

Occupational therapy in neurological disorders

No. LLI-352
INTERPROF



ŠIAULIŲ
UNIVERSITETAS



Project is partly financed by
Interreg V-A Latvia – Lithuania Programme 2014-2020

www.latlit.eu

Topicality

- The number of people suffering from neurological diseases increased due to the increase of survival, ageing of population and influence of different factors.
- Neurological disorders not always are dangerous for the life, but they always influence person's life quality and involvement in daily activities.
- Involvement in daily activities is very important for all people.
- Ergotherapists must consider the physical, cognitive, emotional and psychologic problems of a patient that appear due to neurological disorders, and they must understand the influence of diagnosis from patient's perspective.

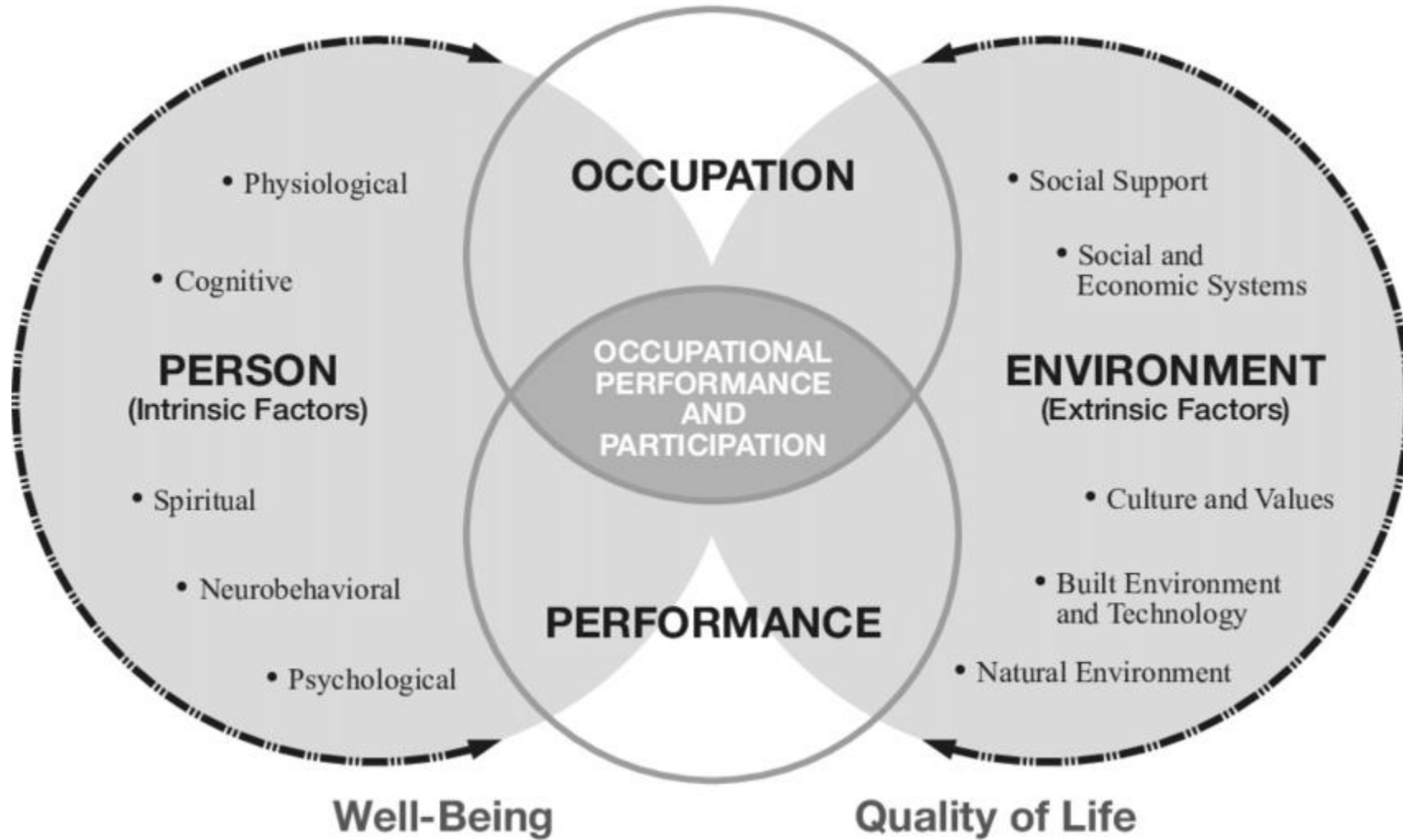
*“Life is short.
Do stuff
that matters.”*

SIQI CHEN

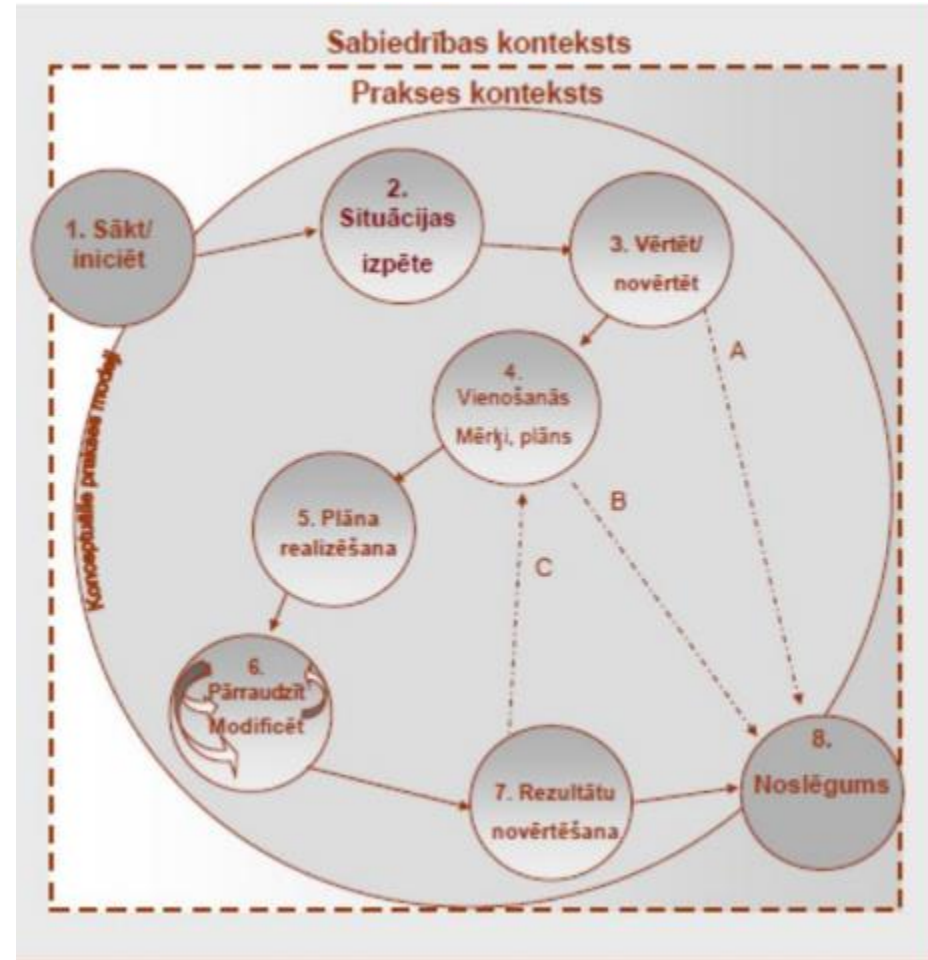
International Functions, Disability and Health Classification (WHO, 2001)



