

Physiotherapy for post-polio patients as part of an interdisciplinary rehabilitation program



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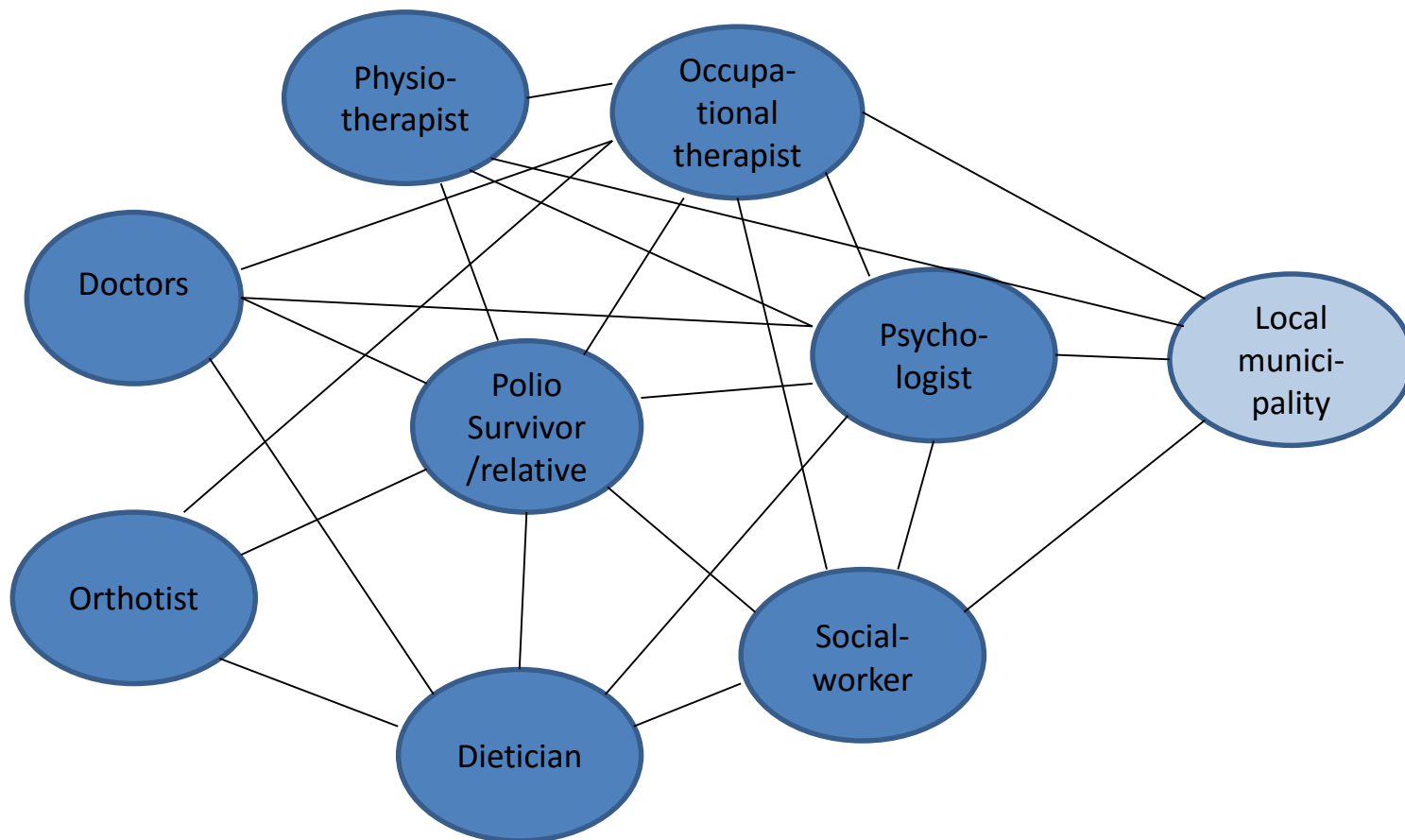
Specialized hospital for polio and accident patients



