

## Anti-decubitus prophylaxis in nursing practice

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### ABSTRACT

Long-standing patients are at risk of developing and developing bedsores, and this problem has a significant impact on their physical and mental state. As a result of pressure and friction on tissues, necrosis develops. Bedsores are often the result of inadequate patient care and coexisting diseases. Nursing care does not always prevent the formation of bedsores, but it can significantly affect the degree of their development. In the process of taking care of an immobilized person we should apply the risk assessment of the occurrence of bedsores and on its basis adjust the prevention of bedsores (change of position, use of an anti-decubitus mattress or careful care of the skin). The most common places for the development of decubitus ulcers are the areas of bone elevation exposed to friction and pressure.

The aim of this study is to show the importance of appropriate prevention, care and treatment in the care of a patient who has been lying down for a long time. The paper is based mainly on a review of articles in reputable journals from the last few years.

**Key words:** decubitus ulcers, anti-decubitus ulcer prophylaxis, nursing

## INTRODUCTION

Long-standing patients are at risk of decubitus ulcers, which occur mainly as a result of compression of tissues by the skeletal system. Decubitus ulcer is caused by local ischaemia resulting from pressure on blood vessels. The most common decubitus wounds occur on elbows, hips, heels, back, ankles, back of the head, shoulders, shoulders, shoulders, sacrum, auricle and crotch. Decubitus ulcers significantly affect the quality of life, mental and physical condition of the patient. They often cause additional suffering and dysfunctions caused by pain.<sup>1</sup>

Patients who have been exposed to decubitus ulcers for a long time lie in neurological, geriatric, internal medicine, intensive care, social welfare homes or hospice wards.<sup>2</sup> As a result of limited mobility or immobilization (unconscious patient), the patient is not able to change his or her position on his or her own. Nursing care is an important element of anti-decubitus prophylaxis. Anti-decubitus prophylaxis should be adapted individually to each patient on the basis of the assessment of the risk of the development of bedsores or ulcers occurring in the patient. It is important to relieve the pressure exerted on the tissues (change of position, use of an anti-bedsores mattress or pads), appropriate care (use of special care products, care of the perineum area) and skin observation.<sup>3</sup>

We can distinguish the following classification of decubitus ulcers:

- I degree - continuity of the epidermis is preserved, no visible damage, there is noticeable redness of skin layers, microcirculation of the skin is preserved
- II degree - usually includes epidermis and dermis, there is visible damage to epidermis or undamaged/broken bladder filled with plasma, lack of visible granulation, damage to skin microcirculation
- III degree - damage to all skin layers, changes do not affect the fascia, noticeable necrosis and mass of disintegrating tissues, wound edges are flushed and swollen,
- IV degree - visible bones, tendons and muscles, muscle tissue damage, covered with black and brown masses of disintegrating tissues<sup>4</sup>

The risk factor of decubitus ulcer formation may be the patient's lying or sitting position - long-term immobilization, inability of the patient to change position causing pressure in the area of bone elevation, the level of care - negligence of medical personnel (inadequate anti-bedsores prevention, treatment), coexisting diseases (diabetes, cancer, anaemia, obesity, incontinence of urine and stool), age of patient - persons over 65 years of age, inadequate nutrition and hydration of the patient, body structure (emaciation, contractures), blood vessel diseases, sex - women are more exposed to pressure sores.<sup>5</sup>

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<sup>1</sup>Wysokiński P, Świeszczak K. Odleżyny jako istotny problem w opiece i rehabilitacji pacjenta unieruchomionego. *Horyzonty współczesnej fizjoterapii* 2016; 195-212.

<sup>2</sup>Bazaliński D, Fąfara A. Profilaktyka i leczenie odleżyn w praktyce personelu pielęgniarstwa oddziałów neurologicznych w odniesieniu do wytycznych polskiego towarzystwa leczenia ran. *Doniesienie wstępne. Leczenie ran* 2015; 12 (4); 179-186.

<sup>3</sup>Chrzan E, Chrzan P. Rola pielęgniarki w profilaktyce i leczeniu odleżyn *Journal of Education, Health and Sport*. 2016; 6 (12): 123-170.

<sup>4</sup><https://www.coloplast.pl/Global/Poland/ULOTKI%20PDF/WSC/odlezyzny%20przewodnik.pdf> dostęp— 5.06.2019.

<sup>5</sup><https://medicoversenior.pl/odlezyzny> dostęp— 6.06.2019.

## MAIN PART

Nursing care for a long-term patient should include bed sore prophylaxis. It is important to observe the skin and take immediate action when irregularities are noticed in order to minimize the effects of immobilization and additional suffering of the patient. With appropriate evaluation, observation, prevention, care and treatment, the onset or development of bed sore ulcers can be prevented.

