

## **Clinic staff training manual Spina bifida skin care**

### **Introduction**

Spina bifida is a birth defect that affects the spine and is usually found at birth. Spina bifida occurs when a portion of the backbone that protects the spinal cord, as well as the spinal cord beneath, do not form correctly during pregnancy. This results in damage to the spinal cord and nerves.

This spinal cord damage means people with spina bifida may have limited sensation (feeling) in their legs and lower trunk areas, especially the hips, groin, bottom, and legs. These areas of limited sensation vary and every person with spina bifida is different.

Having limited sensation means that the patient may not be able to feel cuts, bruises, scrapes, sores, and dry skin on certain parts of their body. They won't know if they've been hurt, and for young children, they won't cry or otherwise be able to tell a parent or caregiver that they're hurt.

This manual has been developed to help you teach your patients (and their parents/caregivers) how to check for skin problems every day, and how to prevent them from happening in the first place.

### Objectives

1. Learn a method for completing a skin assessment
2. Complete the spina bifida skin assessment
3. Teach parents/caregivers and patients how to identify skin breakdown
4. Teach parents/caregivers and patients how to prevent skin breakdown

# Modified Braden Scale: A Skin Breakdown Risk Assessment for Individuals with Spina Bifida

## Directions

This tool assesses risk of patients with Spina Bifida for skin breakdowns. Use findings from this assessment as a guide to focus your patient education efforts. Columns A-E are risk factors that account for skin breakdowns. Check one box per column that best describes the patient's current status, then look to column F for guidance on how to proceed with patient and caregiver education. Relevant education materials come with this tool.

## Risk Level Interpretation



A. TOUCH PERCEPTION	B. MOISTURE	C. MOBILITY	D. PRESSURE/FRICTION/ SHEARING	E. SKIN BREAKDOWN	F. CARE RECOMMENDATIONS	
<input type="checkbox"/> <b>Completely Limited</b> Sensory impairment of the <i>sitting surface and both legs</i> OR more severe (i.e., impairment over most of body)	<input type="checkbox"/> <b>Constantly Moist</b> Skin is moist by perspiration or incontinence almost 100% of the time.	<input type="checkbox"/> <b>Completely Immobile</b> In an average hour, almost never makes even a slight change in body position either independently or by directing others.	<input type="checkbox"/> <b>Problem</b> Constant pressure/ shearing on bony prominence and requires maximum assistance in moving	<input type="checkbox"/> <b>Problem</b> Breakdown in the past year.	If at least 1 red box checked: <ul style="list-style-type: none"> <li>Distribute all education materials.</li> <li>Highlight prevention on the checked red/yellow categories to the left.</li> </ul>	
<input type="checkbox"/> <b>Very Limited</b> Sensory impairment of <i>both legs</i> that limits ability to feel/respond to touch	<input type="checkbox"/> <b>Very Moist</b> Skin is moist by perspiration or incontinence about 75% of the time.	<input type="checkbox"/> <b>Very Limited</b> In an average hour, makes slight changes in body position 1-3x either independently or by directing others.	<input type="checkbox"/> <b>Problem</b> Constant pressure/ shearing on bony prominence and requires minimum assistance in moving, OR uses leg braces that <i>repeatedly</i> rub against the skin.	<input type="checkbox"/> <b>Potential Problem</b> History of breakdown, but not within the past year.		If no red, but at least 1 yellow box checked: <ul style="list-style-type: none"> <li>Highlight prevention on the checked yellow boxes to the left and provide relevant education materials.</li> </ul>
<input type="checkbox"/> <b>Slightly Limited</b> Sensory impairment in <i>one leg</i> that limits ability to feel/respond to touch	<input type="checkbox"/> <b>Occasionally Moist</b> Skin is moist by perspiration or incontinence about 50% of the time.	<input type="checkbox"/> <b>Slightly Limited</b> In an average hour, makes frequent changes (at least 4x) in body position but may be too slight to be effective.	<input type="checkbox"/> <b>Potential Problem</b> Offloads on bony prominence but may require minimum assistance in moving esp. when lying, OR uses leg braces that <i>occasionally</i> rub against the skin.	<input type="checkbox"/> <b>No Apparent Problem</b> No breakdown in the past year.		
<input type="checkbox"/> <b>No Impairment</b> <i>No sensory impairment</i> that would limit ability to feel/respond to touch	<input type="checkbox"/> <b>Rarely moist</b> Skin is usually dry OR individual is not incontinent.	<input type="checkbox"/> <b>No Limitations</b> Makes major and frequent changes in position.	<input type="checkbox"/> <b>No Apparent Problem</b> Maintains <i>good</i> sitting or lying position and requires no assistance in moving. If needed, leg braces fit properly.	<input type="checkbox"/> <b>No Apparent Problem</b> No breakdown in the past year.		

