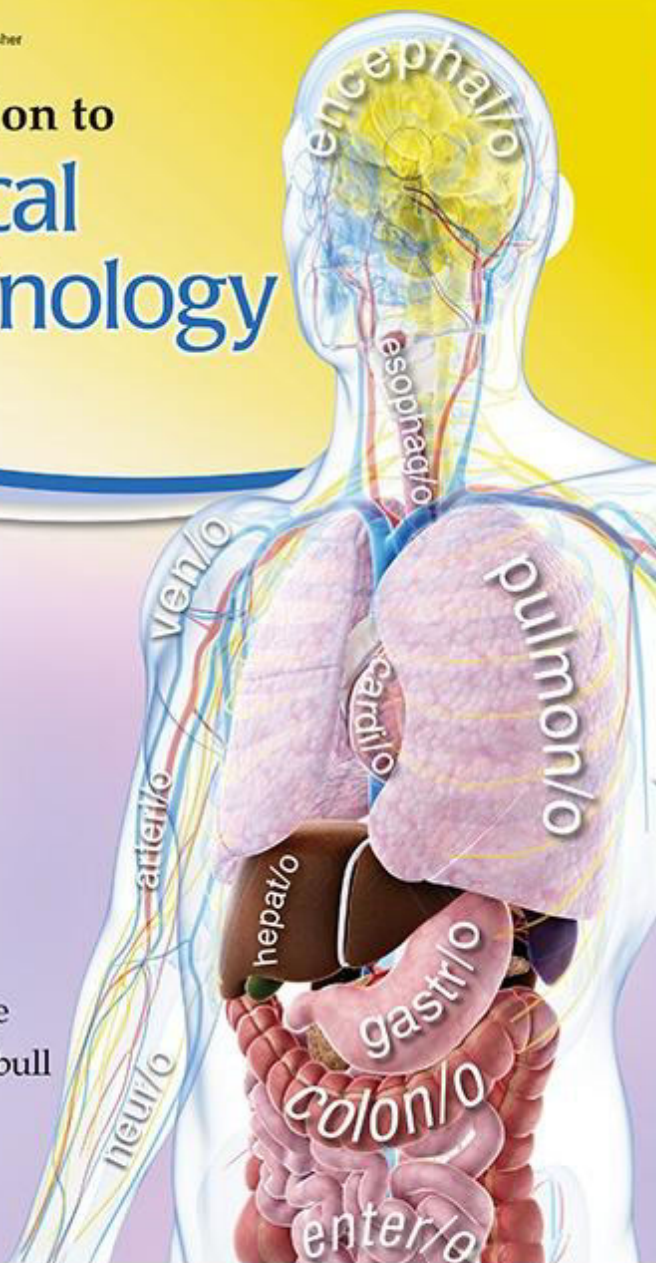


**G-W** Goodheart-Willcox Publisher

# Introduction to Medical Terminology

Linda Stanhope  
Kimberly Turnbull

**PRECISION**  
EXAMS



*Presentations for PowerPoint*

## Introduction to Medical Terminology

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# *Chapter 9*

# The Nervous System

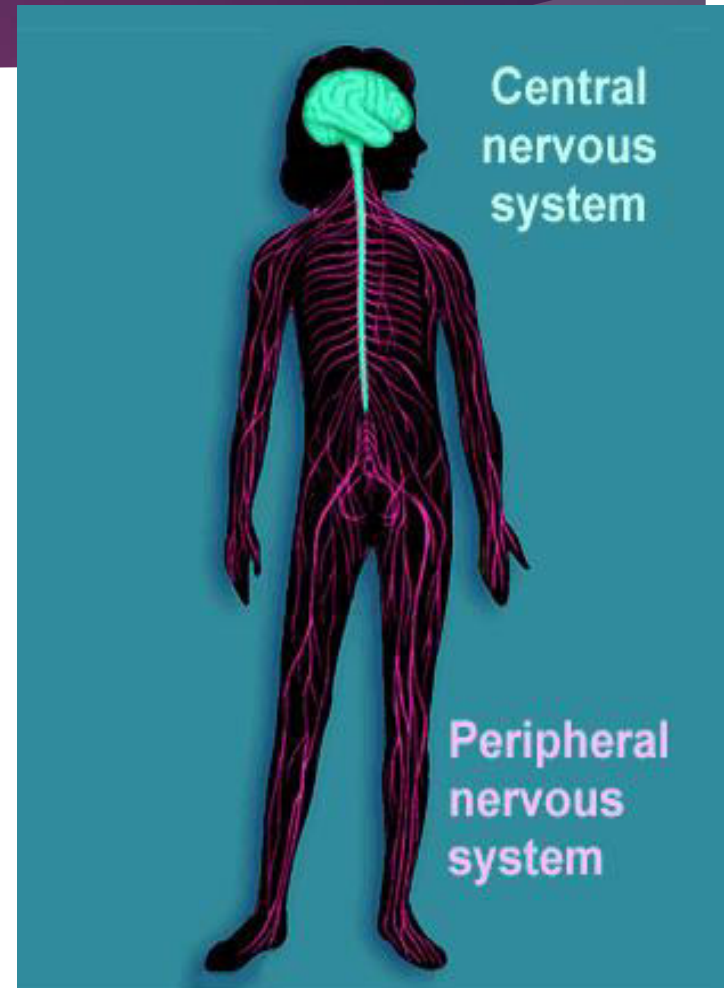