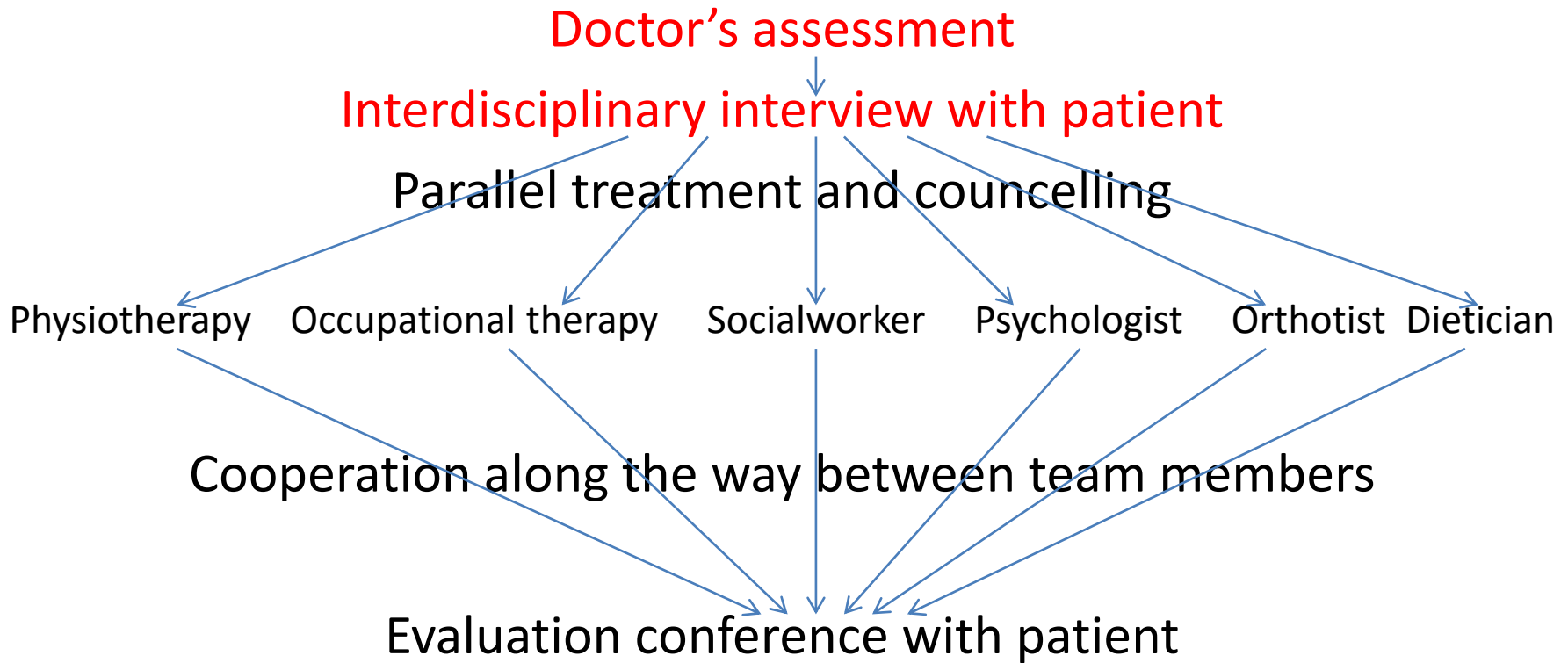
Out patient clinic for:
Polio patients
Spinal Cord Injury patients
Multi trauma patients

