Suction (without liner)

Description

This suspension system relies on skin contact with the inner socket wall. An expulsion valve is used to remove air from the end of the socket, sealing the system once the valve is closed.

Because of the very close tolerances in the socket fit, the amputee is required to pull the residual limb tissues into socket using some sort of pull in device (cord, webbing or special sock). Done correctly, this eliminates air between the skin and socket. A poorly donned socket will not suspend effectively.

To remove the prosthesis, the user releases the suction valve, allowing air to return to the distal socket. This breaks the seal and the prosthesis can be removed.

The suction suspension system is fairly old. New interfaces (liners) have made this system largely redundant.

Advantages

- Very accurate fit provides excellent stability
- No replacement consumable items required

- Inexpensive

Disadvantages

- Complex donning procedure
- Requires balance, strength and dexterity to don properly
- Stump volume fluctuations can lead to suction loss
- Valve failure leads to loss of suction