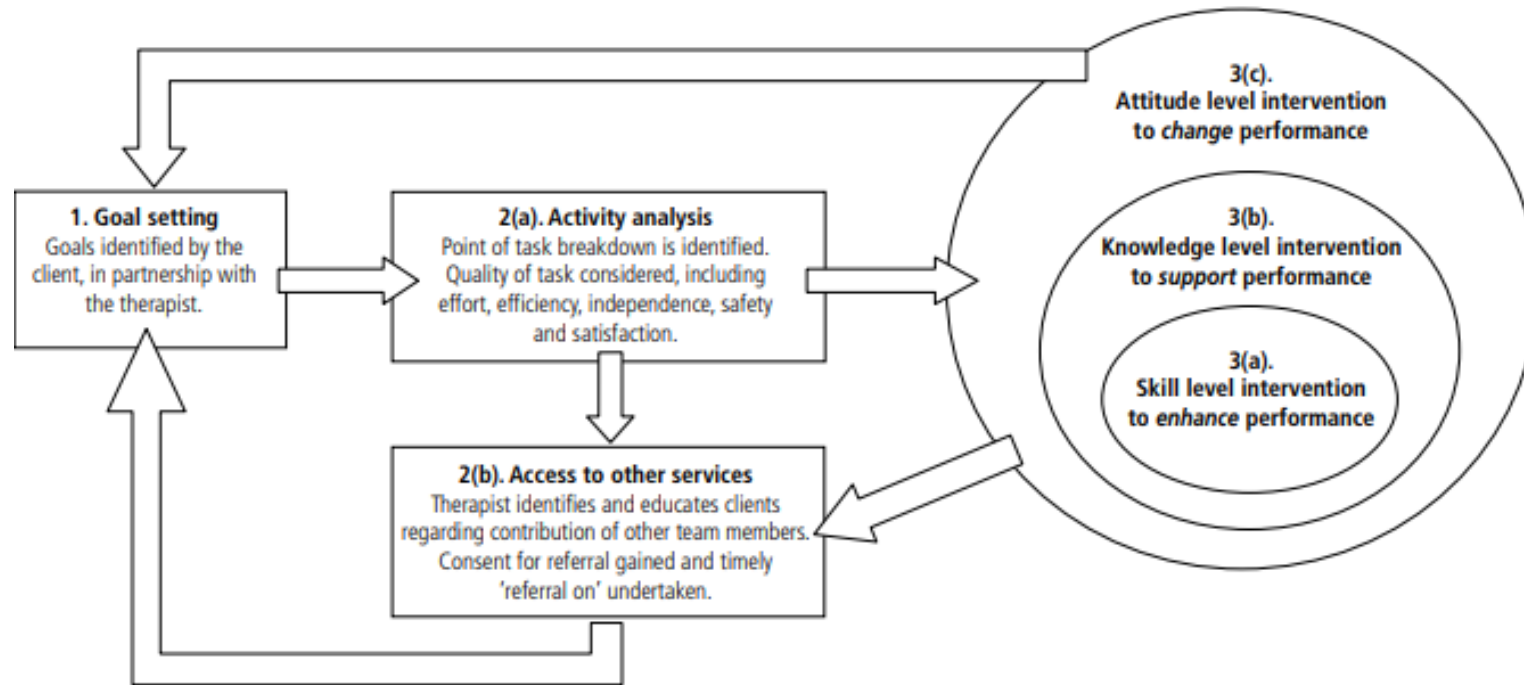
Customer-focused practice



Process structure of an ergotherapist's practice



Intervention model



Problems in activities of daily living, assessment, intervention

No. LLI-352
INTERPROF



ŠIAULIŲ
UNIVERSITETAS



Project is partly financed by
Interreg V-A Latvia – Lithuania Programme 2014-2020

www.latlit.eu

Problems of daily activities and possible solutions for patients with neurological disorders

| Problem | Possible solution |
|---|---|
| EATING Difficulties to hold the eating utensils | Use eating utensils with thickened handles (can use porolone or other material to make the handle thicker), so that it is easier to grasp it. |
| Difficulties to grasp and hold the eating utensils, but can reach the mouth with a hand | Use an orthosis with attached eating utensil |
| Difficulties to cut the food | Use a round knife which requires less hand force. Purchase already pre-cut products |
| Difficulties to place the food directly in the mouth due to palm joint weakness | Use eating utensils where the spoon or fork part is bent at the angle of 40 or more degrees |
| Difficulties to stabilize the vessel with food | Put an antislip material under the vessel (e.g. wet towel) |
| Difficulties to take all food from the place or it falls over the edges | Use plate sides Use a plate with deeper inner part |
| Difficulties to take the food to the mouth due to muscle weakness, tiredness | Rest the forearms against the table. Hands and plate can be rested on 1-2 books to reduce the distance between the plate and mouth |
| Difficulties to take the drink to the mouth due to muscle weakness, tiredness | Use a mug with two ears. Use a mug with big ear so that it is easier to grasp it. Keep the mug on the table and use a straw. Ask the supporting person to place water bottles in different places (e.g. near the bed, TV) |
| Difficulties to use a straw due to weak mouth muscles | Use a one-way straw – straws with one-way valve that remain filled between the drinking times, reduces the possibility to suck too much air |

Problems of daily activities and possible solutions for patients with neurological disorders

| Problem | Possible solution |
|--|---|
| <p>SMALL HYGIENE</p> <p>Difficulties to keep balance when standing at the sink</p> | <p>Sit on a chair at the sink. Rest the forearm against the sink edge while the other hand does an activity. Place the mirror so that the reflection can be seen when a person sits</p> |
| <p>Difficulties to reach the sink and do an activity when sitting on a chair</p> | <p>Transfer or rearrange (vacate) the space under the sink so that it is possible to place the chair as near as possible to the sink</p> |
| <p>Difficulties to bend over and spit water in the sink</p> | <p>Place a cup or another collecting vessel at the sink that can be used when brushing teeth</p> |
| <p>BRUSHING TEETH</p> <p>Hand get tired when holding the brush at the mouth</p> | <p>Rest the elbow on the sink edge. Use both hands or use the strongest hand, even it is not the leading one (e.g. if you do the daily activities with the right hand, but the left hand is stronger, brush the teeth with the left hand)</p> |
| <p>Hand is too tired to brush qualitatively the teeth when moving the brush in the mouth cavity</p> | <p>Use electric teeth-brush (suitable with small head not to cause unnecessary irritation of mouth cavity; handle with larger diameter so that it is easier to grasp it; light so that it is easier to lift it)</p> |
| <p>Difficulties to grasp the teeth brush</p> | <p>Use porolone or other material to make the handle of teeth-brush thicker, so that it is easier to grasp it; it can be attached to the palm by means of elastic bands</p> |
| <p>Choking with tooth paste and water</p> | <p>Use special teeth-brush with included liquid suction function</p> |
| <p>Difficulties to brush the tongue</p> | <p>Use a tongue cleaner</p> |
| <p>SHAVING</p> <p>Due to hand muscle weakness t is not possible to hold stably the razor during the shaving thus creating the risk of cutting</p> | <p>Use electric razor that reduces the risk of cutting</p> |
| <p>Hands get tired during shaving thus encumbering the finishing of shaving</p> | <p>The elbow and, if needed, the forearm can be supported on sink edge. Shave with the strongest arm. Do the shaving with pauses. Do the activity during the time of the day when you feel more energy</p> |

