

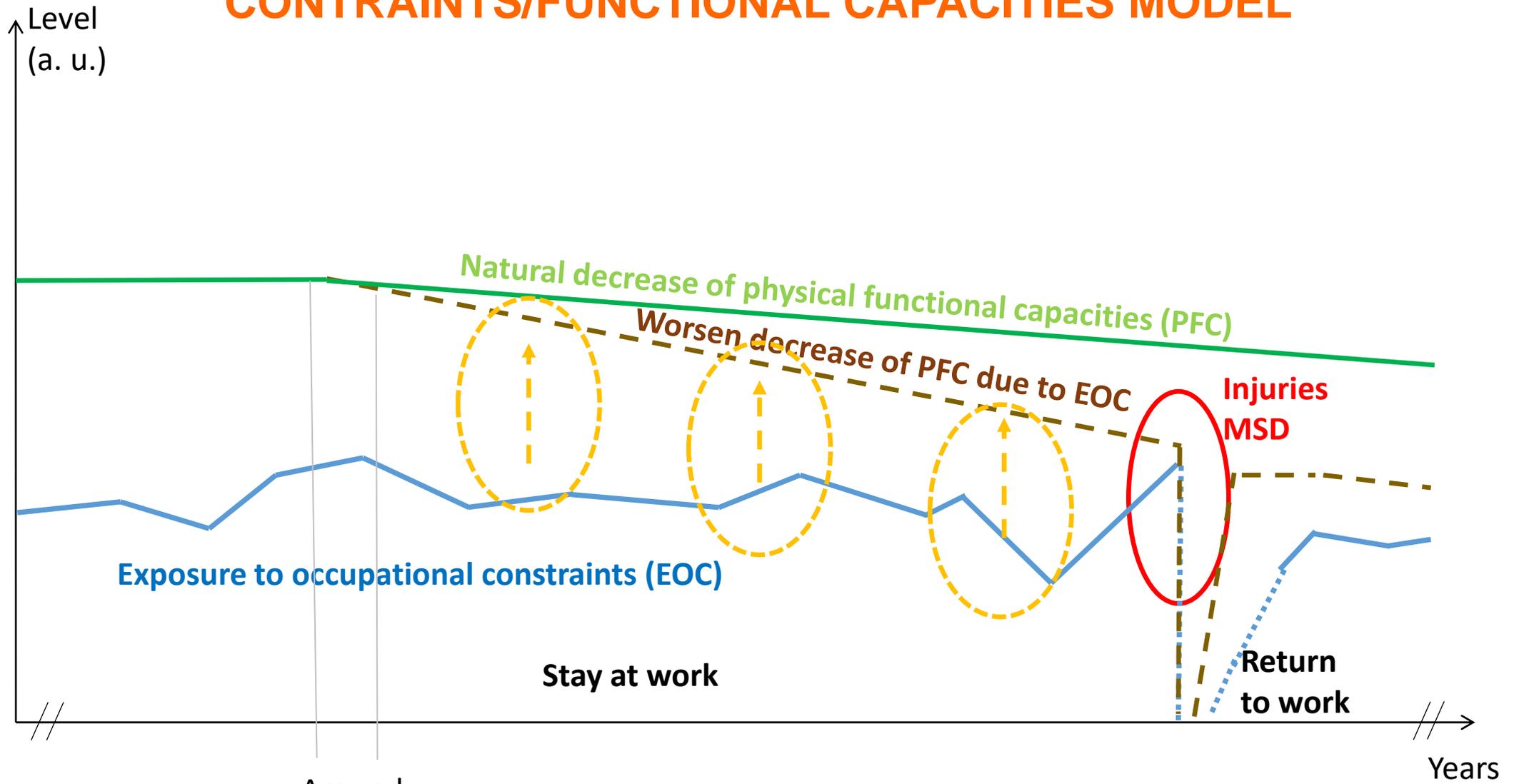
Staying at work – Return to work

- About two recent studies from INRS -

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SCHEMATIC APPROACH OF CONSTRAINTS/FUNCTIONAL CAPACITIES MODEL



Study I :

Study I : Evaluation of physical functional capacities according to occupational exposures encountered during the professional career

Emmanuelle Turpin-Legendre

Study I : Context & Aims

Context :

- Construction sector
- High level of physical exposure
 - ⇒ High risk of musculoskeletal disorders



Aims:

- Increase knowledge about physical functional capacities in relation to the occupational exposures encountered during the professional career
- Identify physical functional capacities tests related to certain occupational exposures with a view to offering these tests to occupational health services of construction industry

Study I: Methods

- A Cross-sectional epidemiological study in collaboration with an occupational health service
- **153** workers included :
 - **83** who always with a high physical exposure
 - **70** who changed jobs: from a high physical exposure → to low physical exposure

Age range (years)	< 30	30 - 39	40 - 50
n = 153	43	50	60

- Retrospective evaluation of physical exposures in order to build exposure scores (frequency x duration x intensity) for 8 physical constraints (work intensity, manual handling, repetitive gesture, grip force, postures, vibrations, displacement, shift work)
- Evaluation of psychosocial constraints using the Karasek questionnaire and specific questions on social recognition, customer relations, ... for the current job

Study I : Methods

13 Functional Physical Capacity tests (FPC)



Maximum strength & Endurance
for grip and shoulder



Dexterity (Purdue Pegboard test)



Balance on one leg



Shoulder flexibility



Cardiorespiratory capacity (step test)

01/06/2022 → 5 levels of fitness



Arm motor coordination
(plate-tapping test)



Thigh endurance
(squatting test)



Back flexibility



Study I : Results

Physical exposures – Physical Functional Capacities
High grip force → High maximum grip strength
High Squatting → Low thigh endurance
High whole body vibration → Low arm motor coordination

Psychosocial exposures – Physical Functional Capacities
High demand → Low maximum shoulder strength
Lack of recognition → low fitness

5 tests seem relevant to warn about a decline of physical functional capacities in connection with certain occupational exposures

Study I : Conclusion & perspectives

- Highlights the relationships between physical and psychosocial exposures during the professional career and low physical functional capacities of construction workers
- Opens perspectives on the interest in observing the evolution of physical functional capacities as a potential early warning signal for the onset of musculoskeletal disorders by identifying promising functional tests.