Justyna Cwajda-Białasik and co-authors in the article " Wybrane aspekty profilaktyki ran odleżynowych " published in the journal " Pielęgniarstwo chirurgiczne i angiologiczne " deal with the issues related to the occurrence of various factors of decubitus ulcer formation and effective decubitus ulcer prevention. Medical personnel caring for people at risk have difficulties in adequate care and prevention. The most common decubitus ulcers can be observed in the elderly (over 65 years of age), who are permanently immobile and have other chronic co-morbidities. The authors report that an important element of patient care is the assessment of the risk of the occurrence and development of bed sores, elimination of the factors conducive to their occurrence and continuous observation of the patient's skin condition in order to apply immediate anti-bed sores prophylaxis and minimize the effects of insufficient care for the patient. Persons at risk of developing or developing bed sores should have a constantly changing body position to avoid excessive pressure on tissues, the auxiliary equipment used (anti-bed sore mattress, polyurethane pads) and appropriate and careful skin care (delicate cosmetics, performance of a complete body toilet) and an appropriate diet (protein-rich diet). The key element of the prevention, development and development of bed sores is the systematic assessment of the patient's skin throughout the body at least twice a day and in the event of a change in the patient's condition. Pain is often the first symptom of pressure sores, often ignored by medical staff, which after some time results in damage. If the patient reports discomfort and pain, his position should be changed in order to relieve the burden of tissue along with the assessment of the skin. Every patient admitted to the ward should be assessed for the risk of developing bed sores in order to apply prevention as early as possible. The treatment of decubitus ulcers is a long-lasting and difficult treatment process causing various ailments such as pain, odour, exudate or mental ill health. There are many risk factors for skin damage such as immobilisation, incontinence, bowel movement, incontinence, and inadequate care. Justyna Cwajda-Białasik and co-authors emphasize that prevention is a key and inexpensive way to care for a patient at risk of decubitus ulcers.<sup>6</sup>

The article " Profilaktyka przeciwoleżynowa i metody prognozowania ryzyka rozwoju odleżyn w oddziałach intensywnej terapii " written by Sylwia Krzemińska and Adriana Borodzicz describes how important element of ICU patient care is the application of individually adjusted prophylaxis based on risk factors. The condition of patients in this unit is often associated with long-term immobilization, therefore the medical staff is a key element in preventing the development of bed sores. Pressure, moisture, friction, lack of movement and lack of movement all contribute to damage and consequently to bed sores ulcers. Systematic assessment of the patient's skin condition allows to quickly notice irregularities and apply preventive measures. Pressure sores may appear in any place, e.g. around the sacrum, heels, elbows, ears, the light of esophageal tissues (gastric probe), in the light of urethra (catheter). Appropriate care with regard to areas of high risk of decubitus ulcers can reduce the risk of their occurrence, and in the case of already existing injuries, increase the effective treatment of the wound. Untreated decubitus ulcers cause pain and may also lead to infection, sepsis, bone inflammation or, in the worst case, death. Important elements in the care of patients at risk are the elimination of pressure, friction and humidity, the appropriate position of the patient and its systematic change, physiotherapy, nutrition (protein-rich diet) and hydration.

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<sup>6</sup>Cwajda-Białasik J, Mościcka P. Wybrane aspekty profilaktyki ran odleżynowych. Pielęgniarstwo chirurgiczne i angiologiczne 2017; 11 (2): 41-48.

Prophylaxis should begin when a patient is admitted to the ICU ward. Documentation of the assessment of the skin condition allows for the analysis of the development of pathology, the effectiveness of prophylaxis and the treatment applied. The Norton and Douglas scales, which determine the patient's risk group, are most often used to assess the risk of pressure sores. Taking care of the patient's position, we can use auxiliary equipment: foam cushions, rollers, discs, anti-bedsore mattress. Nutrition for patients at risk is based on a protein-rich diet, especially in malnourished patients, and intravenous supplementation with industrial nutrients. Nutrition for patients in intensive care units should be adjusted individually, providing appropriate amount of energy, components (zinc, protein) and vitamins (vitamin C, vitamin A, vitamin B2). Physiotherapy of patients allows to maintain the current state and mobility of the patient. Its main tasks are to relieve pressure on tissues exposed to pressure, prevent muscle atrophy and improve circulation in places exposed to the formation of ulcers. Documentation of the activities performed and the condition of the patient's skin allows to monitor the development of damage, the effectiveness of treatment and applied prophylaxis in order to possibly correct the action plan. ICU patients are at risk of decubitus wounds due to their long-term immobilization. Medical personnel should apply appropriate care and prophylaxis to minimize the risk of skin damage and its possible development. Pressure sores are a painful problem that reduces the comfort of life and extends the time of hospitalization. Moreover, the treatment used requires the use of specialist, expensive dressings, means and equipment. Decubitus ulcers are often found in intensive care units, the role of medical staff is a key element in the care of seriously ill and immobile patients.<sup>7</sup>