Problems of daily activities and possible solutions for patients with neurological disorders

| Problem | Possible solution |
|---|---|
| WASHING Losing balance when trying to get into the bath/shower | Fit the washing area with supporting rails |
| Difficulties to get into the bath/shower | Use a bath board/shower chair (sit on the bath board and put the legs one by one over the bath edge, if needed, hold to the supporting rails) |
| Difficulties to maintain feet support due to slippery base | Place the antislip rugs at and in the washing area |
| Difficulties to maintain balance during the washing | Do the washing while sitting |
| Standing during the washing is tiresome | Do the washing while sitting to reduce the load on the body |
| Bath board/shower chair is unstable | Use additional suckers to stabilize the sitting surfaces |
| WASHING THE BODY Difficulties to adjust the shower so that water flows evenly on the body | Replace the fixed shower head with a hand shower |
| Difficulties to hold the soap and sponge at the same time | Use soaps with a string that can be fixed at the hand. Use liquid soap. Use sponge with long handle. |
| Difficulties to reach and wash the legs, feet, back | Use a sponge with long handle to which a washing glove can be attached where soap is put in. |
| Hands get tired when washing/looking after the hair | Rest the hands against the edge of bath board/shower chair. Choose short haircut. Use hair care agents with extended handles. Wash hair in the sink; ask the help of supporting stuff |

Problems of daily activities and possible solutions for patients with neurological disorders

| Problem | Possible solution |
|---|--|
| <p>USING THE TOILET Difficulties to get up from the toilet bowl</p> | <p>Fit the toilet with supporting rails (if possible – on the sides and at front). If it is impossible to fit the toilet with support rails, use a free-standing toilet platform with supporting handles. Use a toilet platform. Make the bowl itself higher</p> |
| <p>Difficulties to keep balance when sitting down on the bowl</p> | <p>Use supporting rails; sit slowly. Use a toilet platform to reduce the distance to the bowl</p> |
| <p>Hands and/or legs too weak to change to the toilet bowl independently</p> | <p>Use the urine collection vessel. Ask the help of supporting staff</p> |
| <p>Difficulties to do hygiene after toilet activity</p> | <p>Use a bidet/hand shower</p> |
| <p>Difficulties to incline to one side to do hygiene after the toilet activity</p> | <p>Use supporting rails</p> |
| <p>Difficulties to keep balance when taking off the pants and underwear</p> | <p>Wear trousers with flexible waist. Wear loose underwear such as boxers which are easier to take off. Hold with one hand at the supporting rail, while take off the clothes with the other one. Fit the trousers and underwear with loops where you can put the hand till forearm to facilitate the grasping of garment and the pulling is done with upper arm muscles</p> |
| <p>SLEEPING Difficulties to roll in the bed</p> | <p>Use satin or silk pyjama to facilitate movements in the bed. Use satin or silk sheets to facilitate movements in the bed. Fit the bedside with a supporting rail. Use a loop with extended handle to move the legs. Use a mobile lift with the help of supporting stuff</p> |
| <p>Difficulties to attract the attention of supporting staff if he/she in in another room</p> | <p>Use a portable wireless set for communication. Use a bell. Use the quick call function in your mobile phone INTERPROF</p> |

Problems of daily activities and possible solutions for patients with neurological disorders

| Problem | Possible solution |
|---|---|
| GETTING DRESSED Difficulties to button and unbutton due to arm weakness | Use a buttoner. Choose clothes without buttons. Replace the buttons with Velcro fasteners |
| Difficulties to maintain balance when getting dressed | Get dressed when sitting thus reducing the risk of falling and saving energy |
| Difficulties to zip and unzip | Make a loop at the end of zip (from fishing line or another material), where you can put a finger thus pulling the zip. Use special zip rings. Choose clothes without zips |
| Difficulties to put on a shirt over the head and out on the trousers | Choose looser clothes. Choose clothes made of fabric that is easier to put on, e.g. cotton or nylon, not wool. Avoid thick and heavy clothes. Get dressed when laying down to reduce the impact of gravity on the body. Use a dressing hook/stick |
| Difficulties to bend to pull on the sock | Use a socks putter-on. Wear sandals and shoes that don't need socks; walk in the room with slippers with closed back (counter) |
| Difficulties to tie the shoelaces | Use flexible shoelaces. Use shoes with Velcro fasteners |
| Difficulties to put on the shoes when using a foot/ankle orthosis | Choose shoes that are one size larger |
| Difficulties to put on the shoes | Use a shoehorn with extended handle. Use a dressing hook/stick |
| USE OF MEDICATIONS Difficulties to follow the use of medications | Use a medications organizer that is divided according to the needs (per days, meals). Use a reminder function in the mobile phone that informs about the necessity to take medications |

Assessment of daily activities for patients with neurological diseases

Daily activities

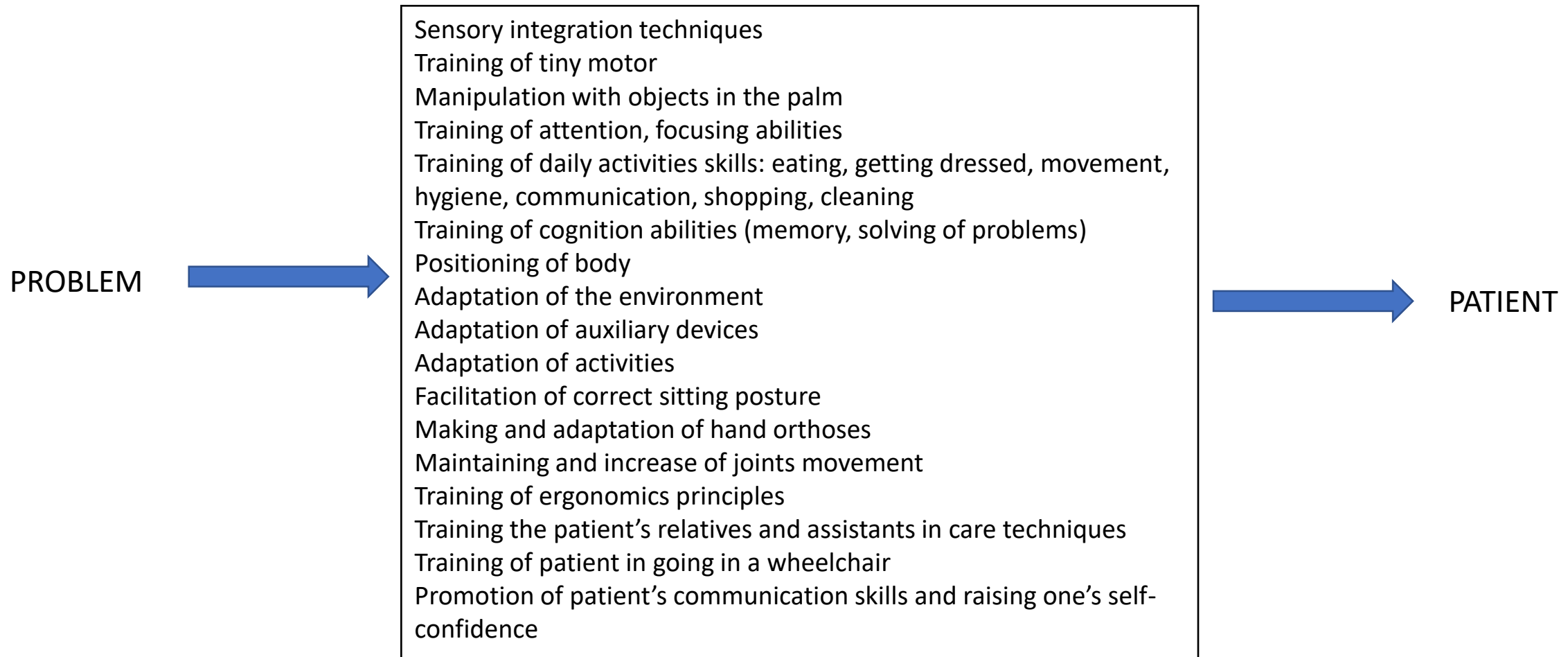
- Eating
- Personal hygiene
- Continence
- Dressing
- Mobility
- Sleep
- *Cooking*
- *Moving outside the house*
- *Shopping*
- *Finances management*
- *Cleaning the house*
- *Use of medications*
- *Communication with others, care for others*



