



Health Leadership  
& Learning Network

health | YORK  
UNIVERSITÉ  
UNIVERSITY

# SKIN & WOUND CARE BASICS

For  
Personal Support Workers

2022

Dear Student/Participants,

Please find the York University copyright statement. This is an annual reminder to all students about the copyright policy of the University.

*Access to and use of the course materials is restricted to students enrolled in the Skin and Wound Care Basic's for PSW's course offered by Health Leadership & Learning Network. All materials for this course are provided with the permission of the rights holder, under the terms of a license or other agreement, or under the application of statutory exceptions of the Copyright Act. Copyright and all rights are maintained by the author(s) or by other copyright holder(s). Copying this material for distribution (e.g. uploading material to a commercial third-party website) can lead to a violation of Copyright law. Find out more about copyright here: [www.yorku.ca/copyright](http://www.yorku.ca/copyright)*

If you have any questions, please contact us here in HLLN at 416 736 2100 X22170 or [hlln@yorku.ca](mailto:hlln@yorku.ca). Thank you, Tania Xerri



---

**Tania Xerri, Director, Health Leadership and Learning Network**  
*A Leader in Health Continuing Professional Education*  
Faculty of Health York University  
4700 Keele St. HNES 019, Toronto, ON M3J 1P3

**Information, Privacy and Copyright | Office of the Counsel**  
1050 Kaneff Tower | York University | 4700 Keele St., Toronto ON M3J 1P3  
Canada

# SKIN AND WOUND CARE BASICS FOR PERSONAL SUPPORT WORKERS (PSWs):

Dr. Rosemary Kohr, RN, PhD,  
Tertiary Care Nurse Practitioner Certificate (TCNPC)

1



## Welcome!

---

- A few housekeeping items before we get started...
- On-line with Zoom
- Agenda
- Ground-rules

Dr. Rosemary Kohr

2

## Zoom orientation

- I hope you have read the information from HLLN (York University) on how to use Zoom.
- At the start, your audio will be automatically muted– but you can unmute (see the microphone icon)
  - I will do a Roll-call, so you can **unmute** or post (**chat**) for that.
- **Video:** remember, we can SEE you and what you are doing! My preference is that you to keep your video ON– you will see all the participants arranged in a gallery/tile across the top of the screen.
- The **Chat** function: you can post to the whole group or to me privately, as the HOST. Feel free to ask questions via chat/text.

Dr. Rosemary Kohr

3

## OUTLINE of Lessons:

- |          |   |
|----------|---|
| Lesson 1 | •Overview of Skin function & skin health  |
| Lesson 2 | • Risk and Prevention of skin breakdown (focus on elderly)                                    |
| Lesson 3 | •“Back to basics” (management)  |
| Lesson 4 | •Skin Tears and Pressure Injury/Ulcers (Bedsores)   |
| Lesson 5 | •Chronic wounds (diabetic foot ulcers, venous leg ulcers, etc)                                |
| Lesson 6 | •Types of dressings/use<br>• Documentation and communication re: skin/wound care<br>• Wrap up |

Dr. Rosemary Kohr

4

# Ground-rules



- **Conduct Policy:**
  - Every course through Health Leadership & Learning, York University (on or off-campus/non-degree or non-credit) follows the York University **Code of Student Conduct and Responsibilities**.
  - Students (participants) are expected to maintain a professional relationship characterized by courtesy and mutual respect.
- This includes:
  - the responsibility to behave in a way that does not harm or threaten to harm another person's physical or mental wellbeing
  - the responsibility to uphold an atmosphere of civility, honesty, equity and respect for others, thereby valuing the inherent diversity in our community.
  - the responsibility to consider and respect the perspectives and ideas of others, even when you do not agree with their perspectives or ideas.
- **HLLN reserves the right to remove any student who violates our conduct policy.**

Dr. Rosemary Kohr

5

## My Objectives for this course:

- Provide you with information/tools to be able to prevent skin breakdown in your resident population
- Know when to contact the nurse re: skin breakdown
- The types of common wounds and prevention strategies
- Types of dressings and how to identify when the nurse should re-assess
- Basically, giving you the confidence to help provide the best care for your residents.

Dr. Rosemary Kohr

6

## Introductions:

- A bit about me, a bit about you:
- Background?
- Goals?



Dr. Rosemary Kohr

7

## Who are your Residents?

- Age?
- Mobility?
- Contenance?
- Nutrition/hydration?
- Mental status (cognition)?
- Activity level?

POLL

Dr. Rosemary Kohr



8





Lesson 1:  
Aging Skin

9



## Anatomy & Physiology *of the Skin*

### Facts About The Skin

- Body's largest organ
- Covers approximately 3000 square inches
- Expands seven times over a lifetime
- Weighs six pounds or 20% of body weight
- 3 to 100 cells thick
- Thinnest in the Tympanic Membrane (in the ear)
- Thickest on the soles and palms
- Capable of regulating itself (temperature) and self-regeneration

Dr. Rosemary Kohr

10

## Skin Function: the body's front line of defense.

- Protection from bacteria, chemicals, Ultraviolet rays, water
- Vitamin D synthesis
- Heat Regulation
- Insulation
- Communication through sensation.
- Holds everything together.



Dr. Rosemary Kohr

11

## Skin Layers

Three layers all attached.

**Epidermis:** the keratinocytes.

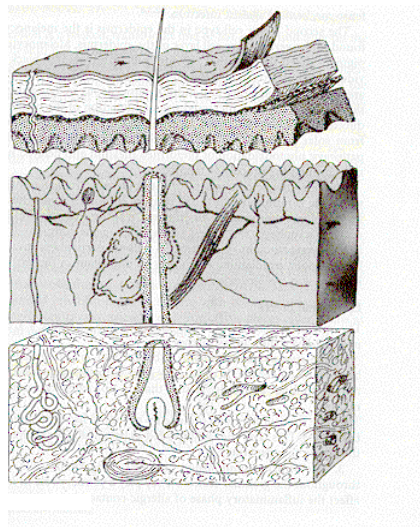
**Dermis:** the vasculature, sweat glands

**Subcutaneous layer.**

• Epidermis

• Dermis

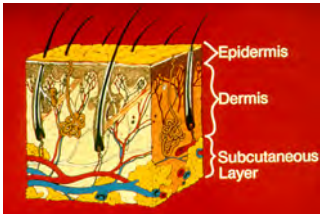
• Subcutis



Dr. Rosemary Kohr

12





## EPIDERMIS

- Outermost protective skin layer
- Formed by the continuous upward migration of *keratinocytes*
- *Takes about 1 months to migrate to surface*
- 3 to 100 cells thick
- Avascular layer (no blood supply)

Dr. Rosemary Kohr

13

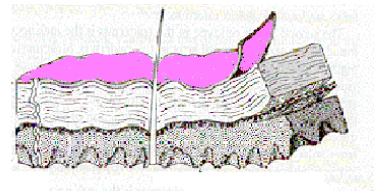
## Epidermis

### Stratum Corneum:

- Dead skin cells create a protective barrier
- Abraded daily by mechanical and chemical trauma (normal exfoliation)
- Composed of keratinocytes, melanocytes and lipids (fats and oils)
- Keratin and lipids maintain moisture levels

### The Acid Mantle:

Protects & helps slow bacterial growth

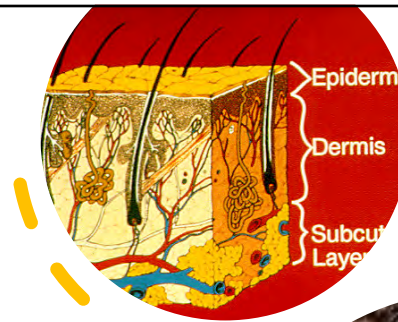


Dr. Rosemary Kohr

14

## Dermis

- Contains endocrine glands (sweat ducts), hair follicles, blood vessels, lymphatics and nerves
- Adipose tissue (layer of fat) provides energy, insulation and pressure distribution
- Vascularity provides heat exchange, nutrition and inflammatory response
- Skin is sometimes called the “third kidney”



Dr. Rosemary Kohr

15



## What happens to the skin as a person gets older?

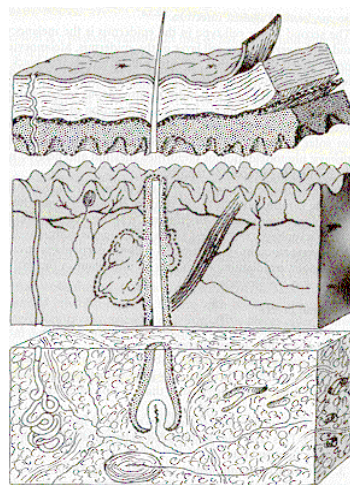
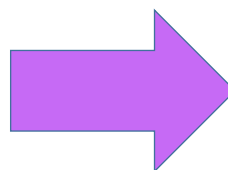
- Increased dryness
- Easy bruising
- Slower healing
- Often feel chilly (thermoregulatory changes)
- Wrinkles (depends on sun/smoking/genetics)
- Skin cancer/pre-cancer (depends on sun/environment/genetics)

Dr. Rosemary Kohr

16

## Aging Skin:

- Further Changes:
  - Thinning of attachments
  - Decreased elasticity
  - Decreased Vitamin D synthesis
  - Impaired sensory perception
  - Decreased sweating and sebum production



Dr. Rosemary Kohr

17



## Incontinence And Aged Skin

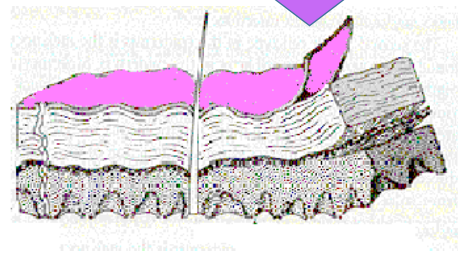
- Excess moisture and bacteria.
- Macerated (wet) skin requires less friction to cause damage

