

# Decubitus

A pressure sore (decubitus) is a localized area of cellular damage caused by impaired **microcirculation** and resulting hypoxia.

## Torrance classification of pressure ulcer stages

- **1st stage** — congestion with pallor (the skin is redd, but there is no microcirculation disorder);
- **2nd stage** — non-fading congestion (the skin of the affected area is red and slightly raised, superficial skin damage may occur);
- **3rd stage** — ulceration of skin (ulceration progresses through the entire dermis to the interface of the subcutaneous fascia);
- **4th stage** — ulceration of the subcutaneous fascia (the ulcer is spread through the skin, the subcutaneous tissue is affected, which is swollen and inflamed);
- **5th stage** — necrosis of the muscle (death of the muscle tissue associated with infections - the necrotic tissue is slushy, putrid smelling, the remains of the tissue have a yellow-green color).



Decubitus in the 2nd stage

## Predilection sites of pressure ulcers

Pressure ulcers occur in typical places depending on the patient's position. In **supine position** their formation can occur over the occipital bone, the spine of the 7th cervical vertebra, the ridges of the shoulder blades, the elbow joints, the sacrum and the heel bones. When positioning the patient **on his side**, it is necessary to monitor the possible occurrence of bedsores in the area of the temporal bone, shoulder joint, greater trochanter, knee joints and ankles. Prolonged **prone position** can lead to pressure ulcers over the cheekbones, ears, iliac crests, and toes.



Deep bed sore exposing the gluteus medius muscle, stage 4

## Causes of bedsores

A combination of several forces contributes to the formation of pressure ulcers. The first of these is **pressure**, the vertical force acting on the skin by gravity, whereby the skin and tissue are compressed between bone and another hard surface, e.g. a mattress, dentures, etc. Another acting force is **friction**, a force acting parallel to the skin, when the skin rubs, e.g. when the skin rubs against the sheet, if we move the lying person. The third force is the **shear force** resulting from a combination of pressure and friction. It most often works when the patient is lying in *Fowler's position*.

## Factors affecting the formation of bedsores

The formation and development of bedsores is usually influenced by the interaction of various factors. It involves **moisture** which can be caused by the patient's incontinence (urine, stool), sweat, improper hygiene, or drainage. Another factor is **mobility**, as a person normally changes position when feeling discomfort caused by pressure on the body, but patient affected by plegia, apathy, or even impaired consciousness has a reduced ability to respond to tissue compression. **Disorders of the central nervous system**, such as disorders of the innervation of predilection sites, the brain and the spinal cord, also accelerate the development of pressure ulcers. **Age** also plays a role in the higher risk of bed sore formation, as the body's regenerative capacity is limited at an older age. **Nutritional status** and **body temperature** also play a role in the development of bedsores. Poor nutritional status significantly affects the formation and development of pressure ulcers due to weight loss, loss of subcutaneous tissue and muscle atrophy. Increased body temperature accelerates cell metabolism, which increases oxygen consumption, even in places exposed to increased pressure. The last, but no less important, factor is the simultaneous occurrence of another disease, because the disease disrupts the body's defenses and regeneration, especially in the case of severe long-lasting diseases, malignant diseases, infectious diseases, etc.

## Treatment Program

Several principles must be followed for the treatment of pressure ulcers. The effect of local pressure must be removed, as well as possible necrotic tissue. It is important to start the treatment of local infection, support sufficient granulation, non-traumatic treatment of the wound and, last but not least, adjustment of the patient's general condition.

## Bed sore prevention and treatment plan

To prevent the occurrence of pressure ulcers, it is important to evaluate the patient's risk using a reliable evaluation system, to reassess the possible risks of pressure ulcers with each significant change in the patient's condition, to choose a suitable aid or device for preventing pressure ulcers and, above all, to start using them immediately. It is necessary to develop a time plan for the mobilization or positioning of the patient and to record everything, to regularly inspect the most risky places, to keep the skin clean, to take care of sufficient hydration

and proper nutrition, and to minimize the effects of concurrent diseases. If the patient has problems with insomnia, it is very important to solve them as quickly as possible. Like any other patient, a patient at risk of pressure ulcers, or one who has already developed them, needs psychological support.

## Aids and equipment used to prevent bedsores

A variety of aids are used to prevent bedsores, including:

- foam pads (different sizes and shapes - wheels);
- mats made of synthetic fleece (e.g. Decuba);
- mattresses filled with water or air;
- natural sheep fleece, heel and elbow protectors;
- pillows (air, gelatin...);
- anti-decubitor (pad consisting of a system of tubes in which the pressure is alternately changed using a compressor).

## Nursing Process

Common methods such as interview, observation, questionnaire, etc. are used for **acquiring information**.

**Nursing care** for pressure ulcers has several goals. A state should be reached where the patient has clean and intact skin, no symptoms of excessive pressure and no pain (or only tolerable). The patient should also be able to explain in layman's terms that he knows what a pressure ulcer is, its causes and prevention, and he should accept the help of others.

Nursing staff should help the patient change position, depending on the severity, every 15 minutes to 2 hours.

### Hygiene care

Hygiene is very important during the treatment of pressure ulcers. The skin must be kept permanently dry and clean, as a preventive measure it is advisable to carry out gentle massages of predilection areas, soaps should not be used for washing, as they disrupt the pH of the skin, an early change of personal and bed linen is necessary, and cold and warm should be applied to risk areas compresses to improve circulation.

### Instruction for the patient

We teach the patient to notice changes in the skin, such as its color or sensitivity, and to change position, even to a small extent. If the patient's condition allows it, we encourage him to change positions, sit and walk by himself.

### Local wound treatment

During the treatment of bedsores, we observe the basics of asepsis, cleaning the wound most often with a physiological solution (sometimes hydrogen peroxide) and covering the damaged skin with a sterile bandage. In case of infection of the wound, we take a sample for culture and sensitivity, we apply antibiotics after consultation with the doctor, and according to his doctor's office, it is possible to remove the necrotic tissue surgically or using hydrocolloid agents. To reduce the smell, we use bandages with activated carbon, in case of formation of exudate, we use an absorbent and non-adherent bandage.

Dressings and cleaning the wound are usually painful, we can give analgesics to relieve the pain.

## Links

### Related Articles

- Necrosis
- Immobilization syndrome

### External Links

- Národní portál systému hlášení nežádoucích událostí (<http://shnu.uzis.cz/index.php?pg=metodicke-materialy--dekubity>)

## References

- MIKŠOVÁ, Z. *Kapitoly z ošetrovateľskej péče I*. 2. edition. Grada, 2006. 248 pp. ISBN 80-247-1442-6.