# Skin Inspection

A skin inspection is highly recommended at every clinic visit.

### Directions

1. Ask the patient where there is little to no sensation and note on the diagram using dashed lines - - - .
2. Inspect the skin, especially at and below the dashed lines and carefully look at areas under pressure, under braces, exposed to moisture, and bony prominences (hip bones, tailbone, heels, outer ankles, and between knees).
3. Use the diagram to note breakdowns, using these labels:

C=cool

M=open area

R=rash

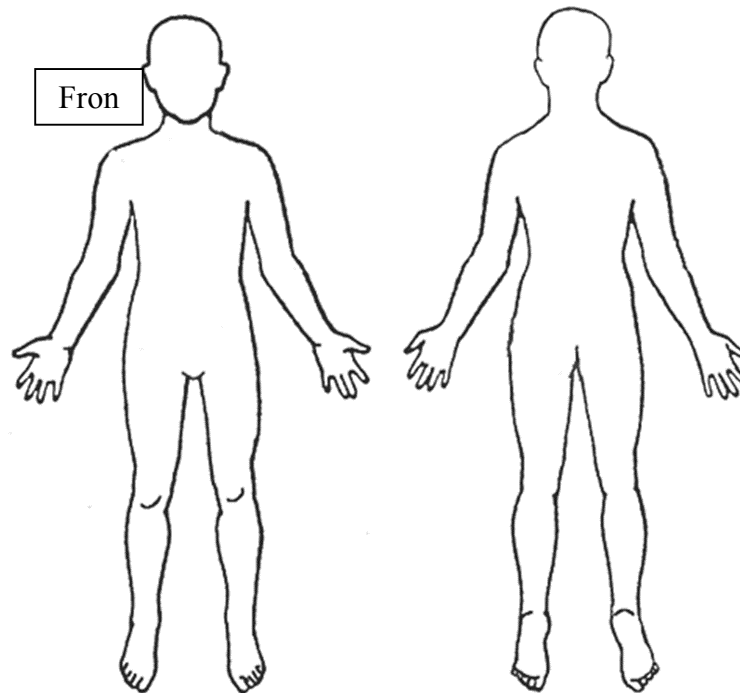
H=hot

R=redness

U=unknown irritation

#=swelling or edema

Check box if no insensate areas



Other skin assessment notes:

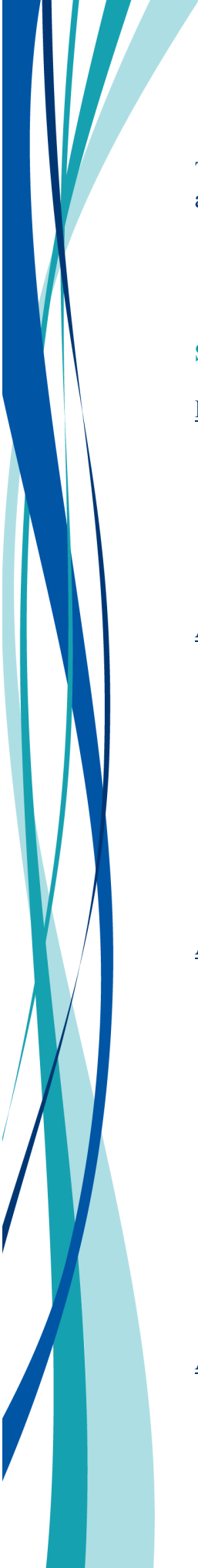
---

---

---

---

---



The remainder of this manual is divided into chapters for each risk factor, and then by activities for each age group. Each chapter has

- Patient Goals
- Activities

## **SECTION 1: GENERAL SKIN CARE**

### Patient Goals

1. Develop awareness of areas where there is limited or no sense of touch (insensate).
2. Remember to conduct daily skin inspection.
3. Identify differences in skin color, temperature, and texture (dry, callus, moist).
4. Recognize and report concerns.

