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Nurses: Are you prepared to manage burn injuries? Here's what you need to know

Evaluate for traumatic injuries, decide on patient's disposition, and relieve pain

Don't forget to assess for life-threatening traumatic injuries before you assess a patient's burn injury, stresses **Cheryl Wraa, RN, BSN**, immediate past president of the National Flight Nurses Association, based in Park Ridge, IL. "The burn itself is dramatic in appearance and can be distracting during the initial resuscitation of the patient," she notes.

Assess for other injuries or potential complications. "Don't be so shocked by the appearance of the burn injury that you forget to treat the patient like a trauma patient," cautions **Teresa Merk, RN, BSN**, transport coordinator at Shriners Burns Hospital for Children in Cincinnati, OH. "A full assessment of the patient for additional trauma is necessary."

An initial survey including airway, breathing, circulation, deficits, and complete exposure should be done, says Wraa. "The evaluation of the burn is done after life threatening issues are addressed," she adds. "It is also very important to elicit a history of the event, so you can anticipate any other injuries or impending airway problems and any medical history which might affect the patient's response to the injury. The key to the initial resuscitation is: Treat the patient, not the burn."

Management of major burns includes airway support, treatment for associated trauma and preexisting medical conditions, fluid resuscitation, protection against hypothermia, and initial wound treatment, Wraa notes.

Most burn patients are awake, alert, and in a great deal of pain. "Both the patient and [his or her] family may be anxious and overwhelmed by the suddenness and magnitude of the injuries," says Wraa.

The initial concern will be the patient's survival, Wraa notes. "Questions should be answered as gently, tactfully, and honestly as possible," she advises. "Their first contact in the ED will establish a strong base for a trusting relationship for the many months the patient may be in the hospital and in rehabilitation."

Burn victims face fear of loss of earning ability, dependence, and possibly anger at their own responsibility for the accident, says **Tom Trimble, RN**, an ED nurse and webmaster of *Emergency Nursing World*, a practice-based Internet resource for emergency nurses. "We must convince the victim that the accident

EXECUTIVE SUMMARY

- If adequate amounts of fluid are not administered, cardiovascular collapse and/or kidney damage will result, necessitating dialysis
- Patients with burn injury lose the ability to regulate body temperature, so they are at high risk for hypothermia
- Use of wet dressings or ice results in loss of body temperature, with potentially devastating results
- Application of antimicrobial agents in the ED is unnecessary
- Social factors should be considered, in addition to burn severity, when deciding whether to transfer patients to a long-term burn center.

causing the injury is over, pain will be eased and controlled, [he or she] can do things to help his [or her] body heal, and [he or she] will resume control over his [or her] life and future,” he explains.

Manage patient's pain

Pain control is always a challenge with burn injuries, says Merk. “Burns that are third degree are called ‘insensate,’ which means they are not painful, but a burn that is first or second degree will be very painful,” she notes.

Finding the right amount of pain medication to keep the patient comfortable can be difficult. “Administer small incremental doses intravenously, because drug absorption from subcutaneous and intramuscular sites is erratic during the immediate postburn period,” says Merk. “Give enough to keep the patient comfortable, but not enough to make them so sleepy they can’t do the things they need to be doing, like coughing and deep breathing, eating, and exercising. You may need to frequently medicate during the initial hours following the burn injury.” Immersing burns in cool water can relieve pain, but generally should not continue for longer than 20-30 minutes, says **Judy Selfridge-Thomas, RN, MSN, CEN, FNP**, nurse practitioner for the department of emergency medicine at St. Mary Medical Center in Long Beach, CA. “After that, pain control needs to be achieved some other way, either with dressing the

injured area, or with pain relief medications.”

Most burns have already been sufficiently cooled prior to arrival, but patients may desire cooling for pain relief, says Trimble. “The water acts as an air barrier to the irritated sensory nerve ends of the burn,” says Trimble. “Permitting the immersion until ‘adequate’ analgesia has time to take effect is humane. A continuing explanation of how the dressing will keep the patient comfortable while the body repairs itself, helps the patient to give up the bowl of water for the treatment that you propose.”

When the wound is approximately the same temperature (or slightly greater allowing for hyperemia) as surrounding areas, cooling can be stopped. “An adequate layer of silver sulfadiazine cream and/or non-stick dressings and bandaging exclude air and render the burn comfortable,” says Trimble. “With typical minor burns treated as an outpatient, at this point the patient should need little further analgesia.”

Including a non-steroidal anti-inflammatory drug as part of the initial analgesia minimizes the need for subsequent narcotic dosing, says Trimble. “However, it should still be made available to the patient, as no one can perfectly predict how much or how little pain there will be,” he notes.

Prompt and sufficient analgesia is also key, says Trimble. “A combination of a potent NSAID and a narcotic provide a good ‘one-two punch’ for initial and persistent relief,” he recommends.

Decide on disposition

Making the decision to treat or transfer a patient is key, says Selfridge-Thomas. “Treatment may vary depending on whether the patient will continue treatment as an outpatient or will be an inpatient at a burn center,” she explains.

With severe burns, disposition is the principle issue in the ED [emergency department], says Trimble. “You need to determine if the patient is safe and suitable for outpatient management. If the patient will be treated as an inpatient, is it to be ‘here’ or at a specialized facility or other referral center? And if the patient is going to be transferred, when and with what preparations will the patient be stable for transport?” he asks.

Often, the best place for burn patients is a specialized burn unit, says Merk. “It takes a lot of teamwork

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to successfully manage a burn patient, including doctors, nurses, respiratory therapists, occupational/physical therapy, play therapy, school teachers, and even those individuals charged with watching our hand-washing technique," she notes.

If the patient needs to be referred to a specialized burn center, do so rapidly, stresses Merk. "Rapid transfer to a burn unit to facilitate early excision/grafting, sometimes done within the first few days, is important," she says. "Find a burn unit that is also aggressive with physical therapy. Having the patient learn care and be a working member of the team from early on during the recovery is important."

Social factors should be considered, in addition to burn severity. "Factors such as age, limitation of activities of daily living, solitary living or inadequate family resources, and loss of bread-winning capacity, may argue for at least brief hospitalization while resources, home care, or social work can be arranged," says Trimble.

If the patient is discharged from the ED, patients should be educated adequately. "It is helpful if a positive outlook and attitude can be modeled for the patient, including things that can be done to help the burn heal quickly, and plans to control and ease any discomfort," says Trimble. "Also review symptoms of infection with the patient, so they understand to come back to the ED right away so that it can be taken care of before it becomes worse."

Here are some tips to consider when treating patients with burn injuries:

Assess burn adequately to determine treatment.

"Things to assess are burn location, depth of burned tissue, whether or not blistering has occurred, are the burns circumferential, amount of body surface area burned, is sensation and feeling intact or absent in burned tissue and surrounding tissue, any other injury present, and any airway compromise," says Selfridge-Thomas.

Find out about how the injury occurred. "Certainly, obtaining information related to the circumstances surrounding the burn incident becomes important. Was it an isolated flame burn, was the patient in an enclosed space, was there an explosion, etc.," says Selfridge-Thomas. "Also, find out if the patient has any previous history that may impede healing, such as diabetes, or vascular problems."

