

**MARGARET H. ROLLINS SCHOOL OF NURSING**  
**N-201 Nursing Care of Special Populations**  
**MENTAL HEALTH NURSING**  
**Class Preparation #1**

**Directions:** Fill in the charts below. Identify what mental health disorders can occur when each neurotransmitter is increased or decreased.

	<b>Functions</b>	<b>Increase</b>	<b>Decrease</b>
<b>Dopamine</b>	Fine muscle movement, integration of emotions and thoughts, decision making, stimulates hypothalamus to release hormones	Schizophrenia Mania	Depression
<b>Norepinephrine</b>	Mood, attention and arousal, fight or flight in response to stress	Anxiety, mania, schizophrenia	Depression
<b>Serotonin</b>	Mood, sleep regulation, hunger, pain perception, aggression and libido	Anxiety	Depression
<b>GABA</b>	reduces anxiety, aggression, pain perception, anticonvulsant and muscle-relaxing properties	Reduction of anxiety	Anxiety, schizophrenia, mania
<b>Acetylcholine</b>	learning & memory	Depression	Alzheimer's, dementia, parkinsons, huntingtons

Structures of the Brain

<b>Brain Structure</b>	<b>Function</b>
The limbic System	Group of brain structures that helps control emotions, behavior, motivation, and memory. Includes the amygdala, which handles feelings like fear and pleasure, and the hippocampus, which is key for making new memories. The cingulate gyrus connects emotions and thinking, while the hypothalamus controls bodily functions like hunger and stress responses.
Frontal Lobe	Responsible for thinking, decision-making, and controlling impulses. It includes the prefrontal cortex, which helps with planning and reasoning, and the primary motor cortex, which controls movement. Dysfunction changes a person's personality and ability to think clearly.
Parietal Lobe	On top of the brain and processes sensory information such as touch, temperature, and pain. It contains the primary somatosensory cortex, which sensations from our body. Helps understand language and math.

	Dysfunction makes it hard to know where body is in space or to recognize sensations.
Temporal Lobe	On the sides of the brain and is important for hearing and memory. It has the primary auditory cortex, which processes sounds, and Wernicke's area, which helps us understand language. The hippocampus, important for forming memories, and the amygdala, which deals with emotions, are also in this lobe. Dysfunction causes problems with hearing, understanding language, and remembering things.
Occipital Lobe	On the back of the brain and is responsible for processing visual information, color, depth, and motion. It contains the primary visual cortex, which interprets signals from the eyes, and damage to this area can result in visual impairments, such as difficulty recognizing objects or colors