In perspective :

An extension of this study over 5 additional years to :

- Check the validity of the relationships highlighted in this study over an observation period of 5 additional years
- Look at the predictive nature of PFC scores collected during this study on perceived health 5 years later
- Observe the evolution of PFC according to the exposures encountered over a period of 5 years

Publication:

- Références en Santé au Travail (RST 168), TF 292, 2021
- Arch. Mal. Prof. Env., 28 (5), 2020, 516
- Prévention BTP J., October 2021
- Préventica J., November 2021

Presentation:

- French National of Occup. Health Conf., June 2022

Study II:

Success and failure factors when returning to work after rotator cuff surgery in a professional context

Anne Pichené-Houard

Study II : Context & Aims

Context

- 33 % of occupational musculoskeletal disorders concern the shoulder
- Return to work on average 7 months after rotator cuff surgery,
- The success of the return to work process depends on many factors
- High rates of failure of the return to work process for shoulder injuries

Aims

- ✓ Identify the preoperative predictive factors of the duration of postoperative sick leave
- ✓ Identify favourable and unfavourable prognostic factors for a sustainable return to work
- ✓ Specify the most relevant tools (questionnaires, tests) for early detection of success or failure of the return-to-work process after shoulder surgery

Study II: Methods

- **A prospective study with 5 collection times from preoperative stage until:**

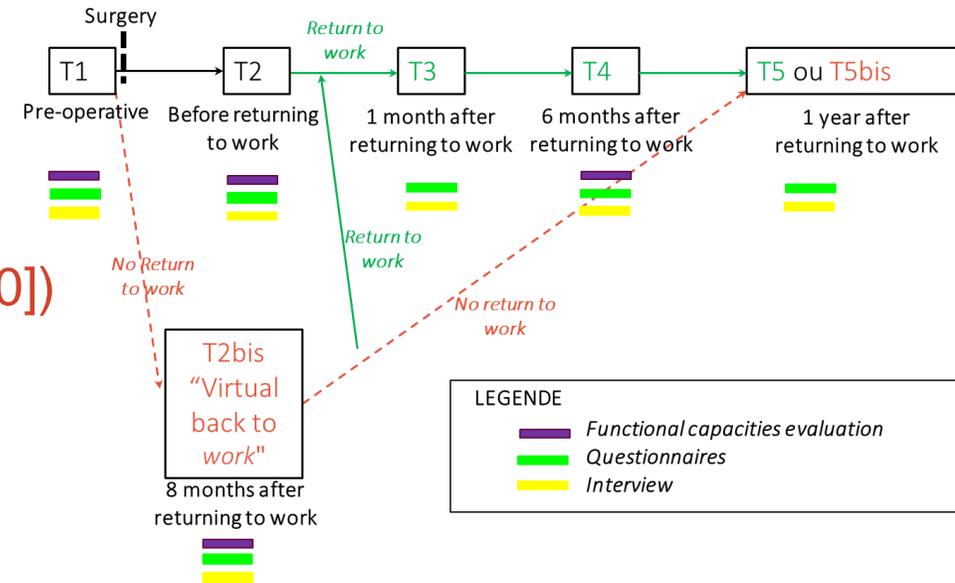
- 1 year after return to work (sustainable or not)
- 20 months after surgery in absence of return to work

- 8 months after surgery if no return to work
- 1.6 ± 0.4 year follow-up

- **108 participants (45 ♂, 63 ♀; Age : 49.0 [45.0–53.0])**

- **Data collection**

- **Questionnaires** : DASH, Perceived health, SF12, HADS, kinesiphobia Tampa scale, nordic questionnaire, WAI questions 1 and 6, Readiness to Return to Work Scale, Job demand control, ...
- **Functional capacities evaluation**: Constant-Murley Score, 400 points assessment
- **Specific interview** to each collection time



Study II : Predictive factors for the duration until return to work (n=92)

Twenty months after surgery, 15.2 % were still not back at work

For the other participants : average time to return to work = 225 days (SD 156)

Preoperative variables associated with a later return to work :

- Preoperative sick leave duration
- High level of physical demand of the job
- Number of total body areas (spine, upper-limbs, lower-limbs) causing pain/discomfort in the last 12 months

Preoperative variables associated with an earlier return to work :

- A “relatively certain” own prognosis of work ability 2 years from now (WAI 6),
- Prepared for Action category of the Readiness Return to Work Scale

Study II : Predictive factors of return to work (n=96)

3 typologies of RTW trajectories : stable, unstable, no return to work

Predictors of return to work trajectory :

- Perceived health
- Level of physical demand for the shoulder
- Nature of the surgery

Conclusion

- ✓ Relevance of monitoring the evolution of many factors during the return to work process following shoulder surgery
- ✓ Highlights predictive factors of the duration of sick leave and the type of return to work trajectory
- ✓ Relies on data readily usable into clinical practice by surgeons, rehabilitation physicians, occupational health physicians and nurses

Published :

- Revue Références en Santé au Travail, (RST 165), TC 174, 2021
- Am. J Ind Med. 2021;1-12, 2021

Presentation:

- PREMUS Conference, Bologna, 2019
- French National Occup. Health Conf., June 2022



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