When taking a medical history, ask about preexisting disease or associated illness, medications, allergies, and tetanus immunization, says Merk. "Patients with a history of asthma will have to be carefully monitored, as the trauma of a burn injury may aggravate the condition," she notes.

Address unique needs of pediatric patients.

"Children have a smaller airway and a larger head in proportion to body surface area. Also, depending upon

the injury and circumstances, is it possible that abuse is present?" Merk asks. "Also, find out who really has legal custody of the child. This is often difficult in a crisis situation, but necessary."

Reduce risk of infection. Infection risks are reduced with soap and water cleansing, sharp debridement where indicated, dressings with silver sulfadiazine, xeroform or other anti-infective, and updating tetanus prophylaxis, Trimble says. "The first wound re-check should be done in 24 hours, with follow-up 5-7 days thereafter. Give the patient strict cautions regarding the signs of infection and the necessity of immediate return," he explains.

After initial resuscitation, the burned areas should be cleansed with a surgical disinfectant and gently debrided, says Wraa. "Body hair at the wound and around the periphery is shaved," she explains.

The burned area is covered with a topical antimicrobial agent and covered with dry dressings. "The most common antimicrobial agents used contain silver sulfadiazine. The cream is soothing to the wound, has a good antimicrobial spectrum, and has almost no systemic absorption or toxicity," says Wraa. "Do not use these creams on patients who are allergic to sulfa drugs."

Dead tissue should be debrided, and large blisters may need to be broken and debrided, says Selfridge-Thomas. "Care should be administered under as sterile conditions as possible to prevent infection," she advises. "If treatment will continue on an outpatient basis, then dressings need to be changed daily until adequate healing has occurred."

Generally, infectious complications are associated with length of hospital course, rapidity of ultimate burn wound treatment (including skin grafting if necessary), and the number and duration of invasive procedures required by the burn victim, says **David Dries, MSE, MD**, professor of surgery for the division of trauma, burns, and emergency surgery at the University of Michigan Health System.

Stop the burning process. "This means removing anything which may continue to burn the patient," says Wraa. Remove clothing, rings, watches, and jewelry, flush chemical burns, and remove from electrical source, she stresses.

Be prepared for patients with chemical burns. "All chemicals used in the work environment must have the MSDS [Material Safety Data] sheet available," says Merk. "If a patient presents in the ED from a work related chemical injury, the MSDS sheet should be requested. This will help in the treatment of the patient."

Be aggressive with airway management. The two most significant contributors to infection in the burn

Continued on page 5

Regulation of burn patients' body temperature is essential

“**B**urn patients have lost their ability to maintain their body temperature when they received their burn,” says Teresa Merk, RN, BSN, transport coordinator at Shriners Burns Hospital for Children in Cincinnati, OH.

When body temperature drops, patients will begin to shunt the blood to the vital organs in an attempt to preserve them, says Merk. “The blood is shunted from the skin (which may cause further damage) and the GI system,” she explains. “Patients may develop necrotic bowel from getting too cold during the initial hours following their thermal injury.”

Here are some ways to maintain body temperature of burn patients:

Cover the patient's head. “Remember that a child's head can be up to 19% of [his or her] total body surface area, and [he or she] can lose lots of heat from being uncovered,” says Merk.

Limit drafts. “Keep the temperature in the room elevated, or have the air conditioner turned off,” Merk advises.

Don't use ice. The burn patient is at risk of developing hypothermia easily. “Ice or iced fluids should never be used, as they can cause further tissue damage by inducing systemic hypothermia and cutaneous vasoconstriction which can extend the thermal damage,” says Merk. Ice should never be applied because of its vasoconstrictive action, resulting in a decreased blood flow to the already compromised wound, she stresses.

“Application of saline soaks or ice to these injuries will rapidly render these patients hypothermic,” warns **David Dries, MSE, MD**, professor of surgery for the division of trauma, burns, and emergency surgery at the University of Michigan Health System. “Patient body temperature should be protected and wounds wrapped in clean, dry sheets, until the patient is transferred to a center capable of providing definitive care.”

Don't use wet dressings. “If you place a patient with a large burn in a wet dressing in an ED with the air conditioning on, your patient's temperature will drop very fast,” Merk stresses.

Instead, liberally apply silvadene and use bulky dry dressings for comfort and cushioning, says **Tom Trimble, RN**, an ED nurse and webmaster of *Emergency*

Nursing World, a practice-based Internet resource for emergency nurses. “Bandaging should respect natural position of functioning,” he explains.

Use lukewarm water. Ordinary tapwater at lukewarm or mildly cool temperature is sufficient; ice is not needed. “Water conducts heat 30 times better than air, and any temperature difference (or gradient) means that heat will be lost from the body to warm the water,” says Trimble. “Little time is actually needed to ‘cool the burn,’ per se, and, if a great deal of time has passed since the injury, one may assume that natural cooling has occurred.”

Know which burns to flush with water. Chemical injuries should be flushed with copious amounts of water, but scalds, electrical, or flame burns should not be, says Merk. “The best treatment for 1st and 2nd degree burns is a product like Bacitracin or Polysporin. We have done much research on these types of burns and have found they heal fastest with this type of product,” she reports.

Cover burns with a clean, dry sheet. During transport, the burn patient should be cocooned in a clean, dry sheet and blankets to maintain warmth, says **Cheryl Wraa, RN, BSN**, immediate past president of the National Flight Nurses Association, based in Park Ridge, IL. “This also protects the damaged nerve endings from exposure to air currents.”

Initially, the patient may have water or cool saline applied, but once the burning is stopped, the patient should be kept warm and dry, says Merk. “Only isolated burns which are less than 10% of total body surface should have cool, moist dressings applied.”

Consider amount of heat retention. The amount of heat retention depends on the type of burn, says Trimble. “Superficial burns from splash-scalds and brief contact with hot surfaces or flame will cause less heat retention,” he explains. “Viscous clingy substances, such as puddings, tar, and napalm, or embedded burning metals or chemicals, continue transferring heat energy.”

Don't cool large burns rapidly. “Avoid rapid cooling unless the injury is small, typically less than 10% of the total body surface area, says Dries. “Simply removing the patient from the source of burning (or clothing if involved) will rapidly expose the patient to a room air environment which will cause cooling,” he says.

A greater concern is the inappropriate hypothermia which follows rapid cooling of burn-injured patients, says Dries. “This can complicate resuscitation, compromising cardiovascular performance and lead to hemodynamic instability,” he explains. ■

injured patient are the wound (which should be rapidly treated with topical antimicrobials and grafted) and the airway," says Dries. "Patients with respiratory distress require endotracheal intubation."

However, the presence of carbonaceous sputum and evidence of facial injury does not necessitate the use of intratracheal tube, says Dries. "Excessive use of intubation in burn-injured patients is associated with a significant risk of an iatrogenic pneumonia due to aspiration and other airway injury," he notes. "Patients should be intubated on the basis of clinical examination, rather than history of closed space environment during burning and evidence of cutaneous facial injury."

Give 100% oxygen and be prepared to suction and support ventilation, and maintain c-spine, says Merk. "There have been many advances in the management of airways for burned children. This is the most impor-

tant aspect of care for all patients," she stresses.