# Divisions of the Nervous System

## ▶ Central Nervous System (CNS)

- ▶ Brain and spinal cord.
- ▶ Also known as the “*command center*”

## ▶ Peripheral Nervous System (PNS)

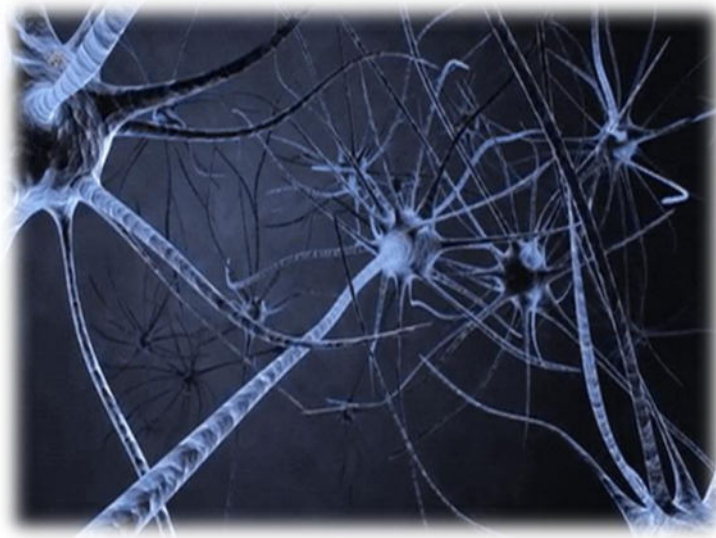
- ▶ Nerves that extend
- ▶ Deliverer



# Neurons (Nerve Cells)

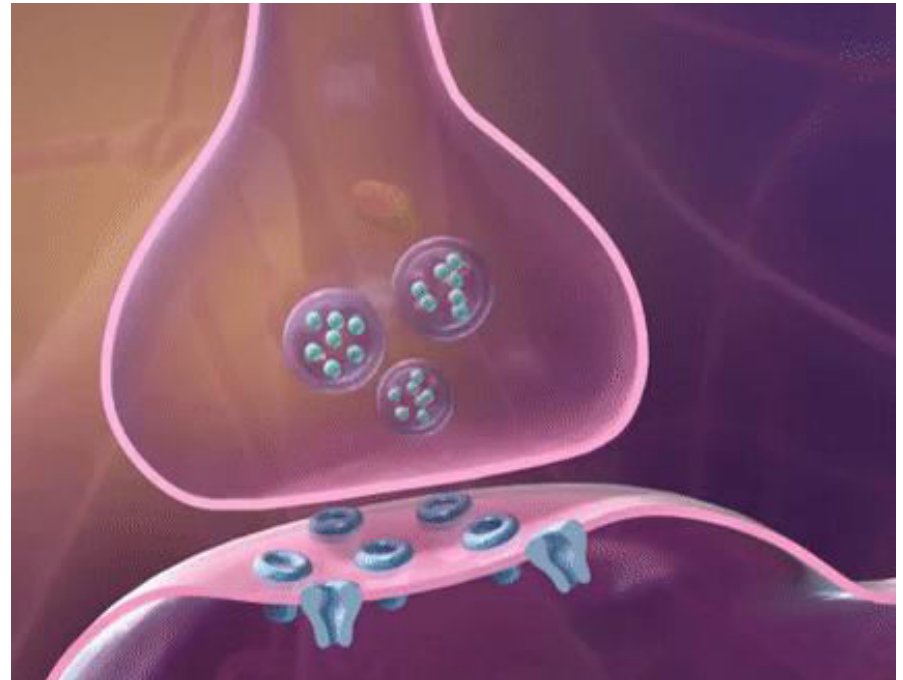
Fundamental cells of the nervous system. Found in the brain, spinal cord, and peripheral nerves.

