



Skin Care

Promoting skin integrity in the neonate is a priority for the neonatal nurse. The premature infant's skin is thinner than that of a full-term infant, making it more susceptible to problems. The neonatal nurse must therefore exercise caution when handling and cleansing the neonate's skin. One of the most important steps a nurse and visitors in the NICU can take is to wash their hands with antibacterial cleansers before making contact with the premature infant (Gardner, Carter, Enzman-Hines, & Hernandez, 2011). This helps decrease the spread of all infections, especially methicillin-resistant *Staphylococcus aureus* (MRSA). The nurse should perform a thorough skin assessment at least once a day to identify any skin breakdown and to promote skin integrity.

Bathing

The tub that is used for bathing the neonate should be disinfected before and after each use. When bathing an infant, create a neutral thermal environment so that the infant is less likely to lose heat. Precautions such as keeping the bath water temperature between 38 °C and 40 °C, keeping the room temperature warm, and using prewarmed towels prevent the infant from becoming hypothermic. The length of the bath should be kept to a minimum to ensure that the infant stays physiologically stable (Association of Women's Health, Obstetric and Neonatal Nurses [AWHONN], 2007). The cleansing agent used for bathing should have a neutral pH and minimal dyes. Further, the infant should be bathed no more than every other day (Gardner, Carter, Enzman-Hines, & Hernandez, 2011); this ensures that the skin does not become overly dry. It is also recommended that preterm infants less than 32 weeks old should be cleansed with warm-water baths only during the first week of life, and rubbing the skin should be avoided during the bath to maintain skin integrity (AWHONN, 2007).

Vernix

Residual vernix does not have to be removed after birth, because it acts as a protective skin barrier and allows the infant to better adapt to the dry extrauterine environment. The World Health Organization (WHO) recommends

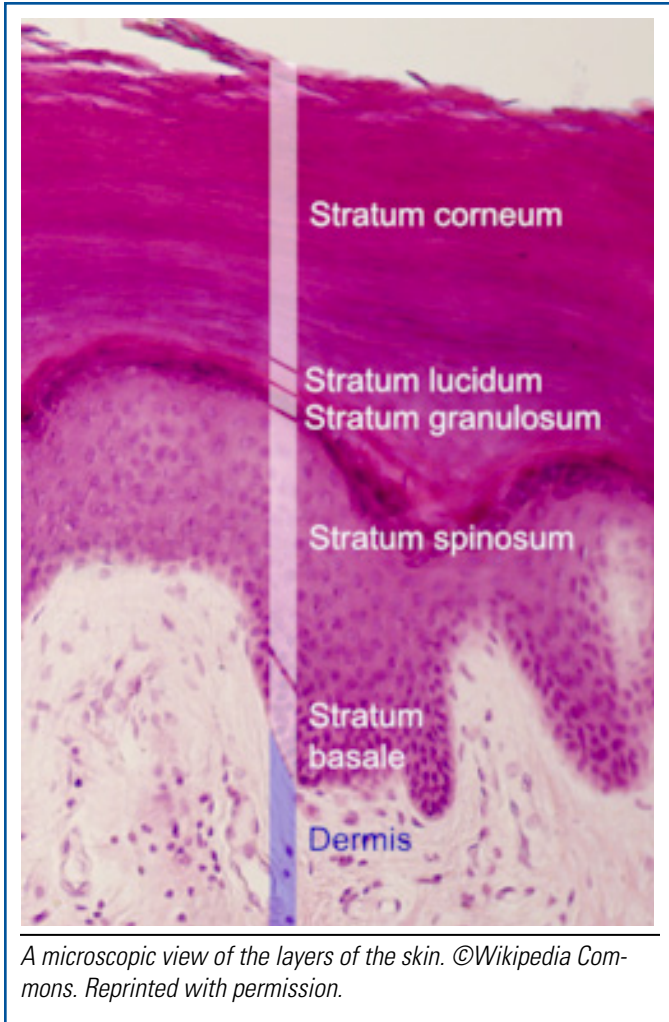
leaving vernix intact after the infant is initially dried following birth. Vernix helps to protect against infection, is a natural water-containing barrier cream, helps with wound healing, and does not affect auxiliary temperature readings. Vernix should be left in place to naturally wear off with normal care (AWHONN, 2007). Scrubbing vernix after delivery may cause skin breakdown by damaging the fragile epidermis of the neonate.

