



Manual Physical Therapy Following Total Knee Replacement: A Case Study

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BACKGROUND

Most people who have had a knee replacement are able to return to the same physical activities, such as gardening and household chores, that they did before the surgery. However, they have considerably less strength and flexibility in the operated knee compared to healthy peers.^{1,2,3}

Standard physical therapy following knee replacement surgery does not typically involve manual therapy, which is the manipulation of body tissue, such as muscles and joints, using one's hands. Manual physical therapy techniques include massage, assisted stretching, and traction applied to the joints.

PURPOSE

The purpose was to describe the effect of adding manual therapy to standard physical therapy on changes in ROM, functional performance, and self-reported measures of function following knee replacement surgery.

METHODS

Study design: Case study

Subject characteristics: 66-year-old woman 3 weeks following right knee replacement for severe osteoarthritis

Treatment duration: Twelve 45-minute sessions over the course of 5 weeks

Outcome measures:

- Knee flexion active range of motion (AROM)
- 6 Minute Walk Test (6MWT)
- Timed Up and Go (TUG)
- Medical Outcomes Study Short Form 36 physical component score (SF-36 PCS)

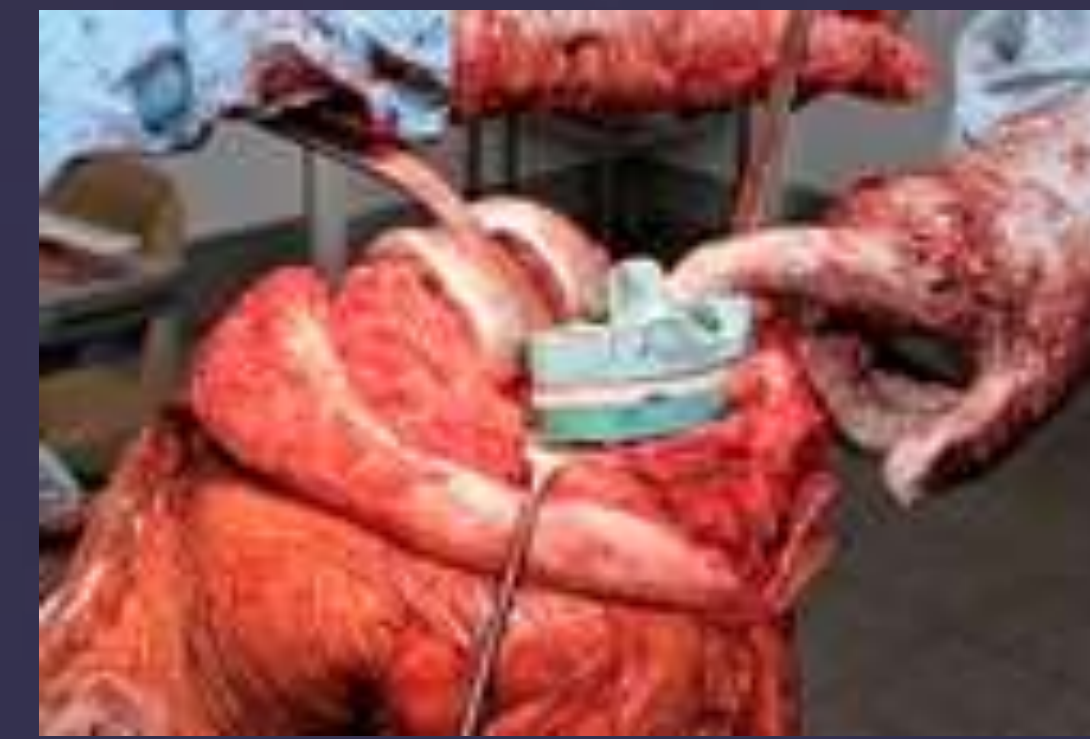
INTERVENTION

Standard Physical Therapy

- Stretching
- ADL training
- Aerobic exercise
- Strengthening exercises

Manual Physical Therapy

- Joint mobilizations
- Scar tissue massage
- Soft tissue mobilization
- Therapist-assisted manual stretching



