



American Stroke Association®
A division of the American Heart Association.

Together to End Stroke®

ADULT STROKE REHABILITATION & RECOVERY GUIDELINES

SENSORIMOTOR IMPAIRMENTS AND ACTIVITIES

Sensorimotor deficits affect nutrition, communication, cognition, memory, vision and gross and fine movement and coordination.



Here are key recommendations from AHA/ASA's Adult Stroke Rehabilitation & Recovery Guidelines that provide the best clinical practices for adults recovering from stroke. For more information about these guidelines please refer to the full guidelines at [Heart.org/StrokeRehabGuidelines](https://www.heart.org/stroke-rehab-guidelines).

The information covered here addresses one of five major recommendation topics within the guidelines:

- The Rehabilitation Program
- Prevention and Medical Management of Comorbidities
- Assessment
- Sensorimotor Impairments and Activities
- Transitions in Care and Community Rehabilitation

DYSPHAGIA MANAGEMENT AND NUTRITIONAL SUPPORT

- Drug therapy, neuromuscular electrical stimulation, pharyngeal electrical stimulation, physical stimulation, transcranial direct current stimulation and transcranial magnetic stimulation are of uncertain benefit and not currently recommended.

NON-PHARMACOLOGICAL THERAPIES FOR COGNITIVE IMPAIRMENT AND MEMORY

- Enriched environments to increase engagement with cognitive activities are recommended.
- Compensatory strategies may be considered to improve memory functions, including the use of internalized strategies (e.g. visual imagery, semantic organization, spaced practice) and external memory assistive technology (e.g. notebooks, paging systems, computers, other prompting devices).
- Exercise may be considered as adjunctive therapy to improve cognition and memory after stroke.

COGNITIVE-COMMUNICATION DISORDERS

- Interventions for cognitive-communication disorders are reasonable to consider if they are individually tailored and targeted.

APHASIA

- Computerized treatment may be considered to supplement treatment provided by a speech-language pathologist.
- Group treatment may be useful across the continuum of care, including the use of community-based aphasia groups.

MOTOR SPEECH DISORDERS: DYSARTHRIA AND APRAXIA

- Telerehabilitation may be useful when face-to-face treatment is impossible or impractical.
- Activities to facilitate social participation and promote psychosocial well-being may be considered.

SPASTICITY

- Targeted injection of botulinum toxin into localized upper limb muscles or lower limb muscles is recommended to reduce spasticity.
- The use of splints and taping are not recommended for prevention of wrist and finger spasticity.

BALANCE AND ATAXIA

- Persons with stroke who have poor balance, low balance confidence, fear of falls and/or are at risk for falls should be provided with a balance-training program.

MOBILITY

- Incorporating cardiovascular exercise and strengthening interventions is reasonable to consider for recovery of gait capacity and gait-related mobility tasks.
- Mechanically assisted walking (treadmill, electromechanical gait trainer, robotic device, servo-motor) with body weight support may be considered for patients who are non-ambulatory or have low ambulatory ability early after stroke.
- The effectiveness of neurophysiologic approaches (i.e. neurodevelopmental therapy and proprioceptive neuromuscular facilitation) in comparison to other treatment approaches for motor retraining following an acute stroke has not been established.
- The use of dextroamphetamine or methylphenidate to facilitate motor recovery is not recommended.

EYE MOVEMENT DEFICITS

- Eye exercises for treatment of convergence insufficiency are recommended.

UPPER EXTREMITY ACTIVITY

- Functional tasks should be practiced, i.e. task-specific training, where the tasks are graded to challenge individual capabilities, practiced repeatedly and are progressed in difficulty on a frequent basis.
- All persons with stroke should receive Activity of Daily Living training, tailored to individual needs and eventual discharge setting.
- Neuromuscular electrical stimulation is reasonable to consider for persons with minimal volitional movement within the first few months after stroke or for persons with shoulder subluxation.
- Strengthening exercises are reasonable to consider as an adjunct to functional task practice.
- Bilateral training paradigms may be useful for upper limb therapy.

DECONDITIONING AND FITNESS

- Following successful screening, an individually tailored exercise program is indicated to enhance cardiorespiratory fitness and reduce the risk of stroke recurrence.
- After completion of formal stroke rehabilitation, participation in a program of exercise or physical activity at home and/or in the community is recommended.

Stroke rehabilitation requires a sustained and coordinated effort from a large team with the patient and the patient's goals at the center. In addition to the patient, the team includes family and friends, other caregivers (e.g. personal care attendants), physicians, nurses, physical and occupational therapists, speech/language pathologists, recreation therapists, psychologists, nutritionists, social workers and others.

Communication and coordination among these team members is paramount in maximizing the effectiveness and efficiency of rehabilitation and underlies the entire stroke rehabilitation and recovery guidelines.
