Pressure Ulcers *plus* Skin and Wound Awareness

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Would we like a cost-effective solution to Pressure Ulcers?

Could we be missing the Obvious?

There is a better option than more Bandages, Antibiotics and Ambulances.

We can build fences!

How do we build fences? With prevention of course!

In Victoria PUPPS helped raise awareness of the cause and effects of pressure ulcers on patients and public hospitals and is beginning to highlight the benefit of investing in comprehensive prevention programs. Direct costs of

The stated objectives of the project were to use the VQC PUPPS methodology to:

- Determine the point prevalence of pressure ulcers in Victorian public health services;

and is beginning to highlight the benefit of investing in comprehensive prevention programs. Direct costs of treatment for hospital acquired pressure ulcers have been estimated at 2.5 times the cost of prevention[14]. A successful prevention strategy involves a multifactorial and

collaborative and educative approach. This has resulted in the production of reports at both state-wide and individual health service level that provide current and comprehensive information on pressure ulcer prevalence and practice in Victorian health services.

The Department of Human Services (DHS) engaged Austin Health in partnership with the Clinical Epidemiology and Health Service Evaluation Unit, Melbourne Health (CEHSEU) to plan, manage and report on the third Victorian state-wide pressure ulcer point prevalence survey (PUPPS 3). The project team were required to communicate with over 90 site coordinators, provide training and testing for 600 surveyors and supervise the collection of data across 136 metropolitan and rural health service sites. A core team of pressure ulcer experts were seconded to deliver the training and testing and to support health service staff on survey day. An expert reference group with expertise in pressure ulcer prevention, management and education, was convened to oversee the planning, implementation and reporting for the project.

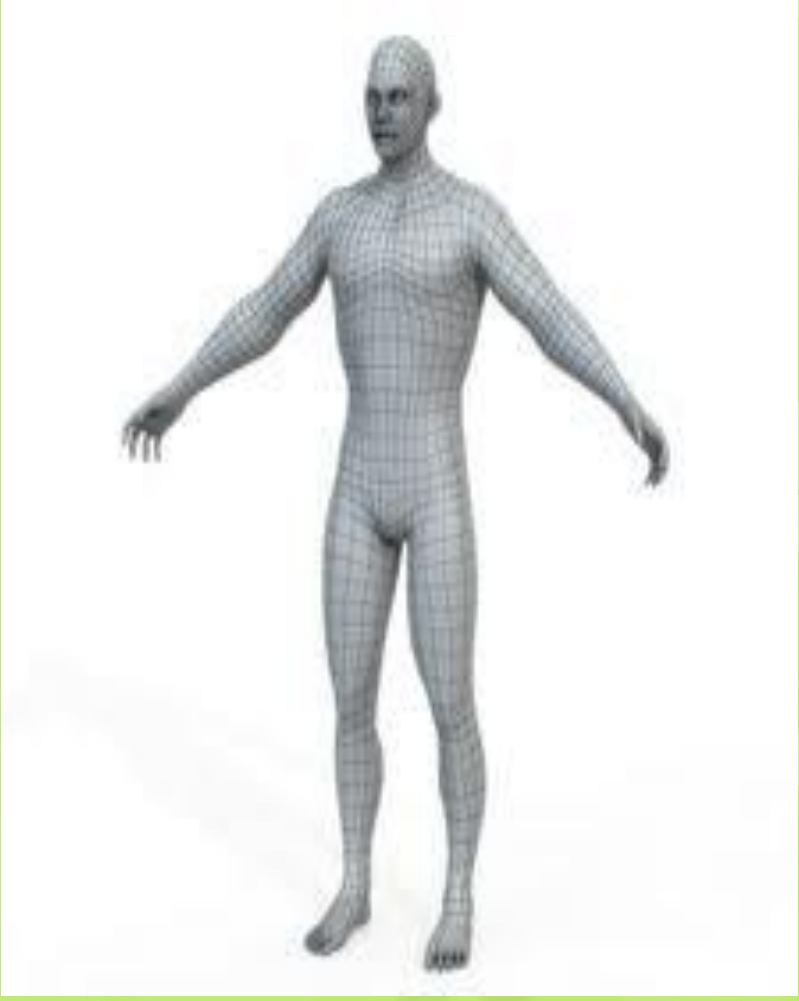
use of health resources". They are a useful tool to collect data for benchmarking specific clinical practices[16]. VQC stated the main benefits they sought in conducting the original PUPPS was to "focus attention on the problem, gain insight into the magnitude of the issue, educate staff, review the allocation and use of resources and, ultimately, to improve patient outcomes"[7]. Together with the contextual information collected as part of each PUPPS on prevention and management strategies used in health services, the combined data comprehensively tracks the progress of health services in their pressure ulcer prevention programs.

What is our largest Organ?

The skin is the largest organ in the human body.

- For the average adult human, the skin has a surface area of between 1.5 to 2.0 square meters (16.1 to 21.5 sq ft.), most of it is between 2 to 3 mm (~0.10 inch) thick.

- The average square inch (6.5 cm2) of skin holds 650 sweat glands, 20 blood vessels, 60,000 melanocytes, and more than 1,000 nerve endings.



Functions of the skin

1. Protection
2. Sensation
3. Heat regulation
4. Control of evaporation
5. Aesthetics and communication
6. Storage and synthesis
7. Excretion
8. Absorption
9. Water resistance

Lest you not think the skin is important

Pressure Ulcers

Definition

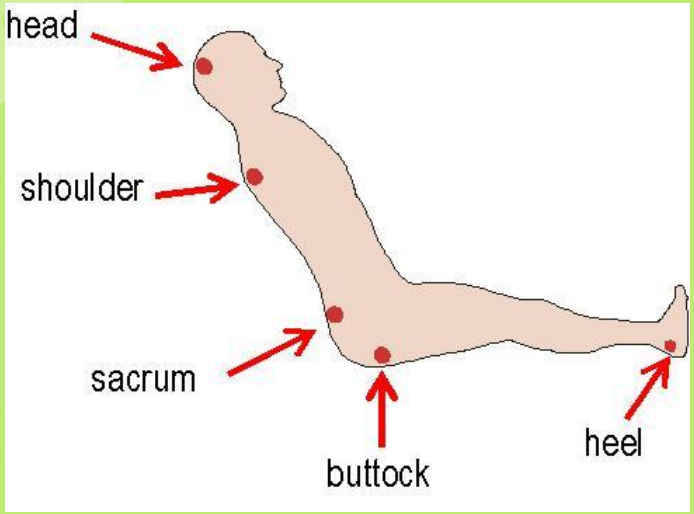
- Areas of localized damage to the skin and underlying tissue as a result of **"interface pressure"** of the skin against ***unyielding materials*** such as bed mattresses, pads, etc.
- Also known as "bed sores," "pressure sores," "decubiti," "ulcers."
- Preferred current terminology is "pressure ulcer" (PU).

