Nursing Home - Medical Opinion

DOB – MM/DD/YYYY
DOD – MM/DD/YYYY

Opinion Gist:
After a thorough review of the medical records we note that **there has been a definite deviation in the standard of care** in the management of the foot ulcer.

The deviation in the standard of care can be noted as follows:

1. Delay in seeking vascular consultation in spite of the signs and symptoms of life threatening ischemia
2. Delay in performing arterial serial doppler
3. Delay in performing the debridement of the wound
4. Failure to debride the wound in spite of the presence of dead tissue in the wound

Injury/Damages - Consequences of the above deviations: These deviations has led to the infection of the wound which resulted in amputation of the lower limbs

Jane was 8X-year-old when she passed away. She had a medical history of diabetes mellitus, hypertension, hypercholesterolemia, probable dementia, recurrent urinary tract infections, and asthma.

Flow of Medical Events:

XXXX Medical Center
11/08/2008: Healed pressure ulcer, right ankle 1X1 cm

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XXXX University Medical Center
12/01/2008: Uncontrolled diabetes mellitus and hypertension
03/19/2009: Right heel ulcer, stage 2 active, Braden score 17
03/23/2009: Right heel adherent foam dressing done
04/15/2009: Unstageable bilateral heel ulcer, knee pain
04/16/2009: Stage 2 sacral pressure ulcer developed

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XXXX Medical Center
04/24/2009: Admitted for care of bilateral foot cellulitis and gangrene
04/28/2009: Bilateral heel decubitus ulcers noted, with eschar on the left
05/01/2009: Bilateral foot arterial insufficiency found by arterial flow doppler
05/02/2009: Bilateral heel ulcers with defined edges and granulation, with stage II sacral pressure ulcer
05/05/2009: Wound not debrided secondary to patient's diabetes and increased risk of infection.
05/07/2009: No debridement done and foot ulcer was necrotic and discharged on 05/12/2009

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XXXX Care Center

05/12/2009: Stage III pressure ulcer in the sacrum, 3.5 X1.5 cm
05/13/2009: Reports of debridement not needed at present, saline flush and Santyl dressing done.
05/27/2009: Partial thickness debridement of left lateral leg ulcer
06/03/2009: Ulcerations unstageable due to eschar, patient developed sepsis
06/04/2009: Full thickness stage III sacral wound
06/10/2009: Vascular surgery of the foot could not be done, suggested amputation if the patient was septic
06/17/2009: Wound debridement to be done for a week
06/24/2009: Patient taken to XXXX University Medical Center for surgical debridement of bilateral heels
07/08/2009: Patient and relatives offered choices of bilateral leg amputation or continued local care or debridement.

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XXXX University Medical Center

07/15/2009: Debridement of foot ulceration to bone and fascia, poor healing indicates poor prognosis

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XXXX Care Center

07/22/2009: Patient had continued pain, amputation advised in the light of pain

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XXXX Medical Center

07/24/2009: Optimized for surgery
07/25/2009: Discussed as decubitus ulcer lead to infection and sepsis. Bilateral above knee amputation planned. Care for sacral decubitus ulcer to continue.
07/27/2009: Bilateral above knee amputation done.
08/05/2009: PEG tube placement in right epigastric region and transfer for treatment of sacral osteomyelitis.

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XXXX Specialty Hospital

08/07/2009: Debridement of sacral wound done.
08/08/2009 to **09/07/2009**: 24 hour wound documentation done, bilateral stump care given.
09/08/2009: Patient discharged to XXXX Rehabilitation and Care Center for management of polymicrobial sacral osteomyelitis.

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XXXX Rehabilitation and Care Center

09/12/2009: Large loose stools soaked sacral wound VAC.

09/14/2009: Patient had elevated respiratory rate and fall in oxygen saturation.
09/15/2009: Patient received oxygen 2l/min via nasal cannula.
09/16/2009: Patient unresponsive with labored respiration at 02:15, respiration ceased at 02:20. Patient transferred to XXXX Medical Center ER with no pulse or BP and was unresponsive. Patient expired at 04:15; Cause of death was cardio respiratory arrest.

