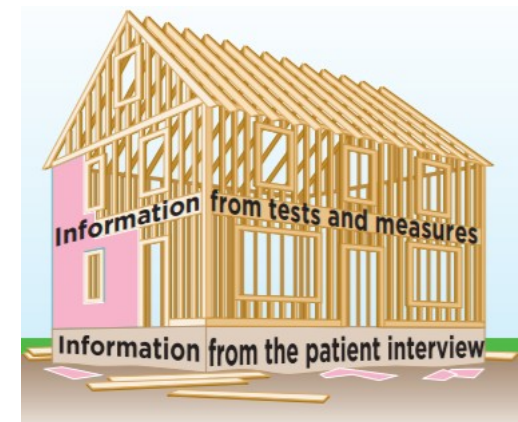


Examination methods in rehabilitation, 6.12.2021

# The conclusion

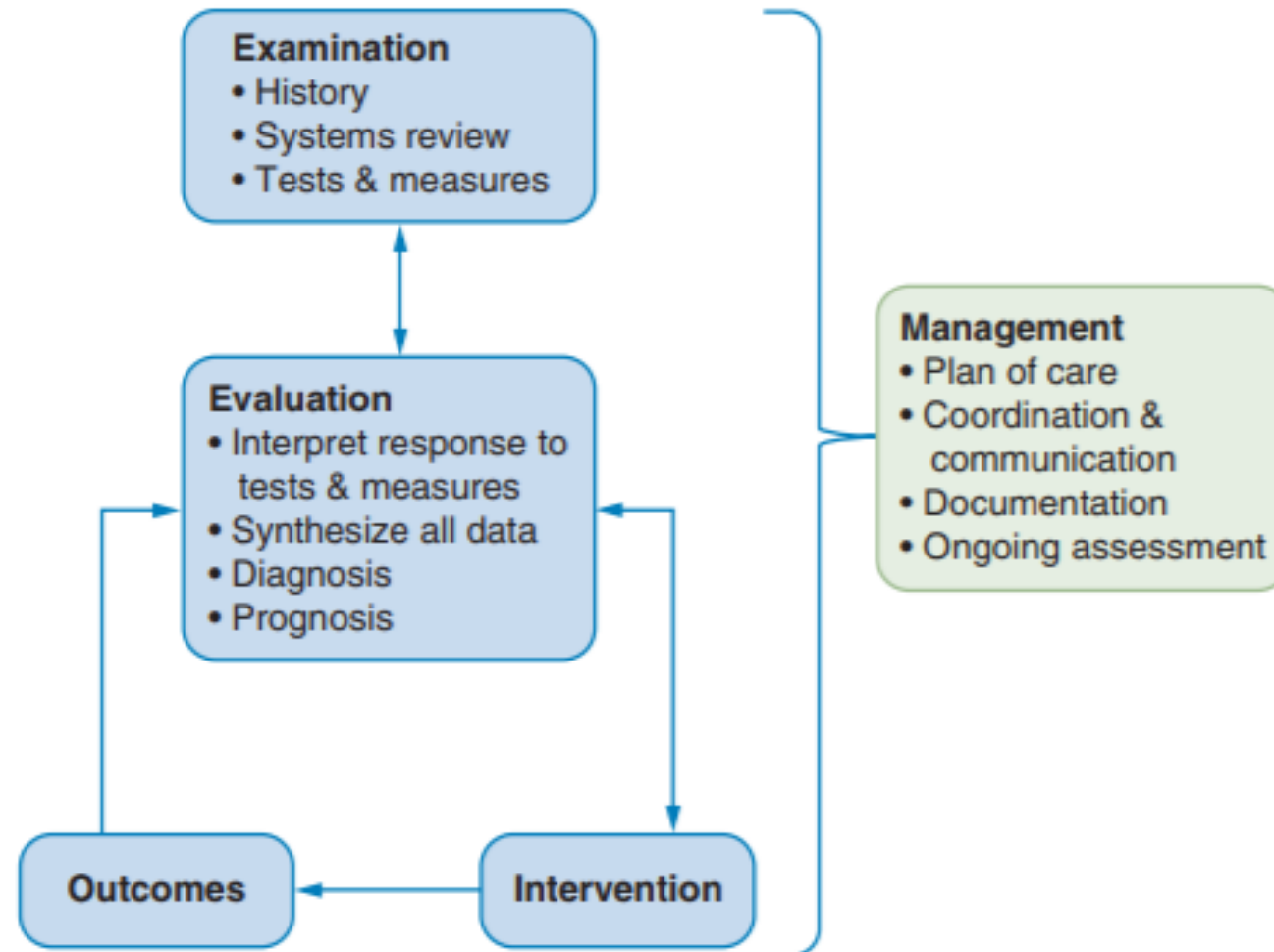
Mgr. Veronika Mrkvicová, Ph.D.  
Physiotherapy departement, MF MU

