

PNF 1+2+3

The main objective of the **PNF 1+2** is an introduction into the PNF concept, its philosophy, tools and application on the patient.

The emphasis of **PNF 3** is on functional problem solving for different common activity limitations. This advanced level 3 expects from the participants some PNF experience with different diagnostic groups as well as the basic theoretical knowledge integrated in their PNF competence.

Contents & Objectives PNF 1+2: Basic Course

The PNF Basic Course consists of two blocks of five days referred as PNF1 and PNF2, with each 37.5 hours of instruction. Included are at least four hours of patient treatment by the participants and at least four hours of patient demonstration by the instructor(s).

In 1993 it was decided that the block time is up to the individual instructor as long as the contents and the total time meets the requirements. There is a maximum of six month between PNF1 and PNF2.

Contents

1. Introduction into the PNF Concept
2. Neuro-anatomy and Neurophysiology
3. Basic principles and Procedures
4. PNF Techniques
5. PNF-Patterns of neck, trunk and extremities
6. Facilitation of mat and other functional activities
7. Facilitation of gait and gait related activities
8. Face and mouth rehabilitation and vital functions
9. Patient assessment, testing procedures and patient treatment based on the PNF philosophy and ICF terminology (demonstration by the instructor(s) and supervised treatment by the participants)

Contents & Objectives after the Course

1. Introduction

PNF History and PNF Philosophy

The participants have knowledge of:

- the historical background in respect of neurophysiology and the roots of PNF
- the evolution of PNF to a holistic concept for the treatment of a wide range of activity limitations and diagnoses.
- the development of the concept during the last decades
- relevant PNF literature, PNF relevant studies, books and videos (see website)

The participants are able to explain

- the PNF-philosophy as important underlying way of thinking

2. Neuro-anatomy and Neurophysiology:

Bases of motor control and motor control systems: receptor systems, postural control system, equilibrium system, locomotor system, spinal subsystems and reflexes, bases of motor learning, muscle physiology

The participants

- are able to name the stimuli which are used in PNF in order to facilitate motor control
- are able to describe the different motor (sub-) systems which contribute to motor control
- are able to describe reflexes which contribute to motor control
- are able to describe the receptor systems which contribute to motor control
- are able to describe motor development, postural reflexes and reactions and equilibrium reactions
- have knowledge of principles of motor learning and how they can be used within the PNF concept
- are able to describe different kinds of muscle function (concentric, eccentric and static)
- are able to integrate this knowledge in their practical skills

3. Basic procedures (practical part) and principles (theory) : ??

Exteroceptive stimuli:

Tactile stimulation

Visual stimulation

Verbal/auditive stimulation

Proprioceptive stimuli

Resistance

Approximation and Traction

Elongation and stretch-stimulus

Irradiation

Reinforcement

Timing

Body Mechanics

The participants are able

- to name and apply the extero- and proprioceptive stimuli which are used in PNF
- to describe the neurophysiologic effects of each stimulus
- to describe the importance of each stimulus for motor learning and motor control
- to explain irradiation, its importance in relation to motor control and its purpose of use in the therapy

4. PNF-Patterns

Introduction into PNF Patterns: their characteristics (diagonal, three dimensional, moving in all joint components), components, purpose and timing.

Scapula and Pelvis Patterns including their different combinations in side lying

All 12 Arm Patterns (except Thrust and Withdrawal) in supine,

All 12 leg patterns in supine,

Chopping/Lifting in supine and sitting

Lower trunk in supine

Trunk and neck patterns in sitting

Introduction to bilateral patterns

Introduction to application of patterns in other positions

All patterns taught are analyzed in respect of Activities of daily Life (ADL), their potential irradiation and their use in the therapy.

The participants are able

- to name all joint components of the patterns
- to explain the “groove” and the correct timing of the pattern
- to perform the patterns with
 - a correct grip,
 - a correct starting position and elongation
 - an adequate and correct timing
 - correct resistance
 - an ergonomic body mechanic
- to name to each pattern a functional activity where a similar muscular activation or motion occurs
- to plan, analyze and describe the irradiation which a pattern can create
- to name and demonstrate examples of their use in a treatment on structural level
- to plan and choose the possible use of each pattern in the therapy.

5. PNF-Techniques

Their definition, procedure, objectives

4.1. Rhythmic Initiation

4.2. Agonistic Reversal / Combination of isotonic

4.3. Repeated Stretch from

the beginning of range

4.4. Repeated Stretch through Range

4.5. Replication

4.6. Contract - Relax

- 4.7. Hold - Relax
- 4.8. Dynamic Reversal
- 4.9. Stabilizing Reversal
- 4.10. Rhythmic Stabilization

Timing for emphasis with different techniques

The participants are able:

- to name the objectives of each technique
- to describe the procedure of each technique
- to demonstrate correctness in the practical performance of each technique with different patterns in different positions

6. Mat and functional activities

Normal motor development as basis of the mat activities

Rolling from supine to side lying to prone and vice versa with trunk flexor or extensor activity using scapular pelvic and/or extremity patterns