Elżbieta Szkiler in her article "Profilaktyka przeciwoleżynowa i pielęgnacja skóry u chorego przebywającego na oddziale intensywnej terapii" published in the magazine "Pielęgniarstwo w Anestezjologii i Intensywnej Opiece" describes the importance of care and care of patients and the selection of appropriate equipment. Coexisting diseases and life-threatening risks, respiratory and circulatory disorders may result in the development of decubitus ulcers. The state of health of the patient, external factors or negligence of caregivers or medical staff are part of the process of developing skin pathologies. Intensive care units should be equipped with pressure-adjustable anti-decubitus mattresses and auxiliary equipment: wedges, rollers, discs. Appropriate nutrition, hydration and physical activity adjusted individually to the patient's condition and abilities is the basis of anti-decubitus ulcer prophylaxis. Systematic assessment of the patient's skin condition and change of position (every 2 hours during the day, every 4 hours during the night) allows to avoid the occurrence and development of damage. Remember not to massage and exert additional pressure and strength on the areas exposed to decubitus ulcers. There are many specialist dressings available on the market, which should be selected individually to the patient's condition, age and needs. Self-adhesive foam dressings, hydrocolloids, polyurethane foils, silicone dressings allow to reduce the impact of forces on endangered and pathologically changed places. Greasing preparations care for dry skin by increasing its resistance to external factors, moisturizing creams improperly used may bring the opposite effect and dry the skin. Dripping changes should be supplied with preparations drying the skin (zinc content), and at a later stage with lubricating products. The nutrition of patients in intensive care units depends on their condition. Oral nutrition can be supplemented with specialised products (Cubitan), while enteral or parenteral nutrition is switched on if the need is not sufficiently covered. Patients often have a tracheotomy tube, catheter and probe attached, which is an additional risk factor for the development of bedsore around these sites. The position of these devices should also be constantly changed and specialised dressings should be used prophylactically to avoid

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<sup>7</sup> Krzemińska S, Borodzicz A. Profilaktyka przeciwoleżynowa i metody prognozowania ryzyka rozwoju odleżyn w oddziałach intensywnej terapii. *Pielęgniarstwo w anestezjologii i intensywnej terapii* 2016; 2 (4): 117-124.

damage. Patients in intensive care units are at high risk of developing bedsores. In the process of care, the key element is to minimize the factors that may cause the formation or development of skin pathologies. Decubitus ulcers appear very quickly and therefore medical personnel should constantly evaluate the skin condition of patients and monitor the effectiveness of applied prophylaxis and treatment.<sup>8</sup>

Palliative care in the terminal phase of the disease focuses mainly on providing the highest possible comfort for the patient. Sylwia Kempa and co-authors in the article "Odleżyny u pacjentów w terminalnej fazie choroby" emphasize the individuality of the patient in effective prevention of pressure sores and treatment of pressure sores. Appropriate selection of activities, aids or treatments depends on the current condition of the patient. Palliative care is focused on improving the quality of life of patients and minimizing the symptoms of comorbidities. Reduced mobility, patient's disease and pain are potential risk factors for the onset and development of skin pathologies. Skin damage is caused by insufficient blood supply to tissues due to friction, pressure and shear forces. Pressure sores may significantly affect the quality of life of patients. Pain sensations, smell, negative influence on human psyche, additional factor limiting mobility or risk of life-threatening infection, and even causing the death of a patient are the consequences that may lead to the occurrence of bedsores wounds. Depending on the patient's condition, prevention and treatment are aimed at alleviating complaints and symptoms caused by existing bedsores, not aimed at curing decubitus ulcers, but at improving the quality of life or, if decubitus ulcers are intended to be cured, complete treatment is applied. The care of a patient at risk of skin damage consists in minimizing risk factors, monitoring the patient's skin condition, implementing appropriate care and prevention, using auxiliary equipment (anti-decubitus mattresses, discs, wedges), regular repositioning to relieve pressure on exposed parts of the body, applying specialist dressings and taking care of proper nutrition of the patient. Pressure sores occur in a short period of time, therefore it is very important to apply appropriate measures as early as possible. Systematic monitoring of the skin condition allows early detection of pathologies and immediate action. The infection of decubitus ulcers is often caused by the patient's bacterial flora, usually consisting of aerobic and anaerobic bacteria that disturb the wound healing process. The use of appropriate dressings (hydrogels, polyurethane foams, hydrocolloids) significantly increases the effectiveness of treatment. Cleansing of necrotic wounds is based on the selection of an appropriate method (autolytic cleansing - patient enzymes, enzymatic agents, surgical, larvae therapy). Treatment of pain is one of the elements of patient care palliative care in order to improve the quality of life. The unpleasant smell of bed sore wound secretions reduces the comfort of the patient and may lead to his isolation. Metronidazole, antiseptics, active carbon or occlusal dressings can be effective means to fight this problem. Palliative care is aimed at ensuring the highest quality of life in the final stage of the disease. Appropriate prophylaxis and treatment of decubitus ulcers should be selected individually taking into account the patient's condition.<sup>9</sup>