# Introduction



- At the core of each new patient meeting in any physical therapy setting is **the patient examination**. This is the first component in a cycle that includes the entire physical therapy episode of care
- The patient examination consists of:
  - **the patient history** (the informations relevant to the patient's condition are gathered. The physiotherapist begins to formulate hypotheses about the patient's condition)
  - **a systems review** (a brief assessment of the cardiovascular/pulmonary, integumentary, musculoskeletal, and neuromuscular systems, the patient's cognitive, language and learning abilities)
  - **tests and measures** (selected based on hypotheses formed during the history-taking process and findings during the systems review)

# Patient assessment



# Patient assessment

- Often a patient is referred for a “prescribed” physical therapy by a medical doctor following a **medical diagnosis**
- The physical therapist should certainly analyze this biomedical diagnosis but under no circumstances can the diagnosis replace the physical therapist’s own careful examination
- Only the physiotherapist’s examination can accurately define this particular patient’s individual combination of symptoms, their intensity and expression (**physiotherapy diagnosis**)

# Patient assessment

- If the physiotherapist's examination is thoughtful, purposeful, skilled, and efficient, forming evaluative opinions and making decisions about a patient's care plan should not be difficult
- If the examination is lacking in quality or substance, then the evaluation, care plan, and possibly the patient's outcomes may suffer
- What separates an experienced physiotherapist from a beginner physiotherapist is the ability to apply knowledge and skill, in conjunction with the ability to intuitively alter the examination or intervention based on self-reflection, prior experience, and individual patient characteristics

# Patient assessment - overview

## • Patients history

- Present illness
- Medical history
- Family history
- Social history
- Sport history
- Rehabilitation history
- Medications
- Physiological functions
- Allergies
- Abusus

DATE:		<b>Patient Assessment Form GENERAL</b>				PATIENT NAME:	
PHYSIO:						F/Name	
				REGISTRATION NUMBER:			
<b>PATIENT HISTORY:</b>							
ADDRESS (Province-District) :				PHONE N°:			
PATIENT AGE:		F	M	Diagnosis:			
1. Civil Status	Single	Married	Number of children:				
2. Job & Occupation		Armed forces	Farmers, fisherman	Non qualified worker		Technician	
		Office workers	Retired	Unemployed & not active		Student	
3. Education level		Can write	Can read		Class:		
4. History of the trauma/illness		Date:		Circumstances/Etiology:			
		Associated diseases:					
5. Medical History/Treatment		Hospital:		Care:			
Evolution since the beginning		Improved	Worse	Remarks:			
Medication:				X-ray/Other ex:			
6. Psychological Status							
Motivation/Emotional Status		Good	Bad	Comments:			
Attitude/Compliance		Good	Bad	Comments:			
<b>Cognitive Status and others (Mainly for Neurological Conditions)</b>							
Concentration/Memory		Good	Bad	Comments:			
Communication (understanding, speaking)		Good	Bad	Comments:			
Bowel/Bladder control		Yes	No	Comments:			
Swallowing		Good	Bad	Comments:			
Breathing (ability to cough)		Good	Bad	Comments:			
Vision		Good	Bad	Comments:			
Hearing		Good	Bad	Comments:			
7. Living Condition							
House		Good	Bad	Comments:			
Environment		Rural	Urban	Mountain		Flooded fields	
Family		Present	Absent	Comments:			
Friends		Present	Absent	Comments:			
Cultural Environment		Supportive	Limitative	Comments:			
8. Medical and Social Support							
Accessibility to Medical Services		Yes	No	Comments:			
Accessibility to Social Services		Yes	No	Comments:			
Security Situation		Good	Bad	Comments:			
9. Main patient's concerns:							
10. Main patient's expectations:							
Current Treatment:		1 <sup>st</sup>	2 <sup>nd</sup>	3 <sup>rd</sup> / >			
<b>Remarks:</b>							