### Activities for infants to age 2 years

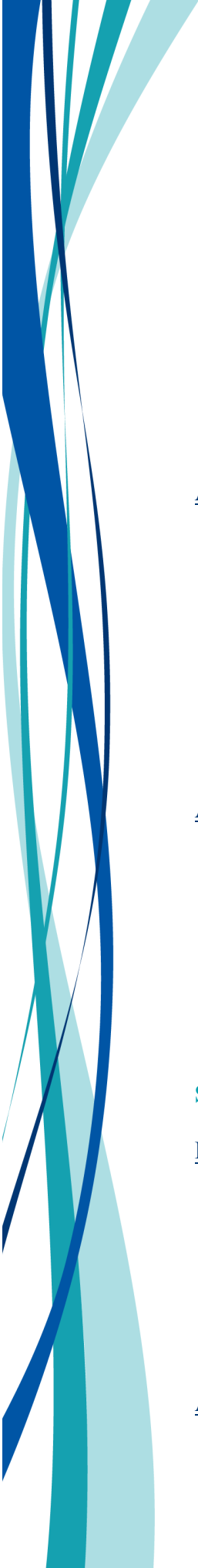
1. Practice checking temperature of bath water.
2. Play peek-a-boo with body parts.
3. Tickle and watch reaction. Ask the child to point to where it tickles.
4. Hide a sticker and let the child find it on their body.
5. Check temperature of car seats and playground equipment.
6. Protect feet and legs by wearing long pants and shoes when crawling.
7. Always wear shoes, no bare feet. Wear swim socks when swimming.
8. Wash, dry, and massage lotion onto feet.

### Activities for ages 2-4 years

1. Practice checking temperature of bath water.
2. Name the body parts.
3. Use a mirror to see hidden areas of skin.
4. Close eyes and find where touched or tickled.
5. Hide a sticker and let the child find it on their body.
6. Wear long pants when crawling.
7. Check temperature of car seats and playground equipment.
8. Always wear shoes, no bare feet. Wear swim socks when swimming.
9. Wash, dry, and massage lotion onto feet.
10. Contact your clinic team immediately if your child has any areas of redness that don't resolve within 15 minutes.

### Activities for ages 5-7 years

1. Practice checking temperature of bath water.
2. Identify differences in skin color, temperature, and texture (dry, callus, moist).

- 
3. Hide a sticker and let the child find it on their body.
  4. Practice using a mirror to see hidden areas of skin.
  5. Practice properly putting on socks and shoes.
  6. Wash, dry, and massage lotion onto feet.
  7. Wear long pants when crawling.
  8. Always wear shoes, no bare feet. Wear swim socks when swimming.
  9. Contact your clinic team immediately if your child has any areas of redness that don't resolve within 15 minutes.
  10. Watch for calluses and blisters because they can turn into open sores.

#### Activities for ages 8-11 years

1. Practice checking temperature of bath water.
2. Identify differences in skin color, temperature, and texture (dry, callus, moist).
3. Use a mirror to see hidden areas of skin.
4. Wash, dry, and massage lotion onto feet.
5. Create a daily skin inspection chart.
6. Create a daily reminder for skin inspection (alarm on watch, paper calendar, smart phone, tablet, etc.).
7. Always wear shoes, no bare feet. Wear swim socks when swimming.

#### Activities for adolescents to adults

1. Be sure to check temperature of bath water.
2. Identify differences in skin color, temperature, and texture (dry, callus, moist).
3. Use a mirror to see hidden areas of skin.
4. Wash, dry, and massage lotion onto feet.
5. Create a daily reminder for skin inspection (alarm on watch, paper calendar, smart phone, tablet, etc.).
6. No bare feet. Wear protective footwear that fits well even when swimming.

