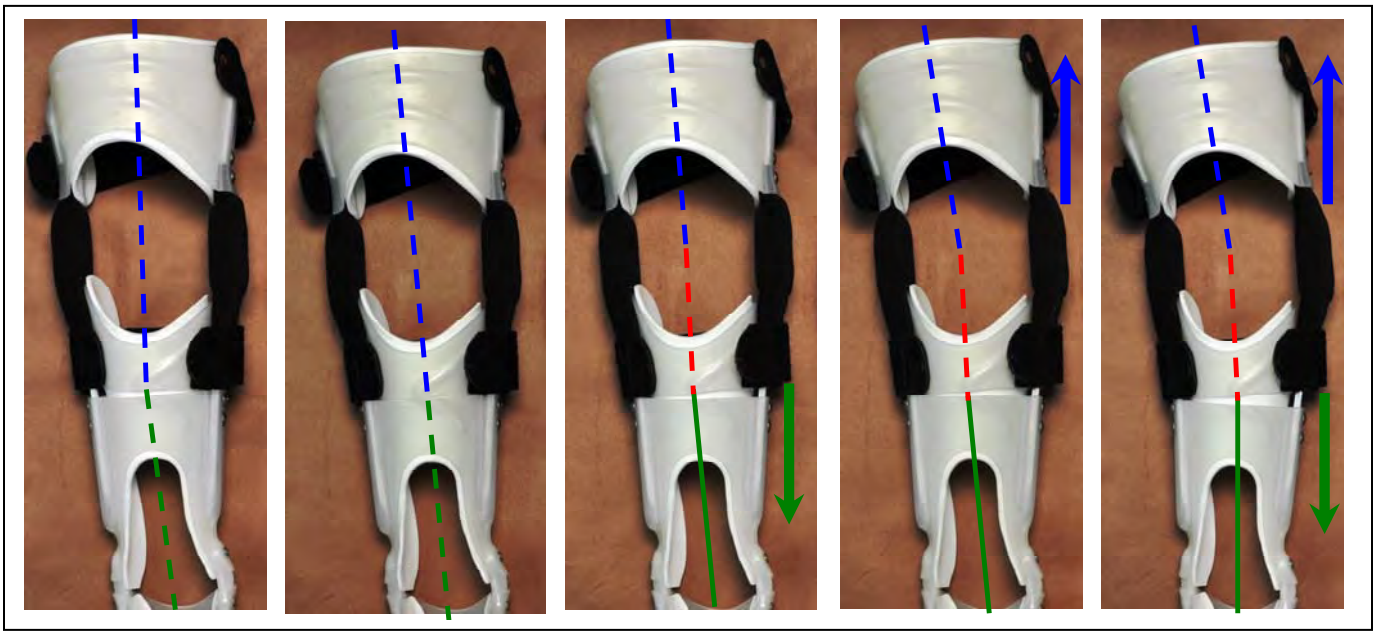
Pediatric KAFO

Instructions

For Treatment of Blounts, Rickets, Bow Leg, Knocked Kneed and Other Lower Limb Angular Deformities

The **V-Vas™ Pediatric KAFO** is designed specifically for treatment of Blounts, Rickets, Bow Leg, Knocked Kneed and other Angular deformities of the lower extremity. It's unique adjustable polycentric knee joint system allows for **independent linear adjustment of the tibial and or femoral segments** (see the following instructions) for individualized patient treatment. The **free motion knee joint** has shown to increase the compliance and wear-ability of KAFO's for treatment of Blounts, Rickets, Knock kneed and Angular deformities leading to successful treatment outcomes. The **self aligning polycentric knee joint** design accommodates the corrective alignment without resquaring of the mechanical joint head, maintaining a smooth uninhibited knee range of motion.



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Adjustment instructions:

The **calf or tibial segment has four** adjustment screws on each upright or bar and the **thigh or femoral segment has two**. The appropriate adjustment screws in the respective segments will need to be removed to increase the corrective forces and or growth adjustment as the child's limb straightens and grows in length respectively. Figure 1 shows removal of the medial calf screws with a Phillips head screw driver. The remaining two screws of the four that are on each calf or tibial upright are underneath the strapping system just above the two screws seen in Figure 1. (Note that the plastic has been cut away on the upright for better visualization).

