Questions for PNF 3a/b and PNF 5 courses

The examination question pool consists of following sub-groups:

- PNF philosophy

- PNF basic principles and procedures

- PNF Patterns
- **mvmt components**
- **application, effect on body**

- Techniques
- **procedure of technique performance**
- **objectives**

- Gait

- Mat and other functional activities

- Treatment related questions

- Vital Functions

Each test should consist of questions from each group

It is strongly recommended to cover the contents of the selected questions and their expected correct answers in the course script (syllabus), hand outs and/or orally during the course before the test.

Rules of the Multiple Choice Test:
<u>All</u> correct answers of each question must be checked to be counted as correct answering of a question,
one answer missing or wrong answer means that the whole question is counted as incorrect

1. PNF philosophy

What is part of the "PNF -Philosophy"
O positive approach
O Mobilise reserves
O Approximation
O Functional treatment
O Principles of motor control and Motor learning

What is necessary (helpful, useful?) for motor learning?
O hands-off activities
O resistance
O practice of the task
O feedback from the therapist
O working only on level of body function
O

Why should we change positions of the patient during a treatment?
0 in order to mobilize reserves of the patient
0 to maintain the attention of the patient
0
0 to simulate normal motor development
0 to avoid fatique of the patient

What does positive approach mean in PNF ?
O only light exercises
O to talk with the patients only about positive things
O to start a treatment directly with the activity limitation
O to start the treatment in a comfortable position for the patient
O start with a technique the patient can do best
O to exercise within a ROM where the patient is painless

Which of following examples are treatment on the level of body function accordimg to ICF?
0 teaching gait
0 stretching the hamstrings
0 walking with the patient outside the treatment room
0 decreasing pain with the technique Hold-Relax
0 strengthening of quadriceps muscle

Which of following examples are treatment on the level of activity according to ICF?
0 mobilization of a joint
0 teaching sit to stand
0 practicing to walk downstairs
0 decreasing spasticity by prolonged elongation
0 practising putting on the shoes

2. PNF basic principles and procedures

Which of following basic principles facilitate stability around the joint?
O Traction
O Verbal Stimulation
O Visual Stimulaton
O Approximation
O static resistance

How can you find the PNF-diagonal ?
O connective line between sterno-clavicle joint and contralateral spina iliaca ant. sup.
O connective line between sterno-clavicle joint and contralateral hip joint
O is fixed with 45° in relation to the body vertical line
O feeling the tightness of the diagonal muscle chain in elongation
O connection line between hip-joint and contralateral gleno-humeral joint

Which of the following statements concerning "*body-mechanics*" are correct ?
O despite high forces the PT should utilize his/her own body in an economical way
O in order to find the appropriate *body mechanics* the PT can apply the technique *rhythmic initiation*

O in order to find the appropriate *body mechanics* the PT can also apply the technique *Hold-Relax*
O the body mechanics for a specific pattern are not fixed, it depends on the goal, the proportions of the patient and the resistance to be applied
O therapists should only use their arms to provide resistance

What is correct relating to the *tactile stimulus* as it is used in PNF?
O the grip should surround the whole moving joint
O the grip should be with bend MCP-joints and extended DIP- and PIP-joints?
O the grip gives the patient an idea where to move
O the grip must be free of pain
O the grip must always assist the movement of the patient

What is right concerning *optimal resistance* ?
O the optimal resistance is half of the maximum resistance
O the optimal resistance depends on the goal of the exercise
O the optimal resistance during the pattern must be constat
O the optimal resistance during the pattern can alter
O the optimal resistance during the pattern can be applied eccentrically, concentrically and statically

Which basic principle facilitates the "feed-forward mechanism" (pro active)?
O resistance
O stretch stimulus
O visual stimulus
O verbal stimulus
O tactile stimulation

Which stimulus is targeting the muscle-spindle as receptor?
O tactile stimulus
O stretch
O visual stimulus
O optimal resistance
O auditive resistance

Which receptors are stimulated purposely in PNF?
O the receptors of the vestibulum
O the olfactorial receptors of the nose
O the CO2 receptors of the blood vessels
O the exteroceptors of skin, eyes and ears
O the joint receptors

Which basic principle is appropriate to facilitate stability ?
O approximation
O traction
O stretch-stimulus
O optimal resistance

Approximation is applied to promote…
O Stability
O reactive weight bearing
O Facilitation of swing phase
O Facilitation of Stance phase
O relaxation