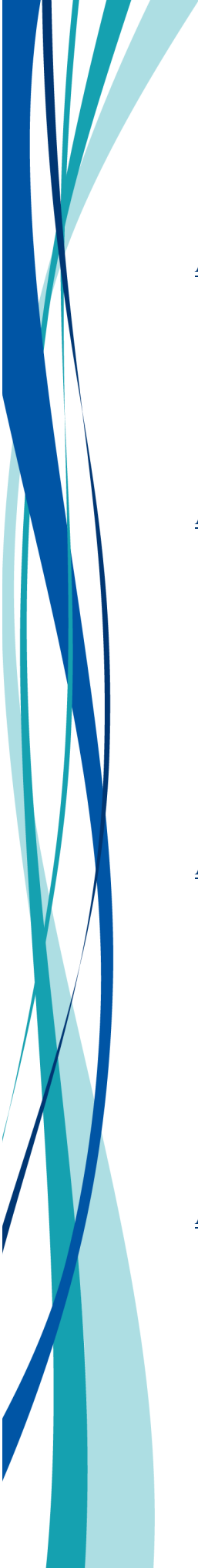
## **SECTION 2: PRESSURE/FRICTION/SHEARING**

#### Patient Goals

1. Be aware of movements or activities that may scrape the skin.
2. Become familiar with activities that relieve pressure. (younger patients)
3. Remember to relieve pressure every 15 minutes.
4. Become familiar with appropriate seating, including pressure relieving cushions.
5. Independently engage in activities to relieve pressure. (older patients)
6. Recognize and report concerns.

#### Activities for infants to age 2 years

1. Check tightness of diaper, and check skin all clothing with elastic.

- 
2. Check fit of braces and shoes.
  3. Check under snaps, zippers, buttons, and fasteners.

#### Activities for ages 2-4 years

1. For a child with limited mobility, encourage wiggling every 10-15 minutes.
2. When watching TV, encourage wiggling during every commercial break.
3. Teach your child to check for wrinkles in socks, tight braces, and appropriate wheelchair fit and cushion type.
4. Watch how your child moves and be aware of friction that might cause shearing injuries.

#### Activities for ages 5-7 years

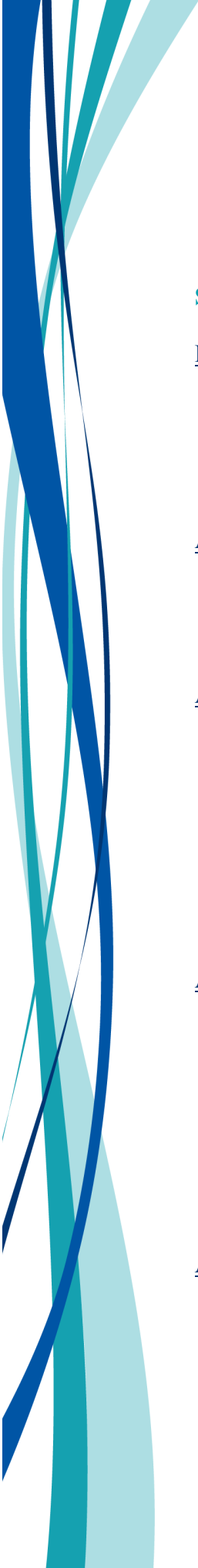
1. For a child with limited mobility, encourage wiggling every 10-15 minutes.
2. When watching TV, encourage wiggling during every commercial break.
3. Give your child a watch or a phone with an alarm or timer to remind them to wiggle at school.
4. Teach your child to check for wrinkles in socks, tight braces, appropriate wheelchair fit, and cushion type.
5. Be aware of how your child moves and ways you can prevent pulling, rubbing, friction, and shearing. Try lifting for transfers, and checking clothing, shoes, and equipment for pressure or rubbing.

#### Activities for ages 8-11 years

1. For children with limited mobility, encourage wiggling every 10-15 minutes.
2. When watching TV, encourage wiggling during every commercial break.
3. Give your child a watch or a phone with an alarm or timer to remind them to wiggle at school.
4. Teach your child to check for wrinkles in socks, tight braces, and appropriate wheelchair fit.
5. Be aware of how your child moves and ways you can prevent pulling, rubbing, friction, and shearing. Try lifting for transfers, and checking clothing, shoes, and equipment for pressure or rubbing.

#### Activities for adolescents to adults

1. Set alarm or timer for pressure relief every 15 minutes.
2. Identify safe pressure relief techniques like shifting weight by leaning side-to-side, lifting up, and leaning forward.
3. Be able to recognize correct seating position including pressure relieving cushions and wheelchair fit.

- 
4. Know how to prevent pulling, rubbing, friction, and shearing. Reinforce lifting for transfers, and checking clothing, shoes, and equipment for pressure or rubbing.

