DTI vs All Things Purple – 3 End of life case studies

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End of life patients are at risk of being misdiagnosed as having a Pressure injury (specifically DTI). This project presents three (3)case studies of patients that the WOC nurse assessed after receiving referrals for deep tissue injuries (DTI) which were actually not only end of life skin changes (SCALE) but also, moisture associated skin damage (MASD) and in one case included Necrotizing fasciitis. The goals were to educate staff on how to differentiate between the three, especially when one or more of these conditions may be present at the same time and/or share some of the same characteristics. It is a common tendency for nurses to call everything they see on the buttocks a pressure injury.

Background: DTI and skin failure have similar but distinct presentations. Everytime the WOC nurse received a consult for a DTI and upon seeing it - her 1st thought was "is this patient dying?" and then it became apparent that every patient but one did die within weeks of admission, the WOC nurse began to get consent and take photos and began to collect data to prepare these case studies on the visual and palpable differences such as deep vs superficial, pain vs painless, co-morbidities and cues using NDNQI staging guidelines.

Correct identification of these wounds is important for several reasons. First, each condition comes with its own set of treatment requirements. If nurses become more proficient in correctly identifying what they are seeing, they will benefit not only the pt. but the providers and the hospital by helping to prevent lawsuits, morbidity, pt. suffering, and delay in treatment and re-imbursement shortfalls.

What I will present are 3 case studies to compare and differentiate between PI, SCALE, MASD and FG. All the cases were patients at a 184 bed Magnet hospital.

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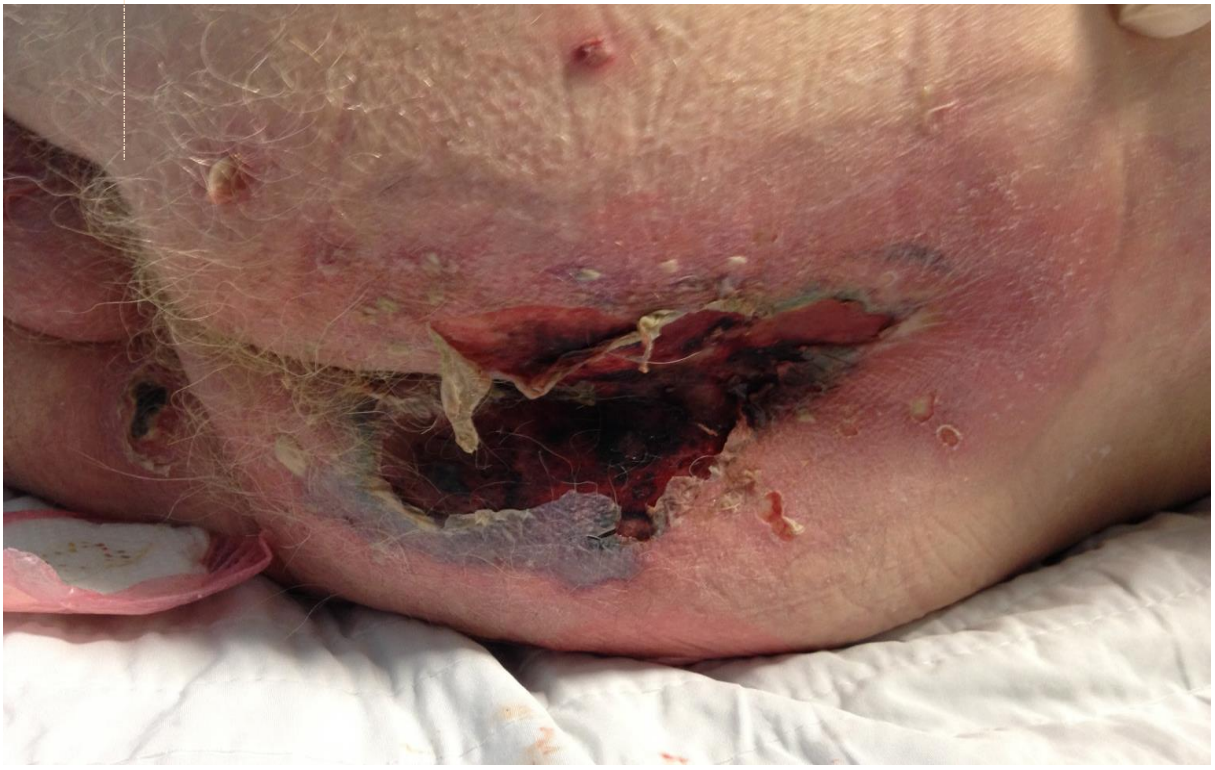
Case 1 (Necrotizing Fasciitis)