Patients from other parts of
the country and from
abroad can stay for 3 weeks

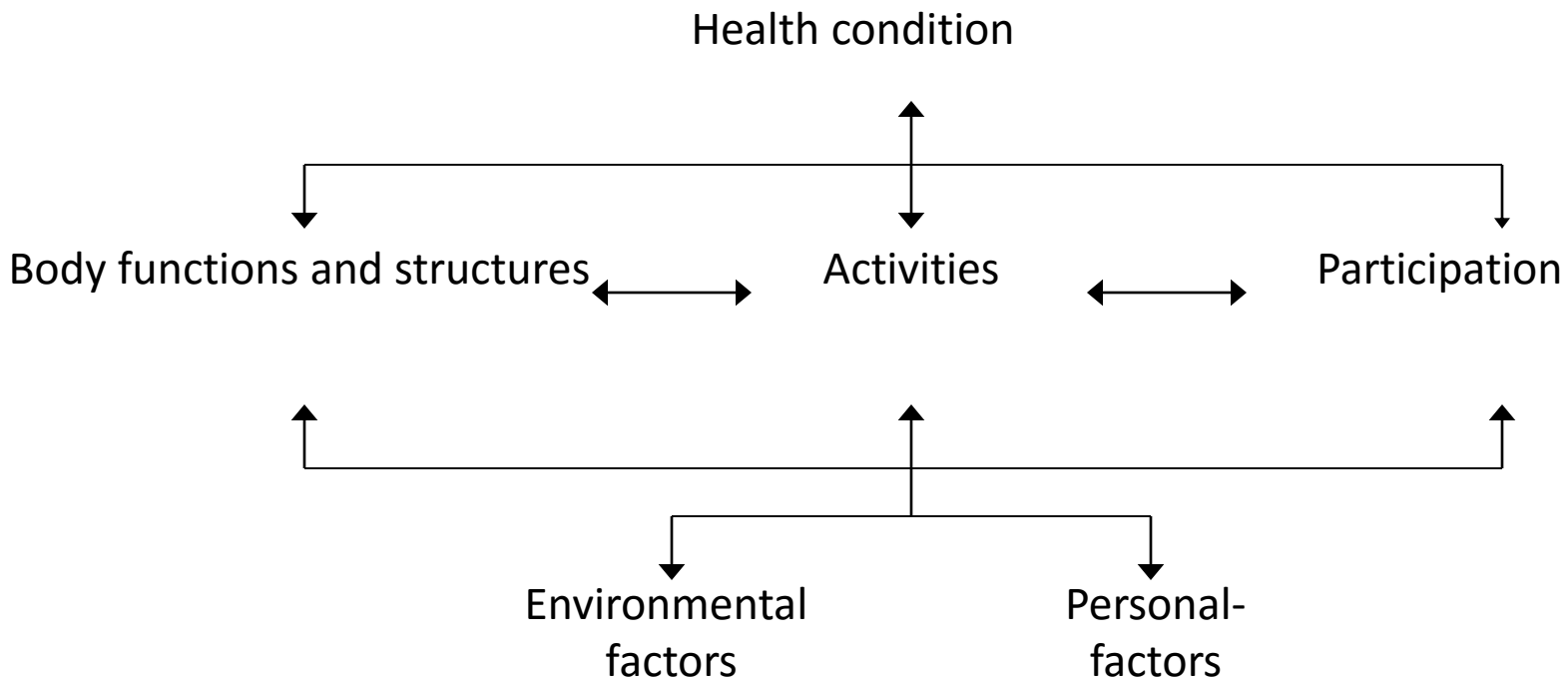
Modern rehabilitation builds on collaboration between professionals and the patient /relatives



Patient flow



ICF model



International Classification of Functioning, Disability and Health, ICF)

Rehabilitation plan

Name:

Date:

Date for evaluation:

Team members:

Contact person:

Description of patient's daily life including functional limitations:

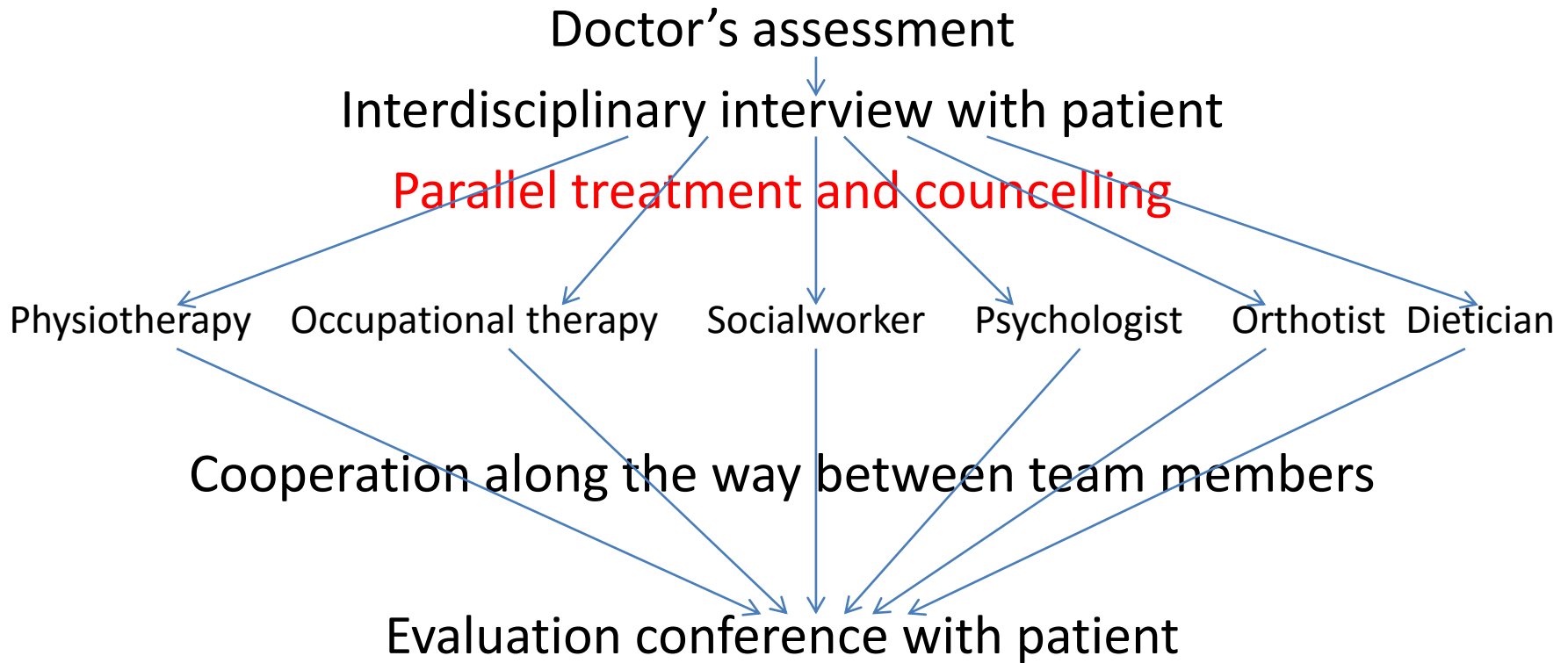
What would the patient like to be able to do/participate in?

Long term goal:

Short term goal:

Action plan:

Patient flow



Physiotherapy

Recording patient's medical history

- Acute and stable phase of polio
- Muscle weakness now
- Fatigue and pain
- Functional limitations
- Assistive technology now and earlier in life
- Mobility and fall episodes
- Respiration, swallowing
- Voiding
- Life style (nutrition/activity level)
- Comorbidity
- Resources and limitations in activity and participation



Check list

Immigrants with polio

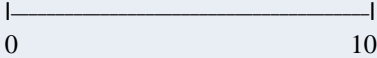
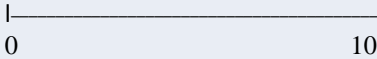

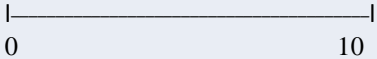


Leg length discrepancy
Contractures
Psychological problems



Handling small children
Vocational problems
Accessibility at school or work
Language problems
Cultural differences

Diary of activities

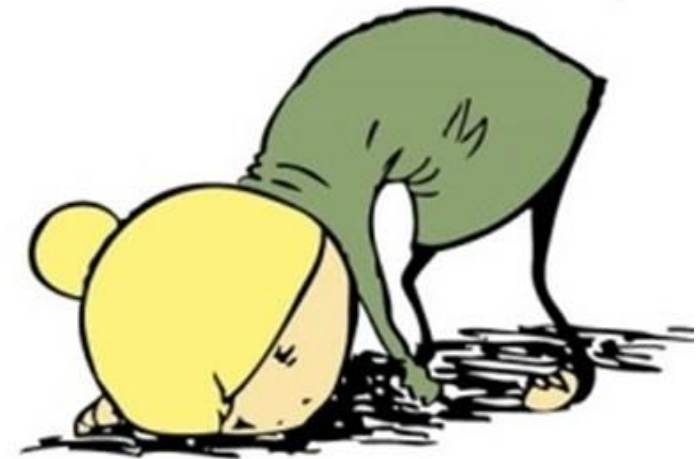
Activity:	Pain:	Fatigue:	Comments:
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	 <p>A horizontal line with vertical end caps, labeled '0' at the left end and '10' at the right end.</p>		
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MFI-20