Address fluid resuscitation. "This is important in burns because if adequate amounts of fluid are not administered, cardiovascular collapse and/or kidney damage will result, necessitating dialysis," says Merk. "It could also result in irreversible hypovolemic shock."

The amounts of fluid required are often very large, maybe several liters of fluid per hour, Merk notes. "The nurse should know how much fluid to give the patient each hour to prevent complications," she says.

Resuscitation fluids should not be given in the form of a bolus, but rather, as a steady infusion intended to maintain the urine output of 30-50 mL per hour, says Dries. "Bolus administration of intravenous fluids will not address the changes in capillary permeability, which extend for 12-24 hours after thermal injury occurs," he explains. "Excessive fluid administration will contribute only to excessive tissue edema, with diminished delivery of oxygen to the point of tissue injury."

Be aware of misconceptions

It's necessary to be aware of current thinking on burn treatment, stresses **Teresa Merk, RN, BSN**, transport coordinator at Shriners Burns Hospital for Children in Cincinnati, OH. Here are some common misconceptions about management of burns:

Myth 1: If the patient has pulses to all extremities, the patient's circulation must be good. "We were all taught in nursing school the importance of checking and documenting pulses," says Merk. "However, in burns, even if a pulse is present, there can still be inadequate blood flow and damage to nerves in the extremity, enough to cause death of the muscle or impairment of neurological function."

The long-term consequences of inadequate circulation sometimes leads to amputation being required, says Merk. "This is a problem that must be addressed in the ED or during the initial hours following the burn injury. Every nurse working the ED must be aware of this."

Compartment pressures should be measured, and escharotomies performed as needed. "It's frustrating when a nurse reassures me the patient still has a dopplerable pulse, and I know the burn is circumferential, and the extremity is as hard as a rock. A simple escharotomy in the ED can prevent many long-term complications," Merk stresses.

Myth 2: Burn patients should be started on antibiotics. "Burned patients should not be started on antibiotics prophylactically, because they will build up a resistance to them. Then when the patient does need them, we will not be able to use them," says Merk.

"Also, if you keep the wounds clean, they will not usually become infected."

Patients also do not become instantly infected with a burn injury. "Probably the only time we start antibiotics in the early phase of treatment is for your typical ear infections," Merk notes.

Myth 3: Topical antimicrobial agents should be applied immediately. Application of antimicrobial agents in the ED is unnecessary, says Merk. "ED staff should not be applying topicals, as the burn unit will want to evaluate the wounds upon admission," says Merk. "Dry dressings and blankets are basically all you need."

Myth 4: Sterility is essential. "You do not need to be sterile at the scene. This would also include the ED," says Merk. "When we do dressing changes, we use clean techniques. Only after the patient has been grafted do we use sterile techniques."

Infection in the burn patient can be prevented by routine cleansing of the burn wound and frequent hand/forearm washing, says Merk. "Remove wrist watches to ensure proper hand/forearm washing," she recommends. "Many nurses are aware of the importance of hand washing, but very few wash their forearms. This can be a major source of contamination."

Use gloves at the patient bedside, and eliminate cross contamination by the use of equipment used on other patients without proper decontamination (i.e., stethoscopes), Merk advises.

Myth 5: C-spine clearing isn't necessary. "C-spine clearing is sometimes not considered necessary for burn patients, but often times should be," says Merk. "Any patient suspected of being abused, even if they only appear to be abused by burning, could have a C-spine injury." ■

Be sensitive to emotional needs of family members. “Many parents feel tremendously guilty about their child’s injury,” Merk notes. “Maybe they turned their back for a second or left the child with a sitter. This takes time to work through, and I’m not sure it ever goes away completely.”

Nurses should not make promises to the family about scarring and survival, says Merk. “This will give them false hope,” she stresses. “Calm reassurance that their child is being evaluated and simple explanation of current treatment will help families feel focused and calm. Encourage the family to comfort their child by holding their hand, stroking their head, and verbal reassurance.”

Informing the patient and his or her family what to expect is important and initially may have to be repeated, says Wraa. “Their anxiety may inhibit their ability to receive and remember a lot of information at one time,” she explains.

Emotional support can best be provided to patients after pain medication has been given, says Merk. “[Give] verbal reassurance in a calming manner; touch reassurance (in areas that are not burned of course) is also good,” she says. “We also let parents in as much as possible, depending on what they can tolerate. The only time we really don’t want parents to see the child’s treatment is during an escharotomy or during the grafting procedure.”

Keep education up to date. Attend an Advanced Burn Life Support Class (ABLS) course, Merk recommends. “It is important for nurses to educate themselves regardless of reimbursement by their facility,” she says. “The ABLs course is wonderful, and intended for those involved in the emergency management and treatment of burns. I highly recommend it.”

Rule out associated injuries. Do a head-to-toe secondary survey. “Remember, the patient is a trauma patient, not just a burn patient,” stresses Merk. “Patients may have secondary injuries from electrical contact, auto accidents, being thrown from burning buildings, explosions, etc.”

Many families are concerned with vision when their child has facial burns, says Merk. “Typically, the eyes are protected even if the lid is burned, however it is best to have a consult evaluate,” she notes.

Prevent scars and contractures. “Beginning with initial resuscitation through the time it takes the scars to fully mature (at least 12 months), positioning the body and helping the patient perform range-of-motion exercises is essential,” says Wraa. Range of motion exercises are usually done during dressing changes initially, she adds.

For the best functional outcome results, attention must focus on early mobility, says Wraa. “Splints are used to maintain arm, legs, and hands in extended yet functional positions,” she explains. “After sufficient healing, custom-fitted pressure garments are worn to prevent hypertrophic scarring.”

Use protocols. Protocols should include criteria grading severity of burn, management plan, and disposition options with their criteria. (*See protocol on page 7.*) “Associated injury such as carbon monoxide, smoke inhalation, or pulmonary burns, should be addressed,” says Trimble. “Protocols should also include where to get additional resources, both human and institutional, if there is more than one casualty.”

Be aware of new management approaches. “The most exciting recent development in the management of burn injury is the development of biologic and synthetic dressings which may be applied to partial thickness injuries,” says Dries. “These dressings simplify nursing care of patients, shorten hospitalization, and improve pain relief.”

Dressings can be secured with skin tape and will peel off as the wound heals beneath, says Dries. “A risk associated with the use of these dressings is underlying infection, therefore, careful management of the burned area is necessary. Nonetheless, we are rapidly approaching a time when the use of these dressings may be appropriate for acute management of patients with superficial burn injuries in the ED.” ■

SOURCES

For more information about the management of patients with burns, contact the following:

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Patient Bathing, Burn Wound Care, Topical Agents

Policy: Bathing the patient helps to increase circulation, promote relaxation, provide a general stimulus, and aid in the wound healing process. The outcome of burn wound treatments depends upon the skillful and appropriate use of different dressing techniques and topical agents. Dressing routines should be modified to meet the condition of the burn wound.