Dr. Rosemary Kohr

18

## Incontinence And Aged Skin

- Urea in urine is turned into ammonia
- This results in a high pH (alkaline)
- **Acid mantle** is now alkaline and cannot function
- If feces are present, digestive enzymes can be activated
- The barrier function of the skin can be overwhelmed



Dr. Rosemary Kohr

19

## So How do You Clean Skin?



- Dealing with hygiene, incontinence... Cleaning peri-area when continence brief is changed
- Bar soaps are alkaline (the “neutral/sensitive skin” soaps are the least alkaline)
- Bar Soap therefore reduces the normal acid mantle, resulting in **dry skin that is more prone to infections**
- Washcloths, are often rough and can result in friction injuries
- **Think about a body wash and a method to wash the skin that reduces friction**

Dr. Rosemary Kohr

20

## No more rough washcloths



**ALTERNATIVES  
(examples):**



**POLL: What do you  
use in your  
organization?**

Dr. Rosemary Kohr

21

## Moisture has to be just right!



Skin that is too wet is 5  
times more likely to  
break down (macerate)  
than dry skin

Skin that is too dry is 2.5  
more likely to break  
down than normal skin

Dr. Rosemary Kohr

22



## Lesson 2: Skin Care Products What to choose?

Look for clinical evidence

Goal should be to support  
normal skin functioning

Look for:

**Sensitizers** such as lanolin,  
perfumes & **AVOID THEM!**

pH of 4 -7

Ingredients that support  
skin functioning

Dr. Rosemary Kohr

23

## Barriers

- Goal is to increase the barrier function of the skin
- Formulations: Ointments, creams or films
- Petrolatum and **Zinc** are common → **removal requires mineral oil**
- Dimethicone (silicone) more popular now
- **Some ointments or creams can reduce the effectiveness of incontinence products**
- Liquid films (No Sting, Skin Prep)



Dr. Rosemary Kohr

24



## Moisturizers

- **Occlusives, Emollients or Humectants**
- Goal is to support well hydrated skin
- Occlusives: prevent moisture loss,
- Emollients: add moisture,
- Humectants: drawing moisture from the environment
- Petroleum jelly (Vaseline) is the most effective occlusive but is greasy (apply immediately after bathing)

Dr. Rosemary Kohr

25

## Perineal Cleansers

- The goal should be to remove feces, maintaining a normal pH and deal with odour
- Consider a product with a surfactant that is pH balanced
- Odour Control
- Consider a “no rinse” formula



Dr. Rosemary Kohr

26

## Skin Assessment:

- **Accurate history**
  - **Asses skin turgor** (adequate moisture)
  - **Skin should feel warm and dry**
- **Remember to assess any are of skin that is hiding from the obvious:**
- Skin folds, creases, under breasts, abdominal pannus, behind the ears
  - Lower legs, feet, between the toes
  - Perineal and perianal areas
  - Around joints and over bony prominences
  - Around braces, casts, orthodics and prosthetic devices



Dr. Rosemary Kohr

27

## Other issues: Fungal Infection



- Red flakey irritated skin
- Satellite lesions
- Skin folds

- Treat the underlying cause (always);
- Keep the area dry
- Avoid talcum powder
- Can use clotrimazole
- Wick moisture away (e.g., InterdryAG)



Dr. Rosemary Kohr

28



Dr. Rosemary Kohr



# Eczema



Dr. Rosemary Kohr

- Itchy, scaly, leathery, bumpy, red
- Anywhere on the body
- Minimize itching with moisturizers
- Talk to the RN:  
Low-dose Over the counter hydrocortisone (for short time only)
- If persistent, or symptoms are problematic, talk with the nurse or doctor

## What to do here?



wiseGEEK



Dr. Rosemary Kohr

31

## Lesson 3: Back to Basics: What your residents need:



Risk Assessment



Every Resident has excellent skin care



Full attention to nutrition and hydration



Every mattress and wheelchair cushion is at least pressure reduction (e.g., high density foam)

Dr. Rosemary Kohr

32



# Risk Assessment and Interventions

- Braden Risk Assessment Tool:
  - Sensory Perception
  - Moisture
  - Activity (e.g., bedfast, etc)
  - Mobility (move independently)
  - Nutrition
  - Friction/Shear
  - Existing Pressure Injury

**BRADEN SCALE FOR PREDICTING PRESSURE SORE RISK**

Patient's Name		Evaluator's Name		Date of Assessment		
SENSORY PERCEPTION ability to respond meaningfully to pressure-related discomfort	1. Completely Limited Unresponsive (does not moan, thrash, or grimace to painful stimuli, due to diminished level of consciousness or sedation). OR Inked ability to feel pain over most of body.	2. Very Limited Responds only to painful stimuli; cannot communicate discomfort except by moaning or restlessness. OR has a sensory impairment which limits the ability to feel pain or discomfort over 1/3 of body.	3. Slightly Limited Responds to verbal commands, but cannot always communicate discomfort or the need to be turned. OR has sensory impairment which limits ability to feel pain or discomfort in 1 or 2 extremities.	4. No Impairment Responds to verbal commands; has no sensory deficit which would limit ability to feel or voice pain or discomfort.		
	MOISTURE degree to which skin is exposed to moisture	1. Constantly Moist Skin is kept moist almost constantly by perspiration, urine, etc. Changes to be detected every time patient is moved or turned.	2. Very Moist Skin is often, but not always moist. Linen must be changed at least once a shift.	3. Occasionally Moist Skin is occasionally moist, requiring an extra linen change approximately once a day.	4. Rarely Moist Skin is usually dry, linen only requires changing at routine intervals.	
ACTIVITY degree of physical activity	1. Bedfast Confined to bed.	2. Chained Able to walk severely limited or non-existent. Cannot bear own weight and/or must be assisted into chair or wheelchair.	3. Walks Occasionally Walks occasionally during day, but for very short distances, with or without assistance. Uses crutches, walker, or other assistive device.	4. Walks Frequently Walks outside room at least twice a day and inside room at least once every two hours during waking hours.		
	MOBILITY ability to change and control body position	1. Completely Immobile Does not make even slight changes in body or extremity position without assistance.	2. Very Limited Makes occasional slight changes in body or extremity position but unable to make frequent or significant changes independently.	3. Slightly Limited Makes frequent though slight changes in body or extremity position independently.	4. No Limitation Makes major and frequent changes in position without assistance.	
NUTRITION usual food intake pattern	1. Very Poor Never eats a complete meal. Rarely eats more than 1/4 of any food offered. Eats 2 servings or less of protein, meat or dairy products per day. Takes fluids orally. Does not take a liquid dietary supplement. OR is NPO and/or maintained on clear fluids or IV's for more than 5 days.	2. Probably Inadequate Rarely eats a complete meal and generally eats only about 1/2 of any food offered. Protein intake is usually only 1 serving of meat or dairy products per day. Occasionally will take a dietary supplement. OR receives less than optimum amount of liquid diet or tube feeding.	3. Adequate Eats over half of most meals. Eats a total of 4 servings of protein (meat, dairy products) per day. Occasionally will take a meal, but will usually take a supplement when offered. OR is on a low-fiber or TPN regimen which probably meets most of nutritional needs.	4. Excellent Eats most of every meal. Never refuses a meal. Usually eats a total of 4 or more servings of meat and dairy products. Occasionally will refuse meals. Does not require supplementation.		
	FRICION & SHEAR	1. Problem Requires assistance to maintain position in bed or in chair. Sheets are impossible to adjust. Requires frequent repositioning with maximum assistance. Usually, contraindications or agitation leads to almost constant friction.	2. Potential Problem Moves freely or requires minimum assistance. During a move skin probably slides to some extent against sheets, chair, restraints or other devices. Maintains reasonably good position in chair or bed most of the time but occasionally slides down.	3. No Apparent Problem Moves in bed and in chair independently and has sufficient muscle strength to sit up completely during move. Maintains good position in bed or chair.		
* Copyright Barbara Braden and Nancy Bergstrom, 1988. All rights reserved.				Total Score		

Dr. Rosemary Kohr

33

## Skin Assessment Tool for PSWs

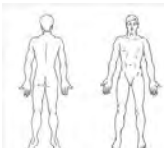
- To be completed after daily care
- Any issue identified, contact LPN or RN
- Just using the assessment tool significantly decreases the potential for skin breakdown (by 60%)

Skin Assessment for Resident Attendants to complete.  
(To be completed if any skin issues are noted or once per week)

Date: \_\_\_\_\_ Resident Name: \_\_\_\_\_ Room # \_\_\_\_\_

1. Do you see any of the following?

	YES	NO
1. Reddened areas		
2. Rash		
3. Blisters		
4. Skin tears		
5. Other open areas (describe)		



IF YES TO ANY OF THE ABOVE, CONTACT THE LPN OR RN AND DOCUMENT ON THE CHART.  
What is the location? (Mark with "X" and add reference number from the list above)

\*Is the Resident:

	YES	NO
incontinent of a. Urine		
b. Stool		
in bed or a chair most of the day?		
eating all their meals in a day?		
drinking at least 8oz. of fluids each day?		
sliding down in bed or in the chair?		
complaining of pain?		

\*The risk factors associated with Pressure Injury development.

Signature of RA: \_\_\_\_\_

Dr. Rosemary Kohr

34

Use of a Risk Assessment Tool and simple interventions:

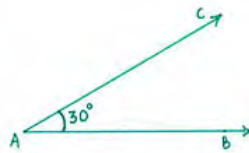
- reduce the incidence of **nosocomial\*** pressure injury by 40-60%.
- reduce the severity of nosocomial pressure injury
- reduce the cost of care by decreasing the inappropriate use of specialty beds
- reduce the cost of care by avoiding the excess hospital days associated with the complication of nosocomial pressure injury

*\*Nosocomial : hospital/institution-acquired*

Dr. Rosemary Kohr

35

Assess risk....  
And do something about it.