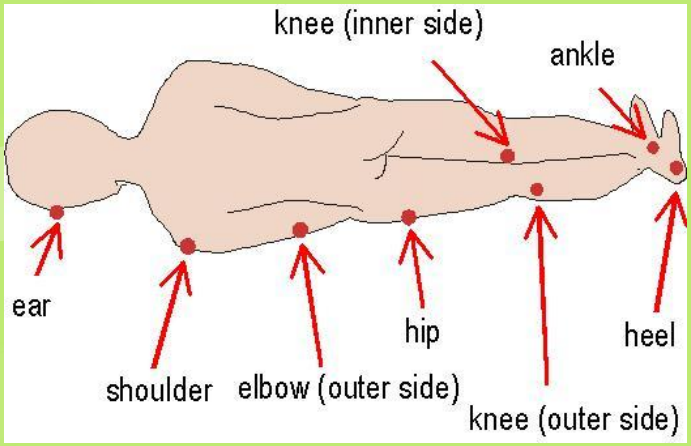
The Pathogenesis of a PU

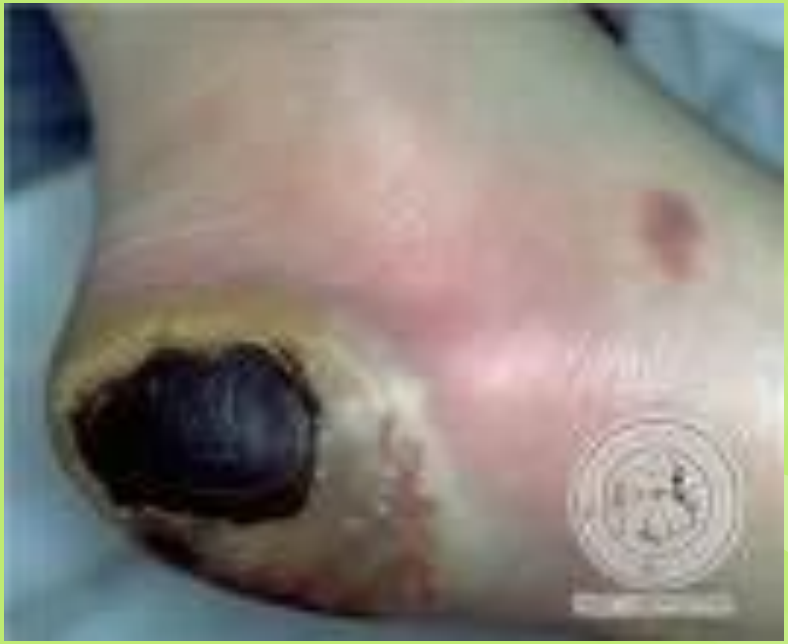
It's all about the physics

- Interface pressure
  - gravity
  - unnecessary force
- Shear forces
- Friction
- Irritating materials
- Moisture

Where PUs traditionally occur







“Unstageable” PU on the heel

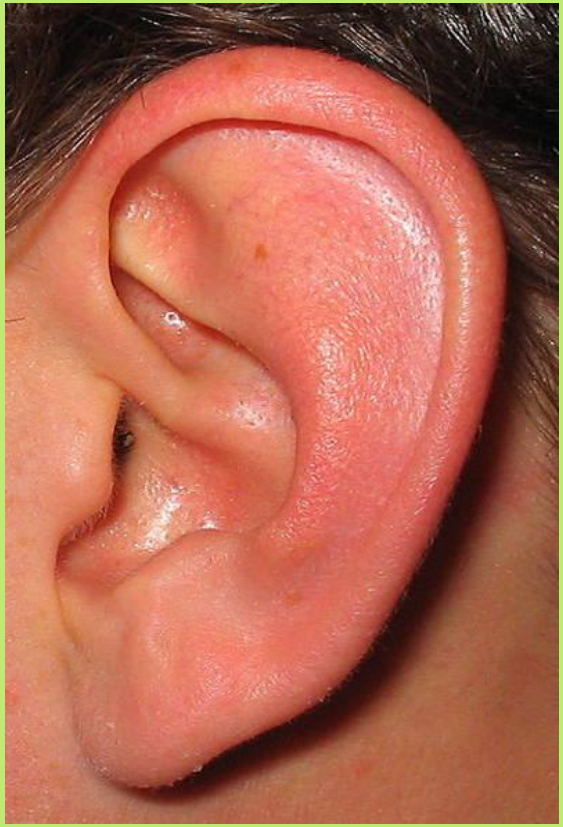
The next big problem

medical device-related pressure ulcers

… is already here.

- Tubing of all types
- Velcro straps
- Splints
- Cervical collars
- Restraints
- Abdominal binders
- Orthotics
- Sensors
- Face masks and nasal cannulas

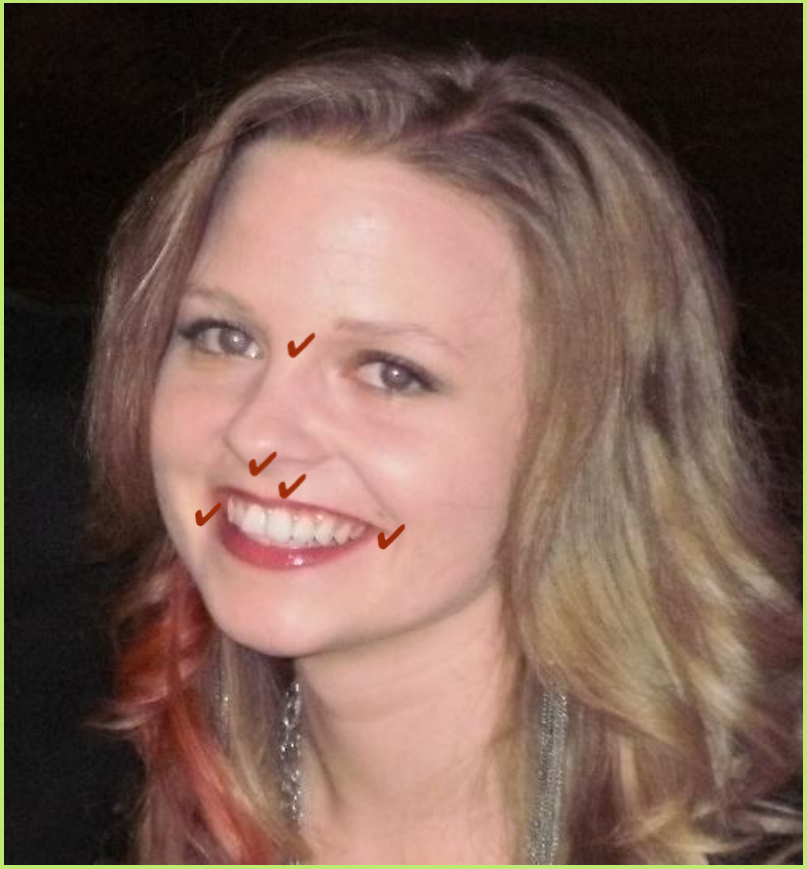
Emerging Areas
of skin damage in Respiratory Patients



