



A2.2 – Educative resources for teachers

Principles of activating/ mobilizing/transfer of a user

Module: CARING TECHNIQUES FOR WELL-BEING

Sub-Module: 2.2 Mobilization, transfer



Co-funded by the
Erasmus+ Programme
of the European Union

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Introduction

Module	CARING TECHNIQUES FOR WELL-BEING
Sub-module	2.2 Mobilization, transfer
Lesson nr.	#1 Principles of activating / mobilizing / transfer of a user.
Duration (minutes)	45 minutes
Date	

Lesson Outcomes

As a result of completing this lesson, user will be able to:

1. change the user's position in bed according to the user's state of health.
2. change the position of the user in a wheelchair.
3. support/belay the user when getting out of bed.
4. move the user outside the bed in a horizontal and sitting position.
5. recognize and support the user's ability and organization in the field of movement.

Principles of activating / mobilizing / transfer of a user

- Pro-health activity should concern not only the activity itself, but also include improvement in the performance of functional activities, including activities of everyday life, such as using kitchen equipment, cleaning, lifting something from the floor, etc.
- It is important to improve the ability to change the position from sitting to standing, as well as learning to get up after a possible fall.
- In addition, an important element of the improvement / mobilization process is the procedure related to the improvement of gait. It should include walking at a slow and faster pace, changing direction, climbing and descending from the step.
- When mobilizing users, it is important for caregivers to adopt the correct posture and perform functional, biomechanical movement sequences. Otherwise, the caregiver may experience back injury.

Guidelines for caregivers:

non-slip footwear, which provides stabilization during the movement of the ward

each time the height of the bed is adjusted to the working height of the caregiver

when moving or changing the position of the ward, performing work in two people (if possible)

the caregiver performs regular, calm inhalations and exhalations that facilitate lifting and carrying weights

the caregiver assumes the correct starting position, i.e. the entire sole of the foot laid on the ground, legs set in an oversized or offense position, toes extended forward

the caregiver should support the mobility of the mentee depending on the degree of mobility limitation, i.e. assistance with walking, moving (lifting to a sitting position, help with sitting, transplanting), changing position while lying down.

Support user while walking

- Mobilizing user to walk serves to restore and maintain mobility, but it carries a significant risk of falling. On the basis of the assessment of the mentee's capabilities, the caregiver should minimize assistance and teach the use of aids (e.g. a walker).
- The pace of gait should be given by the ward.
- Care should be taken to ensure that the ward moves as much as possible in an upright position.
- The center of gravity should rest on the feet.

Changing the position of the ward - rotation to the side



- When changing the position of the ward to the side, the caregiver should be on the side to which the ward is rotated
- When changing the position of the ward, the caregiver should simultaneously change the position of the hip and shoulder girdle of the ward (this protects against spinal injury of the ward)
- When changing the position of the ward, the upper and lower limbs on the side opposite to the rotation should be bent in the joints (lower limb in the knee and hip joint, upper limb in the elbow joint)



- The head of the ward should be directed towards the intended rotation of the trunk before the start of the change of body position.
- The user should be held by the shoulder blades and the plate of the hip bone.
- The attitude of the caregiver, the person performing the change of position of the ward – the height of the ward's bed adjusted to the height of the caregiver (if the height of the bed is adjustable), straight back, if possible one leg on the platform or a knee leaning on the bed to reduce the load, or knees firmly pressed to the edge of the bed.



- A user after a stroke should not be pulled by the hands. The rotation is best done through the side, which is covered by paresis after a stroke for greater stimulation.

Moving the ward in bed by two people: up – down

- When moving the ward in bed by two people, it can be moved on a base that supports the shoulder and hip girdle of the ward along with the head.
- When moving, the lower limbs of the ward should be set in a bend in the knee joints and leaning against the mattress;
- Caregivers stand opposite each other, on the right and left sides of the bed, placing their hands in the pelvic area and shoulder blades of the ward;
- Caregivers slightly lift the hips of the ward and calmly move up or down the ward's bed; if possible, the ward repels with his legs.





A pulling movement can not be used in users at risk of injuries

Moving a ward in bed by one person: up – down

- When moving the ward in bed, if possible, it is best that the lower limbs of the ward are bent at the knee joint and leaning against the mattress, if the ward can help, he pushes back with his legs.
- The caregiver is located on the side of the headboard of the bed and grabs the ward by the forearms, putting his hands under the shoulders;
- The caregiver, tightening the abdominal muscles and resting the thighs on the bed, pulls the ward up.

Planting a ward with legs down from a supine position

- We put the user on its side (in the case of people after a stroke, we put it on the post-stroke side) so that his knees protrude beyond the edge of the bed.
- The caregiver grabs the ward with one hand (under the shoulders) while stabilizing the head and cervical spine of the ward, and with the other hand grabs under the thighs.
- The caregiver should stand close to the bed on widely spaced legs, in order to ensure a stable position.
- With one efficient movement, the caregiver lifts the ward's torso, while lowering his legs to the floor.

Positioning the ward in a sitting position

- The caregiver, when placing the ward in a sitting position, pays attention to ensure safe and stable support for the ward's back.
- The caregiver should use a footrest under the feet of the ward, so that the lower limbs are arranged in bending in the knee and hip joints (flexion in the knee and hip joints of about 90 degrees prevents the fracture of the femur from the hip joint (important after endoproteoplasty), as well as compression of the nerves and blood vessels of the back of the thigh).
- The user's fall forward can be prevented by increasing (above 90°) the angle of flexion in the hip joints.
- In the case of a ward who feels weakness, the caregiver should place wedges or cushions on the sides to protect the position.
- In the case of paresis of the upper limbs in the ward, the hands should be placed in front, on a slight elevation (e.g. on a pillow located on the knees).