Opinion - Q&A:

1 What had led to amputation of the patient's legs?

The pressure ulcers of both the legs that were present during April 2009.

2. Were both the ulcers managed properly?

No. Both the ulcers were not treated properly when they were small and treatable. This had led to the amputation of both legs.

3. What was the deviation in the standard of care?

A. Heel ulcers: Not having taken adequate care of the heel ulcers that resulted in infection of the wound that had ultimately resulted in amputation:

In spite of the signs and symptoms of life threatening ischemia,

a. Delay in seeking vascular consultation

b. Delay in performing arterial serial doppler

On 4/24/2009, patient visited ER of XXXX Medical Center and was diagnosed with have bilateral foot cellulitis and gangrene. The next step should have been assessment of the wound including vascular status. Absence of pedal pulses needs immediate vascular evaluation and surgical attention **(Ref-1)** as it is a limb threatening ischemia **(Ref-2).** But vascular consultation and arterial sequential Doppler was sought on 4/29/2009. It was a delayed decision a late decision. Even after the vascular consultation, arterial flow study was done on 5/1/2009 ignoring the serious nature (limb threatening ischemia) of the disease **(Ref-3)**

c. Delay in debridement of the wound

On 05/05/2009, wound debridement was denied citing diabetes and risk of infection. 0n 05/13/2009 at XXXX Care Center, the wound description was presence of gangrenous eschar (dead tissue) and drainage. These deviations are not acceptable.

Consequences of the delay in debridement and vascular care:

Because of the delay in debridement and vascular care, the wound which was initially culture negative on 4/28/2009, was positive for staphylococcus/epidermis/E. fecalis. All these deviations could have been contributing factors for amputation of limbs **(Ref-6) (Ref-7).**

How this could have been prevented?

This could have been prevented by earlier intervention **(Ref-4).** First step in the treatment of diabetic wound is surgical debridement of the wound.

Early Debridement and antibiotics will save limb in diabetic foot ulcers **(Ref-5).**

B. Sacral ulcer: Not having taken enough care of the sacral ulcers that resulted in spread to the extent of osteomyelitis:
The patient's Braden score was consistently in the range of 13 when she was in the XXXX Center. There are no records of pressure ulcer prevention strategies such as frequent position changing, use of moisture barrier ointment, etc were implemented. **(Ref-8)(Ref-9)**

References:

Ref-1:
http://www.mdconsult.com/das/article/body/237091965-4/jorg=journal&source=MI&sp=20883019&sid=1129749590/N/654062/1.html?issn=0749-0690

The first decision is whether the ulcer is infected or noninfected. Initial assessment of the foot ulcer will evaluate for local and systemic signs of infection, and for the vascularity of limb. Assessment should include debridement of all necrotic tissue and eschar to viable tissue. Initial assess-

Ref-2:
http://www.mdconsult.com/das/article/body/237091965-4/jorg=journal&source=MI&sp=20883019&sid=1129749590/N/654062/1.html?issn=0749-0690

blood sugar. Infected limb-threatening lesions (category "Moderate") may be those with surrounding erythema greater than 2 cm beyond the ulcer bed, purulent, odorous, and localized increase in temperature (dermal thermometer >2° difference between feet), a deep eschar, signs of tissue ischemia, or gangrene. The "probe to bone" test may be suggestive (87%

Ref-3:
http://www.mdconsult.com/das/article/body/237091965-7/jorg=journal&source=MI&sp=20058343&sid=1129751941/N/613102/1.html?issn=0039-6109

Assessment of peripheral arterial disease in the patient with diabetes

The patient with diabetes may not give the typical history of claudication because of associated neuropathy or lack of activity. It is therefore important to evaluate for PAD even in the absence of symptoms. The routine exam of the diabetic patient should include a complete foot examination and a vascular examination. If pedal pulses are not clearly palpable, further vascular studies are indicated. An ankle-brachial index (ABI) should be obtained, although there may be a false elevation of the ABI because of calcification of the pedal vessels. Toe pressures are a more accurate measure of perfusion in the diabetic foot. The indications for a vascular consultation include an ABI less that 0.7, toe pressures less than 40 mmHg, or transcutaneous oxygen tension (TcPO2) less than 30 mmHg. A nonhealing foot ulcer is an additional indication for a vascular evaluation looking for regional malperfusion in the diabetic foot.