Growth adjustments are made to the calf or tibial section by removing the two distal or bottom screws only on each upright or bar. This will assure that the condylar flairs stay located properly in relation to the patient's anatomy. To adjust for growth in the thigh or femoral segment, remove the two screws in each upright and position accordingly. Be sure that all screws are refastened securely with thread lock.

Figure1

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For isolated correction of **Genu Varum or other Angular** deformities; remove the four adjustment screws from the medial calf upright (Figure 2) and move the upper and lower medial calf or tibial section as one unit distally or away from knee center (depicted by arrow) until the desired angle of correction is achieved and re-secure the four screws. The distance between each hole measures ¼" which results in approximately a 3° angle of correction to the **Genu Varum.** The end result of the adjustment is depicted by the broken white line as shown in Figure 2 (Black joint cover removed for illustration purposes). To address Valgum angular deformities, reverse above adjustments.

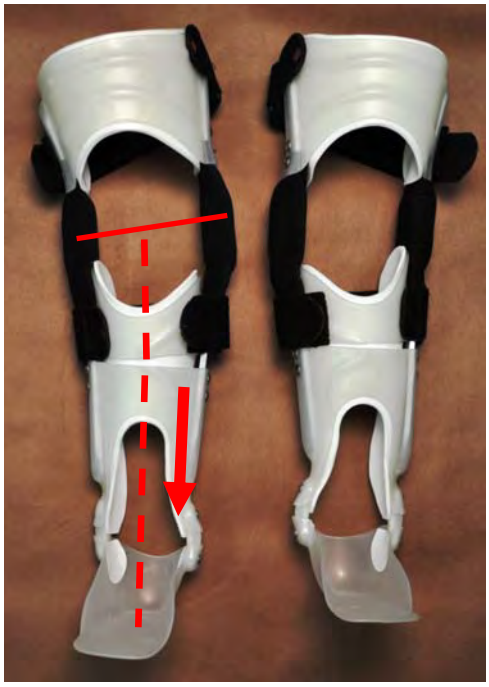

Figure 2

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To isolate correction of Genu Varum or Valgum; in addition to moving the medial tibial section as seen in Figure 2, it is necessary to move the medial thigh segment proximally or away from knee center see Figure 3. This can be done either proportionate to the lengthening adjustment that was made to the medial calf segment or disproportionately. Ultimately, the amount of adjustment to the medial thigh segment is determined by the amount of soft tissue mass that is being displaced by the corrective forces applied through the cuff itself. The goal should be to make enough of an adjustment so that the patient is getting a balanced correction between the thigh and calf cuffs.

Note: as a general rule, for ever 2 holes of adjustment made to the calf or tibial segment you should make 1 hole of adjustment to the thigh or femoral segment. This adjustment is necessary to keep the coronal plane alignment balanced. In cases where there is significant adipose or soft tissue, it may be necessary to adjust the thigh section 2 holes for every 2 holes in the tibial section. The convenience of the system is that you can match it to the individual patients needs. (To address Valgum angular deformities, reverse above adjustments).

Figure 3

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To isolate adjustment of Tibia Vara or Valga: You will receive the orthosis as configured in Figure 4. For isolated correction of **Tibia Vara**; remove the two most distal adjustment screws from the lateral calf segment and move the lateral calf or tibial section proximally or towards knee center (depicted by arrow) as shown in Figure 5. Adjust until the desired angle of correction is achieved and re-secure the two screws (see "Note" below). The distance between each hole measures ¼" which results in approximately a 3° angle of correction to the **Tibia Vara.** The end result of the adjustment is depicted by the broken black line as shown in Figure 6.

Note: To maximize initial tolerance to the corrective forces approximately 5° of deformity has been adjusted into the tibial section, see Figure 4 (depicted by arrow). To neutralize this adjustment or to create more correction, remove the two most distal adjustment screws and open the gap on the medial calf segment as shown in Figure 6. This adjustment should be made by no later than 2 to 4 months after initial fitting, this will optimize the outcome. If further straightening or correction is necessary, remove the two most distal adjustment screws from the medial calf upright and continue to lengthen as seen in Figure 6. (To address Valga angular deformities, reverse above adjustments).