### **SECTION 3: MOISTURE**

#### Patient Goals

1. Conduct skin inspection, looking for incontinence and excess moisture.
2. Learn to keep skin healthy.
3. Recognize and report concerns.
4. Aim for continence.

#### Activities for infants to age 2 years

1. Keep skin clean and dry.
2. Change your child's diaper often--as soon as it is wet or soiled.
3. Discuss recommended skin protectants with clinic staff.

#### Activities for ages 2-4 years

1. Keep skin clean and dry.
2. Praise child for reporting incontinence or excess moisture.
3. Wash area as soon as urine or poop happen.
4. Check feet and skin folds for excess perspiration.
5. Wear clean, dry, seamless socks every day.
6. Continue to work with the clinic team towards continence and wearing underwear.

#### Activities for ages 5-7 years

1. Keep skin clean and dry.
2. Praise child for reporting incontinence or excess moisture.
3. Wash area as soon as urine or poop happen.
4. Check feet and skin folds for excess perspiration.
5. Wear clean, dry, seamless socks every day.
6. Continue to work with the clinic team towards continence and wearing underwear.

#### Activities for ages 8-11 years

1. Keep skin clean and dry.
2. Tell your parent if you have incontinence or excess moisture.
3. Wash area as soon as urine or poop happen.
4. Check feet and skin folds for excess perspiration.
5. Wear clean, dry, seamless socks every day.



- 
6. Continue to work with the clinic team on continence and wearing underwear.

#### Activities for adolescents to adults

1. Keep skin clean and dry.
2. Check feet and skin folds for excess perspiration.
3. Wash area as soon as urine or poop happen.
4. Change into dry, clean clothes.
5. Introduce deodorant and its purpose.
6. Wear clean, seamless socks every day.
7. Continue to work with the clinic team on continence.

### **SECTION 4: HEAT**

#### Patient Goals

1. Be able to identify heat sources.
2. Patient and parent/caregiver learns to check bath and shower water and temperature of surfaces.
3. Patient and parent/caregiver learns to avoid direct and indirect contact with warm/hot surfaces.

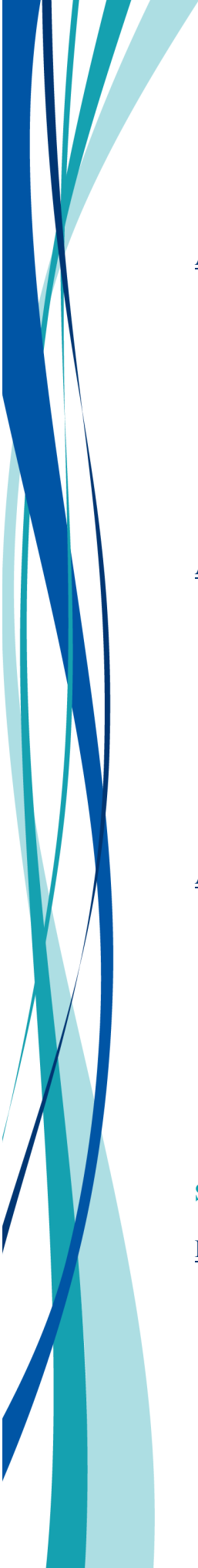
#### Activities for infants to age 2 years

1. Check temperature of surfaces before placing your baby on them, especially playground equipment and car seats.
2. Check bath and shower temperature before bathing your baby.
3. Remind caregivers to check surfaces.
4. Do not let your child walk barefoot outside.
5. Do not let your child sit too close to a radiator when it's on.
6. Recognize and report concerns about your child's skin.
7. Limit time in direct sunlight. Put a hat, sunglasses, and protective clothing on your child. Apply plenty of sunscreen.

#### Activities for ages 2-4 years

1. Check temperature of surfaces before placing your child on them, especially playground equipment and car seats.
2. Check bath and shower temperature before bathing your child.
3. Remind caregivers to check surfaces.
4. Do not let your child walk barefoot outside.
5. Do not let your child sit too close to a radiator when it's on.
6. Recognize and report concerns about your child's skin.



- 
7. Limit time in direct sunlight. Put a hat, sunglasses, and protective clothing on your child. Apply plenty of sunscreen.

