Opinion Q&A:

1. What were the predisposing factors for the pressure ulcers?

a) Immobility due to hip fracture
b) Fecal (bowel) incontinence during the preceding seven days
c) Peripheral vascular disease
d) Decreased nutrition on account of chronic kidney disease (needing dialysis)

Comment: These are well-described risk factors for the development of pressure ulcers. **Ref-1**

2. Were pressure ulcers present on admission to XYZ Home ?

Ms. XXXXX did not have any pressure ulcers on 10/08/YYYY admission as evidenced by documentation in the medical records "admitted neither with history of pressure ulcers nor with pressure ulcers".

- Does the resident have a hx of pressure ulcers?
  ○ Yes ● No
- Does the resident have any existing pressure ulcers?
  ○ Yes ● No

3. Were adequate measures taken to prevent the development of pressure ulcers on the day of admission?

No, it is my professional opinion that adequate measures were not taken on the day of admission (10/08/YYYY) to prevent pressure ulcer formation. Although the Braden score was assessed at 18 – "mild risk for developing pressure ulcer", the following were deviations in the standard of care:

a) Pressure reduction mattress was ordered on 10/08/YYYY and used only from 10/09/YYYY.
b) Nursing assessment stating "Turning and repositioning will be initiated: No"
"Patient aware of need to turn and reposition" which is not reasonable or logical in a patient who has had hip surgery in the preceding week.
c) At 0115 and 0845 hours on 10/09/YYYY (within the first 24 hours of admission at XYZ home), the nurse documented the pressure area over right buttock as appearing brown. Pressure ulcers and skin tears had developed by 1132 hours (< 3 hours later).

Comment:
Intact skin with discoloration or non-blanchable redness of a localized area (usually over a bony prominence) is the first stage in the development of pressure ulcers.

The failure to use a pressure-reducing mattress from the first day of admission was deviation in the standard of care in this patient who was at risk of developing pressure ulcers. Pressure reducing mattresses and 2 hourly change of position are the two most important steps to prevent pressure ulcer formation in the first place **Ref-2**

a) Measures to prevent pressure ulcer formation were undertaken from the day after admission i.e. 10/09/YYYY in the form of pressure relieving and

reducing device for chair and bed, and turning and repositioning every 2 hours.

b) After documenting "Total dependence for Bed mobility", the staff member has documented "Patient aware of need to turn and reposition." Both are conflicting statements referring to the same patient on the same day. The failure to initiate 2 hourly change of position in this patient on the day of admission, 10/08/YYYY was another major deviation in the standard of care.

4. When did the pressure ulcers first develop?

The first stage of pressure ulcers developed at 0115 and 0845 hours on the day after admission i.e. 10/09/YYYY. This was the cause of the discoloration of skin over the right buttock on 10/09/YYYY. Pressure ulcers and skin tears were visible at 1132 hours i.e. less than 3 hours later.

5. Who had the duty of care?

XYZ Home

6. Were there any deviations from the standard of care leading to the pressure ulcers?

a) Failure to use a pressure-reducing mattress on the day of admission.
b) Failure to turn and reposition the patient every 2 hours on the day of admission.
c) Failure to assess the skin condition correctly as evidenced by missing stage 1 pressure ulcer (Stage 1 is discoloration of skin, not an open skin ulcer).

7. What are the damages?

- Pressure ulcer
- Excisional wound debridement surgery and wound vac placement under general anesthesia
- Cellulitic abscess
- MRSA infection
- IV antibiotics
- Pain
- Prolonged hospitalization
- Financial implications
- Morbidity from all the above

8. When did Ms. XXXXX fall while she was an inpatient at XYZ home?

On 12/10/YYYY, Ms. XXXXX was taken to ABC hospital with pain in the right arm and chest wall for several months, which became worse in the preceding 24 hours. There was severe tenderness on the right anterolateral chest wall. An X- ray demonstrated multiple minimally displaced right rib fractures. Dr. David XXXX documented on 12/10/YYYY that the patient had fallen at the XYZ home several months ago and has had right-sided rib pain constantly since then.

