



## Program



### History

Fit & Strong! was developed by researchers and exercise experts at the University of Illinois at Chicago who found in previous work that osteoarthritis (OA) is the leading cause of disability among older adults. People who have OA can have painful lower extremity joints; as a result, they often become sedentary and de-conditioned. To reverse this trend, Fit & Strong! provides flexibility, aerobic conditioning, and strength training for this population.

Fit & Strong! aims to help participants: 1) gain a clear understanding of what OA is and how an exercise program that is tailored to their needs can help them manage arthritis symptoms; 2) learn to perform safe stretching, balance, aerobic, and strengthening exercises which gradually increase in frequency, duration, and intensity over time; and 3) develop individualized, tailored, multiple component physical activity routines that are sustainable after the program ends. Fit & Strong! has been rigorously evaluated in an RCT with 200+ participants, in a long term effectiveness trial, and in a dissemination study. Significant findings are presented in the Outcomes Section. The program is now licensed by the University of Illinois at Chicago and is based in the University's Center for Research on Health and Aging where staff work with providers to disseminate the program across the United States, and more recently, globally.

### Program Description

Fit & Strong! meets three times per week for eight weeks. Each session lasts for 90 minutes. The first 60 minutes are devoted to exercise (flexibility, aerobic, and progressive lower extremity strength training), and the last 30 minutes are devoted to a structured health education/group problem-solving curriculum that motivates participants to use physical activity to manage their symptoms in the future. In week six participants meet with the instructor to negotiate individualized exercise adherence contracts that foster ongoing maintenance of a balanced physical activity routine of their choice after the conclusion of the 8 week program.

Fit & Strong! classes are appropriate for older adults who have lower-extremity joint pain and stiffness related to osteoarthritis or other lower extremity mobility/balance challenges. Classes are led by either nationally certified exercise instructors or by persons who have served as successful instructors for other group evidence based health promotion programs.

## Program Outcomes

A randomized controlled trial (1) compared the effects of participation in Fit & Strong! (N = 115) to a control group (N = 110) at baseline, two, six, and 12 months following randomization. Program participants showed statistically significant improvements relative to the control group, at two months (end of formal program) in:

- confidence in their ability to exercise safely with arthritis (78% increase)
- participation in exercise (86% increase) and
- lower extremity stiffness (33% increase)

These benefits were maintained at six months, at which time participants experienced the additional significant benefits of increased confidence in their ability to adhere to exercise over time, a significant decrease in lower extremity joint pain, and a marginally significant increase in their confidence in their ability to manage arthritis pain (2).

At 12 months, significant benefits were maintained on confidence to exercise safely with arthritis and continued exercise participation that were accompanied by marginally significant reductions in lower extremity stiffness and pain. Effect sizes for the efficacy and physical activity engagement outcomes were strong at all time points.

A large effectiveness trial (3) with 534 participants also found a significant increase in physical activity over baseline levels at two months that was maintained at 18 months, and accompanied by maintenance of significant improvements over the same time period in:

- Lower extremity joint stiffness, pain, and function
- Lower extremity strength (timed-stands test)
- Mobility (6-minute distance walk)
- Anxiety and depression

Fit and Strong! is currently being evaluated for impact on medical care utilization as part of a Prospective Study that is being conducted by CMMS. Study results are expected in 2016.

## Program References

1. Hughes, S.L., Seymour, R.B., Campbell, R., Pollak, N., Huber, G., Sharma, L. (2004). Impact of the Fit and Strong! intervention on older adults with osteoarthritis. *The Gerontologist*, 44(2), 217-228.)
- RB, Campbell RT, Huber G, Pollak N, Sharma L, Desai P. (2006) Long-term impact of Fit and Strong! on older adults with osteoarthritis. *Gerontologist*. 46(6):801-814.
3. Hughes SL, Seymour RB, Campbell RT, Desai P, Huber G, Chang HJ. (2010) Fit and Strong!:: bolstering maintenance of physical activity among older adults with lower-extremity osteoarthritis. *American Journal of Health Behavior*. 34(6):750-63.



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