Multidimensional Fatigue Inventory

A 20-item self-report instrument designed to measure fatigue

- General Fatigue
- Physical Fatigue
- Mental Fatigue
- Reduced Motivation
- Reduced Activity



Reference values are available

Physical examination

- Analysis of posture, gait and seating (check callipers)
- Muscle problems (weakness, fatigue, tension, contracture)
- Joint problems (arthrosis, overuse problems, instability etc.)
- Respiration (Vital Capacity, thorax deformity and mobility)
- Neurologic examination (sensitivity, reflexes, tonus)
- BMI = Weight in kg/height x height in meter)
- Analysis of pain issues

Pain types

Post polio pain: Pain in muscles affected by polio
Aching, cramps, fasciculations

Overuse pain: Pain caused by overuse
Pain in soft tissue, muscles, tendons, bursa and ligaments

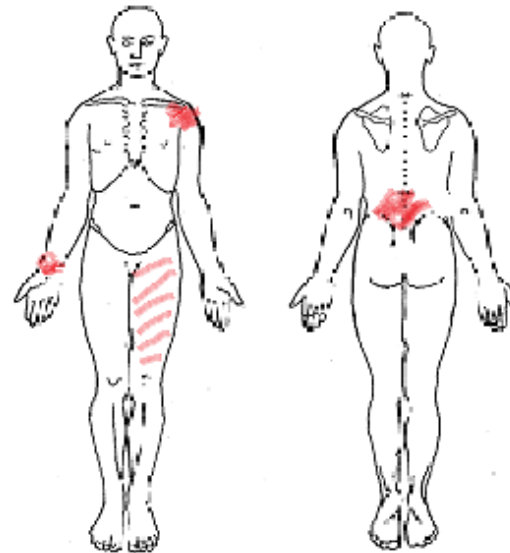
Biomechanical pain

Degenerative joint disease, nerve compression, bad posture, low back pain

Source: Anne Gawne, MD

Pain assessment

- VAS Visual Analogue Scale
- NRS Numeric Ranking Scale
- PDI Pain Disability Index
- Drawing



Tests

Function:	Timed Stands test Timed Up and Go
Respiration:	Vital capacity
Muscle strength:	Manuel muscle testing
Balance:	Bergs balance test Figure of eight test Tandem test
Walking:	6 min. walk test 10 meter walk test Distance test
Cardio respiratory:	Aastrands 6 minute cycling test Borg 15 test



Clinical reasoning

- What are the reasons for limitations and problems?
- What is the patient's opinion and experiences?
- What can be done?
- Intervention plan is made in cooperation with the patient (and relatives)



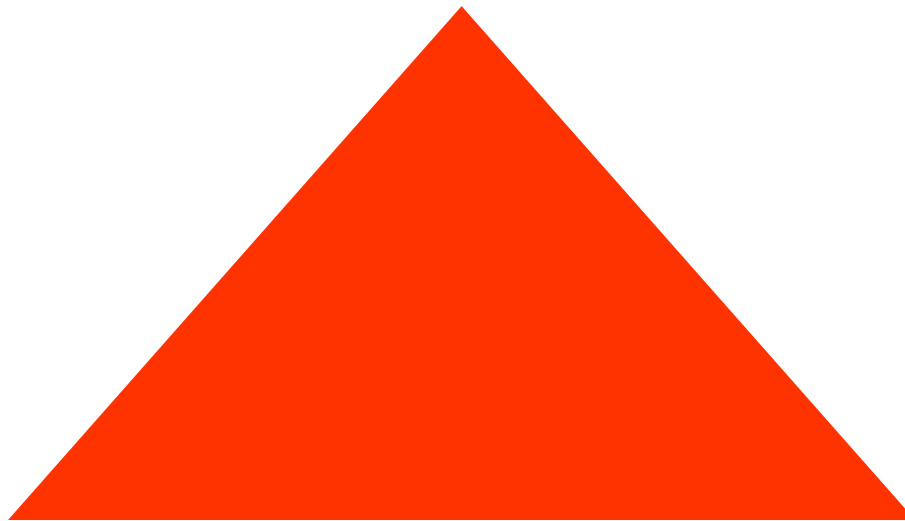
Polio education



- What is polio and PPS?
- Exercising principles
- Assistive technologies
- Psychological reactions
- Coping/energy management
- Exchange of experience