The *lumbrical grip* is an appropriate tool because
O the joints of the PTs fingers are protected
O the grip does not hurt although high forces can be applied
O the flexion position in all finger joints allows a resistance in both directions
O the PT can apply approximation also

Resistance leads primarily to:
O recruting of muscle units
O relaxation

O strength
O irradiation
O

Which peripheral sensory systems are used for stimulation of balance reactions?
O none
O visual system
O somato sensory system
O vestibular system
O

What is „Irradiation“ in PNF?
O Strength
O spread of motor reaction in the body
O Extension
O Flexion
O

Irradiation depends on?
O amount of Resistance
O spatial and temporal summation
O swallowing
O Nothing
O

What is the primary intension of *timing for emphasis*?
O Relaxation of poliarticular muscles
O Emphasis of one joint component within a pattern
O Irradiation into the contra lateral extremity
O Initiation of reciprocal patterns in the extremities
O Improvement of the co-contraction around one joint

For which reasons is *approximation* normally used in PNF?
O to promote stability
O to stimulate the postural control
O to get a reciprocal inhibition
O to increase trunk mobility
O to promote weight bearing activities

What is correct in respect of irradiation?
O Is a good tool to stimulate activities in other parts of the body indirectly
O There are individual differences concerning the quantity of irradiation
O Is a good way to treat pain patients
O Happens only when the resistance is in the groove
O Can be used to facilitate a functional trunk stability

Traction is ususally applied in PNF for:
O to increase strength
O to increase mobility
O to facilitate movement
O to prevent pain
O to improve stability

Which basic principles are normally applied to facilitate movement?
O traction
O approximation
O resistance
O stretch
O verbal stimulus

Which basic principles are normally applied to facilitate stability?
O traction
O approximation
O resistance
O stretch
O verbal stimulus

What kind of principles can you use in order to prevent or decrease muscle fatigue?
O stretch stimulus
O prolonged hold of the agonist
O concentric work of agonist and antagonist
O prolonged elongation
O positive approach

Which stimuli are especially important to facilitate proprioception?
O approximation
O stretch
O tactile stimulus
O visual stimulus
O resistance

What is the importance the verbal stimulus in PNF?
O correction of the direction of the movement
O to support the stabilization of the patient
O preparation of an acitivty
O to increase the proprioceptive input
O encouragement for more effort of the patient

Which bacis principles facilitate the postural reactions?
O traction
O approximation
O resistance
O verbal stimulus
O visual stimulus

What does optimal resistance mean in PNF?
O that amount of resistance which is appropriate for the patient's problem
O that amount of resistance which the therapist is able to give
O that amount of resistance that is suitable / reasonable for the patient
O the most resistance the patient can answer
O that much resistance which is necessary to achieve a treatment goal

What is the idea of an optimal elongation?
O to facilitate movenent
O to facilitate stability
O to reduce pain of patient
O to prepare the muscles for the stretch reflex
O to promote a stronger contraction

What is the meaning of timing?
O procedure of the theraputic work
O procedure of treatment set up
O the sequence of muscle activity in muscle chain

O cooperation between therapist and patient
O the sequence and relation of joint movements throughout a pattern

3. PNF Patterns
- mvmt components
- application, effect on body

Asymmetric (non-reciprocal) extremity patterns (like Lower-trunk-flexion, chopping, lifting) are used
O to increase the lateralflexor activity of the trunk
O as reinforcement for a stronger irradiation
O to avoid rotation of the trunk
O to increase flexor or extensor activity in the trunk
O to reduce lateralflexion of the trunk

Lower trunk rotation can be used for?
O indirect treatment of the shoulder
O swallowing
O facilitation of lower trunk stability
O facilitation of lower trunk mobility
O

Lower trunk flexion is used for?
O Lumbar flexion
O Lumbar extension
O lumbar lateral flexion and trunk rotation to the same side
O lumbar lateral flexion and trunk rotation to the opposite side
O facilitate the abdominals

Which patterns address primarily the abdominal muscles?
O lower trunk extension
O chopping
O Ext/ADD/IR of upper extremity
O lifting
O Flex-AdD ER of lower extremity

Position side sitting on elbow right
Which scapulapatterns left facilitate weight bearing of the right arm?
O ant.Elevation
O post. Elev.
O ant. Depr.
O post. Depr

Neck pattern are used for:
O trunk
O cervical spine movement
O balance reactions
O breathing
O

Which leg pattern facilitates post elevation of the pelvis?
O Ext/Add/ER
O Flex/Add/ER
O Ext/Abd/IR
O Ext/add/ER

O None

Which wrist movement belongs to the arm pattern Flex/ADD/ER?
O dorsi flexion
O palmar flexion
O ulnar deviation
O radial deviation

Which pelvic pattern on the same side is the reciprocal activity to the ant. Elev. of the scapula?
O ant. Depr.
O post. Elevat.
O ant. Elevat.
O post Depr.