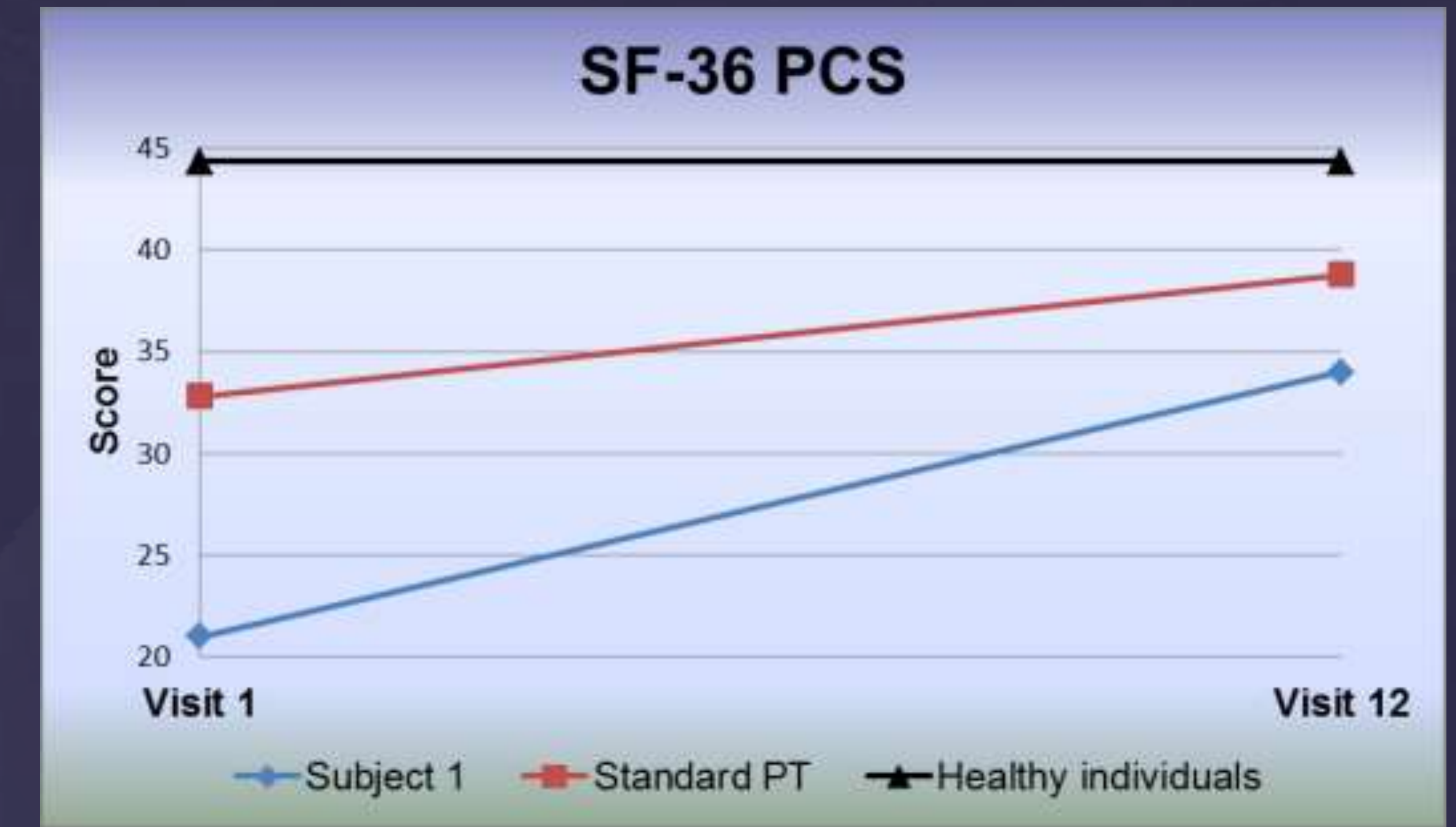
AROM for knee flexion for subject, patients receiving standard physical therapy, and healthy individuals.



6MWT for subject, patients receiving standard physical therapy, and healthy individuals.



TUG for subject, patients receiving standard physical therapy, and healthy individuals.



SF-36 PCS for subject, patients receiving standard physical therapy, and healthy individuals.

RESULTS

The subject increased knee flexion AROM 22 degrees by the 8th visit to achieve 130 degrees, which was the upper limit set by her orthopedic surgeon. She nearly doubled the distance walked on the 6MWT from 245 meters to 454 meters, and her time on the TUG decreased by almost 2 seconds (from 10.5 to 8.7). Additionally, her score on the SF-36 PCS increased by 60%.

CONCLUSION

Scores achieved on the TUG, 6MWT, and knee flexion AROM exceeded those achieved by patients who participated in a standardized rehabilitation program following TKA that did not include manual therapy despite those patients being evaluated one month further out from surgery. It is recommended that future randomized controlled trials be conducted in which a control group receiving standard physical therapy is compared against a treatment group receiving both standard physical therapy and manual therapy.

REFERENCES

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