A 73-year old male admitted from an outside facility to the intensive care unit (ICU) for urinary tract infection, dehydration and pneumonia and 3 "pressure injuries" on the sacrum “open dark purple unstageable pressure ulcer with blanchable periwound skin”; R buttock: “stage 2, ulcer with blanchable skin”, and an “unstageable” R upper posterior thigh. 8 hrs. later it was noted that on the sacrum there were small scattered areas draining purulent "brown w/ blood" drainage. The pt. was confused, picking at hands and sheets, restless, "throwing things' with his hands.

Abnormal Labs: WBC 19.9, BP 117/55, temp 100.4, HR >90, RR>20, lactic acid 1.5

Seen about 13 hrs. after admission by the WOC nurse who found: Sacrum: 10x6x0.1 cm soft deep purple with top layer sloughing off, a foul odor and pustules on the red blanchable periwound skin, tender to palpation. R buttock: 3.5x2x0.1cm red denuded area. R upper posterior thigh: 2x2cm with thin eschar, red periwound. All blanchable. Seen w/ PA who will request a surgical consult.

The family reported that there was redness w/ 2 small open areas 5 days ago while at rehab facility, and that he became incontinent and unresponsive; hx recently diagnosed with Alzheimer’s, but was "driving 5 weeks ago".

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The rehab facility that he was admitted from recalled that ~7 days earlier they noted two open areas that started as “bullas” and evolved to a yellow base, that the thigh wound appeared to have a "hematoma" and was firm. Then, skin became darker in color and there were several "circular” area of redness/purple, *unusual looking*, but they were calling it an unstageable pressure injury and sent him to the ED.

The surgical PA ordered and reviewed the CT scan (14.5 hr. after admission) with the Radiologist who felt that this was a superficial wound with no deep skin or dermis involved. After discussion with surgeon it was felt the pt. would benefit from excision and debridement of the sacral area and he was taken to the OR a few hrs. later.

Pre-op dx: sacral necrotic wound, sepsis. Post op dx: Necrotizing fasciitis of the sacrum, right buttocks, right leg. Procedure: Extensive sharp excisional debridement for necrotizing fasciitis of the sacrum, right buttock, right leg (skin, subcutaneous tissue, fat, muscle, fascia) over 400 sq. cm. Pathology: soft tissue sacrum, debridement: skin and subcutaneous tissue showing extensive necrosis and acute inflammation.

Post op Outcome:

The patient’s VS and labs normalized but pt. remained nonverbal with very little nutritional intake. A palliative/hospice consult was made. He expired 2 weeks later.

Discussion:

What do you think? A pressure ulcer that became infected? A staph infection that became necrotizing? Was this SCALE?

Clues: began as a blister, turned yellow, then discolored purple, mental status changes, bad labs, superficial, satellite pus filled lesions (staph), not deep by CT scan, had brown (dishwater?) and bloody drainage, malodor. Blood, urine and wound cultures grew staph aureus, in addition the wound grew e-coli and VRE. The admitting MD called it pressure ulcer POA, as did the rehab facility he came from- but was that correct? Fair to the rehab facility that he came from? If we did not recognize this as infection, would this pt. have had a different outcome, dying even much sooner than he did? Did the correct diagnosis of infection prevent a lawsuit for a pressure injury?

My expert opinion? Presentation, CT scan and op-report all declare this as a bacterial infection (necrotizing fasciitis). Did not meet the new NPUAP definition of a DTI. Why? Did not start at the bone/muscle matrix (bottom up) but rather top down per CT scan, blanchable, not localized, caused by infection not pressure/shear.