# Patient assessment - overview

- **Physical examination**

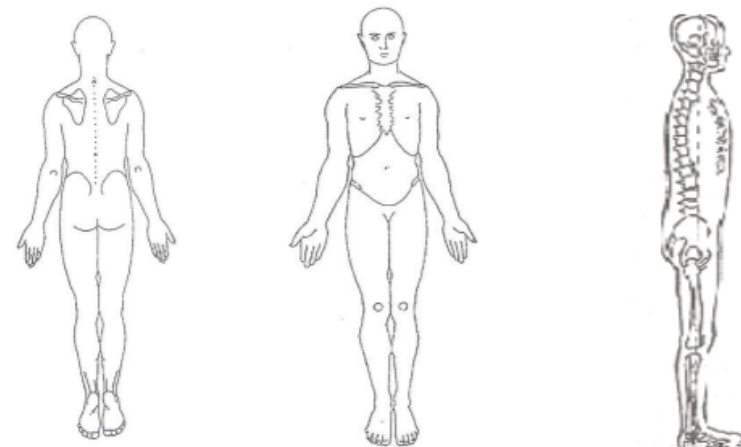
- Overall aspection
- Body type
- Temperature
- Heart rate and breathing rate
- Blood pressure

- **Neurological examination**

- Cognitive functions
- Motor exam and reflexes
- Sensitivity exam
- Special tests

**Physical Examination:**

Mark on the body-chart deformities or joint anomalies, back deformities or anomalies, edema, shoulder subluxation etc.



**Remarks:**

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**Skin & soft tissues problem**

DISORDERS	Minor	Important
Swelling		
Callus		
Scar		
Wound		
Temperature		
Infection		
Pain		
Abnormal Sensation		

**Sensation**

Sensitivity	R	L	(Specification)
Superficial			
Deep			
Numbness			
Paresthesia			
Other			

**Reflexes**

	R			L			Comments
BTR	+	-	normal	+	-	normal	
TTR	+	-	normal	+	-	normal	
KTR	+	-	normal	+	-	normal	
ATR	+	-	normal	+	-	normal	
Babinsky							

+ Hyper reflex; - Hypo reflex  
Assessment Forms



# Patient assessment - overview

- Range of motion (ROM)
  - Upper limbs
  - Lower limbs
  - Spine
- Normal/decreased/increased ROM (hypermobility)

**Range Of Motion:**

- Passive ROM should be recorded during first assessment and before discharging the patients

LOWER LIMB	DATE Assessment		DATE Follow up	
	-----		-----	
	L	R	L	R
<b>HIP</b>				
Flexion	120			
Extension	30			
Abduction	45			
Adduction	30			
Medial Rotation	30			
Lateral Rotation	60			
<b>KNEE</b>				
Flexion	135			
Extension	0			
<b>ANKLE-FOOT</b>				
Dorsi Flexion	30			
Plantar Flexion	45			
Inversion	35			
Eversion	15			
<b>NECK</b>				
Flexion	cm			
Extension	cm			
Latero-Flexion R	cm			
Latero-Flexion L	cm			
Rotation R	cm			
Rotation L	cm			
<b>TRUNK</b>				
Global Flexion	cm			
Thoracic Flexion (OttTest)	cm			
Lumbar Flexion (Schober test)	cm			
Global Extension	cm			
Latero-Flexion R	cm			
Latero-Flexion L	cm			
Rotation R (write OK or imp.)				
Rotation L (write OK or imp.)				

UPPER LIMB	DATE Assessment		DATE Follow up	
	-----		-----	
	L	R	L	R
<b>SHOULDER</b>				
Flexion	180			
Extension	60			
Abduction	180			
Adduction	30			
Medial Rotation	95			
Lateral Rotation	80			
<b>ELBOW</b>				
Flexion	150			
Extension	0			
<b>FOREARM</b>				
Pronation	80			
Supination	80			
<b>WRIST</b>				
Flexion	80			
Extension	80			
Abduction	20			
Adduction	35			
<b>FINGERS</b>				
Thumb opposition				
MP Flexion	90			
MP Extension	40			
IP Flexion	120			