Dr. Rosemary Kohr

• **SENSORY PERCEPTION:**

- Reposition/turn;
- 30 degree rule
- Pressure reduction surfaces
- Protect heels
- Foam wedges

36

Let's talk about heels...

POLL: what do you have available to use in your organization to keep heel pressure off?

Dr. Rosemary Kohr

37

Assess risk.... Moisture  
And do something about it.

- Assess cause of incontinence
- Use RNAO BPG continence/constipation for recommendations
- Use appropriate continence products  
 Correct SIZE for patient/resident
- Appropriate soaps, barrier creams, etc.
- Diaphoresis (excessive sweating):  
 cause— fever, medication or ?

Dr. Rosemary Kohr

38

# Moisture: Incontinence-Associated Dermatitis



Characteristics	Incontinence-Associated Dermatitis	Pressure Injury
Location	Often in Skin folds Diffuse	Usually over bony prominence; Well defined
Colour	Red or bright red	Red to bluish/purple
Depth	Intact skin to partial-thickness wound	Intact skin to partial or full-thickness wound
Necrosis (Black tissue)	None	May be present
Pain & itching	May be present	Generally not present

Dr. Rosemary Kohr

39

Assess risk....  
And do something  
about it.

## ACTIVITY/MOBILITY:

- Assess tolerance for activity/mobility
- Re-mobilize, involve OT, PT
- Range of motion: passive/active



Dr. Rosemary Kohr

40

Assess risk....  
And do something about it.

• **NUTRITION:**

- Major factor in prevention of skin breakdown.
- “Dietitian to assess”
- Swallowing assessment may be needed
- Fluid intake important (water)
- Provide adequate caloric intake
  - Supplements such as Ensure, Resource, etc
  - Assistance with eating
  - Dentures that fit



Good Nutrition

- Important part of a resident's Rx.
- Make mealtimes pleasant
- Time for social interactions
- Allows time to eat with others
- Eat alone? = poor appetite
- LTC-Long term care facilities-encourage eating in dining room

Resident confined to bed

- Bedridden?
- Sit down in CHAIR (Not the Bed!) to feed the resident
- TALK to the resident!
- Eat/Feed resident while food is hot; as soon as it arrives to floor



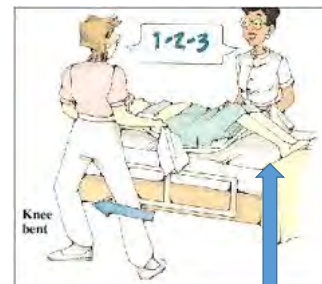
Dr. Rosemary Kohr

41

Assess risk....  
And do something about it.

• **FRICION & SHEAR:**

- Use good body mechanics to move
- Lift sheet (and lift, not slide)
- Protect fragile skin (elbows, knees, heels)
- Teach paraplegic individuals to lift when shifting from bed/chair



How to Use a Slide Board

**WATCH THOSE HEELS!!**  
**DON'T DRAG!!**

Dr. Rosemary Kohr

42



## How often should we check?

- Helping the resident get dressed/go to bed
- At Bath-time
- Changing continence briefs/cleansing perineal area
- IF any change in condition (e.g., agitated, more sleepy, diarrhea, etc)
- Any change in medication
- When else?



Dr. Rosemary Kohr

43

## Summary

- Skin care requires attention to **moisture and pressure**
- Know your patient/resident risk factors for skin breakdown
- Assess your residents' skin on a regular (daily) basis
- Work with your team (RN/RPN, etc) to activate a plan of care to prevent skin breakdown
- Keep a close eye on those risk factors: incontinence, not mobile, not eating enough, not drinking enough water...

Dr. Rosemary Kohr

44

A slide with an orange background on the left and a white semi-circle on the right. A yellow sun with dashed rays is on the orange background. The text "Lesson 4: Skin tears, bedsores and other things..." is in the white area. At the bottom center, it says "Dr. Rosemary Kohr".

Lesson 4:  
Skin tears, bedsores and  
other things...

Dr. Rosemary Kohr

45

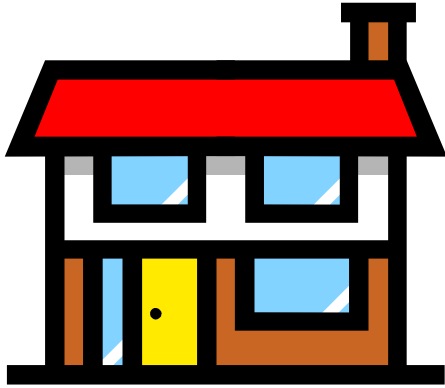
### Three Phases of Wound Healing

<b>INFLAMMATION</b>	<b>PROLIFERATION</b>	<b>MATURATION</b>
Day 0 - 4	Day 4 - 24	Day 24 - 2yr
Removal of bacteria & debris	New tissue growth	Scar formation strengthening

Dr. Rosemary Kohr

46

## Damaged House Analogy



- **Hemostasis/Utility Workers**
- **Inflammation/Non-skilled Laborers & Contractor**
- **Granulation/Framers & Skilled workmen (plumber, electrician, etc)**
- **Maturation/Interior finishing & landscaping**

Dr. Rosemary Kohr

47

*Why wounds don't heal:*

### **Absorption?**

- Moisture (too dry/too wet)

### **Bacteria?**

- Infection

### **Crust/crap?**

- Necrotic/sloughy tissue

### **Crust/crap?**

And...

- Repeated trauma (wet-to-dry dressings)
- Pressure
- Dressing selection



Dr. Rosemary Kohr

48

## Other things affecting healing:

- Age
- Decreased oxygen supply
- Malnourished
- Compromised immune system
- Diabetes
- Cancer
- Other infection

Dr. Rosemary Kohr

49

Think about the residents/patients at your work-place. How many of these issues do they have?

POLL

- Pressure
- Moisture
- Immobility
- Nutritional/fluid deficits
- Chronic illness (e.g., diabetes)
- Aging process

Dr. Rosemary Kohr



50

## CONTRIBUTING FACTORS TO SKIN BREAKDOWN:

- Chemicals and enzymes (urine, feces)
- Circulatory problems
- Bacteria
- Allergic reaction
- Radiation damage



Dr. Rosemary Kohr

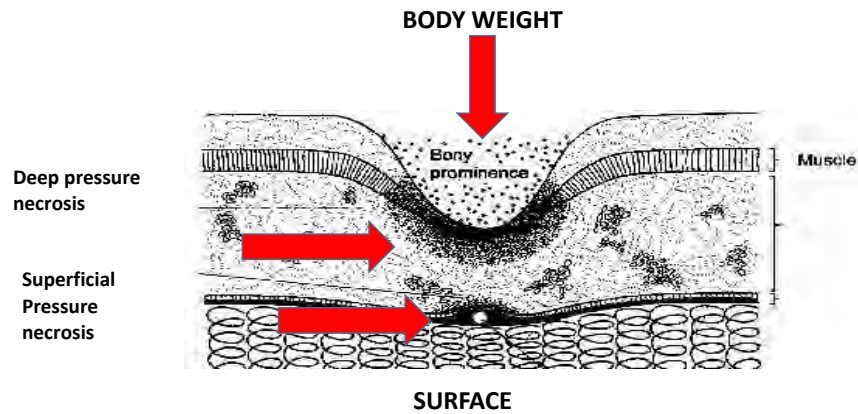
51

## Pressure Injuries: Development, prevention and treatment

Dr. Rosemary Kohr 2020

52

## Development of a Pressure Injury



Dr. Rosemary Kohr 2020

53



Check pressure point locations  
(hidden and visible)

Dr. Rosemary Kohr 2020

54



# Pressure Injury Development

Unable to weight shift/move



Prolonged/unrelieved pressure over a bony prominence



**PRESSURE INJURY DEVELOPMENT**

Dr. Rosemary Kohr 2020

55



## Discussion:

- Situations in your clinical setting where patient's skin breakdown/pressure injury might occur:
- What is currently in place to manage skin breakdown?
- What could be done differently to address skin breakdown?

Dr. Rosemary Kohr 2020

56



### Factors contributing to skin breakdown/pressure injury as a result of wheelchair sitting:

#### Equipment factors:

- Ill-fitting (size) of wheelchair
- Condition of wheelchair and seating
- Incorrectly set up equipment
- Inappropriate seating equipment

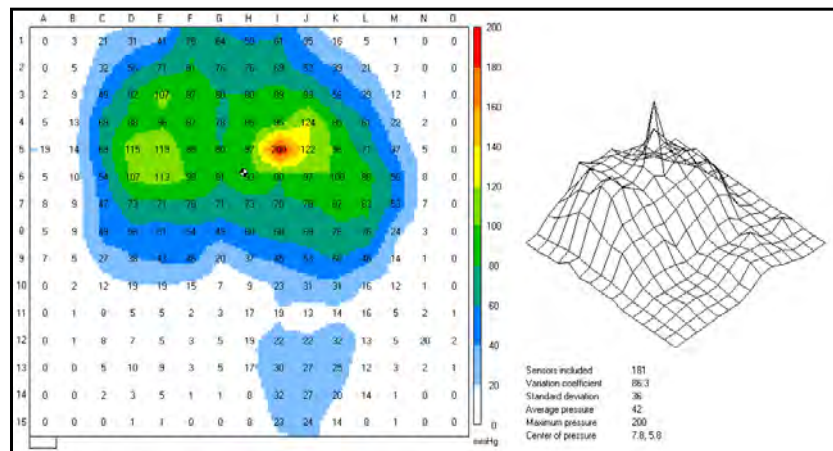
#### Patient factors:

- Poor postural alignment
- Inability to weight shift/extended periods of sitting
- Poor placement in wheelchair
- Comfort
- Balance & stability for functional activities
- Patient adherence

Dr. Rosemary Kohr 2020

57

## PRESSURE MAPPING: An Educational Tool



Dr. Rosemary Kohr 2020

58



## Seating: What's wrong here?

Dr. Rosemary Kohr 2020

59

### CUSHIONS: WHAT TO KEEP IN MIND



ARTIFICIAL SHEEPSKIN DOES **not** PROVIDE PRESSURE RELIEF!

