



# **Taking Action for Optimal Community and Long-Term Stroke Care**

## ***A Resource for Healthcare Providers***

Chapter 3: Body Function (Physical)  
Section 3.6 - Skin Integrity

Updated September 14, 2020



# Disclaimer

- Taking Action for Optimal Community and Long-Term Stroke Care is for informational purposes only and is not intended to be considered or relied upon as medical advice or a substitute for medical advice, a medical diagnosis or treatment from a physician or qualified healthcare professional. You are responsible for obtaining appropriate medical advice from a physician or other qualified healthcare professional prior to acting upon any information available through this publication



# TACLS Overview



# Overview



## Taking Action for Optimal Community and Long-Term Stroke Care

A resource for healthcare providers

- This presentation has been developed to complement the information provided in Taking Action for Optimal Community and Long-Term Stroke Care
- TACLS content is aligned with the most current Canadian Stroke Best Practice Recommendations ([www.strokebestpractices.ca](http://www.strokebestpractices.ca))
- Some of the best practice recommendations are included in this resource for quick reference. For the full Canadian Stroke Best Practice recommendations visit: [www.strokebestpractices.ca](http://www.strokebestpractices.ca)
- As you consider the following information, always ensure that you are practicing and working within your scope of practice and seek advice from qualified and appropriate team members as needed

# COVID-19

- In light of COVID-19, resources are being shifted across the healthcare continuum to help meet ongoing and changing needs.
- There may be some variability in the staff who would typically work with patients who have had a stroke.
- There are many **considerations** that are key to **promoting safety** and **optimizing recovery** when working with individuals who have had a stroke.
- TACLS can be used to help **support healthcare providers** and may be helpful to informal caregivers during this time by providing key information, skills and guidance when providing care to individuals who have had a stroke in any setting, from acute inpatient care to the community.

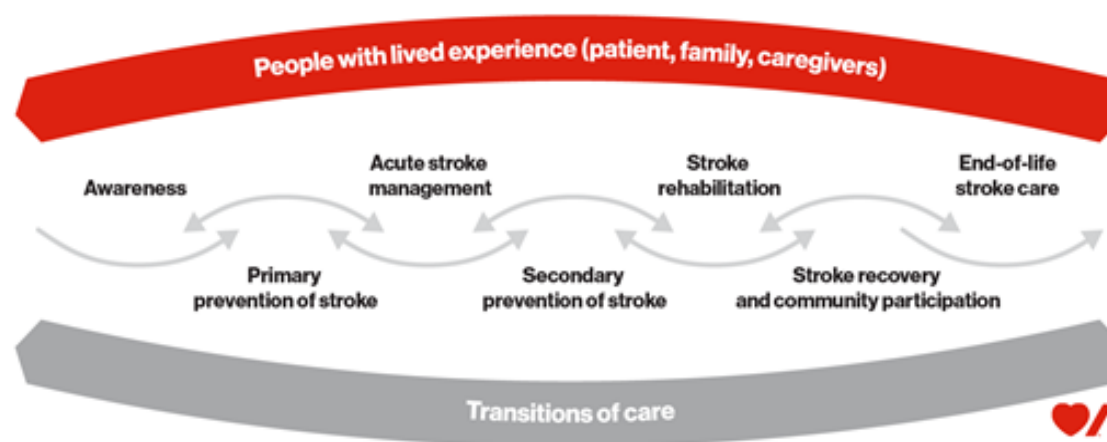
# Purpose and Use of TACLS

- TACLS slide presentations are designed to be used as a resource, in conjunction with the TACLS manual, for informing and educating healthcare providers about how to care for individuals who have had a stroke across care settings
- Informal caregivers may also find these resources helpful
- TACLS content is aligned with the Canadian Stroke Best Practice Recommendations ([www.strokebestpractices.ca](http://www.strokebestpractices.ca))



# Target Audience

- **Healthcare providers** who care for individuals who have had a stroke and are in **acute care, inpatient rehabilitation, or community settings** (such as at home or in long-term care)
- **Informal caregivers**, such as **family members**, may also find **these resources helpful** as they provide practical information to deliver safe and appropriate care



