# PTAI: Observation instrument for assessing work load during patient transfer tasks –validity and consistency

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# Introduction

- Health care professionals have a substantial risk for musculoskeletal disorders and accidents, often due to handling and moving patients
- There has not been a method in Finnish for assessing patient transfers

# Objectives

- To investigate the construct and content validity and consistency of the PTAI (Patient Transfer Assessment Instrument)
- To develop a practical tool that occupational safety and occupational health professionals can use to assess
  1) manual patient transfers
  2) transfers made with mechanical hoists
  3) the work environment and organization

# Methods: The construct and content validity

- The construct and content validity was assessed by
  1) a professor of physiotherapy
  2) an engineer specialising in work safety technology
  3) a specialist in patient transfer issues with a doctorate in the health sciences
  4) an experienced occupational physiotherapist in the occupational health care unit of a hospital.
- The PTAI was introduced in a seminar for Finnish specialists in patient handling. Participants comments were taken account.

# Methods: The consistency

- In the first pilot PTAI was tested by three occupational physiotherapists
  - Eight videotaped patient transfers were evaluated at an one-week interval
- In the second pilot another occupational physiotherapist evaluated 10 patient transfers
  - in situ and re-evaluated one week later on videotape.

# Results: Construct and content validity

- According to the specialists and seminar participants who commented on the PTAI, its construct and content validity was acceptable in evaluating the patient transfer load on nursing personnel
- Comments were taken account in enhancing the PTAI

# Results: Consistency

| **Objects of assessment** | 1st pilot | | 2nd pilot |
|---|---|---|---|
| | Inter-tester | Test-retest | Test-re-test |
| 1. PHYSICAL WORK ENVIRONMENT (temperature, draught, lightning) | 100 % | 100 % | 100 % |
| 2. FEATURES OF WORK ENVIRONMENT (space, adjustability, floor and working shoes) | 75 % | 88 % | 100 % |
| 3. USE OF MECHANICAL HOIST | 50 % | 75 % | 100 % |

| **Objects of assessment** | 1st pilot | | 2nd pilot |
|---|---|---|---|
| | Inter-tester | Test-retest | Test-re-test |
| 4. USE OF NON-MECHANICAL LIFTING EQUIPMENT | 58 % | 71 % | 100 % |
| 5. DISTANCE AND HEIGHT OF TRANSFER (no steps, knee-elbow level, no reaching) | 50 % | 50 % | 70 % |
| 6. LOAD ON UPPER LIMBS AND TRUNK (holding up, elbows and shoulders, wrists and fingers) | 83 % | 67 % | 80 % |

| **Objects of assessment** | 1st pilot | | 2nd pilot |
|---|---|---|---|
| | Inter-tester | Test-retest | Test-re-test |
| 7. LOAD ON LOW BACK (flexion, rotation, body control) | 58 % | 55 % | 50 % |
| 8. LOAD ON LOWER LIMBS (weight transfer and muscle force, knee-feet alignment, no squatting/on knees) | 83 % | 82 % | 100 % |
| 9.PATIENT TRANSFER SKILLS AND FLUENCY (guidance and facilitation, grip, transfer skill) | 63 % | 67 % | 100 % |

| **Interview questions** | Inter-tester | Test-re-test |
|---|---|---|
| 10. GUIDANCE IN WORKING POSTURES | 75 % | 92 % |
| 11. GUIDANCE IN USE OF TRANSFER EQUIPMENT | 71 % | 79 % |
| 12. WORK ORGANIZATION | 67 % | 75 % |
| 13. MENTAL LOAD IN PATIENT TRANSFER | 67 % | 86 % |
| 14. PHYSICAL LOAD IN PATIENT TRANSFER | 79 % | 88 % |
| 15. FREQUENCY OF MANUAL TRANSFERS | 92 % | 92 % |

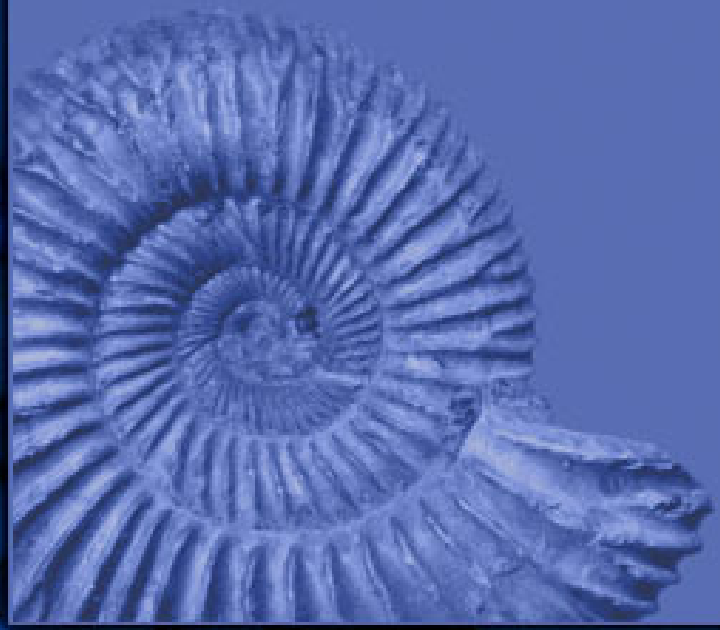
# Conclusion

- The PTAI ´s validity, feasibility and consistency is acceptable
- The consistency of assessment of load on the low back remained satisfactory

# Discussion

- The feasibility of the PTAI with different types of patients has also be tested in SLIC –campaign in Finland.
- The PTAI has been developed to assess the average load of patient transfers and patient transfer skill on the ward or organizational level.
- The PTAI can also be used to assess individual work techniques, for example to assess nurses with impairments in work ability.
- There should be a broader approach to occupational safety in patient transfers.

# THANK YOU FOR YOUR ATTENTION!



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