Assessment tools

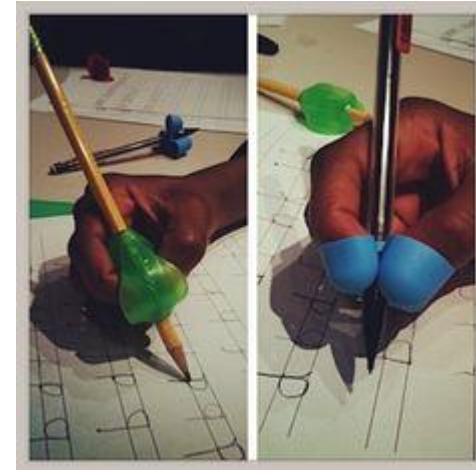
- Analysis of activities
- FIM
- Barthel Index
- ADL taxonomy
- Disability Assessment List by World Health Organization
- Stroke Impact Scale-patient's selfassessment
- Falling risk assessment scale
- DASH
- Compliance with Joint protection principles IA
- Compliance with energy-saving principles IA
- Wheelchair assessment
- Stereognosis test
- VASS

Ergotherapist's technologies in case of neurological diseases



Intervention methods for patients with neurological diseases

- Adaptive approach
- Therapeutic approach
- Flow theory



Flow theory (Mihály Csíkszentmihályi)



Subjective psychologic condition that occurs if a person is completely involved in performing the activity.

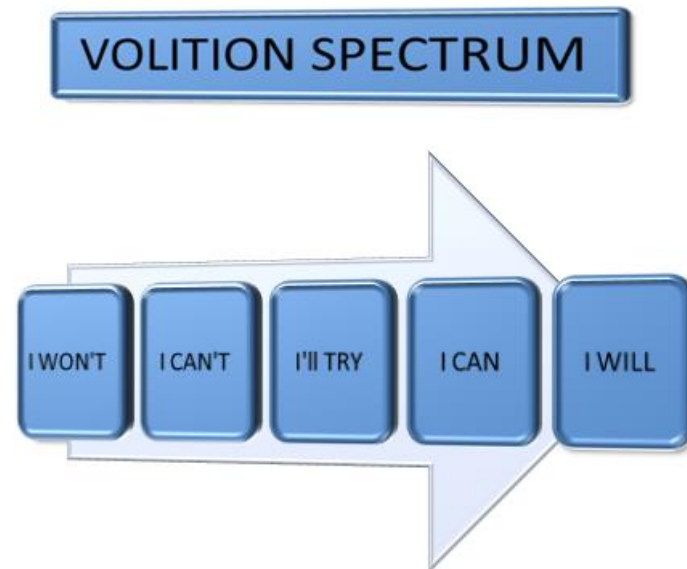
Characteristic:

- Focusing the attention to a clear target
- Loss of *self-awareness*
- Changed sense of time
- Feeling that the activity itself is rewarding



Flow theory

- To maintain the flow condition, a person must increase the complexity of activity thus developing new skills and assuming new challenges
- Flow as a process that allows the person to reveal continuously something new
- Understanding of flow helps the ergotherapist to facilitate the involvement of patient in activities that are important for him/her
- The best methods to assess whether patients have a flow condition – interview and observation





Problems in mobility, assessment, intervention

No. LLI-352
INTERPROF



ŠIAULIŲ
UNIVERSITETAS



Project is partly financed by
Interreg V-A Latvia – Lithuania Programme 2014-2020

www.latlit.eu

Mobility limitations for patients with neurological diseases

Disorders

Paresis, paralysis

Muscle dystonia

Reduced muscle power

Movement coordination and balance disorders

Pace changes (shuffling pace, slow pace)

Slow motions

Tiredness

Apraxia (motor planning)

Bradykinesia

Chorea

Ataxia

Rigidity

Congelation episodes

Reduced nimbleness in palms, weak hand coordination

Tremor

Activity and participation limitation

Disturbed mobility in bed, disorders in changing posture from sleeping -> sitting, sitting posture disorders. Difficulties to cover short and long distances. Difficulties to use stairs. Increased risk of falls, increased traumatism. Difficulties to do manual and bimanual activities – eating, getting dressed, washing, going to toilet. Difficulties to do instrumental daily activities - cooking, tidying, care for pets. Difficulties to use transport. Social isolation.

Assessment of mobility limitations for patients with neurological diseases

Grasping of objects

- The Functional Reach test
- Action Research Arm test
- The Arm Motor Ability Test – hand function ADL
- Wolf Motor Function Test (for insult)
- Power and key grasp tests
- Jebsen Hand Function Test
- 9-spigot test
- Box and block test

Change of posture

- Assessment of Motor and Process Skills (AMPS)- to assess ADL quality - Provides an objective assessment of various motor and process skills.
- Berg Balance Scale - Measures static and dynamic balance abilities using functional tasks commonly performed in everyday life.
- Performance-Oriented Mobility Assessment (POMA)-Measures both static and dynamic balance using tasks testing balance and gait.
- Timed Get Up and Go Test - Measures dynamic balance and mobility.

Assessment of upper limb for patients with neurological disorders

- Motor function
- Coordination
- Force
- Movement volume
- Tone
- Pain
- Sensing
- Oedema

Screening questions to assess the upper limbs

- Clarify which is the dominant hand
- Compare the hand affected by disease with the other hand
- Subluxation?

«Can you reach the upper shelf in the closet?»

«Can you close the blinds?»

«Can you put hands together on your back?»

«Can you put on the shirt?»

«Can you put the belt in the trousers?»

«Can you do personal hygiene after going to the toilet?»

«Can you wash and brush your hair?»

«Can you put on/take off a jersey over your head?»

«Can you close the bra?»

«Can you wash your back?»

«Can you put your hand to the mouth?»

«Can you eat?»

«Can you brush your teeth?»

«Can you stretch both hands in front of you?»

«Can you do the dishes?»

«Can you handle freely with items in front of you?»

«Can you open the door?»

«Can you turn the door key?»

«Can you close the window?»

Intervention methods to reduce the mobility disorders for patients with neurological disorders

ADAPTIVE APPROACH

THERAPEUTIC APPROACH

- Mobility in bed and safety (bed of appropriate size, width and height, mattress at the bed in case of fall, supporting rails or bedsides, positioning with pillows).
- Mobility and reduction of falls (sitting posture, rollator with four wheels and brakes, adaptation of environment, physical reduction of fall risks, warnings at dangerous places, e.g. at stairs, furniture corners, fire, etc., change of behaviour to reduce falls, focusing on walking, supporting rails to get up after a fall, regular assessment of condition, orthosis for lower limbs, education of family, knee, hip, elbow and head guards).
- Activities to improve large and tiny motor functions
- Adaptation of environment
- Energy-saving strategies
- Mirror therapy
- Education and involvement of family
- Sensory training and re-training
- Virtual reality



ARM ACTIVITY LIST B

Name: _____

Add a new activity every day / week.

ARM ACTIVITY LIST A

Name: _____

Add a new activity every day / week.

“2 hands” refers to interlocking grip as needed.