## Your Role as Part of the Stroke Team

- There have been major advances in treatment and care of individuals with stroke and the types of care received in the early days following a stroke can have a direct and significant impact on outcomes
- Your role, **observations** and your ability to **communicate effectively** within the team is **vital** to helping the individual with stroke get the best possible **care** and experience the best possible **recovery**
- Your **support** can help individuals **adjust** to the **changes** that stroke brings, find new ways to help them thrive as they recover, and learn and adapt to “the new normal” that is life after stroke



## Your role

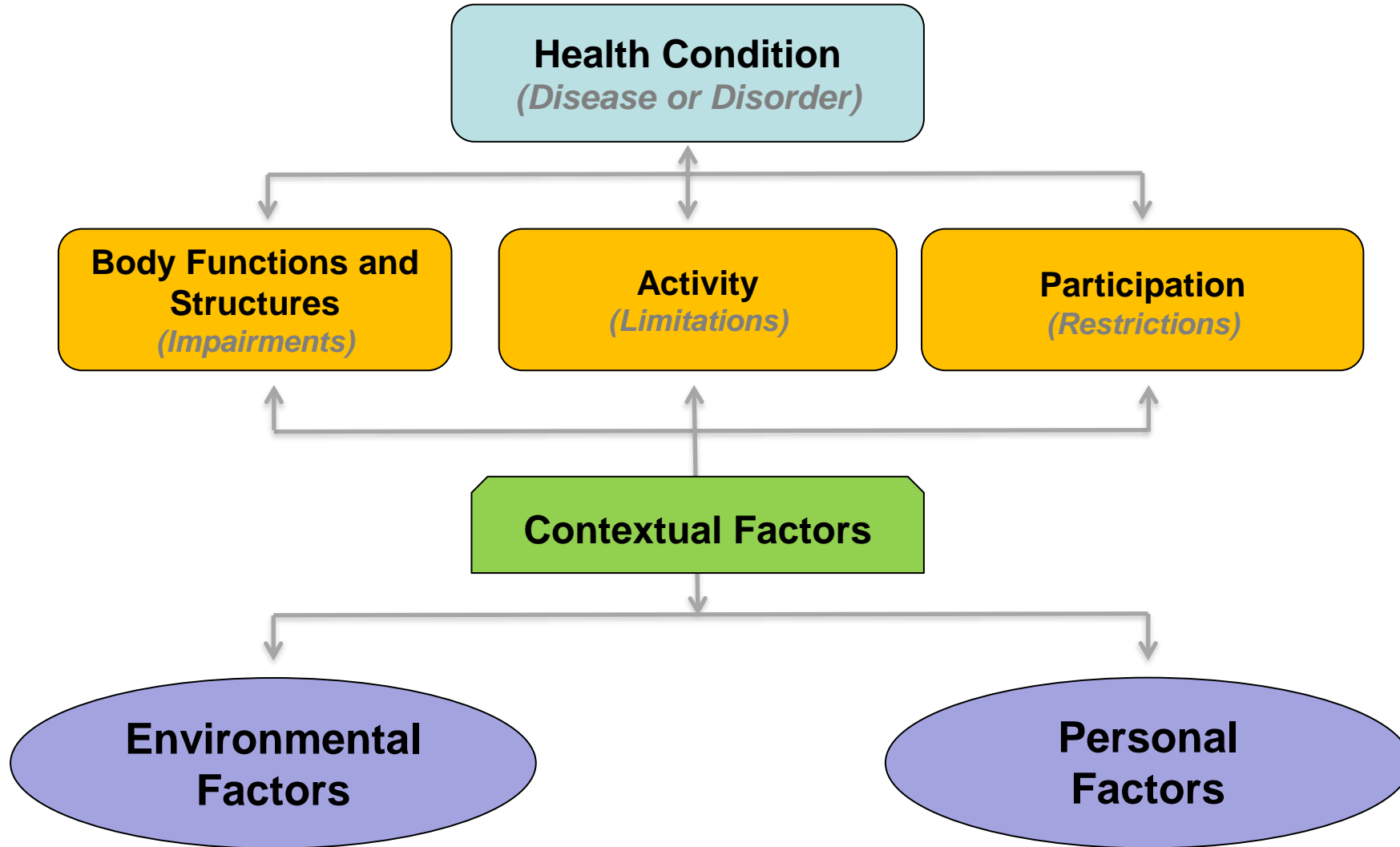
- It is very important to **review** and **understand** your role **within the stroke care team**
- **Consult** with your **team** if you
  - ❖ Are **unclear** about any aspect of the care plan
  - ❖ Have **questions** about how to implement the recommended care
  - ❖ Have **concerns** about the health of the person you are caring for
- Know your **direct contact** on the team and follow your workplace **guidelines** for **communicating with the team**
- **Do not delay** if a situation requires **immediate attention** – contact the appropriate team member as quickly as you can
- There may be times when the information in this resource **differs** from the **instructions** or **care plan** that have been developed by the organization you work for or by the stroke team. **In these cases, always follow the direction from your employer, your team, and the care plan**