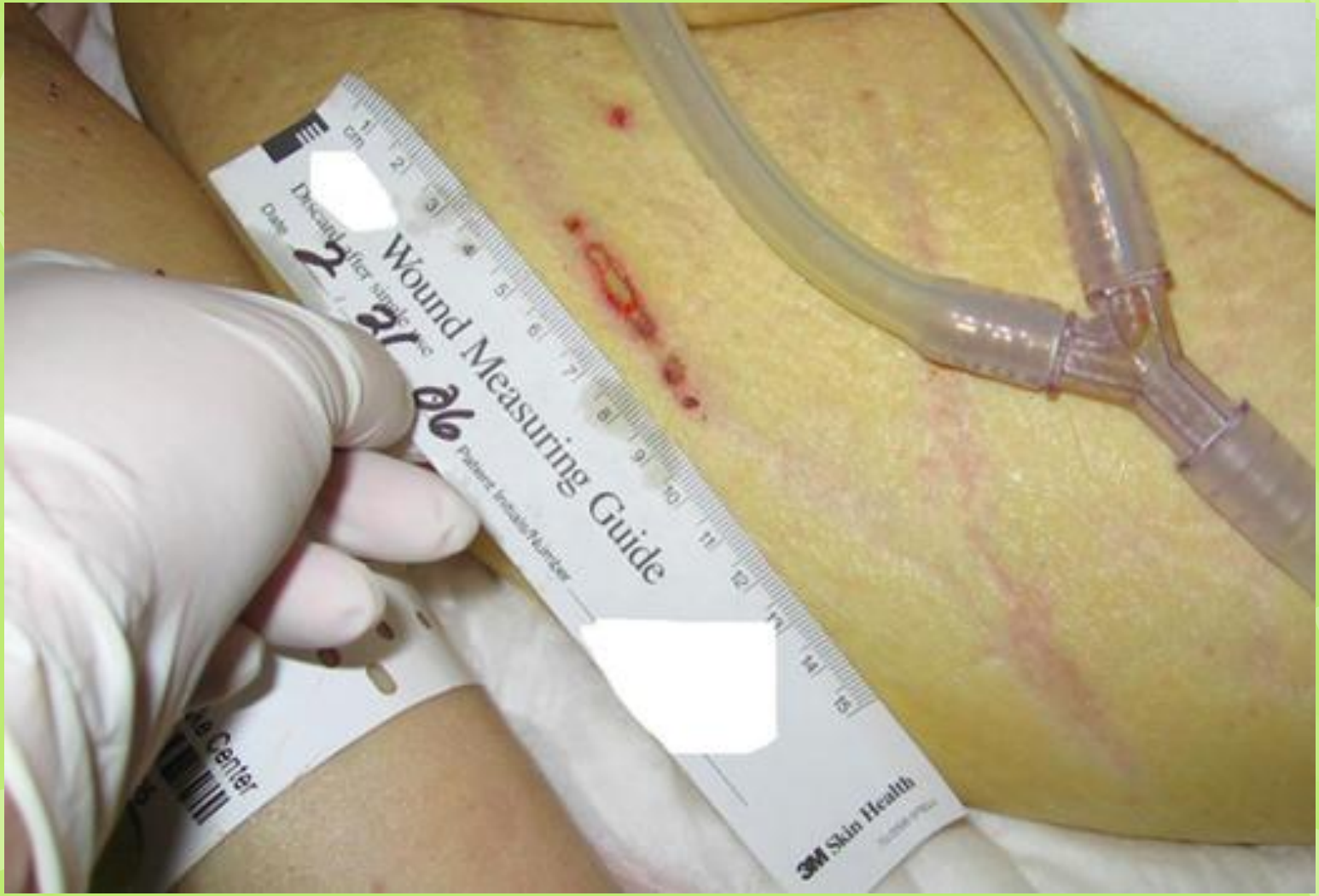
Behind the ears

Back of the neck

Emerging Areas
of skin damage in Respiratory Patients

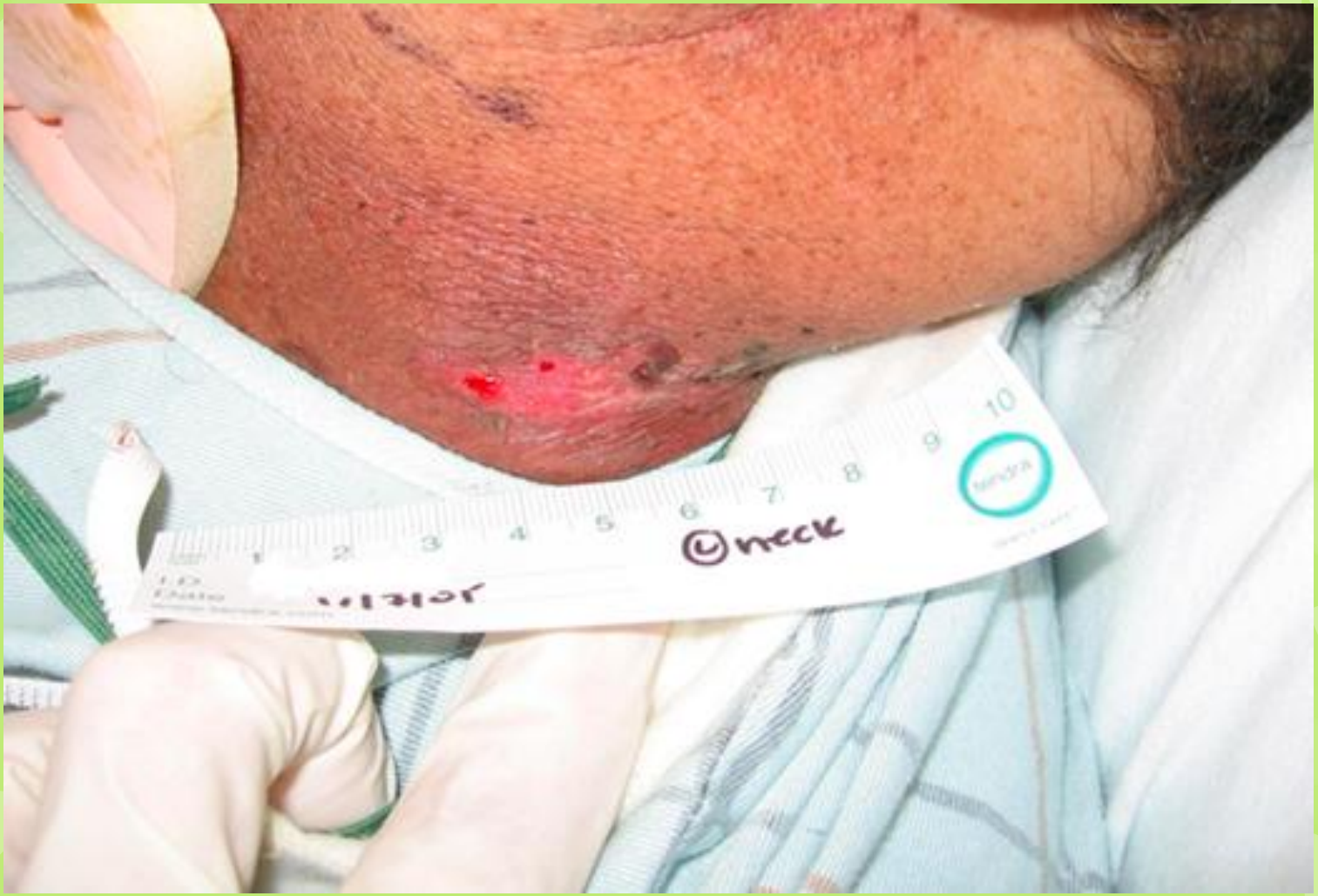


Bridge of nose, nasal septum, paraphiltrum, lips, cheeks, and the area surrounding the mouth