“Under arm” refers to holding item between upper arm and side of body.

| | |
|--------------------------------------|--|
| Position hand on table in view _____ | Hold food with fork when cutting _____ |
| Hold toothpaste _____ | Carry a newspaper (under arm) _____ |
| Hold deodorant _____ | Carry a towel (under arm) _____ |
| Pull up blankets (2 hands) _____ | Carry a purse / wallet (under arm) _____ |
| Use call bell _____ | _____ |
| Pick up water bottle (2 hands) _____ | _____ |
| Eat finger food (2 hands) _____ | _____ |
| Hold washcloth _____ | _____ |
| Wash face (2 hands) _____ | _____ |

| | |
|---------------------------------------|-------------------------------------|
| Fill out menu _____ | Put on shoes _____ |
| Use call bell _____ | Put on socks _____ |
| Pull up covers _____ | Pour liquids _____ |
| Turn on light switches _____ | Use fork _____ |
| Drink from a cup _____ | Use spoon _____ |
| Eat finger food _____ | Use knife _____ |
| Turn pages in a book / magazine _____ | Hold phone while talking _____ |
| Brush teeth _____ | Dial phone _____ |
| Brush hair _____ | Open fridge _____ |
| Turn on / off faucets _____ | Use computer mouse / keyboard _____ |
| Wash self with washcloth _____ | Practice handwriting _____ |

Setting the targets

- Through cooperation with a patient – SMART princ

Examples:

- Patient will zip a cardigan by means of both hands in two weeks
- Patient will eat independently by means of adapted spoon in 4 weeks
- Patient will reach 25% in Box and block test in 3 weeks

GOAL SETTING

SPECIFIC

MEASURABLE

ACHIEVABLE

REALISTIC

TIMELY



Problems in cognitive functions, assessment, intervention

No. LLI-352
INTERPROF



ŠIAULIŲ
UNIVERSITETAS



Project is partly financed by
Interreg V-A Latvia – Lithuania Programme 2014-2020

www.latlit.eu

Cognitive disorders for patients with neurological diseases

Disorders

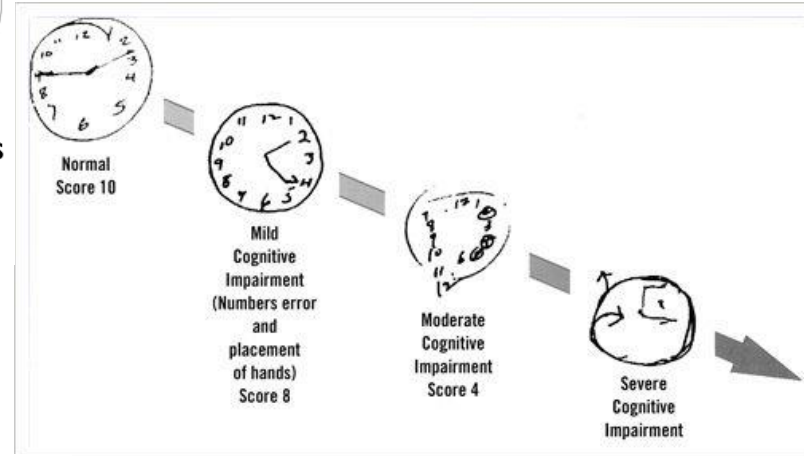
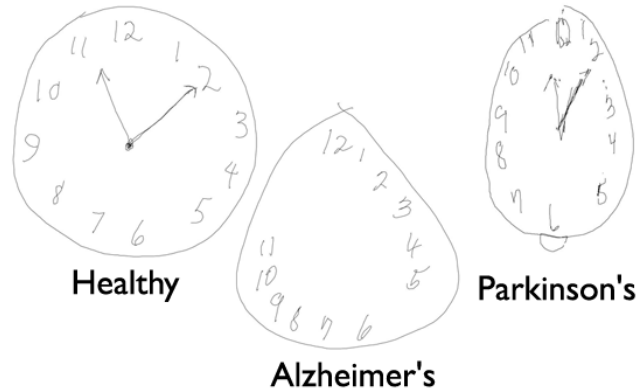
Difficulties to commence activities
Spatial perception disorders
Difficulties to master new things
Behavioural disorders
Impulsivity
Irritability
Aggression
Depression
Attention stability, planning, organizing, problem solving disorders
Reduced motivation
Bradyphrenia
Disturbed control functions
Disturbed orientation in time, space and person

Activity and participation limitation

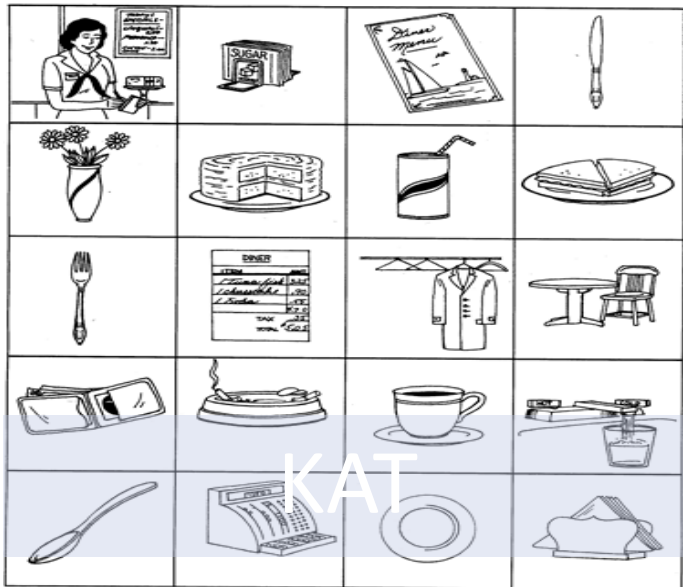
Reduced thinking speed, difficulties in problem solving and decision-making, difficulties to focus or switch one's attention, apathy leading to difficulties to perform everyday activities and social isolations have significant impact of patients' life quality. Patients have reduced ability to identify risks, observe the result of activity and behaviour, do safely the activities and respond to emergency situations

Assessment of cognitive disorders for persons with neurological diseases

- Clock drawing test;
- Words naming test;
- Mini mental condition evaluation – shortened version;
- Mini mental condition evaluation;
- Montreal cognitive functions assessment (MoCA)
- LOTCA test
- D2 test
- Contextual Memory Test (KAT)



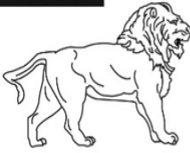
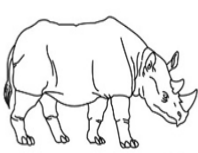
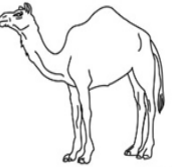
| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | |
| p | d | p | p | d | d | d | d | p | d |
| | | | | | | | | | |
| | | | | | | | | | |
| d | d | d | d | p | p | d | p | d | p |
| | | | | | | | | | |
| | | | | | | | | | |
| d | d | p | d | d | d | p | p | d | p |
| | | | | | | | | | |



KAT



LOTCA

| | | | | | | | |
|---|-----|--|------|---|--------|-------|-----------|
| Begin | | | | | | | |
| (D) | (4) | (3) | | | | | |
| (C) | [] | [] | [] | [] | [] | _/5 | |
| NAMING | | | | | | | |
|  | |  | |  | | _/3 | |
| MEMORY | | Read list of words, subject must repeat them. Do 2 trials, even if 1st trial is successful. Do a recall after 5 minutes. | FACE | VELVET | CHURCH | DAISY | RED |
| | | 1st trial | | | | | No points |
| | | 2nd trial | | | | | |
| ATTENTION | | Read list of digits (1 digit/ sec). Subject has to repeat them in the forward order [] 2 1 8 5 4 | | | | | _/2 |
| | | Subject has to repeat them in the backward order [] 7 4 2 | | | | | |
| | | Read list of letters. The subject must tap with his index finger on the letter A. No tap if 2 errors. | | | | | _/1 |
| | | [] C F J A M N V J K L A F A K D E A A J A M O F A A B | | | | | |
| | | Serial 7 subtraction starting at 100 [] 93 [] 86 [] 79 [] 72 [] 65 | | | | | _/3 |
| | | 4 or 5 correct subtractions: 3 pts. 2 or 3 correct: 2 pts. 1 correct: 1 pt. 0 correct: 0 pt | | | | | |
| LANGUAGE | | Repeat: I only know that John is the one to help today. [] | | | | | _/2 |
| | | The cat always hid under the couch when dogs were in the room. [] | | | | | |