Movement of a walking, weakened person

- The caregiver helps the ward, helps in taking a sitting position on the bed with his legs down.
- The caregiver sets the walker (remembering to apply the brake) so that the ward can support himself on his sides when getting up.
- The ward sits on the edge of the bed.
- The caregiver slightly leans the ward forward, standing on the spaced legs helps the ward to get up, covering his back with one hand, and grabs his back with the other.



Moving from bed to wheelchair and vice versa



- The ward should be placed in a sitting position on the bed with his legs down.
- The stroller should be placed on the weaker side of the ward (in the case when the ward has paresis), then remove the side and footrests of the stroller and lock the wheels with brakes.
- The caregiver faces the ward and bends his knees and sets them so that they cover the knees of the ward.
- The caregiver embraces the user under his hands, grabbing the belt of trousers or the carrying belt at the back and leans back, at the same time stabilizes the ward's knees with his knees, then with a quick rotational movement moves the ward to the wheelchair.

A2.2 – Educative resources for teachers

The importance of mobility and movement in human life, the consequences of hypokinesia / immobilization of the user (e.g. thrombosis, bedsores, contractures). Preventive measures to prevent the effects of immobilisation.

Module: CARING TECHNIQUES FOR WELL-BEING

Sub-Module: 2.2 Mobilization, transfer

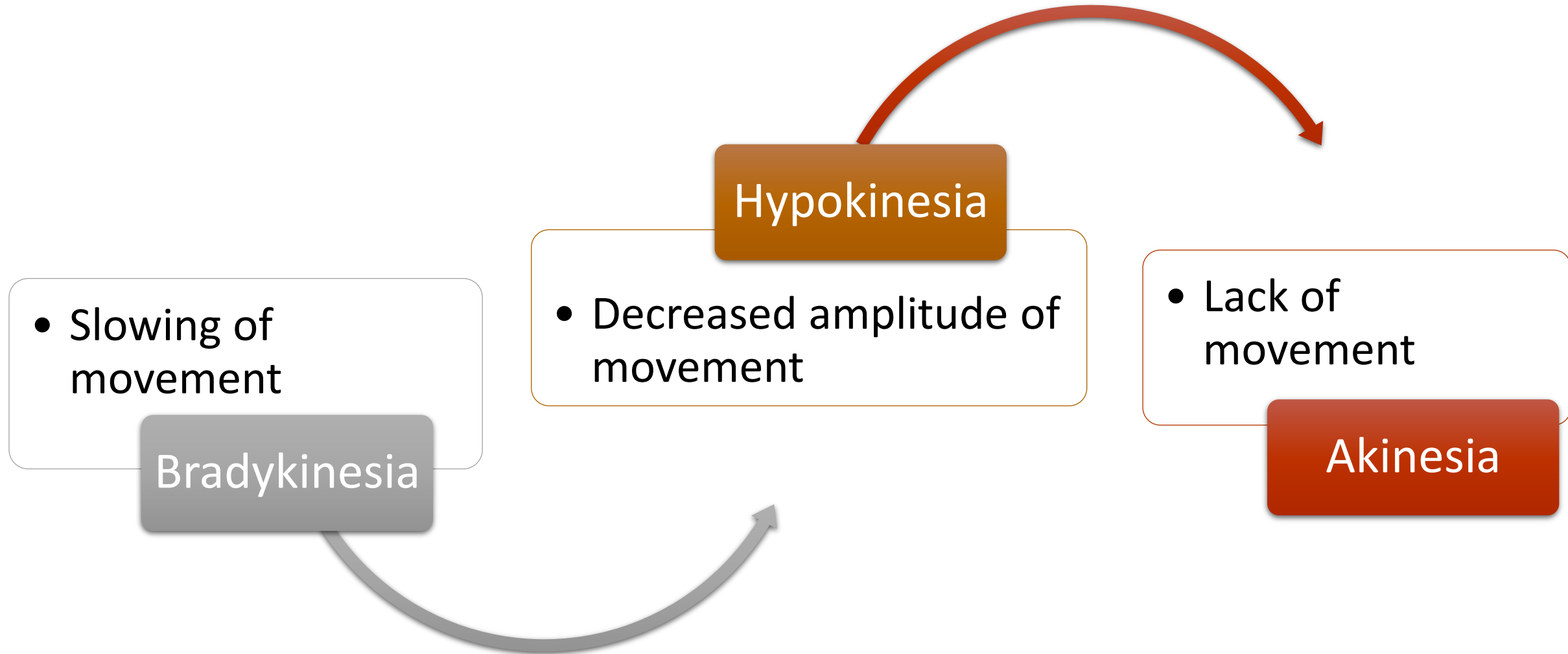
Introduction

Module	CARING TECHNIQUES FOR WELL-BEING
Sub-module	2.2 Mobilization, transfer
Lesson nr.	#2The importance of mobility and movement in human life, the consequences of hypokineses / immobilization of the user (e.g. thrombosis, bedsores, contractures). Preventive measures to prevent the effects of immobilisation.
Duration (minutes)	45 minutes
Date	

Lesson Outcomes

As a result of completing this lesson, user will be able to:

1. carry out preventive measures to prevent bedsores/pressure injury/ulcer
2. carry out preventive measures to prevent thrombosis
3. carry out preventive measures to prevent pneumonia
4. carry out preventive measures to prevent contractures



Hypokinesia or akinesia is a limitation of motor activity, associated with the need to stay for a long time in a horizontal position due to various diseases, injuries, traffic accidents or surgical procedures.