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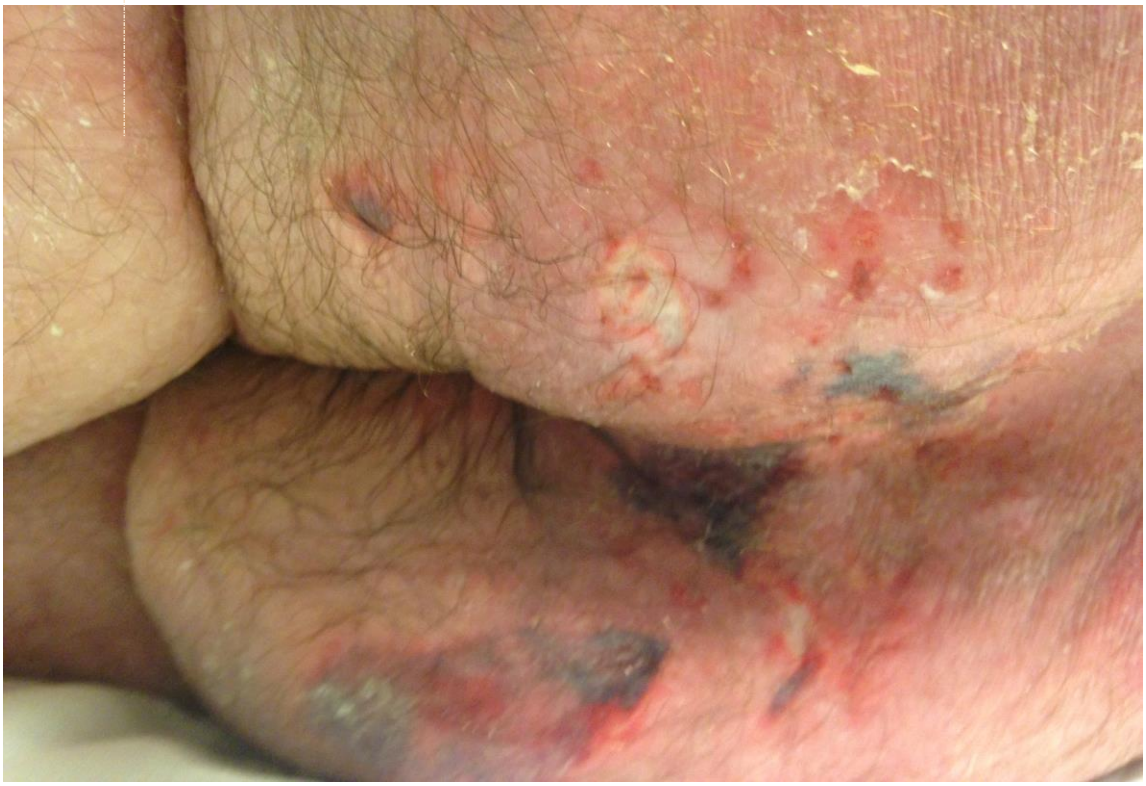
Case 2



Admitting dx: Lactic Acidosis hypovolemia. Nurses admitting Hx: “red raised rash in groin and abd folds”

50 yo male who previously had been avoiding doctors for <20 yrs. Admitted with abdominal pain d/t perforated diverticulitis w/ resection/ileostomy. Pathology revealed B-cell lymphoma. Postop course notable for sepsis w/multiorgan failure. New HIV dx, now being treated with antivirals. Palliative consult requested to help manage his symptoms of severe anorexia and depression.

Discussion: Is this a DTI? IAD/fungal? Skin failure (SCALE) or a combination? Clues: Not deep, being treated for IAD and fungal rash. Poor nutrition, immunocompromised, poor healing, *patchy* areas of purple discoloration, no bone palpable, *blanchable*. Pt. expired 5 days later.

My expert opinion: presentation, co-morbidities, combination- IAD with fungal superimposed and skin failure (SCALE). Did not meet the NPUAP definition of a DTI. Why? Superficial- top down, blanchable, caused by Incontinence associated dermatitis (IAD), infection (fungal), ischemia not caused by pressure. Was not counted during NDNQI prevalence day rounds.