Which rotation appears in the lower hip joint when doing ant. Elev. of pelvis in sidelying?
O ER
O IR
O None

The leading arm in lifting moves into:?
O Flex/ABD/ER
O Ext/ADD/IR
O Flex/ADD/IR
O Ext/Abd /IR

Which movement does the Angulus inferior, if you do ant. elev. of the scapula?
O ventral/ cranial / lateral
O dorsal / caudal / medial
O ventral / medial / cranial
O dorsal / cranial / lateral

What has to be considered when you facilitate neck-pattern *flexion to the right* ?
O that you have to realize a lateral flexion to the right
O that you can realize a rotation to the left
O that you can realize a rotation to the right
O that you have the flexion-component as the main component, in case of normal timing

Which leg pattern facilitates the inital swing?
O Ext/Ab/IR
O Flex/Ad/ER
O Ext/Add/ER
O Flex/Abd/IR

How do you find the PNF-diagonal ?
O connective line between sterno-clavicle joint and contralateral spina iliaca ant. sup.
O connective line between sterno-clavicle joint and contralateral hip joint
O is fixed with 45° in relation to the body vertical line
O connective line between hip joint and gleno-humeral joint

In end of range of the pelvic Posterior Elevation you should see:
O Trunk Lateralflexion to the same side
O Trunk lateralflexion to the opposite side
O Flexion of the lumbar spine
O Extension of the lumbar spine

Right Leg FLEX- ABD- IR with kneeflexion is facilitating
O Lateralflexion on the left side of the trunk
O Lateralflexion on the right side of the trunk
O Hip Abductors on the left side der Hüfte des Standbeines
O Posterior depression on the right side of the pelvis
O hip extensors on the left side

Which of following pattern combinations are reciprocal symmetric combinations
O Chopping
O scapula left: Ant. Elev. – scapula right: post Depr.
O Scapula left post depr – scapula right posterior depression
O UE left: Flex Add ER – UE right Ext-Abd-IR
O UE left: flex-Abd-ER – UE right Ext-Abd IR

Which of following pattern combination are considered as asymmetric bilateral pattern?
O LE left: Flex./ABD/IR – LE right: Ext./ABD/IR
O LE left: Flex./ABD/IR – LE right: Flex./ABD/IR
O LE left: Flex./ABD/IR – LE right: Ext./ADD/ER
O LE left: Flex./ABD/IR – LE right: Flex./ABD/ER
O Chopping

All PNF arm patterns with flexion of the shoulder have (except thrust- and withdrawal pattern):
O Internal Rotation
O External Rotation
O Pronation
O Supination
O Dorsiflexion

Which armpatterns can be used to stregthen pronation of the forearm in direct treatment?
O Flexion – Adduction - External Rotation
O Ulnar Thrust
O Flexion- Abduction External Rotation
O Extension –Abduction – Internal Rotation
O Extension- Adduction – Internal Rotation

Lifting to the left facilitates
O trunk extension
O trunk lateralflexion to the left
O trunk lateralflexion to the right
O trunk rotation to the left
O trunk rotation to the right

Flexion-Adduction-External Rotation with knee flexion facilitates normally in supine
O contra-lateral hipflexor activity
O contra-lateral hipextensor activity
O contra-lateral hipabductor activity
O contra-lateral hipadductor activity
O ipsilateral lateralflexor activity of the trunk

Which patterns are stimulating the ventral diagonal muscle chain
O Flexion-Abduction-External Rotation of the arm
O Flexion- Adduction- External Roation with knee flexion of the leg
O posterior elevation of the pelvis
O anterior elevation of the pelvis
O Chopping

With the right hip in extension the anterior elevation of pelvis on the left faciltates …..
O extension - ADD- ext.rot in the right hip
O extension - ABD - int. rot. in the right hip
O flex - ADD - ext. rot in the right hip
O flex - ABD - int. rot. in the right hip
O flex - ABD - ext. rot. in the right hip