Factors that force user to stay in bed include illness or damage:

- musculoskeletal system: muscles (muscular dystrophy), bones and joints (fractures of the lower limbs, especially the femoral neck, spinal damage, as well as complications of osteoporosis frequent in the elderly or advanced degenerative-inflammatory changes, most often deformities and stiffness in the hip, knee and spine joints, often preventing walking).
- nervous system (e.g. brain tumors, spinal cord injuries, neurodegenerative diseases, e.g. multiple sclerosis, parkinsonism)
- cardiovascular system (e.g. strokes, heart attack)
- respiratory system (e.g. bronchitis or pneumonia)
- systemic (e.g. tumors, wasting, malnutrition, sarcopenia).



Changes in physiological functions due to hypokinesia

- The state of partial or complete impairment of motor activity leads to multiple changes in the activities of the musculoskeletal system, cardiovascular, respiratory, digestive, endocrine and nervous systems, affects blood clotting, also causes biochemical disorders, e.g. water-electrolyte balance, mainly calcium, slows down metabolism.
- The response of individual functional systems of the organism depends to a large extent on the time of stay in a horizontal position; usually, the full picture of changes develops at the end of the first month.

Effects of immobilization on various organs and psyche

Movement system

Bones



- As a result of partial or complete immobilization, bone loss (osteoporosis) occurs. Already after a four-day complete immobilization, the excretion of calcium in the urine increases, proving an imbalance between catabolism and bone tissue tumorigenesis.
- When started, osteoporosis can become the cause of pain, e.g. back pain, which disappears in a supine position. This causes prolonged immobilization in bed, and sometimes the ward's fear of getting up.
- Another consequence of bone tissue catabolism caused by immobilization is kidney stones or bladder urolithiasis.

Muscles



- After a four-day, complete immobilization in bed, the excretion of nitrogen in the urine increases and reaches its peak after fourteen days. If we then start the user, it will take four more weeks to normalize the excretion of nitrogen.
- This loss of nitrogen corresponds to the atrophy of about 2 kg of muscle tissue. Accordingly, with immobilization, muscle mass and strength quickly decrease.
- The consequence of muscle atrophy are pain and rapid fatigue of users at the start-up.
- A vicious circle is formed and the stay in bed is prolonged on its own.

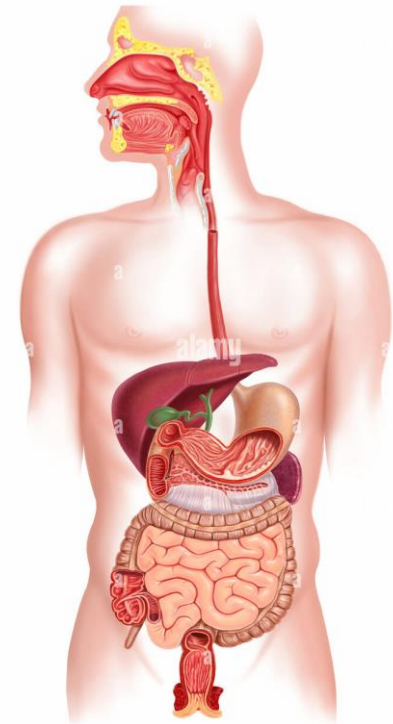
Joints



- One of the greatest dangers of prolonged immobilization is the formation of contractures.
- The most common consequence is the formation of a horse's foot, contractures in the flexion of the knee and hip joint. After the consolidation of these contractures, blowing the user up for many hours to the chair intensifies the degree of contracture.
- If strict immobilization in bed is really necessary, the user should be laid down at least for two hours a day in a horizontal position on the stomach (unless it causes severe pain, e.g. in people with painful changes in the sacral-lumbar spine).