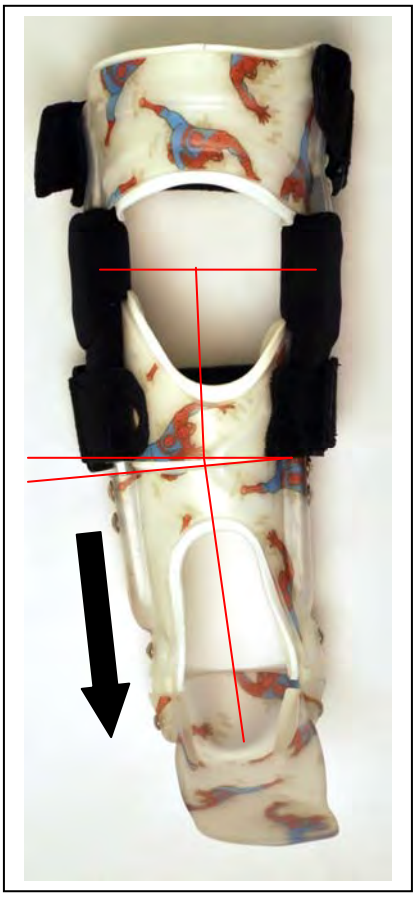

Figure 4

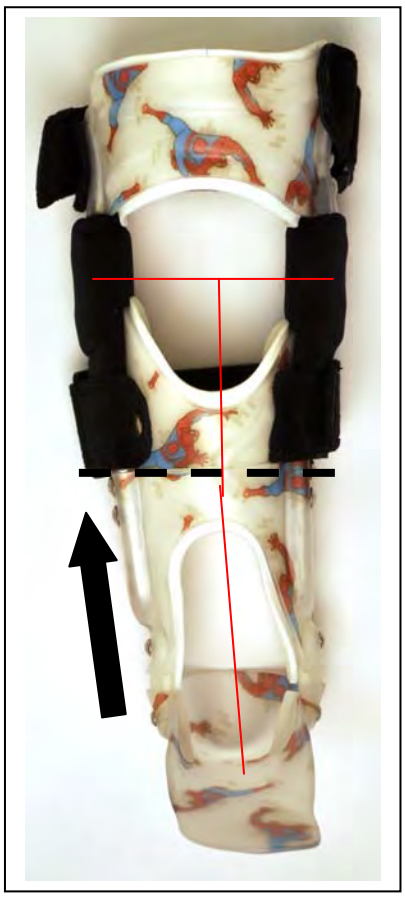

Figure 5

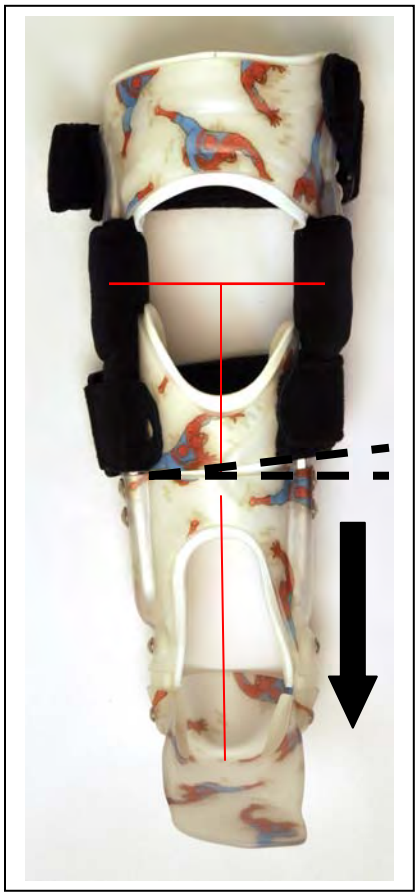

Figure 6

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Wearing and Caring Instructions:

The wearing schedule is determined by the treating team members. Some will choose full time wear others will feel that day or night wear is appropriate. It is all dependent on what the treating team is most comfortable with for the individual patient. Our recommendation is to have your patient minimally wear it during their waking hours. Our reasoning for this is to minimize any abnormal varus or valgus thrust or joint space compression that potentially may compromise the connective and growth structures of the knee joint.

Follow up is determined by the treating team members as well. In most cases initial follow up is 4 to 6 weeks then at 6 to 12 week intervals with no more than 6 months in between to assure that growth and angular adjustments are made.

Cleaning is done by wiping down the plastic and padded parts with a mild laundry soap and water solution or rubbing alcohol. Use a non abrasive cloth.

It is beneficial to wear some type of wrinkle free garment or sock between the patient's skin and the KAFO.

The knee joint mechanism can be lubricated as needed with silicone spray.

Since 2013, Anterior opening calf section is our standard design

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