You can use Chopping to the right for:
O strengthening trunk extensors
O strengthening hipflexors
O rolling from supine to sidelying
O mobilizing neural structures (neurodynamics)
O to stimulate hip extensors activity on the right

You can use Lifting…
O to strengthen the trunk flexors
O to strengthen the trunk extensors
O to stimulate weight bearing of the lower extremities in high sitting position
O to facilitate rolling from side lying to supine
O to mobilize the thoracic spine into extension

Trunk extension can be facilitated by:
O bilateral scapular posterior depression patterns
O bilateral extension-adduction-internal rotation of the upper extremities
O bilateral extension-adduction-external rotation patterns of the lower extremities
O extension of upper extremities with flexion of lower extremities
O flexion of upper extremities with extension of lower extremities

Which patterns can be used to strengthen the dorsiflexors of the wrist?
O Flexion ABD- ext.rot.
O Flexion - ADD - ext. rot.
O Ulnar Thrust
O Extension - ABD - int.rot.
O Extension - ADD - int.rot.

Which movements belong to the neck extension pattern to the right?
O cervical lateral flexion to the right
O cervical lateral flexion to the left
O cervical rotation to the right
O cervical rotation to the left

Lifting to the right faciltates normally
O left hip extensor activity
O right hip extensor activity
O trunk lateral flexion to the right
O trunk lateral flexion to the left
O trunk extensor activity

Chopping to the right facilitates…..
O trunk extensor muscles
O mobilization of the spine into flexion
O mobilization of the spine into extension
O for rolling
O for strengthening of the abdominal muscles

Which pattern combinations facilitate trunk rotation?
O massflexion
O massextension
O Lifting
O Chopping
O symmetric extremity patterns

Which of the following patterns are asymmetrical combinations?
O left arm flexion - ABD - ext. rot. and right arm extension-ABD - int.rot
O Lifting
O left arm flex - ABD - ext.rot and right arm ext - ABD int. rot.
O Chopping
O right arm ext - ABD - int -rot. and left arm flex - ADD - ext. rot.

Which of these patterns can you use to facilitate rolling from side lying into supine?
O Flexion Adduction External Rotation of the arm
O Posterior Elevation of the scapula
O Lifting
O Massextension with scapula and pelvis patterns
O Flexion Adduction External Rotation of the hip

4. Techniques
- procedures of techniques
- objectives

Which techniques are normally useful to reduce fatigue?
O Repeated Stretch at beginning of range
O Hold-Relax
O Combinations of isotonics
O Dynamic Reversals
O Rhythmic Stabilisation

Which techniques are agonistic techniques?
O Dynamic Reversals
O Hold-Relax
O Rhythmic Initiation
O Rhythmic Stabilisation
O Replication

What has to be considered while using repeated stretch through range?
O The stretch has to be applied rhythmically
O 4 stretches have to be applied per pattern
O The supporting command has to be given a little earlier than the stretch
O The supporting command has to be given synchron with the stretch
O Muscle strength measurement more than 3

What is right for the procedure of Rhythmic Initiation?
O Always 5x passive
O The verbal stimulus should go together with the movement
O Agonistic activity as well as antagonistic activity
O Can train movement
O Needs cooperation of the patient

Which goals can you aim to with Rhythmic Initiation?
O Stabilization
O Training of the groove
O Coordination of the muscle chain
O Strengthening
O Increase of movement

The following statements are correct for Rhythmic Initiation:
O Antagonistic muscle activity is necessary
O It includes a passive movement sequence
O You have to go back into the starting position with resistance
O It could be used in combination with other techniques
O It gives proprioceptive information of the „groove"

Which PNF-Technique facilitates the muscle recruitment in one direction?
O Rhythmic Initation
O Stabilizing Reversals
O Dynamic Reversals
O Replication
O Combination of Isotonics

Which techniques are useful to solve coordination problems?
O Hold-Relax
O Combination of Isotonics
O Dynamic Reversals
O Rhythmic Initiation
O Replication

When pain is the causal impairment which techniques could be appropriate?
O Combination of Isotonics
O Contract-Relax
O Hold-Relax
O Stabilizing Reversals
O Replication

