



## Lesson Plan: Nervous and Endocrine Pathology

5 minutes: Attendance and Breath of Arrival

50 minutes: Nervous and Endocrine Pathology

# Classroom Rules

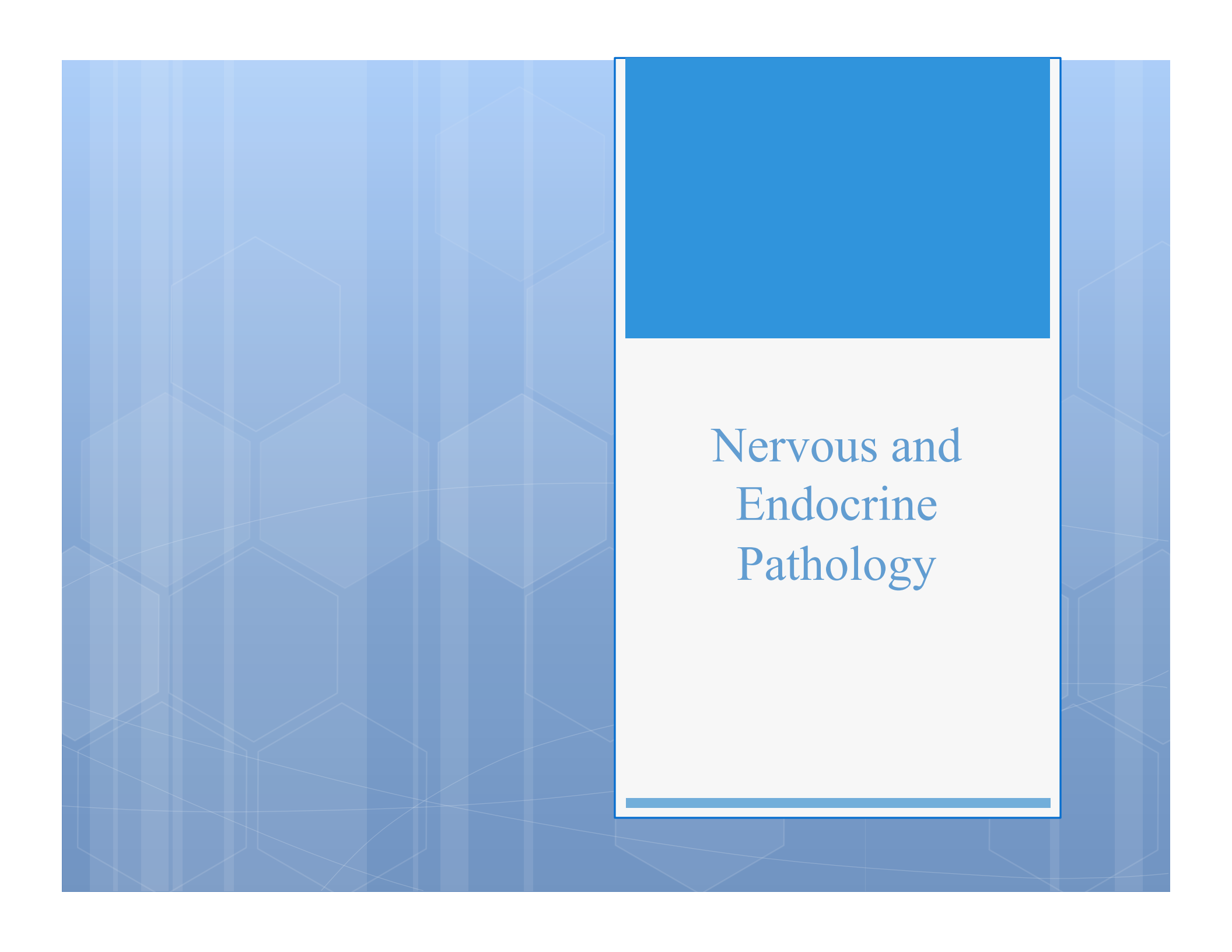
Punctuality- everybody's time is precious:

- Be ready to learn by the start of class, we'll have you out of here on time
- Tardiness: arriving late, late return after breaks, leaving early

The following are not allowed:

- Bare feet
- Side talking
- Lying down
- Inappropriate clothing
- Food or drink except water
- Phones in classrooms, clinic or bathrooms

*You will receive one verbal warning, then you'll have to leave the room.*



Nervous and  
Endocrine  
Pathology

# Nervous System Pathology

(Werner Page 146)

## Chronic Degenerative Disorders

- **Alzheimer disease**
- **Amyotrophic lateral sclerosis**
- **Huntington disease**
- **Peripheral neuropathy**