#### Activities for ages 5-7 years

1. Check the temperature of surfaces before resting your child's body on them.
2. Independently check water temperature in bath or shower before getting in.
3. Remind caregivers to check surfaces.
4. Do not walk barefoot outside.
5. Do not sit too close to a radiator when it's on.
6. Recognize and report concerns about your child's skin.
7. Limit time in direct sunlight. Put a hat, sunglasses, and protective clothing on your child. Apply plenty of sunscreen.

#### Activities for ages 8-11 years

1. Remember to check the temperature of surfaces.
2. Independently check water temperature in bath or shower before getting in.
3. Remind caregivers to check surfaces.
4. Do not walk barefoot outside.
5. Do not sit too close to a radiator when it's on.
6. Recognize and report concerns about your child's skin.
7. Remember to apply plenty of sunscreen, wear a hat, sunglasses, and protective clothing when spending time outdoors.

#### Activities for adolescents to adults

1. Remember to independently check the temperature of surfaces.
2. Independently check water temperature in bath or shower before getting in.
3. Remind caregivers to check surfaces.
4. Avoid walking barefoot outside.
5. Avoid sitting too close to a radiator or heater when it's on.
6. Recognize and report concerns about your skin.
7. Remember to apply plenty of sunscreen, wear a hat, sunglasses, and protective clothing when spending time outdoors.

## **SECTION 5: OVERALL PHYSICAL CONDITION**

### Patient Goals

1. Maintain appropriate weight for age.
2. Support good nutrition through a varied diet.
3. Encourage healthy food choices and appropriate portion sizes.
4. Continually reassess overall physical condition.



### For all patients

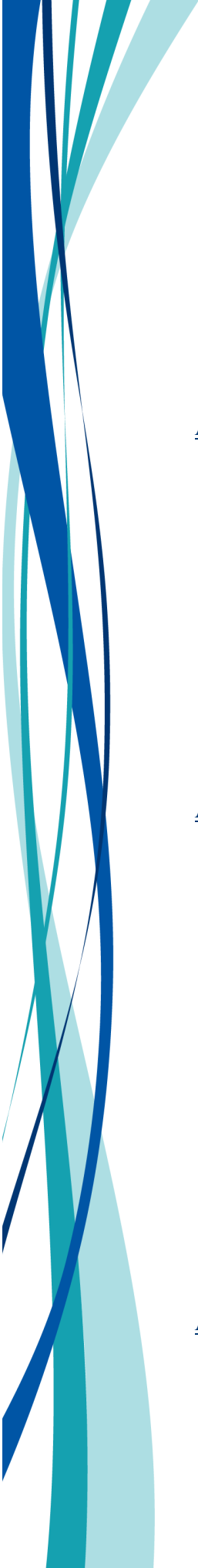
1. For young children, use play food forms or computer games to teach about healthy eating and portion sizes.
2. Being underweight is associated with increased risk for pressure sores at the tailbone, hip, and pelvic areas. Refer patients struggling with weight issues to a dietician.
3. Encourage eating foods high in omega-3 fatty acids which help keep the outer layer of the skin strong. Foods high in omega-3 fatty acids include salmon, sardines, eggs, and walnuts.
4. Encourage eating a wide variety of fruits and vegetables. Fruits and vegetables are loaded with antioxidants that block the molecules that can harm the skin.
5. Encourage drinking at least 6 to 8 cups of water each day.
6. Use a smartphone app or computer program to count calories, fiber, and protein. Adjust your calorie intake to match your activity level.
7. Check surgical scars for thinning of the skin and potential skin breakdown, especially if they are over bony prominences (hip bones, tailbone, heels, outer ankles, and between knees).
8. Consult your clinic team for help managing open a rash, itching, or areas of skin breakdown.

### Activities for infants to age 2 years

1. Follow the pediatrician's recommended diet for infants/toddlers.
2. Use play food forms or computer games to teach young children about healthy eating and portion sizes.
3. Report concerns about constipation to your clinic team.
4. Maintaining a healthy diet and weight will help your baby have healthier skin, more mobility, and more independence as they get older.
5. Check surgical scars for thinning of the skin and potential skin breakdown, especially if they are over bony prominences (hip bones, tailbone, heels, outer ankles, and between knees).
6. Consult your clinic team for help managing a rash, itching, or any areas of skin breakdown.

### Activities for ages 2-4 years

1. Use play food forms or computer games to teach children about healthy eating and portion sizes.
2. Discuss your child's fluid needs with your clinic team. Consider incorporating rewards to motivate adequate amounts of water each day.
3. Offer a variety of healthy food choices.