If decreased range of motion is the causal impairment which are the appropriate techniques ?
O Contract-Relax
O Hold-Relax
O Stabilizing Reversals
O Rhythmic Stabilisation
O Replication

Which techniques are the best choice to treat muscle weakness?
O Combination of Isotonics
O Dynamic Reversals
O Repeated Stretch through range.
O Hold-Relax
O Stabilizing Reversals

Which of the statements are right with Dynamic Reversals?
O Good timing between command and change of grip of the therapist
O Distal hand of the therapist changes first with leg pattern
O Proximal hand of therapist changes first with arm pattern
O Stretch is applied with every change
O Stretch can be used for initiating the first movement

Which are the goals of the Combination of Isotonics?
O Improving the coordination
O Decrease fatigue
O Improving movement control
O Increase the passive mobility
O Decrease the pain

Which statements are correct for the procedures in Combination of Isotonics?
O Work in one groove only at the end of the movement
O Work in an agonistic pattern
O Alternating concentric - eccentric work
O Alternating concentric - static - eccentric work
O Can be applied in all positions

Which of the following statements are right?
O Hold-Relax is applied for pain patients
O Contract-Relax is used for strengthening
O Contract-Relax is applied for mechanical joint problems
O For Hold-Relax you need the cooperation of the patient
O Hold-Relax is used for capsular problems

With which techniques can you work successfully in gait?
O Rhythmic Initiation
O Stabilizing Reversals
O Combination of Isotonics
O Hold-Relax
O Replication

Which of following techniques and basic principles are appropriate for pain patients?
O Initial Stretch
O Traction
O Rhythmic Initiation
O Stabilizing Reversals
O Rhythmic Stabilisation

Which are the goals when you do Dynamic Reversals?
O Strengthening
O Improving the active ROM
O Stabilisation of the middle joint
O Relaxation
O Improving the ADL

Which are the important procedures to apply Dynamic Reversals?
O Change of activity without relaxation
O At the end of each movement hold
O Stretch with every change of direction
O You start the technique in the strong pattern
O With every change you slightly increase resistance

Which statements about Combinations of Isotonics are correct?
O Can be used for muscle strengthening
O Can be used for coordination training
O Can be used to train equilibrium
O Can be used to promote stability
O Combination with Stabilizing Reversals and Rhythmic Stabilisation is possible

What is the goal of Rhythmic Stabilisation?
O Strengthening
O Coordination training
O Increase in ROM
O Relaxation
O Improving the coordination of agonist and antagonist

What is correct for Rhythmic Stabilisation?
O Quick change between agonist and antagonist muscle group
O Patient is allowed to relax between the changes
O High activity of all muscles
O Command and other stimuli have to be timed / should match

O Traction or approximation remain as continuing stimulus during the changes

What are the differences in procedure between Rhythmic Stabilisation and Stabilizing Reversals?
O None
O Place / speed in changes
O In Stabilizing Reversals there is relaxation between directional changes
O In Rhythmic Stabilisation approximation or traction remains as continuing stimulus
O There is always a higher activity in Rhythmic Stabilisation

What do all reversal (antagonistic) techniques have in common?
O There is a change in the type of contraction
O There is no change in the intensity of the contraction when changing direction
O You start with the stronger pattern
O You always finish in the extension pattern
O You change the distal manual contact first

Which statements are is true for Stabilizing Reversals?
O Activity is always isometric
O Activity changes between agonist and antagonist
O Begin in weak pattern
O Static work starts at the end of the movement
O Both hands change at the same time

Contract-Relax is applied for :
O Pain
O Muscle tightness
O Decreased ROM
O Improving active and passive ROM
O Contractures

Which statements are correct for the Stretch from the beginning of range?
O Should be used at the end of range of the joint mobility
O Should be applied for all of the patient`s problems
O Should be followed by an involuntary movement
O The muscle chain has to be under the tension of elongation
O The muscle chain has to be under tension of a contraction

Which PNF-Techniques facilitates the muscles in one direction?
O Rhythmic Initation
O Stabilizing Reversals
O Dynamic Reversals
O Replication
O Combination of Isotonics

If decreased ROM is the problem which are the 2 appropriate techniques?
O Contract-Relax
O Hold-Relax
O Stabilizing Reversals
O Rhythmic Stabilisation
O Replication

Which are the 2 important answers you have to pay attention to in applying Dynamic Reversals?
O Change of direction without relaxation
O At the end of each movement hold
O Stretch reflex with every change of direction
O You start the technique in the strong pattern
O With every change you slightly increase resistance