## Your Role: Communicate with your Team

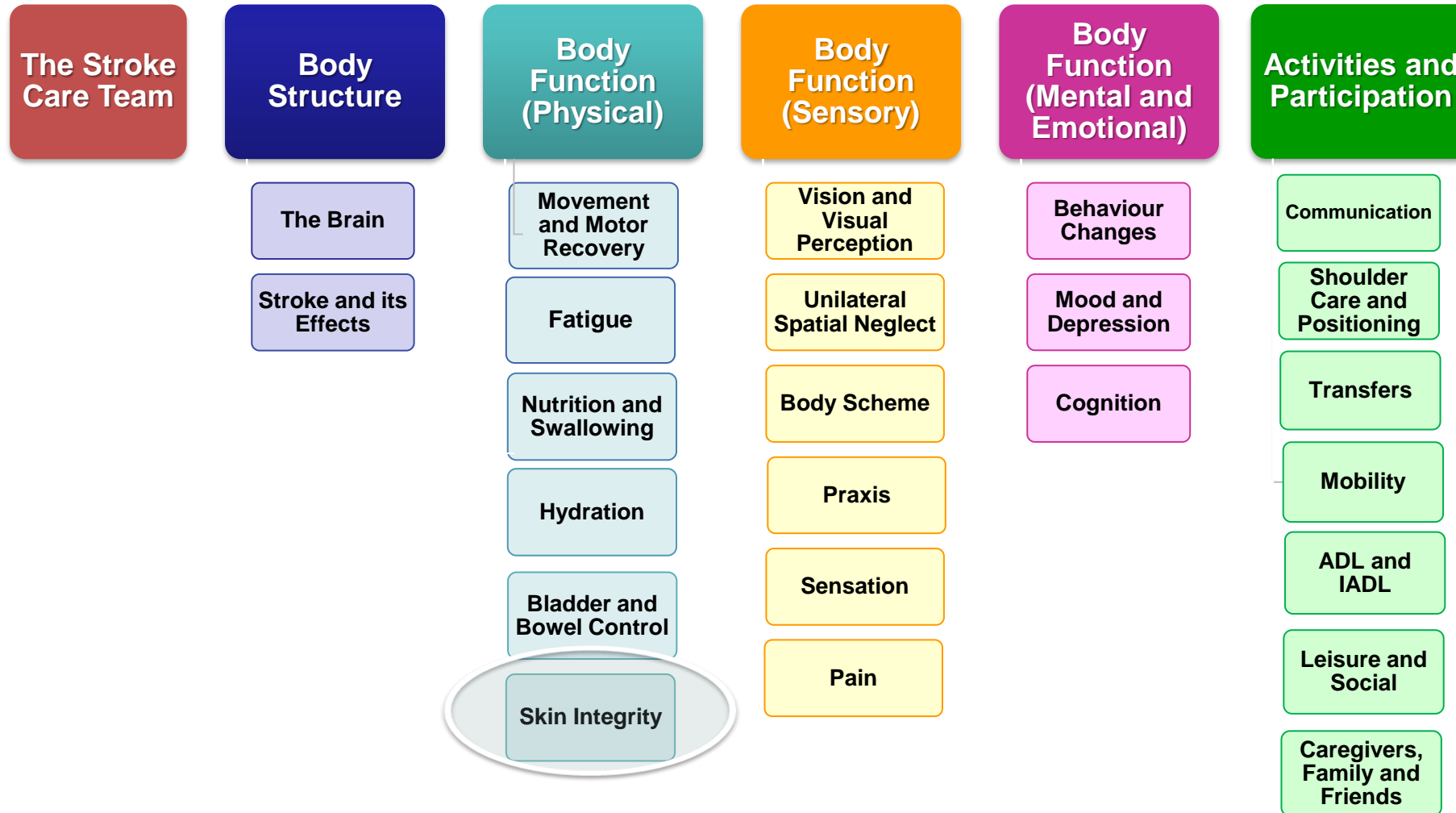
**Stroke care is a **TEAM** effort. The team is there to support you. Make sure to reach out to your team if you have any questions so that the safety and recovery of the individual you are working with and/or caring for is not compromised.**

