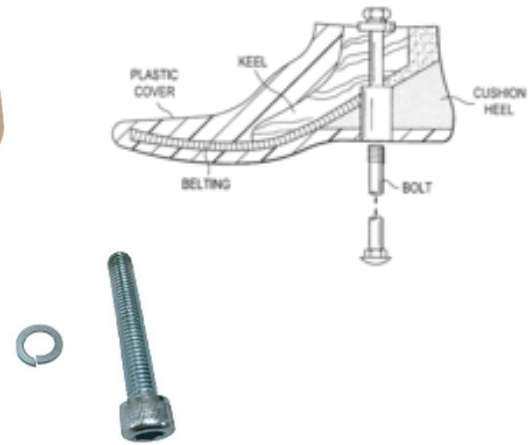
Protect Outermost finishing coating ;**Guard** against contact with sharp objects.

Any Damage, Immediately Report Your Prosthetist

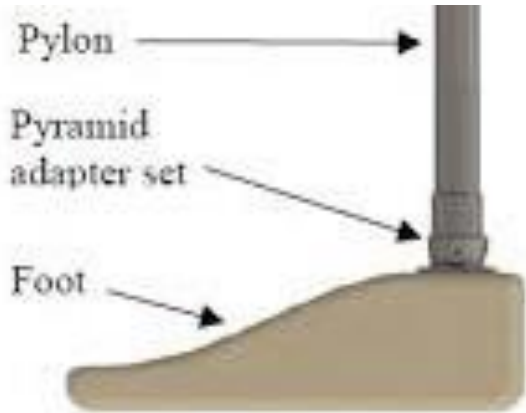


About Your Prosthesis: Parts/ Components

ANKLE FOOT ASSEMBLY OPTION 1: CONVENTIONAL DESIGN



ANKLE FOOT ASSEMBLY OPTION 2: MODULAR DESIGN



About Your Prosthesis: Parts/ Components

ANKLE FOOT ASSEMBLY : CARE & MAINTENANCE

(MOST COMMONLY & FREQUENTLY NEEDED REPAIR & REPLACEMENT)

Inspect the *covering of the foot* frequently by removing the shoe.

Foot *gets WET* , *DRY it* as soon as possible.

If *sand and dirt* accumulate in the shoe, *remove it* and *clean* the foot.

Clean it, If *dirt and sand* get into the ankle joint.

Check for any *Crack in Foot* (Especially Heel & Toes Area)

Check & Replace the *Rubber Bumper*, as and When Required

Hear for any *Prosthetic Sound!!!*

Any Issues, Immediately take the limb to the prosthetist.



Inspection for Crack/ Tear



Deformed Foot



Cracked Foot

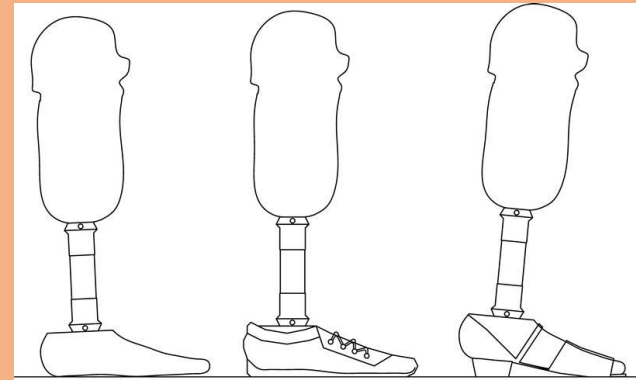


Rubber Bumper

About Your Prosthesis: Parts/ Components

CARE & MAINTENANCE OF SHOE:

- **Shoes Heel & Sole** should be kept in good repair. If badly worn and uneven, it will cause uncomfortable gait and excessive energy consumption.
- **Always use same** heels Height shoe in order to maintain the proper alignment of the prosthesis.
- **Remove the Shoes** when not wearing the it. To remove the shoe, grasp it at the back and push the heel off the foot. Then shift the hand to the toe and pull the shoe upward and off the foot.
- **Replacement of the shoe** is done by completely loosening all lacing (*Use shoe horn*)



Heel Too Low

Correct Heel Height

Heel Too High



About Your Prosthesis: Parts/ Components

COSMETIC FOAM COVERING:

Provides cosmetic look (Conforming the leg shape)
Protect the Pylon from Dust and Particles

Material: Semi Rigid Flexible Foam

CARE & MAINTENANCE:

Keep away from the high heat; *Avoid Direct contact* with sharp object; *Check for any Crack* Or, Opening of Sealing Line
If ,any Problem, Immediately Consult Your Prosthetist



COSMETIC STOCKING:

Gives Final Cosmetic Look of Your Prosthesis

Always Keep One Extra piece

Material: Fine Synthetic Fabrics

CARE & MAINTENANCE: Check for Wrinkle under the Heel

Check for any cut or tear

Replace it as & When Required Yourself ,OR

Call Your Prosthetist



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