Clinical Reasoning in Physiotherapy

M. Kangasperko
REHAB
Ukraine (Ukrajina/Україна)
24 – 25.2 2020

Satakunnan ammattikorkeakoulu | Satakunta University of Applied Sciences

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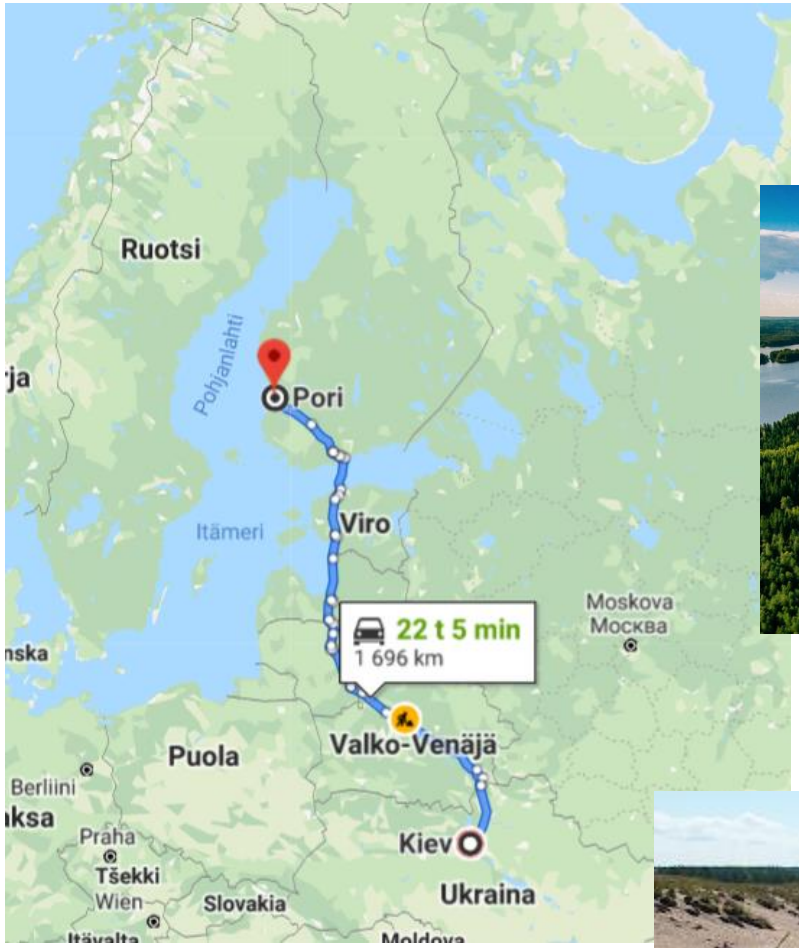
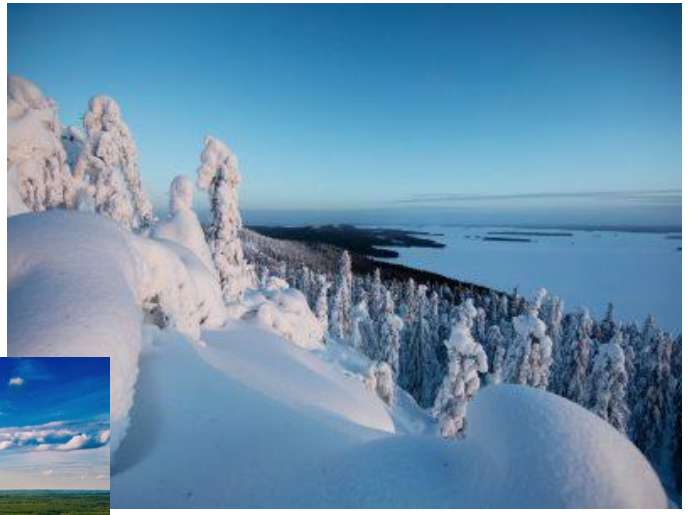
Kangasperko, SAMK

Where from? Finland, Pori





FINLAND

Happiest country in the world.

Source: World Happiness Report 2018

Safest country in the world.

Source: World Economic Forum

SAMK

- SAMK in numbers:
  - 4 campuses
  - Over 6000 students
  - 36 degree programmes out of which 11 is taught in English
  - 400 staff members
  - 60 nationalities

Who am I?

World Confederation for Physical Therapy
THIS PROGRAMME IS ACCREDITED WITH CONDITIONS
2020 – 2025

- Senior Lecturer

- Degree Programme Coordinator → an English Degree in Physiotherapy – we have had an English Degree 25y (Finnish Degree is older)

- Executive Board Member in ENPHE; European Network of Physiotherapy in Higher Education

  http://www.enphe.org/ members from 31 countries from European region

Physiotherapy in Finland – how it started

- Physiotherapy education has been given in Finland for more than a century → before this in Sweden from 1813
- Already in 1882, physiotherapy was an elective subject studied at the University of Helsinki.
- In 1908 started a Decree on provision of medical gymnasium education at the University of Helsinki.

Schedule 24 – 25.2.2020

Date	Time	Content
24.2	10:30 – 11:50	**What is clinical reasoning in physiotherapy, Discussion; group work**
24.2	12:15 – 13:35	**Clinical reasoning skills; ICF Discussion**
25.2	10:30 – 11:50	**Evidence – based physiotherapy**
25.2	12:15 – 13:35	**Evidence – based physiotherapy Closing**

Everybody talks about clinical reasoning but - what is it?

? ? ?

Clinical Reasoning Process

- Clinical reasoning begins as soon as the therapist meets the patient/client

Greenhalgh and Selfe, 2004

Clinical reasoning/ Clinical decision making

World Confederation for Physical Therapy

- Clinical reasoning is the decision-making process involved in the diagnosis and management of patients' problems

- **A thought process that guides practice**

→ A process of thinking or reasoning which is used by all clinicians for the **conclusion/physiotherapy diagnosis** and patient / client **management**

- It is **a cognitive process** by which the information in a clinical case is synthesized, integrated with the clinician's experience and theoretical knowledge

Clinical Reasoning process

- A process by which a therapist **interacts** with a patient, **collecting information**, **generating and testing hypotheses**, and **determining optimal diagnosis** and **treatment** based on the information obtained

  Higgs et al 2008

- Clinical reasoning is “the **sum of the thinking** and **decision-making** processes associated with clinical practice”

  Edwards et al 2004

Clinical Reasoning process

- During the process, the therapist **analyses multiple variables** contributing to the patient's limited physical capacity and performance

- All decisions and actions need to be made in line with **professional ethics** and community expectations

Key factors influencing clinical reasoning process

- Knowledge:
  - You need to organize scientific and professional knowledge, values, ethics etc.
  - Novise vs expert

- Cognitive and metacognitive skills (a bit overlaping concepts):
  - A physiotherapist must be able to identify and solve problems in uncertain situations; you take pieces of information → information must be synthesized

- Metacognition (= higher-order thinking that enables understanding, analysis, and control of one's cognitive processes)
  - reflective self-awareness→ patient-centered approach, collaborative problem-solving, "hypothesis testing"

Jones et al. 2010

Clinical reasoning process: aim

- As a concept, clinical reasoning is quite a simple one however in practice, it is difficult and fraught with errors.
- The aim:
  - to prevent misdirection
- The way a therapist clinically reasons their findings can strongly influence how the case is interpreted (e.g. red flags)
  - Greenhalgh and Selfe, 2004

Professional competencies in physiotherapy in Europe

European Network of Physiotherapy in Higher Education

PROFESSIONAL COMPETENCIES

PHYSIOTHERAPISTS, ADVANCED PHYSIOTHERAPISTS AND PHYSIOTHERAPIST ASSISTANTS

ESCO Professional definitions + ENPHE recommendations

ESCO Professional definitions + ENPHE recommendations:
PROFESSIONAL COMPETENCIES PHYSIOTHERAPISTS

1. **Assessment skills**

2. **Diagnostic Skills**

3. **Intervention skills**

PROFESSIONAL COMPETENCIES PHYSIOTHERAPISTS ESCO Professional definitions + ENPHE recommendations

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Assessment skills

- **Collect qualitative and quantitative data** related to the patient/client's physical, mental, emotional and social status and functional ability within set parameters
- Evaluate patient/client's responses and status during the performance of assigned measures/tests (e.g. shortness of breath, pain) and take action appropriate to the context.
- **Undertake a physiotherapy assessment**, incorporating data collected from subjective, physical examinations and information retrieved from other relevant sources if necessary. **Demonstrate appropriate handling and communication skills.**

PROFESSIONAL COMPETENCIES PHYSIOTHERAPISTS ESCO Professional definitions + ENPHE recommendations

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Diagnostic Skills

- Defining a physiotherapy diagnosis through **analysing and making synthesis** from the data s/he has found out in assessment and **reflected on the evidence-based knowledge.**
- Work with patient/clients **to identify impairments, activity limitations and participation restrictions (ICF)** resulting from illness, injury and/or ageing. It includes using also the information from other professionals / sources - diagnostic imaging, laboratory tests and other investigations.
- Undertake a holistic approach to provide a physiotherapy diagnosis / clinical impression of their condition.

