

Causation Evaluation – Mitchell Lightfoot

DOB: 06/25/1957

Evaluation Formulation:

1. **What were the patient's risk factors for pressure ulcer formation?**

- Period of ventilation for healthcare associated pneumonia
- Diabetes mellitus Type II
- Hypertension
- Peripheral Neuropathy
- Chronic diastolic congestive heart failure
- MRSA in sputum
- Severe protein calorie malnutrition with prealbumin of 10.1
- Albumin level of 2.9 g/dl on 9/23/2014

Comment: These are well described risk factors for pressure ulcer formation (**REF-1**).

2. **What, if any, were the deviations from the standard of care which led to the formation of pressure ulcers at Local Regional Medical Center?**

There were four deviations from the standard of care which led to pressure ulcer formation:

- a) The bariatric bed (Bari-Maxx II air bed) with turning capabilities (every 15 minutes) was ordered only after the development of the pressure ulcers over the sacrum and right hip on 9/26/2014 and three days into ventilatory support with sedation in at-risk patient.
- b) There was failure to use a gel cushion or a Roho cushion for the chair on 10/02/2014. The chair cushion was provided on 10/06/2014. By this time, bilateral ischial deep tissue injury had developed.
- c) There was failure to turn and re-position the patient every 2 hours on 9/22/2014 and 9/23/2014 prior to use of the Bariatric bed.
On 9/23/2014, the patient is not turned between 0218 hours and 1000 hours.
On 9/24/2014, the patient is not turned between 1800 and 2200 hours.
On 9/25/2014, the patient is not turned between 0700 and 1900 hours.
In the Pressure Ulcer Prevention Quick Reference Guide by the European Pressure Ulcer Advisory Panel and the National Pressure Ulcer Pressure Panel, it is recommended that the patient be repositioned in such a way that the pressure is redistributed and to avoid positioning the individual on bony prominences. As for documentation, the guidelines recommend to record the specific timeframe and position adopted as well as the outcome of the intervention.
- d) There was failure to moisturize the skin at least once daily in spite of the skin being repeatedly assessed as being dry. In the Pressure Ulcer Prevention Quick Reference Guide by the European Pressure Ulcer Advisory panel and National Pressure Ulcer Pressure Panel, it is recommended that skin emollients be used to help reduce skin damage.

*There is an allegation of weight loss: Mr. Lightfoot reported on 10/13/2014 that he suffered a weight loss of 75 lbs in hospital. However, this cannot be substantiated as his admission weight on 9/22/2014 was 154.2kg and his weight on 10/08/2014 was 357.28 lbs (162Kg).

Comment: Pressure reducing surfaces and two hourly turning and re-positioning are the most important measures to prevent pressure ulcer formation (**REF-2**).

3. What, if any, were the deviations in the standard of care at Smith's Center Health and Rehabilitation from 10/08/2014 onward where the wounds deteriorated into stage IV decubitus ulcers?

There were two deviations in the standard of care which led to worsening of the pre-existing pressure ulcer:

- a) There was a failure to turn and reposition the patient every two hours. Michael Jordan, M.D. documented "he (the patient) knows to move frequently to keep the pressure off of that area while here." The nursing staff documented on 10/10/2014, 10/11/2014 and 10/16/2014 that the patient had "Bed mobility with extensive assist."
- b) There was failure to provide pressure reducing surfaces for the bed and chair. There is documentation dated 10/14/2014 stating there was an order for a "pressure relieving or reduction mattress... Pressure relieving/reduction chair pad." An air mattress bed was in place on 10/15/2014.

4. Who are identified as potential defendants?

- Local Regional Medical Center (admission 9/22/2014)
- Smith's Center Health and Rehabilitation the wound worsened considerably

5. What damages resulted from deviation from the standard of care?

- Pressure ulcers
- Acute cellulitis around sacral decubitus ulcer
- Surgical Debridement on 10/21/2014
- Acute decubitus sacral ulcer bleeding on 10/30/2014
- Excision of sacral ulcer and biopsy on 01/16/2015
- Bilateral fasciocutaneous flaps for definitive closure of his sacral pressure ulcer on 1/23/2015
- Confusion from pain medications
- Blood transfusion
- Wound VAC
- PICC line
- Pain and suffering (needing Dilaudid)
- Emotional distress
- Financial cost
- Morbidity from all the above

6. **Summary**

The patient is a 53-year-old gentleman who was ventilated for ARDS (Acute Respiratory Distress Syndrome) at Local Regional Medical Center from 09/22/2014 forward. There were multiple deviations from the standard of care which led to the formation of multiple pressure ulcers at this facility.