Which techniques can you apply to facilitate rolling?
O Dynamic Reversals
O Rhythmic Initiation
O Hold-Relax
O Traction
O Combination of Isotonics

After Initial-Stretch we must
O Give approximation immediately
O Avoid resistance
O Apply optimal resistance
O Block the movement with maximum resistance
O Relax

Which contra-indications exist for the repeated stretch at the beginning of range?
O Muscle strength measurement: rate 3 and lower
O Partial deafness
O Pain while stretch
O Application on a hypotone shoulder of a hemipatient

Which of the following techniques are antagonistic techniques?
O Rhythmic Stabilisation
O Rhythmic Initiation
O Stabilizing reversals
O Combination of Isotonics

Which muscle contraction is specific and used only in the technique: combinations of isotonics?
O isotonic concentric
O isotonic eccentric
O isometric

Which techniques are agonistic techniques?
O Dynamic reversals
O Hold – Relax
O Rhythmic Initiation
O Rhythmic Stabilisation

Which technique initiates more motor units?
O Contract- Relax
O Hold- Relax
0 repeated stretch through range

Which technique is appropriate for the transfer sit to stand and sit again?
O Rhytm. Stabilisation
O Comination of isotonics
O Hold relax
O Dynamic reversals

Which are relaxation techniques?
O Restretch
O Hold relax
O Timing for emphasis
O Contract relax
O Replication

What kind of muscle contractions are included in the technique"combination of isotonics"?
O none
O concentric
O static
O eccentric

Which contraindications are existing for the stretch stimulus?
O Pain
O Fracture
O Weakness with Manual Muscle Test grade 2
O Spasticity
O

Which techniques are the most useful during timing for emphasis if the weak muscle group has grade 2 in manual muscle test?
O stretch reflex through range
O hold-relax
O dynamic reversals
O combination of isotonics

Which of the following techniques are antagonistic techniques?
O Rhythmic Stabilisation
O Rhythmic Initiation
O Stabilizing reversals
O Combination of Isotonics
O Dynamic Reversals

Which techniques are useful for motor learning?
O rhythmic initiation
O dynamic reversals
O replication
O hold-relax
O repeated stretch at the beginning of range

Which <u>contra-indications</u> exist for the *repeated stretch at the beginning of range*?
O muscle strength measurement: rate 3 or lower
O partial deafness
O pain while stretch
O application on a hypotone/flaccid shoulder of a hemipatient
O joint instability

What has to be considered while using *repeated stretch through range*?
O the stretch has to be applied rhythmically
O 4 stretches have to be applied per pattern
O the supporting command has to be given a little earlier than the stretch
O the supporting command has to be given after the stretch

When should we give a command in order to start the movement with *Initial-Stretch* ?
O 2 seconds before the Stretch
O immediatly after the Stretch
O synchronized with the Stretch
O just when you want a correction of a wrong direction during pattern

After Initial-Stretch we must
O give approximation immediately
O avoid resistance
O ask the patient to relax
O apply optimal resistance
O block the movement with maximum resistance

Which kind of muscle contraction can we observe during the application of *Comb.of Isotonics*
O only static
O only dynamical
O static, eccentric and concentric
O only static and eccentric

Which techniques are normally useful to reduce fatigue?
O Repeated Stretch at beginning of range
O Hold-Relax
O Combinations of isotonics
O Dynamic Reversals
O rhythmic stabilisation

Which of the following statements are correct for the stretch stimulus of the initial stretch?
O should be used at the end of range of the joint mobility
O should be applied for all of the patient`s problems
O should be followed by an involuntary movement
O the muscle chain has to be under the tension of elongation
O The muscle chain has to be under tension of a contraction

5. Gait

Which muscular activity happens during *terminal stance phase* on the right side?
O hip flexor activity right
O hip abductor activity right
O hipadductor activity right
O plantarflexor activity right
O dorsiflexor activity of right foot

Which gait phases belong together ?
O initial contact- terminal stance
O initial contact – initial swing
O midstance – midswing
O loading response – terminal stance
O loading response- preswing

Which is the fix point during gait for the leg moving from initial contact towards midstance?
O fix point is the trunk
O fix point is the foot of the stance leg

Which leg pattern do you see in Initial swing ?
O Ext/ Abd / IR
O Flex / Add/ ER
O Ext / Add / ER
O Flex / Abd / IR