PROFESSIONAL COMPETENCIES PHYSIOTHERAPISTS
ESCO Professional definitions + ENPHE recommendations

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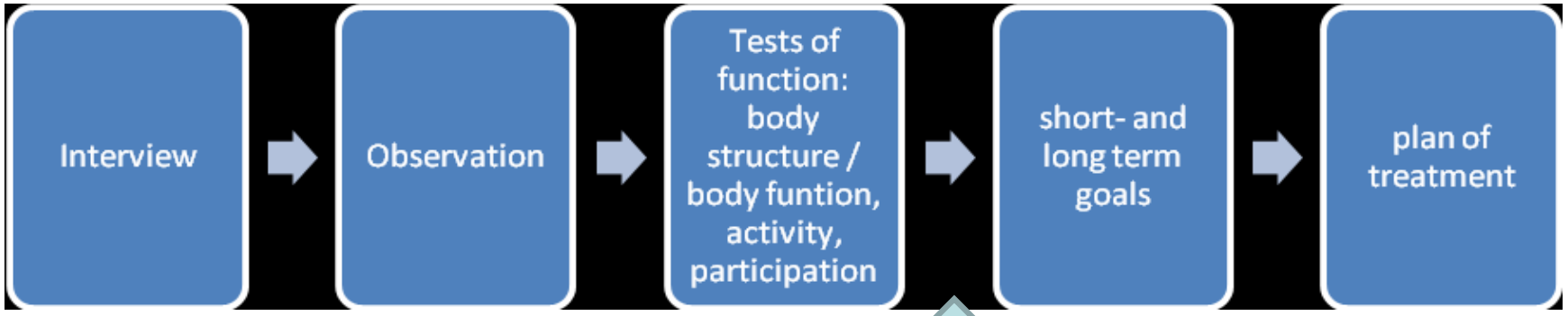
Intervention skills

- **Formulate a treatment plan** and evaluation based on physiotherapy diagnosis along the clinical reasoning process.
- Enforce and adapt evidence-based physiotherapy interventions (for example therapeutic exercises, physical therapy, manual therapy, guidance, patient education.
- **Record patient/clients' progress** in response to treatment after measuring the outcomes.
- Effectively communicate and adapt interventions.

Clinical reasoning process and evidence-based physiotherapy practice



Conclusion/
Physiotherapy diagnosis

Evidence Based Practice (EBP);

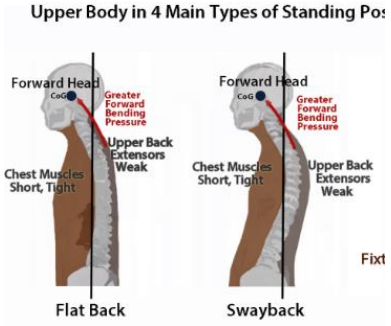
Has been defined as "integrating individual clinical expertise with the best available external clinical evidence from systematic research"
(Sackett et al. 1996)

Case 1

- Your client is 53-years old, female nurse, working full-time. She's consulting a physiotherapist due to complications with pain in her neck along with some headache and a mild pain sensation to the right arm. She wakes up every now and then, because of pins and needles in her right hand. She has also "throbbing" feeling between the scapulas and tiredness in upper back. The symptoms effect on her work ability.
- Anti-inflammatory (Ibuprofen and paracetamol) medication has helped only for a while. She has also knee OA (osteo arthritis) and a history of low back pain episodes.

Case 1

- Her th-spine is “flat”, shoulders are rounded and head in forward position, superior angle of scapula is higher than acromion, weak scapula stabilizers, deep flexors of c-spine are weak.



- Her BMI is 25, she has medication for high blood pressure, she is physically quite inactive.
- No red flags. She has a mild depression and she is worried about that there is no help for her head- and neck pain.

Case 1

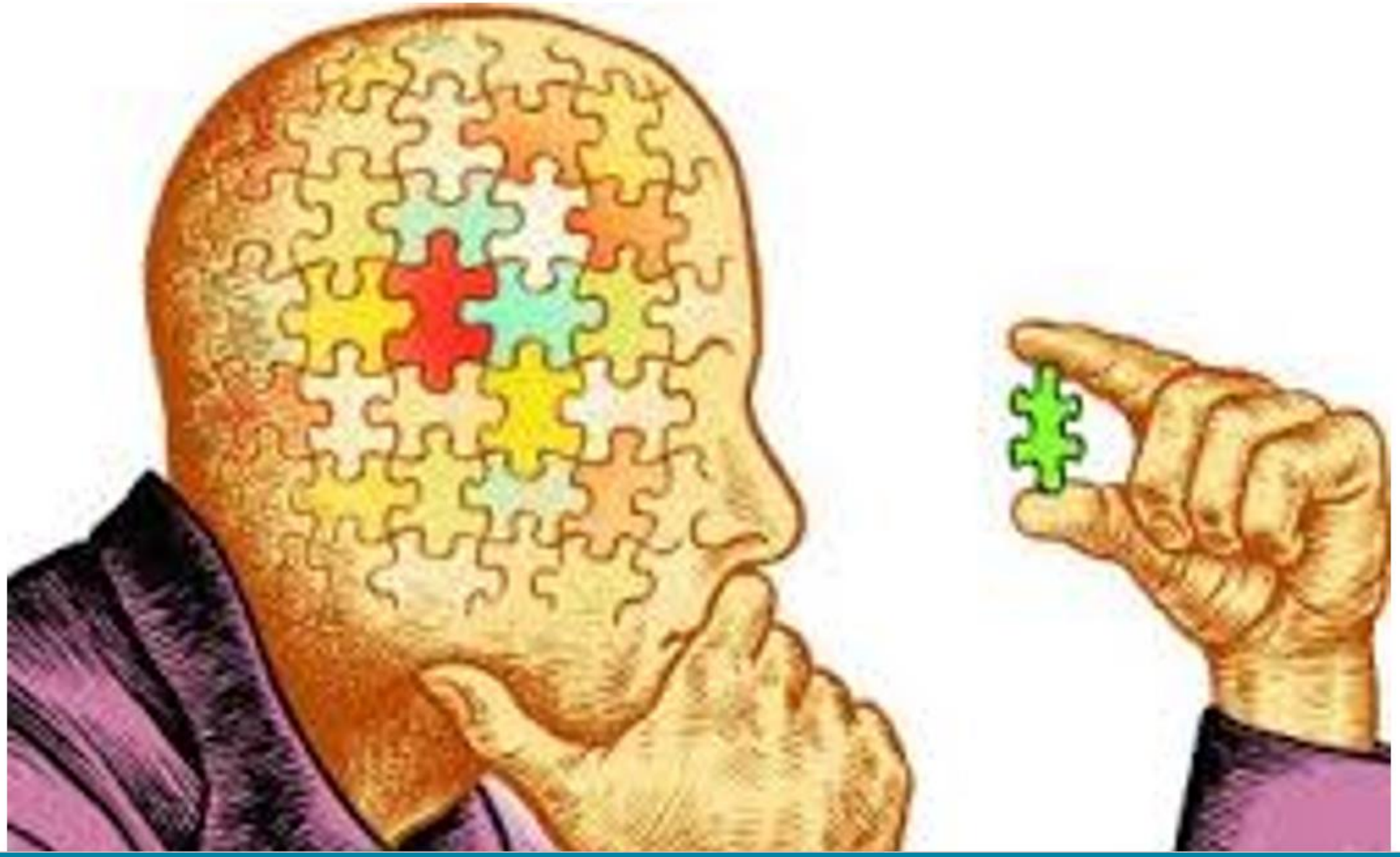
She had 8 meetings with a physiotherapist.

Content of the physiotherapy treatment:

- Massage, US (ultrasound), trigger point treatment

She is not satisfied with the physiotherapy and she feels the problem is not any better.

WHY?



What the client/patient wants to know?