**Remarks:**

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# Patient assessment - overview

- Muscle strength testing
- Muscle shortness testing
- Movement pattern testing

## Muscle Test:

- Muscle test should be recorded during first assessment and before discharging the patient

LOWER LIMB	DATE Assessment		DATE Follow up	
	.....		.....	
	L	R	L	R
<b>HIP</b> Comments				
Flexors				
Extensors				
Abductors				
Adductors				
Lateral Rot.				
Medial Rot.				
<b>KNEE</b>				
Flexors				
Extensors				
<b>ANKLE</b>				
Dorsi Flex.				
Plantar Flex.				
Inversors				
Eversors				
<b>FOOT</b>				
Flexors				
Extensors				
<b>TRUNK</b>				
Flexors				
Extensor				
R. Bending				
L. Bending				
R. Rotation				
L. Rotation				

UPPER LIMB	DATE Assessment		DATE Follow up	
	.....		.....	
	L	R	L	R
<b>SHOULDER</b> Comments				
Flexors				
Extensors				
Abductors				
Adductors				
Lateral Rot.				
Medial Rot.				
Elevators				
Depressors				
Antepulsors				
Retropulsors				
<b>ELBOW</b>				
Flexors				
Extensors				
<b>FOREARM</b>				
Supinators				
Pronators				
<b>WRIST</b>				
Flexors				
Extensors				
<b>FINGERS</b>				
Flexors				
Extensors				
Abductors				
Opposition				

QUOTATION FOR MUSCLE TESTING according to Manual Muscle Testing Oxford Scale
0 No contraction present
1 Contraction visible without movement
2 Movement possible without gravity or incomplete against gravity
3 Movement possible against gravity into the fullest available range
4 Movement possible against gravity and an added moderate resistance
5 Muscle functions normally

# Patient assessment - overview

- Muscle tone testing

## Muscle Tone:

- Muscle test should be recorded during first assessment and before discharging the patient

LOWER LIMB	DATE Assessment		DATE Follow up	
	L	R	L	R
<b>HIP</b>				
	Comments			
Flexors				
Extensors				
Abductors				
Adductors				
Lateral Rot.				
Medial Rot.				
<b>KNEE</b>				
Flexors				
Extensors				
<b>ANKLE</b>				
Dorsi Flex.				
Plantar Flex.				
Inversors				
Eversors				
<b>FOOT</b>				
Flexors				
Extensors				
<b>TRUNK</b>				
Flexors				
Extensor				
R. Bending				
L. Bending				
R. Rotation				
L. Rotation				

UPPER LIMB	DATE Assessment		DATE Follow up	
	L	R	L	R
<b>SHOULDER</b>				
	Comments			
Flexors				
Extensors				
Abductors				
Adductors				
Lateral Rot.				
Medial Rot.				
Elevators				
Depressors				
Antepulsors				
Retropulsors				
<b>ELBOW</b>				
Flexors				
Extensors				
<b>FOREARM</b>				
Supinators				
Pronators				
<b>WRIST</b>				
Flexors				
Extensors				
<b>FINGERS</b>				
Flexors				
Extensors				
Abductors				
Opposition				

QUOTATION FOR MUSCLE TONE according to Modified Ashworth Scale	
0	No increase in tone
1	Slight increase in tone giving a catch when limb is moved
2	More marked increase in tone
3	Considerable increase in tone – passive movement difficult
4	Limb rigid
Write ↓ in case of hypotone (flaccidity)	

# Patient assessment - overview

- **Functional evaluation**

- Balance
- Coordination
- Gait

Functional Evaluation:

Balance disorders

Sitting	Normal
	Good
	Poor
	Not possible
Standing	Normal
	Good
	Poor
	Not possible

Coordination

UPPER LIMBS	Good	Poor	Not possible
	L   R	L   R	L   R
LOWER LIMBS	Good	Poor	Not possible
	L   R	L   R	L   R
Comments:			

<u>Gait Analysis</u>				
FRONTAL PLANE Observations :				
SAGITTAL PLANE Observations :				
Functional Quality of the gait	Normal	Good	Poor	Comments:
1. SAFETY				
2. CADENCE				
3. SPEED				
4. FATIGUE				
Other Remarks:				

