



WHAT IS A PRESSURE ULCER?

A pressure ulcer (also called bedsore, pressure sore, pressure injury, or decubitus) is damage to the skin and/or deeper tissue layers (subcutaneous tissue, connective tissue, muscles, tendons, and even bone) that may present as a wound caused by pressure, shear, and friction forces. Pressure ulcers usually develop over bony prominences or in areas where pressure is caused by a medical device or other object.



Pressure ulcers occur most often in people who are bedridden for a long time or have limited mobility (e.g., wheelchair users – incorrectly referred to as “wheelchair-bound”). They can also occur in children or even newborns.

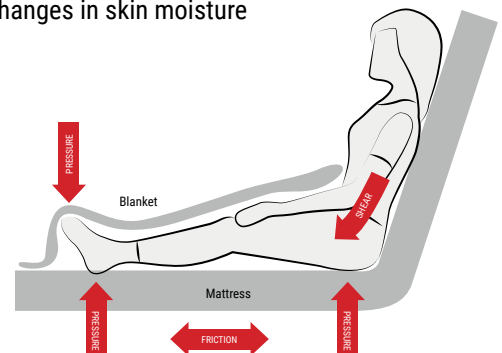
The severity of a pressure ulcer is assessed based on the depth of damage to soft tissues (skin, muscles) and the patient's overall condition. In the Czech Republic, in 2019, more than 30,000 patients with pressure ulcers were recorded (Pokorná et al., 2021), and the actual number is likely higher (not all patients report their condition to professionals).

WHAT ARE PRESSURE, FRICTION AND SHEAR FORCES?

- **Friction occurs** when two surfaces move against each other. For example, during repositioning of a patient in bed (often done by dragging, which is inappropriate – the body rubs against the bedding or mattress).
- **Shear forces** are more subtle but harmful – it occurs when the skin stays in place but the tissues underneath move. For example, a patient's back slides down in bed, the skin remains still, but the muscles and blood vessels underneath shift against each other. This can damage blood vessels and impair circulation.
- **Pressure** is a force applied perpendicular to the surface. It compresses blood vessels in a specific area of tissue. As a result, cells do not get enough nutrients and oxygen from arterial blood, leading to the gradual death of tissue and nerve cells.

Factors influencing the development of pressure ulcers:

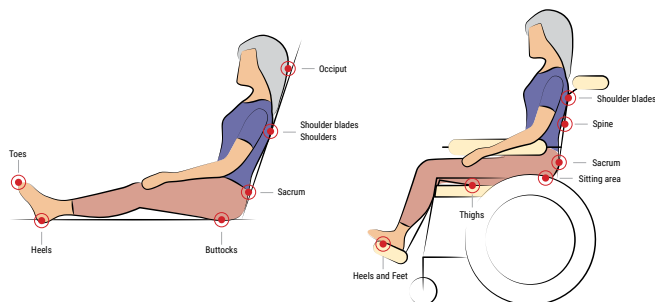
- Pressure
- Shear and friction
- Changes in skin moisture



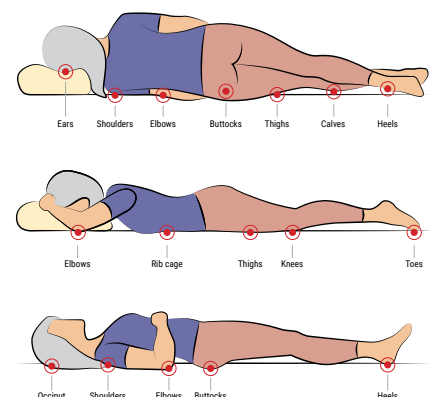
WHERE DO PRESSURE ULCERS OCCUR MOST OFTEN?

They can develop almost anywhere on the body. The most vulnerable areas are those with little fat and muscle tissue, where external pressure is applied directly against bone, such as: Sacrum, Heels, Ischial tuberosities, Greater trochanters of the femur, Outer ankles

Most common sites of pressure ulcers in semi-sitting and sitting position:



Most common sites of pressure ulcers in lying position:



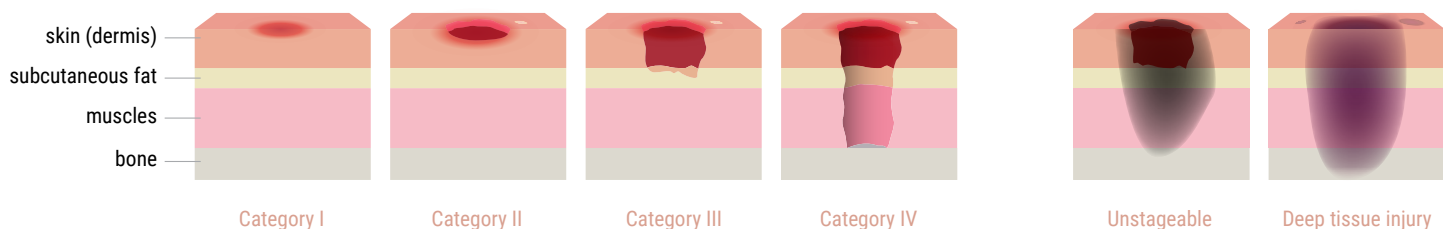
REGULARLY CHECK FOR SIGNS OF SKIN DAMAGE



WHY PREVENTION IS IMPORTANT

Pressure ulcers are very unpleasant and painful, and their treatment is difficult, long, and costly. Recurrence, infections, and complications that lower quality of life, threaten life, prolong hospital stays, and burden healthcare staff are common. Therefore, early prevention and proper risk assessment are essential.

CATEGORIES OF PRESSURE ULCERS



CATEGORY I

Non-blanchable redness – intact skin with persistent redness, the first visible sign of a problem.

CATEGORY II

Clear blister or small superficial wound – fluid-filled blisters or superficial skin ulceration with exposed dermis.

UNSTAGEABLE

Depth cannot be determined due to necrotic or sloughy tissue covering the wound bed.

CATEGORY III

Deeper ulceration – ulcer extends into deeper skin layers and subcutaneous tissue.

CATEGORY IV

Deep ulceration to muscle or bone – the most severe form with muscle damage, wound reaching bone.

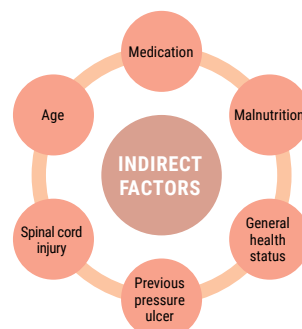
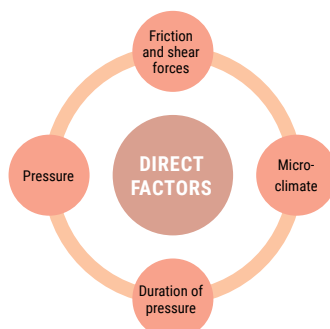
DEEP TISSUE INJURY

Persistent dark red, purple, or maroon discoloration, sometimes with blood-filled blisters – more damage under the surface than visible on the skin.

NOTE

Pressure ulcers can be also **unavoidable (non-preventable)**. These pressure ulcers occur in patients with very severe health conditions where even the best prevention cannot stop their development (e.g., terminal cancer, severe organ failure).

Risk factors for pressure ulcer development:



References:

Pokorná et al., 2021. Clinical Practice Guideline – Prevention and Treatment of Pressure Ulcers. Available at: kdp.uzis.cz/res/guideline/33-dekubity-final.pdf

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