Wound Sleuth

By Laura J. Dann, DSW Diploma, BPA (Human Services) and Janet L. Kuhnke, RN BA BScN MSc NSWOC DrPsychology

What is causing this new skin breakdown?

History

AC is a 33-year-old male with an acquired brain injury since the age of 10 months, because of pneumococcal meningitis. He resides in his privately owned home with staff on site providing 24-hour care. He moved to his new home in the fall of 2019. AC's mother is his primary care manager, power of attorney and first author. AC is legally blind, with fleeting vision. He functions with a left-side hemi-paresis and has an intractable seizure disorder moderately managed with levetiracetam, topiramates and lamotrigine administered three times each day. He has a sleep disorder successfully managed with clonazepam and tryptophan and sleeps up to 10 hours each night.

Communication Challenges

AC has both bowel and bladder incontinence, with irregular bowel movements successfully managed with an over-the-counter fibre supplement. He wears briefs full-time, utilizes a barrier cream and has high urine output at night. He takes vitamin D daily for skin and bone health. AC has a communication disorder that impairs age-appropriate communication and comprehension. His communication is rudimentary, with short phrases of rote learning, the use of music tunes including words to make his needs and wants known, and occasional single-word requests. During observation, AC appears to comprehend at a higher learning level than he is able to reciprocate with verbal response. He has a prominent stutter when generating words. AC has a pleasant demeanor, smiles easily, and appears healthy.

AC has a nurse case manager who oversees his care, a family doctor who does home visits, a dental hygienist who visits about once every two months for dental cleaning and a neurologist supporting him every four to six months through online appointments. AC was on a regular diet with 1500 to 1800 calories based on his daily activity, and is able to chew and swallow with no difficulty. He has no allergies, but reacts to spider bites with local skin swelling only, which responds to benedryl.

Looking For Answers

In the fall of 2019 shortly after moving, AC presented with scattered 1–1.5 cm open wounds, with minimal drainage and with exudate from the centre of the wounds, on his hips and buttocks without apparent injury or cause. AC is unable to respond to inquiries whether he was itchy or not, though he did not scratch at the skin areas. He has no history of skin breakdown (daily care team charting and well-being data supported these findings). AC eats a regular diet, with water as his primary choice of fluid. While he has a complicated history specific to his acquired brain injury, his heart, lungs, liver, kidneys, skin and teeth have never presented any concern.

Q What is the cause of the open wounds?

A Possible causes were investigated through data review, conversations with his doctor and support staff and communication with the manufacturers of the various medical devices and supplies being used.

His care team considered and assessed the following possible causes:

- A recent move to a new home with well water versus water treated by the town in which he lives
- A change in laundry soap (eliminated, as it had not been changed)
- The fit of his briefs worn during day and night (emailed queries were sent to the manufacturers of his incontinence supplier regarding any possible changes to their products)
- A review of his weight, food plan and nutritional status
- His moderately sedentary activity level
- Side effects of his prescribed and over-the-counter medications
- Check of continuity of his body hygiene products
- Review of personal hygiene routine with care team
- Review of his sheets, bed pads, etc., and their placement on the bed.

Q How would you determine a diagnosis?

A AC's care team communicated skin images every two weeks to his family doctor via telehealth. The case manager attended the telehealth appointment to present the findings. The doctor was of the opinion that AC's open wounds were not diagnosable, and would be a "chronic" condition. An antibiotic cream was prescribed to be applied two times each day. The case manager questioned the diagnosis of "chronic" because it was a new condition—but accepted the doctors' opinion. No further wound care follow-up was offered, which discouraged the care team.

Treatment

In week four, a second course of antibiotic ointment (5 days x 2) was prescribed, as no other option seemed available. However, the antibiotic ointment did not provide an effective treatment for the existing sores nor did it slow the development of new sores. Barrier cream use was suspended during this time. No referrals were offered.

Staff increased their diligence across all hygiene activities and collectively tried to problem-solve AC's skin breakdown. During this time, staff returned to using a durable barrier cream.

Discovering the Problem

In the weeks to follow, the answer came from a logical, yet never considered, source. When AC moved to his new residence, his bed changed from a double bed to a queen bed. The older cotton pads used previously by staff to prevent urine from leaking through to his mattress were replaced by larger white washable bed pads that fit the new bed size. Three new pads protected his sheets each night. Each morning the pads were heavily soaked with urine.

