



Erasmus+

# SCALENEo project

## Smart ClinicAL rEasoning iN physiothErapy online

Number : 22PCS0007

Duration : December 2022 to November 2024

Budget : 400 k€ from Erasmus+



SCALENEo aims to promote an innovative learning tool in musculoskeletal physiotherapy teaching, through a serious game dedicated to clinical reasoning. The serious game is based on a set of cards representing different clinical hypotheses, allowing physiotherapy students or professionals to structure their reasoning from a clinical case. The game will exist both in paper version and online; its theoretical foundations and rules have been presented in Hage et al. (2022).

Renaud Hage, Antoine Fourré, Laura Ramonfosse, Sébastien Leteneur, Mark Jones & Frédéric Dierick (2022) Description and rules of a new card game to learn clinical reasoning in musculoskeletal physiotherapy, *Journal of Manual & Manipulative Therapy*, DOI: 10.1080/10669817.2022.2132346

The digital ecosystem is targeted for both students (initial or continuing education) and professionals who, playing the role of trainer, will improve their pedagogical skills in teaching clinical reasoning. The online application will allow multimedia sources to increase the realism and the adequation between Evidence-Based-Practice (EBP) and the proposed clinical cases or scenarios (i.e. a time-evolving clinical case or "patient").

The online application can also be used for research purposes to identify bottlenecks in players' clinical reasoning.

[Read the paper](#)



### The game

- Discussion in small groups
- Identification of relevant information
- Matching with hypotheses families
- Feedbacks from teacher

### Prognosis

All families of hypotheses, but also knowledge regarding EBP, should lead the player to estimate their ability to treat the patient's problem and estimate the treatment's duration.

### Management of the treatment

Management refers to all patients' informations and hypotheses. All these hypotheses will help to carry out the strategy and the procedure of the treatment.

### Pathology

The structural and functional changes caused by disease or trauma. Note that symptom presentation alone can be insufficient to guide safe and effective examination and treatment. Knowledge about healing process can guide the management based on pathophysiology.

### Contributing factors

These are the predispositions or associated factors involved that lead to the development or maintenance of the patient's problem. They may be hereditary, physical, environmental, behavioral, emotional or psychosocial, amongst other factors.

### Impairments in body function or structure

Musculoskeletal-associated physical impairments include impairments in e.g. posture, active and passive movement, soft tissue, neurodynamics, motor function, etc.

### Clinical case with detailed information

"Marie is a 43-year-old woman who has been unemployed for 3 months. She has been divorced for a year, has no children and lives with her new partner (...). She used to work as a waitress in a large catering company and had a hard time when she was fired. She makes a little money by ironing the clothes of her neighbours/friends. She does not play sports and her daily physical activity is limited to walking her partner's dog (...)."

### Activity & participation

Clinical reasoning is here addressed in a biopsychosocial framework and by using the International Classification of Functioning, Disability and Health (ICF).

### Patients' perspectives

What are the beliefs of the patient? What does the patient expect regarding the management of the treatment?

### Sources of symptoms

What is the potential structure causing the pain sources? A body chart allows to generate hypotheses regarding possible sources of pain.

### Precautions & contraindications

It is important to determine the procedures that can be performed and the appropriate dosage for examination and/or treatment. "Red flags" must be systematically highlighted during subjective examination.

### Pain type

The patient's clinical problems often overlap several pain mechanisms: nociceptive, neuropathic (peripheral and central), nociplastic, etc.