Physiotherapy intervention

Energy management



Exercise

Pain relief

Energy management

Change of work situation

Change of daily tasks at home

Prioritize tasks

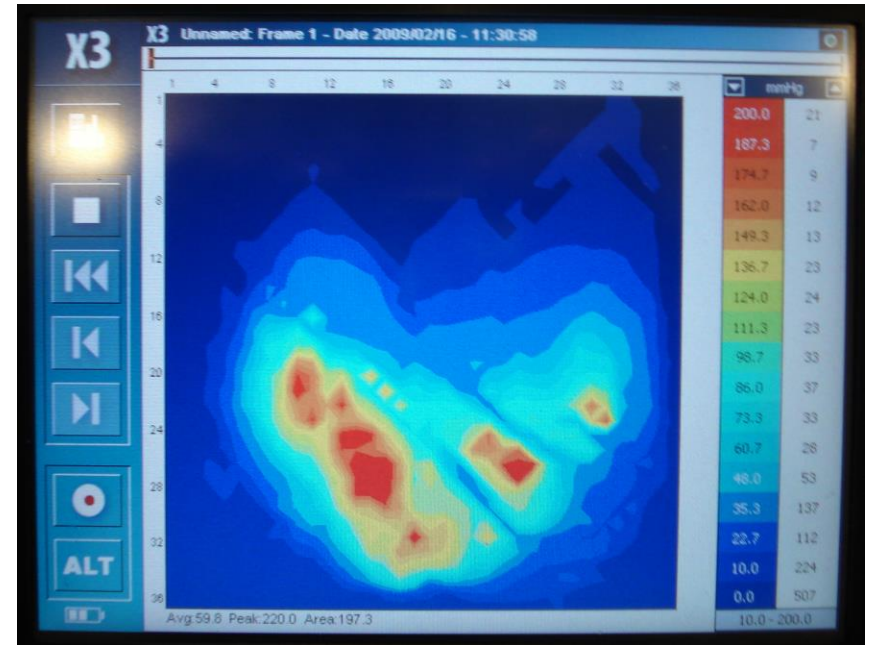
Pacing / take breaks

Use assistive technologies

Use callipers and bandages



Evaluation af seating



Measuring pressure in seating

Pain treatment

- Exercising/water exercising
- Acupuncture
- Laser therapy
- TNS
- Massage
- Heat
- Relaxation techniques
- Energy conservation/rest
- Bandages
- Technical aids
- Weight loss
- Medication
- Surgery
- Etc.



Exercise

- Good or bad?
- Use it or lose it
- Conserve it to preserve it
- It depends.....



What do the European guidelines for post polio syndrome say about exercise?



Supervised muscular training, is a safe and effective way to prevent further decline of muscle and can even reduce symptoms of muscular fatigue, muscle weakness, and pain.

Precautions to avoid muscular overuse should be taken with intermittent breaks, periods of rest between series of exercises, and submaximal work load.

Considerations before exercise program

Is new weakness due to overexertion or inactivity?

- Overexertion: Technical aids /
Energy management
Maybe light exercise
- Inactivity: Exercise and
increase activity level



Is muscle strength stable or unstable?

Muscle status and exercise recommendations

Muscle status in actual muscle group	Muscle strength in actual muscle group	Exercise
No new weakness	Normal	No restrictions
No new weakness	Reduced	Short period of strength exercise (4 – 6 weeks)
New weakness	Reduced	Submaximal exercise
New weakness	Very reduced	Low intensive exercise
Large atrophy	Very reduced	No exercise

Source: MD Gunnar Grimby and PT Carin Willén, Sweden

Principles for training endurance /strength for polio survivors:

- Low to moderate resistance
+ many repetitions
- Slow progression
- Training in intervals
- Breaks in training session
- Avoid excessive pain and
fatigue



Principles for training cardio respiratory fitness for polio survivors:



Slow progression

Exercise feels “Somewhat hard”
at Borg scale 11-14

Bicycling, swimming etc.