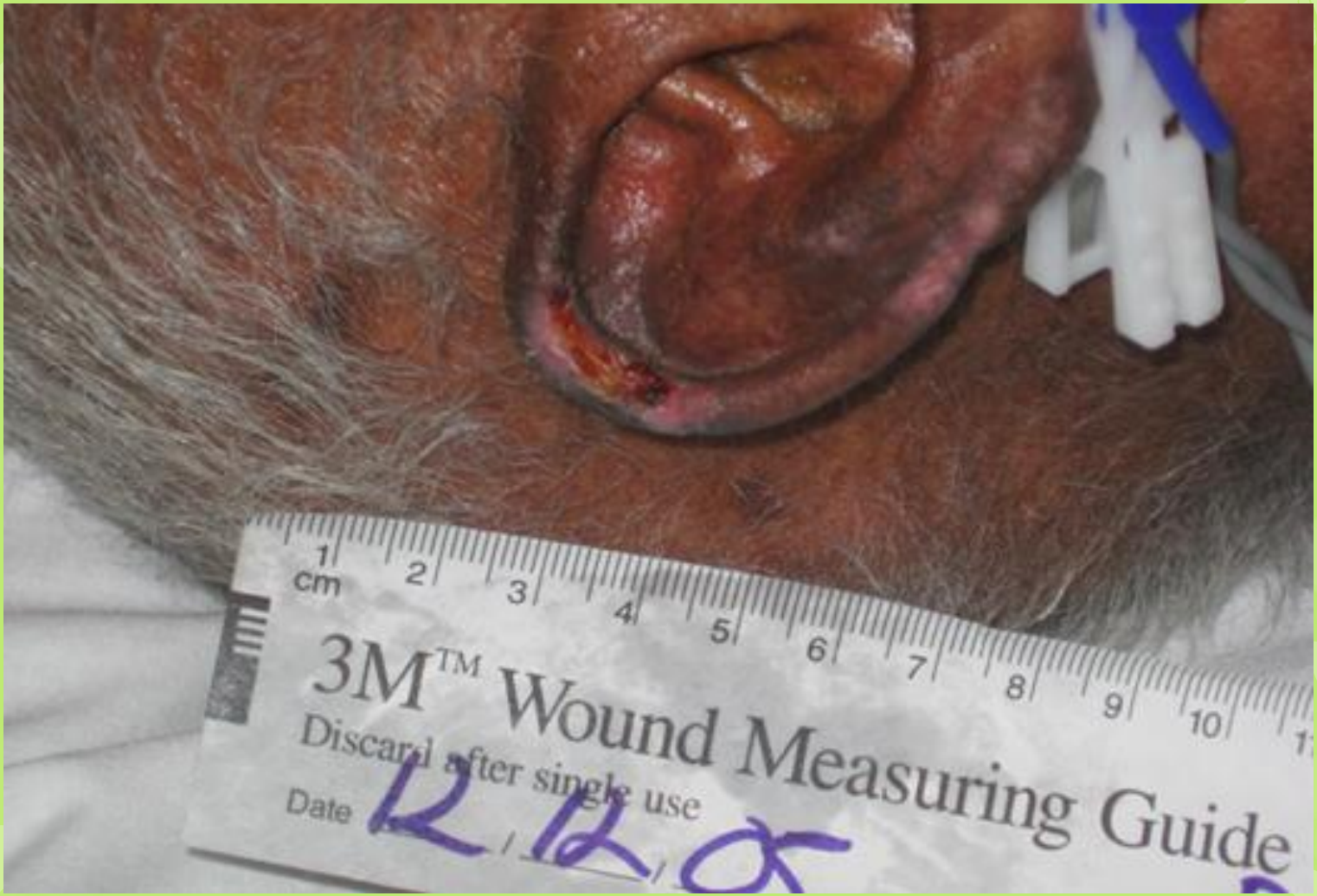
This category III pressure ulcer developed from pressure of the tubing. The red marks of the Y-tubing can clearly be seen on the patient's skin, suggesting nonblanchable erythema as well.

