Kennedy Terminal Ulcers from a Nursing Expert Witness Perspective

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The Kennedy Terminal Ulcer (KTU) is an area of skin breakdown that develops when a person is dying and/or in multi-organ failure. The term KTU was named after Karen Lou Kennedy, a Family Nurse Practitioner, who in 1983 first started the process in differentiating this type of skin breakdown from standard pressure ulcers/injuries. [1] In 1989 the National Pressure Ulcer Advisory Panel (NPUAP) formally recognized KTU's, by defining them as an *unavoidable skin breakdown* related to the dying process having certain identifying characteristics that differentiate them from traditional pressure ulcers/injuries. The Center for Medicare and Medicaid Services (CMS) has also adopted the definition and differentiation of Kennedy terminal ulcers from standard pressure ulcers/injuries. In order to differentiate a KTU from a standard pressure ulcer/injury, it is essential to immediately identify the characteristics:

- Usually located on a sacrococcygeal area, however, can also appear on the heel, elbow, calf, or arm
- Appear to be shaped like a pear, butterfly, or horseshoe
- Red, yellow, black, blue and/or purple in color
- Presence of irregular borders
- There is a sudden onset. [2]

Immediate assessment and documentation upon presentation by the nurse or staff is vital to ensure appropriate diagnosis and interventions are implemented. Accurate diagnosis of a KTU is dependent on the review of the patient's medical history to determine if death is imminent and the clinical presentation of the skin breakdown.

KTU's develop when the body's vascular system can no longer adequately supply blood to the skin and tissues. The skin is the largest organ of the body, just like the brain and liver, it requires blood supply to remain functional and alive. Without the appropriate blood supply, skin can fail just like organs can, this is also known as skin failure. Since the skin is an exposed organ, this failure is visible whereas an internal organ's failure is usually seen on diagnostic studies. This can occur when a person is actively dying or critically ill, and on medications that diver the blood supply to vital organs for survival.

Often, Kennedy terminal ulcers are not present at the start of a nursing shift but can quickly evolve into a stage III pressure ulcer/injury (if not pressure may progress to a full-thickness skin loss) by the middle end of shift. The sudden appearance of a newly developed injury/ulcer can be surprising to the staff or caretaker causing a moment of surprise. As with any change in condition, upon identification, KTU's should be documented immediately by staging or depth determination according to its clinical presentation and the physician should be notified. The documentation should include that it has been identified as a KTU in addition to the stage and/or depth (e.g., Stage IV KTU or Full-Thickness KTU).

Karen Lou Kennedy published results of a study of approximately 500 residents over 5 years with pressure ulcers/injuries. She found that residents who developed pressure ulcers/injuries died within 2 weeks to months of onset. Within 6 weeks of onset 55.7% died. [1] Those that are near the end of life frequently experience pressure ulcers/injuries as a form of skin death. As skin is dependent on other organs to function adequately; it requires circulation, nutrition, and immunity. Skin requires 25-35% of cardiac output, which is the amount of blood pumped from the heart into the circulatory system with every heartbeat. As people age their circulation begins to fail making this requirement difficult to meet because blood is circulated or diverted to other major organs (brain, lungs, etc.) to survive. There are cases in which KTU's develop in patients that are critically ill experiencing multi-organ failure. This occurs when all attempts are being made by medical providers to sustain life with medications that assist in diverting blood circulation to major organs (brain, heart, liver, kidneys, etc.). n cases such as these, KTU's may be reversible and a patient may survive due to the aggressive medical interventions provided.

Since KTU's are most often associated with end of life and imminent death, the approach to treatment may be different than with traditional pressure ulcers/injuries. Often, patients will be in hospice or palliative care with the goal of comfort and pain relief. If aggressive treatment methods are recommended but refused by patient and/or family, then comfort measures should be implemented. If it is the choice of the patient and/or family to provide aggressive treatment, then the KTU will be treated based on the ulcer/injury clinical presentation and staging. In this case, general standards of wound care apply.

KTU's are considered *unavoidable* due to the dying process of the skin; therefore, it is important to immediately document the appearance on identification/assessment and notify the physician to obtain a diagnosis. The key to appropriately identifying KTU's is educating staff. Treatment plans should be developed and implemented based on the clinical presentation and staging of the wound, keeping in mind the wishes and expectations of the patient and/or family. In some instances, KTU's are not properly identified. An expert in wound care has the education, training, and experience to determine the proper identification, documentation and treatment of KTU's.

If you have a case that involves pressure ulcer/injuries and/or Kennedy, please contact our team of experts.

[1] Kennedy, KL. The Prevalence of Pressure Ulcer in an Intermediate Care Facility. *Decubitus.* 1989; 22 (2) 44-45.
[2] State Operations Manual Appendix PP – Guidance to Surveyors for Long Term Care Facilities. p.286