Reducing Pain: The Importance of Dressing Selection

As many as 80% of patients with pressure ulcers or venous leg ulcers experience severe and constant pain; dressing removal is one of the most painful local care procedures. Although the importance of administering local analgesics has been evaluated, not much is known about the role of dressings in pain management. To evaluate the extent and impact of wound pain during dressing removal, a prospective cohort survey (the Medecine Ambulatoire Plaies et Pansements — MAPP — or Ambulatory Medicine Wounds and Dressings) was conducted among chronic (n = 2,936) and acute (n = 2,914) wound care patients in France who experienced “moderate to severe” pain during dressing change. The more clinicians know about the pain experience, the better equipped they are to provide patient-centered care.

Initially, patients were asked to score the intensity of the pain experienced during the dressing change on a subjective four-point scale (none, minor, moderate, or severe). When moderate or severe pain was reported, additional parameters were recorded, including wound duration, largest and smallest wound dimensions, and appearance. A more extensive pain questionnaire documented the presence and intensity of spontaneous pain and the most painful local wound care procedures.

Local care procedures performed during the visit were noted along with the type of dressing selected. Two questionnaires then were completed — one by patients at home (and returned to the coordinating center) after 15 days of regular local care for acute wounds or 30 days for chronic wounds. The questionnaire asked patients to identify the person responsible at home for their wound care, evaluate difficulties encountered during local care procedures, report the pain intensity (no pain or always weak, moderate most of the time, severe most of the time, always very severe) and compare it with their experience before the last medical visit. They also were asked to score any apprehension they experienced while receiving wound care, to document the usual attitude adopted by health professionals if they (patients) complained of pain during care procedures, and to agree (or not) to continue with the latest dressing prescribed.

A second questionnaire was completed (and sent to the coordinating center) by the health professional managing the patient’s wound. It included questions about the practitioner’s usual approach to the management of a painful wound.

Results
From February to August 2002, 656 investigators spread evenly throughout France reported on a total of 6,075 wounds and completed a screening form for 5,826 patients. The analysis included 2,890 acute and 2,936 chronic wounds.

Demographics. The acute wound population was predominantly male (56.4%) and generally younger (mean age: 45.8 years) than the chronic wound population. The chronic wound population was mainly female (66.2%); irrespective of wound etiology, female patients were older (mean age: 64.8 years). Of all acute wounds, 57% were secondary to injury, 30% were...
burns, and 13% were of “another” cause (mainly secondary to a surgical procedure). Of 2,936 chronic wounds, 66% were leg ulcers — of these, 66% were venous, 18% arterial, 16% post-phlebatic. Of the remaining 34%, 16% were pressure ulcers; 8% were diabetic foot ulcers; and 11% were classified as “other,” corresponding mainly to chronic post-traumatic or postsurgical wounds. More than 23% of the study population had more than one chronic wound.

Dressings. Simple wet or dry gauze was used (alone or in combination with another dressing) to treat 48% of acute and 19% of chronic wounds. Paraffin gauze was used to treat 34% of acute and 27% of chronic wounds. Hydrocolloid and foam dressings were applied to 12% of acute wounds and 41% of chronic wounds. Other dressing types were used in 12% of acute and 21% of chronic wounds. More than one type of dressing was sometimes used on individual wounds.

Dressing change pain. The prevalence of painful dressing changes was as follows: 79.9% (95% CI: 78%–81%) of patients with acute wounds and 79.7% (95% CI: 78%–81%) of patients with chronic wounds reported their dressing change had been either moderately or severely painful at the screening visit interview. The proportion of painful dressing changes was similar for pressure ulcers, leg ulcers, burns, and traumatic wounds. The least painful wounds were those classified as “other” and diabetic ulcers.

Pain per wound type.

Acute wounds. Patients with acute wounds reporting severe pain were slightly younger on average than those with moderate pain (42.2 ±19.5 versus 46.1 ±20.8 years; P <0.001); were seen sooner after the injury (4.1 ±3.9 versus 5.6 ±7.8 days; P <0.001); and had larger wounds across their longest dimension (7.2 ±5.0 versus 5.7 ±3.9 cm; P <0.001).

Chronic wounds. Patients with chronic wounds showed no differences for age when the population was stratified according to pain severity (72.5 ±1.03 versus 72.1 ±12.7 years for severe and moderate, respectively) and had a slightly longer main wound axis on average when severe pain was reported at the latest dressing change (5.5 ±4.1 versus 4.8 ±3.4 cm; P <0.001).

Pain characteristics. Among patients with acute wounds, 83% reported pain at dressing changes as well as spontaneous pain. Pain was continuous in 16% of traumatic wounds and up to 24% of burns. In chronic wounds, dressing change and spontaneous pain were 77% and 10% to 13%, respectively; this pain often was scored as “very severe” in 7% to 11% and 11% to 15%, respectively, and was responsible for nocturnal awakenings in 42% to 58% and 46% to 53%, respectively, of the cases, depending on the wound origin.

