

## BACKGROUND and SIGNIFICANCE

- The Global Rating of Change (GROC) is most often used in the clinic and in clinical research to measure true change over time in response to therapy.
- Quantitative literature has primarily focused on studying the validity of the tool, with few studies assessing predictors of the GROC scores.
- Qualitative literature found common themes of symptoms, activities of daily living, and improved function as factors considered when determining GROC scores.
- There is a lack of both quantitative and qualitative literature that provides insight as to what individuals are considering when giving a rating on a GROC.

## PURPOSE

The primary aim of this study was to explore what patients with non-arthritic hip pain include in their reasoning as they rate their magnitude of perceived change.

## SAMPLE

- 9 patients (8 female, 1 male)
- 15-47 years old
- 3 post-surgical

### Inclusion Criteria:

- Age 15-47 years old
- History of non-arthritic hip pain for  $\geq 3$  months or post-surgical
- +C-sign, + hip scour, or + FADIR

### Exclusion Criteria:

- Pilates/Exercise Contraindications
- Previous diagnosis arthritis
- LE surgery in the past year
- Pregnancy
- Inflammatory or neurologic disease

## DESIGN AND METHODS

**Design:** Mixed methods with case series design and a qualitative phenomenological approach

### Methods:

- Purposeful sampling utilized to recruit nine patients from local physical therapy clinics
- Patients participated in an intervention protocol for a minimum of 6 weeks consisting of individualized Pilates-based physical therapy treatment
- Outcome measures utilized: Copenhagen Hip and Groin Outcome Score (HAGOS), Side Plank Endurance Test, Single-Leg Bridge Endurance Test, GROC
- Paired t-tests were analyzed to determine statistical significance
- Spearman Correlations
  - GROC with HAGOS subscales change scores
  - GROC with change in hip and core endurance tests
- Semi-structured phone interviews conducted to explore what patients considered when rating on the GROC
- Digital recordings were transcribed; data individually coded by each investigator
- Recurrent codes were identified and categorized into themes

