Comfortable Life

with PFKAFO

MOBILITY INDIA

Respecting people's abilities

Prefabricated Knee Ankle Foot Orthosis (PFKAFO)

Millions of people in India and other low income countries affected by Polio or other similar neuromuscular condition$ require some kind of Orthoses to stand on their own feet and walk.

The majority of people in need of Orthoses cannot access the service or are unaware of its availability. When available, they are mostly the conventional m~al callipers which are heavy and have to be worn with high ankle boots. The production and delivery of these callipers are also slow and expensive. Given these conditions the rejection rate of such callipers are high, especially with children. The results, disabled persons become more dependent, less mobile and more isolated.

Mobility India after extensive research altered the concept of using the callipers in 20Q3. To overcome the disadvantages of the conventional callipers it introduced the plastic "Prefabricated Knee Ankle Foot Orthosis".

The Prefabricated Knee Ankle Foot Orthosis, which comes in a kit, can be fitted in most cases in a small workshop, with minimum tools by any trained Orthotics Technologist the same day. This Orthosis is light in weight, low in cost, easy to fit and can be worn with any kind of footwear or even for barefoot walking. The results, disabled persons become mobile and integrate in mainstream activities.

This Orthosis will not fit" 1 00% population but it will certainly. fit 50-60% population that means new life for millions. Though the components are mode to make KAFO, this technology allows making other Orthoses like Ankle Foot Orthoses {AFO}, Knee Orthoses (KO}Night Splints and others devices -An opportunity for millions.

Finally PFKAFO can be ordered as a kit or a component that one may require.

The Manual

1. Prefabricated Knee Ankle Foot Orthosis (PFKAFO) Components Kit

1. Thigh shell	01 No	7. Screw nut & washers	20 each
2. Leg shell	01 No	8. Copper rivets	24 Nos
3. Contour upright	02 Nos	9. Ethaflex	02 sheets
4. Straight upright	02 Nos	10. D- rings	05 Nos
5. Drop lock knee joints	02 Nos	11. Stockinette	01 metre
6. Strap	05 Nos	12. Press buttons	15 Nos

Note: Individual components are also available on request

Take all the length and medio lateral measurements of the affected leg as shown in measurement form. Match it with the measurements given in the measurement table. Match with the nearest size and choose the size of thigh and leg shells

FOR THIGH SHELL :

Height measurement - crotch to heel

medio lateral - crotch & above knee

FOR LEG SHELL :

Height measurement - knee to heel

medio lateral - calf, ankle, heel and ball of foot

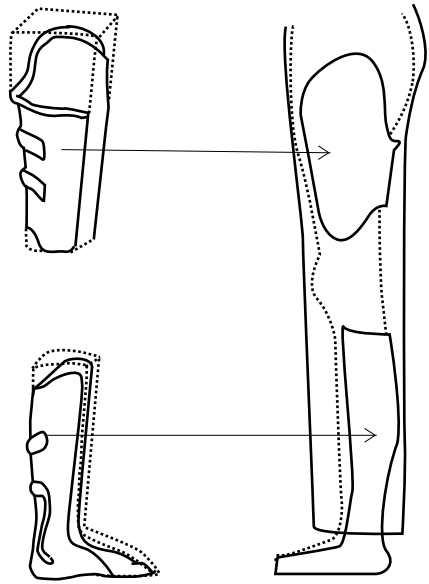
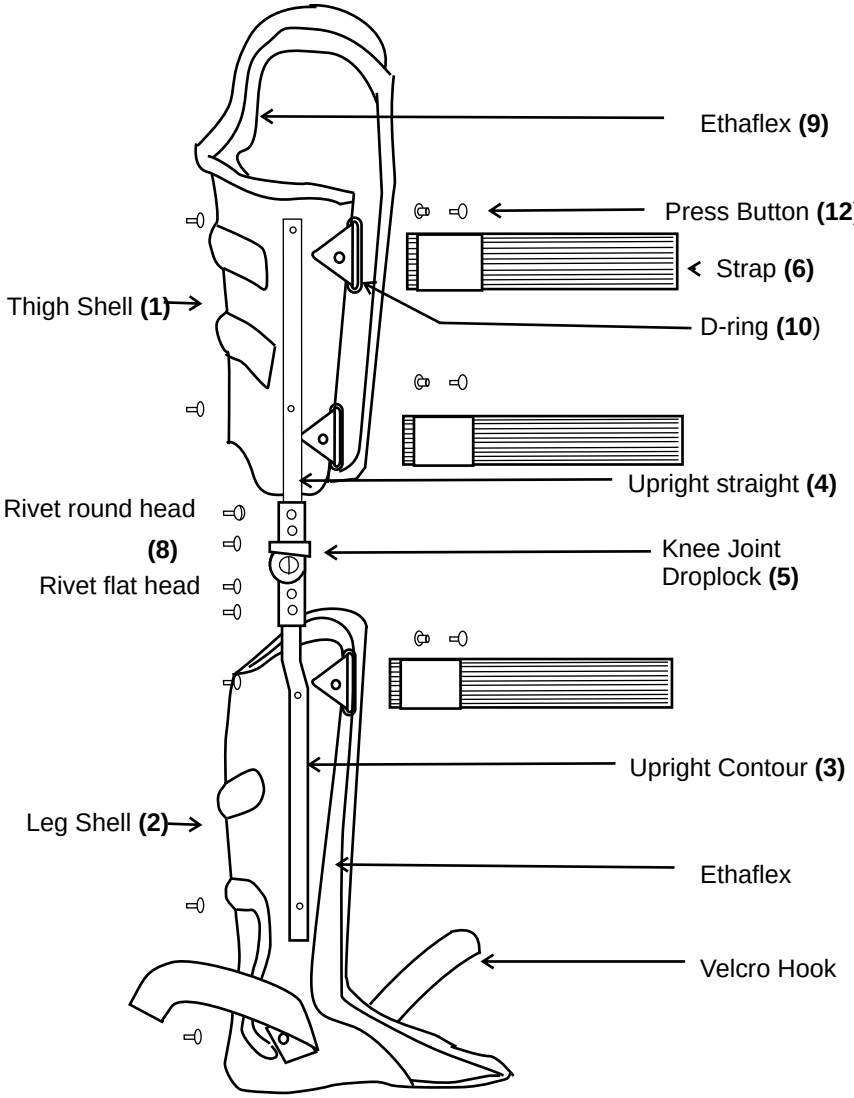


