



ALS Glossary of Terms

Amyotrophic Lateral Sclerosis

Amyotrophic Lateral Sclerosis is also known as Lou Gehrig's disease.

ALS means:

A	absence of
myo	muscle
trophic	nourishment
lateral	pertaining to side (of spinal cord)
sclerosis	hardening of (lateral aspect of spinal cord)

ALS is a progressive neuromuscular disorder of the nervous system that causes loss of motor nerve cells (motor neurons) which control the movement of voluntary muscles. There is involvement in both upper motor neurons (which project from the brain to the lateral part of the spinal cord) and lower motor neurons (which project from the spinal cord to the muscle). The loss of upper motor neurons causes weakness, muscles stiffness (spasticity) and exaggerated reflexes. The loss of lower motor neurons leads to weakness, muscle wasting (atrophy), twitching of muscles (fasciculations), and diminished reflexes. Weakness occurs in the muscles of the neck, arms, legs and trunk. When the lower motor neurons of the bulbar region (the lower part of the brainstem) are affected, difficulty with speech, swallowing and chewing occurs.



Advanced Directive

A legal document which makes your wishes for treatment known if you become unable to communicate or make decisions. An advance directive allows you to clearly state your choices about your medical care preferences before a medical crisis. Two commonly used advance directives are a health care directive (also known as a living will) and a durable power of attorney for health care.

Alphabet Supplementation

A printed alphabet (often on a stiff card or board) that a speaker uses to point to the first letter of each word as it is said. This provides more context for the listener and slows the speaker's rate of speech.

Amplifier

Any electronic device that makes the speech of someone with very low speaking volume louder.

Articulation

Action of the structure used in making of speech sounds (movement of tongue, jaw, soft palate, and other structures).

Aspiration

When food or liquid (bolus) penetrates the airway below the vocal folds.

Aspirator

A device used to suction fluid. It is often used by persons with dysphagia to suction saliva from the mouth.

Atrophy

“Wasting away” of muscle mass due to lower motor neuron degeneration.

Augmentative Communication System

Any method of non-speech communication, including books of pictures, communication boards, gestures, or electronic devices.

Bilevel Positive Airway Pressure (BiPAP)

A type of noninvasive ventilation in which air is forced through a nose or facial mask under pressure to deliver air to the lungs. It is most helpful when forced vital capacity is 50% or below. A person with ALS may be able to breathe but unable to take large breaths, which over time can cause the lungs to partially collapse (a process called atelectasis) and allow secretions to build up, which can lead to pneumonia. Use of BiPAP noninvasive ventilation helps to fully inflate the lungs and decrease the build up of carbon dioxide in the body. It is worn during the night and can be used during the day if needed. The mask can be taken off at any time.

Bolus

Food, liquid, or other material placed in the mouth for swallowing.

Breathing Muscles

The diaphragm, rib muscles and abdominal muscles.

Bulbar Region

The lower portion of the brainstem, where the muscles responsible for speech, swallowing and chewing are.

Cardiopulmonary Resuscitation (CPR)

A series of measures carried out to help a person breathe and keep his or her heart beating. This includes the administration of heart compression and artificial respiration to restore circulation and breathing.

Direct Selection

The means of access to an augmentative communication system in which the user can choose a desired message or letter right away. (Examples are a typewriter, a computer keyboard, pointing to a letter on an alphabet board, or use of eye gaze to select letters or messages from an eye gaze board).

Dysarthria

A general term used for the speech disorders that result when the muscles cannot move with the correct range of movement, speed, force, or coordination. It is caused by damage to the central or peripheral nervous systems. Speech may sound slurred, imprecise, or uncoordinated.

Dysphagia

Refers to problems with any stage of swallowing (chewing, oral transport, pharyngeal contractions, airway protection, and esophageal passage).

Emotional Lability

A reduced threshold for emotional response such as laughter and crying; most often occurs after damage to the brain.

Fasciculations

The twitching of muscles.

Flaccid Dysarthria

A speech disorder where there is weak movement of the articulators (tongue, lips, and soft palate) due to lack of muscle tone; speech will sound slurred and hypernasal.

