

Exercise with Amyotrophic Lateral Sclerosis (ALS)

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Fact Sheet

Amyotrophic Lateral Sclerosis (ALS) causes progressive muscle weakness. Exercise is an important component in the management of ALS. Exercise cannot re-build affected muscles, but has many benefits, including:

- Stress reduction
- Maintaining strength for as long as possible
- Staying flexible as the body becomes more sedentary
- Improving sleep
- Maximizing respiratory and cardiac function

The recommended amount and types of exercise may vary between different persons with ALS. Those who have not exercised prior to diagnosis will have to consider how much energy they would like to devote to exercise. For people who enjoy exercising, recommendations can be made to continue this lifestyle in a safe manner. Regardless of previous level of exercise, moderation is key. Exercise that is too vigorous may further weaken muscles and cause fatigue for other daily activities.

Types of Exercise

Stretching – for maintaining flexibility

- This is an important type of exercise for anyone with ALS
- Keeps all joints mobile for pain prevention, self-care (bathing, etc.), and achieving/maintaining comfortable positions
- Should include taking the arms, legs, neck and back through their available range of motion
- Can be done independently or with assistance of a caregiver when mobility declines

Strengthening – for maintaining strength

- Examples: weights, resistance bands, bodyweight, aquatic exercises
- More appropriate in early stages of disease for muscles that can move against gravity
- Use lighter weights/bands, avoid straining and “over working”
- Fatigue, cramping, twitching, and soreness should be avoided and are signs of overwork

Aerobic Conditioning – for increasing heart rate and general fitness

- Examples: walking, stationary bike, swimming
- Helps to maintain healthy heart and lungs, and improve muscle efficiency

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Balance – for staying steady and preventing falls

- Examples: marching in place, rising onto toes, standing on one leg, changing base of support
- Balance worsens if not challenged, so exercises help maintain safety and stability with walking as activity levels decrease
- To ensure safety, always stand next to a counter or wall for support

Breathing – to keep the lungs functioning appropriately

- Examples: breath stacking, inspiratory muscle training, assisted cough
- *Breath stacking*: a method of taking in multiple small breaths without exhaling in-between, to get better inflation of the lungs
- *Inspiratory muscle training*: using a device that works the diaphragm and other breathing muscles for maintenance of strength
- *Assisted cough*: a method where a caregiver pushes on the abdomen during a cough to make it more effective

Take-Aways

Exercise has physical and psychological benefits to all persons with ALS. A combination of multiple types of exercise is beneficial. Remember that the goals of exercise with ALS are to stay active, remain flexible, and maintain strength for as long as possible. Rebuilding muscles is not the goal, and all exercise should be performed in moderation. Be mindful of fatigue and feeling weaker after exercising, as these are signs of exercising too hard. As ALS progresses, daily activities such as walking, bathing, dressing, etc. may become the exercises you perform. At this point, continue with gentle stretching with the help of caregivers.

A licensed physical therapist (PT) can help create a personalized exercise program. Your PT will ensure that the exercises are being performed correctly and will give instructions for a home program. Talk with your PT to update the program as needed as the diagnosis progresses.

Reference:

Meng L, Li X, Li C, Tsang RCC, Chen Y, Ge Y, Gao Q. Effects of Exercise in Patients With Amyotrophic Lateral Sclerosis: A Systematic Review and Meta-Analysis. *Am J Phys Med Rehabil.* 2020 Sep;99(9):801-810. doi: 10.1097/PHM.0000000000001419. PMID: 32452880.

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