- ▶ When neurons come together in a bundle, this is called **nerves**



# The Nervous System

- ▶ The basic parts to a neuron are
  - ▶ Body, dendrites, and axon.
- ▶ **Synapse**
  - ▶ The contact point at which neurons communicate
- ▶ **Neurotransmitters**
  - ▶ Chemical messengers passed through the neural impulse across the synapse



# The Nervous System

## ▶ Stimuli

- ▶ Changes in the external or internal environment

## ▶ Voluntary movement

- ▶ Skeletal muscle (texting)

## ▶ Involuntary movement

- ▶ Muscles and glands (heart)



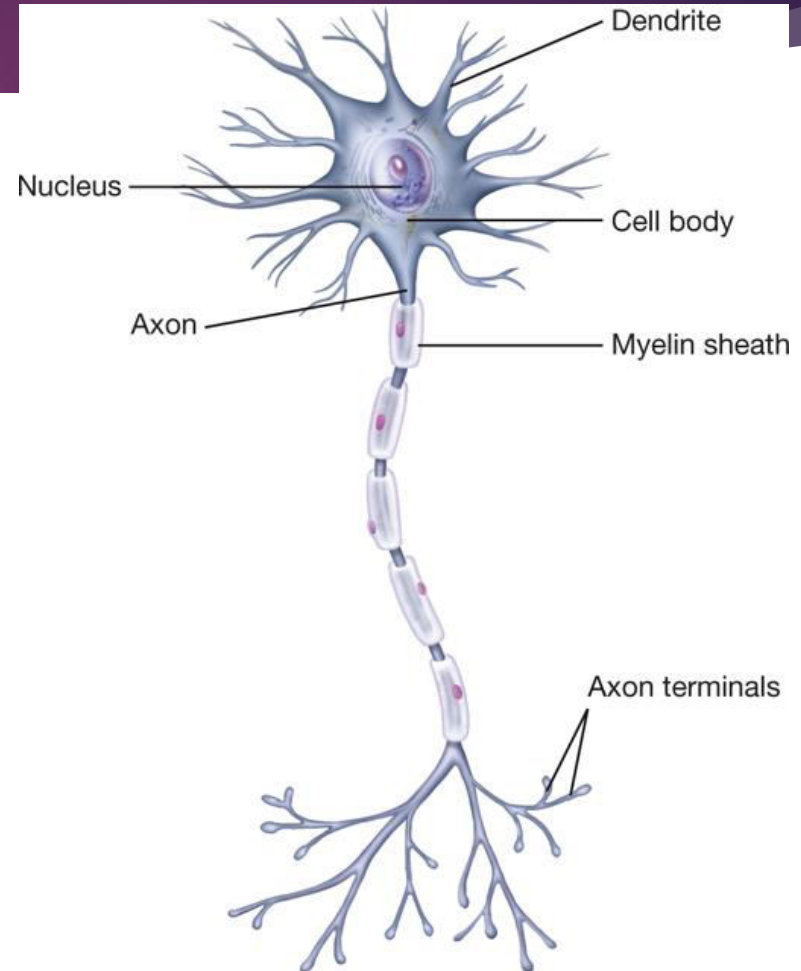


# VOLUNTARY AND INVOLUNTARY MUSCLES



# Structures of the Nervous System

- ▶ Neurons
  - ▶ Sensory
  - ▶ Motor
- ▶ Neuroglial cells



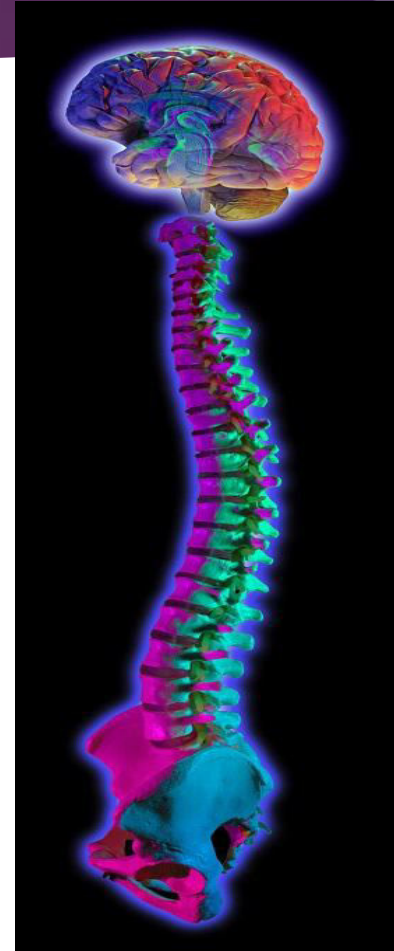


|                  |                     |
|------------------|---------------------|
| <b>Cerebr-</b>   | <b>Cerebrum</b>     |