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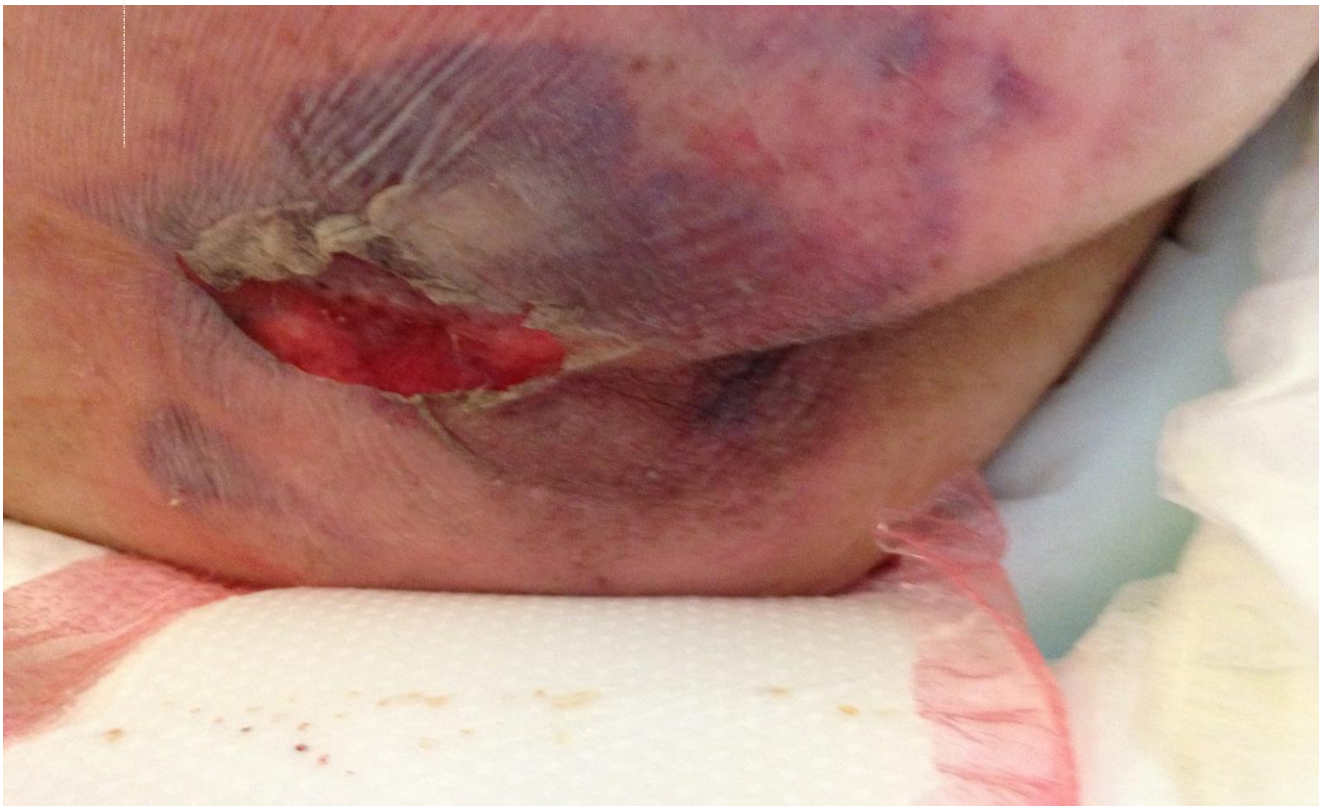
CASE 3



77 yo male w/ longstanding hx of DM, PVD, CAD, and a tracheostomy d/t laryngeal cancer. Found at home unresponsive with BG of 20. Family gave him dextrose thru his PEG tube but he immediately starting throwing up and EMS was called. On arrival to the ED he was comatose but breathing on his own thru his trach (Glasgow coma score of 3T) Abnormal labs were WBC of 15.5 (4.0-11.0x10 3) and Hgb: 10.5 (14.-18.0g/dl, blood cultures grew Pseudomonas (pneumonia), pt. also suffered an MI.

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Outcome: pt. under hospice care with SCALE: 9x8 cm area of ill defined, *patchy* superficial areas of purple discoloration with partial thickness loss. Seen on prevalence day- not counted d/t actively dying- healing no longer our goal, comfort now our goal. Is this a DTI or skin failure/ skin changes at life's end (SCALE)?

My expert opinion: Skin changes at life's end (SCALE). Clues: *patchy* areas of *superficial purple* discoloration, partial thickness loss with *red base*, *blanchable*, no bone palpable, actively dying. Did not meet the NPUAP definition of a DTI.