

Non-pharmacological Pain and Symptom Management

EXERCISE

EXERCISE – any activity that requires physical effort. Regular exercise can help improve health, fitness, psychological and physical function, as well as reduce persistent pain.

How Does It Work?

- Exercise improves strength, flexibility, endurance, and overall physical function allowing patients to perform tasks and participate in activities with less effort.
- Exercise activates inhibitory pathways in the central nervous system which inhibit nociceptive activity and provide analgesia.
- Exercise alters the immune system by reducing the release of inflammatory cytokines and increasing the release of anti-inflammatory cytokines.
- Exercise can also reduce stress, depression, and anxiety.

There are different types of physical activity and exercise, such as aerobic, strengthening, and stretching/balance.

- Aerobic (Endurance) - exercises that increase heart and respiratory rate. This type of exercise improves endurance and reduces pain.
 - Examples: walking, cycling, running, swimming, gardening
- Strengthening - exercises that build muscle strength, reduce pain, and improve function. This type of exercise improves ability to perform tasks and participate in activities.
 - Examples: weight-lifting, resistance bands, hiking
- Stretching (Flexibility/Balance)- exercises that help with mobility, prevent falls improves movement, and pain reduction.
 - Examples: yoga, Tai Chi, Pilates

What you can do:

- Instruct older adults on the benefits of exercise for overall health as well as persistent pain management.
- Describe the types of exercises and their benefits and provide examples for each type.
- Discuss options for engaging in regular exercise (i.e. home exercises, access to fitness facilities, frequency, duration, fitness tracking, goal setting). Some communities have fitness facilities specially for older adults.
- Encourage socialization by exercising with family or friends when appropriate.

- Encourage to incrementally increase their activity. Older adults should aim to exercise at moderate intensity for the best effects. Start slow with gradual progression. They should be able to talk while exercising but not sing.
- Provide useful resources on how to begin an exercise program. The following links include educational resources such as tips for starting an exercise program, frequently asked questions, and strengthening and stretching exercise videos and pictures:
 - <https://uihc.org/health-topics/exercise-treat-chronic-pain>
 - [Exercise and physical activity | National Institute on Aging \(nih.gov\)](https://www.nia.nih.gov/health/exercise-and-physical-activity)

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References

Arnstein, P., Shade, M., Herr, K., Young, H. & Fishman, S. (2023). Supporting caregivers who manage older adults' chronic pain: Lower risk strategies. *American Journal of Nursing*, 123(2), 46-52. doi: 10.1097/01.NAJ.0000919740.00088.93.

Izquierdo, M., Merchant, R.A., Morley, J.E. et al. International Exercise Recommendations in Older Adults (ICFSR): Expert Consensus Guidelines. *J Nutr Health Aging* 25, 824–853 (2021). <https://doi.org/10.1007/s12603-021-1665-8>.

Kolasinski et al (2020). 2019 American College of Rheumatology/Arthritis Foundation Guideline for the Management of Osteoarthritis of the Hand, Hip and Knee. *Arthritis & Rheumatology*, 72(2), 220-233. Doi:10.1002/art.41142.

National Institute on Aging Exercise and Physical Activity Exercise and physical activity | National Institute on Aging (nih.gov).

Niederstrasser NG, Attridge N (2022) Associations between pain and physical activity among older adults. *PLoS ONE* 17(1): e0263356. <https://doi.org/10.1371/journal.pone.0263356>.

University of Iowa Hospital & Clinics. (2018). Exercise to Treat Chronic Pain. Retrieved from <https://uihc.org/health-topics/exercise-treat-chronic-pain>.

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