Exercise at 60 –70% of HRR
($HR_{max} - HR_{rest}$) + HR_{rest}

10-30 minutes depending on the condition

At least twice a week to maintain level

Signs of too hard training:

- Excessive fatigue after exercising
- Excessive pain after exercising
- Fasciculation



Recommendations:

- Exercise with less resistance ($\frac{1}{2}$)
- Decrease the number of repetitions
- Decrease the frequency of exercising
- Exercise in a different way
- More breaks

Maybe daily activities are enough exercising for the patient

Patient must respect the signs of the body

Group training

- General exercises
- Balance training
- Pilates
- Warm water exercising
- Relaxing group
- Cardio respiratory
- Special groups for muslim women

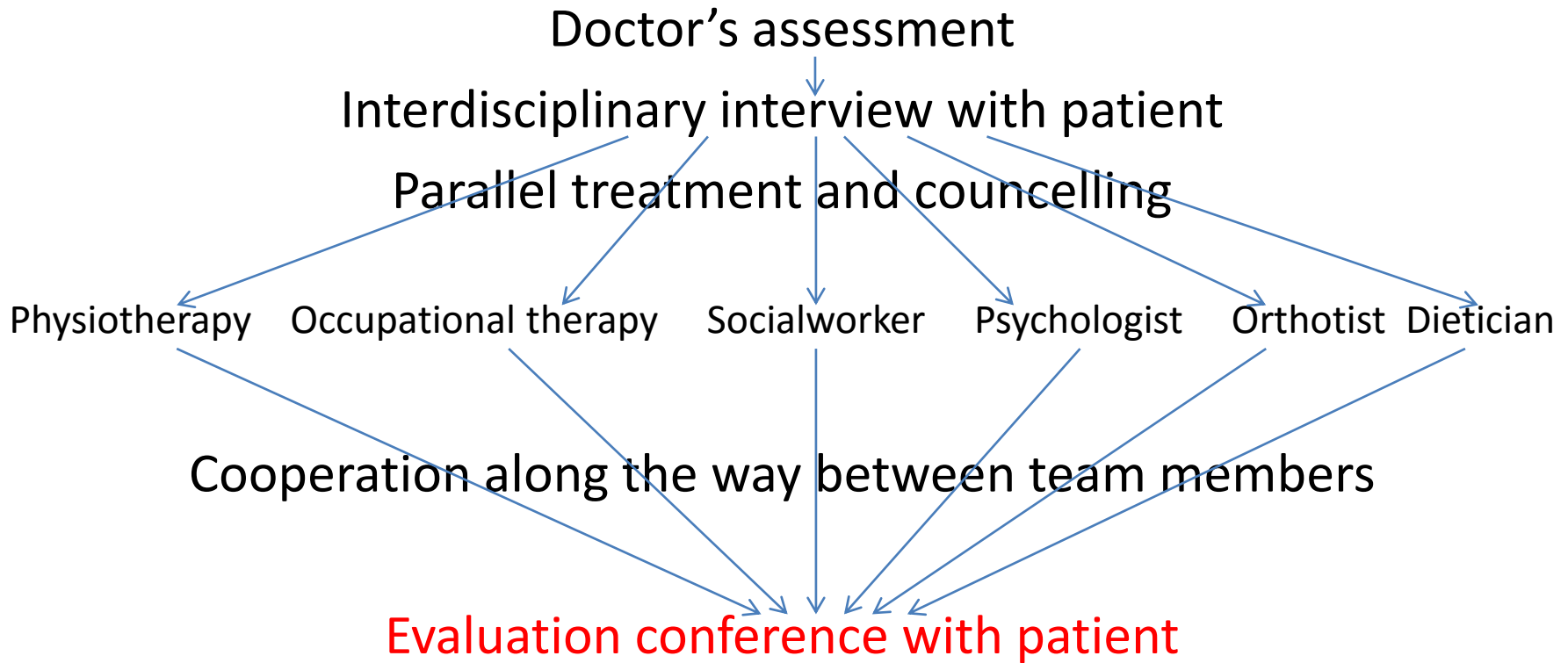


Home exercise programme

- Dumbbells
- Nordic walking
- Thera bands



Patient flow



Moving on...



Thank you for your attention and participation



- Any questions or comments?