- Orientation is critical-upside down, sideways or backwards.
- Artificial Sheepskin or folded bed linens or towels should be avoided.
- Products do not last forever-foam may become friable, gel may lose resiliency.
- Inflation of air cushions is critical.



GEL CUSHION



NO DONUTS, PLEASE!

EHOB Cushion



ROHO CUSHION

PRESSURE RELIEF SURFACES ARE IMPORTANT.

Dr. Rosemary Kohr 2020

60



## Geri-chairs & Lifts



### Geri chair:

- Vinyl upholstery on seat and back for hygiene and maintenance
- Require set up for individual users
- Tilt/recline feature
- Recline not always appropriate
- Difficult to integrate commercial back supports and cushions
- Poor pressure distribution
- Difficult to push
- Uncomfortable

### Mechanical Lifts:

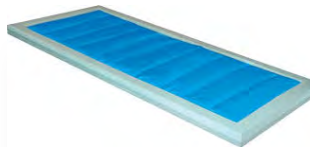
- Improves safety for both patient and care provider
- Relatively easy to use
- Particular benefit with individuals who are unable to assist with transfers (e.g., bed to chair) or larger patients
- **Care must be taken to avoid pressure injuries**

Dr. Rosemary Kohr 2020

61



### Beds/mattress: Depends on patient's need



### Types of surfaces:

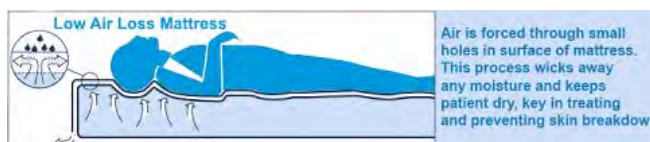
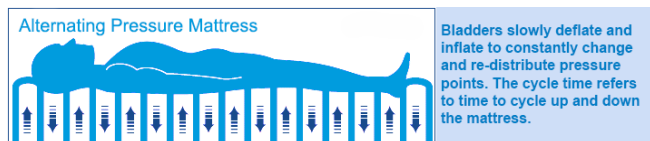
- Standard mattress/surface should have high density foam core (viscoelastic foam)
- Overlays (e.g., gel)
- Low Air Loss (LAL)
- Alternating Pressure
- Air Fluidized

62

## Use of Air in Bed Surfaces:



- **Air Fluidized Therapy (AFT)** provides excellent pressure redistribution and moisture management for complex wounds by creating a "bead bath". An immersive environment is created by blowing air under a thick layer of silicone beads, giving the patient an ideal healing environment.



Dr. Rosemary Kohr 2020

63

## Consider the patient...

- Prevention of skin breakdown
  - Pressure redistribution
  - Turning schedule (2-4 hours)
  - Heels 'floating' off the bed
  - Moisture management
  - Nutrition
- Characteristics of the wound
  - What type of surface is of most benefit?
- Type of patient:
  - Bariatric (how big is BIG?)
  - "tea & toaster"
- Mobility:
  - Firm perimeter (assists in getting out of bed)
  - Turn assist
  - Trapeze access (bariatric bed)



Dr. Rosemary Kohr 2020

64

## Knowledge of how the equipment works:

### Wheelchairs and geri-chairs:

- Adjustable height armrests
- Footrest hangers
- Laptrays
- Use of tilt

### Bed surface functions: IS THERE A MOTOR TO TURN ON?

- Heel relief
- Surface requirements (eg, no sheets, specialty pads)
- Pulsation
- Turn-assist
- Air-fluidized
- Gel

- Observation of condition of equipment
  - Maintenance/cleaning
  - Cushion orientation/condition

Dr. Rosemary Kohr 2020

65

## Staging: ONLY for Pressure Injury

[Pressure injury staging demo with grapefruit](#)

National Pressure Ulcer Advisory Panel (NPUAP) Staging System – 2016 Update

Definition: A pressure injury is a localized injury to the skin and/or underlying tissue, usually over a bony prominence, as a result of pressure, or pressure in combination with shear and/or friction.

### **PRESSURE (ULCER) INJURY STAGES**

#### **Deep Tissue Injury (DTI)**

Purple or maroon localized area of discolored intact skin or blood-filled blister due to damage of underlying soft tissue from pressure and/or shear. The area may be preceded by tissue that is painful, firm, mushy, boggy, warmer or cooler as compared to adjacent tissues.

#### *Further description:*

Deep tissue injury may be difficult to detect in individuals with dark skin tones. Evolution may include a thin blister over a dark wound bed. The wound may further evolve and become covered by thin eschar. Evolution may be rapid, exposing additional layers of tissue even with optimal treatment.

Dr. Rosemary Kohr 2020

66

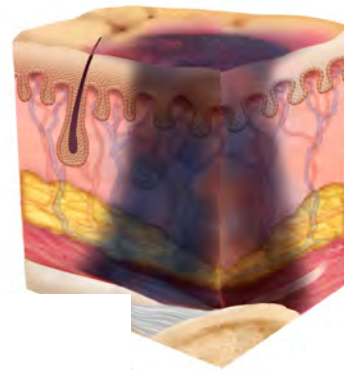


# Deep Tissue Injury



Dr. Rosemary Kohr 2020

Deep Tissue Pressure Injury



67

## Staging: PRESSURE injury/wounds ONLY

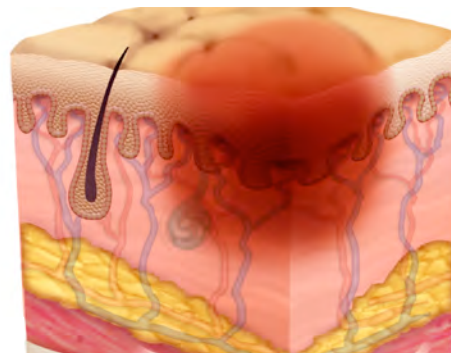
### Stage I

- Intact skin with non-blanchable redness of a localized area, usually over a bony prominence. Darkly pigmented skin may not have a visible blanching; its color may differ from the surrounding area.

### • Further description:

- The area may be painful, firm, soft, warmer or cooler as compared to adjacent tissue.
- Stage I may be difficult to detect in individuals with dark skin tones. May indicate "at risk"
- persons (a heralding sign of risk).

Dr. Rosemary Kohr 2020



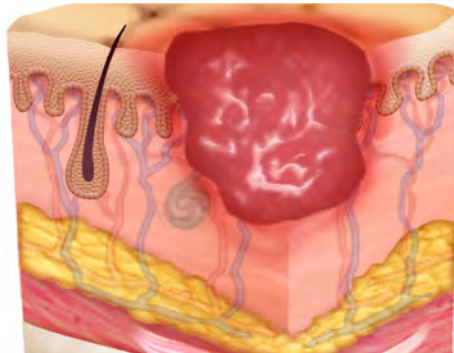
68

## National Pressure Ulcer Advisory Panel (NPUAP) Staging System – 2016 Update

### Stage II

- Partial-thickness loss of dermis presenting as a shallow open ulcer with a red pink wound bed, without slough. May also present as an intact or open/ruptured serum-filled blister.
- *Further description:*
- Presents as a shiny or dry shallow ulcer without slough or bruising\*. This stage should not be used to describe skin tears, tape burns, perineal dermatitis, maceration, or denudement.
- \*Bruising indicating suspected deep tissue injury.

Dr. Rosemary Kohr 2020



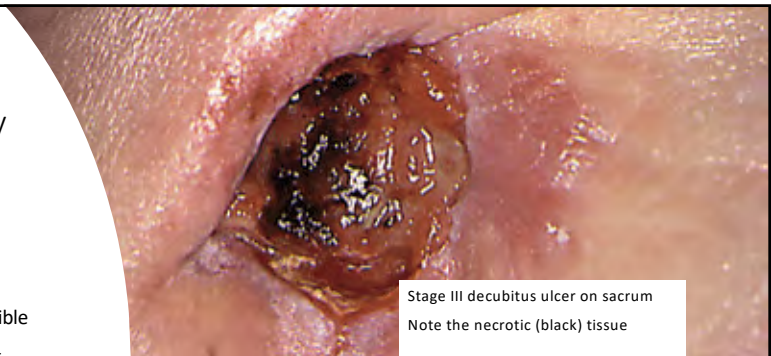
69

## National Pressure Injury Advisory Panel (NPIAP) Staging System – 2016 Update

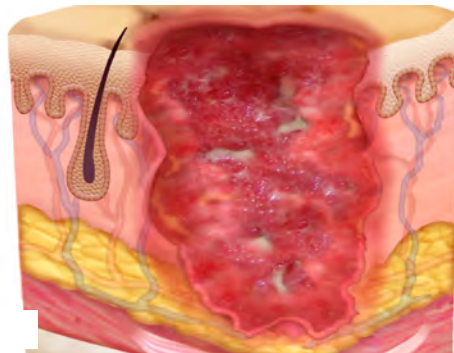
### Stage III

- Full-thickness tissue loss. Subcutaneous fat may be visible but bone, tendon, or muscle are not exposed. Slough may be present but does not obscure the depth of tissue loss. May include undermining and tunneling.
- *Further description:*
- The depth of a Stage III pressure ulcer varies by anatomical location. The bridge of the nose, ear, occiput, and malleolus do not have subcutaneous tissue and Stage III ulcers can be shallow. In contrast, areas of significant adiposity can develop extremely deep ulcers.
- Stage III pressure ulcers. Bone/tendon is not visible or directly palpable.

