

Pathology Of The Muscular System

Fibers, Fascia, and Tendons

- **Fascitis/Fasciitis** –
- **Tenalgia or Tenodynia** -
- **Tendinitis/Tendonitis** -
- **Overuse Tendinitis** – inflammation of tendons caused by excessive or unusual use of a joint

Muscles

- **Adhesion** - a band of fibrous tissue that hold structures together abnormally; may occur in muscles or in organs
- **Muscle Atrophy** - the weakness and wasting away of muscle tissue. caused by pathology or by disuse
- **Myalgia** -
- **Myolysis** - degeneration of muscle tissue
- **Myositis** -
- **Polymyositis** - chronic progressive disease affecting the skeletal muscle that is characterized by muscle weakness and atrophy
- **Myomalacia** -
- **Myorrhesis** -
- **Myosclerosis** -

Hernias

- **Hernia** - the protrusion of a part r structure through the tissues normally containing it
- **myocele** -

Muscle Tone

- **Atonic** -
- **Dystonia** – condition of abnormal muscle tone
- **Hypertonia** -
- **Hypotonia** -
- **Myotonia** - delayed relaxation of a muscle after a strong contraction

Voluntary Muscle Movement

- **Ataxia** –
- **Dystaxia - (partial ataxia)**
- **Contracture** – abnormal shortening of muscle tissues, making muscle resistant to stretching
- **Intermittent claudication** -
- **Spasm - (cramp)** sudden violent, involuntary contraction of a muscle or a group of muscle
- **Spasmodic Torticollis - (wryneck)**

Muscle Function

- **Bradykinesia** –
- **Dyskinesia** –
- **Hyperkinesia - (hyperactivity)** abnormally increased motor function or activity
- **Hypokinesia** –
- **Tardive dyskinesia** - late appearance of dyskinesia as a side effect of long-term treatment with certain antipsychotic drugs.

Myoclonus

- **Myoclonus** –
- **Nocturnal myoclonus** - jerking of the limbs that may occur normally as a person is falling asleep
- **Singultus - (_____)** myoclonus of the diaphragm that causes the characteristic hiccup sound with each spasm

Myasthenia Gravis

- **Myasthenia** - muscle weakness from any cause
- **Myasthenia Gravis (MG)** - chronic _____ disease in which there is an abnormality in the neuromuscular function causing episodes of muscle weakness; most frequently affects the muscles that control eye movement, eyelids, chewing, swallowing, coughing, and facial expression

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Muscular Dystrophy

- group of inherited muscular disorders that cause muscle weakness without affecting the nervous system
- **Duchenne's MD - (DMD)** _____; appears from 2 -6 years of age and progresses slowly; survival is rare beyond late 20s
- **Becker's MD (BMD)** - _____. The progression is slower with survival well into middle to late adulthood

Fibromyalgia Syndrome

- **(FMS)**
- **Tender Points** - abnormal localized areas of soreness, are important diagnostic indicators of FMS

Repetitive Stress Disorder

- have symptoms caused by repetitive motions that involve muscles, tendons, nerves and joints
- **Ergonomics** -
- **Overuse Injuries** - minor tissue injuries that have not been given time to heal
- **Myofascial Damage** - can be caused by overworking the muscles, results in tenderness and swelling of the muscles and their surrounding tissue
- **Rotator Cuff Injuries** –
 - Rotator Cuff Tendinitis -
 - Impingement Syndrome - occurs when the tendons become inflamed and get caught in the narrow space between the bones of the shoulder joint
 - Calcium Deposit –
 - Torn Tendon - result of nontreated injury or chronic overuse
- **Carpal Tunnel Syndrome**
 -
 - occurs when the tendons passing through the carpal tunnel are chronically inflamed and swollen;
 - Swelling causes compression on the median nerve as it passes through the carpal tunnel.