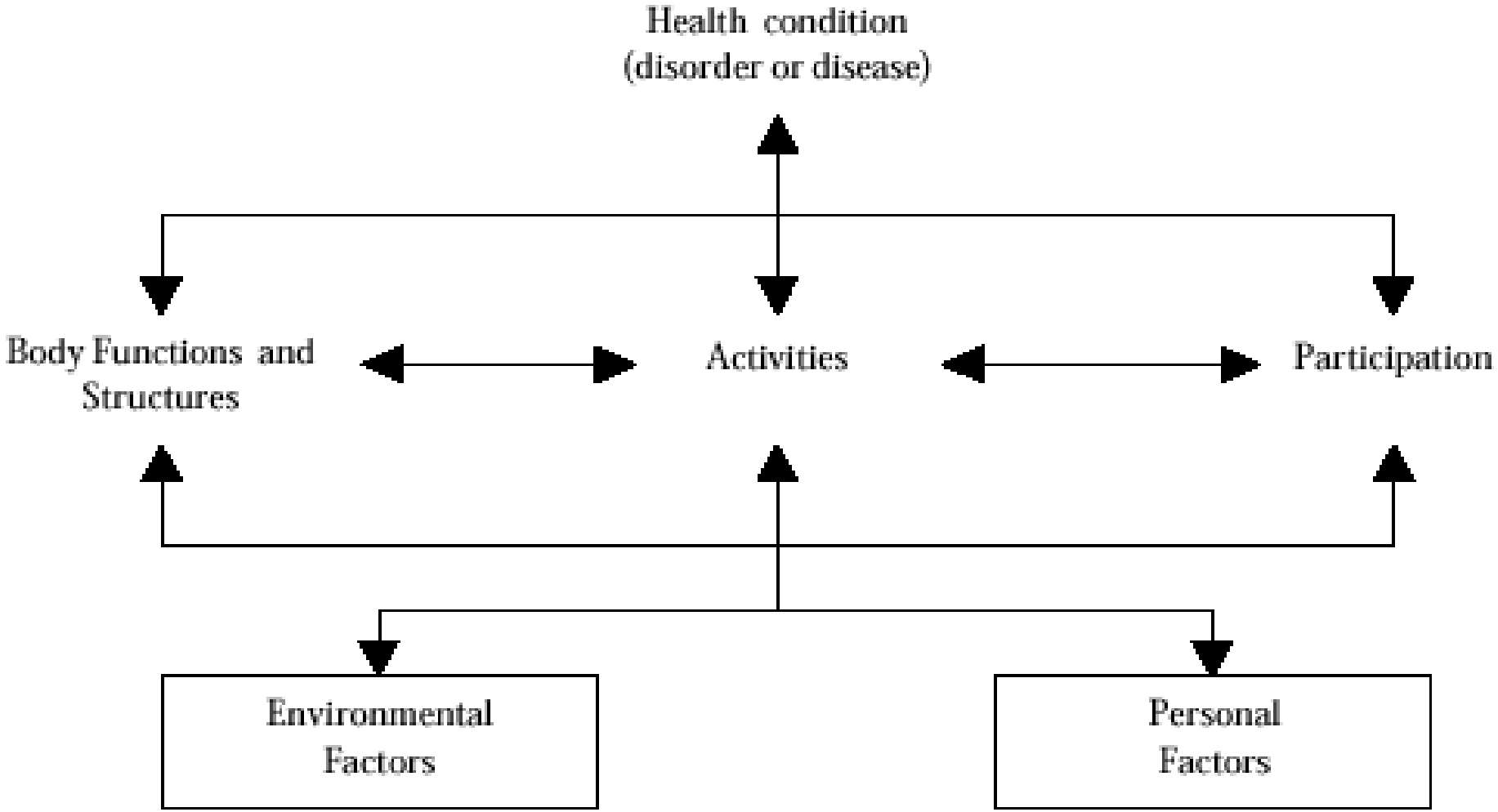
- What is the reason for the problem?
- What will help?
- What can I do myself?

(Current Care Quidelines, Neck pain 2017)

- **How you will get the answers to these questions?**

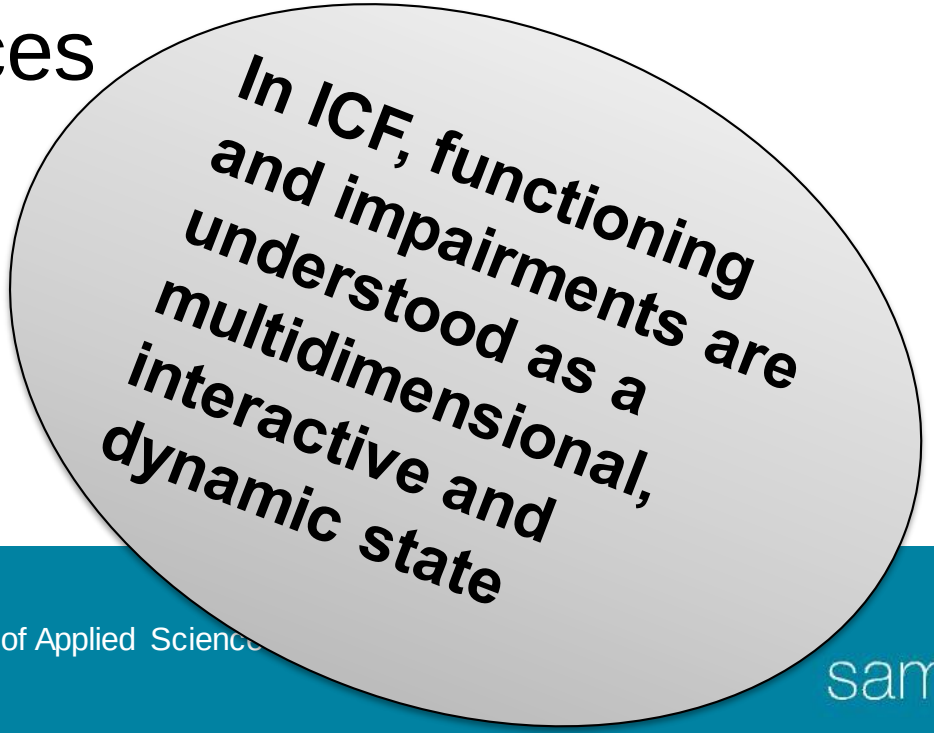
ICF (International Classification of Functioning, Disability and Health)

→ to make visible how the effects of illness and impairment appear in the individual's life



ICF = Common communication in between actors

- understandability → in medical records
- the science foundation → possible
- comparison of results → between countries / services



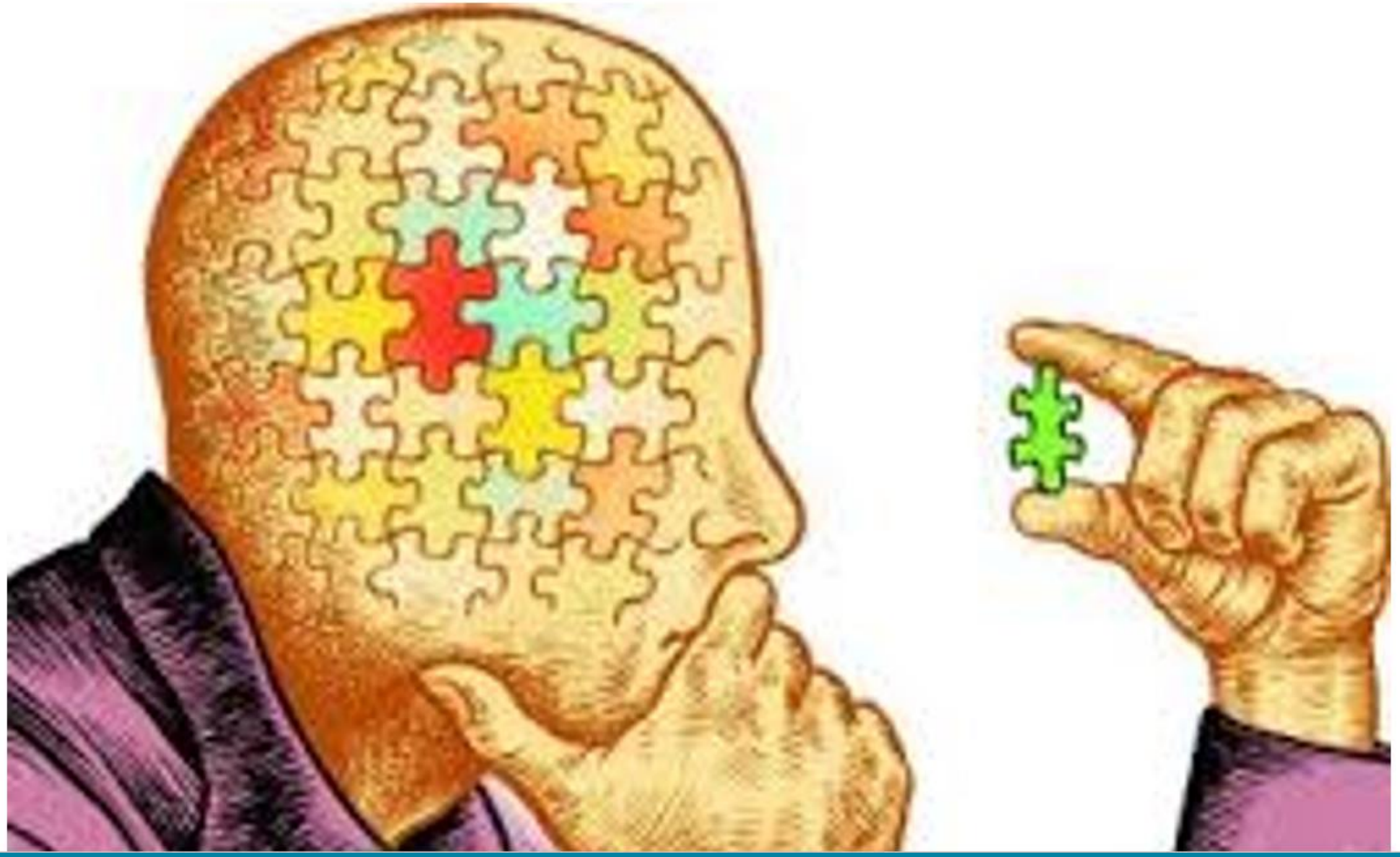
The ICF provides:

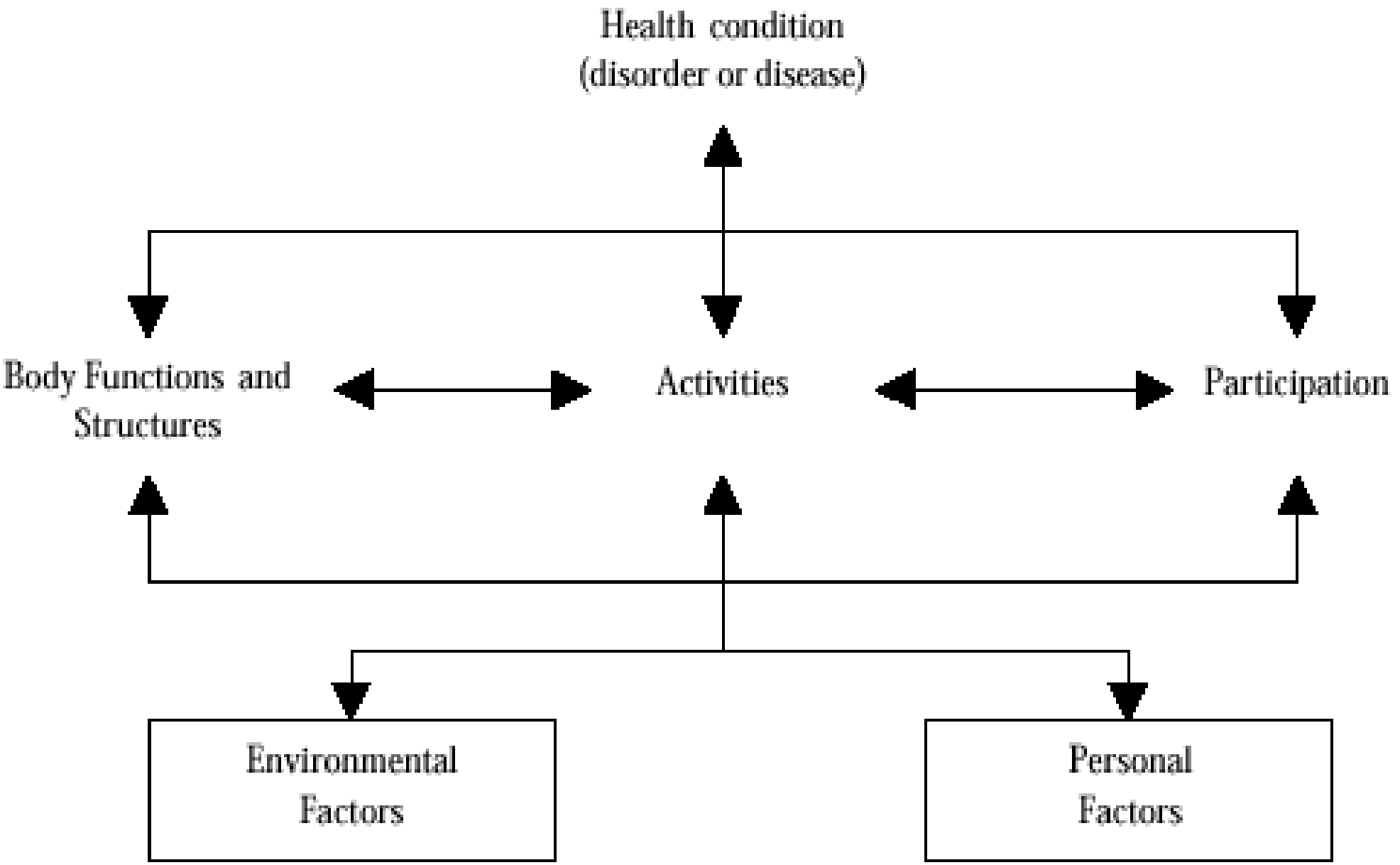
- specificity and a common language in the complex world of functioning and disability and is stimulating new thinking, new applications in measurement and statistics, and the assembling of new knowledge. Nevertheless, the field needs to mature. Identified gaps suggest ways to improve measurement and statistics to underpin policies, services and outcomes.
- Implications for Rehabilitation
    - Madden & Bundy 2018 **The ICF has made a difference to functioning and disability measurement and statistics**

Case 1

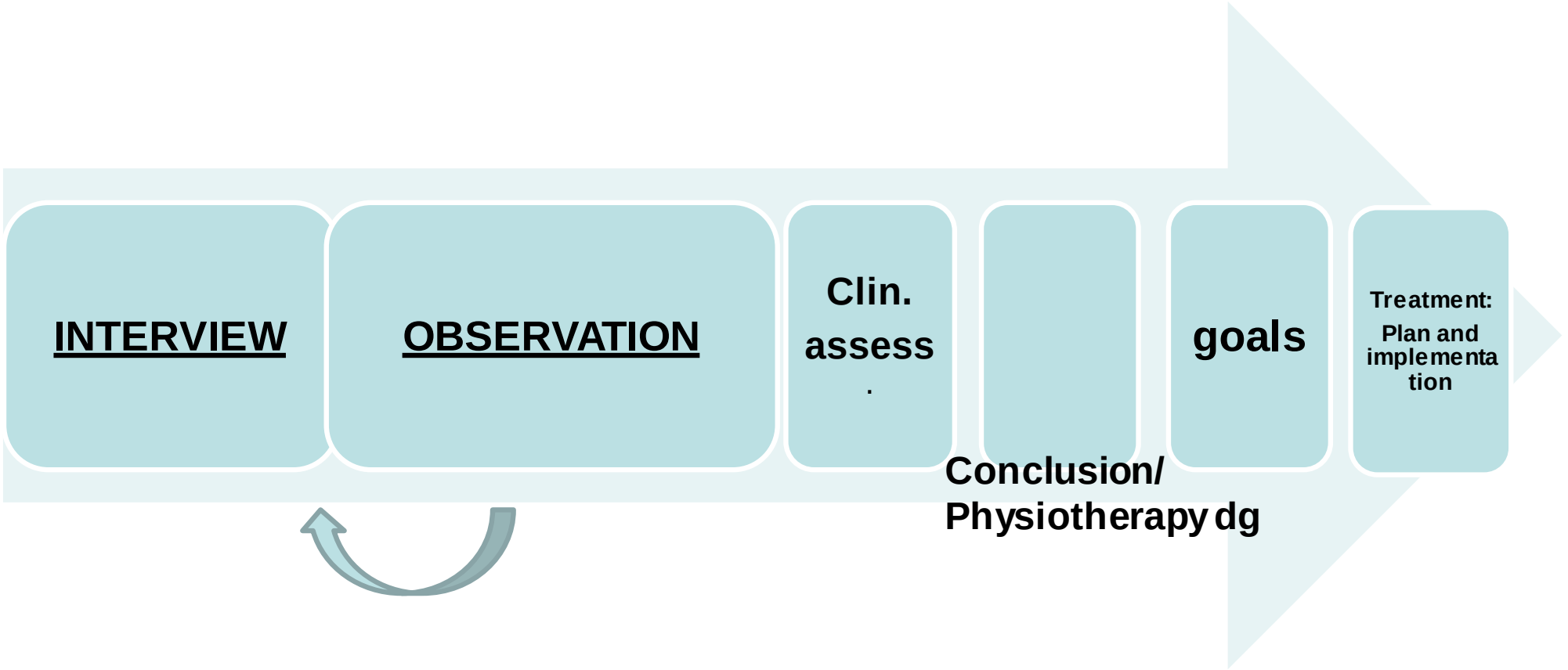
- How to use ICF in this case?