From: Reed LA. Pressure ulcers: Causes, prevention, treatment.
http://reference.medscape.com/features/slideshow/pressure-ulcer-causes



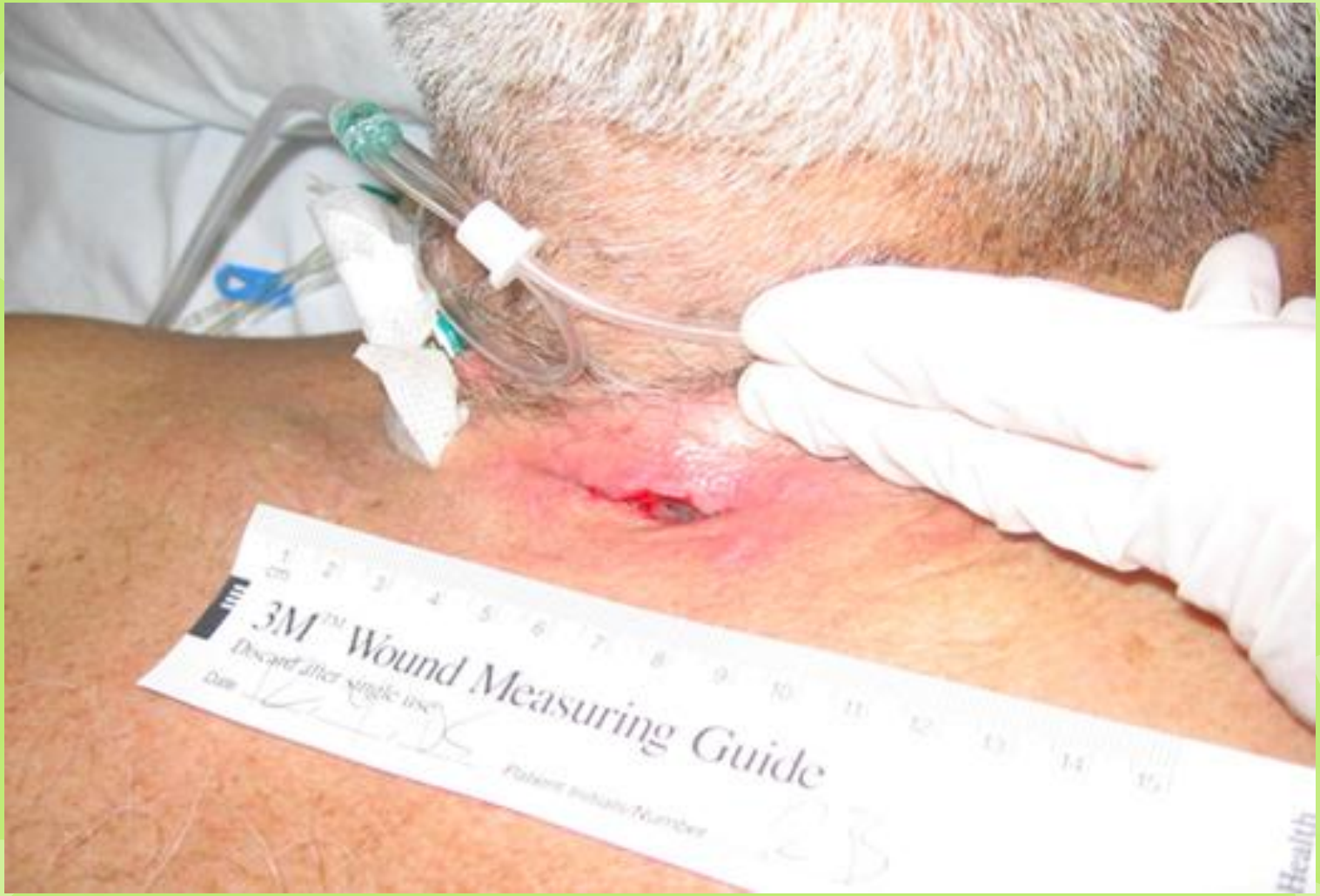
A category III pressure ulcer developed on this patient's neck from trach tube tape that was too tight. In obese individuals, this type of ulcer may not be immediately evident because it can be obstructed by overlying folds of skin.

From: Reed LA. Pressure ulcers: Causes, prevention, treatment.
http://reference.medscape.com/features/slideshow/pressure-ulcer-causes



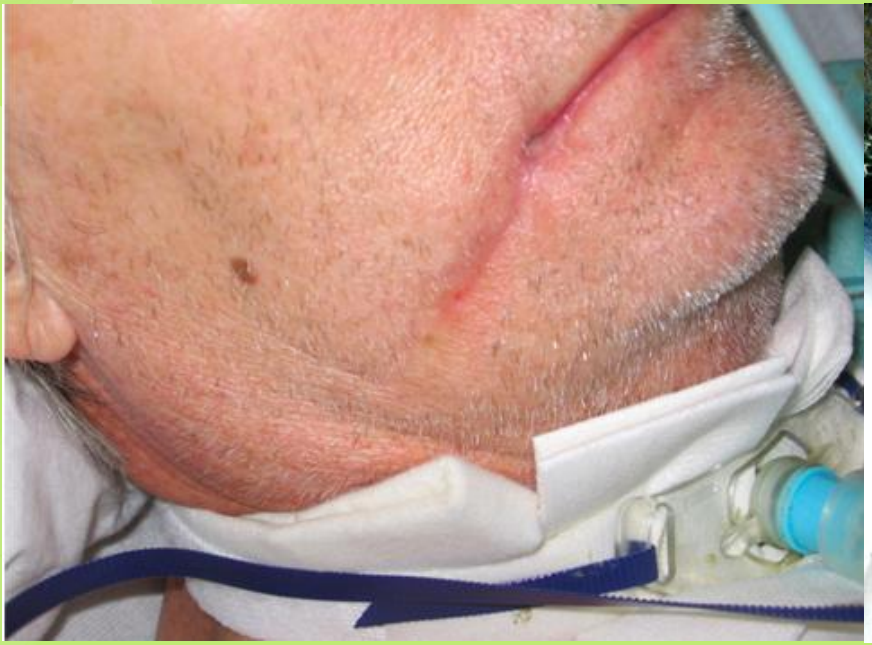
A category III pressure ulcer on a patient's ear caused by pressure from a pulse oximeter ear clip sensor

From: Reed LA. Pressure ulcers: Causes, prevention, treatment.
http://reference.medscape.com/features/slideshow/pressure-ulcer-causes