Moderate to severe pain at dressing change was reported at all changes in 56% of acute and 46% of chronic wounds. Dressing removal was the most painful aspect of local care in acute wounds for 85% of the patients. In chronic wounds, wound cleansing was reported as frequently painful (97% versus 98% of the patients). Pain at dressing removal was scored by patients as “sometimes” or often “very severe” in 47% and 59% of the cases of acute and chronic wounds, respectively. The most painful dressing-related event was adherence to the wound surface, which was reported in 55% of the acute wounds and 38% of the chronic wounds.

Patients who experienced severe pain at dressing changes tended to report spontaneous pain more frequently than those who had moderate pain (90% versus 80% for acute wounds and 90% versus 72% for chronic wounds).

Prescription of analgesia. Few patients (3% to 5%) suffering from wound-induced pain received local analgesics (eg, Emla cream, AstraZeneca) during their care. Oral analgesics were prescribed for 42% of patients with acute wounds and 45% with chronic wounds.

Local and/or oral analgesics were more frequently prescribed when patients reported severe pain than moderate pain (74% versus 49%, of patients with chronic wounds and 57% versus 39% of patients with acute wounds).

Follow-up visits. Patients with acute (1,225) and chronic (1,289) wounds who reported moderate to severe pain during the dressing change were seen at a routine follow-up visit. In 1,023 acute wounds and 856 chronic wounds, the original dressing was replaced by Urgotul (Laboratoires Urgo, France) to reduce pain during dressing change. This is a non-adherent, non-occlusive dressing comprising a polyester net impregnated with hydrocolloid particles.
dispersed in a petroleum jelly matrix. On contact with wound exudate, it forms a lipidocolloid interface that creates a moist environment and allows painless and non-traumatic removal in adults and children.7-10 Switching to the new dressing decreased complaints of pain — the dressing was less painful or not at all painful in 95% of the acute group and 88% of the chronic group.

Patients with acute and chronic wounds were followed post-screening for a median of 10 days and 23 days, respectively. Of the patients with acute and chronic wounds, 99.1% and 85.3%, respectively, either healed or improved. Among patients with leg ulcers, 69% received compression bandaging and 64% of diabetic ulcers were offloaded.

**Dressing removal with the hydrocolloid.** Using the new contact layer, patients reported pain prevalence decreased to 18% in acute wounds and 17% in chronic wounds. The number of dressings adhering to the wound surface ranged from 1.4% (burns and leg ulcers) to 3.7% (diabetic ulcers). In chronic wounds, the prevalence of dressing changes, noted as "no more" or "less" painful was 69.2%, even when wound status was unchanged or worsened (n = 117). Dressing removal was painless in 70.6% of these patients. This was confirmed independently by patient replies to the questionnaire provided at screening. When compared with the period before the dressing switch, 95% of the patients with acute wounds reported “no more” or “less pain” during dressing changes. This figure was 88% for chronic wounds. Some 11% of patients with acute and 12% with chronic wounds reported pain during all dressing changes in the follow-up period. A majority (83%) of patients reported that after switching dressings, they were substantially less anxious before wound treatment. Finally, when asked whether they would agree to continue with the same dressing, 80% in the acute group and 71% in the chronic group answered “certainly yes”.

**Nurses’ opinions.** Among nurses who completed a questionnaire (n = 707), 502 (70.1%) noted that pain was considered a major problem during wound care procedures, irrespective of the nature of the wound; dressing removal and wound cleansing were considered the most painful steps in the local care of acute (558, 79%) and chronic (45, 63%) wounds. Analgesics were never used (49, 11%) or used when dressing wounds (62, 14%), when patients complained of pain (417, 59%), only if pain was severe (262, 37%), or depended on the nature of the wound (113, 16%).

**Conclusion**

The results of the MAPP study show that most wounds are painful, especially at dressing change, and that pain is underestimated by clinicians. Switching dressings resulted in fewer complaints of pain among the study subjects. A similar trend was observed in the subsample comprising persistent or deteriorating wounds and reflected in the high patient satisfaction score established at home, independent of any investigator influence. The rational selection of adequate dressings should be vigorously promoted through active educational programs for healthcare professionals and, perhaps, for patients themselves. - OWM

**Clarification**

The product cited in this article, Urgotul® (Laboratoires URGO, Dijon France), is marketed in the US by Hollister Wound Care LLC as Restore® Contact Layer Dressing with TRIACT™ Technology. In the United States, lipidocolloid technology is known as TRIACT™ Technology.

**References**