CALCIUM ALGINATE

GIFT NAPA RN, BSN, PCCN

CALCIUM ALGINATE

- Most widely used polysaccharide in wound healing
- It is the insoluble form of alginate with high swelling capacity
- It is harvested from brown algae followed by processing to form Alginic Acid, which is reacted with Calcium Hydroxide or Calcium Oxide
- They are known for absorbing excess wound exudate and forming a non-adherent gel, which accelerates wound healing by promoting a moist wound healing environment, facilitating debridement, and helping to prevent trauma to the wound bed and the surrounding skin

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Alginate fibers absorb wound exudate to form a gel matrix. The gellation of the fibers also permits easy removal of the dressing *(Thomas, 2000).*

Alginate fibers have been shown to absorb and retain bacteria during formation of the gel matrix, which can be removed during dressing changes *(Fanucci and Seese, 1991*).

Alginate dressings can absorb up to 20 to 30 times their weight in wound fluid *(Seymour, 1997).*

Calcium alginate dressings are used on moderate to heavily exudative wounds during the transition from debridement to repair phase of wound healing (*Seymour, 1997, Joël et al., 2002*).

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Calcium alginate dressings have also been demonstrated to have haemostatic property. The dressings improve clotting in wounds and are also used to promote hemostasis during various surgical procedures *(Segal et al., 1998*).

These dressing have the potential to activate human macrophages to secrete pro-inflammatory cytokines within the chronic wound bed that is hypothesized to generate a pro-inflammatory signal which may initiate a stalled inflammatory phase of wound healing in chronic wounds *(Thomas et al., 2000).*

They increase epithelialization and **granulation** tissue formation (Sayag *et al.*, 1996).

INDICATIONS

Calcium Alginate Dressings are a strong, versatile, and natural **wound care dressing** typically applied to:

- diabetic wounds
- venous wounds
- full-thickness burns
- split-thickness graft donor sites
- pressure ulcers
- cavity wounds
- chronic ulcers
- on dry wounds when combined with a sterile saline solution.

SIDE EFFECTS

1. Infection
2. Ulceration
3. Bleeding

CONTRAINDICATIONS

Calcium Alginate Dressing is **not recommended** for:

- 3rd degree burns
- on light exudate and dry eschar
- on wounds that require surgical measures to achieve hemostasis

TRADE NAME AND COST

3M™ Tegaderm™ High Integrity and 3M™ Tegaderm™ High Gelling Alginate Dressings

- 12” ROPE 1 BOX = $30.64-36.77
- 1 PC 4X4 DRESSING = $ 10.15

TRADE NAME AND COST

ALGICELL® Alginate Wound Dressings

- 1 PC 2X2 DRESSING = $ 2.29
- BOX OF 10 2X2 DRESSING = $20.99
- BOX OF 40 2X2 DRESSING = $79.99

TRADE NAME AND COST

ALGISITE* M Calcium Alginate Dressing

- BOX OF 10 4X4 DRESSING = $32.96
- BOX OF 10 2X2 DRESSING = $31.40
- BOX OF 10 12” ROPE = $49.95

HOW TO APPLY

Step 1: Cleanse the wound in accordance with hospital protocol.

Step 2: The dressing should be slightly larger than the wound and placed in intimate contact with the wound base ensuring the entire surface is covered. It may be best to use the alginate strip/rope if the wound is deep or undermined. To help avoid maceration of the surrounding skin, cut it to the size of the wound or alternately fold any dressing material overlying the wound into the wound.

Step 3: Cover with an appropriate retention dressing. Wound exudate will evaporate from the gel surface; the secondary dressing should not hinder this evaporative process where exudate is heavy.

Step 4: Dressings should be changed daily in heavily draining wounds, reducing to twice weekly (or weekly) as healing proceeds.

Step 5: To remove: use tweezers, forceps or a gloved hand to gently lift the dressing away - the high wet strength generally allows it to remain in one piece. ***The dressing may adhere if used on a very lightly exuding wound***. Removal of the dressing is facilitated by saturating the wound with saline.

THANK YOU!