

# A Modified Hemipelvectomy Socket

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This paper is to demonstrate a modified design for a hemipelvectomy type of prosthetic socket, which was designed for an endoskeletal system prosthesis.

The patient, a 28-year old white male, while involved in the operation of heavy equipment in May of 1978, experienced severe crushing type injuries. The injuries required a hemipelvectomy amputation on the right side, and due to peroneal nerve injuries, the function of the left lower limb was limited. For the purpose of this paper, however, only the hemipelvectomy socket design, which is different and special due to the presence of a colostomy, which needed to be fitted into the prosthetic receptacle, will be discussed.

The patient's first prosthesis was designed in the usual fashion with the colostomy inside the prosthetic socket. This restricted drainage into the colostomy device. The patient needed to remove his prosthetic socket during the day in order to relieve pressure and dispose of the accumulated waste.

In considering the design of a new prosthesis, it was felt that an anterior or a lateral opening on the opposite side was inadequate and non-functional since the colostomy opening could not be maintained in one particular area at all times. Thus, a lateral opening was provided on the amputated side. A flexible tongue allows the socket to expand as the patient dons his prosthesis (Fig. 1). A single Velcro strap (Fig. 2) secures the prosthesis, and the colostomy opening is maintained in a permanent position while standing (Fig. 3), as well as sitting (Fig. 4).



Figure 1

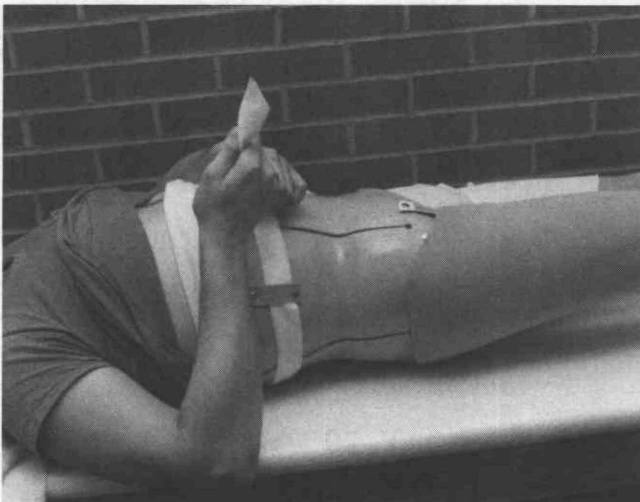


Figure 2



Figure 3



Figure 4

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