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Title: **Comparison of Responses Between the KOOS & Norwich in Patellofemoral Instability Patients**

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Disclosure:

Dr. Arendt is a consultant for Smith and Nephew

There are no conflicts with this presentation.

This is an sub-set of an ISAKOS funded study.

Background

- Patient Reported Outcome Measures (PROMs) are increasing in usage

- **The Knee Injury and Osteoarthritis Outcome Score (KOOS) :** a 42-item generic questionnaire used for knee pathologies that may result in post- traumatic osteoarthritis

- **The Norwich Patellar Instability Score (NPI) :** a 19-item disease-specific outcome measure designed for patellofemoral instability patients.

Background

- KOOS asks if there is difficulty with physical function over the last week
- NPI asks how often patellofemoral instability symptoms occur
- **Sample questions with similarity between the 2 PROMs:**
  - Climbing stairs (KOOS) vs Ascending stairs (Norwich)
  - Squatting (KOOS) vs Squatting (Norwich)
  - Running (KOOS) vs Running in a straight line on even surfaces (Norwich)

Purpose

- To compare patient's answers to comparable questions from the KOOS and NPI at the same timepoint pre-surgery
- To determine if answers are equivalent, potentially eliminating the need to utilize both PROMs
- To determine if there is variance in answers to similar questions, answered at similar times.

Methods

- KOOS / NPI responses between comparable questions were reviewed by 2 independent reviewers
- 16 comparative questions between the two measures were identified by the senior authors
- KOOS scores were inverted so that both KOOS and NPI scores were numerically comparable with higher scores denoting increased symptoms

Methods

- This study included 180 patients treated with medial patellofemoral ligament reconstruction for patellofemoral instability that completed both KOOS and NPI surveys at the same timepoint pre-surgery
- Sites: Mpls, MN; Columbus, Ohio; Melbourne, Australia
- Comparative questions were analyzed for reliability in responsive within a given patient using Chi-square

Results

- Statistically similar responses were found in 5/16 questions
  - Putting on socks (KOOS) – Crossing legs while sitting (NPI) (p = 0.37)
  - Taking off socks (KOOS) – crossing legs while sitting (NPI) (p = 0.33)
  - Running (KOOS) – Running in a straight line on uneven surfaces (NPI) (p= 0.09)
  - Twisting/pivoting on injured knee (KOOS) – Twisting/changing directions during sport (NPI) (p = 0.12)
  - Twisting/pivoting on injured knee (KOOS) – Looking over shoulder (NPI) (p = 0.31)

Results

- 11/16 comparable questions resulted in statistically different response distributions
  - Descending stairs (KOOS) – Going down stairs (NPI) (p= 0.000)
  - Ascending stairs (KOOS) – Climbing stairs (NPI) (p= 0.000)
  - Walking on flat surface (KOOS) – Walking in a straight line on even surfaces (NPI) (p= 0.000)
  - Getting in/out of car (KOOS) – Getting into or out of a car (NPI) (p= 0.000)
  - Going shopping (KOOS) – Turning a heavy cart round a supermarket aisle (NPI) (p= 0.001)
  - Getting in/out of bath (KOOS) – Stepping onto or over a high step (NPI) (p= 0.003)
  - Squatting (KOOS) – Squatting (NPI) (p= 0.000)
  - Running (KOOS) – Running in a straight line on even surfaces (NPI) (p= 0.002)
  - Jumping (KOOS) – Jumping (NPI) (p= 0.000)
  - Twisting/pivoting on your injured knee (KOOS) – Running sideways (NPI) (p= 0.001)
  - Kneeling (KOOS) – Kneeling (NPI) (p= 0.000)

Conclusion

- Only 5/16 comparable questions between the two questionnaires were found to have similar responses for a given patient despite both questionnaire being given at the same encounter.

- The reasons for the differences remain unclear but merit further consideration when interpreting results.

- With few similar responses, these two surveys may measure different domains

- Respondent fatigue may play a role in the variability of answers between the two questionnaires.

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Thank you

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