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- **Cervical Radiculopathy**
 -
 - pressure may be caused by muscle spasm due to repetitive motions or by compression of cervical vertebral disks
- **Epicondylitis** - inflammation of the tissues surrounding the elbow
 - Lateral –
 - Medial –
- **Plantar Fasciitis** - inflammation of the plantar fascia causing foot or heel pain when walking or running. Heel Spur is a thickening on the surface of the calcaneus bone that causes severe pain standing

Sports Injuries

- **Sprain** - injury to a _____
- **Strain** - injury to the body of the _____ or attachment of the _____
- **Shin Splint** - pain caused by the muscle tearing away from the _____
- **Hamstring Injury** - may be a strain or tear of the posterior femoral _____
- **Achilles Tendinitis** - a painful inflammation of the Achilles tendon caused by excessive stress being placed on the tendon

Paralysis

-paresis =

-plegia =

- **Myoparesis** –
- **Hemiparesis** –
- **Paralysis** - loss of sensation and voluntary muscle movements through disease or injury to its nerve supply
- **Spinal Cord Injury (SCI)** - often causes paralysis because nerve impulses cannot be carried below the level of the injury
- **Paraplegia** –
 - Paraplegic is someone affected with paraplegia; involves a SCI below the cervical vertebrae

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Paralysis continued

- **Quadriplegia** –
- SCI involving the cervical vertebrae; if the injury is above C5 it also affects respiration
- **Hemiplegia** - total paralysis of one side of the body; usually associated with a stroke or brain damage
- **Cardioplegia** - paralysis of the muscles of the heart

Diagnostic Procedures Of The Muscular System:

Deep Tendon Reflex (DTR) - tested with a reflex hammer used to strike the tendon;

- No response or abnormal response may indicate a disruption of the nerve supply to the involved muscle

Electromyography (EMG) - records the strength of muscle contraction as the result of electrical stimulation

- This test may be helpful in determining the cause of pain, numbness, tingling, or weakness in the muscle or nerves

Electroneuromyography - (aka: _____) a procedure for testing and recording neuromuscular activity by electric stimulation of the nerve trunk that carries fibers to and from the muscle

Range of Motion Testing (ROM) -

Treatment Procedures Of The Muscular System

Medications

- **Anti-inflammatory** - act as an analgesic and relieves inflammation
- **Antispasmodic (anticholinergic drug)** acts to control spasmodic activity of the smooth muscles
- **Atropine** - antispasmodic that may be administered preoperatively to relax smooth muscles
- **Muscle Relaxant** - acts on the central nervous system to relax muscle tone and relieve spasms

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Physical Therapy

- **PT** - treatment to prevent disability or to restore functioning through the use of exercise, heat, massage, and other methods to improve circulation, flexibility, and muscle strength
- _____ (**ROM**) - one form of PT; goal is to increase strength, flexibility and mobility
- **Activities of Daily Living (_____)** - minimum goal of therapy is to restore the individual to the level of self-help
 - personal hygiene, dressing, grooming, eating, and toileting

Fascia

- **Fasciotomy** -
- **Fascioplasty** -

Tendons

- **Carpal Tunnel Release** - surgical enlargement of the carpal tunnel or cutting the carpal ligament to relieve nerve pressure
- **Tenectomy** -
- **Tenodesis** -
- **Tenolysis** - to free a tendon from adhesions
- **Tenonectomy** -
- **Tenotomy (tendotomy)** - surgical division of a tendon for relief of a deformity caused by the abnormal shortening of a muscle such as strabismus (cross eyes)
- **Tenoplasty (tendoplasty)** -
- **Tenorrhaphy** - suturing of a divided tendon

Muscles

- **Myectomy** -
- **Myoplasty** -
- **Myorrhaphy** -

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Careers:

Orthopedic Surgeon Rheumatologist Neurologist Sports Medicine Physical Therapist (PT) Physical Therapy Assistant (PTA)	Massage Therapist Athletic Trainer (AT) Kinesiotherapist Occupational Therapist (OT) Occupational Therapist assistant
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