## Movement Disorders

- **Dystonia**
- **Spasmodic torticollis**
- **Parkinson disease**
- **Tremor**

# Nervous System Pathology

(Werner Page 146)

## Infectious Disorders

- Encephalitis
- Herpes zoster
- Meningitis
- Polio
- Postpolio syndrome

## Psychiatric Disorders

- Addiction
- Anxiety disorders
- Attention deficit  
hyperactivity disorder
- Autism spectrum disorder
- Depression
- Eating disorders

# Nervous System Pathology

(Werner Page 146)

## Nervous System Disorders

- **Bell palsy**
- **Complex regional pain syndrome**
- **Spinal cord injury**
- **Stroke**
- **Traumatic brain injury**
- **Trigeminal neuralgia**

## Nervous System Birth Defects

- **Spina bifida**
- **Cerebral Palsy**

# Nervous and Endocrine System Pathology

(Werner Page 146 and 404)

## Other Nervous System Conditions

- **Fibromyalgia**
- **Headaches**
- **Meneire disease**
- **Epilepsy**
- **Sleep disorders**
- **Vestibular balance disorder**

## Endocrine System Disorders

- **Diabetes**
- **Hyperthyroidism**
- **Hypothyroidism**
- **Metabolic syndrome**
- **Thyroid cancer**

## Nervous System Pathology

**Peripheral neuropathy** Damage to peripheral nerves. Often the result of other underlying conditions, pathogens or toxic substances.

### **Risks and Benefits**

Soothing touch may provide benefit if:

- Numbness doesn't interfere with sensation of pain and pressure
- Pain or increased sensitivity don't make massage painful
- It improves symptoms rather than exacerbating them
- Underlying conditions allow for bodywork



# Nervous System Pathology

**Spasmodic torticollis (AKA: cervical dystonia)** Most common form of dystonia. Involves unilateral contractions of neck rotators, usually sternocleidomastoid.

## **Risks and Benefits**

- Be aware of how medications affect the client
- Any bodywork that is comfortable to receive is safe
- Can help fatigue and reduce stress

# Nervous System Pathology

**Postpolio syndrome** Group of symptoms suffered by survivors of polio.  
Progressive muscular weakness.

## **Risks**

- Acute infection contraindicates massage

## **Benefits**

- Massage helps with strength, muscle tone, and fatigue

## Nervous System Pathology

**Depression** Group of mood disorders that can result in persistent feelings of sadness, guilt, and/or hopelessness.

### **Risks and Benefits**

- No risks unless the clients stops taking medication without medical supervision
- Massage is very beneficial for depression

## Nervous System Pathology

**Spinal cord injury** Damage to some or all of the spinal cord fibers. Caused by trauma, tumors, or bony growths.

### **Risks**

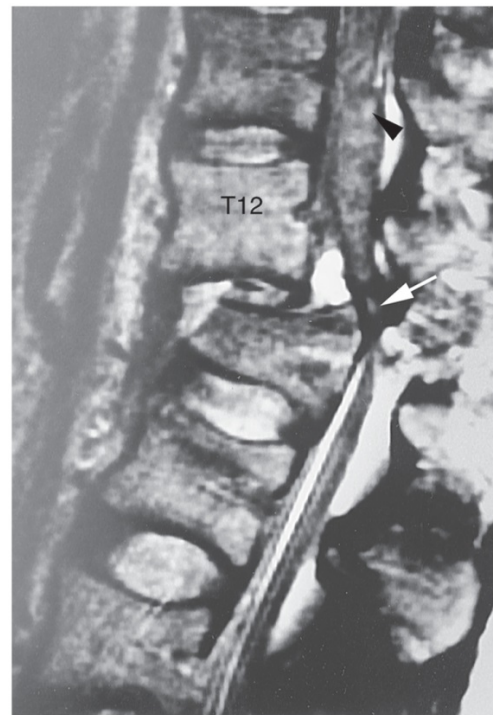
- Vulnerability to infection and other complications
- Numbness interferes accurate feedback from the client
- **Autonomic dysreflexia** Minor stimulus causing uncontrollable sympathetic responses such as a pounding headache, increased heart rate, flushing, sweating, and dangerously high blood pressure.

### **Benefits**

- Massage can weave together functioning and non-functioning parts of the body for a person with permanent nerve damage.