# TACLS Structure

TACLS is organized to follow the International Classification of Functioning (ICF) structure.



# TACLS Content and Layout





## **Section 3.6 Skin Integrity**



# Skin Integrity

- Topics in this section
  - ❖ Understanding the structure and function of skin
  - ❖ Skin breakdown and pressure injuries
  - ❖ Positioning to minimize the risk of pressure injuries
  - ❖ Pressure redistribution devices
  - ❖ Managing a hand with spasticity
  - ❖ Hygiene and incontinence



# Key Messages for Skin Integrity

- **Maintain skin integrity including the prevention of pressure injuries** is an important element of care for someone who has had a stroke
- **Understand the risk factors** that could lead to a pressure injury
- **Monitor skin on a regular basis** to help identify skin breakdown and pressure injuries early, preventing the development of more serious problems
- **Report any changes** in skin appearance or integrity to the stroke team as soon as concerns are noticed
- **Ensure proper positioning** with frequent re-adjustments to decrease the risk of pressure injury



- The interdisciplinary team should assess patients within 48 hours of admission to hospital and formulate a management plan
  - ❖ Clinicians should use standardized, valid assessment tools to evaluate the patient's stroke-related impairments and functional status
  - ❖ Assessment components should include dysphagia, mood and cognition, mobility, functional assessment, temperature, nutrition, bowel and bladder function, **skin breakdown**, discharge planning, prevention therapies, venous thromboembolism prophylaxis



# Your Role as a Healthcare Provider

- You can help keep a person's skin **healthy** and reduce the risk of skin breakdown or pressure injury through many **care activities**, such as:
  - ❖ Careful **positioning**
  - ❖ Frequent **movement** as appropriate
  - ❖ Good **hygiene** and **skin care**
  - ❖ Good **nutrition** and **hydration**
  - ❖ Frequent **monitoring**
- **Learn about how you can help a person maintain healthy skin and prevent skin breakdown** and/or pressure injuries (e.g., consult with the stroke care team and/or attend any education sessions on pressure injury prevention and management offered by your workplace)



# Your Role as a Healthcare Provider

- Follow the **care plan** for **positioning** and **repositioning** a person in bed, chair wheelchair and/or or other surfaces
  - ❖ People who are unable to reposition themselves in **bed** should be **repositioned** at least every **two hours** (or according to the care plan)
  - ❖ People who can **shift** their weight while sitting should do so every **15 minutes** (or according to the care plan)
  - ❖ Those who are unable to shift their weight while sitting should be **repositioned** at least **every hour**, or according to the care plan

# Structure and Function of Skin

- The skin is the **largest organ** in the body
- Skin maintains **body temperature** and hydration
- **Intact** skin keeps protects against infection
- When a person sits or lies in the **same position** for a long time, **circulation** to their skin is **reduced**
- This increases the **risk** of:
  - ❖ **Skin breakdown**
  - ❖ **Pressure injuries**
- The risk of pressure injury can be reduced if a person is able to move independently and re-adjust their position as needed



# Structure of Skin

The skin consists of three layers including the epidermis, the dermis and the subcutaneous tissue



# Structure of Skin - Epidermis

## ➤ Epidermis

- ❖ The most superficial and outermost thin layer of skin
- ❖ Mostly made up of dead skin cells
- ❖ These cells are constantly being shed and replaced with more cells from underneath
- ❖ Acts as waterproofing and helps serve as a barrier to infection

# Structure of Skin - Dermis

## ➤ Dermis

- ❖ The second layer of skin
- ❖ Has sweat and oil glands, nerve endings, collagen, hair follicles and small blood vessels called capillaries
- ❖ The nerve endings in this layer of skin receive and relay sensations including touch, temperature, pressure, pain and itching