For rehabilitation, he was transferred on 10/08/2014 to Smith's Center Health and Rehabilitation/Waynesville, where the pressure ulcer worsened considerably and deteriorated into stage IV pressure ulcer. This deterioration of the pressure ulcer prompted Eric Mucci, M.D. surgeon, to document his findings at the time of surgery as "a very large, deep, widespread sacral decubitus ulcer, *one of the worst that I have ever seen*". There were deviations in the standard of care at Smith's Center Health and Rehabilitation/Waynesville which led to deterioration of the sacral pressure ulcer.

References

REF-1:

http://www.researchbyMarGin.com/contents/pressureulcerepidemiology&pathogenesis&sstaging?source=see_link&anchor=H4#H4

Pressure ulcers are lesions caused by unrelieved pressure that results in damage to the underlying tissue. Generally, these are the result of soft tissue compression between a bony prominence and an external surface for a prolonged period of time.

In one report in an intensive care unit, over 50 percent of patients developed a stage 1 or larger ulcer when managed with a standard mattress bed.

Pressures are greatest over bony prominences where weight-bearing points come in contact with external surfaces. A patient lying on a standard hospital mattress may generate pressures of 150 mmHg; sitting produces pressures as high as 300 mmHg over the ischial tuberosities. Pressure in excess of 70 mmHg for two hours results in irreversible tissue damage in animal models.

Moisture — Exposure to moisture in the form of perspiration, feces, or urine may lead to skin maceration and predispose to superficial ulceration.

Host factors — A number of host factors may contribute to pressure ulcer development including immobility, incontinence, nutritional status, circulatory factors, and neurologic disease.

Immobility — Immobility is the most important host factor that contributes to pressure ulcer development. There is a high correlation between a lack of spontaneous nocturnal movements and pressure ulcer development in studies using devices that measure body movement.

Incontinence — Urinary incontinence is frequently cited as a predisposing factor for pressure ulcers. Some studies suggest that incontinent patients have up to a five-fold higher risk for pressure ulcer development. Several studies have also suggested that fecal incontinence is a predictor of pressure ulcers.

Nutritional compromise — *Impaired nutritional status* is a risk factor for the development of pressure ulcers. The strongest nutritional measure predicting pressure ulcer development may simply be whether the patient has adequate dietary intake.

Neurologic diseases — Neurologic diseases such as dementia, delirium, spinal cord injury, and *neuropathy* are important contributors to pressure ulcer development. This may be related to immobility, spasticity, and contractures that are common in these conditions. Sensory loss is also common, suggesting that patients may not perceive pain or discomfort arising from prolonged pressure.

Other factors - A partial list includes sepsis and hypotension.

REF-2:

[http://www.researchbyMarGin.com/contents/pressurewoundprevention?source=see link](http://www.researchbyMarGin.com/contents/pressurewoundprevention?source=see_link)

Pressure relief — Pressure relief is the most important factor in preventing pressure ulcers and may be accomplished in two ways: proper patient positioning and appropriate use of *pressure-reducing devices and surfaces*.

Patient positioning — Proper positioning of bed-bound individuals is recommended, including a regular turning and repositioning schedule, with particular attention to vulnerable tissue covering bony prominences such as the sacrum. Typically, a two-hour interval is recommended although this is based upon expert opinion in the absence of randomized trials.

Pressure-reducing products for patients at increased risk (identified by clinical assessment or risk scales) for developing pressure ulcers. The choice of product, including overlays, foam, and gel supports, or dynamic devices, will depend upon patient risk factors and the availability of resources. Dynamic supports, such as air fluidized beds, may be cost-effective in high-risk patients.

Other measures that may be helpful for pressure ulcer prevention in selected patients include limiting immobility (with physical therapy and decreased use of sedatives), nutritional supplementation, and meticulous skin care.