# Nervous System Pathology

## Spinal Cord Injury



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## Nervous System Pathology

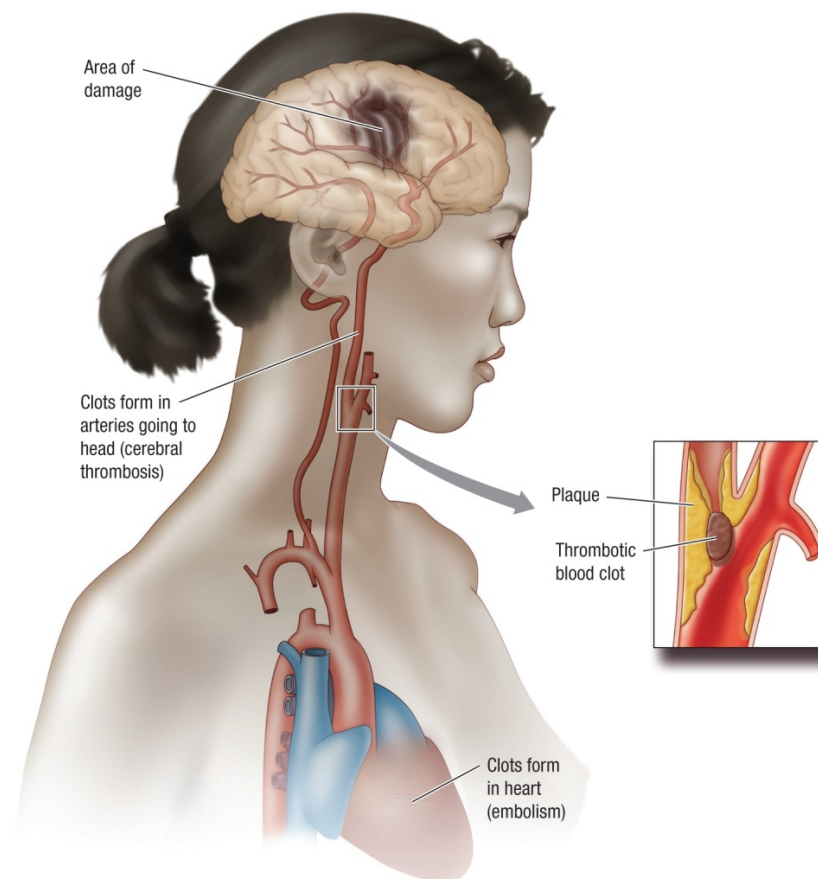
**Stroke (AKA: cerebrovascular accident, or brain attack)** Damage to brain tissue. Caused by blockage in blood flow or by an internal hemorrhage.

### **Risks and Benefits**

- Risk of cardiovascular conditions is increased
- Caution near the carotid artery to avoid freeing a clot or plaque
- Massage can be very supportive and useful

# Nervous System Pathology

## Stroke



## Nervous System Pathology

**Fibromyalgia** Chronic pain syndrome. Neuroendocrine disruption, sleep disorders, predictable patterns of tender points in muscles and other soft tissues.