Which could be the reasons for knee hyperextension during loading response and mid-stance phases of gait?
O m.gastrocnemius stiffness
O lack of lower trunk stability
O strong quadriceps
O lack of hip extension

Bridging is used for:
O Stance activity
O Leg strength
O weight bearing on head
O weight bearing on shoulder girdle
O improving hip extension

Which gait phase shows post. Depression in the pelvic on that side?
O Initialswing
O Midstance

O Midswing
O Initialcontact

Which pelvic pattern do you see at initial swing?
O ant. Elev.
O post.Depr.
O post. Elev.
O ant. Depr.

Which gait phases belong to the double limb support?
O Loading response
O Mid Swing
O Mid Stance
O Preswing
O Terminal Stance

Which patterns can you use to facilitate mid-stance/terminal stance in the right leg in half sitting position (left side of pelvis on the table)?
O Anterior scapular depression left
O Anterior elevation of right Scapula
O Anterior pelvic elevation on the left
O Posterior pelvic elevation on the right
O Flexion / ADD / Ext.Rot. with elbow flexion left arm

Where do you place your hands in forward gait?
O ASIS
O anterior ssuprerior surface of illium
O upper aspect of trochanter
O superior aspect of tuberoritas ischii
O scapula for the Depr. Add.

Where do you place your hands in backward gait?
O PSIS
O anterior superior aspect of ilium
O upper aspect of trochanter major
O upper aspect of tuberositas ischii
O anterior aspect of distal femur

Where do you place your hands in sideward gait?
O lateral aspect of ilium
O superior aspect of trochanter
O ASIS
O dist. and lateral aspect of femur
O scapula for depr. add.

Which goals do you have when exercising one-leg-stance?
O improve mid-stance activity
O improve pre-swing
O strengthening of hip abductors on stance-side
O training of loading response
O preparation for walking and stairs

6. mats and other functional activities

What are the goals of the PNF mat program?
O Stimulation of postural control
O Fun
O Facilitation of balance reactions
O Increase mobility in general

What does the level of skill (stages of motor control) mean?
O locomotion
O keeping position
O mobility of the joints
O mobility on stability

What can be emphasized in prone on elbows in standing?
O to get head control
O selective movements of lower trunk
O elongation of hamstrings
O mobilization of the nervous system

What is facilitating the trunk stability?
O Stabilising reversals
O bilarteral extremity pattern
O bridging
O rotational resistance for the trunk

Which muscle groups can you work in bridging
O Quadrizeps
O hamstrings
O hipextensors
O trunk (obliques)

For which transfer the chopping is useful?
O prone – quadruped
O supine – prone
O supine to sit
O prone to stance

What are the advantages in side sitting (Elbow flexion) concerning shoulder problems?
O Fix point and mobile point are vice versa (exchanged)
O Approximation on shoulder joint
O shoulder joint stands in the center of the joint
O with uninvolved side you can apply well irradiation.

Which activities can you train with chopping? (concentric and eccentric)
O stand to sit
O supine to prone
O supine to sit
O quadruped to kneeling

What is the normal development of the trunk movements?
O rotation/lateral flexion/flexion and extension in the same time
O rotation/ lateral flexion/flexion and extension
O lateral flexion/flexion and extension/ rotation
O flexion and extension/lateral flexion/rotation

The activity of bridging facilitates:
O Flexion in hip joints.
O Extension in hip joints.
O Elevation of the scapula.
O Trunk extensors.
O Flexion activity of the neck

.
What are good reasons to treat patients on mats instead on a normal treatment table?
O working on mats usually allows bigger movements of the patients
O working on mats reduces the fear of falling
O for extremity pattern in supine working on mats allows a better ergonomic body mechanics of the therapist
O with adult neuro patients we have to practice always the normal motor development on mats
O We can teach the patient how to come up from the floor

To faciltate sit-to-stand it is important
O that the patient leans forward with a stable trunk
O that the patient's feet are placed forward ???
O that the patient has full mobility in the trunk
O that the patient is able to maintain a good leg alignment
O That the patient has strong hip flexors

Where should normally be your hand placement in scooting forward?
O ASIS
O anterior superior iliac crest
O upper part of trochanter maajor
O upper part of ischial tuberosities
O posterior part of distal femur