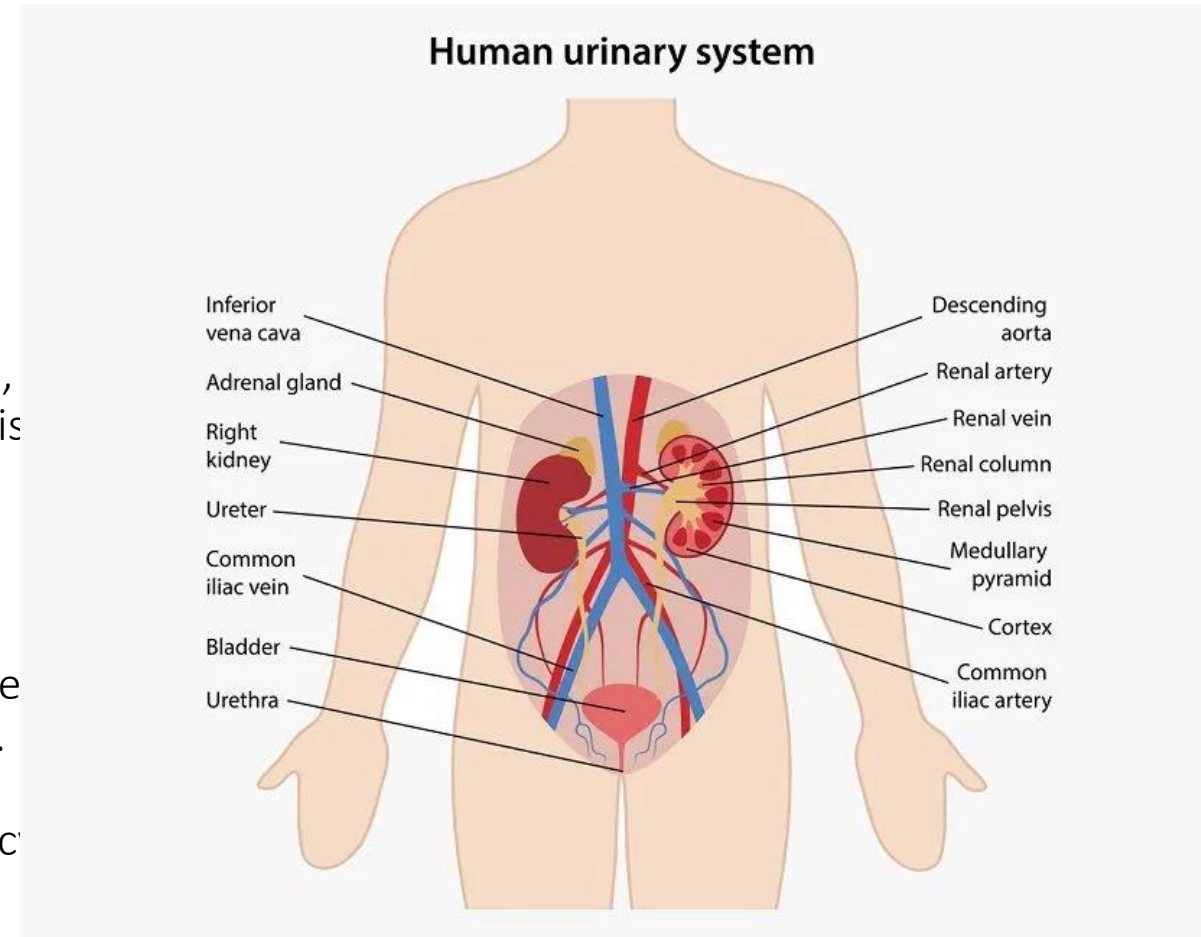
Digestive system

- A sedentary lifestyle and lack of movement causes constipation.
- For most of the wards, it is very unpleasant to pass stool in the pool, in a non-physiological supine position. For this reason, the need for defecation is postponed. The above factors favor the formation in the rectum of compacted fecal masses, which cancel out the basic mechanism of stool maintenance, the anorectal angle.
- Fecal masses also disturb the differentiation of content in the rectum and irritate the walls of the large intestine. The liquid content of the fecal passes by the fecal tumors and, not stopped continuously, is excreted through the anus.
- The consequence of constipation becomes paradoxical diarrhea. The cause is very easy to determine by examination per rectum. Also, the only way to proceed is to manually extract fecal tumors. Any form of rectal infusions fail.
- It is not uncommon for diarrhea to occur in a lying person, dentures are administered, which causes an increase in constipation, and in extreme cases, low obstruction.



Urinary system

- Prolonged immobilization impairs kidney function. In old people, prolonged lying down often leads to non-urinary retention, which is treatable as long as the user remains in bed.
- Psychological factors play a big role.
- Often, elderly people immobilized in a conscious way, radically reduce the amount of fluid intake, significantly worsening kidney function.
- Increased excretion of calcium and phosphates causes a tendency to form deposits in the kidneys and bladder.