## ➤ Subcutaneous Tissue

- ❖ The deepest layer of skin
- ❖ Is a layer of fat and collagen which contains nerves and blood vessels
- ❖ Has a role in padding the body; helps protect the bones, muscles and organs under the skin from physical damage
- ❖ Works alongside the blood vessels to maintain an appropriate body temperature

# Skin Breakdown and Pressure Injury

- A **pressure injury** is an injury to the skin and tissues below the skin
- When skin breaks down, it can be very painful, and may result in a serious **infection** or even **death**
- Proper **skin care** is very important, especially for those who cannot move on their own
- Follow the care plan for **position changes** and getting a person out of bed onto a **supported seating surface**
- Common types of **pressure injuries** include **friction** and **shear**
- **Friction** and **shearing forces** can be the **underlying causes** of pressure injuries or skin tears



# Friction Forces

- **Friction** forces occur when skin surfaces rub together or when one surface (e.g., skin) moves over another surface (e.g., bed sheet)
- Friction can occur when you **move** someone **in bed** or they move themselves, and the skin drags across the bed sheets
  - ❖ These injuries often happen on the **sacrum** (tailbone), **heels**, and **elbows**
  - ❖ The use of prescribed friction reducing devices (e.g., sliders) and “lift and roll” rather than “drag and pull” are very important when helping someone move in bed

# Shearing Forces

- Shearing forces may lead to skin injury and can occur when the body moves without the skin moving. For example, raising the head of the bed allows the body to slide down, while the skin remains pressed against the sheet. Shearing forces reduce blood supply to the skin
- Shearing forces can be reduced by keeping the head of the bed at the lowest allowed position (consult the care plan)
- ❖ Encourage the person to keep the head of the bed at or below 30 degrees when able (e.g., if the person is having a sip of water, the head of the bed will need to be raised to promote safe swallowing, but can be lowered once safely completed)

# Skin Breakdown and Pressure Injuries

- People who have had a stroke are at **risk** of **skin breakdown** as a result of:
  - ❖ Decreased ability to relieve **pressure** due to weakness and **limited mobility**
  - ❖ Decreased or no **sensation**
  - ❖ Increased **moisture** from incontinence or perspiration
  - ❖ Poor **nutrition**, **dehydration**, and **dry skin**
  - ❖ Inability to communicate **pain** and **discomfort**
  - ❖ Improper **positioning**, causing **friction** and **shearing**
  - ❖ A person may be on **anticoagulants** (a blood thinner) to reduce their risk of another stroke. Medication that affect blood clotting and thin the blood may cause a person to **bleed and bruise more easily**. This **can be** serious, and it is **important** that you report signs of **bruising and possible underlying bleeding** to the stroke care team



# How You Can Help – Inspect and Report

- **Check** the person's **skin** carefully **every day** for redness, blisters, bruising, bleeding, discharge and/or skin breaks
- Feel the skin for moisture, heat, swelling, and induration; take note of any foul or unusual skin odours
- This is particularly important for people who have **impaired sensation**
- **Skin checks** can be done during regular grooming activities (bathing, dressing), during toileting, or at a regular scheduled time
- Pay special attention to **bony prominences**. These are areas that tend to stick out, like elbows, heels, ankles, hip bones, the sacral area (tailbone), and **ischial tuberosities** (sitting bones)
- **Report** concerns or signs of skin irritation **immediately** to the right person - the nurse, case manager/coordinator, physician, occupational therapist or a family member
- Ensure the **person and their caregivers understand risks that lead to skin breakdown** and pressure injuries and **ways that this can be prevented**



# How You Can Help - Clean

- Wash skin **gently** and **regularly**, using mild cleansers. Do not scrub
- **Rinse** thoroughly
- **Dry** thoroughly using soft cloths, especially in skin folds. **Pat** the skin dry rather than rubbing it to avoid further irritation
- Always **wash** soiled skin **promptly**, to remove irritants and maintain the skin's natural barrier

# How You Can Help - Moisturize

- **Treat** dry skin with **moisturizers**. Dry, flaky or scaling skin can lead to skin irritation, skin breakdown and possible infection
- Discuss the most **appropriate** type of cream or ointment for each person with the stroke care team
- **Do not massage** bony prominences or reddened areas. A reddened area is an early sign of tissue irritation and the mechanical forces of massage can result in greater tissue damage