Cord Care

After birth, the neonate's cord should be cleansed with tap water to remove debris and thoroughly dried. The routine use of antimicrobial sprays, creams, or powders on the umbilical stump has not been shown to be more effective in preventing infection than allowing the cord to dry naturally (Gardner et al., 2011). If the cord becomes soiled, it can be cleaned with water and dried with absorbent gauze to remove excess water. The diaper should be folded down and away from the umbilical stump to keep the stump clean and dry. Current evidence shows that cord separation time is shorter with dry cord care than by applying isopropyl alcohol to the cord daily. Research also shows that triple dye on the umbilical stump had the longest separation time compared with dry cord care and alcohol cord care (AWHONN, 2007). Further, triple dye can cause skin necrosis when used on the umbilical stump (AWHONN, 2007).

Emollients

Emollients help protect the integrity of the neonate's skin by keeping it hydrated and should be used at the first sign of dryness. The emollient should be applied gently to the skin to prevent skin irritation and breakdown (AWHONN, 2007). The container should be kept away from contamination and the contents kept sterile.



A microscopic view of the layers of the skin. ©Wikipedia Commons. Reprinted with permission.

Transepidermal Water Loss (TEWL)

Because preterm infants have a smaller stratum corneum, which controls evaporative heat loss, they are more likely to develop transepidermal water loss (TEWL; Gardner et al., 2011). The preterm infant who is less than 28 weeks gestation can be placed in a polyethylene wrap immediately after birth to help maintain body temperature. The infant should not be dried before being placed in the bag from the shoulders down. The wrap should be removed after the infant has stabilized in the NICU (AWHONN, 2007). Humidity set at 70% to 90% for the first 7 days of life should also be used to reduce TEWL and evaporative heat loss, with servo-controlled isolettes recommended. The level of humidity should then be gradually decreased to 50% until the infant is 28 days old; evidence shows that this helps to mature the skin faster with no increased risk of dehydration or hyponatremia (AWHONN, 2007).

Skin Disinfection

Decontamination of the infant's skin before invasive procedures is a common practice in the NICU. Due to the fragile nature of the neonate's skin, there have been reports of skin injury and chemical burns from using such substances as 2% chlorhexidine gluconate in 70% isopropyl alcohol on very-low-birth-weight infants (AWHONN, 2007). Further, when iodine is used as a cleansing agent, it can be absorbed through the infant's thin skin, which can affect the thyroid gland. Some disinfectants must be removed after the procedure has been completed. One such disinfectant is chlorhexidine gluconate (AWHONN, 2007). In such cases, sterile water or saline should be used to prevent adverse outcomes (further skin absorption or chemical burns). Isopropyl alcohol should be avoided as a primary disinfectant, because it can cause drying to the skin and chemical burns (AWHONN, 2007). No disinfectant agent comes without risks, but it is important that the nurse understands the possible risks and uses the most current evidence to guide his or her nursing practice.

Adhesives

Adhesives can alter skin barrier function when they are removed and strip the epidermis and cause skin breakdown (AWHONN, 2007). Therefore, adhesives should be used sparingly, and a thin barrier should be applied before applying the adhesive. To prevent skin trauma from adhesive use, the nurse should consider minimizing the use of tape, applying cotton to the back of tape prior to application, and delaying adhesive removal until adherence has decreased. Pectin barrier removal should similarly be delayed until adherence has decreased, as well (Gardner et al., 2011).

To reduce skin trauma, the nurse should remove the adhesive slowly with water-soaked cotton balls or gauze and pull the tape close to the skin surface while holding the skin in place. Adhesive-removing solvent should not be used in the newborn due to the risk of absorption. Bonding agents can also cause damage to the infant's skin upon removal (AWHONN, 2007).



Penile Care

With an uncircumcised penis, the foreskin should not be forcibly retracted; doing so can cause tearing, which can lead to adhesions (AWHONN, 2007). After a circumcision has been performed, the nurse should closely inspect the skin and remove any skin disinfectant still present with sterile water or saline. Following the circumcision, the penis should be covered with petroleum gauze for at least 24 hours to promote healing. With a circumcision that involves a plastic device, petroleum use should be determined by the provider doing the procedure. Some believe it should not be used, because it may cause the device to move out of place; others will suggest the use of petroleum to prevent adhesions. Once the plastic device falls off, place petroleum jelly over the tip. This will keep the foreskin lubricated while healing.