Responsibility: Registered Nurse, Licensed Practical Nurse, Nursing Technician, Patient Care Assistants

General Guidelines for Patient Bathing

1. Explain bath/dressing change procedures to the patient and his or her family prior to beginning.
2. In collaboration with the physician, evaluate the need for the patient to receive pain medication prior to bathing and dressing change.
3. Allow the patient as much privacy as possible during the procedure.
4. Prevent chilling by covering the patient with a sheet or blanket until the dressing can be applied.
5. Encourage the parent/guardian/significant other to remain in the room if this person can be emotionally supportive to the patient.
6. Gown, gloves, cap, mask, and eye protection must be worn during the bath/dressing change procedure if the patient has open wounds. Long gloves are to be worn when bathing the patient in the bathtub.
7. Assist the patient into and out of the bathtub.
8. Avoid ecchymosis of lower extremity grafts or donor sites. Minimize unsupported dependent positioning of the lower extremities when removing dressings or ambulating the patient to the tub.

Procedure for Patient Bathing/Dressing Change

Bathing/dressing at bedside:

1. Set up clean field with sterile drape, two sterile basins, and dressing supplies.
2. Fill one basin with Hibiclens and sterile water, and the other basin with sterile water.
3. Ensure clean lines, washcloths, and chux are at the bedside.
4. Remove dressings. To prevent chilling, bathe one area at a time.
5. Using washcloths, wash the burned areas with the Hibiclens and water mixture. Rinse with plain water using a clean washcloth. Use a clean washcloth for each area of the body.
6. Wash unburned areas using this same method.

7. Ensure all topical medications are completely removed prior to applying new agents.
8. Apply new topical medications/moisturizers and dressings according to physician's orders and/or guidelines.

Bathing in the bathtub

1. Set up the dressing tray with necessary dressing supplies.
2. If this is the first patient to use the tub, flush the faucet for 2 to 3 minutes (hot and cold) and spray/shower hose to remove bacteria.
3. Set up tub.
4. Prepare the tub using one-third to one-half bottle of Hibiclens and fill with the desired level of water. The desired temperature of the water should be 100-102°F.
5. Remove outer dressings prior to entering the tub. Attempt to remove all Adaptic as well.
6. Adhered Adaptic may soak off but be sure to remove all pieces from the tub prior to draining the tub to prevent clogging of the drain.
7. To prevent contamination, do not immerse directly in the water any extremity or part of the body that has an IV.
8. Wash all areas of the patient using a clean washcloth for each area of the patient's body.
9. The patient should remain in the tub for no longer than 7-10 minutes during the first tubbing following grafting, and no longer than 20 minutes thereafter.
10. Apply topical medications and dressings according to physician's orders and/or guidelines.

CIS Documentation

1. Complete the "Pat Man" section of the flowsheet (documentation component of the computer information system pertaining to dressing changes).
2. Medication for dressing changes can be entered under the "treatment" section of the flowsheet and a "note" can be entered to indicate the patient's response to the dressing change under the "patient outcome" section.

Acute Nursing Care

1. Patient and family are instructed prior to any procedures.

Source: Shriners Hospital for Children; Shriners Burns Hospital—Cincinnati; Departmental Policy; Revised: 10/97

2. Cover gown or apron, cap, mask, eye protection, and gloves must be worn for all procedures involving open wounds.

Procedure for burn wound care

Contaminated supplies/materials are discarded in the appropriate containers. Dressings are changed bid-tid depending on the topical agent used.

1. Burns

- a. Superficial—Bacitracin may be applied for comfort or the wound left open to air.
- b. Partial thickness—If blisters are present, they are debrided. Bacitracin Dan Adaptic is applied and wrapped with Kerlix or Kling. Change bid.
- c. Full thickness—Eschar is placed in Silver Sulfadiazine and wrapped with burn dressing and bulky bandage. Change bid or tid.

2. Grafts

The physician applies Autografts in the Operating Room. The autograft is harvested from a donor site and is processed (meshed) if applicable, then placed on the excised area and stapled in place. The newly grafted area may either be placed in a “dry dressing” if small spots, in a wet stent, or “wet dressing.”

- a. Dry dressings are to be kept dry. Assess for odor, drainage or redness around the dressing.
- b. Wet dressings—are applied by the Operating Room team. Fine mesh gauze (FMG) is applied, followed by wet burn dressings, red rubber catheters, more wet burn dressings, secured with bulky bandage. Lastly, splints and ace wraps are applied. Small graft dressings or simple dressings may be secured with spandex and staples. (*See Application of Wet Dressings.*)

- 1) Wet the dressings every two hours with DAB. DAB alternating with Sulfamylon, or Hibiclens solution as ordered, by using the red rubber catheters and an irrigating syringe. An appropriate amount for the site is used.
- 2) “Wet dressings” are usually changed on post operative day (POD) #1 for sheet grafts, POD #2 for mesh grafts, POD #5 for acute patients, and POD #1 and POD #5 for rehab patients. If Ketamine will be used for these dressing changes, refer to policy.
- 3) On POD #1 and POD #2, the grafted sites are placed back in a “wet dressing.”
- 4) In the morning prior to POD #5 dressing change, grafted areas should be irrigated with Hibiclens solution to enhance removal of the fine mesh gauze from the graft during the dressing change. On POD #5, the grafted areas

are placed in a dry dressing. Mesh grafts may be placed back in wet dressings per physician discretion. The topical agent to be used with the dry dressing will be ordered by the physician. Change BID. In general, patients that were in DAB or Hibiclens soaks will be placed in a Bacitracin/Adaptic dry dressing. Patients that were in a DAB alternating with Sulfamylon soak, or who have *Psuedomonas* recovered from the graft sites will be placed in a Bacitracin/Silver Sulfadiazine 3:1 mix and dry dressings. Autografts, which are meshed 4:1, will remain in wet soaks beyond POD #5 (change daily) to allow the interstices to close. Monitor progress daily and consult with the attending physician to determine the appropriate time point to change to “dry dressings.”

- c. On POD #5, the grafted sites will be covered entirely with the topical ordered and Adaptic. Then on POD#6, the topical agent and Adaptic are spotted on only the open areas of the graft. A moisturizing lotion will be applied to the healed areas.
- d. On POD#5, staples are to be removed, unless the graft appears loose or fragile. The physician may order only every other staple removed or elect to leave all the staples intact. Grafts are to be trimmed to eliminate overlap, crusted edges and graft loss. Metzenbaum scissors may be used for this purpose.
- e. Grafts are washed.
- f. Examine grafts for color, percent intact, presence of drainage, presence of hematomas or seromas.

3. Homografts (Cadaver Skin)

Homografts are applied in the Operating Room by the OR team. Homograft is used when skin for autografting is not available. It is applied to the excised area, stapled in place, and a “wet dressing” is applied as above.

- a. Wet the dressing every two hours with DAB, DAB alternating with Sulfamylon, or Hibiclens as ordered.
- b. The dressings are changed on POD #2 and POD #5.
- c. On POD #2, the grafted sites are examined and placed back in a “wet dressing.”
- d. On POD #5, the homograft sites are placed in a dry dressing. The physician will order topical treatment. Change BID.
- e. On POD #5, the homografts are covered entirely with the topical agent ordered and Adaptic.

- f. If the homograft begins to vascularize and adhere, treat the same as an autograft.
- g. Homograft sites are washed.