Dr. Rosemary Kohr 2020



Stage III decubitus ulcer on sacrum  
Note the necrotic (black) tissue



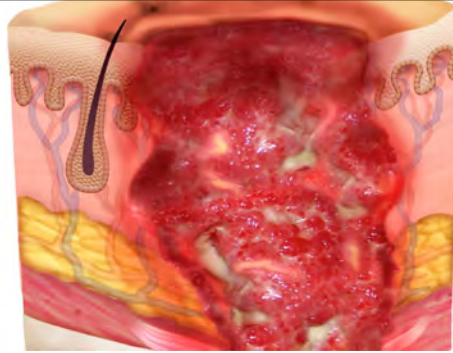
70

National Pressure Injury Advisory Panel (NPUAP) Staging System – 2016 Update: **Stage IV**

- Full-thickness tissue loss with exposed bone, tendon, or muscle. Slough or eschar
- may be present on some parts of the wound bed. Often includes undermining or tunneling.

*Further description:*

- The depth of a Stage IV pressure wound varies by anatomical location. The bridge of the nose,
- ear, occiput, and malleolus do not have subcutaneous tissue and these wounds can be shallow.
- can extend into muscle and/or supporting structures (for example, fascia,
- tendon, or joint capsule) making osteomyelitis possible. Exposed bone/tendon is visible or directly palpable.



Dr. Rosemary Kohr 2020

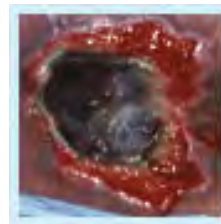
71

National Pressure Injury Advisory Panel (NPUAP) Staging System – 2016 Update: **Unstageable (Stage X)**

- Full-thickness tissue loss in which the base of the wound is covered by slough (yellow, tan, gray, green, or brown) and/or eschar (tan, brown, or black) in the wound bed.

*Further description:*

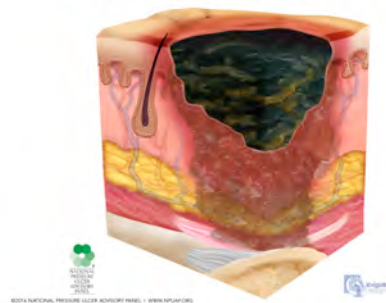
- Until enough slough and/or eschar is removed to expose the base of the wound, the true depth, and therefore stage, cannot be determined.
- **Stable (dry, adherent, intact without erythema or fluctuance) eschar on the heels serves as “the body’s natural (biological) cover” and should not be removed.**



Unstageable Pressure Injury - Slough and Eschar



Unstageable Pressure Injury - Dark Eschar



Dr. Rosemary Kohr 2020

72

## Pressure Injury: Things to Remember

- Treat the Underlying Cause(s):
  - **Off-load pressure:**
    - Heels, other bony prominences
  - Deal with:
    - Incontinence
    - Nutrition/hydration
  - Heels: check both feet!!
- Communicate with the team (RN/RPN) if you notice any change

Dr. Rosemary Kohr 2020

73

## What should I be watching for?

- **Skin breakdown is all about pressure**
- Look at pressure points (elbows, heels, back of the head, between the knees, bottom...)
- Look for areas of redness that when pressed, DON'T "blanch"—pale and when you let off the pressure, turn pink again
  - Darker skin: look for change in colour compared with surrounding area
- **Skin breakdown is all about moisture/incontinence**
  - Raw, red areas of "diaper rash"
  - Clean well with neutral wash
  - Use a barrier cream (prefer one with DIMETHICONE or even Vaseline)
    - Avoid Zinc products—too hard to remove

Dr. R Kohr 2020

74

## Pressure ulcers:



Dr. R. Kohr 2018

75

## PREVENTION

- Mobility / positioning for OFF LOADING
  - Moving techniques
  - Surfaces
  - Mattresses and cushioning *requires minimum 6" high- density foam for effective pressure relief*
- Contenance
- ?? Protective dressings
- INSPECT routinely (pressure points) and OFF-LOAD PRESSURE

Dr. Rosemary Kohr

76





EXAMPLE OF INAPPROPRIATE OFF-LOADING DEVICE: NOTE PRESSURE POINTS & ANGLE OF HIP LEADING TO SACRAL PRESSURE.

Dr. Rosemary Kohr

77



CORRECT APPROACH TO USING PILLOW UNDER THE LEG TO OFF-LOAD PRESSURE TO HEEL

Dr. Rosemary Kohr

78



## “Diabetic Feet”

Foot ulcers affect 30-50% of people with Type 2 diabetes



Impaired function of nerves & blood vessels supplying the feet.

Feet are dry--callus, dry skin.

Prone to fissures, cracks & pressure ulcers--leading to infection which can enter and spread through the foot.

Dr. Rosemary Kohr 2020

79

## Sensory neuropathy:



- robs the diabetic foot of the protective mechanism of pain allowing ulceration to develop in response to minor trauma or rubbing.

Dr. Rosemary Kohr 2020

80

## Autonomic neuropathy



- reduces sweating and opens arteriovenous shunts in the foot.
- diabetic foot is typically warm, may have strong pedal pulses and dry, cracked skin.
- skin fissuring allows entry of bacteria causing localized infection.

Dr. Rosemary Kohr 2020

81

## Motor neuropathy

- Causes wasting of the small intrinsic muscles of the foot with collapse of the longitudinal and transverse arches
- Creates deformities to the foot
- abnormal pressure areas then develop which progress to ulceration (foot-wear is crucial).



Dr. Rosemary Kohr 2020

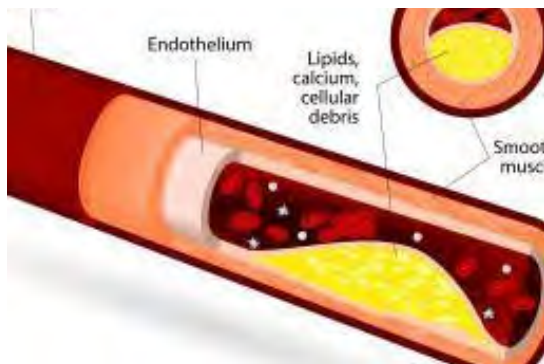
82

## Motor neuropathy foot deformity



Dr. Rosemary Kohr 2020

83



## Atherosclerosis (plaque build-up)

- develops at a much younger age and is more extensive and distal.
- Not uncommon for a diabetic to have a critically ischemic foot in the presence of a normal popliteal pulse due to occlusion of the crural arteries.
- In addition to disease of the major arteries, capillary basement membranes thicken, impairing oxygen diffusion to the tissues of the foot.

Dr. Rosemary Kohr 2020

84

- **MONOFILAMENT Testing**
- **Examine both feet**
- **Look for signs of neuropathy**
- **Should have score of minimum 6/10**



Dr. Rosemary Kohr 2020

85

## Prevention: EDUCATE EDUCATE EDUCATE: How do we do this best?

- **TEACH** about the importance of:
  - Daily foot inspection
  - Daily footwear inspection
  - Proper hygiene
    - drying / fungal powder / moisturize
  - Proper footwear (all the time)



Dr. Rosemary Kohr 2020

86

## Prevention: Footcare & Footwear



Dr. Rosemary Kohr 2020

What is available in your location?

- Foot care nurse/clinic)
- Chiropodist/Podiatrist
  - able to deal with majority of foot issues, including surgical intervention
- Pedorthist/Orthotist
  - Provide orthotics & other devices

87



## Footwear

Dr. Rosemary Kohr 2020

88

## SUMMARY: PREVENTION

- Start with **INSPECTION OF BOTH FEET**
- **HEELS** off the surface (bed, chair)
- Foot hygiene--wash, dry feet & toes, apply cream to dry, cracked skin, observe & document any areas of skin breakdown or callus
- Specific diabetic socks and footwear
- Off-loading orthotics
- **STOP SKIN BREAKDOWN BEFORE IT STARTS!!**



Dr. Rosemary Kohr 2020

89

Lesson 5:  
Chronic Disease = Circulatory  
problems= Venous/Arterial  
wounds

Dr. Rosemary Kohr 2020

90



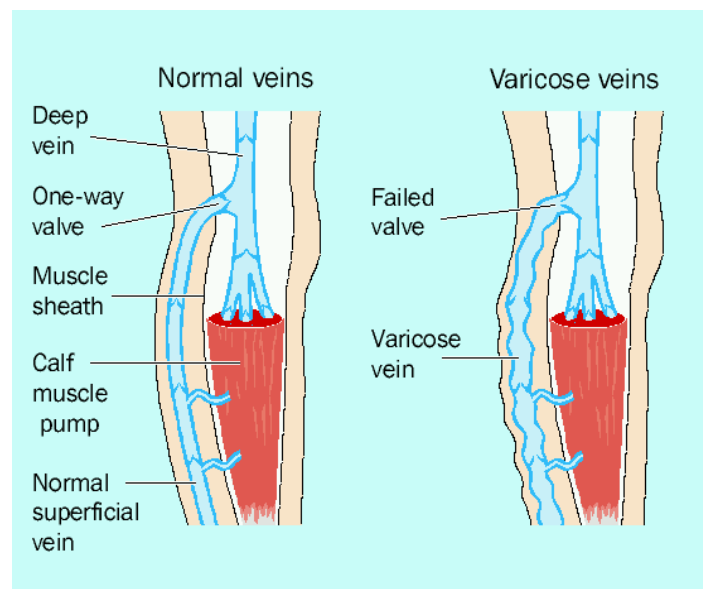
# Venous leg ulcers

- Common: 80% of leg ulcers
- Recur: recurrence rate of 70%
- Venous flow is dependent on the calf-muscle pump
- Venous insufficiency results in leakage into the surrounding tissue
- Hemosiderin staining: breakdown of RBCs into tissue/skin
- Over time, lower limb will become hard with “brawny” edema (firm to touch).

Dr. Rosemary Kohr 2020



91



Dr. Rosemary Kohr 2020

92



## SWOLLEN LEGS are the start...

- Who is at risk?
  - Blood clot
  - Varicose veins
  - Obesity
  - Sedentary/immobilized
  - CHF/cirrhosis/low albumin/CK
- **And if we do nothing here...?**

93

And we wonder why it's not  
getting any better...



Swollen legs and:

- The skin around or above the ankles looks reddish, yellowish, or a brown color
  - Varicose veins; twisted, bulging, and dark purple or blue
  - Pain
  - Itching
  - Sores that ooze, crust, or look scaly
  - Thickened skin around ankles or shins
  - Hair loss on ankles or shins
- **Treatment maybe a variety of creams, etc.**
- **"Nothing seems to really work".**

Dr. Rosemary Kohr 2020

94



95

Dr. Rosemary Kohr 2020

At each step, we need to Treat the Underlying Cause  
*which is... ??*

PREVENTION                      TULC\*                      TULC & TREAT                      TULC & TREAT

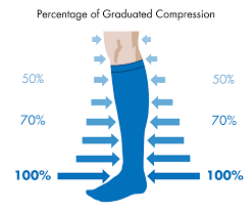
\*TULC: Treat the Underlying Cause

96

# 1. PREVENTION

- Graded compression STOCKINGS
- ABI and PAD check FIRST
- **not TEDS**
- not full leg
- toe to below knee
- Need to be properly fitted by Certified Fitter
- **TEACH TEACH TEACH**
- NEED donning and doffing devices

Dr. Rosemary Kohr 2020



97



## PREVENTION: Wearing Graded Compression Stockings

### "It's for life..."

- GRADED COMPRESSION STOCKINGS FOR INTACT SKIN (no open wounds)
- Check to make sure an Ankle-Brachial Pressure Index (ABPI) assessment has been done (within 6 months)
- Appropriate stocking (to be worn on getting out of bed until bedtime).
  - Many types of Graded Compression stockings
  - *Sigvaris™ is one example*

Dr. Rosemary Kohr 2020

98





When there is a Venous leg ulcer (VLU): COMPRESSION is the GOLD STANDARD

Dr. Rosemary Kohr 2020

99



## What do VLUs look like?

- Painful
- Shallow, irregular shape
- On shin
- Wound is draining serous fluid
- Hemosiderin staining circumferentially
- Edema: "champagne flute lower leg"

Dr. Rosemary Kohr 2020

100

Compression is the Gold Standard for venous leg ulcer management. But...

- **No compression** without Ankle-Brachial Pressure Index!!!
- Need to know proper technique to apply wraps
- Compression “adherence”: uncomfortable, bulky—must be willing
- Explain need to elevate legs and use compression (if warranted) for edema control
- **Wounds won’t heal if edema is not managed**
- Explain in language the patient understands

Who applies compression wraps in your facility?

Dr. Rosemary Kohr 2020

101



## Alternative to compression wraps/stockings

Dr. Rosemary Kohr 2020

102



## Compression in action



BEFORE



AFTER

**RESIDENTS NEED TO KNOW– ONCE THE WOUND IS HEALED, THEY WILL NEED COMPRESSION STOCKINGS FOR THE REST OF THEIR LIVES TO AVOID DEVELOPING ANOTHER VENOUS LEG ULCER!**

Dr. Rosemary Kohr 2020

103

## Contact dermatitis

- Allergic reaction to topical treatments
- 51-85% of patients with venous leg ulcers have some form of contact dermatitis
  - Topical antibiotics
  - Lanolin in topical moisturizers
  - Chemicals in dressings
  - Preservatives
  - Fragrances



Dr. Rosemary Kohr 2020

104

## Arterial/ischemic ulcers

- Characteristics:
  - Often over toe joints
  - “punched out” appearance
  - Pale wound bed
  - Necrotic (black) tissue
  - Legs: thin, bird-like, taut, shiny skin
  - Thickened toenails
  - Dependent rubor
  - Pain on ambulation or leg elevation
- Can have combination venous/arterial ulcers

Dr. Rosemary Kohr 2020



105

## Things to remember...

- Arterial & venous wounds are the truly “chronic” of chronic wounds;
- Patient buy-in to treatment is essential
- Need to be aware of lifestyle issues
- Manage pain!
- **Venous ulcers: COMPRESSION**
- **Arterial ulcers: KEEP DRY (usually paint with Betadine)**

Dr. Rosemary Kohr 2020

106

## A wound tipping into infection:

- When a wound is not healing (more than 3 weeks with no progress)
- When there is odour
- When there is an increase in drainage/exudate from the wound
- Redness around the wound (spreading?)
- Swelling around the wound
- Area around the wound is warmer to the touch
- When there is pain (increased or change in the type of pain)
- Temperature

Dr. R Kohr 2020

107

## Your main role:

- **Prevention of skin breakdown**
- Regular assessment
- Contact your team if you identify the start/change of wound
- Follow the treatment plan
- Let the team know if dressings/treatment is not working

Dr. Rosemary Kohr

108

## Lesson 6: When and what to use in Chronic Wound Management

What PSWs need to know.

109

Dressings:  
What should a  
PSW know/be  
able to do?

Know the types  
of dressings

What dressings  
are used for

- when
- how often to change

What dressings  
look like

- When they are intact and okay
- When they need to be changed or reinforced

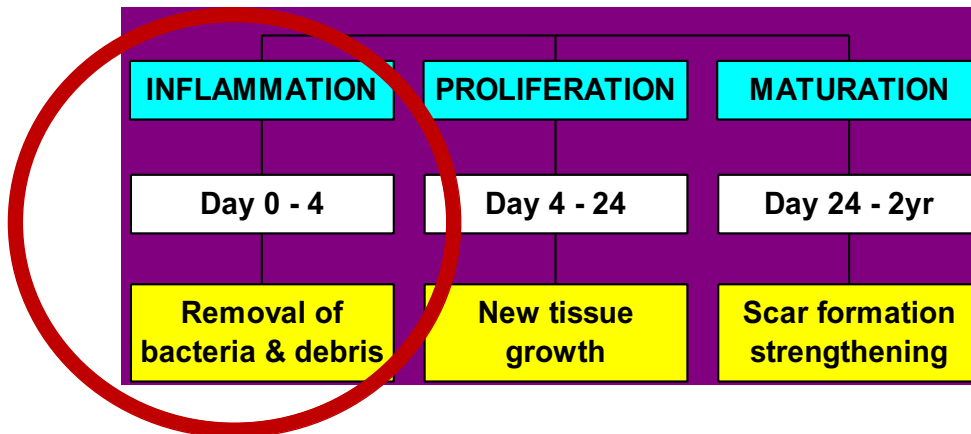
When infection  
occurs (contact  
the team)

Dr. Rosemary Kohr

110

# What should I know about dressings/ treatment?

How do wounds heal?



**TYPICALLY, CHRONIC WOUNDS GET STUCK IN THE INFLAMMATORY PHASE**

Dr. R Kohr 2020

111

## Damaged House Analogy



- **Hemostasis/Utility Workers**
- **Inflammation/Non-skilled Laborers & Contractor**
- **Granulation/Framers & Skilled workmen (plumber, electrician, etc)**
- **Maturation/Interior finishing & landscaping**

Dr. R Kohr 2018

112

## Treatment needs to be focused on:

- **Treat the underlying cause:**
  - Pressure
  - Incontinence
  - Poor nutrition/hydration
  - Infection
  - Other chronic disease conditions



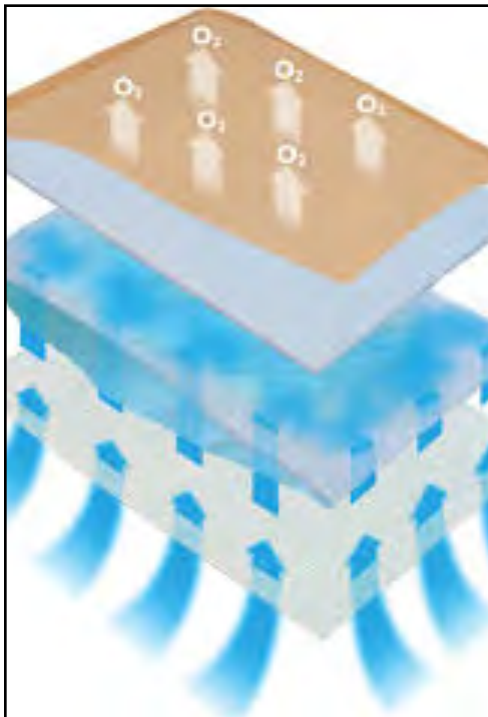
### ***Then: dressing options***

Dressings should provide :

- A moist wound bed environment

Dr. R Kohr 2018

113



## The Importance of MOISTURE-VAPOUR TRANSFER (MVT).

- Wounds that are too wet are unable to process the healing cascade.
- Dressings that do not provide MVT can stall wound closure by keeping the wound bed saturated.
- Dressings should provide effective MVT to support effective wound closure.

Dr. R. Kohr 2020

114



Dressings should:



Dr. R Kohr 2020

115

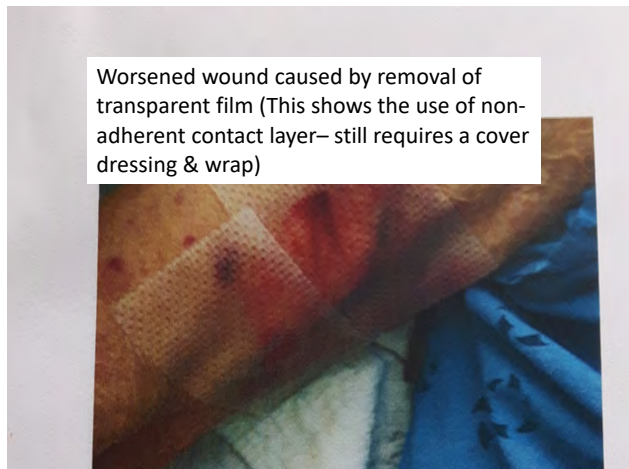


## TRANSPARENT FILM

Dr. Rosemary Kohr 2020

116

INSTEAD USE NON-ADHERENT DRESSING (EG MEPITEL® or ADAPTIC® or... ABSORBENT ACRYLIC DRESSING (3M®) or... other non-adherent contact layer dressing.



Dr. Rosemary Kohr 2020

117

## BASIC Dressing selections :

Type of Dressing	What does it do/special features
Barrier (cream, film, wipe, spray)	Protects skin & peri-wound skin Allows moisture vapour transfer Reapply q 24 hours or prn
Absorbent Acrylic	Protects skin & peri-wound skin Allows moisture vapour transfer Stays on 3 weeks +
Foam	Absorbs, wicks away drainage Stays on 5 + days
Hydrocolloid	Occlusive (not for infected wounds) Stays on 5-7 days
Calcium Alginate/hydrofibre	Wicks away drainage Needs a cover dressing (unless in pad format)
Hydrogel	Donates moisture to wound bed Scant amount required Cover dressing (e.g., Medipore w pad)

Dr. R Kohr 2018

118

# How to choose a dressing: A B C Ds

- A** AMOUNT (of fluid)
- B** BACTERIA
- C** CRUST
- D** DRY
- s Skin Tear

## AMOUNT of FLUID

**VERY HEAVY** – soaks through pads requiring frequent dressing changes (O.D. +)

**HEAVY to moderate** – dressing requires changing q 1-2 days)

**Light** – dressing change q 5-7 days

**Minimal or DRY** – protective dressing (stays on as long as possible)

## Dressing depends on: **AMOUNT of FLUID**

**VERY HEAVY** – soaks through pads\* requiring frequent dressing changes (O.D. +)

example: Xtrasorb:



**\* avoid "Abd" pads!!**

121

HEAVY to moderate dressing requires changing every 1-2 days

Foam dressings can stay intact until drainage area on outside is within 1-2 cm of the edge



- **FOAM DRESSING**
- Remember *Moisture Vapour Transfer*
- Foam: e.g., Mepilex with/without border, with/without silver (AG)
- Mesorb Pad "cheap & cheerful" (to replace those abd pads that just soak without MVT))

122



- **Light** – dressing change q 5-7 days
  - Use a light FOAM dressing or CLEAR ACRYLIC
- **Minimal or DRY**– protective dressing (stays on as long as possible)

Dr. Rosemary Kohr 2020

123



## DRESSING selection DEPENDS ON: **Bacteria**

- ✘ **Goal: decrease the bacterial burden**
- ✘ **Unless systemic infection, treat with topical antimicrobial dressings**
- ✘ **Topical options:**
  - +Salt, silver, honey, iodine
  - + (more about these later)
- ✘ **Compression is possible while infection present.**

Dr. Rosemary Kohr 2020

124

## B: Bacteria

- **In wounds, often drainage increases with bacterial load:**

- **TOPICAL DRESSING OPTIONS:**

- Silver –any dressing with “AG” (weekly)
- Medical-grade Honey (weekly)
- Hypertonic sodium (eg: Mesalt: **daily**)
- “Iodine” in slow-release form
  - (eg: Iodosorb/Inadine) **q 3 days**

Dr. Rosemary Kohr

125

## C: Dressing depends on Cleaning up the Crust

- Use an “autolytic” debrider component
- Important: leave the dressing intact as long as possible to allow autolytic debridement to occur.

Examples:

- hydrocolloid (e.g., Comfeel®, Tegaderm®)
- Medical-grade honey (paste/patch with colloid)
- Foam (Mepilex®, Biatain®)
- And sometimes hypertonic salt (Mesalt®)

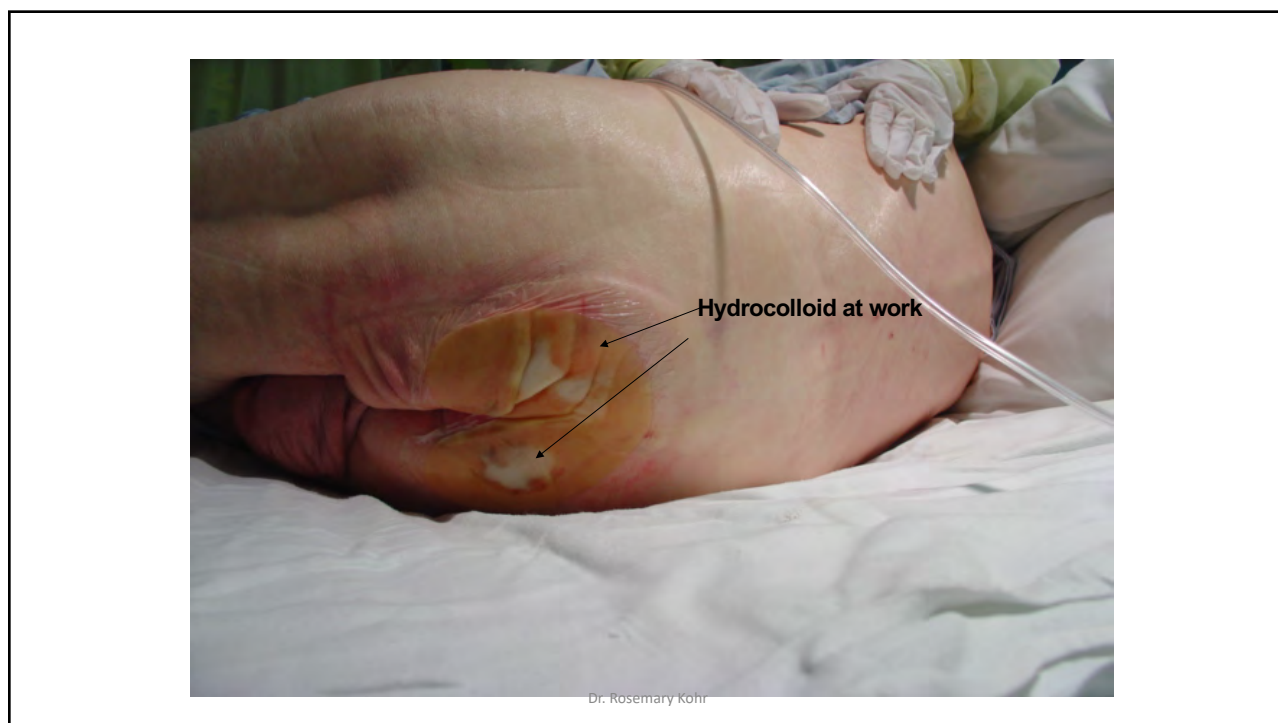
Dr. Rosemary Kohr

126





127



128



## D = DRY WOUND

---

- When you don't need a dressing for **"A, B, or C"**
- Just need something to cover, protect:
  - Virtually no drainage
  - Healing well
  - Moving towards closure
- Choose something "cheap & cheerful" (e.g., an Island dressing – gauze with gentle tape)

Dr. Rosemary Kohr

129



## Steps to Dressing

---

1. Treat the underlying cause (TULC)
2. Prepare the wound bed
  - a) Cleanse gently
3. Protect (use a barrier wipe to the skin around the wound, if not using a silicone-based dressing)
4. Dressing selection (ABCDs)

Dr. Rosemary Kohr 2020

130



## Skin Sealants/Barriers

- designed for intact skin or **up to & including Stage 2 Pressure Injuries**
- easy to apply
- dries quickly
- inexpensive
- prevents tape damage
- Examples: No Sting, Cavilon Cream, ProShield Plus

Dr. Rosemary Kohr

131

**A:** absorb (how much drainage?)  
**B:** Bacteria (how much bio-burden?)  
**C:** Clean up the Crap (debridement?)  
**D:** Dry, healing wound?  
**s:** Skin tear?

Dr. Rosemary Kohr

132



## SKIN TEARS (“S”)

Skin tears require GENTLE treatment!

- Avoid adhesives
- Avoid transparent film (doesn't allow moisture vapour transfer)
- Contact layer + cover dressing:
  - Only change cover dressing when saturated
  - Leave contact layer on ALAP (As Long As Possible)

Dr. Rosemary Kohr 2020

133

### Skin Tear Case examples



Dr. Rosemary Kohr 2020

134



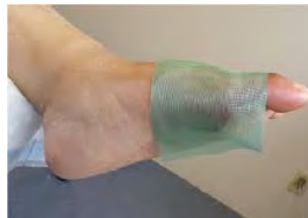


No stitches please!

Dr. Rosemary Kohr 2020

135

Contact Layer Dressings: Require a Cover dressing and NO adhesive borders please!!



Dr. Rosemary Kohr 2020

136

Soft silicone wound contact layer: e.g., Mepitel®



#### AREAS OF USE

Exuding wounds:

- Second degree burns
- Graft fixations
- Surgical incisions
- Diabetic ulcers
- Lacerations & skin tears
- Skin abrasions
- Blistering
- Venous and arterial ulcers
- Epidermolysis Bullosa (EB)

#### BENEFITS

- Minimizes trauma to wound and surrounding skin while easing wound pain.
- Silicone does not stick to wound bed yet adheres gently to the surrounding skin.
- Can remain in place up to 14 days, only changing secondary dressing, permitting undisturbed and cost-effective healing.
- Prevents sticking of secondary dressing to wound.
- Can be used in combination with topical treatment (e.g. antimicrobials).