Harshness

A term used to describe a voice quality with “noisy” voices. In patients with ALS one may hear sounds that are strained-strangled, “wet” or “gurgled.” These are types of harshness.

Hypernasality

Occurs when too much air resonates in the nasal cavity during speech, changing voice quality. Hypernasality may occur as a result of a weak soft palate (velum) that doesn’t rise up against the pharyngeal wall to completely close off the airstream from the nose.

In-Exsufflator

The In-Exsufflator (cough machine) assists patients in clearing secretions from the lungs. It works by gradually applying a positive pressure to the airway via a facemask, and then rapidly shifting to a negative pressure. This rapid shift in pressure stimulates a cough.

Invasive Ventilation

Often referred to as mechanical ventilation, in which a plastic tube with an inflatable cuff is inserted through a surgical opening into the windpipe or trachea (tracheostomy) with tubing attached to a

ventilator. A ventilator is a pumping device that takes over the role of the breathing muscles, delivering air to the lungs.

Noninvasive Ventilation

Bilevel Positive Airway Pressure (BiPAP) is a type of noninvasive ventilation. Positive pressure ventilation delivers air via a nose or facemask that is used with a small portable ventilator. Breathing support occurs without the use of a tracheostomy tube. Commonly used at night, but can be used during the day if patients feel the need.

Palatal Lift Prosthesis

An acrylic prosthetic device worn in the back of the mouth to elevate the soft palate against the throat (pharyngeal) wall so air will not leak into the nasal cavities during speech.

Percutaneous Endoscopic Gastrostomy (PEG)

A small tube placed into the stomach (placed under local anesthetic) through the abdominal wall for feeding.

Phonation

Voicing produced by periodic vibration of the vocal folds.

Respiration

The act of breathing.

Scanning

A process of selecting messages or letters for persons with very limited movements. Most times, the augmentative communication devices offer a series of choices and the user activates a switch when the desired item is offered.

Spastic Dysarthria

A speech disorder characterized by imprecise consonants, distorted vowels, and harsh or strained-strangled voice. Caused by too much muscle tone.

Spasticity

A state of having too much muscle tone. Muscles are stiff and movements are awkward.

Questions ?

Neuromuscular Clinic
for Swallowing and
Speech Disorders
Call (206) 598-4022

Your questions are important. Call your doctor or health care provider if you have questions or concerns. UWMC Clinic staff are also available to help at any time.

Other clinics that can provide information are:

Rehabilitation Medicine/
Muscular Dystrophy
Clinic:
(206) 598-4295

Pulmonary Medicine
Clinic:
(206) 598-4615



UNIVERSITY OF WASHINGTON
MEDICAL CENTER
Neuromuscular Clinic for
Swallowing and Speech
Disorders

Box 356161

1959 NE Pacific St. Seattle, WA 98195
(206) 598-4022

Speech Intelligibility

How understandable a person's speech is. Often measured as a percentage of words from a list of words or sentences that has been read by the speaker.

Spirometer

A breathing measurement device used to measure the forced vital capacity, or the number of liters of air that the lungs are capable of holding and expiring.

Stages of Swallowing

Four stages of phases of swallowing have been detailed in classic research: oral preparation, oral, pharyngeal, and esophageal. Recent studies show that these stages are most clearly seen during small bolus swallows. These stages may overlap during large bolus swallows.

Strained-strangled Voice

A term used to denote the vocal quality one hears when there is too much muscle tone or stiffness in the vocal folds.

Tracheostomy

A minor surgical procedure where a hole (ostomy) is placed in the front of the neck below the Adam's apple. A plastic tube with an inflatable cuff is inserted through this opening into the trachea with tubing attached to a respirator or ventilator.

Velopharyngeal Mechanism

Refers to the soft palate and its normal action of moving up against the pharyngeal wall (upper throat) to close off the nasal cavities during speech.

Vital Capacity

The amount of air (measured in liters) that can be expelled by the lungs after the person takes as deep a breath as possible.

Weakness

Lack of muscle strength for movement caused by too much or too little muscle tone.