4. Donor sites

- a. Biobrane. Biobrane is a porous laminated synthetic dressing used as a temporary wound covering. It is designed for use in the treatment of the burn patient as a covering over donor sites. It is applied in the operating room (OR) by the OR team after a donor site is harvested. It is stapled in place and a Normal Saline Soak (NSS) is applied.

- 1) Remove the NSS 12 hours after surgery then leave open to air.
- 2) Observe the Biobrane donor site every eight hours for any drainage, bleeding, or redness.
- 3) If seromas, blisters, or hematomas develop, the nurse should aspirate the contents and notify the physician.
- 4) If the Biobrane is non-adherent due to excessive amounts of drainage or fluid buildup, the physician may wish to remove the Biobrane and place the donor site in a topical dressing.
- 5) On POD #5, staples are removed and any loose Biobrane is trimmed.
- 6) The dressing after POD #5 should be left to peel off and should be trimmed as needed during a 10-14 day period.
- 7) Patients may take tub baths after POD #5 when Biobrane is in place.

- b. N-terface. N-terface is a silicone non-adhering dressing, which may be applied to a donor site, that is to be incorporated in the same “wet dressing” as the graft site. It is applied in the Operating Room by the OR team.

- 1) On POD #2, when the “wet dressing” is removed, the N-terface is examined. If intact, the wet dressing is re-applied. If not, new N-terface is applied followed by a wet dressing.
- 2) On POD #5, when the “wet dressing is removed, the N-terface is removed; the donor site is gently washed and placed in a dry dressing. The physician orders topical treatment. Dressings are then changed bid.

- c. Aquaphor/Adaptic. Aquaphor is a petroleum, mineral oil-based ointment. It assists the skin’s natural healing process and can be used for very dry skin, minor cuts, and donor sites.

- 1) Aquaphor/Adaptic donor site dressings need to be changed postoperatively within two hours.
- 2) On the first dressing after OR, the donor site need only be rinsed with Hibiclens and sterile water, followed by sterile water without a

washcloth. This prevents any further trauma to the donor site. Aquaphor/Adaptic is then applied and secured with bulky bandage.

- 3) The Aquaphor/Adaptic donor sites are then changed bid after this. The donor site is washed.
 - 4) As the donor site heals, apply Aquaphor/Adaptic to open areas only and Eucerin cream to the healed areas. Plain Aquaphor (no Adaptic) may be applied to the healed donor site if the child is itching and Eucerin is not effective.
- d. Kaltostat (brand of Calcium Alginate dressing). Kaltostat is a brown seaweed extract, which is wet, spun into a strong fiber, and is highly absorbent. It is applied in the Operating Room by the OR team to newly harvested donor sites, after being moistened with sterile Normal Saline. When placed on a wound, it reacts with exudate to form a protective gel. The alginate fiber gel matrix allows trauma-free removal with little or no damage to newly formed tissue. It is contraindicated for wounds involving muscle, tendon, bone, or full thickness burns. A gauze dressing is placed over the Kaltostat and secured with Kerlix or a dry stent.
 - 1) Post operative:
 - a) The dressing is left dry for 24 hours.
 - b) The outer dressing should be removed daily. If the Kaltostat has a foul odor, it should be removed and new Kaltostat applied. If foul drainage is noted, new Kaltostat or a topical agent and Adaptic may be applied at the discretion of the attending physician.
 - c) If Kaltostat is placed on a scalp donor site, it is removed POD #2 or sooner followed with Bacitracin and Adaptic dressing at the physician’s discretion.
 - d) After five days, the dressing may be soaked at bath time once daily. After bathing, the Kaltostat is gently patted dry and trimmed as it becomes separated, and a single layer of burn dressing applied. The wound is wrapped with bulky bandage. If the patient is ambulatory, the wound should be wrapped with an ace bandage.
 - e) After seven days, the Kaltostat should be trimmed daily after the bath when it becomes separated. If Kaltostat comes off before the donor site is epithelialized, the wound should be treated according to the Bacitracin and Adaptic protocol.
 - f) All Kaltostat should be removed from donor sites prior to discharge. A normal saline soak

should be applied 24 hours prior to discharge and irrigated every two hours to aid in removal. If the donor site is not epithelialized, the wound should be treated according to the Bacitracin and Adaptic protocol.

2) Infection

- a) If the donor site becomes infected, the Kaltostat should be removed and the donor site treated with Silver Sulfadiazine or Bacitracin and Adaptic as indicated.

Be careful: When removing the outer dressing, please be advised that the outer dressing may adhere to Kaltostat. Therefore, apply pressure with Kaltostat as the outer dressing is removed. This will assist in the adherence of Kaltostat to the donor site.

- b) Op-site. Op-site may be used on donor sites that are small and that are in areas to which Op-site will adhere. Op-site is applied in the operating room by the physician and wrapped with a bulky bandage and an ace wrap.

- 1) 24 hours postoperatively, remove the ace wrap and bulky bandage; examine the donor site for bleeding or serum collection. If fluid/air is present, aspirate with a 25-gauge needle.
- 2) Reapply the bulky bandage and an ace wrap.
- 3) If the Op-site does not adhere, it should be removed. New Op-site may be applied or the donor site may be placed in Aquaphor/Adaptic.
- 4) Trim loose edges as the Op-site peels away from healing skin.

5. Application of wet dressings following grafting

- a. Overview: The usual protocol for skin graft care using the wet technique is to keep the graft moist for five days following surgery. Wet dressing changes are performed at two days (48 hours). On day five (120 hours) the skin grafts are placed in a dry dressing and finally, when the interstices of the mesh have closed, Eucerin is applied to the healed skin grafts.

b. Wet dressing change supplies:

- 1) 4" roll of FMG (single sheets may be used on small grafts)
- 2) bulky bandage rolls (usually 1 for each upper extremity, 2 for each lower extremity)
- 3) Burn dressings (as many containers as needed)
- 4) Sterile scissors
- 5) Weck blade (one for each extremity)
- 6) two sterile basins
- 7) ace wraps (3" or 4")
- 8) Forceps
- 9) Staple remover (POD #5)

- 10) Topical agent (Bacitracin, Bacitracin/AgSd

3:1 mix) buttered on Adaptic (POD #5)

- 11) 4" x 8" gauze dressings (if fingers or toes are involved in the dressing)

- 12) Hibiclens

- 13) Warm sterile water

- 14) Sterile protective sheet

- 15) Two irrigating syringes

- c. The nursing technician or RN will set up the sterile field on the dressing cart, placing the burn dressing unfolded in one of the basins. The dressing cart is covered with sterile protective sheeting. H₂O₂, a 10cc syringe, a 20 gauge Angiocath, and sterile bowl should be available on the bottom shelf of the dressing cart. The ace wraps should be placed on the bottom shelf of the dressing cart. Weck blades should be taped with red tape to the center of the drape covering the dressing (clearly visible) or placed on the dressing tray.