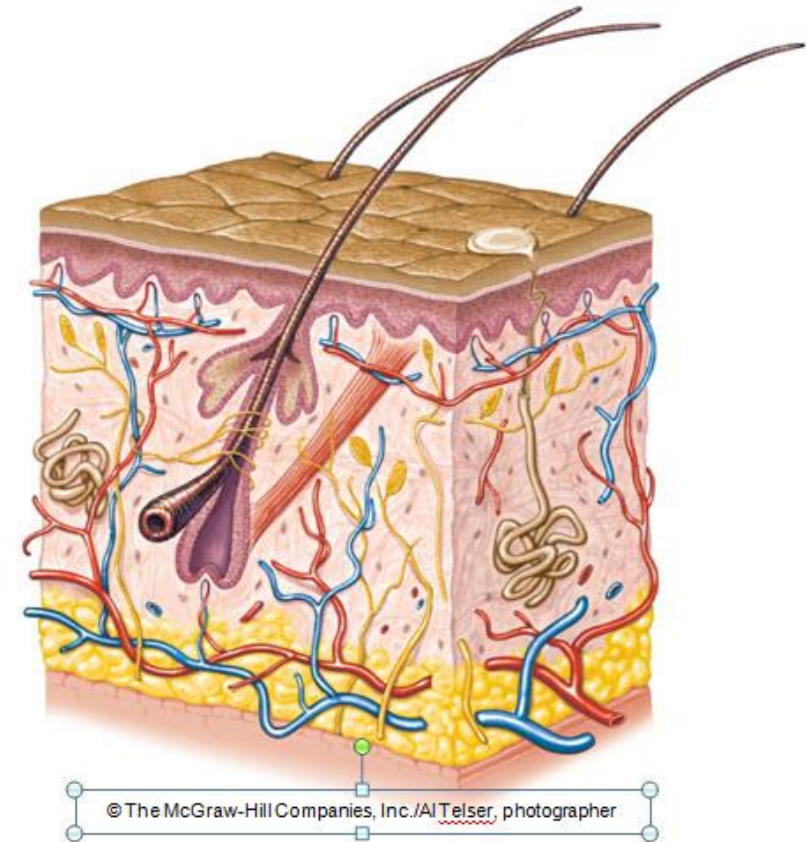
Mental state

- The clarity of our consciousness depends in no small measure on the influence of external stimuli.
- Therefore, being in bed can be treated as moderate "sensory deprivation" (deprivation of external stimuli).
- The world shrinks to a few square meters, and the range of activities is limited to the bed.
- Social contacts are limited.
- Mental regression is undoubtedly one of the greatest risks of long-term immobilization.



Skin

- pressure injuries/ulcers are a particular problem in people who are immobilization.
- An able-bodied, mobile person may lie in bed for days or weeks, changing position many times per hour, which effectively prevents the development of bedsores.
- Tight immobilization for prolonged periods leads to the development of bedsores, and the rate at which they develop depends on the blood supply to the affected areas and overall health.



The development of pressure ulcers is affected by two types of pressure: compression and shear forces and the formation of skin folds.

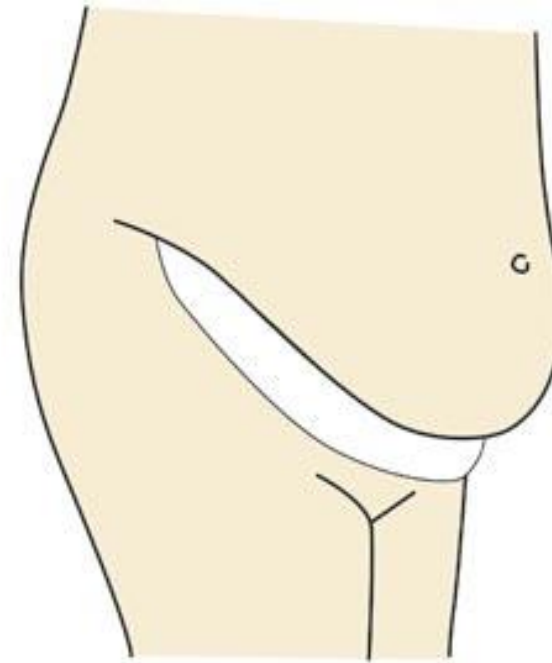
The determining factor in the development of pressure sores is the ratio of the compression force to the pressure in the arterioles and capillaries.

The blood pressure in capillaries is 33 mm Hg at their arterial end and 16 mm Hg at the venous end. If the compression force is less than the above values, the skin remains intact despite immobilization for a long period of time. However, in an adult user of average weight resting on a rubber foam mattress, the compression force is 60 - 70 mmHg in the sacral region and 30 - 45 mm Hg in the heel region.

users lying permanently in bed are generally placed in a semi-recumbent position, in which there is a tendency to slide downwards.

Adhesion involves only the skin, while the skeleton moves downward and forward. Along the lines of tension, shear forces develop in the subcutaneous tissue, which can block small vessels by clamping them.

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- The formation of skin folds happens in cachexia users with loose subcutaneous tissue.
 - Skin folding causes the lumen of blood vessels to twist and close
 - Skin folds are also a place of growth of mixed flora and a starting point of infections.
 - All the phenomena mentioned above lead to tissue ischemia and necrosis.