# Patient assessment - overv

- Activity limitations and participation restrictions
  - Mobility
  - Transfers
  - Balance
  - ADL (activities of daily living)
  - The use of assisted devices

## Activity Limitations & Participation Restrictions

ACTIVITIES / PARTICIPATIONS		Independent	Assisted	Impossible					
<b>MOBILITY</b>									
	Crawling	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
	Crouching gait	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
	Walking	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
	Squatting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
	Stairs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
	Running	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
<b>TRANSFERS</b>									
	Lie to Sit (& opposite)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
	Sit to Stand (& opposite)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
	Stand to Floor (& opposite)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
	Sit to sit	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
<b>BALANCE</b>									
	Sitting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
	Standing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
	On one leg	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
<b>UPPER LIMB FUNCTIONS</b>									
	Grasp	R	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
		L	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	Release	R	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
		L	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	Fine Manipulation	R	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
		L	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	Holding	R	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
		L	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
		R	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
		L	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
<b>DAILY LIFE ACTIVITIES</b>									
	Dressing – Upper body	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
	Dressing – Lower body	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
	Toileting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
	Bathing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
	Washing oneself	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
	Eating	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
	Drinking	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
<b>ASSISTED DEVICES</b>									
	Without assisted devices	<input type="checkbox"/>							
	One crutch	<input type="checkbox"/>	Good	Bad					
	Pair of crutches	<input type="checkbox"/>	Good	Bad					
	Walking frame	<input type="checkbox"/>	Good	Bad					
	Wheelchair	<input type="checkbox"/>	Good	Bad					
	Orthoses right side	<input type="checkbox"/>	Good	Bad	FO	AFO	KAFO	HKAFO	Shoe raise
	Orthosis left side	<input type="checkbox"/>	Good	Bad	FO	AFO	KAFO	HKAFO	Shoe raise

# Patient assessment - overview

- **Conclusion and main findings**
  - Environmental and personal factors
  - Body structure and function impairments
  - Activity limitations and participation restriction

CONCLUSION OF PATIENT ASSESSMENT & MAIN FINDINGS		
<b>ENVIRONMENTAL &amp; PERSONAL FACTORS</b>		
Personal conditions		
Living conditions		
Med & Social structures		
Current treatment		
Remarks		
<b>BODY STRUCTURE &amp; FUNCTION IMPAIRMENTS</b>		
Ass. trauma & diseases		
R.O.M status		
Muscle status		
Skin & soft tissues/Pain		
Cardio vascular status		
<b>ACTIVITY LIMITATIONS &amp; PARTICIPATION RESTRICTION</b>		
General Mobility (gait)		
Transfers		
Balance		
Upper limb functions		
Daily life activities		
<b>REFERRAL</b>		
Referred to.....	For	<input type="checkbox"/> Medical care <input type="checkbox"/> Medication <input type="checkbox"/> Orthopaedic consultation <input type="checkbox"/> Orthopaedic surgery <input type="checkbox"/> Other (specify)
		<input type="checkbox"/> Nursing care <input type="checkbox"/> Remove cast <input type="checkbox"/> Stump revision <input type="checkbox"/> Tenotomy

# Patient assessment - overview

- Treatment plan (short and long term)