# How You Can Help – Barrier Creams

- Some people may have skin that is already very moist due to excess sweating or urine leakage. In these cases, **barrier-type creams** may be preferred to other types of moisturizers – check with the care team
- Some creams have **barrier ingredients** such as urea creams, some are **scent-free** to further reduce the risk of irritation, and others have **medication** such as cortisone

# How You Can Help - Protect

- **Moisture** that can cause skin **breakdown** includes urine or stool, perspiration, and/or fluids from a draining wound. These fluids contain chemical **irritants** that can damage the skin
- Protect skin from contact by **gently cleansing** at time of soiling, or using **wound dressings** or **barrier creams** as specified in the **care plan**
- Promote good bladder and bowel **routines**, and follow bladder and bowel **training programs** to reduce the risk of skin breakdown
- Minimize the use of incontinence products as they may increase skin temperature, and prevent good air circulation which helps keep skin dry and healthy



# How You Can Help - Reposition

- **Repositioning** is important for people who cannot move on their own
- Reposition according to the **care plan**, e.g., move out of bed and onto supported seating whenever possible throughout the day
- People who are unable to reposition themselves in **bed** should be repositioned at **least every two hours or according to their care plan**

# Positioning and Repositioning

- When positioning a person in sitting or lying, the **goal** is to maintain **normal body alignment** while **reducing pressure** on bony and compromised areas
- When sitting, encourage **weight shift** at least **every 15 minutes** if the person is able; if not, the person should be **repositioned at least every hour** or according to the care plan
- When changing or moving positions reduce rubbing or friction - **lift and roll** rather than dragging or pulling
- Use **sliders** (friction reducing devices) as prescribed when you move someone



# Positioning in Side-lying

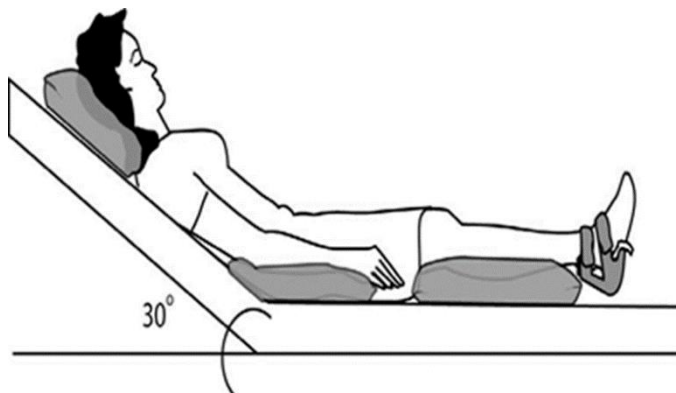
- Avoid putting the person completely on their side in bed as lying on the hip can increase risk for pressure injury
- Position the person in a **30-degree side-lying position** (rolled back slightly onto their buttock)
- Ensure the **affected arm and leg** is **supported** by pillows
- Use **pillows** between the **knees** and **ankles** to separate bony areas
- Ensure that this position does not affect their breathing



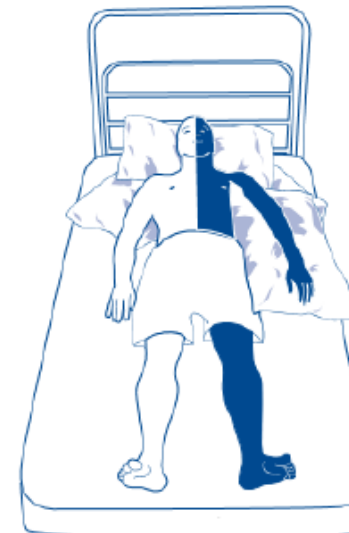
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# Positioning - Lying on Back

- When a person is lying on their back ensure that **pressure is relieved** on the heels by placing a water pillow, or thick foam under their calves (not behind knees) with or without a specialty boot
- Ensure the head, affected arm and affected hip are **supported** with pillows
- **Change positions** in bed regularly (at least every two hours) or according to the care plan



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# Positioning - Lying on Back

