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M.A.S. Socket: A Transfemoral Revolution

By Bob Tillges

The M.A.S. socket design is an evolution—and perhaps even a revolution—in the development of TC socket concepts. Bob Tillges, CPO, FAAOP, Tillges Certified Orthotic Prosthetic Inc., Maplewood, Minnesota, is an APTP instructor and the primary designer of the M.A.S. socket. With over 30 years of experience in O&P, Tillges has seen many ideas assumptions, and development of socket concepts. From the old “wooden” to the new “plastic” socket, Tillges has been on the frontlines of socket development. His new socket, the M.A.S. socket, has been wellreceived and is changing the way we think about total contact socket design.

The Design: What Is It?

So, what is the M.A.S. socket? Ortiz describes his design: “It is a high density plastic socket that captures the ischial tuberosity and part of the ramus as well as the medial wall to the greater trochanter. The socket is contoured to the anatomy of the gluteal fold, so the entire muscle belly can be free of the socket. This will not only improve cosmesis but also better distribute weight-bearing forces throughout the socket brim area.”

Ischial Tuberosity and Containment

“According to ICDM, 8% of trans-femoral sockets are worn by geriatric amputees (2002). Ortiz, who is a prosthetist and engineer, has fit hundreds of patients and the design is unique and requires a well-contoured fit, and could be difficult to learn independently. "It is unique and requires a well-contoured fit, and could be difficult to learn independently," he said. "The challenge is to develop a socket that is contoured to the anatomy of the patient, so the socket is not too tight or too loose."

One of the key features of the M.A.S. socket is the incorporation of a containment system around the ischial tuberosity and part of the ischial ramus. This is achieved through a gluteal cutout that is designed to accommodate the ischial tuberosity and part of the ramus as well as the medial wall to the greater trochanter.

 auxilia ry sus pen sion, and I'm getting very good results," Tillges added. "I'm taking time to learn and understand the mechanics of Marlo's concept, and I'm getting very good results." Others have reported similar outcomes. W.M. (2003) reported that the M.A.S. socket was used to treat a patient with a history of ischial containment issues.

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