Ref-4:
http://www.mdconsult.com/das/article/body/237091965-7/jorg=journal&source=MI&sp=20058343&sid=1129751941/N/613102/1.html?issn=0039-6109

ulcerations. An infection and/or ulceration, once present, increases the demand for blood supply to the foot. With PAD there may be an inability to meet that demand, leading to further tissue breakdown and progressive infection. The presence of PAD in a diabetic patient with foot ulceration or foot infection increases the risk of amputation. It is therefore very important to identify and treat coexisting PAD [9].

Ref-5:
http://www.mdconsult.com/das/article/body/237091965-7/jorg=journal&source=MI&sp=20058343&sid=1129751941/N/613102/1.html?issn=0039-6109

Surgical management of the diabetic foot: débridement

The most important initial step in treating limb-threatening diabetic foot infections is to perform a timely and complete surgical débridement [97–100]. This entails the surgical excision of all nonviable and/or infected soft tissue and/or bone so that the margins and base of the defect are healthy and viable [98–100]. Gentle retraction and meticulous soft-tissue handling

Ref-6:
http://www.mdconsult.com/das/article/body/237091965-7/jorg=journal&source=MI&sp=20058343&sid=1129751941/N/613102/1.html?isn=0039-6109

If vascular insufficiency is identified before significant tissue loss, revascularization can be accomplished in a high percentage of patients, resulting in limb salvage. Even in patients with significant comorbid disease, endovascular procedures can be performed with high rates of limb salvage.

Ref-7:
Surgical Reconstruction of the Diabetic Foot and Ankle
By Thomas Zgonis - Page 138

"sterile" an environment as possible (24,29–31). Wound débridement strategies should involve complete excision of all nonviable soft tissue and osseous components with great attention to preventing dead-space formation, infection, and further trauma (24,29–31). The timeliness of proper and aggressive surgical débridement cannot be overemphasized (23,24,27–31). A study of diabetic patients with foot infections requiring hospitalization were stratified into one of two groups, those that received parenteral antibiosis for 3 days and those that received immediate surgical débridement and parenteral antibiosis (59). Those patients that received immediate surgical débridement and

parenteral antibiosis required less above-ankle amputations than those who received parenteral antibiosis alone (59). This clearly solidifies the importance proper and aggressive surgical débridement plays in the management of diabetic foot and ankle wounds. Once the host and recipient wound site has been prop-

Ref-8:
http://www.mdconsult.com/books/page.do?sid=1129056977&eid=4-u1.0-B978-1-4160-2261-9..50023-9&isbn=978-1-4160-2261-9&type=bookPage&sectionEid=4-u1.0-B978-1-4160-2261-9..50023-9--cesec1&uniqId=237000527-3

Pressure Ulcer Prevention Guidelines

- Use a risk assessment protocol.
- Provide basic skin care.
- Use a repositioning protocol for immobilized patients.
- Use a pressure-relieving surface for at-risk patients.
- Avoid friction and shear forces.
- Maintain good nutrition.
- Maintain mobility.
- Use a systematic approach to evaluation and care.

Products to Relieve Pressure for a Bed-Bound Individual

- Standard mattress
- Foam mattress overlay
- Static flotation overlay (air or water)
- Gel mattress overlay
- Alternating air mattress overlay
- Low–air-loss bed
- Air-fluidized bed

Prevention of Heel Pressure Ulcers

- Use a moisturizer on the heels (not massage).
- Apply a transparent film dressing (thinner) to the at-risk heels.
- Apply a hydrocolloid dressing (thicker) over reactive hyperemia.
- Have properly fitted shoes.
- Wear socks in bed to reduce friction.
- Place a pillow or other pressure-relieving devices under legs to keep heels off bed.
- Use heel cushions.
- Use a dry lubricant, like cornstarch, to reduce friction.
- Turn every 2 hours.