Intervention methods in reduction of cognitive disorders for patients with neurological diseases

- **Global strategy learning approach:** to facilitate patient's understanding about his/her cognitive disorders and help elaborate compensating strategies – feedback before and after an activity, writing diaries, making lists
- **Domain-specific strategy training:** to teach a patient by means of technologies and virtual reality
- **Cognitive re-training strategy:** training of cognitive activities during performance of activities – attention, memory, categorization, problem solving skills.
- **Specific skills training:** focused on teaching the self-care skills, considering the existing cognitive disorders – regular repeating and performing similar activities is important
- **Modification of environment and use of auxiliary technologies:** focused on conformity of environmental requirements to patient's abilities – prevention of accidents

Intervention methods in reduction of cognitive disorders for patients with neurological diseases

Consider:

- Patient's changes in motivation
- Whether the patient is aware of his/her cognitive disorders
- Patient's physical abilities
- how long ago the cognitive disorders have appeared

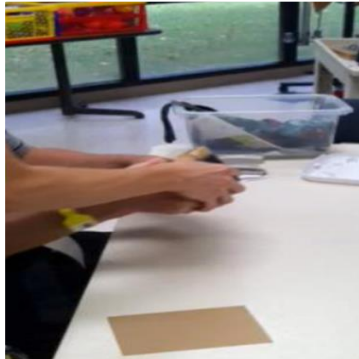
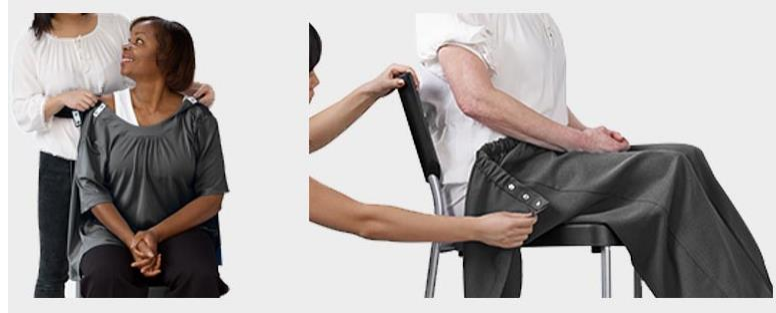


Intervention methods :

- Active assisting
- Giving of instructions
- Demonstration
- Problem-solving strategies

- Give time to patient – don't rush him/her
- Therapist must be patient
- Sometimes less is more

Active assisting, demonstration



You remember things better
when you write them down
by hand.
Here's why.

Assistive devices and technology as a part of rehabilitation

No. LLI-352
INTERPROF



ŠIAULIŲ
UNIVERSITETAS



Project is partly financed by
Interreg V-A Latvia – Lithuania Programme 2014-2020

www.latlit.eu

Assistive devices in the work with patients with neurological diseases

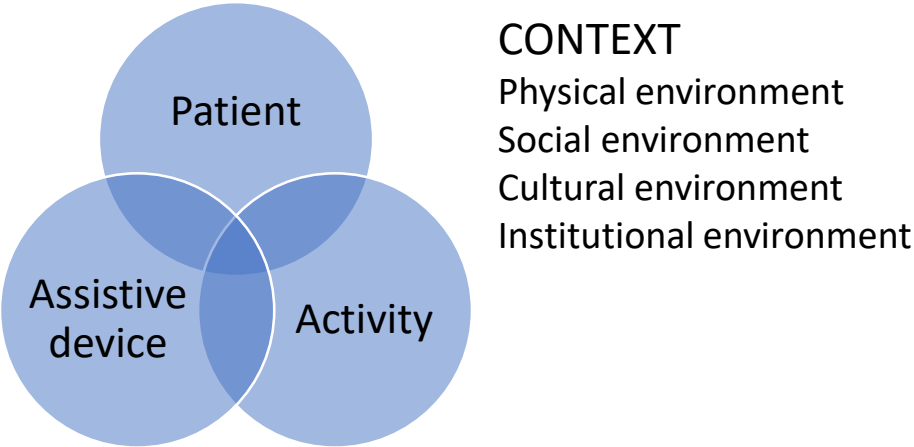
- **Personal mobility assistive devices** (stick, tripod, quadripod, walking frame, rollator, mobility desk, wheelchair)
- **Personal care and protection assistive devices** (dressing auxiliary tools, toilet chair, toilet bowl platform, supporting handles, shower chair, bath board, bath chair)
- **Household assistive devices** (auxiliary tools for cutting products, for chopping, dividing, tableware)
- **Auxiliary tools for writing**
- **Assistive devices for free time activities**



INTERPROF

Assessment of necessity for assistive device

- HAAT model



- Model of satisfaction with the assistive device



Daily use of assistive devices

Benefits from using technical assistive devices

- Help to achieve the maximum possible level of independence
- Increases the feeling of patient that he/she controls what happens
- Increases the involvement in daily activities and implementation of roles
- Ensures the privacy and respect
- Reduces the burning out of care staff
- Increases the possibility to perform activities in different environments

Challenges when using technical assistive devices

- Can cause frustration and anxiety in the patient
- Inefficient use of AD
- One size doesn't fit for everyone
- Oversaturation of AD
- Long training
- The mastered skills how to use the AD may not be transferred at home environment
- Repair

Assessment of necessity for assistive device

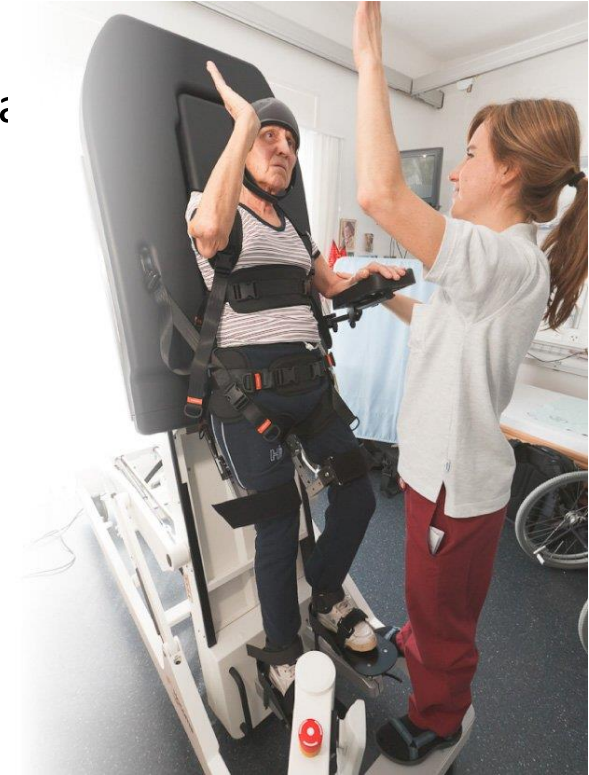
- Patient's assessment (at functional, activities and participation level))
- Identification of patient's aims
- Assessment on patient's motivation to use the assistive device
- Assessment of the environment where the patient is going to use the assistive device
- Cooperation with the patient and other members of multi-professional rehabilitation team regarding the selection of assistive device that suits best the patient's needs
- Training to use the assistive device (not only the patient, but also the relative must be trained)

Technologies in the work with patients with neurological diseases

ErigoPro - robotized verticalizer of highest class that is developed for early mobilization of patients.