- d. The dressing change will be a combined physician and nursing team effort. The nursing staff should have the burn dressings, FMG and bulky bandage wet down, and have placed one-half strength Hibiclens into the other basin, prior to removing the dressings. The dressings should be generously irrigated with the Hibiclens solution to facilitate removal. The physician removes the previously applied dressings, utilizing a Weck blade (Be careful!), removing the dressing down to the fine mesh. Sterile gloves are not required. Remember to save the splints if they are to be used. The red rubber catheters are reused. The FMG is then removed, using forceps and frequent irrigation with Hibiclens and water solution. The wound is cultured, utilizing the usual swab technique. If there is blood beneath the graft, it should be aspirated or removed by utilizing the one-half strength H₂O₂ from the sterile bowl in the 10cc syringe and the Angiocath.

- e. Re-applying the dressing-on POD #2:

- 1) Wet FMG is applied over the grafted area circumferentially. Irrigating the FMG with sterile water via an irrigating syringe will facilitate the application of the FMG.
- 2) A layer of wet burn dressings.
- 3) The red rubber catheters are applied.
- 4) Another layer of wet burn dressings.
- 5) Wet bulky bandage is wrapped over the above layer to secure the dressings.
- 6) The splints are padded and applied. Splints may need to be revised to ensure proper fit.
- 7) The entire area is wrapped with an Ace bandage or secured in a spandex stent. ■

Prevent Holiday Hazards

The holiday season is fraught with hazards, warns **Earl Siegel, PharmD**, co-director of the Drug and Poison Information Center and professor of emergency medicine at Children's Hospital Medical Center in Cincinnati, OH. "Holidays are a time of fun and celebration, but are also potentially a time of disruption when accidents are more likely to happen," he stresses. "Nurses should caution families to be especially vigilant."

Here are several holiday hazards to be aware of:

Alcohol and young children. Adults may leave glasses of alcoholic drinks around the house after parties. "If parents are drinking and sleep-in the next morning, children might wake up hungry and thirsty, forage through leftovers, and find half-filled glasses of mixed drinks that taste like fruit punch," says Siegel. "We've seen this time and time again. Alcohol may increase hypoglycemia, which is especially dangerous for young children."

Small batteries. Button-sized batteries found in watches, Christmas cards, and games are hazardous to children, says Siegel. "Because they are small, shiny objects, they're attractive to children. Ingesting them could cause complications," he says. "If the object gets past the esophagus, it keeps moving and the child usually does fine. But if it gets stuck at the level of aortic arch and breaks open, it can be corrosive since there is an alkaline inside."

Poinsettia, mistletoe, and holly. If children play with the leaves of poinsettia plants, they may experience redness and irritation, says Siegel. Also, certain varieties of mistletoe could affect nerves, blood pressure, and the heart. "Prevent poisonings before they happen by keeping these plants out of the reach of children. Keep a high index of suspicion for calling a

EXECUTIVE SUMMARY

- Accidents are more likely to occur during the holiday season
- During any given weekend, one in six drivers has been drinking, and risks increase during the holidays
- Small batteries in watches, games, and Christmas cards are attractive to small children, and can become lodged and rupture if ingested
- Adults often leave half-filled glasses of alcoholic beverages out after parties, putting children at risk

SOURCES

For more information on holiday hazards, contact the following:

- **Earl Siegel, PharmD**, Drug and Poison Information Center, 2368 Victory Parkway, Suite 300, Cincinnati, OH 45206. Telephone: (513) 636-5053. Fax: (513) 636-5069. E-mail: siegeleg@email.uc.edu
- **December is National Drunk and Drugged Driving Awareness Month.** This year, the National 3D Coalition is sponsoring three national events: Thursday, December 17, 1998: A National 3D Prevention Month news conference to call attention to the consequences of impaired driving. Friday, December 18th, 1998: National "Lights on for Life" day during which motorists and motorcyclists are encouraged to drive with their headlights on in the remembrance of those who have been killed or injured in an impaired driving accident. December 18-20, 1998: National Holiday Lifesaver Weekend to encourage increased enforcement of impaired driving laws during the December holiday season. Additional information about these events is contained in a Resource Guide. For more information, contact the National Highway Traffic Safety Administration, 400 Seventh Street SW, NTS-20, Washington, DC 20590. Telephone: (202) 366-2683. Fax: (202) 493-2062. World Wide Web: <http://www.nhtsa.dot.gov>
- **EN CARE**, the injury prevention arm of the Emergency Nurses Association offers the following programs: *Learning to Care*, an interactive slide presentation for 3rd-5th graders that addresses the use of alcohol, helpful and harmful drugs, decision making, and peer pressure; *Take Care*, aimed at the population of 55 and above, this slide program focuses on the safe use of medication and also highway safety issues; *Dare to Care*, a 45-minute slide presentation that discusses the consequences of underage alcohol use, drinking and driving, and safety belt noncompliance. This program is shown to teens, college students and adults; and *A Crash Course in Motor Vehicle Injury Prevention*, which educates nurses and others about injury prevention in order to empower them to work in the community as advocates for vehicle passenger safety. For more information, contact: EN CARE, 205 S. Whiting Street, Suite 403, Alexandria, VA 22304. Telephone: (703) 370-4050. Fax: (703) 370-4005. E-mail: encare@aol.com

poison control center if there is any concern," he stresses.

Visiting relatives. When visiting a relative's home, evaluate the location through the eyes of a child. "Imagine yourself crawling around on all fours, and realize this different environment might not be poison proof," recommends Siegel. "With visitors to your home, realize they might not appreciate risks for young children."

Drunk driving. National Highway Traffic Safety Administration (NHTSA) statistics show that impaired driving crashes increase significantly over holiday periods, with the month of December high on the list. "During the holidays, there are more parties and more drinking, and also more drunk driving crashes," reports **Barbara Foley, RN**, associate executive director of EN CARE, based in Arlington, VA. "On any given weekend, one out of any six drivers is a drinking driver. On holiday weekends, your chances of being involved in a motor vehicle crash with a drunk driver increase." Of deaths caused by motor vehicle crashes, more than 40% were alcohol-related on Thanksgiving and Christmas, and 67% on New Year's Day, says Foley.

Nurses should urge patients to be safe during holiday driving, adds Foley. "That means both kids and adults are buckled up properly, with small children in car seats and children up to 12 years of age in the back

seat," she urges. "Remember that a seatbelt is your only defense against a drunk driver."

Too often, ED nurses see patients only after an accident has occurred. "We see the end results after the crash, and you can't do anything at that point," says Foley. ED nurses can contact EN CARE to find out how to raise awareness about drunk driving and alcohol abuse, she recommends. (See source box, page 11.) ■

Glue wounds closed with Dermabond

A liquid topical skin adhesive can now be used to close lacerations that otherwise would have required sutures, staples, or skin strips. "Dermabond is basically glue which can be substituted for sutures in certain cases," says **Joyce Blazejewski, MD, FAAP**, a pediatric ED physician at St. John Health Care System and assistant clinical professor of pediatrics and emergency medicine at Wayne State University in Detroit, MI. "It's child friendly and parent friendly, and has a lot of potential for improved patient care and good public relations." FDA approval was given in August 1998.

Patient Discharge Instructions

How to care for your wound after it's treated with Dermabond topical skin adhesive

Dermabond Topical Skin Adhesive (2-octyl cyanoacrylate) is a sterile, liquid skin adhesive that holds wound edges together. The film will usually remain in place for 5-10 days, then naturally sloughs (falls) off your skin.