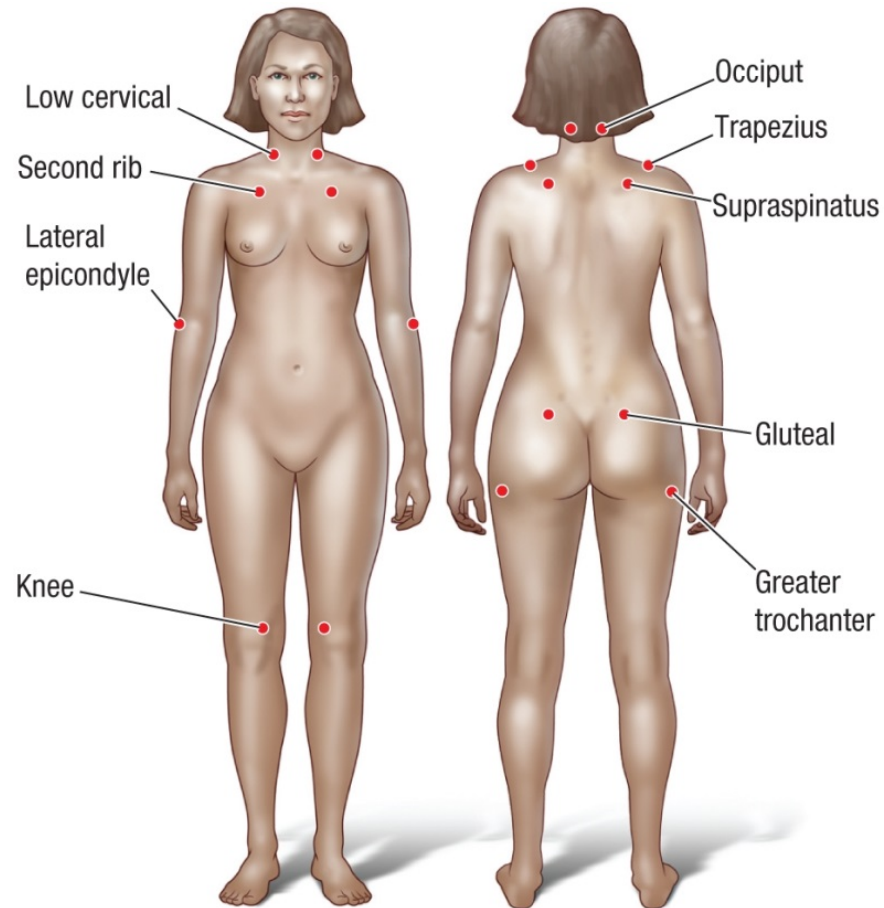
### **Risks and Benefits**

- Beware of hypersensitivity and don't overtreat
- Helps reduce pain, improve sleep, and add to quality of life



# Nervous System Pathology

## Fibromyalgia



# Nervous System Pathology

**Headaches** One of the most common physical problems in the range of human experience. Pain caused by muscular tension, nerve irritation, vascular spasm and dilation, and chemical imbalances.

## **Risks**

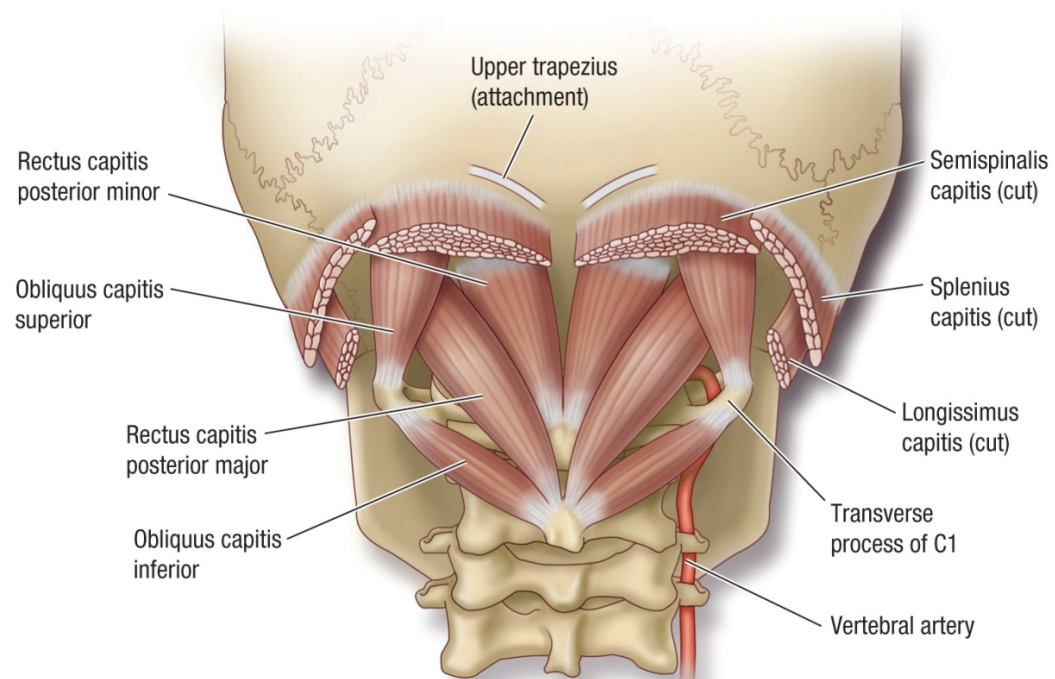
- Infection or fever contraindicate massage
- Massage may exacerbate migraines

## **Benefits**

- Massage in between migraines may reduce frequency or intensity
- Tension-type headaches indicate massage

# Nervous System Pathology

## Headaches



# Nervous System Pathology

**Sleep disorders** Collection of problems that make it difficult to get enough sleep or to wake up feeling rested and refreshed. Includes insomnia, sleep apnea, restless leg syndrome, narcolepsy, circadian rhythm disruption.

## **Risks and Benefits**

- No risks
- Sleep disorders indicate massage
- Massage can improve the quality of sleep and reduce mental and physical stresses that may interfere with sleep

# Endocrine System Pathology

**Type 1 diabetes mellitus** Autoimmune disorder resulting in hyperglycemia. Insulin deficiency due to destruction of insulin-producing beta cells in the pancreas. Caused by exposure to certain drugs or chemicals, or complications with certain types of infections.

