F. PRINCIPLES OF TREATMENT BASED ON ETIOLOGY (TREAT THE CAUSE)
BACKGROUND AND EXTENT OF ETIOLOGY; INSTRUCTIONS FOR USE OF OTHER SECTIONS

F.8 Superficial and Superficial Partial Thickness Burns

8.1 Etiology and Background:
The New Zealand Guidelines group recommends:
Avoid use of the terms first-degree/primary, second-degree/secondary and third-degree burns.
Superficial burns can be 2 types:
• a superficial burn or scald that solely involves the epidermis (red, painful but intact skin).
• and a superficial partial-thickness burn that extends down into the more superficial, papillary layer of the dermis (blisters at site of burn).
Even superficial burns can be life-threatening depending on the extent of body surface involved. These are the only types of burns that can be managed safely in a community out-patient setting, but may require hospitalization.

Infection:
See Signs and Symptoms of Wound Infection in burns.

Burns in children: The thickness of a child’s skin is less than an adult's, so that children have deeper injuries from the same thermal exposure. As well, the combined surface area of the head and neck compared with the rest of the body in a child is larger than in an adult. Therefore, a small burn on a child could be much more severe than the same size burn on an adult (Baron 2010). Acute referral to secondary care is required for individuals with burns with signs of serious or systemic infection. The New Zealand Guideline -The Management of Burns and Scalds in Primary Care - is available for free download at: http://www.nzgg.org.nz/guidelines/0139/Burns_full.pdf

8.2 Algorithm
This algorithm is also based on the Wound Bed Preparation Algorithm, but contains interventions and recommendations based on the specific needs of individuals with superficial and superficial partial thickness burns. It was adapted from Morgan et al. 2000, Sibbald et al. 2006, Baron 2009.

8.3 SWCCAC Self-Care Teaching Tool for Hydrofiber Method
This contains information that the community nurses are giving to clients for which the hydrofiber dressing method is being used. Supporting information came from literature resources and also from the manufacturer, Convatec Canada. It was developed to aid in improving communication between the community nurse, client and any physician who may be involved in caring for the client, who may not be aware of the hydrofiber method.

8.4 Other Client/Patient Teaching and Learning Resources (to be developed Fall 2011)

8.5 Clinical Interventions (From SWCCAC Wound Management Program May 2011):

Wound Assessment:
• Use a validated and reliable wound assessment tool

Other:
The New Zealand Guidelines group recommends: The depth of a burn injury should be reassessed two to three days after the initial assessment, then subsequently every three days.
Adequate pain management is crucial.

Management of Blisters:
- There is great debate over whether to aspirate, drain or debride the blister covering for Superficial Partial-thickness Burns. Flanagan et al. (2001) advise leaving blisters intact where possible (i.e. where it is not causing ischemia due to increase pressure, or infection due to retention of devitalized tissue) to allow gradual absorption of blister burn fluid in an attempt to maximize healing and reduce patient discomfort.
- However, if the blister flap is non-viable or will break in an uncontrolled manner, &/or will interfere with the application of antimicrobial products, it should be de-roofed.

The New Zealand Guidelines group recommends: “Preferably leave small blisters intact unless unlikely to burst or interfere with joint movement. If necessary, drain fluid by snipping a hole in the blister.”

Client Education:
- type of dressing and treatment plan,
- potential for skin discoloration
- keep healed areas protected from overexposure to the sun by using sunscreen with an SPF of 15 or more, especially during the next season of sun exposure.
- If exposed to ultraviolet radiation too soon, newly healed skin can become permanently hyperpigmented (Johnson and Michael 2002).
- regulate hot water temperature at source
- appropriate first aid
- burn management.

Wound Bed Preparation:
- debridement (in the absence of malignancy or inflammatory ulcers), bacterial balance, exudate control, protect periwound skin

Common dressing supplies:
- Products with antimicrobial action (such as silver sulphadiazine cream or moisture-retentive antimicrobial dressings) should be used on all burns for the first 72 hours (three days) after burn injury to prevent infection then follow with a dressing that promotes moist wound healing and re-epithelialization (New Zealand Guidelines).
- Biosynthetic dressings allow a decrease in time to healing and reduction in pain during dressing changes. (Cochrane Review Wasiak et al. 2008)
- As acute phase ends with decreased exudates + in absence of s&s of infection, use a non-adherent, a transparent acrylic dressing, transparent film or a thin hydrocolloid to decrease dressing changes

Not recommended:
- Silver sulphadiazine (SSD) for the full duration of treatment is associated with delays in time to wound healing and increased number of dressing applications (Cochrane Review Wasiak et al. 2008)
- Tulle gauze (e.g. Unitulle, Jelonet, Sofratulle, Bactigras) which allows tissue to grow in the interstices of dressing

Hydrofiber Ag Method:
- For Superficial and Partial thickness burns caused by flame, fluid, contact and scald injuries that appear to not require surgical intervention (SWCCAC Codes 2504, 2506)
- The patients’ wounds may be contiguous or scattered but may not exceed 40% TBSA.
This may be used on facial injuries if deemed appropriate based on a case by case basis. **NB** if this protocol is utilized, it is important that the client is given written instructions about the dressing & frequency of dressings that can also be communicated to the ordering or ER physician.

Apply in the immediate post-burn period if the blister has been deroofed, being aware that the wound cannot be visualized once the dressing adheres – or apply at 48 to 72 hours using other antimicrobial moist wound (Not petrolatum-based) dressings if visual assessment of the burn depth is desired for the first 3 days.

**(Application day).** The hydrofiber Ag should be overlapped by 6 cm if more than one piece is required, and pre-moistened if there is minimal exudate, or if it is being applied over a joint, or if the burn is 2-3 days old already. Cover with dry gauze and abdominal pads.

**Day 1:** Remove secondary dressing and inspect Aquacel Ag to ensure that no migration of dressing has occurred, causing exposed wound. Add more pieces with 6 cm overlap. Reapply secondary dressing.

**Day 3:** If the dressing is non-adherent at 72 hours, the dressing should be removed so that the burn can be re-evaluated by a physician to determine if it has progressed to full-thickness or is infected- if so, an alternate treatment such as Silver sulfadiazine will be required. If the dressing is saturated with exudate, the hydrofiber Ag dressing should be removed, the wound cleansed and debrided as needed and hydrofiber Ag replaced with only one thickness (except for the overlap). Otherwise, only the secondary dressing should be changed. As the burn re-epithelializes, the dressing will spontaneously detach and can be trimmed away with scissors.

**Days 6, 10, 14:** The secondary dressing should be removed every 2-3 days (Saba et al. 2009). Trim detached Aquacel Ag dressing with scissors. Apply new secondary dressing.

**Once all of the Hydrofiber has loosened,** any remaining open areas can be dressed with pre-moistened Hydrofiber Ag and cover dressing as before.


### 8.6 References

Arizona Burn Center Policy Relating to Wound Management, provided by Convatec 2010. Other resources found at:


