

PRESSURE INJURY STAGING

Catherine Koutroumpis, MSN, RN, CWOCN



OBJECTIVES

By the end of this course participants will be able to:

1. Recognize different wound etiologies
2. Be familiar with different wound categorizing, staging systems
3. Identify a pressure injury
4. Identify all 6 stages of pressure injuries
5. Be familiar with common tissue types



Common Wound Types

1. Surgical
2. Pressure Injury (Bed sore)
3. Trauma
4. Lower Leg Ulcers
 - Neuropathic
 - Arterial
 - Venous

SCALES, CATEGORIES & STAGING

Some wound types have their own staging system:

1. Pressure Injuries → NPUAP Classification System
2. Diabetic Foot Ulcers → Wagner Scale
3. Skin tears → Payne Martin Classification System
4. Partial thickness: Any wound that only involves the epidermis and dermis.
5. Full thickness: Any wound that extends deeper than the dermis.



SCALES, CATEGORIES & STAGING

Pressure Injuries → NPUAP Classification System

Stage 1

Stage 2

Stage 3

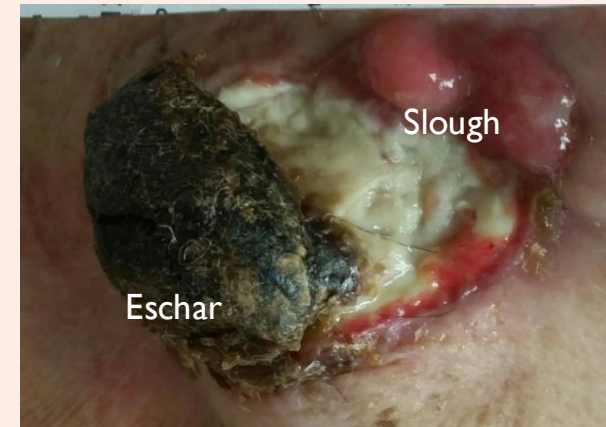
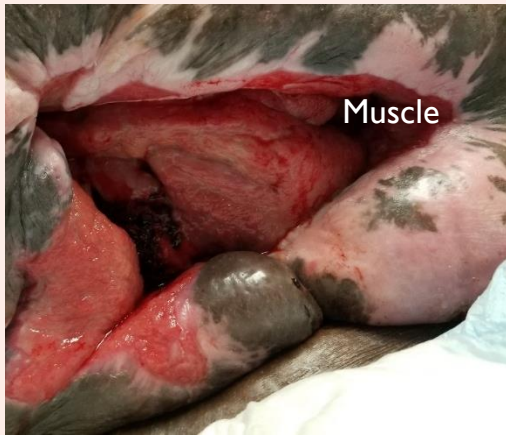
Stage 4

Unstageable

Deep Tissue Pressure Injury



COMMON TISSUE TYPES TO KNOW



- Granulation
- Eschar
- Slough
- Scar tissue
- Adipose
- Muscle
- Bone, tendon, ligament



Pressure Injuries

- ❖ Occur on or near a boney prominence from prolonged or intense pressure, usually with some friction or shear element.
- ❖ Define Friction; Define Shear
- ❖ Medical device pressure injuries are staged just like above.
- ❖ Mucous membrane pressure injuries are not staged like above.

Considerations

- ❖ **Like any wound, if you do not remove the cause, the wound will not heal.**
- ❖ Much easier to prevent these wounds in the first place!

One page snapshot: Unique Features of Pressure Injury Stages

Stage 1: Skin is intact; Nonblanchable erythema.
You **must** touch to assess.

Stage 2: Epidermis is open/lost; Dermis is visible.
VERY shallow wound. NO depth. NO slough.

Stage 3: Epidermis is lost; Dermis is lost. Adipose now exposed (may look pink/granular).
Minimal to moderate depth.
Possibly has slough, undermining, tunneling. NO bone, NO muscle, NO tendons.

Stage 4: Epidermis is lost; Dermis is lost; Past adipose; Muscle, Bone, Ligament, and/or
Tendon visible.
Moderate to severe depth. Possibly has eschar and/or slough.

Unstageable: Too much eschar/slough is obscuring the wound bed to determine staging.
Unstageables are either a stage 3 or 4 pressure injury underneath.

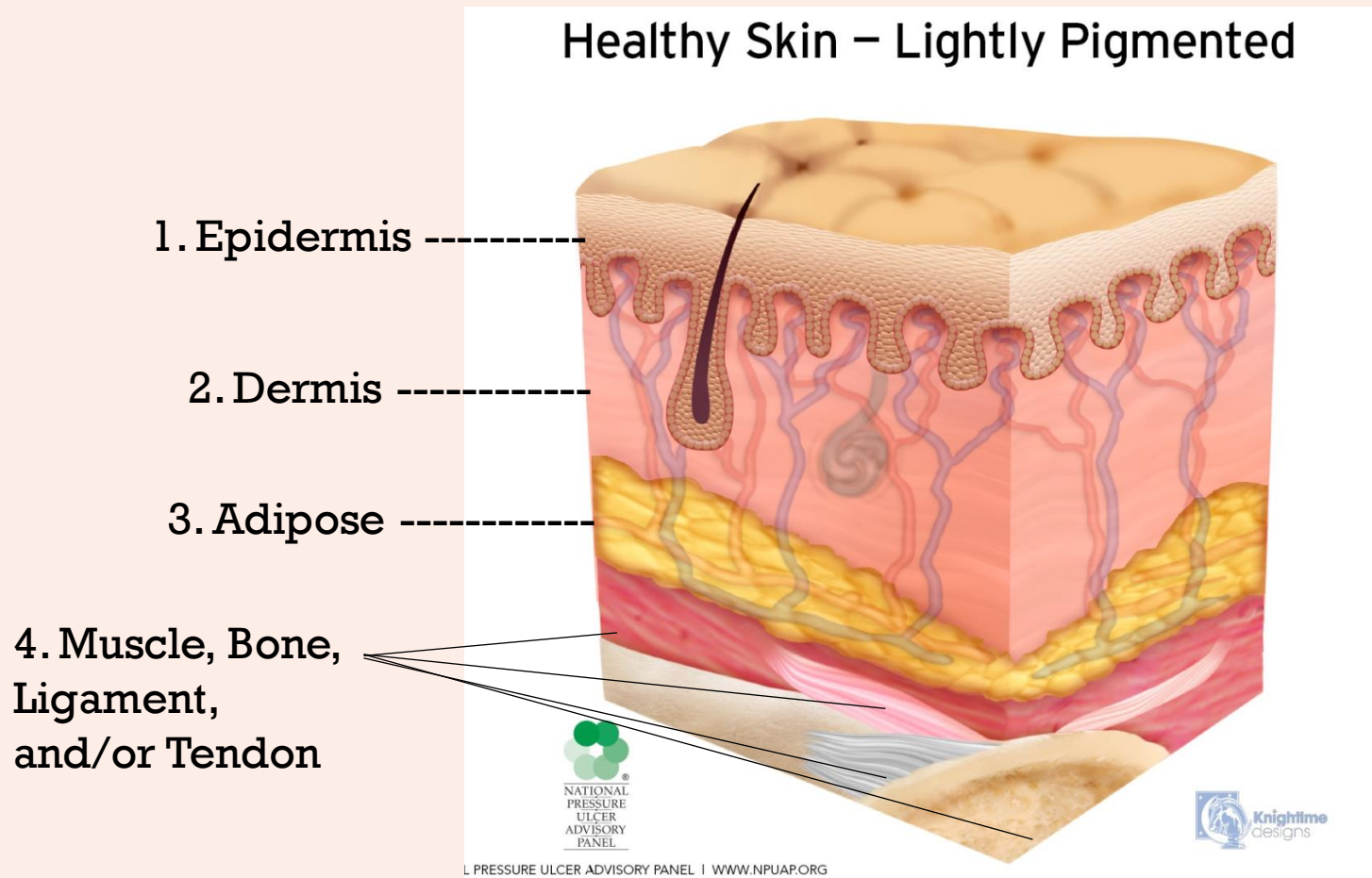
Deep Tissue Injury: Pressure at the bone level is injuring tissue by constricting blood supply. The injury grows outwards to the epidermis and presents as a “bruise”.

Without intervention, wound will continue to enlarge under the surface, eventually may open at the epidermis, and can have an exposed wound bed down to the bone.



PRESSURE INJURY STAGING

The deepest level of tissue listed below that you can visualize in a wound bed is also the number stage next to it.

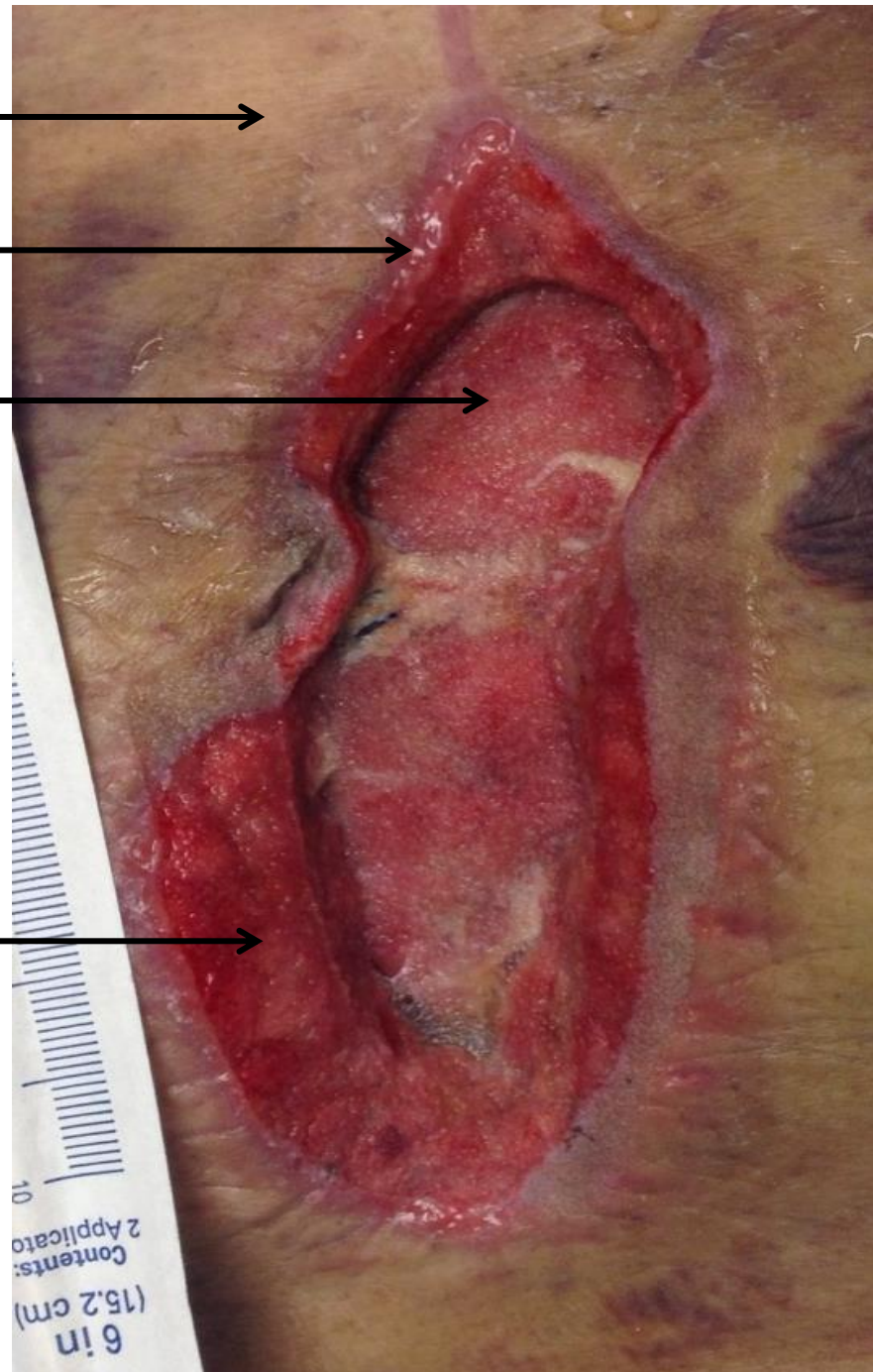


Epidermis

Dermis

Muscle

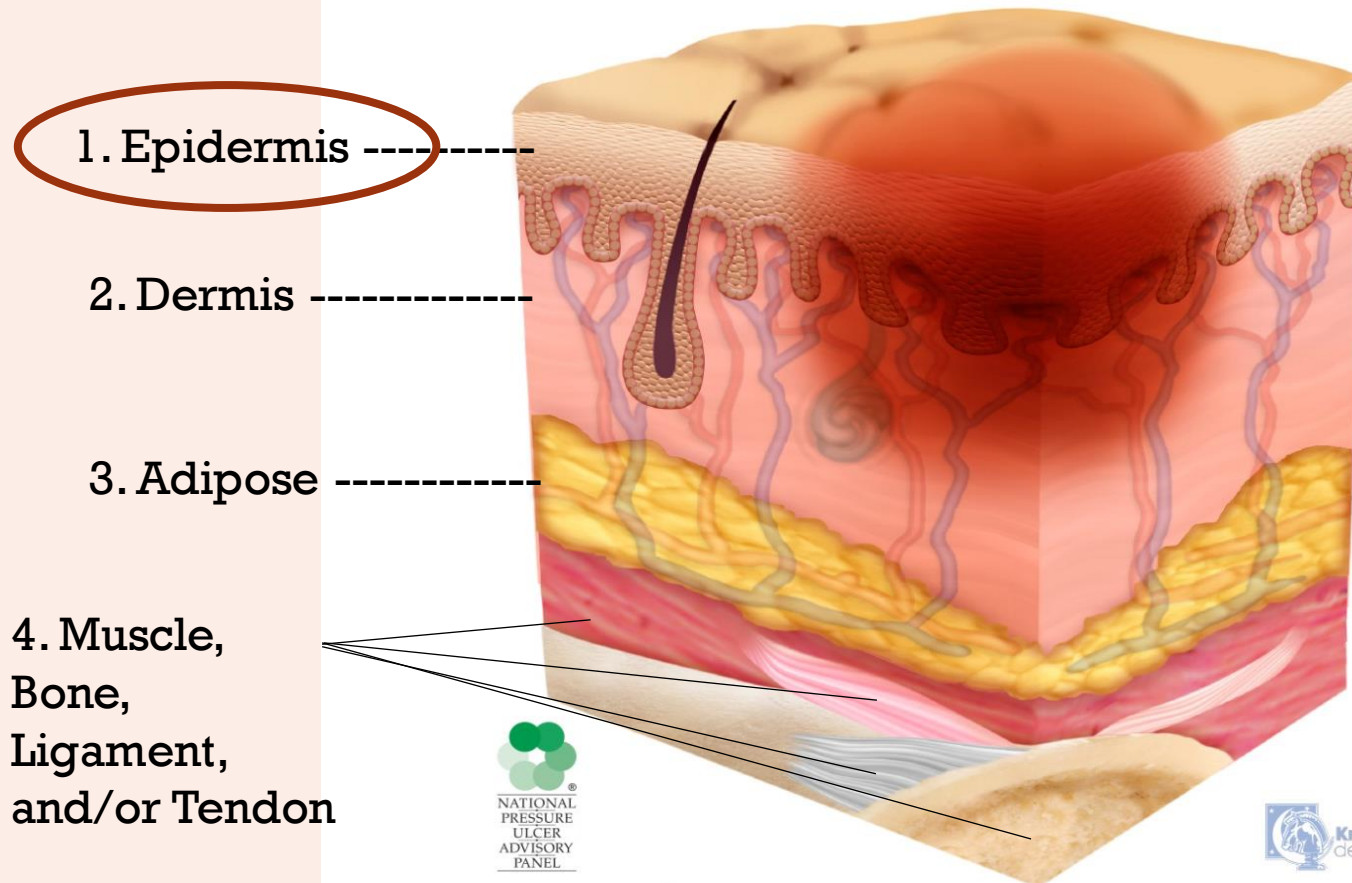
Adipose (fat) that has red granulation tissue covering it.



6 in
(15.2 cm)
Contents:
2 Applicato

Stage 1: Epidermis (top layer of skin) is intact;
Nonblanchable erythema.
You **must** touch to assess.

Stage 1 Pressure Injury - Lightly Pigmented



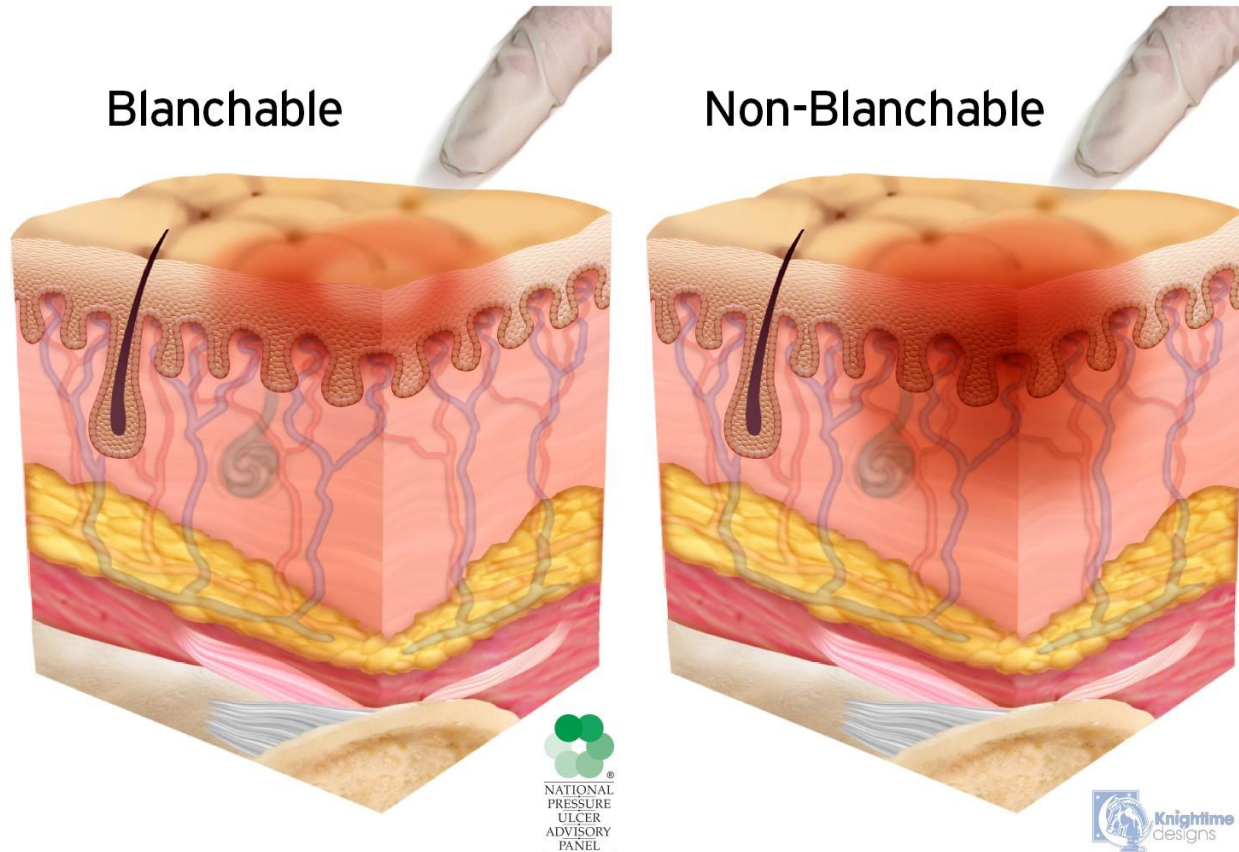
NATIONAL
PRESSURE
ULCER
ADVISORY
PANEL



Knighttime
designs



Blanchable vs Non-Blanchable



©2016 NATIONAL PRESSURE ULCER ADVISORY PANEL | WWW.NPUAP.ORG

Touch intact skin. If erythema lightens, then color returns, it is NOT a stage 1 (but is beginning to damage due to pressure)

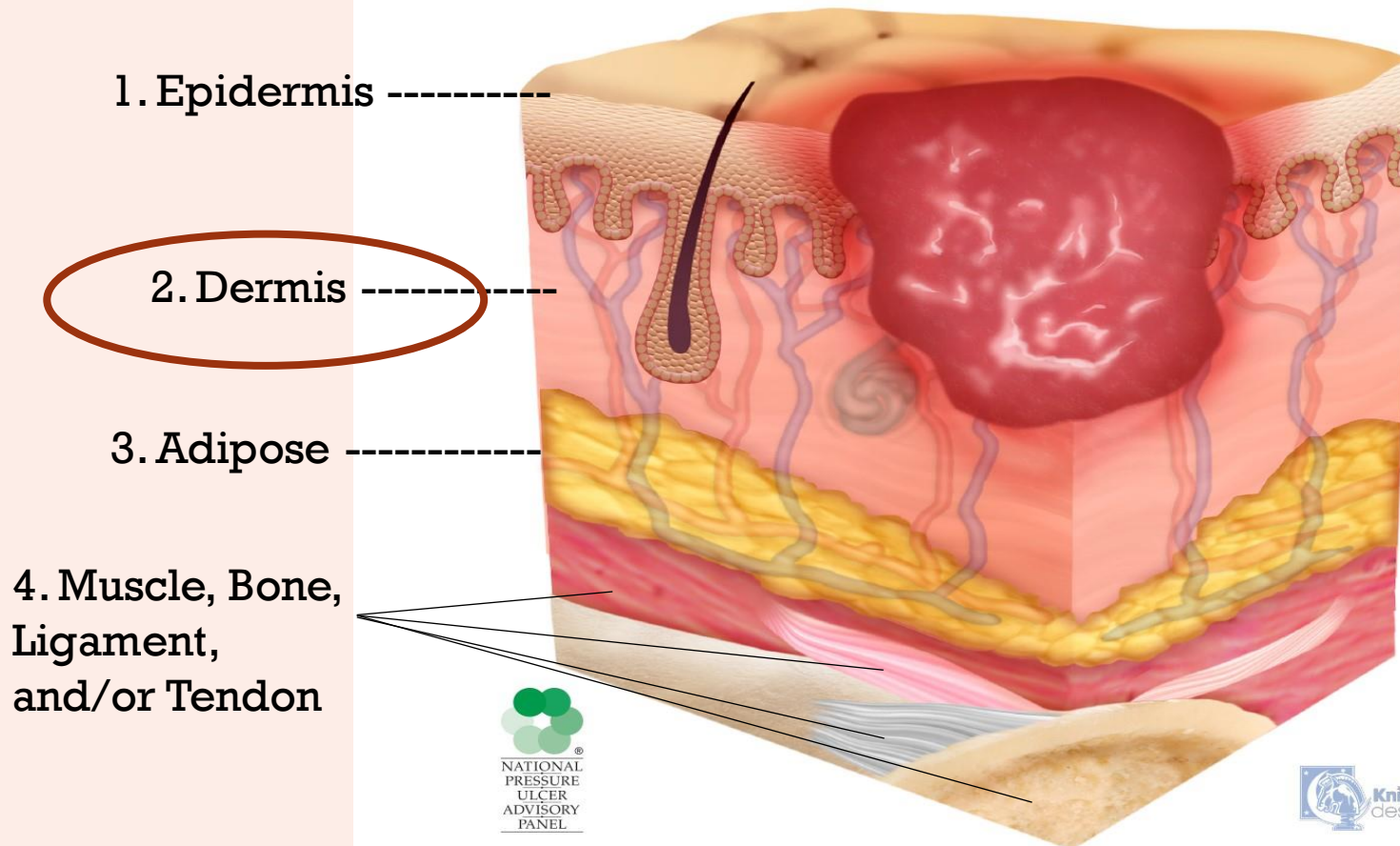
What's going on here?



Intertrigo = Skin fold damage from
moisture trapped in the fold

**Stage 2: Epidermis is open/lost; Dermis is visible.
VERY shallow wound. NO depth. NO slough.**

Stage 2 Pressure Injury



DERMIS IDENTIFICATION

- Dermis is thin, just a little thinner than epidermis
- From outside in, dermis is red, then pink, pale pink, super pale pink to white.
- The rete ridges of the epidermis reach into the dermis like fingers.
- When the epidermis is lost, the ends of those ridges are visible as little red dots
- The little red dots are called ***ISLETS***



Stage 2: Epidermis is open/lost; Dermis is visible.
VERY shallow wound. NO depth. NO slough.

Exceptions: Serum filled blisters on a boney prominence are stage 2 PIs



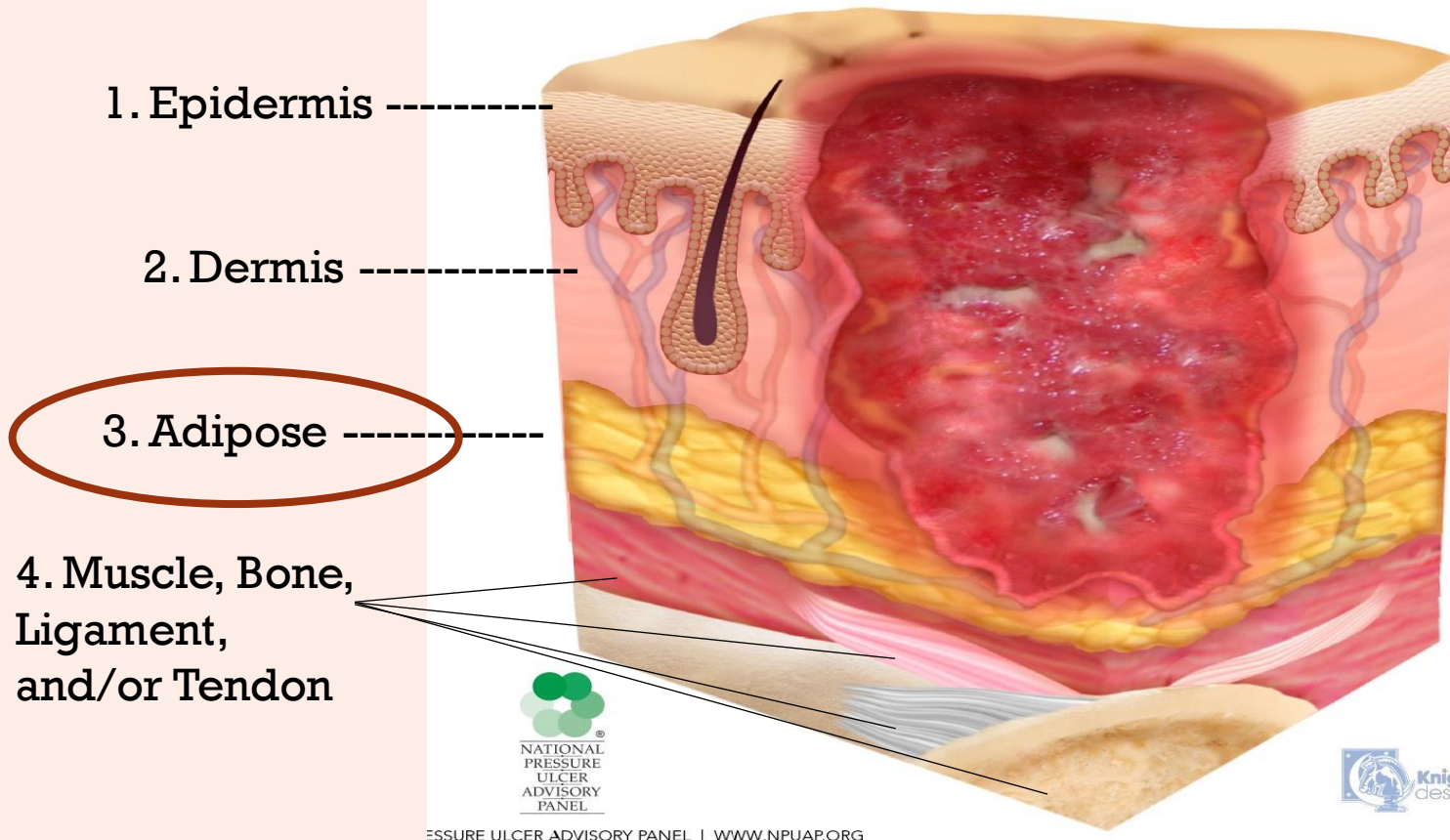
Exception to broken
epidermis rule



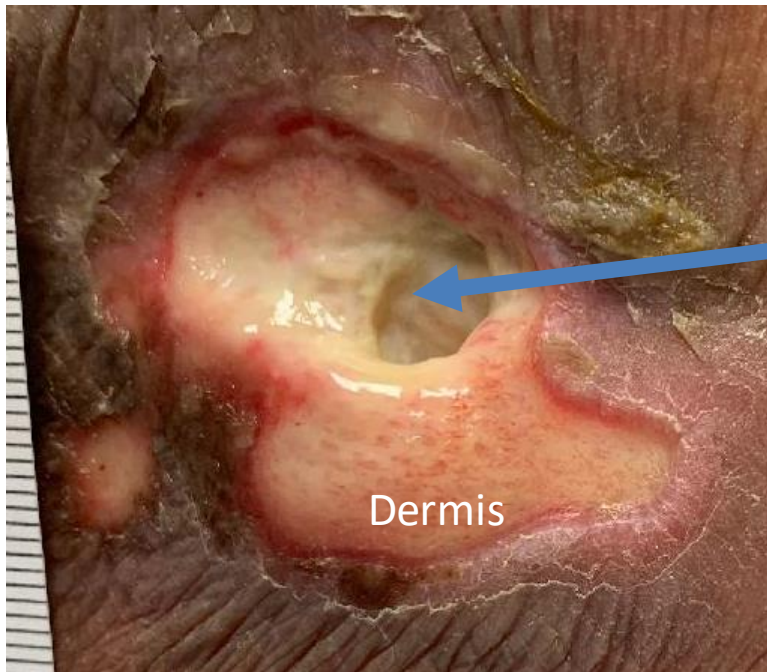
Serum filled blister

Stage 3: Epidermis is lost; Dermis is lost. Adipose now exposed (may look pink/red & granular). Minimal to moderate depth. Possibly has slough, undermining, tunneling. NO bone, NO muscle, NO tendons.

Stage 3 Pressure Injury



Stage 3: Epidermis is lost; Dermis is lost. Adipose now exposed (may look pink/granular). Minimal to moderate depth. Possibly has slough. NO bone, NO muscle, NO tendons yet.



Fat/Adipose



**Stage 4: Epidermis is lost; Dermis is lost; Past adipose;
Muscle, Bone, Ligament, and/or Tendon visible.
Moderate to severe depth. Possibly has eschar and/or slough.**

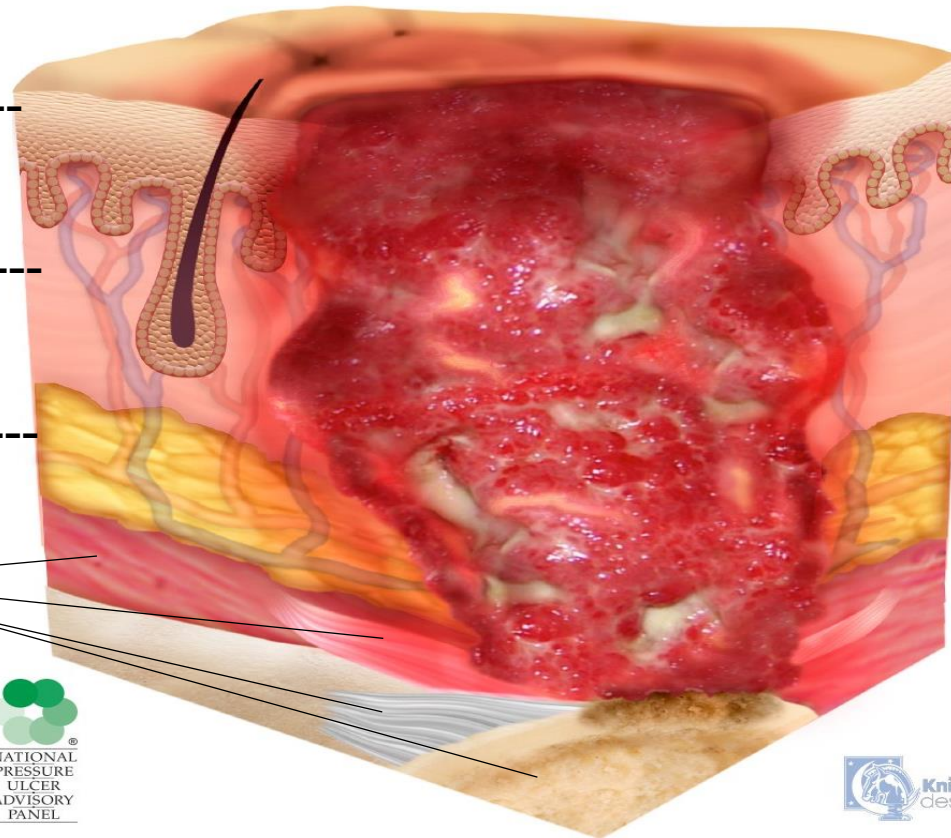
Stage 4 Pressure Injury

1. Epidermis

2. Dermis

3. Adipose

4. Muscle, Bone,
Ligament,
and/or Tendon



Stage 4: Epidermis is lost; Dermis is lost; Past adipose; Muscle, Bone, Ligament, and/or Tendon visible.

Moderate to severe depth. Possibly has eschar and/or slough.



INDETERMINATE STAGES

Sometimes you cannot stage a pressure injury right away as a stage 1,2,3 or 4 for two reasons:

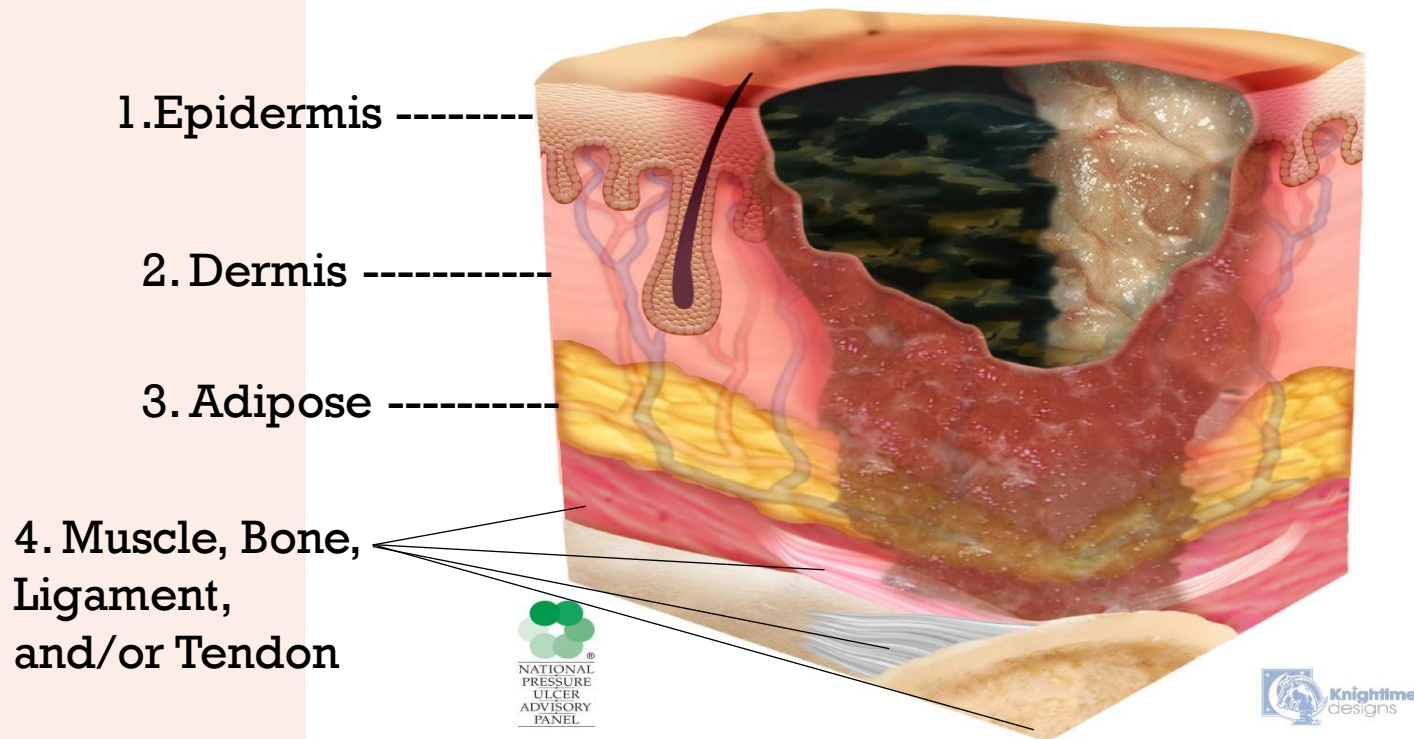
- a. **UNSTAGEABLE**: there is too much non-viable tissue on the wound bed (slough and/ or eschar) that is blocking the view of possible muscle/bone or ligament. This is called “unstageable”. Unstageable pressure injuries are a stage 3 or 4 underneath that slough or eschar, but we can not tell which one just now.



Unstageable: Too much eschar and/or slough is obscuring the wound bed to determine staging.

Unstageable pressure injuries are either stage 3 or 4 underneath but cannot tell which one right now.