Debridement Methods for Pressure Ulcers

- Mechanical
- Surgical
- Enzymatic
- Autolytic

Ref-9:

BRADEN RISK ASSESSMENT SCALE

Instructions: Assess patient's risk to skin breakdown. To calculate a Braden Score, choose the appropriate score from each category and total them. If a category score falls between two numbers, choose the lower score. Calculate a Braden Score upon admission and every 24 hours afterward and document on the Patient Care Flow Sheet. If score is 18 or lower, initiate recommended interventions for each category. (See back side.)	**Factors Further Increasing Risk** Peripheral Vascular Disease, impaired circulation, vasoconstriction drugs, braces or stabilizing equipment, diabetes, CHF, COPD, history of ulcers, preterm neonates, obesity/thin 30>BMI<19, Critical labs: prealbumin (reflects visceral protein stores) mild depletion = 10-15, moderate depletion = 5-10, severe depletion =<5.

Braden Category	**Braden Score: 1**	**Braden Score: 2**	**Braden Score: 3**	**Braden Score: 4**
Sensory Perception Ability to respond meaningfully to pressure-related discomfort.	**Completely limited** Unresponsive (does not moan, flinch or grasp) to painful stimuli, due to diminished level of consciousness or sedation OR Limited ability to feel pain over most of body surface.	**Very limited** Responds only to painful stimuli; Cannot communicate discomfort except by moaning or restlessness. OR Has sensory impairment, which limits the ability to feel pain or discomfort over ½ of the body.	**Slightly limited** Responds to verbal commands but cannot always communicate discomfort or need to be turned. OR Has some sensory impairment, which limits ability to feel pain or discomfort in 1 or 2 extremities.	**No limitation** 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.	**Constantly Moist** Skin is kept moist almost constantly by perspiration, urine, etc. Dampness is detected every time patient is moved or turned.	**Moist** Skin is often but not always moist. Linen must be changed at least once a shift.	**Occasionally Moist** Skin is occasionally moist, requiring an extra linen change approximately once a day.	**Rarely Moist** Skin is usually dry; linen requires changing only at routine intervals.
Activity Degree of physical activity.	**Bedfast** Confined to bed.	**Chair fast** Ability to walk severely limited or nonexistent. Cannot bear own weight and/or must be assisted into chair or wheelchair.	**Walks Occasionally** Walks occasionally during day but for very short distances, with or without assistance. Spends majority of each shift in bed or chair.	**Walks Frequently** Walks outside the room at least twice a day and inside the room at least once every 2 hours during waking hours.

Mobility Ability to change and control body position.	**Completely Immobile** Does not make even slight changes in body or extremity position without assistance.	**Very Limited** Makes occasional slight changes in body or extremity position but unable to make frequent or significant change independently.	**Slightly Limited** Makes frequent though slight changes in body or extremity position independently.	**No Limitations** Makes major and frequent changes in position without assistance.
Nutrition Usual food intake pattern.	**Very Poor** Never eats a complete meal. Rarely eats more than 1/3 of any food offered. Eats 2 servings or less of protein (meat or dairy products) per day. Take fluids poorly. Does not take a liquid dietary supplement. OR Is NPO and/or maintained on clear liquids or IV for more than 5 days.	**Probably Inadequate** Rarely eats a complete meal. Generally eats only about 1/3 of any food offered. Protein intake includes only 3 servings 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.	**Adequate** Eats over ½ of most meals. Eats a total of 4 servings of protein (meat and dairy products) each day. Occasionally will refuse a meal, but will usually take a supplement if ordered. OR Is on tube feeding or TPN regimen, which probably meets most of nutritional needs.	**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 eats between meals. Does not require supplementation.
Friction & Shear	**Problem** Requires moderate to maximum assistance in moving. Complete lifting without sliding against sheets is impossible. Frequently slides down in bed or chair, requiring frequent repositioning with maximum assistance. Spasticity, contractions or agitation lead to almost constant friction.	**Potential Problem** Moves feebly or requires minimum assistance. During a move, skin probably slides to some extent against sheets, chair, restraints or other devices. Maintains relatively good position in chair or bed most of the time but occasionally slides down.	**No apparent problem** Moves in bed and in chair independently and has sufficient muscle strength to lift up completely during move. Maintains good position in bed or chair at all times.	

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