- https://icf-russia.ru/




Health condition
(disorder or disease)
Body Functions and Structures
Activities
Participation
Environmental Factors
Personal Factors

Clinical reasoning process and evidence-based physiotherapy:



Clinical reasoning process→ before you do any treatment!

1. Checking possible documents
2. Interview:
   - Red flags
   - Yellow flags
   - Functional ability → ICF
   - Pain / VAS
   - Possible questionnaires
   - Client's own "hypothesis"
3. Observation → connection to the information you got in the interview
4. Clinical assessment

……

Clinical reasoning process: Interview

- Interview:
  - Questionnaires → what to take into the consideration when you choose the questionnaire
  - Red flags and yellow flags
  - Motivational interview
  - A key to the rest of the process
  - Listen to "story" your client is telling and hear and pick up the relevant information. You need a strong theoretical knowledge in that!

    → often the conclusion can be made by simply listening to the client / patient
  - Answer to the questions your client is asking

(Physiotherapy assessment, Magee 2014)

Clinical reasoning process
Interview - communication

- Good communication is an interactive process
- Good communication includes:
  - verbal
  - non-verbal
  - written
  - e-based
- Many studies have confirmed the importance of communication between physiotherapist and patient
- Skilled and appropriate communication is the foundation of effective physiotherapy practice
- Communication is a key professional competence

Street et al 2009

Clinical reasoning process: Motivational Interview

- Motivational interviewing (MI) is growing in popularity within physiotherapy practice.
- MI is a co-operative way of talking. MI empowers clients in their own motivation to change their behavior.
- "MI is a client-centered therapeutic method. MI is suitable for treating the frequent problem of ambivalence against behavior change of clients."
  - Miller and Rollner (2015)

Clinical reasoning process: Interview

- **Open questions:**
  - a question that cannot be answered with a yes or no but requires a developed answer:
    - E.g.
      - What are you struggling with at the moment?
      - Can you tell me about your problem?
- **Reflective listening:**
  - physiotherapist is interested in what the person has to say and respects the client's point of view and thought processes.
- **Summarizing:**
  - is often used at the end to draw different aspects together. Meaning is inferred to what was said and reflected back with new words. Summarizing adds to and extends what was actually said.

Vries et al. 2016

Clinical reasoning process: Interview

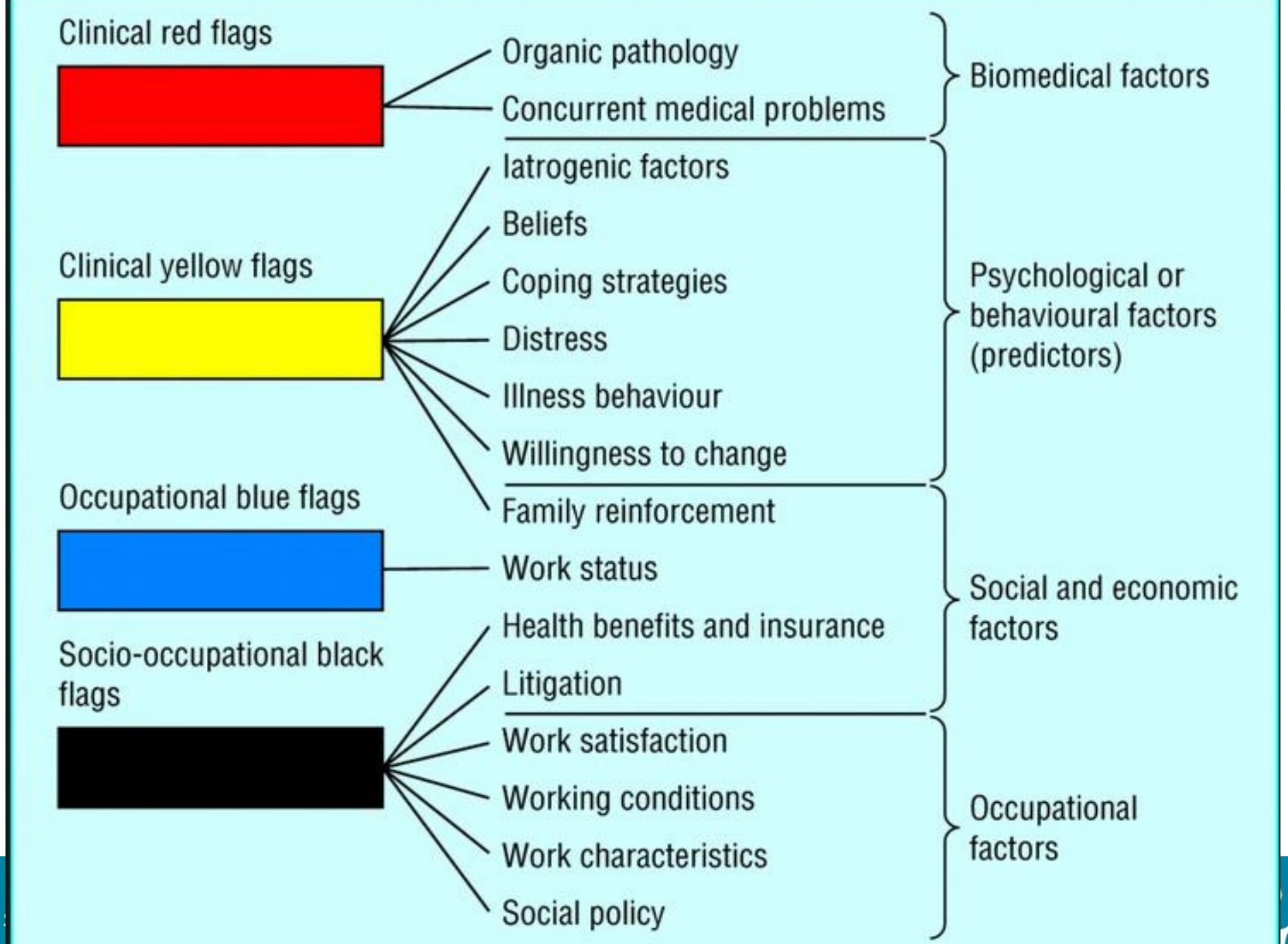
How to choose a questionnaire?

- Suitable for the purpose
- Reliable →
- Valid →
- Sensitive →

Clinical reasoning process: Red flags and yellow flags

- Flags can be split into two distinct categories:
  - clinical flags and psychosocial flags

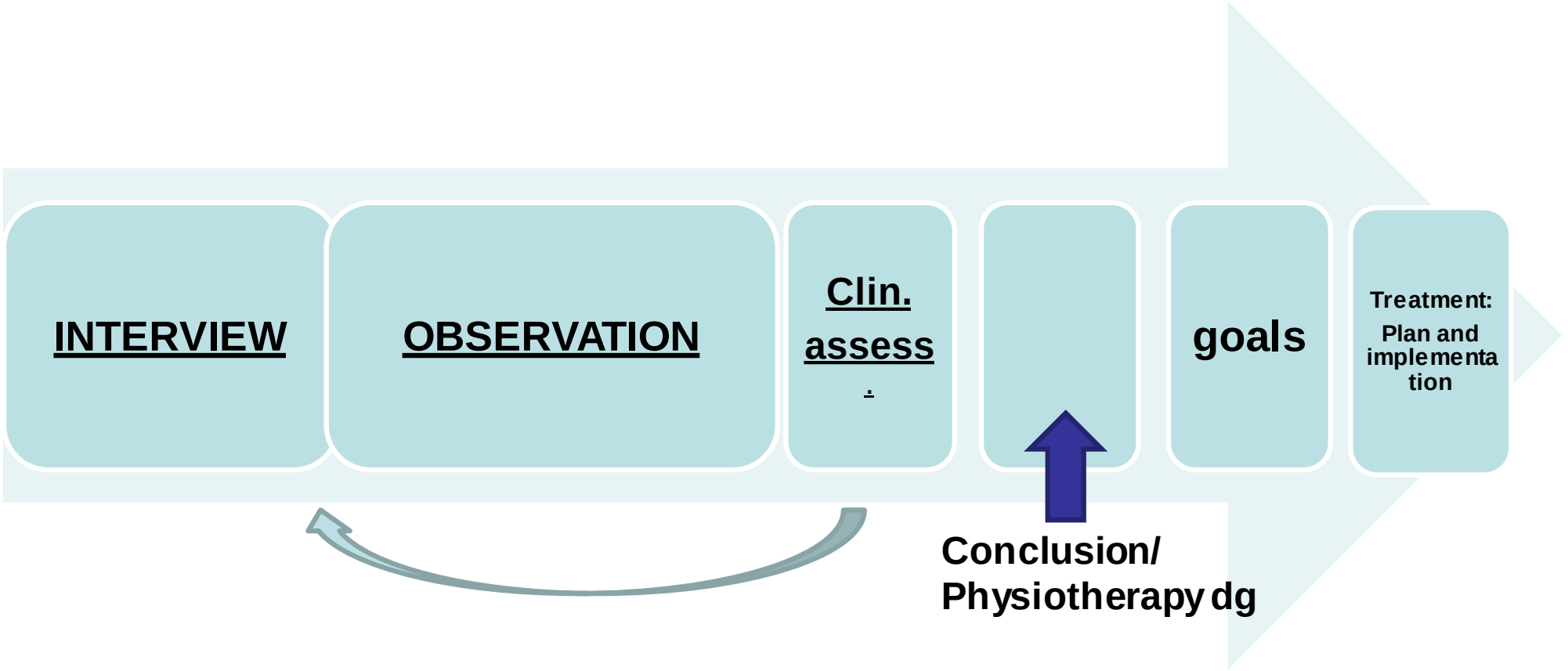
- Red: Signs of serious pathology
- Yellow: e.g. pain behaviour, beliefs, appraisals and judgements