Reviewing the medical records from XYZ home reveals that a fall did occur at 0645 on 10/13/YYYY when Ms. XXXXX was in the bathroom and attempted to self-transfer

without assistance. She had not locked the wheelchair, which had moved on her. This happened after the nursing assessment on admission 5 days earlier had deemed "Total dependence for Bed mobility – Full staff performance of an activity with no participation by resident for any aspect of the ADL activity (2+persons physical assist)". Essentially, Ms. XXXXX was meant to have assistance in all ADL including use of the toilet.

It is more likely than not that this fall on 10/13/YYYY resulted in the multiple right-sided rib fractures.

9. What were the risk factors for falls in Ms. XXXXX who fell on 10/13/YYYY?

a) History of a fall in the preceding 30 days
b) Hip Fracture in the preceding 3 months
c) Anesthesia in the preceding 14 days
d) Osteoporosis
e) Peripheral vascular disease
f) 2 person assist for ADL because of the fractured neck of femur
Impaired mobility because of the fractured neck of femur **Ref-3**

10. What injuries were sustained in the fall?

Multiple minimally displaced right-sided rib fractures detected 8 weeks after the fall on 10/13/YYYY.

11. Was there a deviation in the standard of care that led to the fall?

The fall on 10/13/YYYY occurred 5 days after documentation by staff about the "need for 2+ persons physical assist for any aspect of ADL activity".

The failure to "anticipate needs" of the patient at 0645 hours on 10/13/YYYY and assist the patient in transfer to the toilet was a major deviation in the standard of care.

Summary:

Ms. XXXXX is a 64 year old lady who was admitted to XYZ Home for a period of short acute rehabilitation following surgery for a fractured neck of left femur. On admission on 10/08/YYYY, Ms. XXXXX did not have any pressure ulcers.

Pressure ulcers started developing on the day after admission (10/08/YYYY) as neither a pressure reducing mattress was used, nor turning and repositioning every 2 hours were employed on the day of admission.

In my professional opinion, there were the following deviations in the standard of care which contributed to the development of pressure ulcers over the sacrum and buttocks that more likely than not, resulted in the following injuries:

a) Failure to use a pressure reducing mattress from the time of admission on 10/08/YYYY
b) Failure to turn and reposition the patient every two hours on 10/08/YYYY
c) Failure to interpret the skin discoloration on 10/09/YYYY correctly as stage 1 pressure ulcer (Stage 1 is discoloration of skin, not an open skin ulcer)
d) The fall on 10/13/YYYY occurred 5 days after documentation by staff the "need for 2+ persons physical assist for any ADL activity". The failure to "anticipate needs" and assist the patient in transfer to the toilet was a major deviation in the standard of care that led to the fall and resultant multiple right sided rib fractures.

References:

REF-1:
http://www.uptodate.com/contents/pressure-ulcers-epidemiology-pathogenesis-clinical-manifestations-and-staging?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 diabetes, ***peripheral vascular disease***, cerebrovascular disease, cardiovascular disease, ***recent lower extremity fractures***, sepsis and hypotension.

REF-2:
http://www.uptodate.com/contents/prevention-of-pressure-ulcers?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.

REF-3:
http://emedicine.medscape.com/article/318521-overview#a1

Many intrinsic factors can contribute to falls in the elderly. The most predictive is a history of a previous fall. Age-related physiologic factors that can lead to falls include the following: Decreased muscle mass (which decreases overall strength), visuoperceptual decline, decreased vibratory sensation and altered proprioception (poor lower-extremity sensory input), impaired mobility, orthostatic hypotension (systolic blood pressure [SBP] < 20 mm Hg), balance disorders, and vasovagal syncope. Depression, confusion, dementia, and other cognitive deficits also contribute to falls. Risk factors for major injuries after a fall include older age, female sex, cognitive impairment, poor self-rated health, low BMD, osteoporosis, inactivity, sedative use, alcohol use, and orthostatic hypotension.

Extrinsic risk factors include adverse effects of medications, polypharmacy, and environmental hazards. Psychotropics, Neuroleptics, Tricyclic Antidepressants, Benzodiazepines, Analgesics, Sedatives, Skeletal Muscle Relaxants, Cardiac Drugs (Diuretics, Antiarrhythmics), Vasodilators, and Antihistamines may contribute to falls. Results of studies suggest that the risk of falls and fractures in elderly patients taking Selective Serotonin Reuptake Inhibitors (SSRIs) is not different from that of patients taking tricyclic antidepressants. The use of 4 or more medications of any type also increases the risk of falls.

****