

Appendix M: Offloading Devices

The selection of the appropriate offloading device is based on the following considerations:

- The ability to effectively remove all pressures from the ulcer site;
- Cost-effectiveness of the device;
- Ease and skill required for the application of the device;
- Characteristics of the diabetic ulceration; and
- The ability to encourage client adherence.

All offloading devices will alter the client’s gait. This may place them at high risk for falling. It is very important to provide the client with an appropriate gait aid and proper gait training to ensure this risk is minimized. There are also devices available to place on the opposite shoe in order to correct any leg length discrepancy that often occurs with the application of a Total Contact Cast, Air Cast or other offloading shoes.

OFFLOADING DEVICE	ADVANTAGES	DISADVANTAGES
<p>TOTAL CONTACT CAST (TCC)</p> <p>A well-molded minimally padded cast that maintains contact with the entire aspect of the foot and lower leg</p>	<ul style="list-style-type: none"> ■ Highest healing rates (gold standard) ■ Distributes pressure over the entire plantar surface ■ Completely offloads ■ Protects foot from infection ■ Controls edema ■ Maintains patient adherence as it is non-removable 	<ul style="list-style-type: none"> ■ Requires trained technician ■ Cannot assess foot on a daily basis ■ Affects sleeping and bathing ■ Exacerbates postural instability or causes poor balance ■ Cannot use if wound infected ■ Cannot be used in the neuro-ischemic limb
<p>SCOTCHCAST BOOT</p> <p>A fiberglass boot that reduces pressure over the wound</p>	<ul style="list-style-type: none"> ■ Lighter with high integral strength ■ Removable for examination ■ Can be non-removable for poorly adherent patients ■ Promotes continued ambulation 	<ul style="list-style-type: none"> ■ If removable – poor adherence ■ Has not yet been compared in studies to other forms of offloading for efficacy

OFFLOADING DEVICE	ADVANTAGES	DISADVANTAGES
<p>REMOVABLE WALKER</p> <p>A commercially available removable boot that reduces plantar pressures</p>	<ul style="list-style-type: none"> ■ Easily removable allowing wound inspection and treatment ■ Allows more comfortable bathing and sleeping ■ Can be used for infected wounds and superficial ulcers ■ Can be made irremovable 	<ul style="list-style-type: none"> ■ Removable nature of cast reduces adherence ■ No clinical data to support its efficacy compared to TCC
<p>HALFSHOES</p> <p>Offer support only under the rear and mid-foot</p>	<ul style="list-style-type: none"> ■ Inexpensive ■ Easy to apply 	<ul style="list-style-type: none"> ■ Less effective than TCC ■ Hampers gait
<p>HEALING SANDALS</p>	<ul style="list-style-type: none"> ■ Limit dorsiflexion, therefore distributes pressure of metatarsal heads ■ Lightweight and stable ■ Reusable 	<ul style="list-style-type: none"> ■ Not as efficient compared to other methods of offloading
<p>MABAL SHOE</p> <p>Cross between healing sandal and TCC</p>	<ul style="list-style-type: none"> ■ Removable (inspection) ■ Better contact with foot than healing sandal ■ Comparative rates of healing with TCC 	<ul style="list-style-type: none"> ■ Removable (reduces adherence) ■ Expertise required to make and apply
<p>FELTED FOAM</p> <p>Bilayered felted foam over the plantar surface with opening for the wound</p>	<ul style="list-style-type: none"> ■ Inexpensive ■ Accessible 	<ul style="list-style-type: none"> ■ Requires skilled health professional ■ Can increase pressure and shear at wound edges if not properly applied and monitored ■ Frequent changes ■ No studies to suggest its efficacy in offloading

OFFLOADING DEVICE	ADVANTAGES	DISADVANTAGES
CRUTCHES, WALKERS, AND WHEELCHAIRS	<ul style="list-style-type: none"> ■ If used consistently will offload pressure ■ Rentable 	<ul style="list-style-type: none"> ■ Requires upper body strength and endurance ■ May not be used all the time ■ Difficulty in navigating indoors ■ Can increase pressures on contralateral side
THERAPEUTIC FOOTWEAR DEPTH INLAY SHOES	<ul style="list-style-type: none"> ■ Beneficial in <i>preventing</i> ulcerations, NOT healing 	<ul style="list-style-type: none"> ■ No proof of efficacy in healing ulcers ■ Allow up to 900% more pressure in forefoot than TCC and removable walker
CROW – CHARCOT RESTRAINT ORTHOTIC WALKER	<ul style="list-style-type: none"> ■ Can be used in feet with severe Charcot deformity to accommodate rocker bottom foot 	<ul style="list-style-type: none"> ■ Costly ■ Removable ■ Requires physician/specialist to prescribe