Clinical red flags
Organic pathology
Concurrent medical problems
Biomedical factors
Clinical yellow flags
Iatrogenic factors
Beliefs
Coping strategies
Distress
Illness behaviour
Willingness to change
Psychological or behavioural factors (predictors)
Occupational blue flags
Family reinforcement
Work status
Health benefits and insurance
Litigation
Social and economic factors
Socio-occupational black flags
Work satisfaction
Working conditions
Work characteristics
Social policy
Occupational factors

Yellow flags: Psychosocial risk factors for chronic pain and disability

- The factors which highlight the patient's risk of chronicity can be identified using the 'yellow flags' system:
  - **A**ttitudes and beliefs about pain (i.e.Belief that back pain is harmful or potentially severely disabling).
  - **B**ehaviours (Fear and avoidance of activity or movement): → Fear-avoidance- kinesiofobia (Vlaeyen 2000)
  - **C**ompensation issue (I.e.patient awaiting payment for an accident/ injury at work)
  - **D**iagnostic and treatment issue (such as catastrophizing from the results of diagnostic tests) → Catastrophizing (Buitenhuis et al 2008); exaggeration
  - Hypervigilance (Linton 2005); exaggerated intensity, focusing too much on pain which does rule life
  - **E**motion (such as a tendency to a low mood or depression).
  - **F**amily (withdrawal from social interaction, lack of support in the family).
  - Self-efficacy; how I'm able to effect on my pain

Clinical reasoning process and evidence-based physiotherapy:

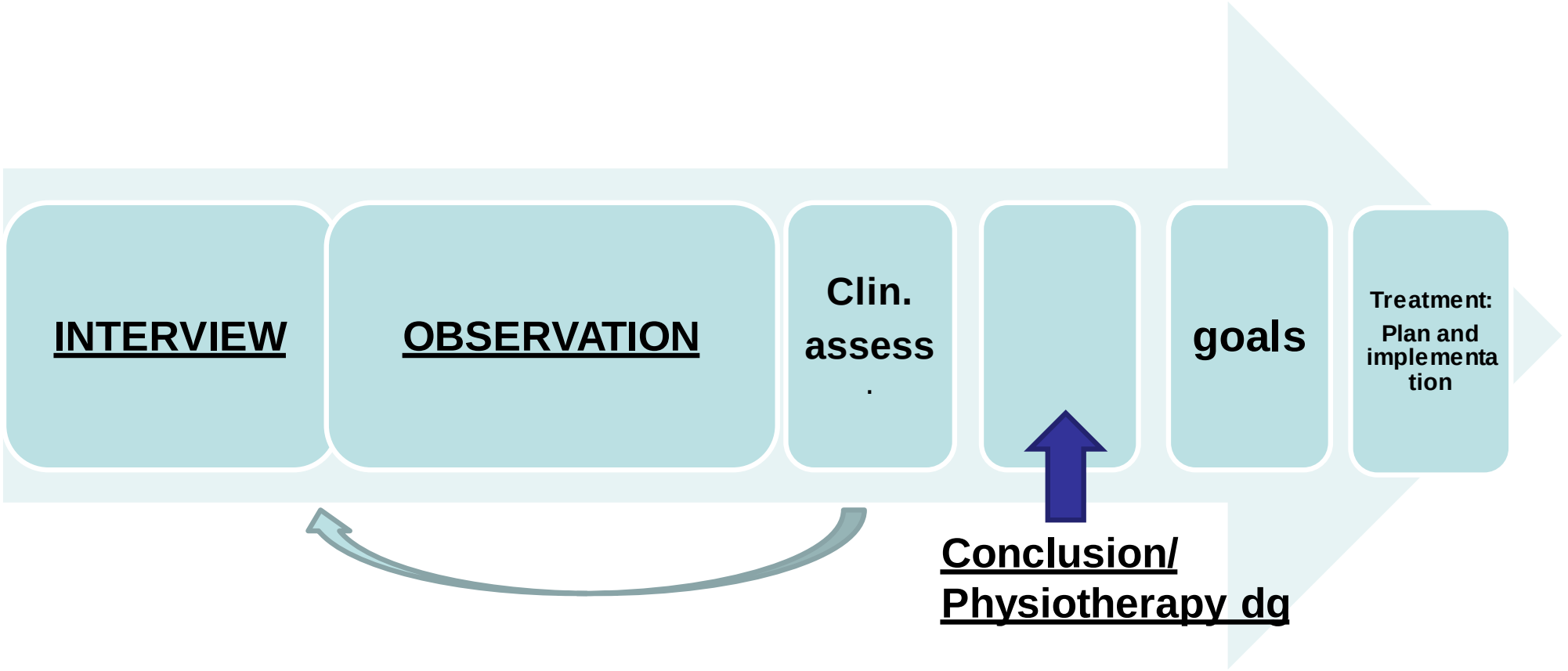


Clinical reasoning process: clinical assessment/special testing

- Many special tests are available
- Those should be considered as a part of an overall clinical assessment that includes history taking, observation…Commonly a special test is not giving a definitive answer to what is wrong
- No test is 100% **reliable**, **valid**, **sensitive** or **specific**

(Orthopedic Physical Assessment, Magee 2014)

Clinical reasoning process and evidence-based physiotherapy:



Clinical reasoning process in physiotherapy

- Based on the assessment a physiotherapist will make **a conclusion = physiotherapy diagnosis:**
  - ➢this should **not be only presenting the assessment results**
  - ➢It should identify functional limitations and summarize the reasons for that

→Based on the conclusion we will make the goals for the treatment

Clinical reasoning process: Conclusion / physiotherapy diagnosis

- A summary of the problem in full sentences
- Can also be written by using the ICF-components

An example of a simple conclusion/physiotherapy diagnosis

- “Weakness in cervical spine muscle function limits long-term working upwards (more than 30min). This is accompanied by weakness of the upper neck flexors.”

Clinical reasoning process: goal setting

- As a concept, clinical reasoning is quite a simple one however in practice, it is difficult and fraught with errors.
- <u>The goal:</u>
  - to prevent misdirection
- The way a therapist clinically reasons their findings can strongly influence how the case is interpreted

  (e.g. red flags)
  - Greenhalgh and Selfe, 2004

Clinical reasoning process: goal setting

- Goal setting between physiotherapists and their patients or clients is an important part of clinical reasoning.
- Goal setting is used to direct rehabilitation interventions towards a specific outcome or outcomes, and can result in greater client satisfaction and improved recovery