In an effort to identify where the urine was leaking from, two layers of colored cotton terry towels were placed on top of the white pads each night. This added a breathable layer between his body and the bed pads. On the fifth morning, staff observed that his skin breakdown appeared to be less heated, new skin breakdown was not present, and the older skin breakdown appeared to be drying up (see Figure 1).

With continued use of the cotton terry towels, and three

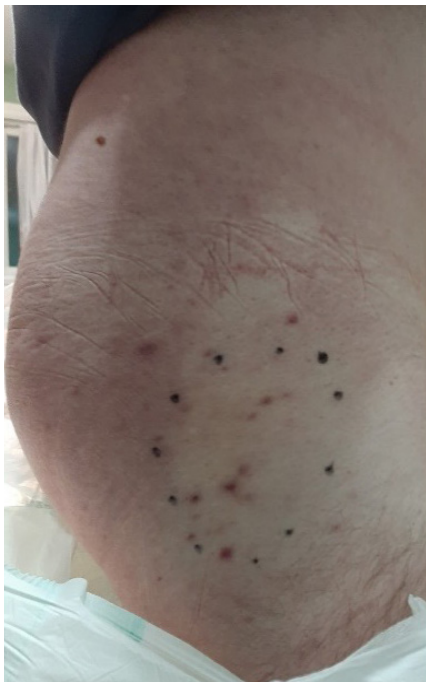


Figure 1: Right hip and buttock with issue resolving.

weeks after the completion of the antibiotic cream, AC's skin healed, leaving dark plum/brown discoloration where open sores had been, with no new spots visible. The care team and his mother determined that urine had been pooling in the new pads and not being wicked away from his skin (as it had been with the multiple layers of older, inferior bed pads used on his previous double bed) during his 10-plus hour night-time sleep cycle.

While AC's doctor offered a routine course of treatment and described the condition as "chronic" with no specific diagnosis, it was through a detailed assessment of AC's environment and care routine that the problem was successfully identified and changes were made. When AC's skin had no open sores present, the durable barrier cream was used several nights a week as a preventative measure. Nutritional intake remained stable, with no changes made.

In the past two years, AC has not had a reoccurrence of multiple open wounds on his hips and buttocks.

Conclusion

AC is fortunate to have a home-based support program where his support staff did not accept that his condition was to be chronic. This case emphasizes the importance of determination and communication among the home-based care teams, health-care professionals, the patient and his/her family.

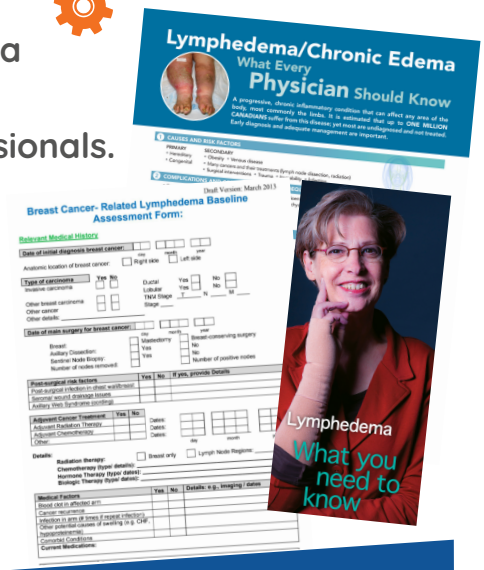
LYMPHEDEMA RESOURCES

CLF
CANADIAN LYMPHEDEMA FRAMEWORK

Subscribe to HP Toolkit

An online library of lymphedema resources developed by health professionals for health professionals.

- Presentation templates
- Photo Library
- Assessment tools
- Peer-reviewed case studies
- Patient education materials
- Physician information card
- Webinars, video presentations
- Continually updated



Follow us
@canadalymph.ca

Micro Credential Course for Health Care Professionals

Lymphedema and Chronic Edema Management

- Six week online course
- Learn with leading experts
- Self-paced, 4 modules
- 35 CE Hours Certificate
- Info: www.uab.ca/pd

UNIVERSITY OF ALBERTA
FACULTY OF REHABILITATION MEDICINE
CONTINUING PROFESSIONAL EDUCATION
DEVELOPED AND PRESENTED IN COLLABORATION WITH
CLF CANADIAN LYMPHEDEMA FRAMEWORK
Mitacs

SUBSCRIBE

SCAN TO SUBSCRIBE

Are you a Pathways Subscriber?

- Quarterly publication by the CLF
- Up-to-date clinical perspectives
- Research news
- Patient hints & tips
- Written by leading experts
- For professionals and patients
- Now in print and digital format

Learn more: www.canadalymph.ca