- 
4. Being obese or undernourished contributes to the risk of skin breakdown. Consult a dietitian if your child struggles with weight issues.
  5. Check surgical scars for thinning of the skin and potential skin breakdown, especially if they are over bony prominences (hip bones, tailbone, heels, outer ankles, and between knees).
  6. Consult your clinic team for help managing a rash, itching, or any areas of skin breakdown.

#### Activities for ages 5-7 years

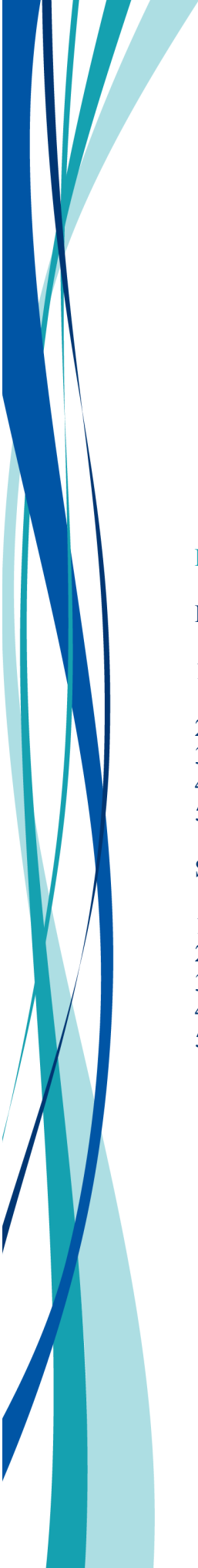
1. Discuss your child's fluid needs with your clinic team. Consider incorporating rewards to motivate adequate amounts of water each day.
2. Offer a variety of healthy food choices.
3. Being obese or undernourished contributes to the risk of skin breakdown. Consult a dietitian if your child struggles with weight issues.
4. Check surgical scars for thinning of the skin and potential skin breakdown, especially if they are over bony prominences (hip bones, tailbone, heels, outer ankles, and between knees).
5. Consult your clinic team for help managing open wounds, rashes, and areas of skin breakdown.

#### Activities for ages 8-11 years

1. Discuss your child's fluid needs with your clinic team. Consider incorporating rewards to motivate adequate amounts of water each day.
2. Offer a variety of healthy food choices.
3. Use computer games to teach your child about healthy eating and portion sizes.
4. Being obese or undernourished contributes to the risk of skin breakdown. Consult a dietitian if your child struggles with weight issues.
5. Monitor swelling in legs and feet. Consider elevating legs and feet when not walking or wheeling. Pressure stockings may be recommended for poor circulation.
6. Check surgical scars for thinning of the skin and potential skin breakdown, especially if they are over bony prominences (hip bones, tailbone, heels, outer ankles, and between knees).
7. Consult your clinic team for help managing a rash, itching, or any area of skin breakdown.

#### Activities for adolescents to adults

1. Discuss your child's fluid needs with your clinic team. Consider incorporating rewards to motivate adequate amounts of water each day.
2. Offer a variety of healthy food choices.

- 
3. Use computer games to teach your child about healthy eating and portion sizes.
  4. Being obese or undernourished contributes to the risk of skin breakdown. Consult a dietitian if your child struggles with weight issues.
  5. Monitor swelling in legs and feet. Consider elevating legs and feet when not walking or wheeling. Pressure stockings may be recommended for poor circulation.
  6. Check surgical scars for thinning of the skin and potential skin breakdown, especially if they are over bony prominences (hip bones, tailbone, heels, outer ankles, and between knees).
  7. Consult your clinic team for help managing a rash, itching, or any area of skin breakdown.

### **Did you look? Healthy skin starts with you!**

Prevention starts with a look

1. Conduct daily skin checks. Look at all areas, not just those with little or no sensation.
2. Control moisture.
3. Avoid pressure.
4. Eat right and drink enough fluids.
5. Act quickly if you see areas of redness or other problems.

Signs of trouble: If you notice any of these, call your clinic team immediately

1. A reddened area of the skin that does not fade after 15 minutes.
2. Unusual warmth or swelling that lasts longer than 15 minutes.
3. Blisters, open areas on the skin, scrapes, or draining wounds.
4. A black leathery area.
5. Equipment that needs repair (cushion, braces).