## SUMMARY

Pressure sores are a common problem faced by patients who have been lying down for a long time. Bed sore prevention should be applied as early as possible in order to minimize the effects of long-term immobilization. Continuous and systematic assessment of the patient's skin condition allows early detection of pathologies and the application of

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<sup>8</sup>Szkiler E. Profilaktyka przeciwoodleżynowa i pielęgnacja skóry u chorego przebywającego na oddziałach intensywnej terapii. *Pielęgniarstwo w anestezjologii i intensywnej opiece* 2017; 3 (4): 179-204.

<sup>9</sup>Kempa S, Klich D. Odleżyny u pacjentów w terminalnej fazie choroby. *Pielęgniarstwo w Anestezjologii i Intensywnej Opiece* 2017; 3 (1): 31-39.

appropriate measures. Auxiliary equipment (anti-decubitus mattress, wedges, rollers) significantly reduces the risk of the formation of decubitus ulcers minimizing the impact of external forces. By determining the risk group of pressure sores, it facilitates the application of the appropriate scale, e.g. Norton scale, Douglas scale. Pressure sore prophylaxis should be implemented individually when a patient is admitted to the ward. In the care of a patient at risk, frequent repositioning and assessment of the skin condition should be used to ensure patient comfort and reduce the effects of forces and pressure on tissues.

Pain is often the first symptom of pathology, the disregard of which may result in the occurrence of bedsores. Pressure sores are formed quickly and are a difficult and expensive problem for patients, which significantly reduces their comfort of life. Individually tailored prophylaxis and treatment allows to minimize the factors of skin pathologies.

## **CONCLUSIONS**

The use of early prophylaxis in patients at risk significantly reduces the risk of developing and developing bedsores. An important element in the care of patients is the use of frequent assessment of skin condition throughout the body. When the staff notice the pathology or report the patient's discomfort, a change of position should be applied in order to relieve the strain on tissues exposed to ischemia and microcirculation disorder, which results in damage. The development of decubitus ulcers is a painful, tedious problem affecting the mental condition of the patient, the treatment of which is long and expensive. The assessment of the risk of developing bedsores is an element of appropriate adjustment of preventive measures. A common problem in patient care is neglect of medical staff in the early stages of development, which leads to rapid development of damage.

In intensive care units, patients at risk of developing and developing bedsores can often be found. In order to minimize the factors responsible for the development of damage, holistic nursing care and aids such as: anti-decubitus mattress, pulleys should be used. Pressure sore prophylaxis is adjusted to the risk factors of the patient, coexisting diseases and the current state of health. Nutrition and hydration, physiotherapy, documentation of activities and patient care are important elements in the care of patients at risk of decubitus wounds.

Pressure sores are caused by pressure, friction and external forces, they arise very quickly and are a troublesome care problem. ICU patients are particularly at risk of developing skin pathologies as a result of long-term immobilisation. Nursing care and the use of fast and adjusted prophylaxis can significantly reduce the risk of bedsores.

Patients in the terminal phase of the disease are often at risk of developing decubitus wounds due to reduced mobility or co-morbidities. The care of terminal patients is about ensuring the highest quality of life and minimizing the symptoms. Treatment and prophylaxis are selected based on the patient's condition. Systematic assessment of the skin condition allows for immediate application of appropriate measures. An important element is the change in the patient's position in order to relieve the strain on tissues. Pressure sores are a troublesome problem, costly and difficult to treat, significantly reducing the comfort of life, therefore it is very important to eliminate the risk factors of occurrence or development of pressure sores so as to avoid the effects and ailments associated with the occurrence of pressure sores (pain, immobilization, unpleasant smell, isolation).

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