Unstageable Pressure Injury - Slough and Eschar



Unstageable: Too much eschar/slough is obscuring the wound bed to determine staging.

Unstageables are either a stage 3 or 4 pressure injury underneath.

If you can see bone, ligament, muscle, and/or tendon visible, it can be called a stage 4.



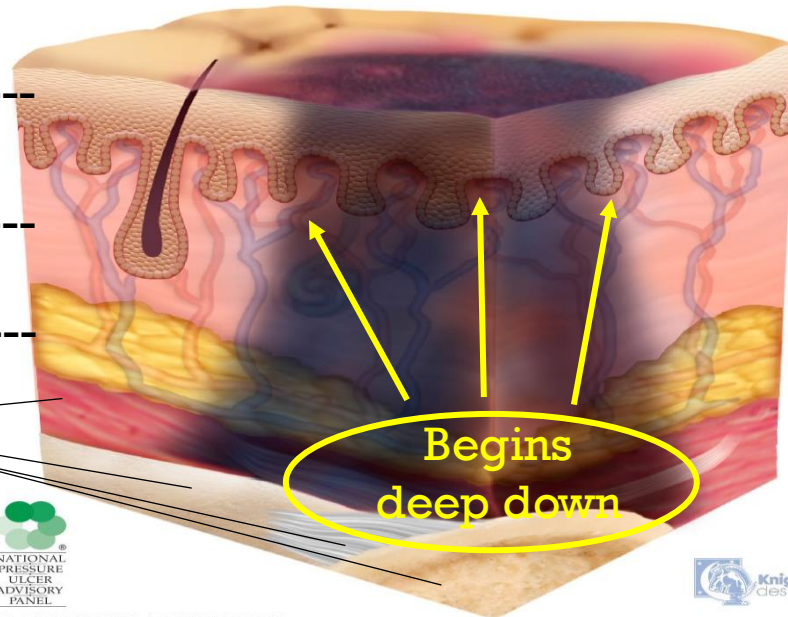
INDETERMINATE STAGES

Deep Tissue Injury

Pressure down near the bone is injuring the nearby tissue by constricting blood supply & physically crushing cells. The damage spreads out and up towards the surface. We detect boggy upon palpation, then we visualize maroon, blue or purple discoloration of the skin.

With interventions, the wound should stop evolving worse and begin to stabilize towards a recognizable stage 1,2,3 or 4 pressure injury. Usually once the purple or maroon discoloration resolves, a stage can be determined.

1. Epidermis -----
2. Dermis -----
3. Adipose -----
4. Muscle, Bone,
Ligament,
and/or Tendon



Deep Tissue Injury: Pressure at the bone level is injuring tissue by constricting blood supply. The injury grows outwards to the epidermis and presents as a “bruise”.

Without intervention, wound will continue to enlarge under the surface, eventually may open at the epidermis, and can have an exposed wound bed down to the bone.



Blood filled blisters on a bony prominence are DTPI

Stabilizing Deep Tissue Injury →

Stage 3 in this case:

Started off bruised looking in several spots, injury continued to occur underneath epidermis, evolved open, interventions helped the area calm down, so the bruising color eased up and the tissue stopped breaking down.



Mucous Membrane Pressure Injuries



MUCOSAL MEMBRANE PRESSURE INJURY

Mucosal membrane pressure injury is found on mucous membranes with a history of a medical device in use at the location of the injury. These ulcers cannot be staged .

Mucous Membrane Pressure Injuries

Mucous membrane pressure injuries are caused by medical devices such as endotracheal tubes in the mouth, nasogastric tubes inside the nose, and even indwelling urine and stool containing devices. No stage needed, just call it a “Mucous Membrane Pressure Injury”.



MUCOSAL MEMBRANE PRESSURE INJURY

Mucosal membrane pressure injury is found on mucous membranes with a history of a medical device in use at the location of the injury. These ulcers cannot be staged .

How to start the Staging Process

Is it either of these?

Unstageable:

Too much eschar/slough is obscuring the wound bed to determine staging.

Unstageables are either a stage 3 or 4 pressure injury underneath.

Deep Tissue Pressure

Injury:

Pressure at the bone level is injuring tissue by constricting blood supply and breaking cells. The injury grows outwards to the epidermis and presents as a “bruise”.

If it is one of the above, you are done staging. If not, go to the next page.

Rule it out: Stage 1, 2, 4 or 3

If the wound is intact...

Pink/Red & No Blanching?
Stage 1

Pink/Red & Blanches?
Non-blanchable Erythema

If the wound is not intact

A

Flat, Red, pink or pale pink?
Stage 2

(NO SLOUGH)

B

Bone, Muscle, Tendon, Ligament?
Stage 4

C

Neither a 2 or 4?
Stage 3

(NO muscle, bone,
tendon, ligament)

References

Bryant & Nix (2012) *Acute & chronic wounds: Current management concepts*, fourth edition. Mosby Elsevier, St. Louis, MO.

Edsberg, L. E., Black, J. M., Goldberg, M., McNichol, L., Moore, L., & Sieggreen, M. (2016). Revised national pressure ulcer advisory panel pressure injury staging system: Revised pressure injury staging system. *Journal of Wound Ostomy Continence Nurs*, 43(6), 585-597. doi:10.1097/won.0000000000000281

National Pressure Injury Advisory Panel (2016). Pressure Injury Staging. <https://npiap.com/page/PressureInjuryStages>

Wound Ostomy Continence Nurse Society (2016) *Wound treatment associate participant workbook*. Wound Ostomy Continence Nurse Society Publishing.