The robotized ErigoPro verticalizer is used:

- to prepare the cardiovascular system for physical load;
- to accelerate the recovery of movements in lower limbs;
- to increase and maintain the movement volume;
- to reduce spasticity;
- to improve circulation;
- to prevent the secondary consequences – pneumonia, muscle atrophy, bedsores, osteoporosis and other.



Technologies in the work with patients with neurological diseases

TheraTrainer



Technologies in the work with patients with neurological diseases

Armeo Spring



Technologies in the work with patients with neurological diseases

Gloreha glove



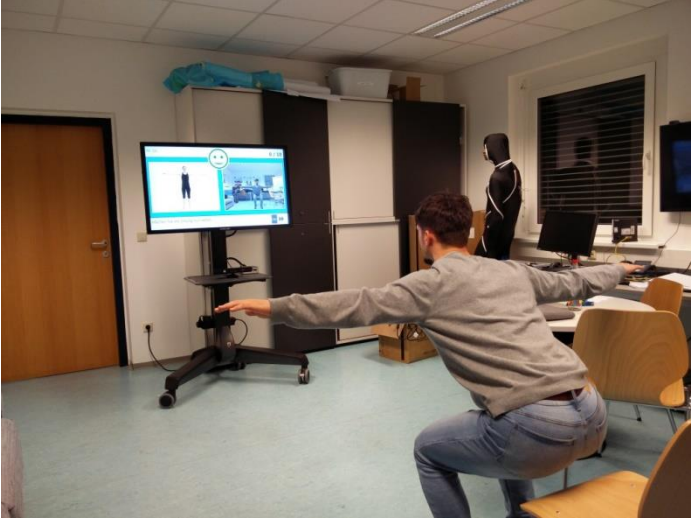
Technologies in the work with patients with neurological diseases

Neofect smart glove



Technologies in the work with patients with neurological diseases

Virtual reality



Technologies in the work with patients with neurological diseases

Environmental control system



Technologies in the work with patients with neurological diseases

RehaCom



Parameter

Attention and Concentration

Level information Default

Duration of session: 30 min.

Level up: 20

Level down: 5

Input device:

- Arrow keys
- Mouse
- Touchscreen
- Number keys
- Single key

Single key interval [ms]: 5000

Graphic pool:

- normal
- extended

Options:

- Limited solution time
- Stop on errors
- Acoustic feedback
- Allow zoom

Buttons: OK, Cancel, Help





Splints as a part of rehabilitation

No. LLI-352
INTERPROF



ŠIAULIŲ
UNIVERSITETAS



Project is partly financed by
Interreg V-A Latvia – Lithuania Programme 2014-2020

www.latlit.eu

The most frequent reasons why patient with neurological diseases need orthoses

- Spasticity
- Contractures
- Pain
- Lack of stability



Factors to consider of orthotics is selected

- Vascular disease
- Fracture of soft tissue damage
- Medication therapy
- Incontinence
- Ossification
- Acute inflammation
- Communication disorders
- Cognitive or behavioural disorders
- Skin integrity
- Oedema
- Sensory disorders or hyper sensibilization
- Deep vein thrombosis in anamnesis
- Whether a considerable benefit is anticipated?
- Whether no pain or discomfort is created?
- Whether the contracture is recent?
- Whether it is clear who is going to put on and remove the orthosis and supervise it use?
- Whether the patient cooperates?
- Whether it is possible to ensure succession?

Assessment

- Movement volume in joints
- Modified Ashworth Scale
- Fugl-Meyer assessment
- VASS
- Force and key grips
- Patient's satisfaction

Splint-wearing timetable

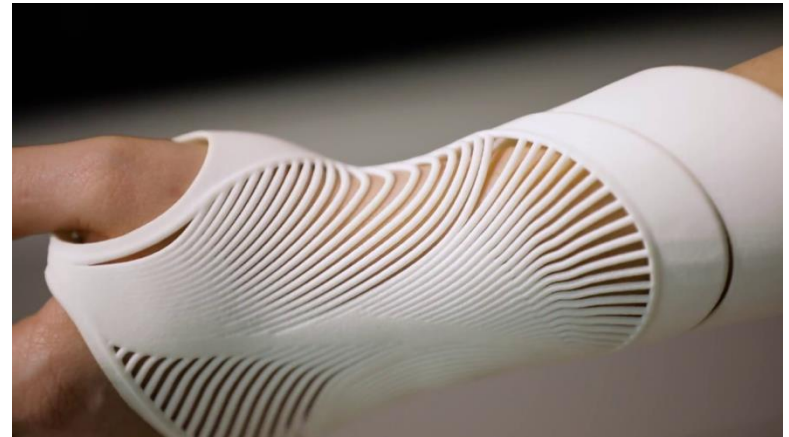
- Splint to be worn as indicated by shaded area on timetable.
- Tick the time and initial when putting on and tick the time and initial when removing, having checked for potential pressure areas.

| Patient name: | | | | | | | | Who can put on/remove splint? | | | | | | |
|------------------------|---------------|---------|----------------|---------|------------------|---------|-----------------|-------------------------------|---------------|---------|-----------------|----------|---------------|---------|
| Named clinician: | | | | | | | | Signature: | | | | Initial: | | |
| Description of splint: | | | | | | | | Signature: | | | | Initial: | | |
| | | | | | | | | Signature: | | | | Initial: | | |
| | | | | | | | | Signature: | | | | Initial: | | |
| Time | Monday (date) | | Tuesday (date) | | Wednesday (date) | | Thursday (date) | | Friday (date) | | Saturday (date) | | Sunday (date) | |
| | Tick/shade | Initial | Tick/shade | Initial | Tick/shade | Initial | Tick/shade | Initial | Tick/shade | Initial | Tick/shade | Initial | Tick/shade | Initial |
| 08:00 | | | | | | | | | | | | | | |
| 09:00 | | | | | | | | | | | | | | |
| 10:00 | | | | | | | | | | | | | | |
| 11:00 | | | | | | | | | | | | | | |
| 12:00 | | | | | | | | | | | | | | |
| 13:00 | | | | | | | | | | | | | | |
| 14:00 | | | | | | | | | | | | | | |
| 15:00 | | | | | | | | | | | | | | |
| 16:00 | | | | | | | | | | | | | | |
| 17:00 | | | | | | | | | | | | | | |
| 18:00 | | | | | | | | | | | | | | |
| 19:00 | | | | | | | | | | | | | | |
| 20:00 | | | | | | | | | | | | | | |
| 21:00-08:00 | | | | | | | | | | | | | | |

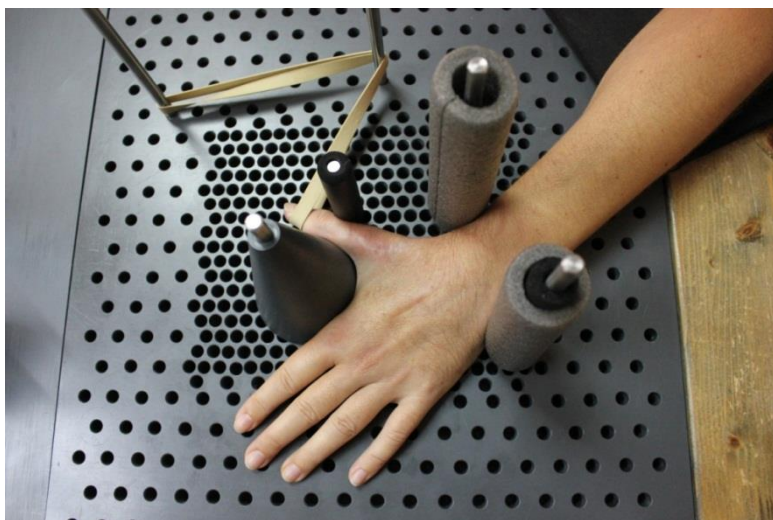
Recommendations in orthotics of neurologic patients