| <b>Cerebell-</b> | <b>Cerebellum</b>   |
| <b>Para-</b>     | <b>Near</b>         |
| <b>Myle/o</b>    | <b>Spinal cord</b>  |
| <b>A-</b>        | <b>Not: without</b> |

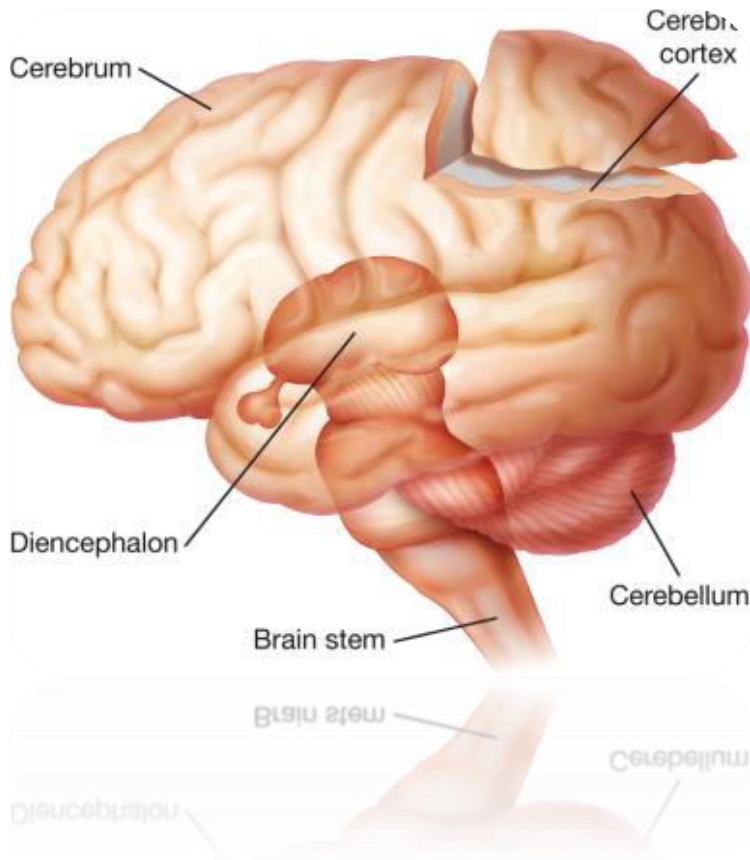
| <b>Hemi-</b>    | <b>Half</b>          |
|-----------------|----------------------|
| <b>-al</b>      | <b>Pertaining to</b> |
| <b>-lepsy</b>   | <b>Seizure</b>       |
| <b>Dur/o-</b>   | <b>Dura mater</b>    |
| <b>Mening/o</b> | <b>Meninges</b>      |
| <b>-plegia</b>  | <b>paralysis</b>     |

# Central Nervous System

- ▶ Made of the **brain** and **spinal cord**



# The Brain



## ► Cerebrum-

- Largest brain region. Highest level of cognitive functions such as language, reasoning, planning, memory, and sensory integration.

## ► Cerebellum-

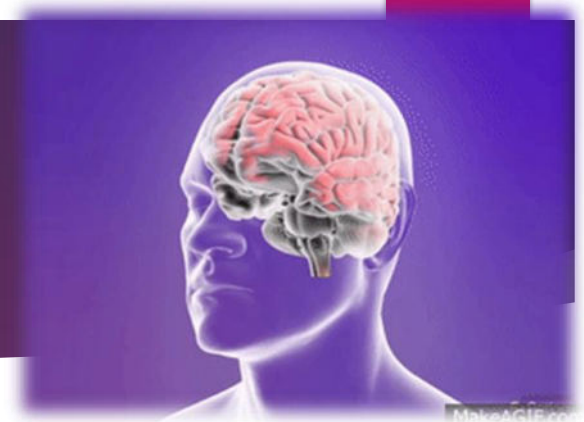
- Controls your body's balance and equilibrium

