

# Immobilization syndrome

'*Immobilization syndrome* (inactivity syndrome) — a secondary disorder, the cause of which is immobility or reduced activity.

Faults can be:

- psychic,
- physical.

## Causes of immobilization syndrome

The causes of immobilization syndrome include disorders of the nervous, skeletal and muscular systems. Furthermore, infectious processes and the severe pain often associated with them, which is the reason for reduced activity. They can also be psychosocial problems (e.g. depression), excessive sedation (e.g. in delirium) and general weakness (e.g. altered state of consciousness). It is also related to the age of the patients.

## Affected Systems

Immobilization syndrome affects the following systems:

- musculoskeletal system,
- cardiovascular system,
- respiratory system,
- urinary system,
- digestive system,
- skin,
- nervous system,
- total metabolism.

### Locomotor apparatus

On the musculoskeletal system, we observe **atrophy** of muscles, when muscle mass decreases by up to 20% in 1 week. Then also **osteoporosis**, which starts after only two weeks after being bedridden. From the second to the third day there is a **demineralization of the bones**, caused by the leaching of calcium. There is ankylosis and flexor contractures on the lower limb.

### Cardiovascular System

In the case of cardiovascular syndrome affected by immobilization syndrome, performance decreases, heart rate increases by 0.5 beats/min every day. A drop in blood pressure (orthostatic hypotension) occurs when sitting down or standing up after being bedridden for a long time. We can also observe insufficiency of venous valves, when blood stasis occurs, the so-called *hydrostatic edema*. In a sitting person, it appears in the sacral region or on the heels; Swelling of the lower limbs occurs in a person whose legs are hanging from the bed. Blood clots thrombophlebitis occur and there is a risk of embolism.

### Respiratory System

The respiratory system shows mucus stagnation, shallow breathing, hypostatic pneumonia and atelectasis lung, which is the collapse of a lung lobe or the entire lung.

### Digestive System

Peristalsis slows down, causing constipation. Paradoxical diarrhea appears (hardened stool - skybala, the liquid part is pushed through). Defecating patients with immobilization syndrome occurs lying down, without enough privacy

### Metabolic and Nutritional System

When more nitrogen is excreted, the source of which is broken down muscle mass, there is an imbalance between catabolism and anabolism of the organism. Loss of appetite may occur. A decrease in proteins in the blood plasma causes fluid to shift, causing swelling.

### Urinary System

In the initial stages, there is an increased amount of urine. With a temporary increased excretion of sodium, urine production gradually decreases. Urine accumulates due to gravity in the kidneys and bladder. Kidney stones may occur. Urinary retention, incontinence and urinary system infections (e.g. during catheterization) are common in immobilization syndrome.

## Nervous System

We see changes in sensory perception due to the lack of stimuli from the surrounding environment and various reactions such as restlessness, irritability, confusion, sleepiness.

## Psychosocial reactions

There is a reduced motivation to learn and solve problems, a deterioration in the perception of time and space, an increased feeling of helplessness, impaired sleep. Furthermore, a reduced ability to make decisions, concentrate or manage a problem.

## Skin System

 For more information see *Decubitus*.

*The elasticity of the skin decreases and decubitus occurs in predilection places.*

## Hygienic care

In terms of hygiene, it is necessary to provide the patient with a full bath, clean personal and bed linen, as well as hygienic emptying. We place great emphasis on the prevention and treatment of bedsores and bedsores. Brushing the teeth and taking care of the oral cavity must not be neglected either. The assistance of the nursing staff should be adapted to the level of self-sufficiency of the patient.

### Hygienic care for a self-sufficient patient

A self-sufficient patient does not need constant help from the nursing staff, for example only with the preparation of a bathtub or shower and washing aids. It is also necessary to provide signaling or regularly check the patient due to a sudden situation.

### Hygienic care for a partially self-sufficient patient

A partially self-sufficient patient is able to perform hygiene care alone, with little help from nursing staff. Help can consist of preparing washing aids, helping with transport to the shower, washing hard-to-reach parts of the body.

### Hygienic care for an insecure patient

Washing the whole body in bed replaces showering or bathing in the bathtub for those who cannot leave the bed. It is done as needed, at least once a day. Hygiene is sometimes performed in the bathroom, where the patient is moved to the bathtub using a special device for immobile patients, and then the patient is transferred to a bed with a clean change of clothes.

## Links

### References

KOLEKTIV AUTORŮ, *Základy ošetrování nemocných*. 1. edition. Karolinum, 2005. 145 pp. ISBN 80-246-0845-6.

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

MIKŠOVÁ, Z, et al. *Kapitoly z ošetrovateľskej péče II.*. 2. edition. Grada, 2006. 171 pp. ISBN 80-247-1443-4.

RICHARDS, A – EDWARDS, S. *Repetitorium pro zdravotní sestry*. 1. edition. Grada, 2004. 376 pp. ISBN 80-247-0932-5.

ROZSYPALOVÁ, M – ŠAFRÁNKOVÁ, A. *Ošetrovateľství I., II.*. 1. edition. Informatorium, 2002. 239 pp. ISBN 80-86073-97-1.

WORKMAN, B – BENNETT, C., L.. *Klíčové dovednosti sester*. 1. edition. Grada, 2006. 259 pp. ISBN 80-247-1714-X.