- Don't use orthoses for all patients with mobility limitations, assess each case individually (2B)
- Don't use orthoses for all patients with the aim to maintain the movement volume in palm joint and in fingers, assess each case individually (2B)
- Use of orthoses together with botulin injections can reduce spasticity in individual cases (2C)
- EMS for palm and finger muscles in combination with orthosis must not be used for all patients after an insult (2C)
- Palm base rest orthosis must not be used for all patients after an insult to reduce spasticity (2B)
- Orthosis that ensures neutral angle at palm base can be used for patients after an insult to reduce the pain in palm base joint (2A) (6h a day for at least 13 weeks)
- Elbow orthoses can be used for patients after an insult to improve the movement volume in elbow (2C)
- Short-term use of elbow orthosis (1-4 days) causes less complication risk when compared with prolonged use (4-7 days)
- No recommendations that would prove the efficiency of elbow orthosis in reducing contractures

3D printing



MAPS therapy



Orficast



Contextually appropriate environment for patient

No. LLI-352
INTERPROF



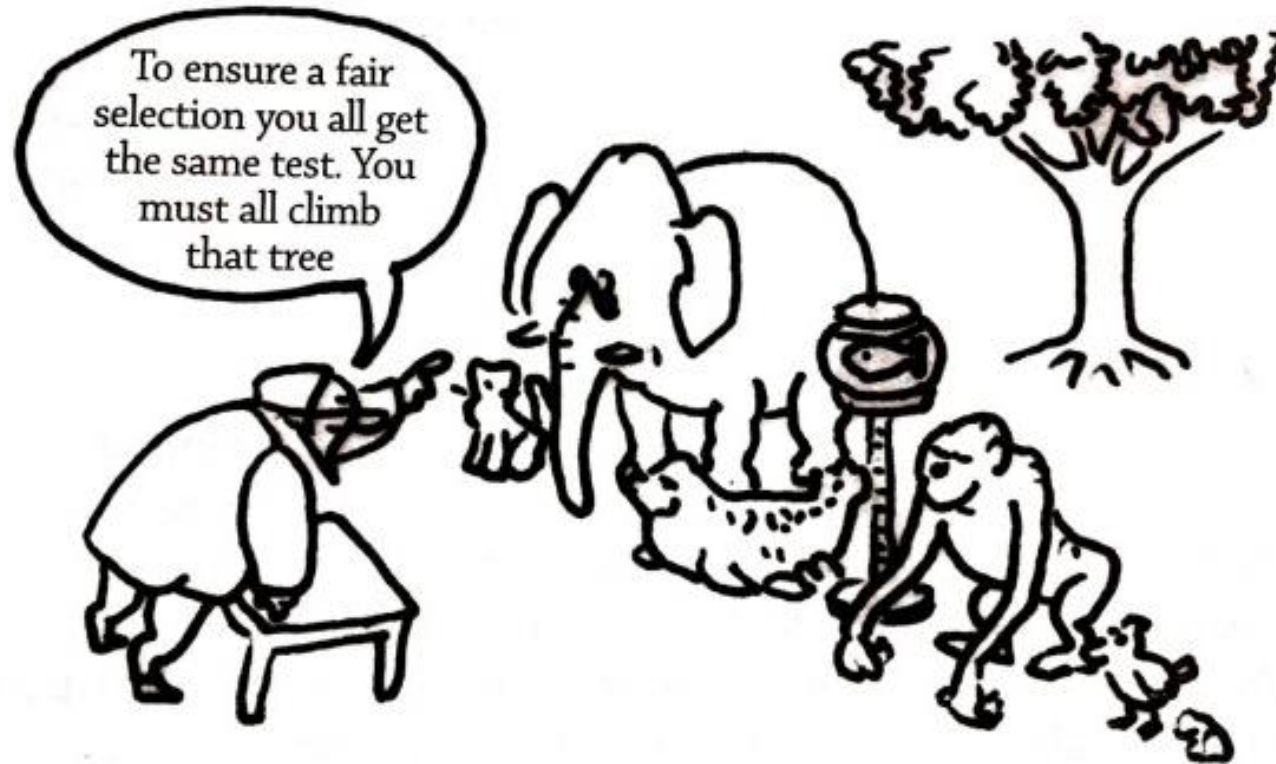
ŠIAULIŲ
UNIVERSITETAS



Project is partly financed by
Interreg V-A Latvia – Lithuania Programme 2014-2020

www.latlit.eu

Patient as a value



Factors facilitating the involvement, participation and health

| Activities | Patient's factors | Performing skills | Performance | Context and environment |
|-------------------------------|--------------------------|---------------------------|--------------------|--------------------------------|
| Self-care activities | Values | Motor skills | Habits | Cultures |
| Instrumental daily activities | Convictions | Process skills | Routines | Personal |
| Rest and sleep | Spirituality | Social interaction skills | Rites | Physical |
| Education | Body functions | | Roles | Social |
| Work | Body structures | | | Time |
| Recreation | | | | Virtual |
| Social activities | | | | |

Contexts

- **Cultural** – includes beliefs, activities patterns, behavioural models and expectations that are characteristic for the patient where the patient lives. The cultural context influences patient's identity and selection of activities, so the ergotherapist must be aware of the norms characteristic for the patient. For example, eating differences, respect towards the medical staff.
- **Personal** – refers to patient's demographical indicators such as age, sex, socially economic conditions, level of education and that is not a part of one's health condition
- **Time** – includes patient's stage of life, daily or annual time, length or rhythm of activity and previous experience
- **Virtual** – refers to an interaction that takes place in real-time or in nearest future and where no physical contact is needed. Patients must have available technologies to involve in activities that are important for them.

Fairness of activity

- Context and environment influences patient's selection of activities and his/her satisfaction with his/her performance.
- Patient who has difficulties to perform an action in an environment and context, can do it more successfully if the environment and context is adapted right for him/her.
- For a patient to reach a complete level of participation in activities that are important for him/her and purposeful, he/she not only must perform a physical function, but also feel good in the selected combination of environment and context.

All people irrespective of their age, sex, social status, physical abilities and other differences are entitled to do everyday activities and tasks.

(Wilcock & Townsend)

Patient has the right to state how he/she wishes the particular activity is performed
The life conditions and needs for activities are different for each patient; it must be admitted and respected

Ergo-therapist can be an aid to implement changed

Result of fairness of activity

- Activity is important for the patient
- Participation
- Patient makes a choice
- Balance

Non-compliance with fairness of activity

- No balance in activities
- Marginalization of activities
- Alienation of activity





Education of family

No. LLI-352
INTERPROF



ŠIAULIŲ
UNIVERSITETAS



Project is partly financed by
Interreg V-A Latvia – Lithuania Programme 2014-2020

www.latlit.eu

Education of family in care for the patient

1. Diagnosis
2. Self-care skills
3. Instrumental daily activities skills
4. Use of medications
5. Interchange
6. Movement
7. Safety aspects
8. Compliance with ergonomics principles during the care
9. Fitting of a room
10. Emotional support
11. Succession

Helping doesn't help (when you do something instead of a patient)



Examples for assisting in different activities



Examples for adaptation of activities



Occupational therapy in neurological disorders

No. LLI-352
INTERPROF



ŠIAULIŲ
UNIVERSITETAS



Project is partly financed by
Interreg V-A Latvia – Lithuania Programme 2014-2020

www.latlit.eu