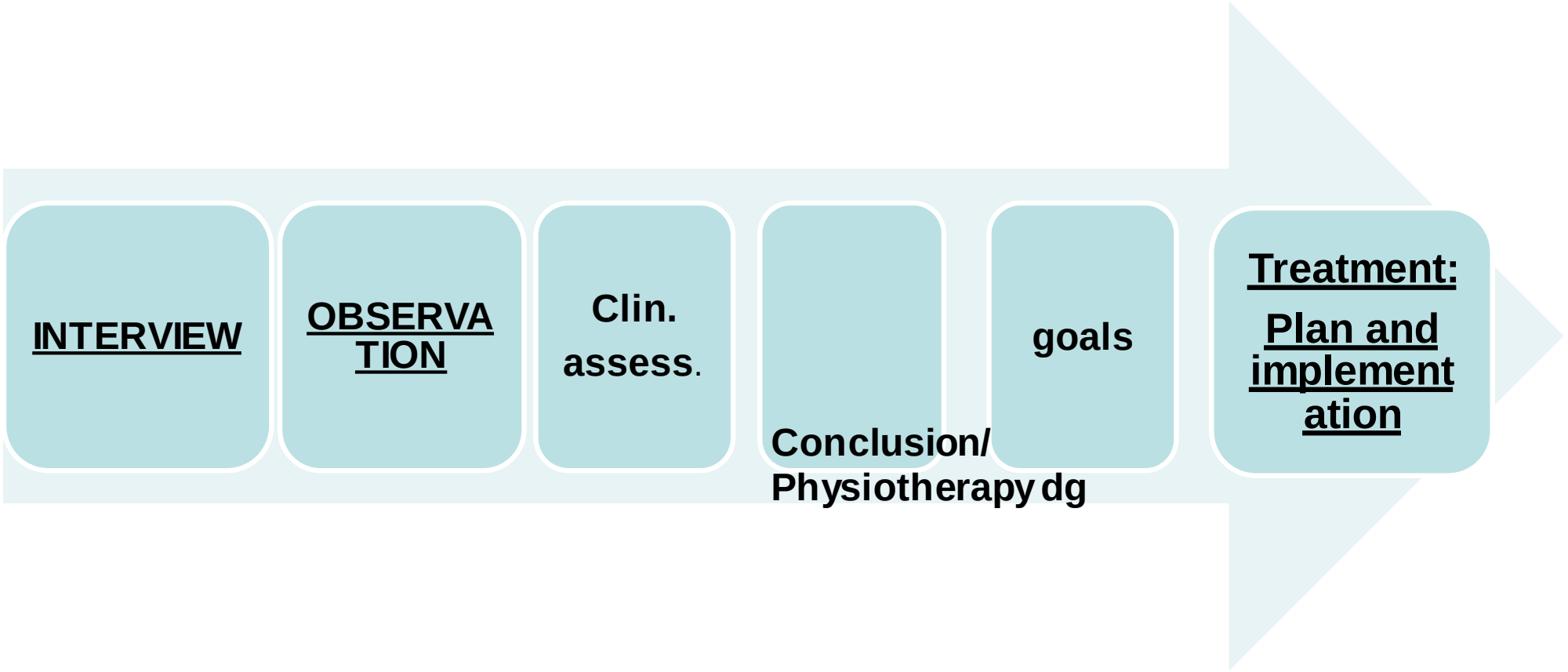
  (Wade 2009)

The patient sets the goals.

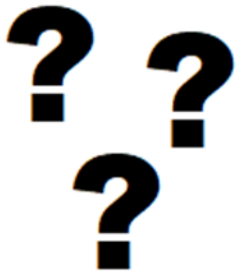
The physiotherapist provides the tools to achieve the goal.

S	Your goals should be **SPECIFIC.** Include dates, resources, and dollar amounts you'll need to accomplish them.
M	They should be **MEASURABLE** by the date, dollar, or other appropriate unit. They should also be **MUTUAL.** (A legal or financial goal that you share with a spouse, partner, or family members will be easier to achieve.) And, it's best to define strategies for staying **MOTIVATED** towards your goals.
A	Your goals should be **ATTAINABLE** for your situation. You might even be able to complete part of your goal right now.
R	If your goals are **REALISTIC** and **RELEVANT** to your life, they'll be easier to achieve. Identify the **RESOURCES** you'll need to reach them, and **REVIEW** and **REVISE** them when necessary.
T	You'll need a specific **TIMELINE** to accomplish your goals. Since there's never enough time to complete all of your goals immediately, you'll need to prioritize them.

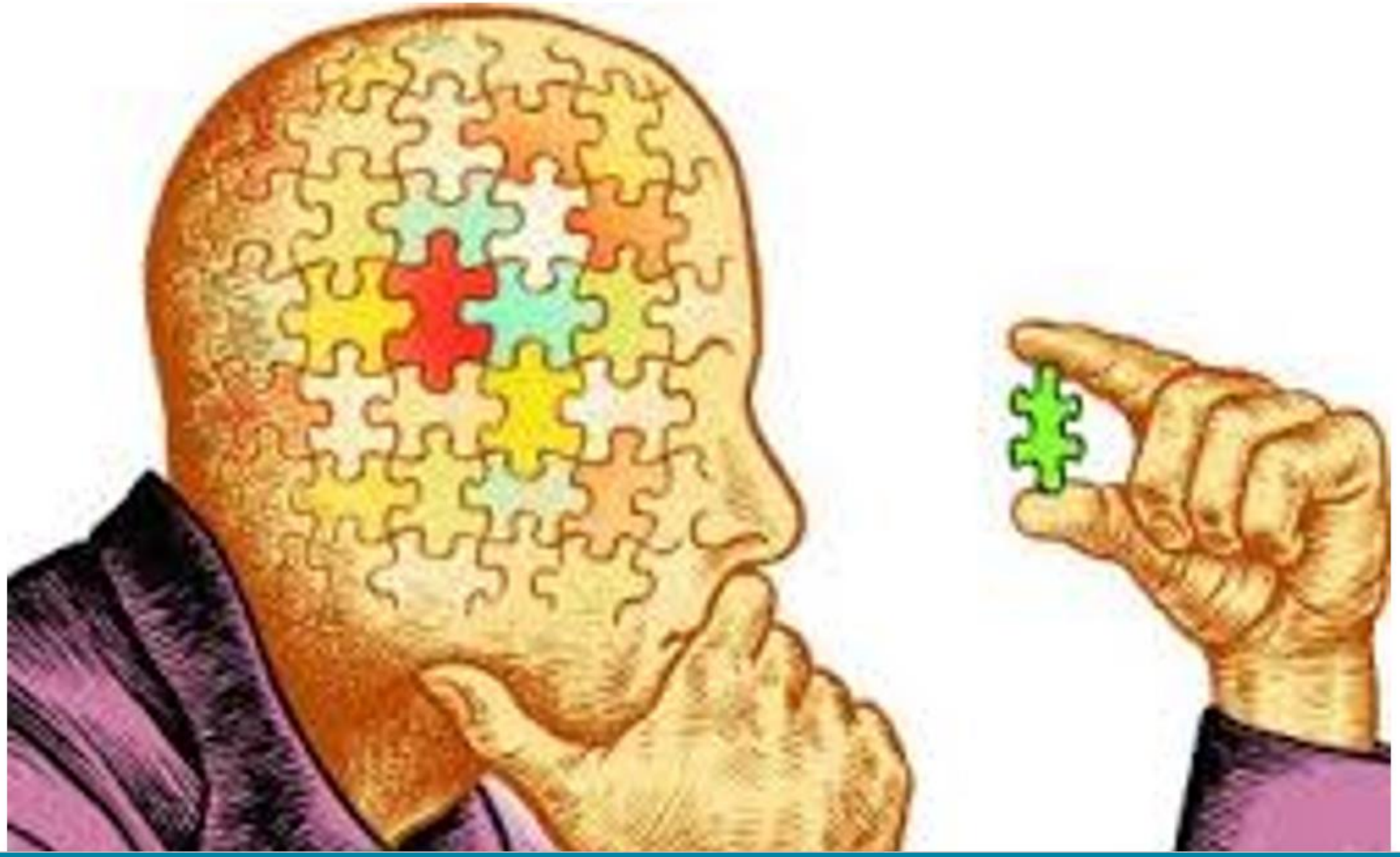
Clinical reasoning process and evidence-based physiotherapy:



Evidence based practice



What?



Evidence based practice

"The conscientious, explicit and judicious use of the current evidence in making the decisions about the care of the patients."

→ a definition by Sackett et al 1996

Evidence based treatment is the basic element of physiotherapy!

Evidence based practice (EBP)

1. Best available current evidence
2. Preferences of individual client and patient
3. Expertise and experience of the professional

(Moule & Hek 2011)

What is evidence based rehabilitation?

