Fitting of a Unilateral Congenital Deformity of the Lower Extremity*

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Every congenital deformity presents its own individual problem. The following case was recently fitted with a prosthesis at this hospital.

Figures 1 and 2 show the below-knee portion of the deformed leg in a frontal view. The two illustrations clearly show the static alignment problems present that had to be taken into consideration. In a vertical position of the below-knee segment, the leg indicates an external rotation of the hip joint with the result that the knee joint points in a lateral direction.

Figure 2 shows the position of the knee joint and femur in a normal alignment; however, the below-knee portion of the extremity is then extremely

FIGURE 1

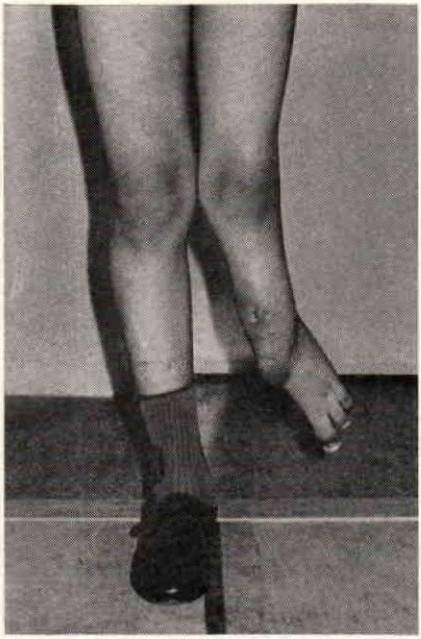

FIGURE 2

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FIGURE 3

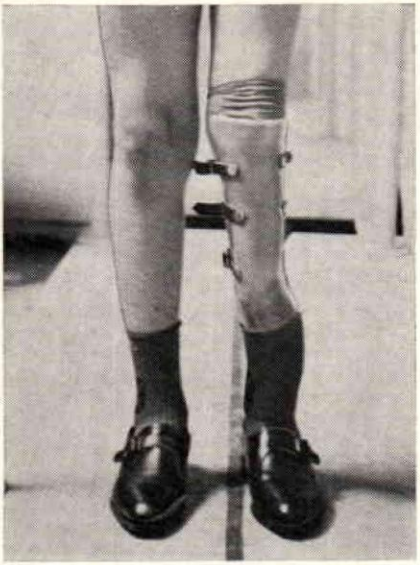

FIGURE 4

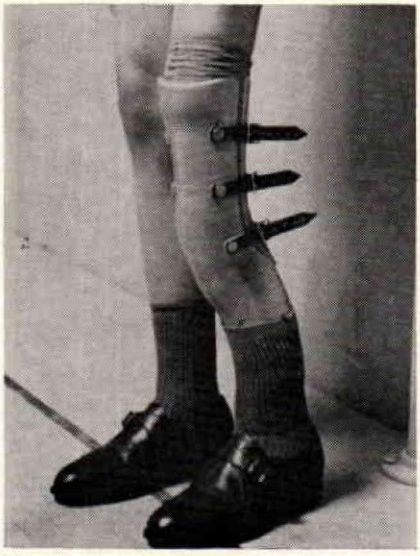

FIGURE 5

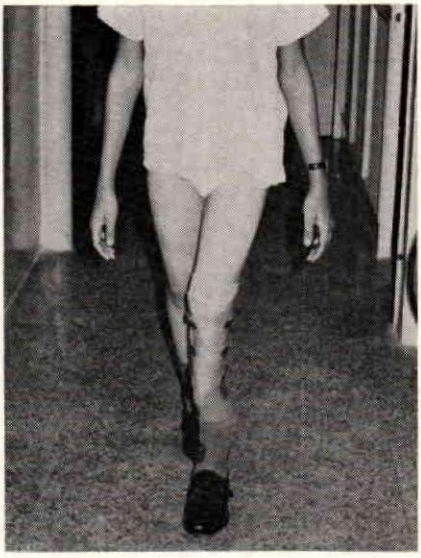

FIGURE 6

abducted. Figure 3 illustrates the extremity from a lateral view with its typical externally rotated position.

These were the main factors that had to be taken into consideration at the time of prosthetic fitting.

After all contours and bony protuberances had been carefully marked, a plaster cast was taken similar to the one for a P.T.B. prosthesis. It was of foremost importance to plan the proper support of the tibial condyles to prevent further external rotation. The prosthesis was to be fitted, if possible,

without side joints and corset. After the plaster positive was carefully prepared, a socket was fabricated from polyester-resin, without the use of the vacuum system. In the construction of the prosthesis an Otto Bock SACH foot was used.

Figure 4 shows the prosthesis from a frontal view. From this photograph one can see that the patella is almost completely imbedded in the socket and that the tibial condyles are well supported. Thus we were able to eliminate the corset.

Figure 5 shows the alignment of the prosthesis in slight flexion.

Figure 6 illustrates the gait phase.

The donning and holding in place of the prosthesis was accomplished by a posterior opening similar to a Pirogoff prosthesis. The fitting itself was completed without any difficulties.

At a final clinic team meeting with the orthopedic surgeons, it was contemplated to amputate the foot in the near future (about one or two years) and convert the extremity into a well-padded below-knee stump. It was the opinion of the group that the present prosthetic fitting would, over a prolonged period of time, have a detrimental effect on the knee joint. It was felt that fitting with a regular P.T.B. prosthesis after surgical conversion could be carried out better from a standpoint of static alignment and cosmesis.