The following will answer some of your questions and provide instructions for proper care for your wound while it is healing:

Check wound appearance. Some swelling, redness, and pain is common with all wounds and normally will go away as the wound heals. If swelling, redness, or pain increase or if the wound feels warm to touch, contact a doctor. If the wound edges reopen or separate, contact a doctor.

Bandaging. If bandaged, keep the bandage dry.

Replace the dressing daily until the adhesive film has fallen off or if it should become wet unless otherwise instructed by your physician.

Do not scratch, rub, or pick at the Dermabond adhesive film. This may loosen the film before your wound is healed.

Do not place tape directly over the Dermabond adhesive film because removing the tape may also remove the film.

Protect the wound from prolonged exposure to sunlight or tanning lamps while the film is in place.

Topical Medications. Do not apply liquid or ointment medications or any other product to your wound while the Dermabond adhesive film is in place. This may loosen the film before your wound is healed.

Keep wound dry and protected. Protect your wound from repeat injury until the skin has had sufficient time to heal.

You may occasionally and briefly wet your wound in the shower or bath. Do not soak or scrub your wound or swim, and avoid periods of heavy perspiration until the Dermabond adhesive has naturally fallen off. After showering or bathing, gently blot your wound dry with a soft towel. If a protective dressing is being used, apply a fresh, dry bandage, keeping tape off the Dermabond adhesive film.

Apply a clean, dry bandage over the wound if necessary to protect the wound.

If you have any questions or concerns about this product, please consult your doctor. ■

Source: Ethicon, Inc., Somerville, NJ

Patients and families like it because it saves the child an injection, and application is faster than when sutures or staples are used, says **Sherrie Gooch, RN**, ED educator at Children's Hospital in Birmingham, AL. "Our physicians and nurses like it because it is faster than suturing and because they do not have to inflict pain upon their pediatric patient," she explains.

Dermabond can be used for lacerations on the extremities if the laceration did not cross a joint area, says Gooch. "We have also gotten good results when using it on lacerations even 2 cm or longer, but nothing as large as 10 cm, even though the Dermabond rep says that you can," she notes.

At Children's ED, Dermabond is not used on human or animal bites because of the potential for infection, says Gooch. "We have not used it on deep lacerations because we would have to use injectable lidocaine for anesthesia for the deep sutures and, therefore, just go ahead and suture the skin as well," she notes. "We usually use it on patients that we will not need to use any local anesthesia on or with patients that we only need to use a topical local anesthetic, such as LET (topical lidocaine, epinephrine, and tetracaine).

Listed are usage protocols and benefits of Dermabond:

Risks of infection are minimal. A body of research on Dermabond already exists, notes **Norman Christopher, MD**, director of emergency and trauma services at Children's Hospital Medical Center in Akron, OH. "While newly introduced in the United States, wound adhesives (there are several different brands) have been used internationally for more than six or seven years," he says.

The literature shows that there are minimal risks of infection, says Christopher. "When used properly and on appropriate wounds (minor, clean, "fresh," no tension, not for bites, etc.), the infection rate is extremely small," he says.

EXECUTIVE SUMMARY

- Dermabond, a topical adhesive, was approved by the FDA in August 1998.
- The adhesive can be used on some types of lacerations instead of sutures, staples, or skin strips
- Dermabond should not be used on wounds in the scalp, or across areas of high skin tension or unstabilized joints.
- Parents are demanding Dermabond be used, and education may be necessary to explain appropriate usage.

Gloves can stick to adhesive. "One of the more frequent 'complications' is that the physician/nurse/tech's glove can stick to the wound adhesive when it's being applied," says Christopher. "A little bit of ointment rubbed onto the glove where it meets the adhesive is usually enough to break the bond."

Minimal follow-up is required. (*See patient discharge instructions in this issue.*) "My sense is that these wounds need little or no follow-up by definition, they are minor wounds, and very low risk," says Christopher. "The best instructions for a family are to do nothing: Keep the wound relatively dry—exposure to water/moisture is okay, as long as the wound isn't 'soaked,' don't pick at the adhesive once it dries, and don't apply ointments or lotions."

A follow-up visit with the patient's primary care physician usually isn't necessary, says Christopher. "Unlike sutures, there is no work to be performed after the Dermabond is applied—it sloughs spontaneously," he explains. "However, we emphasize the signs and symptoms of infection or of dehiscence and request follow-up for those specific reasons."

Exercise caution. "It's great to add to what we have, but we are being careful and fairly conservative," says Christopher. "Dermabond should not be used indiscriminately. The tenets of wound management need to be adhered to." Dermabond adhesive should be used in conjunction with subcuticular sutures when they are required, not in place of them, he stresses.

Don't be swayed by parents' demand. Because of the media attention, parents have come to Children's demanding Dermabond be used, reports Christopher. "We started using it on a Saturday after it was first approved, and the local TV station had interviewed one of our doctors about it," he recalls. "So parents drove here from all over asking for it, but it wasn't indicated for some of the wounds."

Be prepared to educate parents about appropriate usage of Dermabond. "We've spent a lot of time explaining to families that our ultimate interest is a good outcome," says Christopher. "We tell them this glue is an option, that we are anxious to use it, but only in the right situation for their child."

Track appropriate usage. "Like any new agent or drug, we are tracking it in our QA process. We want to be sure the right indications were there, and that the wound was managed correctly," says Christopher.

Whenever Dermabond is used, a nurse logs it so charts can later be pulled. "We will be starting a telephone follow-up with families to find out what their satisfaction is and if the wound healed nicely," says Christopher.

Use appropriately. "We use Dermabond on select patients who have uncomplicated linear lacerations,"

says Blazejewski. "Although the manufacturer states it can be used for wounds up to 4 inches, we haven't been that gutsy, and have only used it for wounds up to 2 inches."

Wounds are cleaned and prepped as they normally would be, and a minimum of three thin layers of the glue are applied, which dry in seconds. "There have been some reports that 1-5% of children have burning sensations from this glue, but we haven't experienced that," says Blazejewski.

Dermabond reacts with moisture on the skin's surface to form a strong, flexible bond in 45-60 seconds, and reaches full strength within approximately two and a half minutes. As the wound heals, Dermabond adhesive sloughs from the skin, and complete healing typically occurs in 5-10 days, Blazejewski explains.

Dermabond Topical Skin Adhesive

Description. Dermabond topical skin adhesive is a sterile, liquid topical skin adhesive containing a monomeric (2-octyl cyanoacrylate) formulation and the colorant D&C Violet #2. It is provided in a single use applicator packaged in a blister pouch. The applicator is comprised of a crushable glass ampule contained within a plastic vial with attached applicator tip. As applied to the skin, the liquid adhesive is slightly more viscous than water and polymerizes within minutes.

Indications. Dermabond adhesive is intended for topical application only to hold closed easily approximated skin edges of wounds from surgical incisions, including punctures from minimally invasive surgery, and simple, thoroughly cleansed, trauma-induced lacerations. Dermabond adhesive may be used in conjunction with, but not in place of, subcuticular sutures.