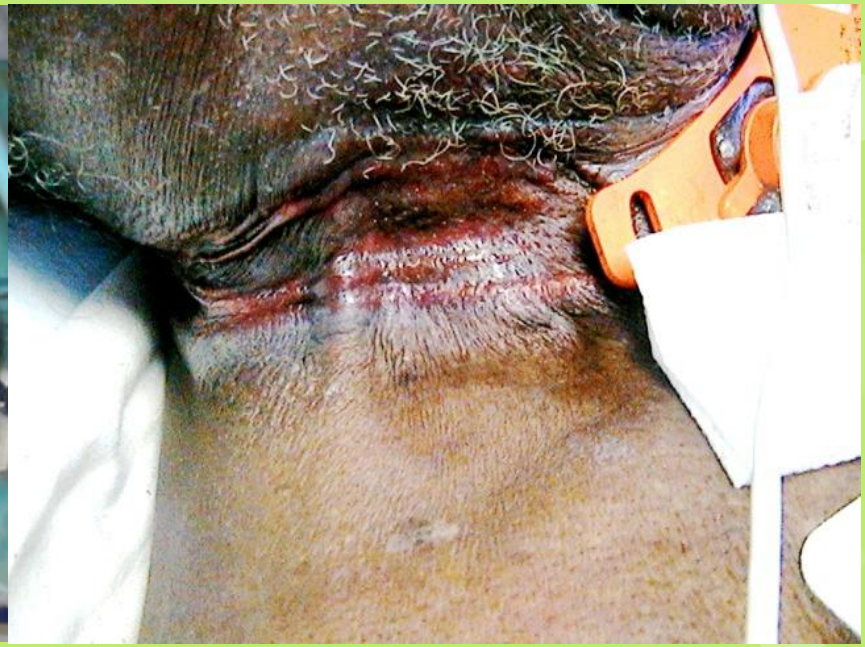


A category III pressure ulcer developed on the back of this patient's neck from oxygen tubing that was compressed between his skin and the mattress surface.

From: Reed LA. Pressure ulcers: Causes, prevention, treatment.
http://reference.medscape.com/features/slideshow/pressure-ulcer-causes

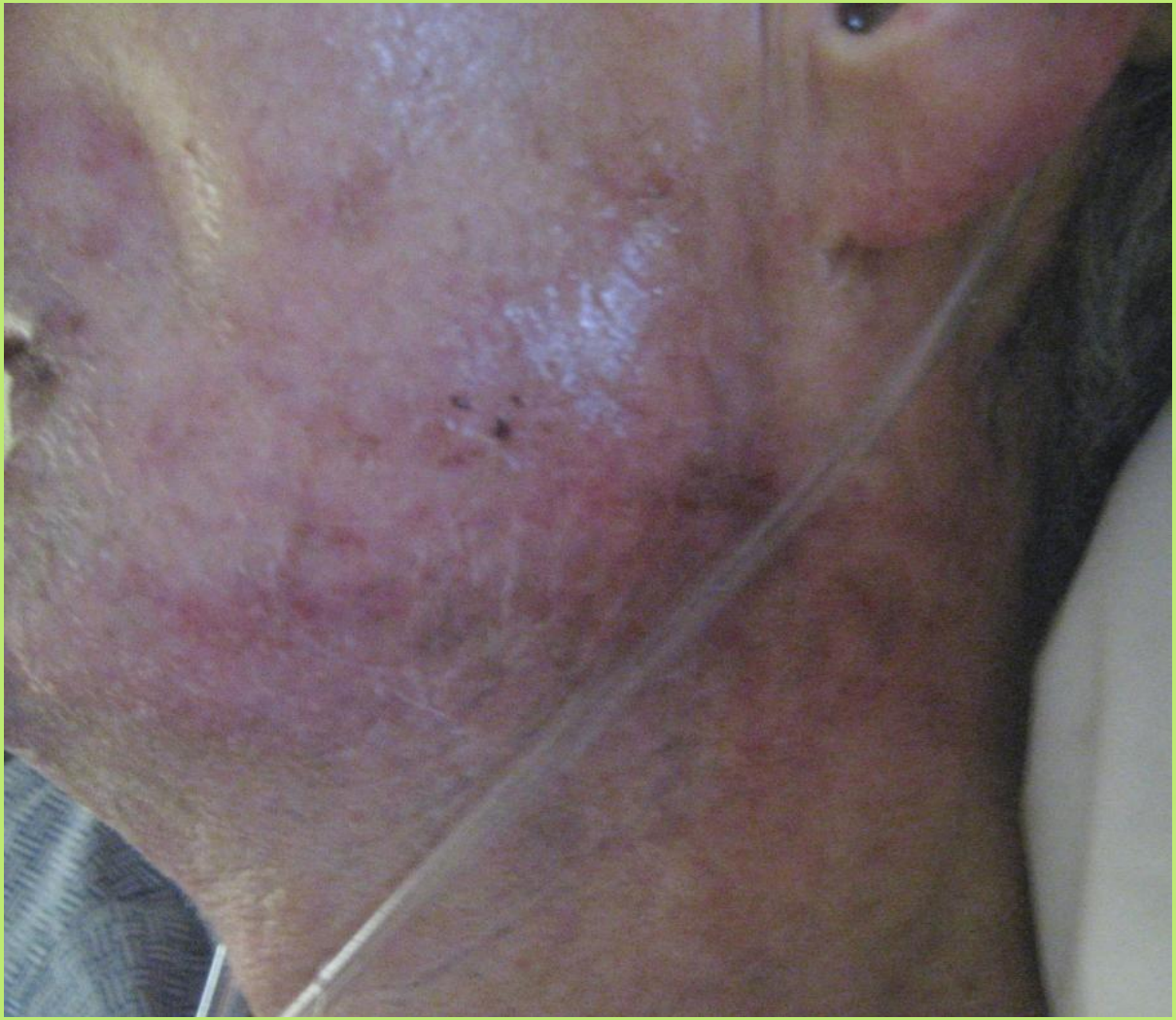


Damage from prior endotracheal intubation. Now patient is trached.