## RESULTS

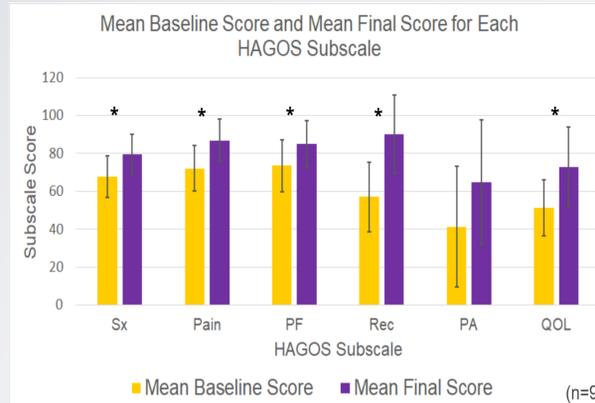


Figure 1

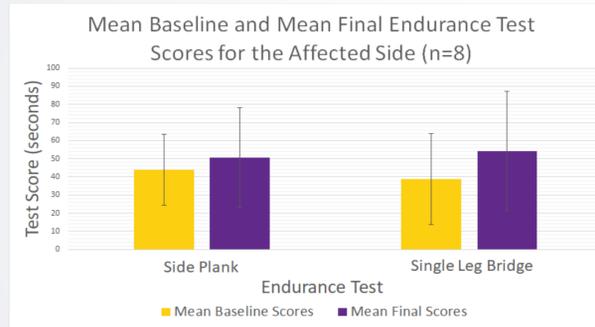


Figure 2

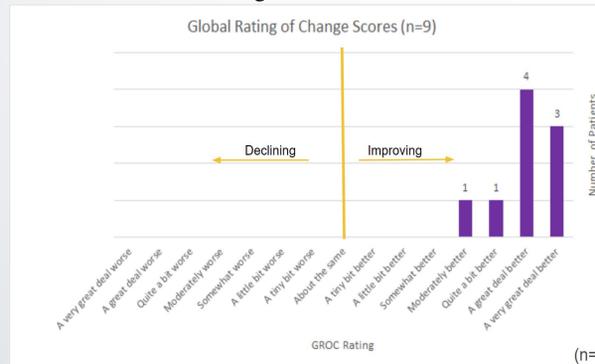


Figure 3

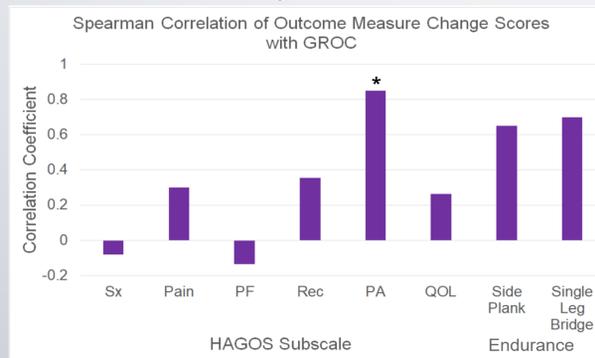


Figure 4

### Summary of Quantitative Results

- Statistically significant improvement was found in all domains of the HAGOS subscales except physical activity. (Figure 1)
- Core and hip endurance score improved from initial to final measurement although the results did not reach significance in this small sample. (Figure 2)
- Patient ratings on the GROC ranged from “moderately better” to “a very great deal better.” (Figure 3)
- Physical activity subscale change score had a significant, strong, positive correlation with the GROC. (Figure 4)
- Change scores on both endurance tests had strong, positive correlations with borderline statistical significance. (Figure 4)

### Qualitative Themes:

#### 1. Physical Benefits

- **Regaining strength, regular exercise, decreased pain/symptoms with activity**

“Well, I’m thinking back to being on crutches and really not having the ability to put any weight on it and going from basically square one to where I am now which is almost back to full sports and athletic activity.”

#### 2. Quality of Life

- **Improved ability to drive, walk dog, general activity, care for kids, stress relief**

“Yeah. I think yeah. Just be like be able to do those things you do everyday and then I like exercising so being able to do that is kind of my stress relief. So being able to do those things again makes life a lot more enjoyable.”

#### 3. A New Normal

“Just, I know how to cope with it and I can move forward in life and enjoy it. Like it’s not holding me back I guess is what I should say.”

#### 4. Positive Therapeutic Relationship/Positive Therapeutic Atmosphere

“I liked her. She was really nice. ...She tried to keep things a little bit new and exciting so I didn’t get bored with anything. And um, no, she was good; personable, easy to talk to, and definitely trustworthy. ...I think if it was someone I didn’t trust or didn’t feel comfortable with that I may have not bought into everything they were doing.”

## DISCUSSION

### • Triangulation of quantitative and qualitative data:

- Physical activity was quantitatively and qualitatively identified as a factor related to patient’s perceived improvement.
- Qualitative theme of physical benefits was represented quantitatively by improvement in endurance test scores and correlation to the GROC.
- Mean final HAGOS score was 80/100 indicating patients did not reach full recovery though they rated improvement on the GROC. This was supported by interview statements relating to a new normal.
- Surprisingly, there was a weak correlation between the HAGOS quality of life subscale and the GROC despite “quality of life” emerging as a theme from interviews.

### • Similarities to previous literature:

- Two studies by Evans et al found the themes of ability to cope and biomechanical performance, similar to findings in this study of “a new normal” and “physical benefits” respectively.
- The predictor of “physical activities” from a study by Scott & McCracken is consistent with findings in our study of a strong correlation between improvement in physical activity and the GROC.

### • Differences to previous literature:

- Patients in our study placed less emphasis on pain and symptoms, activities of daily living, and the impact of their mood.

### • Addition to literature:

- First time to comprehensively examine GROC for patients with non-arthritic hip pain
- Mixed methods approach study

### • Study Limitations:

- Small sample size
- Primarily younger, athletic population
- No established inter-rater reliability of endurance tests

### • Future research:

- Larger sample size
- Other populations
- Continue mixed methods approaches
- Explore how therapeutic alliance influences patient’s GROC

## CONCLUSION

- Change in HAGOS physical activity scores as well as core and hip endurance performance were best predictors of the patients’ GROC.
- Qualitative findings support that patients value and consider their ability to return to a level of physical activity that they deem acceptable when asked to rate their change.
- Clinically, the use of the GROC should be combined with discussion between the patient and therapist in order to determine what is meaningful change to patients and enhance patient care.