Contraindications. Dermabond adhesive is contraindicated for use on any wounds with evidence of active infection, gangrene, or wounds of decubitus etiology.

Dermabond adhesive is contraindicated for use on mucosal surfaces or across mucocutaneous junctions (e.g., oral cavity, lips) or on skin that may be regularly exposed to body fluids or with dense, natural hair (e.g., scalp).

Dermabond adhesive is contraindicated for use on patients with a known hypersensitivity to cyanoacrylate or formaldehyde.

Source: Summary of package insert.

Know contraindications. Dermabond is not indicated for wounds in the scalp or across areas of high skin tension or unstabilized joints. "The manufacturer suggests it not be used across a joint, such as the elbow or knee," says Christopher. "It will probably hold, but there is a chance it will separate. It also shouldn't be used on mucous membranes, areas covered by dense hair, or moist areas, such as under a diaper. If you have a 15 month old who is drooling, you may not want to use it on the hands, because they will wind up in the mouth."

Care is quicker. "By the time you anesthetize the wound, it can take up to a half hour depending on the type of cut," says Blazejewski. "Dermabond is much quicker."

Petroleum products cause Dermabond to break down. Patients should be instructed not to apply petroleum-based ointments such as Bacitracin or Neosporin. "These can actually cause the product to break down," says Blazejewski. "We also tell them not to bathe or shower for long periods of time because you don't want the site waterlogged."

Children are less traumatized. Dermabond often eliminates the need for an anesthetic injection. "Even though we usually let parents stay with a child when they get stitches, some people swear that children are traumatized going to doctor's office from then on," says Blazejewski. "Also, with Dermabond, there is no removal of sutures. As the new skin is generated, it sloughs off with time."

Consider cost issues. Dermabond costs \$24.95 per bottle. "Our cost to purchase the Dermabond far

SOURCES

For more information about Dermabond, contact the following:

- **Joyce Blazejewski, MD, FAAP**, St. John Health Care System, 22235 Maplewood, Southfield, Michigan, 48034. Telephone: (313) 343-2936. Fax: (248) 354-9024. E-mail: kidtips@hotmail.com World Wide Web: <http://www.wjr.net>
- **Norman Christopher, MD**, Children's Hospital Medical Center of Akron, One Perkins Square, Akron, OH 44256. nchristo@ix.netcom.com
- **Sherrie Gooch, RN**. E-mail: Sherrie.Gooch@XMAIL.TCHA.UAB.EDU
- **Ethicon, Inc.**, a Johnson & Johnson Company, is the manufacturer of Dermabond. For more information, contact Ethicon, P.O. Box 151, Somerville, NJ 08876-0151. Telephone: World Wide Web: <http://www.ethiconinc.com>

exceeds our purchase cost of sutures or staples, and of course, we pass this cost on to the patient," says Gooch. "However, the patient does not need to return for suture removal and, therefore, saves money on that end rather than up front."

At present, only the physicians at Children's are applying Dermabond because it is a new product, Gooch reports. "We do have plans for application by trained Registered Nurses in mid-1999," she notes. ■

GUEST COLUMN



Managing Morale

By Liz Jazwiec, RN, President, Liz Jazwiec Consulting, Crestwood, IL

In the last column, I talked about taking responsibility for our own morale. At the end of the article I suggested some steps to take in order to feel better about work and increase job satisfaction. Today I will discuss some of these steps in depth.

The first step is making the decision to be happy. Happiness is a choice not an outcome. If we sit back and wait for others to make us happy, surely we will be disappointed. It is not our boss, coworkers, organization, or patients that make us happy or unhappy.

Think about someone that you work with that is always in a good mood. When you see his or her name on the schedule you are always pleased. He or she gets along with all of patients, doctors, and even other departments. This individual takes things calmly, is always approachable, and generally fun to work with. Can most of you think of at least one person that you work with that fits this description? If you can, then spend a moment contemplating this: Does he or she work for a different hospital than you do? Is he or she reporting to a different boss? Is his or her patient load different? I think you see my point.

In looking further, if you know much about this person's homelife, is it effortless for him or her to be happy at work because he or she has things easier at home than we do? I doubt it. In my experience, the individual who is happy at work may also face difficulties at home (i.e., sick parents, financial problems, single parenting, etc.). Perhaps these individuals have developed better coping skills, or maybe they just do a little better at seeing the bigger picture.

I believe that if you make the commitment to be happy at work, you will find that it is easier than you think it might be . . . and the rewards far outweigh the effort. We spend a tremendous amount of time at work, far too much time to spend miserable and distressed. And, if we have to work for the next 10, 20, or 30 years, that is a long, long time to be unhappy.

Which leads us to step number two: Plan your career. A full-time employee spends more than 2,000 hours a year at work and approximately 80 hours a year on vacation. We spend about 15 hours a year planning our vacations, talking about them, searching the web, researching localities, checking costs, and making travel arrangements.

The average healthcare employee spends less than one hour per year in planning their careers. I believe that we should spend at least the same amount of time on our career as we do planning our vacations. Commit to thinking about your job; decide if you really like what you are doing. Will you continue to like it in the next 10 years? What would make your worklife more enjoyable?

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Editorial Questions

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We don't need to be trapped in our jobs, it may seem so at times, but we really do control our destiny. This doesn't mean we should jump from job to job, but with planning, it is possible to redirect your career. If you are unhappy, now it is unlikely that anything will occur in the future that will make you enjoy your job. Start thinking about what you would like to do differently and then start on the path. It may take five or 10 years but, in the long run, you will be much happier. You will also find that once you take control of your future, your day-to-day worklife feels better. It becomes easier once you know that your destiny is in your hands and not in the hands of others.

My third suggestion is to get out and interview. Whether you are happy in your current position or not, I believe it is very important for everyone to interview annually. The reason I think this is so beneficial is that it is good for us to understand our position in the job market. Many individuals have been in their positions a long time or have worked for the same organization for their entire career.

The best time to interview is when you do not need to do so. If you have been in your current position for some time, you might not be used to answering common interview questions, or meeting with several people in the selection process. Both of these things can be pretty intimidating to someone that has not been on an interview in many years. Better to practice interviewing when you are comfortable in your current position. You will also gain an understanding of what other employers seek in a candidate. Some people find that there is much more opportunity out there than they imagined, others find that life is actually pretty good right where they are. Many individuals realize through interviewing what experiences or education they need in order to move into a new position.

No matter what the outcome of interviewing, it helps bring perspective to our current position. It also lets us again feel as though we have control by having options. Some people find an opportunity that they never would have considered taking until they were presented with an offer. Others understand that no organization is perfect, there is not a utopia out there and the grass is not necessarily greener on the other side. ■

Correction:

The abdominal pain protocols published in the September 1998 issue should have been credited to **Stephen Colucciello, MD, FACEP.**

Shriners Hospital for Children
Shriners Burns Hospital—Cincinnati
Departmental Policy
Revised: 10/97

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CE Objectives

After reading this issue of *ED Nursing*, the ACE participant should be able to:

1. List three objectives to avoid hypothermia in burn patients.
2. Explain three hazards which increase during the holiday season.
3. Discuss the methods of wound care.
4. Identify three hazards during the holiday season.