**Type 2 diabetes mellitus** Disorder resulting in hyperglycemia. Caused by pro-diabetes behavior and genetic predisposition. Can be controlled diet, exercise, and medication.

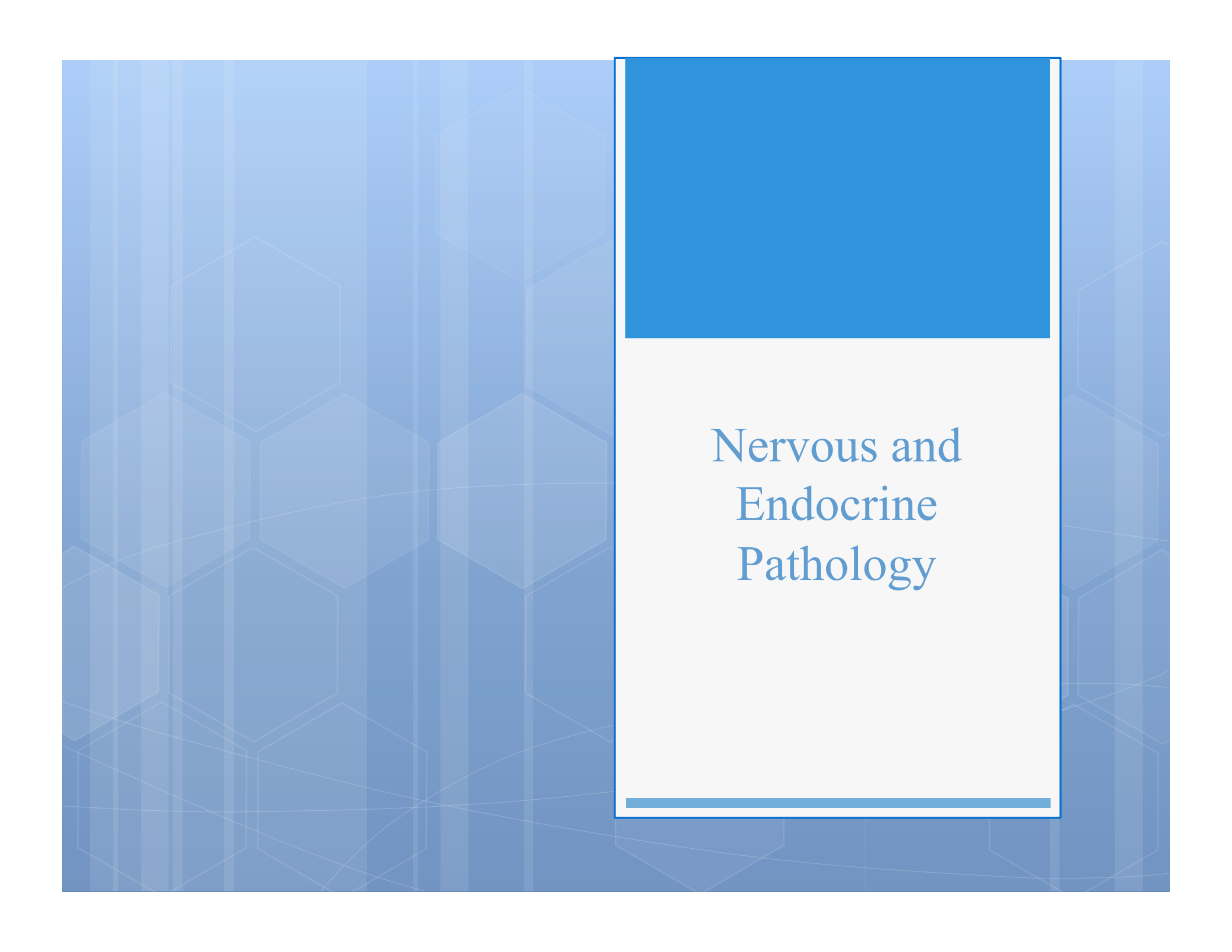
# Endocrine System Pathology

## **Risks**

- If circulatory or urinary systems are impaired, client may not be able to adapt to rigorous massage
- Advanced disease can result in skin damage and ulcers, especially on the legs and feet
- Numbness can interfere with accurate feedback
- Massage could cause hypoglycemia (a drop in blood sugar)

## **Benefits**

- If diabetes is well managed and without contraindicating complications, the client should be able to enjoy the usual benefits



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