Simply:

- Evidence based rehabilitation is rehabilitation which is based on high quality clinical research

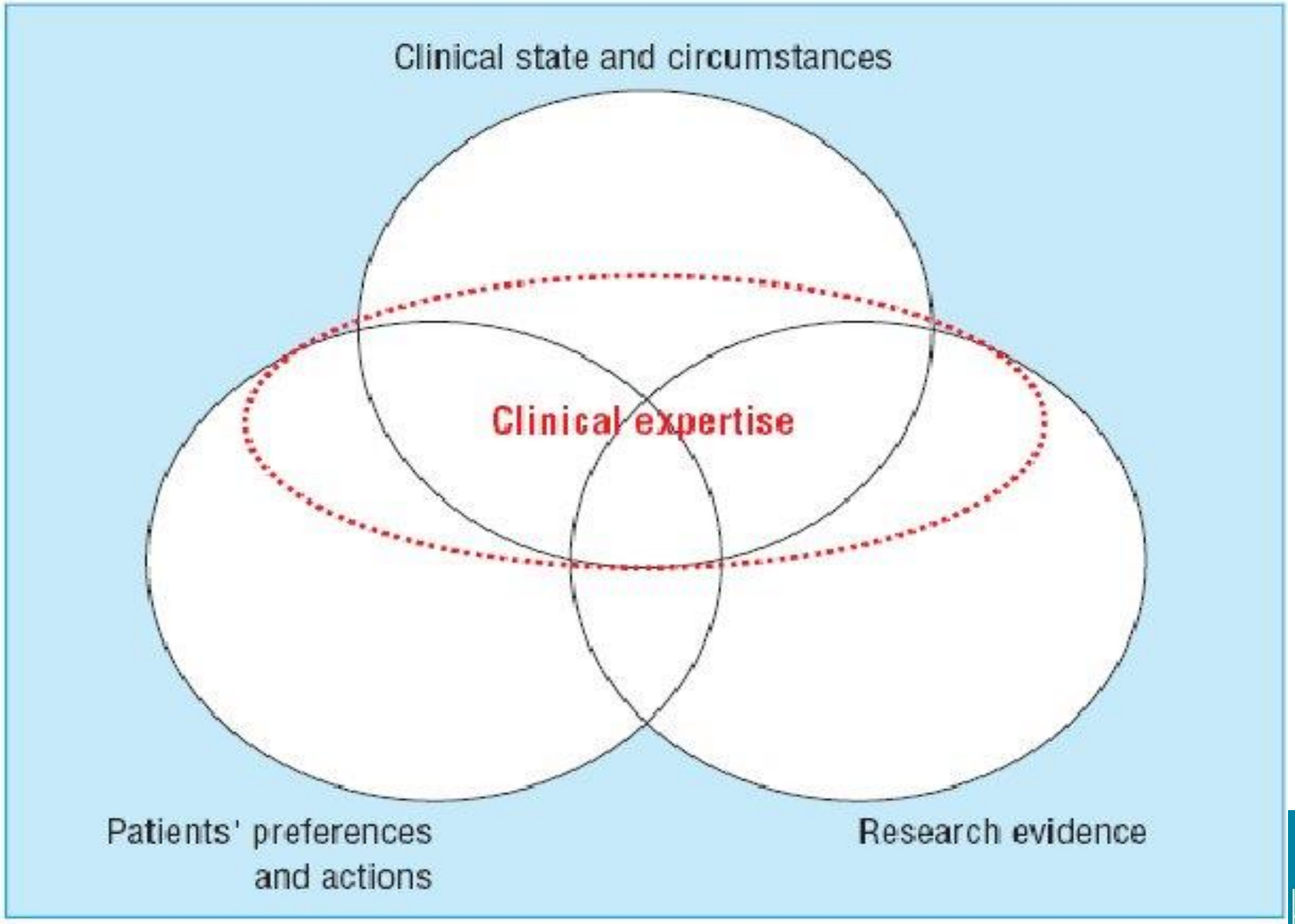
But:

- It does not mean that clinical decisions should be made ONLY based on high quality clinical research

Good decisions consider:

- Patient's expectations, values and desires
- Experienced health professionals' experiences

Model for evidence-based clinical decisions (Haynes et al., 2002:384)



Evidence based practice

Why?

Evidence based practice

To ensure the delivery of the highest quality of physical therapy services possible

(WCPT 2017)

- **For patients:**
  - Based on the current knowledge they will be treated by the safest and most effective way
- **For professionals:**
  - A characteristic of being a professional is to be trustworthy → they aim to patient's best treatment
- **For funders of services (e.g. tax payers):**
  - We want that health care is good and effective

(Herbert et al. 2005. Practical Evidence-Based Physiotherapy)

Evidence based practice

- Physiotherapy practice has changed
  - Moving to more autonomously
  - Directly accessible in many countries

Evidence based rehabilitation/ practice

How?

Evidence based practice

Process:

1. Identify a problem → patient assessment
2. Search the literature and collect clinically relevant, scientific studies
3. Critically analyse the evidence found during the literature search
4. Integrate the evidence with clinical expertise and experience and patient's unique circumstances and values
5. Incorporate the findings decisions into patient management
6. Assess the outcomes of intervention

Evidence based rehabilitation/practice

- It should identify both:

efficacy (does it work)

and

efficiency (how well it works)

Evidence based practice
→ Is not a cookbook based
→ Patient's unique circumstances!

OBS! Even though many people believe in something
→ it is not yet true!

Evidence based practice

- How you begin doing EBP (evidence based practice) → by reading to find the evidence

Evidence based practice

The biggest barriers to implementation of EBP?

→ time; access to the evidence; lack of skills to find and un

Evidence based practice

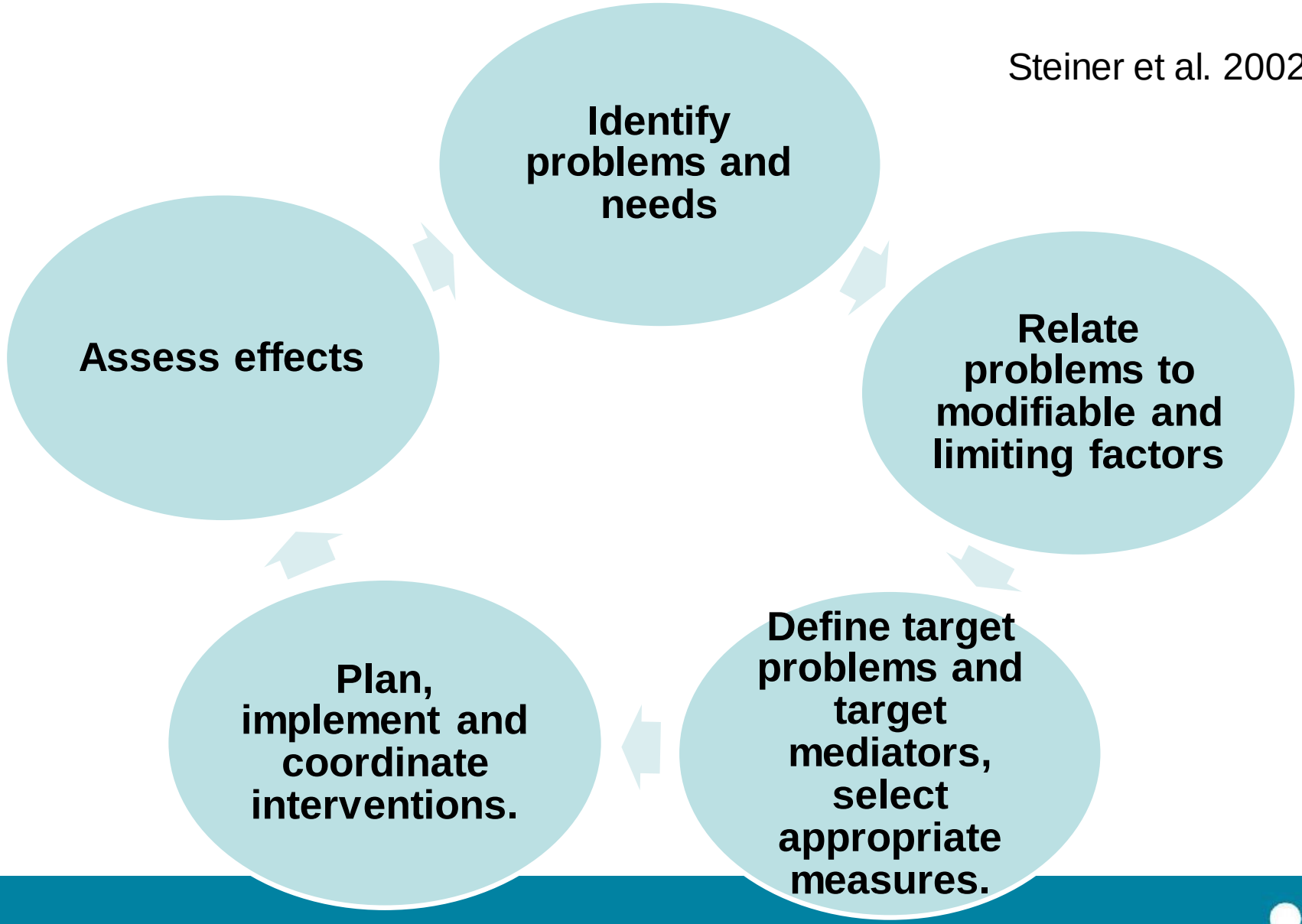
- Non-efficient practice / physiotherapy may not harm but it is:
  - Expensive
  - Time-consuming

How we could see the whole picture?

How to make the rehabilitation plan more visible?

Rehabilitation process

Steiner et al. 2002



Entry level competencies, ENPHE 2017

- Clinical reasoning
- ICF
- Red and yellow flags
- Physiotherapy dg – differentiation
- Evidence based practice
- Referring
- Continues professional development