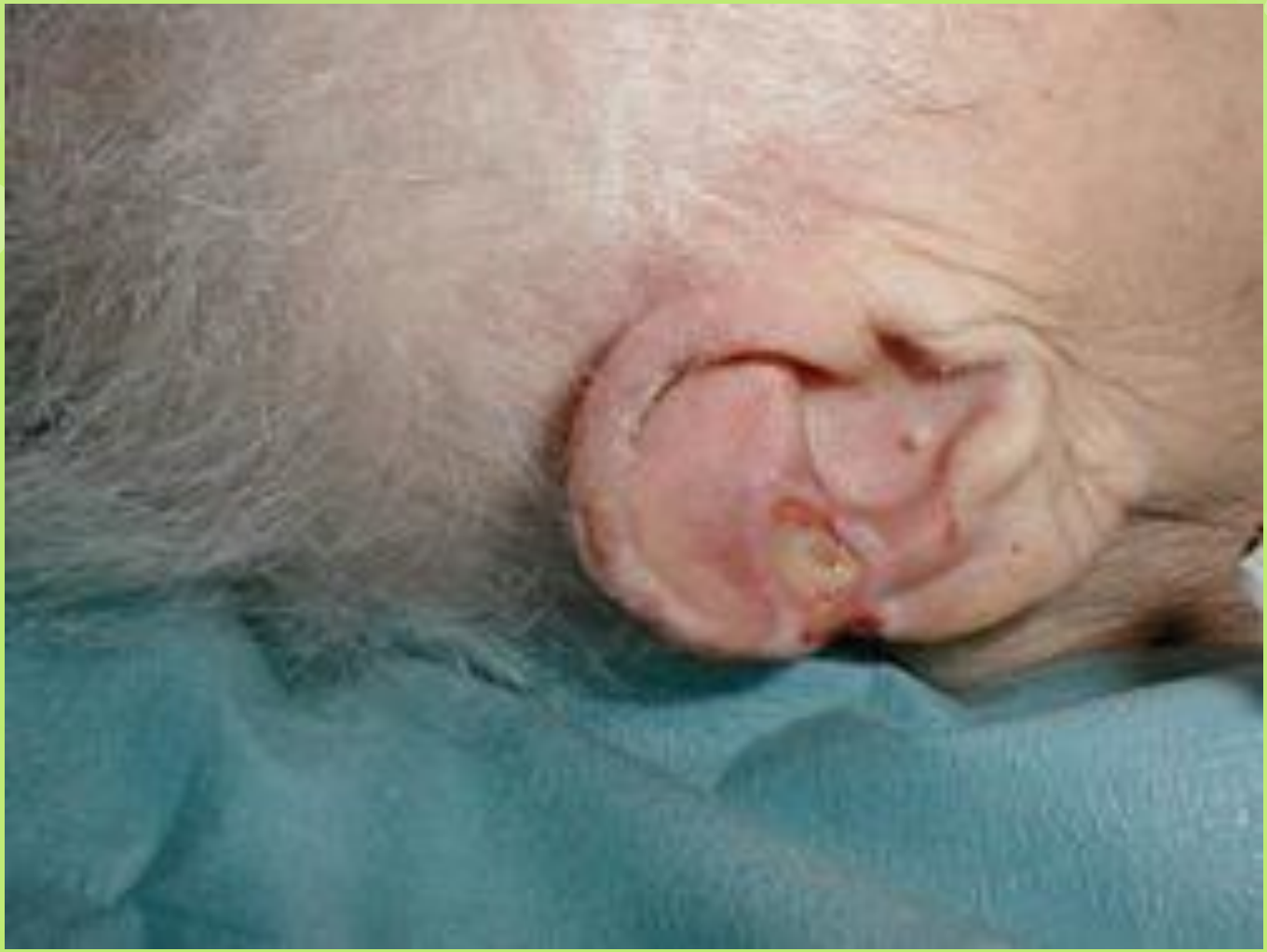


Damage to neck from cloth trach tube ties.

From: Reed LA. Pressure ulcers: Causes, prevention, treatment.
http://reference.medscape.com/features/slideshow/pressure-ulcer-causes



Side of the face. Damage due to *adhesive tape*.



Damage to ear due to *nasal cannula* usage

(Ref: http://www.medigroup.com.au/comfyears)

The Pathogenesis of a PU

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  - Gravity
  - unnecessary force
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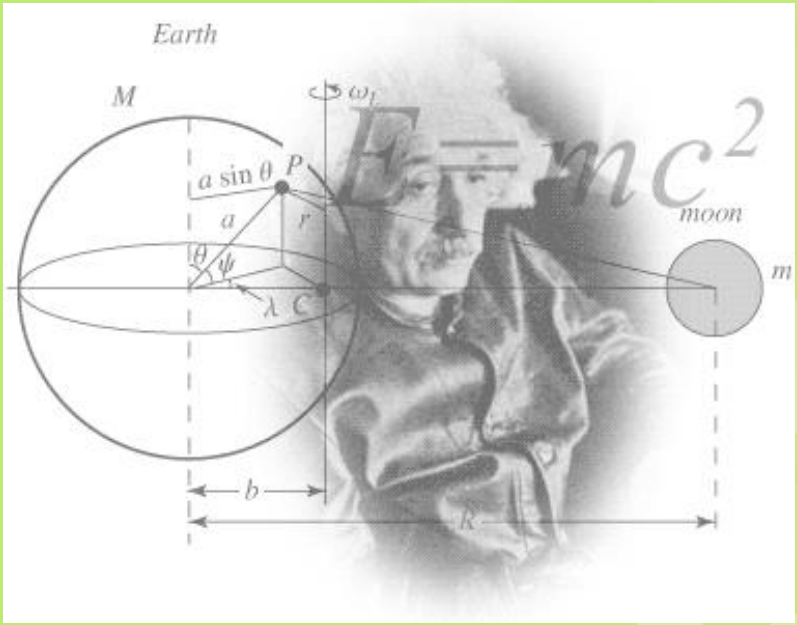
- Irritating materials
- Moisture



If we know these things, shouldn't pressure ulcers be preventable?

Preventable "HACs"

HAC = Hospital-Acquired Condition

(in descending order of volume)

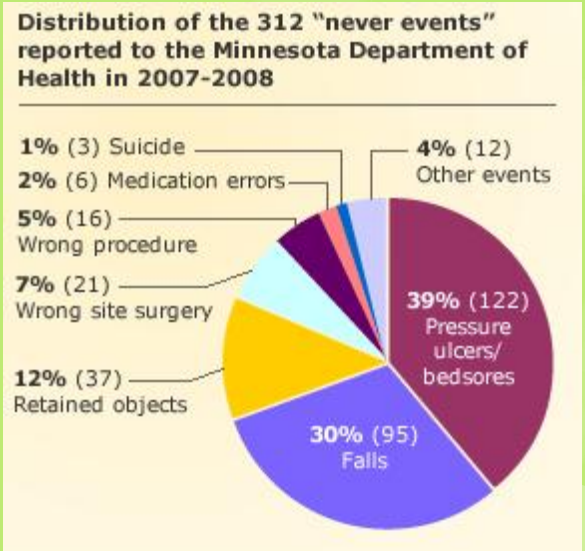
- ***Pressure ulcers Stage III and IV***
- Falls and trauma
- Vascular catheter-associated infection
- Catheter-associated urinary tract infection
- Foreign object retained after surgery
- Surgical site infection after CABG
- Air embolism
- Blood incompatibility

“Never Events”

The term **"Never Event"** was first introduced in 2001 by Ken Kizer, MD, former CEO of the National Quality Forum (NQF), in reference to particularly shocking medical errors (such as wrong-site surgery) that should never occur.

Over time, the list has been expanded to signify adverse events that are unambiguous (clearly identifiable and measurable), serious (resulting in death or significant disability), and usually preventable.