TREATMENT PLAN			
<b>Walking Aids</b>		<b>Wheelchairs and Modifications</b>	
<input type="checkbox"/> Axillary crutches	<input type="checkbox"/> Adult	<input type="checkbox"/> Pair	<input type="checkbox"/> Wheelchair 3-wheels
<input type="checkbox"/> Elbow crutches	<input type="checkbox"/> Child	<input type="checkbox"/> Unit	<input type="checkbox"/> Wheelchair 4-wheels
<input type="checkbox"/> Cane			<input type="checkbox"/> Tricycle
<input type="checkbox"/> Walking frame			<input type="checkbox"/> Wheelchair 3-wheels and modifications
			<input type="checkbox"/> Wheelchair 3-wheels and seating system
			<input type="checkbox"/> Wheelchair 4-wheels and modifications
			<input type="checkbox"/> Wheelchair 4-wheels and seating system
<b>Other</b>	<input type="checkbox"/> Standing Frame	<input type="checkbox"/> Other (specify)	
	<input type="checkbox"/> Baby walker		
<b>Lower Limb Prostheses</b>		<b>Upper Limb Prostheses</b>	
<input type="checkbox"/> Partial Foot	<input type="checkbox"/> Trans Femoral	<input type="checkbox"/> Shoulder Disarticulation	<input type="checkbox"/> Trans Radial
<input type="checkbox"/> Ankle Disarticulation	<input type="checkbox"/> Knee Disarticulation	<input type="checkbox"/> Trans Humeral	<input type="checkbox"/> Elbow Disarticulation
<input type="checkbox"/> Trans Tibial	<input type="checkbox"/> Hip Disarticulation		
<b>Lower Limb Orthoses</b>	<b>Upper Limb Orthoses</b>	<b>Spinal Orthoses</b>	
<input type="checkbox"/> Shoe Raise	<input type="checkbox"/> Shoulder Orthosis (SO)	<input type="checkbox"/> Cervical Orthosis (CO)	
<input type="checkbox"/> Foot Orthosis	<input type="checkbox"/> Shoulder Elbow Hand Orthosis (SEHO)	<input type="checkbox"/> Lumbo Sacral Orthosis (LSO)	
<input type="checkbox"/> AFO	<input type="checkbox"/> Elbow Orthosis (EO)	<input type="checkbox"/> Thoraco Lumbo Sacral Orthosis (TLSO)	
<input type="checkbox"/> KAFO	<input type="checkbox"/> Wrist Hand Orthosis (WHO)	<input type="checkbox"/> Cervico Thoraco Lumbo Sacral Orthosis (CTLSO)	
<input type="checkbox"/> Knee Orthosis (KO)	<input type="checkbox"/> Finger Orthosis		
<input type="checkbox"/> Hip Orthosis (HO)			
<input type="checkbox"/> HKAFO			
<b>Technical Specifications :</b>			
<b>PHYSIOTHERAPY TREATMENT PLAN</b>			
<b>Treatment Objectives</b>			
<u>SHORT TERM:</u>			
<u>MID TERM:</u>			
<u>LONG TERM:</u>			
<b>Treatment Proposals</b>			
<b>Follow up Plan:</b> (How often pat needs FU?)		<b>Date follow up appointment:</b>	

# Musculoskeletal assessment

- Posture assessment – standing/sitting posture, single leg stance posture (body proportions, alignment of body parts, muscle contours, condition and creases of the skin)
- Palpation (bony tissues – alignment and position, and soft tissues – temperature, consistency, pain)
- ROM assessment
- Muscle assessment – strength, length
- Movement patterns, gait, functional evaluation



# Musculoskeletal assessment

- The focus of observation is not only on objectively verifiable data and dysfunctions, but also on the significance of these dysfunctions for the patient's **quality of life and living conditions**
- In other words, physical therapists not only adhere to the rules of biomedical thinking frequent in clinical medicine, they also base their intervention on a **biopsychosocial view** (such as that expressed in the ICF (= International Classification of Functioning, Disability, and Health))
- Just as important as the extent to which movement is restricted, and how this restriction could be reduced or even resolved, is the issue of everyday activities for which the patient urgently requires unrestricted movement
- Does restriction mean incapacity for employment or is it, despite being inconvenient, of secondary importance to quality of life?

# Musculoskeletal assessment

- The motivation and cooperation of the patient are influenced quite decisively by such subjective factors and finding out about them is therefore an indispensable step in the examination and treatment process
- All this applies equally, if not even more so, if the patient accesses the physical therapist directly without a referral or “prescription.”

# Musculoskeletal assessment

- **The experienced therapist** succeeds in maintaining a constant interplay between the examination and treatment process because the results of the one determine the form of the other, and at certain points of the treatment a reexamination becomes necessary
- For the **therapist who is still learning (= student)**, this is too ambitious – student first learn and practice the steps and techniques of careful physical therapeutic diagnosis, just as the student also learns and practices the steps and techniques of the therapeutic process
- Then, with increasing practice and experience, the physiotherapy student will be able to bring them both into line and structure the transitions smoothly

# Conclusion

- a physical therapeutic diagnosis is a prerequisite for treating patients individually and effectively in order to help them to enjoy the best possible participation in life in the best-case scenario
- careful examination ensures that treatment starts with the patient's main problem, takes advantage of the patient's own resources and—in the best-case scenario—leads to the intended result

# Thank you for your attention



“Physiotherapy without careful examination is like a tree without roots.”