The newly circumcised penis should be cleansed with water only for the first 3–4 days, because soaps can be more irritating to the skin.

Diaper Dermatitis

Diaper rash can occur after 1–3 weeks of life and can be caused by prolonged contact of the skin with urine and feces. To care for a diaper rash, use soft cloths and water or disposable diaper wipes that have no added detergents or alcohol (AWHONN, 2007). Encouraging breastfeeding also decreases the chances of diaper rash, because breastfed infants have stools that are less caustic to their skin than formula-fed infants. Petroleum-based lubricants or barriers can provide a layer that protects the skin from injury (AWHONN, 2007). Keep in mind that vigorous rubbing

to remove traces of these barriers should be avoided because doing so can cause more damage to the skin. Diaper dermatitis can be complicated with a fungal infection and should be treated accordingly with antifungal ointments or creams. The use of powders should be avoided due to the risk of promoting bacterial and yeast growth (AWHONN, 2007). Most important to preventing diaper dermatitis is keeping the skin dry and maintaining a normal skin pH (Gardner et al., 2011). This means that frequent diaper changing is necessary.

Skin Excoriations

Specific measures that can minimize the risk of skin breakdown include using devices (such as gelled mattresses, pads, and sheepskins) to help prevent pressure sores, applying transparent dressings over bony prominences (knees and elbows), and applying petroleum ointments to the groin and thigh of very-low-birth-weight infants (AWHONN, 2007). Skin excoriations can be cleansed with warmed sterile water or saline to gently debride the wound, and moistening helps with the healing process. Ointments may be used on the excoriation, along with transparent dressings on uninfected wounds (Gardner et al., 2011).

References

- Association of Women's Health, Obstetric and Neonatal Nurses (AWHONN). (2007). *Neonatal skin care: Evidence-based clinical practice guideline* (2nd ed.). Washington, DC: Author.
- Gardner, S. L., Carter, B. S., Enzman-Hines, M., & Hernandez, J. A. (2011). *Merenstein and Gardner's handbook of neonatal intensive care* (7th ed.). St. Louis, MO: Mosby Elsevier.



Skin Care: Information for Parents

While your baby is in this unit, he or she will have special doctors and nurses. Your baby's nurses will look at your baby's skin to make sure it is not broken or red. Your baby has very fragile skin that has to be touched gently. As your baby gets older, his or her skin will not be as fragile. Talk with your baby's nurses about ways to move your baby that protect his or her skin.

Remember to always wash your hands with soap and water for at least 15 seconds before touching your baby. You should scrub your hands very well while washing them and clean underneath your fingernails. Also, clean between each of your fingers and the top of your hands. You should also wash your hands after changing your baby's diaper and before you make your baby's bottle. Washing your hands will help prevent your baby from getting an infection. Those caring for your baby will be doing this, too.

Your baby's nurses will tell you about the different things that they will do to or use on your baby's skin. The nurses will also show you how you can help take care of your baby's skin until you go home.

Bathing

You may see your baby's nurses clean the bathtub before and after a bath. This is done to help prevent infection. The soap you use on your baby should be fragrance-free to help protect his or her skin. You may also find that your baby's nurses use only water when giving your baby a bath. This is because your baby was born early, and soap is not needed right now. Later on, your baby will get a bath with soap. You do not need to give your baby a bath more than once every few days. By not bathing your baby every day, you are helping to keep his or her fragile skin safe and not dried out.

Vernix

Your baby may have a white, cheesy covering on his or her skin called *vernix* (*ver-nicks*). This is normal and is a natural covering to keep your baby's skin moist and free from infection. Sometimes this covering is left on your baby's skin. This will help to keep your baby's skin moist and

intact. It is not necessary to scrub this covering off of your baby's skin. This can hurt your baby's fragile skin. Instead, the covering is left in place until it comes off by itself.