Diagram of PFKAFO



2. Instructions for Assembly of PFKAFO

A. Measurement and Tracing: Take medio-lateral width and height measurement at different landmark mentioned in the measurement form 1. Next trace the affected limb on brown paper, which helps in alignment.

Taking medio-lateral width of Ankle

Tracing the affected knee

B. Size Selection: At present there are 10 sizes available, which are listed below.

Size	Height Crotch to Heel	ML Crotch	ML Above Knee	Foot Length	Height Knee to Heel	ML Calf	ML-Ankle	ML-Heel	ML Ball of Foot
	For thigh Shell			For Leg Shell					
0	41-45	7-7.5	5.5-6	17-18	27-30	4.5-5	5.2-5.4	4.1-4.3	5.3-5.6
1	46-50	7.5-8	6-6.5	18-19	30-33	5-5.5	5.4-5.6	4.3-4.5	5.6-5.9
2	51-55	8-8.5	6.5-7	19-20	33-36	5.5-6	5.6-5.8	4.5-4.7	5.9-6.2
3	56-60	8.5-9	7-7.5	21-22	36-39	6-6.5	5.8-6	4.7-4.8	6.2-6.5
4	61-65	9-9.5	7.5-8	22-23	39-42	6.5-7	6-6.4	4.8-5	6.5-6.7
5	66-70	9.5-10	8-8.5	23-24	42-45	7-7.5	6.4-6.8	5-5.2	6.7-7
6	71-75	10-10.5	8.5-9	24-25	45-48	7.5-8	6.8-7.2	5.2-5.4	7-7.3
7	76-80	10.5-11	9-9.5	25-26	48-51	8-8.5	7.2-7.6	5.4-5.6	7.3-7.6
8	81-85	11-11.5	9.5-10	26-27	51-54	8.5-9	7.6-8	5.6-5.8	7.6-7.9
9	86-90	11.5-12	10-10.5	27-28	54-57	9-9.5	8-8.4	5.8-6	7.9-8.2

Note:-All measurements are in centimetre

ML: Medio-lateral distance

Initial Fitting: Take shells from selected size kit and cut the front portion using Jigsaw. Take an initial trial to mark trim lines and cut accordingly. Finally cut the shell for 95degrees knee movements.

Cutting front portion of shell

Marking trim line

Cutting according to the trimlines

Cut the Shell for 95o knee movement

Note: In case lower shell is not fitting due to fixed deformity in foot, make AFO part custom made and use prefabricated upper shell.

C. Expansion: Use hot air gun or blower to expand the area, if it is pinching. Use ethaflex to fill gaps.

D. Fixing Bar and Joints: Fix the bar with joint and rivet it with 3 mm copper rivets provided in the kit.

Local heating for modification

Fixing bar and joint

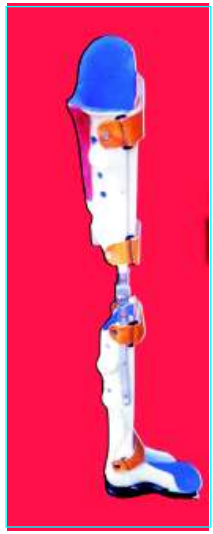
E. & E1. Alignment: Use tracing to do alignment and match the aluminium bar with contours of plastic shell. Initially use 3 mm screw nuts to fasten bar and straps with plastic shell.

Align the joint bar assembly with shell

Bending aluminum bar

F. Height Compensation: Use rubber sole to give height compensation from inside up to 12 mm and outside up to 60 mm if required.

Trail: Take a trial and check out for alignment problem. If any realignment is required correct it by unscrewing the screw. Give the required gait training and do the necessary check as in form 2



Final Finish: Make holes in plastic for ventilation, rivet the bar with plastic shell using 3 mm copper rivet. Fasten the straps with plastic shell using press button provided in the kit.

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