Pressure Ulcer Management Using Sodium Carboxymethylcellulose Hydrofiber® Foam Dressings

Shawna Philbin, BSN, RN, CWOCN
Palm Bay Hospital, Palm Bay, FL

Traditionally, foam dressings are composed of polymer solutions, often polyurethane, with small open cells capable of holding fluid. Absorption depends on the composition and thickness of the foam. Some are layered or impregnated with other materials and may have an adhesive border or a film covering. ConvaTec’s (Skillman, NJ) new AQUACEL® Foam Dressings feature sodium carboxymethylcellulose (NaCMC) Hydrofiber® technology and are available as nonadhesive or with a skin-friendly silicone adhesive.

A seven-patient case evaluation series was initiated to better understand the performance of both versions of this new foam dressing. Wounds studied included diabetic foot ulcers, lower extremity ulcers, and pressure ulcers, and surgical wound dehiscence. Assessment of dressing performance was based on absorbency (total fluid management), prevention of maceration, ability to contour while staying in place, ability to provide a waterproof film to prevent contamination if needed, and whether the dressing was found to be nurse- and patient-friendly.

Several positive outcomes were noted. The dressing conformed well to several body locations and managed exudate for several days. Nurse response was positive for ease of dressing application and removal. Patient responses were positive for comfort during the wear time and decreased pain with application and removal. The dressing also provided a barrier for fecal and urinary incontinence. Clinicians found this foam dressing to be an effective modality for managing multiple types of wounds. Two case reports detail the positive outcomes experienced with use of AQUACEL® Foam Dressing.

Right hip pressure ulcer. A 47-year-old man with a clinical history of paraplegia, attention deficit hyperactivity disorder (ADHD), mental health issues, fecal incontinence, catheter, and malnutrition (the patient refused nutrition supplementation) presented with two chronic Stage IV pressure ulcers of more than 2 years’ duration (see Figure 1). His medications included clonidine, multiple antibiotics for urinary tract infection, and Adderall (Shire US, Inc, Wayne, PA) for his ADHD. The
first was located on the right hip/buttocks and exhibited a large amount of wound drainage, and the second was located on the left ischium with periwound maceration due to high level of wound exudate. The patient was non-compliant with pressure ulcer prevention interventions.

At the first consultation, the hip pressure ulcer measured 9 cm x 9 cm x 2 cm, with undermining from 12 o’clock to 6 o’clock measuring up to 4 cm. The adhesive version of AQUACEL was applied as the primary dressing, with no secondary dressing necessary (see Figure 2). Two days later, the dressing was changed and exudate management assessed. No maceration or excoriation was noted along the wound edges, and exudate was moderate (see Figures 3 and 4). The patient was not adhering to advice to use a pressure-reducing surface when sitting in a wheelchair for extended periods of time. He had poor nutritional intake and refused supplements. He was in constant motion per his ADHD, causing substantial friction and shearing effects. With this in mind, the goal for wound care was exudate management and to prevent infection from incontinence. Wound healing was not a realistic goal unless the patient becomes more concordant with care protocols. The patient was transferred to long-term care where the dressing protocol was continued.

Sacral pressure ulcer. A 63-year-old woman with a history of long-term steroid use due to autoimmune diseases (including rheumatoid arthritis), fecal and urinary incontinence, and recurrent sacral pressure ulcers was admitted with a noninfected, sacral Stage III pressure ulcer with a viable red wound base (see Figure 5). She spends most of the day in a hospital bed at home. Treatment has included a low-air-loss mattress, indwelling Foley for urinary containment, supplemental feedings via G-tube for nutritional support, and physical therapy for improved strengthening and mobilization. Local wound care included cleansing wound with SafClens (ConvaTec), filling wound deficit with Aquacel Extra (NaCMC ribbon with strengthening fiber) (see Figure 6), and covering with secondary dressing (Aquacel Foam Adhesive Border dressing) changed every other day (see Figure 7). These dressings were chosen to provide patient comfort with dressing in place and also during dressing changes, enhance exudate absorption and moist wound healing, decrease the frequency of dressing changes every other day with extra absorbency, and to prevent fecal contamination of wound from fecal incontinence.

Figure 5. June 18, 2012: Wound measuring 5 cm x 3 cm x 0.25 cm.
Figure 6. Wound packed with dressing.
Figure 7. Wound covered with foam adhesive secondary dressing. The patient was fecally incontinent, but the dressing stayed in place.