Prone activities: transitions from prone to stand and vice versa

Supine activities: bridging, sitting up from supine into long sitting

Sit to stand and vice versa

The participants are able

- to recognize dysfunctions and their underlying impairments
- to explain and demonstrate the use of all basic procedures and techniques in all mat activities
- to explain and demonstrate different ways to facilitate rolling from supine to side lying and prone and vice versa using PNF patterns
- to demonstrate ways to facilitate a person to get up from the floor and vice versa
- to demonstrate use of different positions on the mats to facilitate weight bearing activities, postural control, stabilization of trunk and the major joints, mobilization of trunk and major joints, stimulation of selected muscular activities
- to facilitate the transfer from sit to stand and vice versa
- to perform a basic mat progression adapted to the patient

7. Gait

Introduction into normal gait

Gait Analysis: Normal gait cycle and its gait phases: pre-requisites for gait, joint motions, muscular activities, assessment of gait

Facilitation of gait: Stance, weight shifting, stepping forward and backward, one leg standing, gait: forward, backward, sideways, braiding, stairs

The participants are able

- to name and describe the gait phases according to J. Perry, also in respect of the main joint positions/motions and main muscular activities
- name criteria of the assessment of gait
- to facilitate weight shifts in standing, one leg standing, taking a step, forward, backwards and sideways walking
- to recognize major gait deviations and their underlying impairments

- to plan an adequate gait training

8. Vital functions

Assessment and treatment of oro-facial dysfunctions
Facilitation of breathing

The participants are able

- to recognize facial and vital dysfunctions and their underlying impairments
- to facilitate facial functions using PNF-Techniques
- to facilitate function of tongue and jaw motion using PNF-techniques
- to facilitate breathing in different positions

9. Patient treatment

**Demonstration by the instructor and
Supervised patient treatment by the participants**

Assessment

ICF classification and clinical reasoning

The participant are able

- to assess and analyze activity limitations and participation restrictions and their underlying causal impairments in order to set a basic PNF treatment plan
- to integrate the ICF- terminology
- to describe the difference between Participation restriction, Activity Limitation and Causal Impairment
- to use basic treatment-goal oriented PNF (Basic principles, Pattern, Techniques) in direct and indirect approach on a patient
- to integrate test and re-tests during the treatment as a continual process.
- to work within the PNF Philosophy

Contents and Objectives PNF 3

This course consists of 37 hours (60 minutes) of instruction including 3 hours of patient demonstration by the instructor(s) and 4 hours of supervised patient treatment by the participants.

The content of this level is problem solving by task orientated teaching methods. Participants learn to analyze the information from their assessment using the ICF/ICIDH classification. This analysis will facilitate clinical reasoning and allow for a more specific PNF treatment plan.

Upon completion of the PNF 3 course, the participant will be able to make a correct choice out of the PNF arsenal for an appropriate treatment and treatment progression. Problem solving is based on the level of the activity limitation as well as the causal impairments. Test, re-test and the PNF philosophy are an integrated part of their treatment.

Course members will be required to prove their skills through a written and practical test.

1. Advanced PNF-skills

PNF 3 is an advanced course. This includes repetition of the contents of level 1 & 2 on a higher level as well as advanced variations of PNF skills:

- Adequate combination of all basic procedures
- Adequate selection and combinations of techniques

Variations and combinations of patterns in different starting positions (as in prone, side lying, sitting, standing etc.) and with different techniques

- Arm pattern variations, including all bilaterals and thrust variations
- Leg pattern variations. All bilateral leg variations.
- Neck patterns with different positions
 - Trunk in different variations, including combinations of upper and lower extremities.
- Advanced mat activities also with mobile base of support, with all techniques. Integration of motor learning principles.
- Advanced gait training with different gait disorders and spasticity.
- Advanced facilitation of vital functions
- PNF with functional and goal orientated tasks, adapted to real life situations, including demonstrations of dual task .
- Stimulation of task orientated thinking and planning

2. Problem solving

Treatment of different common problems of trunk, upper and lower extremities as case studies and patient treatment.

The causal impairments include weakness, limited range of movement, reduced stability, tone problems like spasticity, rigor or flaccidity, pain, co-ordination problems, balance problems, motor planning problems, decreased perception and cognition. The underlying diagnoses are from neurologic, musculo-skeletal and pulmo-cardio-vascular disorders

- Problem solving and treatment planning: course members are able to
- assess adequately and set a treatment planning in a timely manner
- distinguish with assistance, relevant major and minor problems or goals
- explain clinical reasoning from assessment to the treatment plan
- select appropriate starting positions, patterns and techniques
- demonstrate the positive approach during treatment, based on patients goals and wishes
- start with a simple PNF treatment demonstration of one main problem
- incorporate test and retest on activity and impairment level (ICF)

This paper of the Education committee give a general guideline about contents and objectives of course level 1&2&3 for the instructor as well as for the course members. This paper can be a part of the course handout; it can be send to the course participants or hang out on the wall of the course room.