Cord Care

After your baby is born, the umbilical cord is clamped and cut, leaving a stump. If it becomes dirty, this stump can be cleaned with water and dried well. It is not necessary to use alcohol wipes to clean the cord. The best way to keep your baby's cord free from infection is to make sure that it does not get dirty from your baby's diaper. You should fold the front of the baby's diaper down when changing him or her to make sure the stump does not get wet. You should also look at the cord daily to make sure it is not red or hot or has any drainage. These are signs of infection, and you should tell your baby's providers or nurses if you see them.

Cream to Protect Your Baby's Skin

The nurses may put a clear cream on your baby's skin. This helps to keep your baby's skin from becoming too dry. When your baby's skin is too dry, it can crack more easily. Talk with your baby's nurse or medical provider about creams or lotions that can be used on your baby's skin. If you apply the clear cream to your baby's skin, make sure the container does not get dirty, because this can raise the risk of a skin infection.

Water Loss

Your baby's skin is very thin and fragile. Because of this, your baby's skin can dry out very easily. Depending on how early your baby was born, your baby may have been wrapped in a plastic bag from the shoulders down right after he or she was born. This helps to keep the baby warm and to keep his or her skin moist. Remember that your baby can get cold very easily. The plastic bag will also help to prevent that. Your baby might also have been placed into an *isolette*, which is a special "house" that keeps your baby warm and lets the nurses keep track of your baby's temperature. Sometimes when your baby is in the *isolette*, the nurses will keep the air humid inside of



it. This also helps keep your baby warm and your baby's skin moist.

Keeping Your Baby Free from Infection

Your baby may need to have his or her skin cleaned with a special cleansing agent before certain procedures are performed. You may see your baby's skin cleaned with different types of cleansing wipes. This helps protect your baby from an infection. Feel free to ask any questions that you may have about the special cleansing agents or the procedures being performed.

Tape

You may see your baby's nurses use different kinds of tape on your baby. The nurses may put a protective piece of tape on your baby's skin and then put another kind of tape on top of that. This helps to keep your baby's skin intact. Since your baby has very fragile skin, the nurses will help keep it safe with different kinds of tape. When the nurses remove the tape, they will do it slowly and may use water to keep your baby's skin from breaking. Your baby's nurses may also leave the tape in place even though your baby may not need it anymore. This is because your baby's nurses are waiting for the tape to come off by itself. This will help keep your baby's fragile skin intact and protect your baby from getting an infection.

For Baby Boys

You may or may not decide to have your baby boy circumcised (*sir-cum-sized*). This procedure is used to remove skin toward the tip of the penis. Caring for your son differs based on whether or not you choose to have your son circumcised. For a natural penis, you should not pull the skin down to clean around your baby's penis. This can cause your baby's skin to tear. Instead, leave the skin in place and gently clean around the penis if needed.

For a circumcised penis, make sure that you cover the penis with a petroleum product (such as Vaseline®) and gauze with each diaper change for as long as your baby's nurses tell you to do so. Sometimes, depending on how

your baby's provider performed the circumcision, your baby's nurses may tell you not to use petroleum and gauze on your baby. Be sure to ask questions about caring for your baby's circumcision.

For circumcised boys, the tip of the penis may seem raw or yellowish. When gauze is used, it should be changed with each diapering to reduce the risk of infection. Use petroleum jelly to keep the gauze from sticking to the diaper. Sometimes a plastic ring is used for circumcision. This should drop off within 5–8 days. It may be recommended that you use petroleum jelly on the tip of the penis with either procedure to keep the foreskin lubricated; be sure to follow the instructions from the hospital. The penis should be fully healed about 7–10 days after circumcision.

Diaper Rash

Diaper rash is when your baby has redness and irritation around his or her buttocks. To prevent a diaper rash, frequently change your baby's diaper, especially after they poop. To care for a diaper rash, clean the area with soft cloths and water. You can also clean the area with diaper wipes that are chemical-free. Your baby may also have a special cream that should be applied each time the diaper is changed. Sometimes, your nurses will tell you not to wipe off all of the cream, but to only gently wipe around the buttocks. This will keep your baby's skin intact and allow it to heal.

Other Skin Information

Depending on how early your baby was born, you may see your baby's nurses use special techniques to keep your baby's skin from tearing, including placing special pads underneath your baby or placing clear coverings on your baby's knees or elbows. Clear creams also help to keep your baby's skin moist and stop it from being torn. Ask your baby's nurses about ways you can help keep your baby's skin from tearing.