## ► Cerebrospinal fluid-

- Protects brain and spinal cord from injury

**Fun Fact!!** The human adult brain weighs about **three pounds**. About the same amount as a half gallon of milk

# The Brain Diseases, Test, and Terms



- ▶ **Convulsion (seizure)**

- ▶ A sudden, abnormal, involuntary contract of muscles

- ▶ **Epidural hematoma-**

- ▶ Blood that forms between skull and the dura mater caused by head injury (bleeding on the brain)

- ▶ **Epilepsy-** Neurological disorder of the CNS in which neural cells of the brain become disrupted, cause seizures

- ▶ **Migraine**

- ▶ Headache that produces intense throbbing

- ▶ **Syncope (fainting)**

- ▶ Temporary loss of consciousness due to low blood flow to the brain

# The Brain Diseases, Tests, and Terms



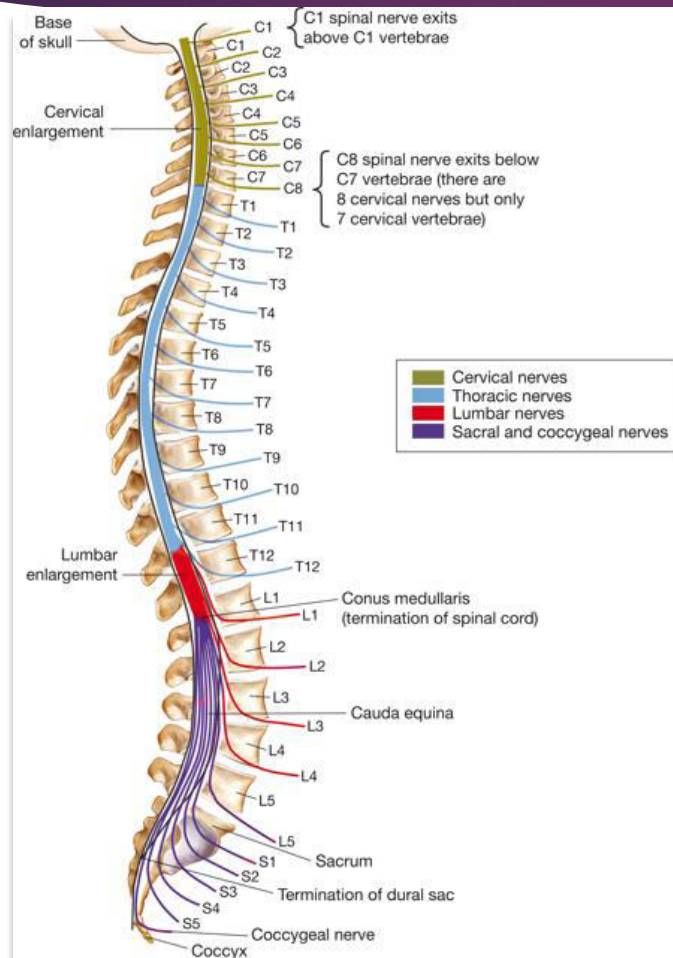
- ▶ **Alzheimer's Disease (AD)-**
  - ▶ Progressive, irreversible memory loss
- ▶ **Cerebrovascular accident (CVA or Stroke)-** Death of brain cells caused by blockage or rupture
- ▶ **Coma**
  - ▶ Extended unconsciousness caused by medical crisis
- ▶ **Concussion**
  - ▶ Traumatic brain injury (TBI) caused by blow to the head



# HOW CONCUSSIONS WORK



# The Spinal cord



- ▶ Extend from the medulla oblongata the second lumbar vertebra in the vertebral spinal columns.

## ▶ Reflex

- ▶ Involuntary reaction to a stimulus

# The Spinal Cord Diseases, Test, and Terms



- ▶ **Hemiplegia- half paralysis**
  - ▶ Paralysis of one side of the body
- ▶ **Paralysis- near; breakdown**
  - ▶ Temporary or permanent loss of voluntary movement
- ▶ **Parkinson's disease (PD)**
  - ▶ Disorder marked by signs such as tremor, rigid muscles and irregular gait

# The Spinal Cord Diseases, Test, and Terms

- ▶ **Paraplegia**- Loss of voluntary movement in the lower body as a result of a spinal cord injury
- ▶ **Myelomeningocele (Spina bifida)**-
  - ▶ Split spine. Part of the membrane covering of the spinal cord protrudes through gap in spine
- ▶ **Amyotrophic lateral sclerosis (ALS)**- Muscle weakness and involuntary contractions and excessive reflexes.



