



Patients with ALS: Therapy Protocols for Outpatient Occupational Therapy and Physical Therapy

This handout is designated to provide guidance to your outpatient or in home therapist.

For the therapist:

The following is intended to serve as recommendations to a local Physical or Occupational Therapist for treatment based upon our combined clinical experience of working with neuromuscular patients. Due to the level of variance amongst patients with ALS, this is not a strict protocol, and is not meant to replace sound clinical judgment. The goal of this program for each client is to maximize flexibility and mobility of your joints.

If you have limited experience with ALS and would like to discuss treatment with the PT or OT who saw the patient at Michigan Medicine, please contact us at **734-936-9010**.

Goals:

1. Educate and incorporate energy conservation techniques into therapy sessions to ensure patient retention of principles for carry over throughout daily lives.
2. Exercise for patients in the early stages of ALS:
 - a. Moderate exercise programs (including light resistance exercises and aerobic exercise) for about 30 minutes per day is safe and does not accelerate disease progression.
 - b. Programs should be focused on moderate resistance and moderate repetition to prevent over-fatigue of muscle groups.

- c. Education of self-monitoring to ensure safety with exercise program (including the indicators of overexertion: post-exercise fatigue should not last more than 30 minutes or negatively impact daily task performance.)
3. Exercise for patients in the later stages of ALS:
 - a. Focus rehabilitation on stretching and range of motion of all major joints.
 - b. Avoid exercising muscle groups with less than anti-gravity strength.
4. Balance training and education on home safety:
 - a. Patients with impaired balance are a higher fall risk. Improving balance with therapy, assistive devices, and modification of home/work environments can prevent falls (that could lead to immobilization and decrease in overall function).
5. Stretching and Range of Motion:
 - a. Standard of care
 - b. Should begin early in the ALS diagnosis, targeting major joint groups, to maintain range of motion and prevent the development of contractures.
 - c. A range of motion protocol should be implemented as part of the patient's daily routine.

Practical Considerations:

- Flexibility
 - Encourage regular stretching and range of motion exercises early in the course in the disease
 - Care-giver participation is needed when muscle weakness prevents the patient from performing program independently
- Strengthening
 - Avoid high-resistance exercise.

- A practical approach is to find a weight that the patient can lift comfortably 20 times.
 - Have the patient perform 2 or 3 sets of 10 repetitions each with that weight (modify as needed based on muscle soreness and patient report of fatigue)
- **Do not** exercise muscles that do not have antigravity strength
- **Avoid** eccentric exercise
- Aerobic
 - Select a mode of exercise with minimal risk of injury from falling (e.g. recumbent stationary bike as opposed to treadmill)
 - Aerobic exercise should be performed at a moderate, submaximal level.
 - A practical approach is to begin with bouts of 10 minutes of exercise 2-3 times a week and progress as tolerated.
 - If the patient cannot talk comfortably during exercise, the program is too vigorous.
- Balance
 - Balance training **must** be specific and appropriate based on patient's ability and performed under the **direct** supervision of a physical therapist. Keep in mind intensity and duration of balance improving activities should be kept in moderation.

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