Psychobiology

- The study of the brain structures, biochemical foundations, molecular and genetic influences on cognition, mood, emotion, affect, and behavior and the interactions among them

Psychobiology Considerations

- Developmental influences
- Genetics
- The endocrine and immune systems
- Temperament
- Resiliency to stress
- Impact of the environment
Figure 6.1 The brain comprises four major lobes: frontal, parietal, occipital, and temporal. Broca’s area (found on the left frontal lobe) is the area responsible for the ability to speak but not the comprehension of speech. Wernicke’s area in the left temporal lobe relays speech comprehension information to the frontal lobe. Source: Smock, T. K. (1999). Physiological psychology: A neuroscience approach. Upper Saddle River, NJ: Prentice Hall.

Limbic System

- Functions
- Components
  - Cerebral
  - Diencephalic
  - Other

Neuromessenger Alterations

- Schizophrenia
  - DA
- Bipolar disorder
  - DA, 5-HT, NE, Ach, GABA and peptides
- Major depression
  - 5-HT and NE
Neuromessenger Alterations - continued

- Alzheimer’s Disease
  - Ach, NE, 5-HT, DA and peptides
- Anxiety Disorders
  - NE, 5-HT, GABA, and peptides

Genetic Connections

- Schizophrenia
- Bipolar I
- Schizoaffective Disorder

Genetic Considerations

- Multiple gene theory
- Environmental influences
**Psychoendocrinology**

- The interaction of the brain with the endocrine system

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**Psychoneuroimmunology**

- The study of the links between thoughts, emotions, the nervous system, and the immune system

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**Biologic Contribution and Nursing Practice**

- Integration of psychobiology
- Psychotropic medications
- Enhancing the nursing process

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Partnering with Families

- Removing stigma
- Teaching
- Increasing motivation

Self-Awareness

- Attitude
- Style
- Knowledge

Resources

- [http://www.aann.org](http://www.aann.org)
The American Association of Neuroscience Nurses is committed to the advancement of neuroscience nursing as a specialty through the development and support of nurses who promote excellence in patient care.
- [http://www.dana.org](http://www.dana.org)
The DANA Foundation link contains information about the latest news on the brain.
Resources - continued

- http://www.med.harvard.edu/AANLIB
  View images of a normal brain and the brain affected by cerebrovascular disease, neoplastic disease, degenerative disease, and inflammatory or infectious disease.

- http://www.neuroguide.com
  The site Neurosciences on the Internet contains current information about many topics and resources related to neuroscience, such as diseases, images, treatment, and research.