# Autonomic Nervous System

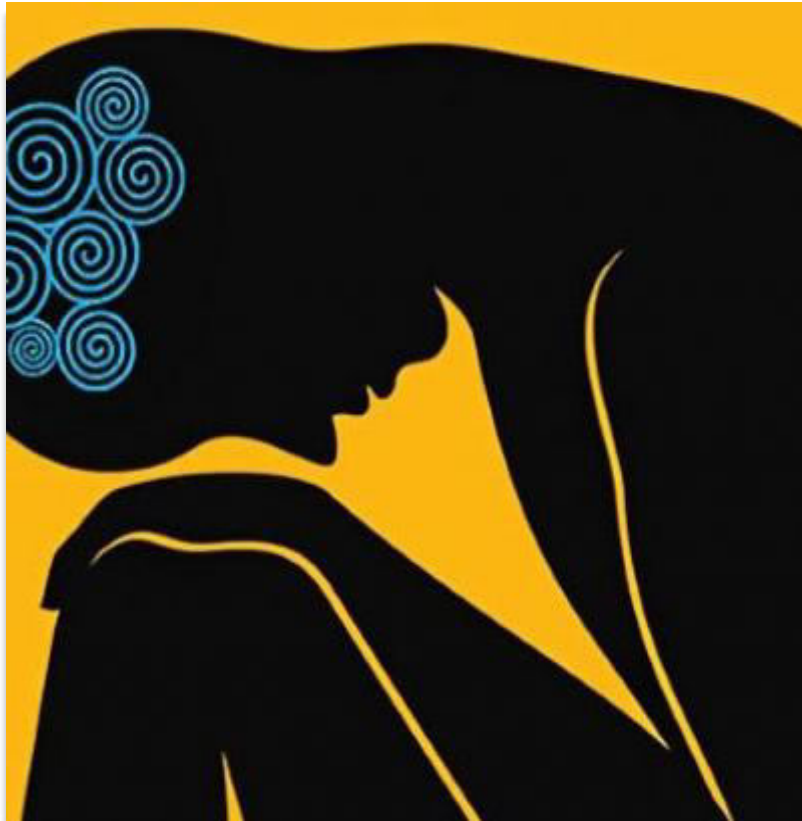


**Sympathetic  
nervous system**  
“Flight or fight”



**Parasympathetic  
nervous system**  
“Rest and digest”

# Mental Disorders and Conditions



- ▶ **Anxiety-**
  - ▶ Excessive worry, nervousness, or uneasiness
- ▶ **Obsessive-compulsive disorder (OCD)**
  - ▶ Irrational thought and fears cause one to perform repetitive actions
- ▶ **Post-traumatic stress disorder (PTSD)**
  - ▶ Resulting from an extremely traumatic experience, illness or injury
- ▶ **Attention- deficit/ hyperactivity disorder (ADHD)**
  - ▶ A person is frequently distracted in hyperactive and lack of impulse control

# Mental Disorders and Conditions

## ▶ Autism spectrum disorder (ASD)

- ▶ Development disability that causes difficulty communicating with others, focusing, inability to maintain eye contact etc

## ▶ Dyslexia-

- ▶ Difficulty recognizing and comprehending written language.

## ▶ Depression

- ▶ Mood disorder marked by persistent feeling of sadness, worthlessness, and lack of interest in daily activities



WHAT IS DEPRESSION?





# AUTISM



# Common Medical Abbreviations

| Abbreviation | Meaning                                     |
|--------------|---|
| <b>AD</b>    | Alzheimer's disease                         |
| <b>ADHD</b>  | Attention-deficit<br>hyperactivity disorder |
| <b>ALS</b>   | Amyotrophic lateral<br>sclerosis            |
| <b>ASD</b>   | Autism spectrum disorder                    |
| <b>CNS</b>   | Central nervous system                      |

# Common Medical Abbreviations

| Abbreviation | Meaning                        |
|--------------|--------------------------------|
| <b>OCD</b>   | Obsessive compulsive disorder  |
| <b>P</b>     | Pulse                          |
| <b>PD</b>    | Parkinson's disease            |
| <b>SCI</b>   | Spinal cord injury             |
| <b>T</b>     | Temperature                    |
| <b>WNL</b>   | Within normal limits           |
| <b>PTSD</b>  | Post traumatic stress disorder |