- **Avoid** raising the head of the bed unnecessarily to help prevent shearing forces. Encourage the person to keep the head of the bed at or below 30 degrees when able
- If you need to raise the head of the bed for certain care activities or it is needed for their health, raise it to the **lowest point possible** for as **short a time** as possible. Ensure the knee gatch is raised appropriately prior to elevating to help prevent sliding
  - ❖ **Sometimes**, there may be **orders in the care plan** to **keep the head of the bed raised to a specific angle**
- **Always consult the individual's current care plan and consult with the stroke care team if you are unsure**



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# Positioning and Pressure Injury

- If the person has a **pressure injury**, avoid **positioning** them directly on it. If it is unavoidable, keep the person in that position for as little time as possible
- **Avoid** using donut devices as they can decrease blood flow and increase skin breakdown. Instead, consult with the occupational therapist for recommendations on use of other pressure redistribution devices (e.g., foam wedges, pillows, etc.)
- **If you are unsure how to position someone appropriately, always check and consult with the nurse, occupational therapist, physiotherapist and the care plan**

# Pressure Redistribution Devices

- The nurse or occupational therapist may recommend **pressure redistribution devices**, based on the person's needs
- Follow the **care plan** for using the device
- Discuss any other new devices with the stroke care team before using them



# Pressure Redistribution Devices

- Devices that help **prevent** skin breakdown and pressure injuries include:
  - ❖ Foam wedges and pillows (to assist with positioning for offloading)
  - ❖ Pressure redistribution mattresses
  - ❖ Elbow pads
  - ❖ Heel pads or boots
  - ❖ Pillows or foam wedges under the calves
  - ❖ Specialized wheelchair cushions – Do not add extra covers on top of these cushions as they eliminate the pressure reducing benefits
  - ❖ Bath seats, commode chairs with friction and pressure reducing surfaces



# Managing a Hand with Spasticity

- A person who has had a stroke may develop **high tone** in their affected hand due to **spasticity**
- Constant spasticity can lead to contractures, where the muscles and tendons shorten, and the hand becomes clenched and very difficult to open and keep clean
- A **hand with spasticity** often sweats and has poor air circulation which, can cause skin damage, odour and infection. **It is important to learn how to safely open a hand with spasticity to support hygiene**

# Opening a Hand with Spasticity

- **Opening a hand with spasticity can be difficult. Consult with the occupational therapist for training and strategies on how to open a tight hand**
- Quick movements of the wrist, fingers and thumb may increase the spasticity; always use slow and gentle movements
- **Position** the shoulder and arm forward
- **Support** the person's wrist and forearm; **avoid pulling on the affected shoulder**
- **Gently turn the forearm** so that the **palm is facing up**
- Spasticity can increase with pressure to the palm of the hand; avoid this if possible



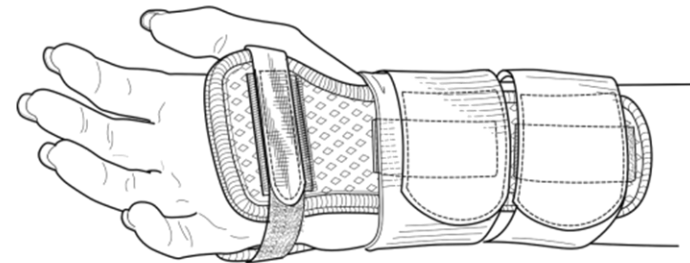
# Opening a Hand with Spasticity

- **Opening a hand with spasticity can be difficult. Consult with the occupational therapist for training and strategies on how to open a tight hand**
- **Ease** the hand open
  - ❖ With your fingertips on the large muscles of the person's thumb, gently attempt to move the thumb out of the palm of the hand
  - ❖ Sometimes gently straightening the affected thumb helps relax the fingers
  - ❖ With your fingertips touching the person's fingertips, gently pull the fingers into a position of extension (straight)
  - ❖ Gently bend the wrist into flexion (forward) as this may help to relax the hand and allow the thumb and fingers to be more easily straightened



# Cleaning a Hand with Spasticity

- Good **hygiene** is important to prevent skin breakdown in the hand
- Once you have opened the hand, **wash** it gently, **clean** and **trim** the nails, and **dry** the hand thoroughly (only trim nails if this task is part of the care plan)
- If the hand is **painful**, the person may prefer to clean it themselves
- In some select patients, an occupational therapist may recommend a splint or other strategies to help maintain a healthy hand