Which patterns can be used for facilitating rolling from sidelying to supine?
O flexion patterns of the upper extremities
O bilateral asymmetrical extension patterns of the upper extremities
O Chopping
O Lifting
O bilateral asymmetrical extension patterns of the lower extremities

Rolling on mats can be used to facilitate:
O more trunk rotation
O more strength for trunk flexion
O better skills in ADL
O improved swing phase in gait
O improved stance phase

Mat activities are useful applied in:
O Rx of patients with problems in stance
O Rx of patients with problems in swing
O Rx of patients with reduced spine rotation
O Rx of patients with reduced hip extension
O improvement of ADL

Mat activities can be applied like this:
O the exercises always have to follow motor developement
O you always have to practise in prone before you practise in other positions
O should not be used in patients with pain
O can be used to achieve increased ROM
O can be used to develop muscle power

The activity of Bridging facitiates:
O hip flexor activity
O hip extensor activity
O flexion in knee joints
O plantar flexor activity
O extensor activity of the trunk

Which patterns can be used for rolling from supine into sidelying left
O Neck flexion to the right
O Right scapular anterior depression
O Right leg extension –abduction – internal rotation with knee extension
O Flexion-adduction-external rotation of the right arm
O Left ulnar thrust

7. treatment related questions

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When do you treat a patient indirectly?
O when pain is the leading main symptom
O I never treat indirectly
O for using irradiation
O when motor control in one body part is absend

Which testing procedures are appropriate for activity-participation level (ICF)
O Barthel index
O CTSIB = **C**linical **T**est of **S**ensory **I**nteraction on **B**alance
O muscle strenghth – oxford scale
O FIM

A lack of knee control can be treated by:
O facilitation of post. pelvic tilt
O gaining elasticity of the gastroc muscle
O swallowing
O strengthening the hamstrings

What can you do for sportsmen in PNF?
O Training of strength (like for weights lifting)
O Training of speed (like for Sprinters)
O Training of endurance (like for marathon runners
O Coordination, Facilitation

Define errection of the trunk in PNF concept
O Extension against gravity
O Symmetrical around the spine
O Three dimensional erection over a fix point
O Vertical getting up in space
O Stabilising of the spine

What can you do for extension of the thoracic spine
O lifting
O chopping
O gait
O breathing

What is present in biomechanical hypertonicity?
O stiffness
O hyperreflexia
O lack of viscoelasticity
O lack of sarcomers

What can be used to treat spasticity?
O closed chain activities
O breathing
O improvement of trunk postural control
O only head patterns

Why do you exercise one-leg-stance right with a patient?
O To gain more ROM into knee flexion of the right leg.
O to faciltate hip extension of the right leg
O to improve right hip abductor activity on
O To train a better loading response.
O To improve midstance activity.

What is the specific test to test perception?
O extinction phenomena
O mirroring
O manual muscle test
O finger to nose test

Which are good choices for working with hypotonic patient with no head control, who is not able to sit by himself?
O passive movements in open chain through space
O standing
O fast movements
O sitting

What is important to normalize muscle tonus?
O optimal neutral position
O functional activities
O rotation activities
O passive movements of the limbs in one plane

What is good to improve perception?
O patterns in open chain
O restrained therapeutic environment
O double task activities
O functional activities

What is the best pattern, which can be used for timing for emphasis in nervus medianus lasion?
O flexion/abduction/external rot with elbow extension
O extension/abduction/internal rot with elbow flexion
O flexion/adduction/external rot with elbow flexion
O flexion/adduction/external rot with elbow extension

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By which criterias you choose the position of treatment?
O treatment goal
O age of patient
O diagnosis of patient
O strength of therapist
O cooperation of patient

8. Vital Functions

What is used in PNF to treat dysarthria (unclear speech)?
O Facilitation of the face muscles
O Backwards gait
O Facilitation of the tongue mobility
O Facilitation of the larynx mobility

What can you do when your patient has speech problems in the PNF concept?
O Facilitation of face muscles
O walk backwards
O breathing
O Facilitation of tongue movements
O Facilitation of larynx

What are the effects of breathing in the PNF concept?
O Relaxation
O Active break
O Extension of thoracal spine
O Getting more expiration and inspiration

Goals of breathing exercises with inspiration using PNF can be :
O mobilization of small rib joints
O relaxation of supporting breathing muscles
O increasing the breathing volumen
O strengthening of abdominal muscles
O training of the diaphragma