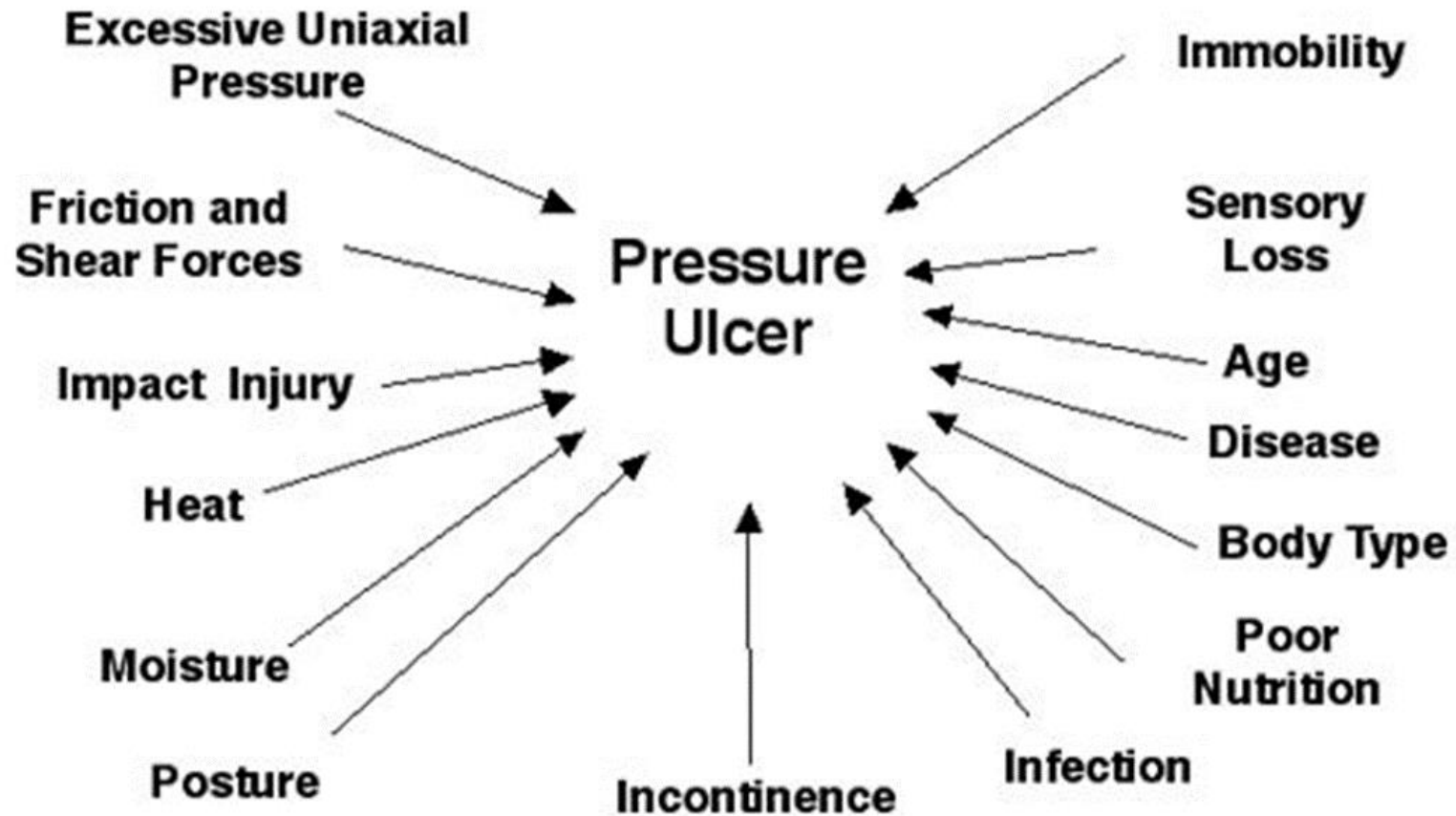


users at significant risk for pressure sores are:

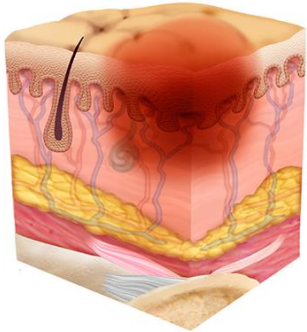
- unconscious persons
- users with severe pain (post-surgery or large joint pain)
- with large plaster casts
- paralysis
- Parkinsonism

Extrinsic Factors

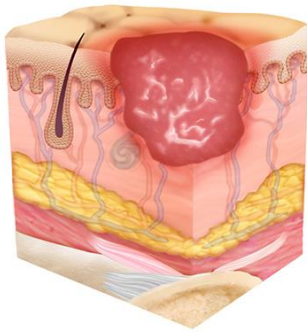
Intrinsic Factors



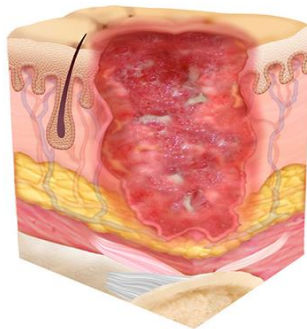
Stage 1



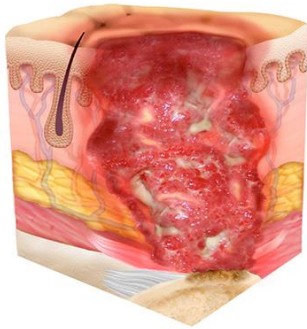
Stage 2



Stage 3



Stage 4



Additional aggravating factors include:

- **cachexia**
- **sphincter dysfunction**
- **severe general condition**

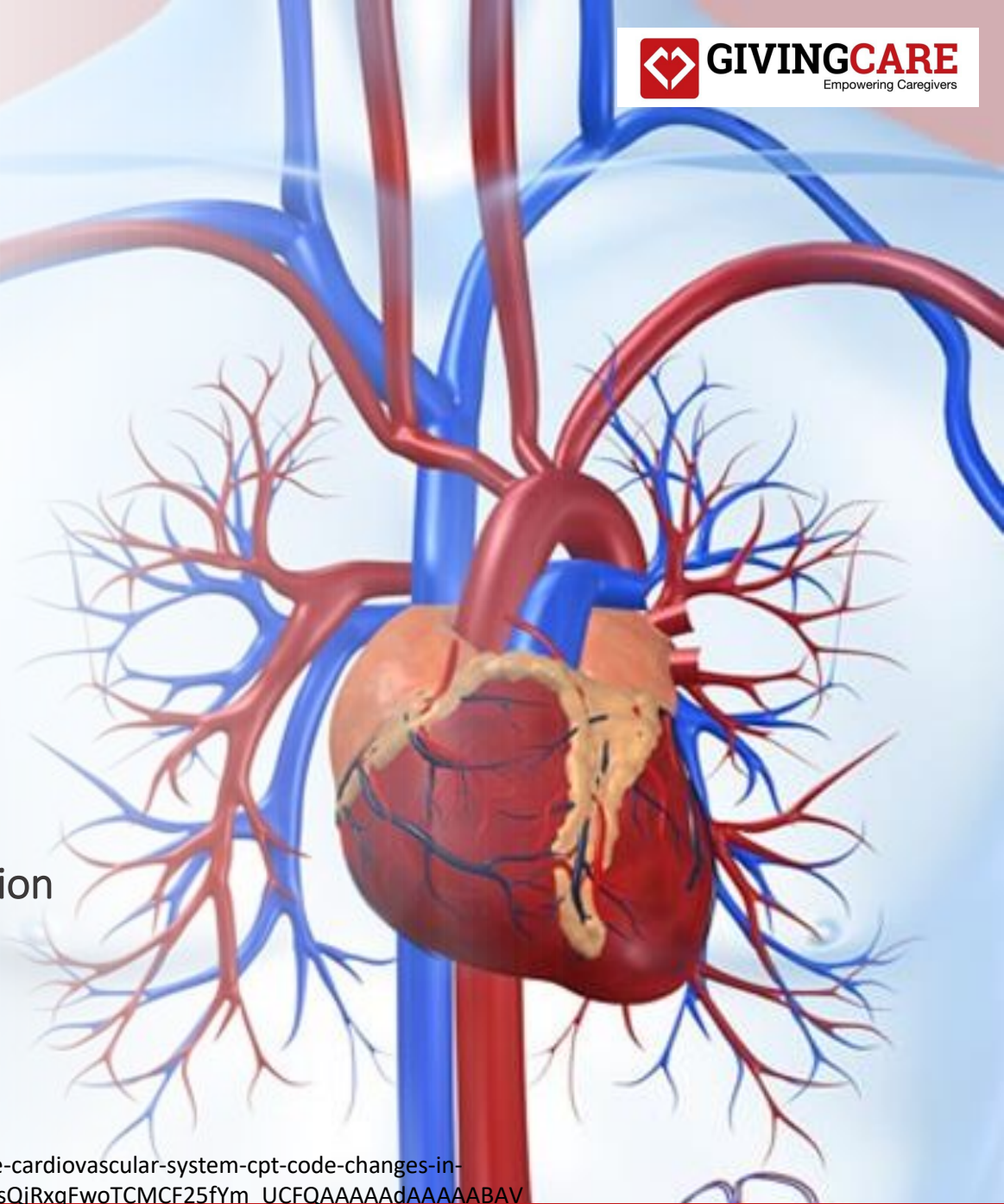


**PREVENTION
IS BETTER
THAN
CURE**

- The simplest method of preventing bedsores is for caregivers to change the user's position frequently.
- Determine repositioning frequency with consideration to the individual's:
 - ❖ tissue tolerance,
 - ❖ level of activity and mobility,
 - ❖ general medical condition,
 - ❖ overall treatment objectives,
 - ❖ skin condition, and
 - ❖ comfort.
- Other methods of preventing bedsores are to distribute compression evenly over the whole surface of the body adhering to the floor or to change the place of compression frequently, to use anti-bedsores mattresses.
- Wetting of bed linen is an additional risk factor for bedsores that should be addressed.

Cardiovascular system

- There is a risk of orthostatic hypotonia after prolonged immobilization.
- The mechanisms for equilibrating upper body pressure are impaired.
- There is a very high risk of pulmonary embolism or thrombus, especially with the first uprights, and ischemic stroke.
- Prophylactic use of anticoagulants with prolonged immobilization seems to be fully justified.



Prevention

- To prevent or slow the process of muscle and bone atrophy, it is essential to exercise to maintain an adequate range of motion.
- Exercises prevent contractures and degeneration of joint cartilage.
- Even minimal activity improves blood supply to and nutrition in the muscles.
- Exercises should be designed to involve all joints and muscles.
- Ask a qualified nurse or physical therapist and occupational therapists for help.





A2.2 – Educative resources for teachers

Assessment of the mobility needs of users in accordance with the diagnosis of the disease and the resulting limitations.

Module: CARING TECHNIQUES FOR WELL-BEING

Sub-Module: 2.2 Mobilization, transfer



Introduction

Module	CARING TECHNIQUES FOR WELL-BEING
Sub-module	2.2 Mobilization, transfer
Lesson nr.	#3 Assessment of the mobility needs of users in accordance with the diagnosis of the disease and the resulting limitations.
Duration (minutes)	30 minutes
Date	

Lesson Outcomes

As a result of completing this lesson, user will be able to:

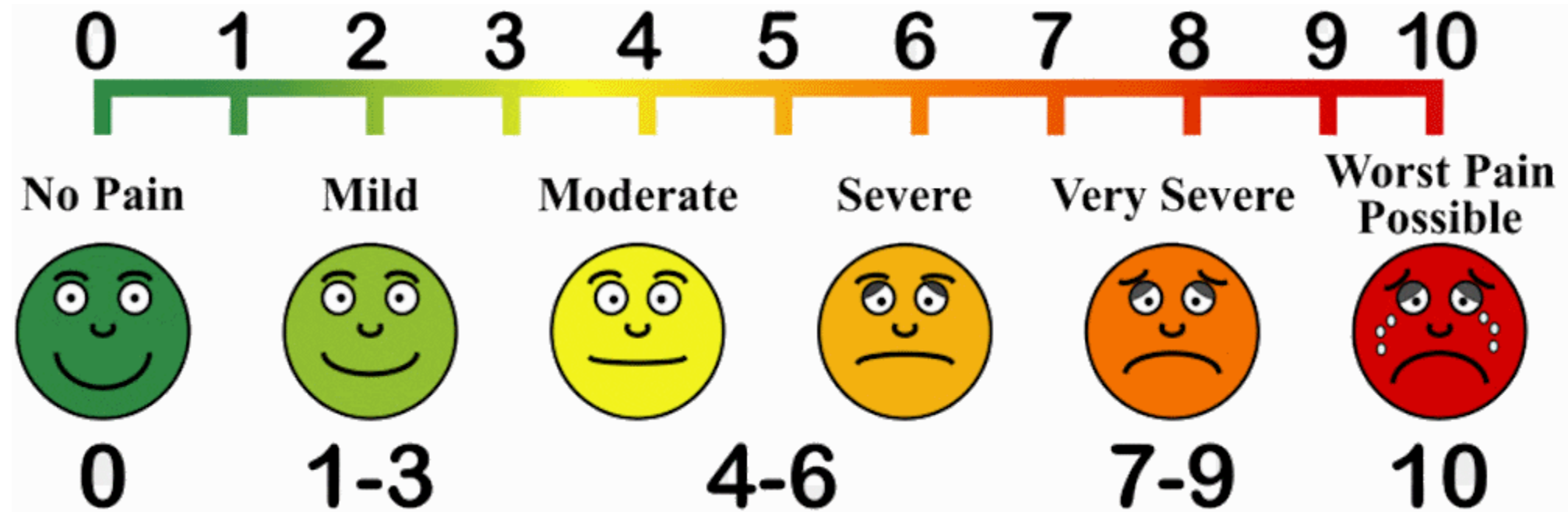
1. assess the functional abilities of the user
2. assess the possibilities of performing activities of everyday life
3. assess your ability to walk and balance
4. assess the risk of falling

- **The assessment of the user's health and functioning should be preceded by a thorough interview, taking into account the family situation.**
- **It is important to find out if there is the possibility of performing certain tasks in the home environment.**
- **It is worth talking about the limitations that the client perceives in his or her own functioning, i.e. which activity is the most important for him or her at a given moment.**
- **An appropriate therapeutic conversation allows the creation of a relationship of trust between the caregiver and the client, which gives a sense of security and has a positive impact on their sense of coherence.**

In order to assess the condition of the users, there are questionnaires, scales and tests to assess the needs and monitor the progress of their improvement.

Such tools can be used for:

assessment of clinical symptoms - which allows monitoring the client's condition, Assessing clinical symptoms - to monitor the client's condition, the course of the disease, the effects of treatment (VAS scale)





To determine dependency and to assess its degree it is necessary to:

- The diagnosis of an illness in the client, together with an assessment of the degree of damage to structures and impairment of bodily functions, which the health care provider - formal and informal - can learn from an analysis of the client's medical records.
- The recognition of activity and participation limitations in relation to environmental factors on the basis of observation and interview with the client or the family.
- Assess the ability of the client to perform an activity, based on the referral of a simple command to perform the activity/movement.

The following defined activities and participation, distinguished in the following areas:

1. mobility - Assessment includes:

- Changing basic body position
- Maintaining body position
- Moving
- Precise use of hands
- Using arms and hands
- Walking



2. self-care - assessment includes:

- Washing oneself
- Using the toilet
- Dressing
- Eating
- Drinking
- Preparing meals
- Doing the housework



3. shaping daily life and social interactions - assessed by:

- Focusing attention
- Problem solving
- Making decisions
- Dealing with a single task
- Following a daily schedule
- Conversation
- Basic Human Interaction





A2.2 – Educative resources for teachers

Assessment of the user's level of physical activity and the principle of selecting the appropriate equipment for the user's movement

Module: CARING TECHNIQUES FOR WELL-BEING

Sub-Module: 2.2 Mobilization, transfer



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Introduction

Module	CARING TECHNIQUES FOR WELL-BEING
Sub-module	2.2 Mobilization, transfer
Lesson nr.	#4 Assessment of the user's level of physical activity and the principle of selecting the appropriate equipment for the user's movement.
Duration (minutes)	30 minutes
Date	

Lesson Outcomes

As a result of completing this lesson, user will be able to:

1. change the position of the user taking care of their own safety
2. choose the right equipment for the movement of a sick and dependent person;
3. transport the user for examinations
4. perform passive gymnastics of the upper and lower limbs

user transfer products are a group of indispensable everyday accessories for the easy transfer of sick people, those unable to move on their own or all those who for other reasons need to be transported by third parties.

Daily assistance
with the transfer of
users is provided by:

equipment to move or reposition the user - boards, mats, wraps,


accessories for turning the user in place - swivel discs,

equipment for longer distance transportation - belts, seats and wedges, supports, which stabilize the user's position during transportation.



When performing the work of a caregiver for people with disabilities, moving in a wheelchair or simply the elderly and sick, lying down, it is necessary to equip yourself with aids that facilitate taking care of such charges and which can – if necessary – also be easily taken with you everywhere, e.g. skid film, rotary disk and portable, compact, folding ramp for wheelchairs is the absolute basis of a professional.

- Walking stick and crutch
- Tripod and quadruped
- Walker and wheeled walker
- Wheelchair, (to move in a sitting position)
- Lift (to move infirm or overweight people from bed to wheelchair and vice versa);
- A special bed with accessories (lifting handle, anti-decubitus mattress, side rails).



**Assistive items
used most
frequently**











Thank you!

Iwona Malinowska-Lipień

Teachers e-mail

Date of the session