Dr. Rosemary Kohr 2020

137

## Dressings: Adaptic Touch



Dr. Rosemary Kohr 2020


138





**Tegaderm™ Absorbent Clear Acrylic Dressing—Advanced 3M Technology**

- Breathable, waterproof to prevent fluids from escaping while providing containment.
- Wound exudate is absorbed by the acrylic polymer pad by the dressing.
- Perforated bottom layer, and moist-skin adhesive, allow air to pass through easily.



## Dressings: Absorbent Clear Acrylic

Dr. Rosemary Kohr 2020

139

## REMOVING the dressing

---



Dr. Rosemary Kohr 2020

140



## Why **NO** to these products:

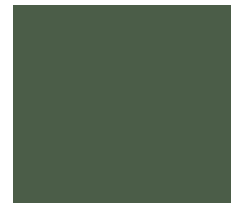
- **Jelonet**: Paraffin-gauze
- **Adaptic** (“old version”): Petrolatum emulsion  
Limited Moisture Vapour Transfer (MVT)
  - leads to maceration of wound/periwound
- **Bacitracin** (1940s): Contact dermatitis develops in up to 44% of patients

Dr. Rosemary Kohr 2020

141

**DRYING A  
WET WOUND,  
or supporting  
the moist  
wound bed.**

- **FOAM DRESSING** (e.g., Mepilex\*, Mepilex Border\*)
- Absorbs exudate.
- Can be left intact up to 7 days!!
- Does NOT provide pressure relief.
- *Dressings with silicone base/border can be lifted up to check (and the same dressing reapplied)*



Dr. Rosemary Kohr 2020

Health Leadership  
Learning Network

Health 2018

142

## Soft silicone dressings:

- For wounds or skin tears with fragile periwound skin
- Silicone base won't stick to wound bed
- "Tacky" –conforms to heels, elbows, etc
- Can be lifted to assess wound then re-applied
- Not for damp/sweaty skin or if other silicone product (barrier cream) is used

Dr. Rosemary Kohr 2020

143



## DRYING A WET WOUND:

- Hydrofibre or Calcium alginate: Aquacel or Calicare are examples
- Goes on **DRY**
- Soaks up drainage into gel form (hydrofibre)
- Can be folded/cut to fit wound, or can lie over peri-wound skin
- Use with cover dressing (*e.g., non-woven gauze, Mesorb pad and wrap*).

Dr. Rosemary Kohr 2020

144

## SALT : Mesalt

- Sodium Chloride Impregnated (packing ribbons or squares)
- wicking action draws fluid and debris out
- maintains a moist wound environment
- How it works: pulls out fluid (osmotic balance), decreases edema to tissue so the body can work to clean/heal the wound.
- **Goes on DRY**
- Change daily



Mesalt is an example.



Dr. Rosemary Kohr 2020

145



## Indications for Mesalt:

- Infected wounds
- Wounds with moderate to heavy drainage (exudate)
- Deep cavity wounds
- Pressure ulcers
- Surgical wounds
- **Not for dry/minimal drainage wounds**

Dr. Rosemary Kohr 2020

146

## SILVER FOAM DRESSING EXAMPLE



147

## Inter Dry Ag

- Polyester textile impregnated with silver
- wicks moisture away to keep skin dry
- Need to have “wick” beyond the folds of skin (don’t just tuck it in)
- Not for open wounds
- For moisture, odour and inflammation in skin folds and other skin-to-skin contact areas
- effective antimicrobial action for up to five days
- After that, it can be hand-washed and used to wick away moisture (silver will be done)



148

## Anti-microbial gauze (not silver...)

- Contains PHMB (Polyhexamethylene Biguanide) antiseptic
- E.g., “Kerlix AMD”
- Loose weave– may leave fibres in wound bed.
- Doesn’t wick away fluid (like InterDry AG does)



Dr. Rosemary Kohr 2020

149

## Infection/drainage: *Hydrofera Blue*

- Special foam dressing contains 2 anti-bacterial dyes: methelyn blue and gentian violet
- Action: *pulls* bacteria out of the wound bed where it is killed within the foam dressing (no dye is actually *deposited* in the wound).
- Also effective when wound edges are rolled (indicating stalled healing)
- Dressing can be cut to fit OR placed over the wound/peri-wound.



© Dr. Rosemary Kohr 2020

150



## Hydrofera Blue *Ready*

### Application

#### Ready

Select and apply the appropriate dressing size to ensure the dressing will cover the entire wound. With **Hydrofera Blue Ready**, no hydration is required.



#### Set

Simply set in place and secure with gauze wrap or tape.




#### Go

Dressing can be left in place up to 7 days. Can be used in conjunction with compression wraps and total contact casting.



© Dr. Rosemary Kohr 2020

- **Ready version** does not require hydration or a cover dressing
- **Classic version** requires hydration AND a cover dressing.
- **Transfer version** acts as a medium to trap bacteria but requires a cover dressing as well.
- **When the dressing is white, it has “given up the fight” & needs to be replaced.** 

151

## Medical-grade HONEY

- Naturally antimicrobial
- Hyperosmolar: restricts fluid available to bacteria
  - pulls fluid from bacteria (re: sucrose)
- Acid pH: 3.2-4.5: inhibits bacterial growth
- Glucose oxidase enzyme: produces hydrogen peroxide (at low concentration –doesn't damage tissue)
- **Why not use over-the-counter honey?**
  - Potential for contamination from method of honey production (e.g., pesticides, spores), processing, receptacle sterility, storage
  - Variable consistency of active ingredients
  - Patients have developed serious bacterial infections

Dr. Rosemary Kohr 2020



152



Medi-honey comes in form of:

- Honey Calcium Alginate (wet wounds),
- Tube (with applicator tip): warm in tube & use in cavity/tunneling wound
- HCS (Hydrogel Colloidal Sheet) & Honeycolloid: similar application to hydrocolloid, but also when critical colonization in wound bed



Honey-colloid



And  
Hydrogel Colloidal Sheet (HCS) dressing



Honey Calcium alginate



Tube with applicator tip

Dr. Rosemary Kohr 2020

## IODOSORB™ or INADINE™

### AREAS OF USE

- External ulcers
- Infected wounds

### DESCRIPTION & BENEFITS

Iodosorb/Inadine is a Cadexomer Iodine based product helping to remove bacteria, slough and debris.

1. Provides sustained antimicrobial therapy for 72h.
2. Reduces bacterial load including MRSA & VRE.
3. Helps prevent new pathogen invasion.
4. Removes slough & debris.
5. Manages excess exudate.
6. Creates a moist environment.
7. Accelerates healing in leg ulcers.
8. Helps eliminate odour.
9. Biodegradable.
10. Treats infection.

- **CONTRAINDICATIONS: IODINE SENSITIVITY: ASSESS THYROID**



Dr. Rosemary Kohr 2020

Changes colour when Iodine downloads into wound:



Dr. Rosemary Kohr 2020

155



## ADDING MOISTURE TO A DRY WOUND:

- Use a hydrogel—such as Intrasite™ gel to support autolytic debridement.
- Moist wound bed is optimal for debridement and healing.
- Scant amount will be effective.
- Can be mixed with Iodosorb to improve application.

Dr. Rosemary Kohr 2020

156

## Betadine or Povidine



Dr. Rosemary Kohr 2020



- Contain povidone-iodine in a 10% solution with 1% available iodine.
- Cytotoxic: **not for use full strength on healthy, healing tissue.**
- Useful for gangrenous wounds
- And/or ++ odour
- Dries up wounds

157

## Summary

- Be aware of **increased drainage, increased pain**
  - Both are indicators of possible infection
  - Consider an absorbent cover dressing (remember MVT)
- Appropriate dressings: salt, silver, honey, Hydrofera Blue and iodine compounds
  - Iodosorb, Betadine or Povidine
- Use according to manufacturers' directions
- Generally, the **LONGER** the dressing stays on, the better.

Dr. Rosemary Kohr 2020

158

# Wound care “myths”: (don’t do these!!)

- Massage a reddened area (non-blanchable erythema)
- Cornstarch/Maalox Tx to dry up a wound
- Brown Soap or Rubbing Alcohol to ‘toughen’ skin
- Irrigate wounds\*withBetadine/Chlorhexadine
  - Only in some cases (gangrene; for a few days if heavily infected )
- Leave wounds open to the air
- Donut cushions
- Firm packing of wounds



Dr. Rosemary Kohr 2020

## What dressings do you have in your work-place?

Dressing Selection on ABCD A = Absorption, B = Bacteria, C = Crust, D = Dry, s= Skin tear	Dressing option(s)
A	
A + B	
A + C	
A + B + C	
B	
B + C	
C	
D	
s (Skin Tear)	

**Dressing type:**  
Contact Layer,  
Polymer (bead) fibre,  
Foam,  
Absorbent Acrylic,  
Hydrocolloid,  
Hydrofibre,  
Calcium Alginate,  
Hypertonic Sodium,  
Island Dressing,  
Barrier,  
Silver,  
Iodine,  
Honey dressings,  
Hydrofera Blue  
PHMB-impregnated gauze.

Dr. Rosemary Kohr 2020

In  
conclusion...

- Important for PSWs to know what they are seeing:
  - Skin tears
  - Pressure injury/red area on bony prominence
  - Venous legs: swollen, puffy feet
  - Diabetic Foot care (and shoes)
  - A wound that is becoming infected
- Important to know how the dressings work
- Communicate with your team!

Dr. Rosemary Kohr 2020