# Hygiene and Incontinence

- People with **urinary incontinence** have a higher risk of developing **perineal skin problems** (e.g., **skin breakdown**) and urinary tract infections
- Using proper **hygiene** and good **skin care** can help avoid these problems. Strategies to promote good hygiene and skin care include:
  - ❖ **Wipe** from front to back after voiding
  - ❖ **Change** underwear daily or more often if **soiled**
  - ❖ Always provide thorough **peri-care** (care of the perineum or genital area) after urinary or fecal incontinence. Wear gloves when completing peri-care
  - ❖ Use barrier creams if **recommended** in the **care plan**
  - ❖ **Wash** your hands and those of the person who has had a stroke, after peri-care
  - ❖ Do not use deodorant sprays, powder, or perfumes on perineal skin



# Incontinence Products

- Incontinence products should only be used when absolutely necessary
- If required, always use incontinence products rather than menstrual products
- Incontinence products **draw urine away** from the surface of the pad to help maintain **healthy skin**
- **Change** pads and linens when they are damp
- **Watch** for leaking, tight fitting products, skin irritation or rash, and **report** any symptoms or skin breakdown to the nurse
- **Minimize** the use of **unnecessary and multiple layers of incontinence products** (for example, avoid placing extra incontinence pads on a seating surface or using a brief when not necessary). Incontinence products can increase skin temperature and prevent good air circulation which can impact the skin's ability to stay dry and healthy



## Case example

# Case Example

- Mr. Morales is living in a long-term care facility. He is incontinent of urine, uses a mechanical lift for transfers, a wheelchair for mobility and a commode for toileting
- During morning care activities, staff identified a reddish-purple area over Mr. Morales' tailbone





# Case Example

## ➤ Several concerns were identified:

- ❖ Sitting long periods in the wheelchair without repositioning
- ❖ Sitting in the wheelchair on top of a mechanical lift sling
- ❖ Sitting on an old foam wheelchair cushion
- ❖ Sitting for long periods on the commode for bowel movements
- ❖ Infrequent changes of soiled incontinence pads
- ❖ Lack of thorough cleaning after incontinent episodes

# Case Example

- The following recommendations were made to promote better skin health:
  - ❖ Remove mechanical lift sling when sitting in the wheelchair
  - ❖ Use of a pressure redistribution wheelchair cushion
  - ❖ Frequent repositioning when in the wheelchair
  - ❖ Regular changes of incontinence products with thorough cleaning and drying at each change
  - ❖ Use of a barrier cream
  - ❖ Use of a commode chair with a pressure reducing surface
  - ❖ Review of bed positioning to decrease pressure and friction on the tailbone



**Quiz**



# Test Your Knowledge

1. Match the skin care routine with the proper heading.
  - i. Inspect
  - ii. Clean
  - iii. Moisturize
  - iv. Protect
  - a. Treat dry skin with moisturizers
  - b. Check the person's skin carefully every day
  - c. Gently wash skin regularly using mild cleansers, rinse and pat dry thoroughly
  - d. Use good hygiene in the presence of excess moisture from perspiration, urine or stool incontinence or fluids from a draining wound

# Test Your Knowledge

2. Making sure a person changes position often can:
  - a) Reduce circulation to a person's skin
  - b) Be a hassle and should be avoided
  - c) Decrease the risk of pressure injuries and skin breakdown
3. True or false: When positioning a person, use pillows to ensure the affected arm is supported and place a pillow between knees and ankles to separate bony areas

# Test Your Knowledge

4. True or false: Skin can break down because of decreased activity and mobility, improper positioning, increased moisture from incontinence or perspiration, poor nutrition and dehydration.
  
5. True or false: To relax and open a hand with increased spasticity you should force the hand open until all the fingers are flat.

# Conclusion

- More information regarding stroke and stroke care can be found at [www.strokebestpractices.ca](http://www.strokebestpractices.ca)
- For additional resources visit: <https://www.strokebestpractices.ca/resources/professional-resources>
- Questions and comments can be sent to [strokebestpractices@heartandstroke.ca](mailto:strokebestpractices@heartandstroke.ca)

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