Short Stretch Bandages Yield Long-Term Benefits

BY HEIDI SPLETE
Senior Writer

OTTAWA — The smart compression technique using short stretch bandages facilitates healing by extruding edema and lymphedema from a wound, Dr. John MacDonald said at the annual conference of the Canadian Association of Wound Care.

"Lymphedema is a major impediment to wound healing," said Dr. MacDonald, a retired cardiovascular surgeon who is now with the department of dermatology and cutaneous surgery at the University of Miami.

"If you have a bandage that moves as the muscles move, nothing happens," Dr. MacDonald explained. "But if you have a bandage that gives resistance to the motion of the muscle, there is pressure on the tissue that stimulates pressure on the lymphatic fluid and pushes it out of the limb."

"Every chronic wound has a lymphatic pathology," he explained. The lymphatic system accounts for 10%-15% of cardiac output, so be sure to consider what could be wrong with the lymphatic system in any chronic wound.

Lymphatic vessels are easily injured, and they can't move fluid to and from a chronic wound without help; but if the external pressure from a compression bandage is high enough, the lymphatic capillaries start to fill with fluid and the fluid moves away from the wound and back toward the heart. "It is external pressure from the compression bandage that is moving this fluid," Dr. MacDonald said. The steady, constant pressure (5-10 mm Hg) on the delicate lymphatic vessels can propel the fluid back into the cardiovascular system.

Smart compression takes into account both resting pressure and working pressure on the affected area. Resting pressure is the pressure applied by a bandage to a body part, such as a leg, when that part is at rest. Working pressure develops when the muscles contract and push against the compressing bandage; there is a dynamic pulsation between the muscles and the bandage. Working pressure develops internally and has a positive effect on the deeper muscles when the bandage restrains muscle expansion, he said.

Adding smart compression to wound care is 'like sending your patient home with their own massage therapist 24 hours a day.'

Smart compression is uniform, not like squeezing a tube of toothpaste, and short stretch bandages are the best way to achieve it.

The short bandage creates a lower resting pressure and a higher working pressure, which is the safest treatment option for a compromised limb, Dr. MacDonald noted. External compression is extremely important in controlling edema and lymphedema because it promotes fluid absorption, which is critical to the healing of any chronic wound.

To treat a patient with smart compression, Dr. MacDonald recommends using inelastic short stretch bandages that are left on 24 hours a day, 7 days a week. Although the bandages on the wound itself are to be changed regularly, the patient doesn't get a break from the compression for more than the time needed to change the dressing. The steady, constant compression helps

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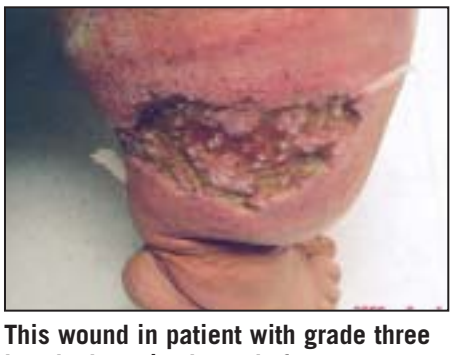

This wound in patient with grade three lymphedema is shown before treatment.

The patient is shown approximately 2½ months after treatment.

PHOTOS COURTESY DR. JOHN MACDONALD

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move the lymphatic fluid out of the swollen, wounded area.

Padding is needed underneath the bandage to fill in crevices and to equalize pressure over the area to be treated, he added.

Adding smart compression does not detract from the principles of basic wound care. "It was the missing link," Dr. MacDonald said. Healing is restricted when debris in a wound can't drain via the lymphatic system. Smart compression is "like sending your patient home with their own massage therapist 24 hours a day," he said.

Smart compression with short stretch bandages also can be used to treat lymphedema in patients with metastatic lesions, as well as wounds in obese patients or patients with cellulitis or diabetes.

"There has never been a study to show that using compression will shorten the life of someone with metastatic disease," said Dr. MacDonald.

Smart compression should be used to treat lymphedema in obese patients with wounds below the knee, which is the site of most wounds in these patients. "You can't do anything about their weight, but if you use continuous sustained compression, you will stop that drainage and heal the wounds," he explained. ■

VERBATIM

'I don't believe in the "Jiffy-Lube" approach to PDT. You don't bring the patient in, put on the ALA [for 10 minutes], treat them, and send them out the door. It just doesn't work.'

Dr. E. Victor Ross, on why he prefers topical therapy as first-line treatment for acne, p. 64.

Liposuction Is Effective for Some Breast Reduction

LAS VEGAS — Liposuction can be an effective alternative to breast reduction surgery in select patients, according to a presentation at an international symposium on cosmetic and laser surgery.

Traditional breast reduction can require significant postoperative recovery and cause unnatural-looking breast lift, Dr. Cameron Rokhsar said. In addition, many patients are left with an inverted T scar. In contrast, liposuction with local anesthesia does not lift the breast and often leaves only small scars, said Dr. Rokhsar, a dermatologist in private practice in New York City.

Liposuction is a common cosmetic procedure in the United States. "The procedure has evolved from one under general anesthesia with massive blood loss to an outpatient procedure with minimal blood loss," Dr. Rokhsar said.

The fat removal technique became "extremely safe" with the advent of the tumescent technique, he added. For example, a survey of 66 physician members of the American Society of Dermatologic Surgery found that there were no deaths among 15,336 patients they treated with tumescent liposuction (Dermatol. Surg. 1995;21:459-62).

After baseline mammography, Dr. Rokhsar measures breast size through water displacement and makes radial markings. Cannulas are introduced through two tiny holes to remove the fat from the breast.The process can suction up to 50%-70% of breast fat. In an unpublished study of 30 of Dr. Rokhsar's patients, this procedure reduced breast size by an average of one cup size. A follow-up mammography is performed at 6 months as a new baseline reference.

"The patient can sit up afterward—it is a very simple procedure," said Dr. Rokhsar, who is also on the dermatology faculty at Albert Einstein College of Medicine in New York.

Liposuction is contraindicated for a breast composed primarily of glandular tissue versus fat, Dr. Rokhsar said.

Patients with nipple ptosis, a family history of breast cancer, or patients looking for significant breast lift are generally not candidates for breast liposuction, he added.

—Damian McNamara