The NQF initially defined 27 such events in 2002 and revised and expanded the list in 2006. The list is grouped into six categorical events: surgical, product or device, patient protection, care management, environmental, and criminal.



Because Never Events are devastating and preventable, health care organizations are under increasing pressure to eliminate them completely. The Centers for Medicare and Medicaid Services (CMS) announced in August 2007 that Medicare would no longer pay for additional costs associated with many preventable errors, including those considered Never Events. Since then, many states and private insurers have adopted similar policies

Big Money

In 2007, CMS reported 257,412 cases of preventable pressure ulcers as secondary diagnoses.

The average cost for these cases was $43,180 per hospital stay.

The incidence of new pressure ulcers in acute-care patients is around 7 percent, with wide variation among institutions, according to a consensus paper from the International Expert Wound Care advisory panel.

REFERENCE

1. Armstrong DG, et al. New opportunities to improve pressure ulcer prevention and treatment: implications of the CMS inpatient hospital care present on Admission (POA) indicators/hospitalacquired conditions (HAC) policy. A consensus paper from the International Expert Wound Care Advisory Panel. May 2008.

Isn’t it time for prevention?

We need fences.

This is Big Money!

The cost of treatment is *$2,000 to $40,000* per pressure ulcer,[1-3] depending on the stage of development.[4-5]

Prevention of even the *smallest pressure ulcers*, such as those that occur behind the ears of *nasal cannula* users can result in significant cost reduction for most hospitals.

REFERENCES

1. National Pressure Ulcer Advisory Panel. Pressure ulcers: Incidence, economics, risk assessment. Consensus Development Conference Statement. West Dundee, Ill:. SN Publications;1989.
2. Bergstrom N, Braden B. A prospective study of pressure sore risk among institutionalized elderly. J Am Geriatr Soc. Aug 1992;40(8):747-758.
3. Bergstrom N, Bennett MA, Carlson CE, et al. Treatment of pressure ulcers. Clinical Practice Guideline Number 14. Agency for Health Care Policy and Research, Public Health Service. AHCPR Publication No. 95-0642. Rockville, MD: US Department of Health and Human Services;1994.
4. Frantz RA. Pressure ulcer costs in long term care. Decubitus. Aug 1989;2(3):56-57.
5. Hibbs P. The economics of pressure ulcer prevention. Decubitus. Aug 1988;1(3):32-38.

Serious Consequences

Approximately 60,000 people die each year from the complications of pressure ulcers.

Development of pressure ulcers has been associated with a 4.5-times greater risk of death than that for persons with the risk factors but without pressure ulcers.

A secondary complication, wound-related bacteremia, can increase the risk of mortality to 55%.

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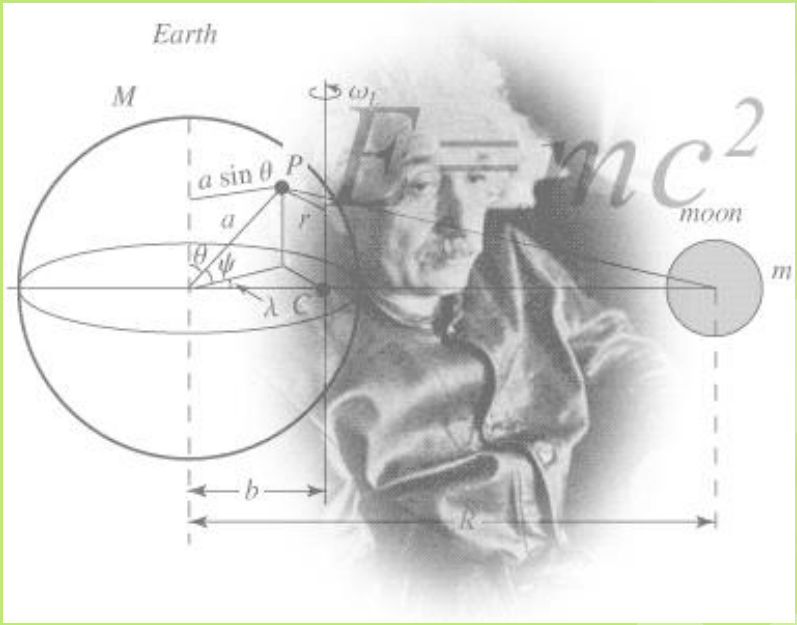


If we know these things, shouldn't pressure ulcers be preventable?

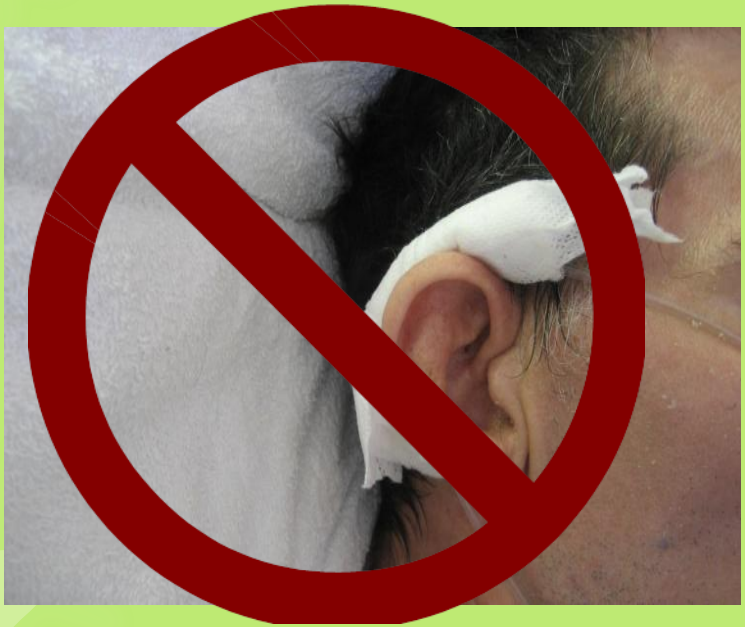
Protective Measures

- **Change of body position every 2 hours**
- **Perform routine skin assessments**
- **Maintain adequate hydration/nutritional Status**
- **Keep the patient's skin clean**
- ***Use devices that mitigate or prevent skin damage***

Protective Measures

For patients wearing cannulas or masks

- **Apply padding to the tubing that will contact the tops of the patients ears**



Gauze Pads

Oxy Ears

Don’t work. Too little, too late.
These are a day late and a dollar short.

Protective Measures

The best solution is a

☑ Real Time

☑ All the time

☑ Every Time

Solution consisting of the Westmed Comfort Soft Plus® Nasal Cannula

So simple you don’t have to be a …