



## **DEEP TISSUE** PRESSURE INJURY OR AN IMPOSTER?



Intact or non-intact skin with localized area of persistent non-blanchable deep red, maroon, purple discoloration or epidermal separation revealing a dark wound bed or blood-filled blister. Pain and temperature change often precede skin color changes. Discoloration may appear differently in darkly pigmented skin. This injury results from intense and/or prolonged pressure and shear forces at the bone-muscle interface.

The wound may evolve rapidly to reveal the actual extent of tissue injury or may resolve without tissue loss. If necrotic tissue, subcutaneous tissue, granulation tissue, fascia, muscle or other underlying structures are visible, this indicates a full thickness pressure injury (Unstageable, Stage 3 or Stage 4).

# Initially intact purple or maroon skin or blood blister



Sacral DTPI after cardiac surgery in supine position 48 hours ago



Low sacral-coccygeal DTPI in a patient sitting in High-Fowler's position



Forehead DTPI after surgery in prone position 24 hours ago

## Blistered appearance as epidermis sloughs **Evolving DTF**



DTPI of right buttock with early separation of the dermis, 72 hours after surgery done separation of the dermis, 72 hours after with patient rotated to the right



DTPI of right para-sacrum with early mechanical ventilation for hypoxia



DTPI of para-sacrum with blistering, 72 hours after cardiac surgery in supin<u>e po</u>sition



DTPI of para-sacrum with blistering, 72 hours after cardiac surgery in *supine* position



DTPI of buttocks with blistering, 72 hours after mechanical ventilation for hypoxia



Blood blister - Tissue may be hard to the touch or boggy





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Many conditions can lead to purple or ecchymotic skin and rapidly developing eschar. Some of the most common differential diagnoses are shown below.

#### Ischemia

COVID-19 COVID-19 accelerates clotting in small vessels Skin color change is not always on pressure bearing tissues



Marked disease of internal iliacs or postoperative aortoiliac bypass with emboli





peripheral ischemia Levophed in use - Ischemia of ears, nose, fingers also common



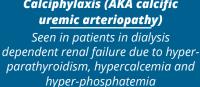
Ischemia from hypotension Sudden purpura near end of life, no pressure events had occurred. Patient died 4 days later



DIC/sepsis with microvascular emboli Reticular presentation Spontaneous onset, rapidly necrotic



Calciphylaxis (AKA calcific uremic arteriopathy) Seen in patients in dialysis



### Trauma



Warfarin induced skin necrorsis Erythematous flushing then progressing within 24 hours to full thickness hemorrhagic bullae several days after high loading doses of Warfarin.



Blunt trauma History of traumatic injury *Irregular shape* Painful to touch. Morel Lavallée Lesions are possible



History of trauma to area, often anticoagulated - Area is palpable and often tender



**Chronic Friction Injury** *Immobile* or chairbound patient who uses a slide board Skin thick and irregular lesions



History of trauma in the area Color changes to yellow and green in a few days



Skin Tear Patient fell attempting to ambulate. Usually, profuse bleeding.