



27a Pathology: Musculoskeletal System



27a Pathology: Musculoskeletal System Class Outline

5 minutes	Attendance, Breath of Arrival, and Reminders
10 minutes	Lecture:
25 minutes	Lecture:
15 minutes	Active study skills:
60 minutes	Total



27a Pathology: Musculoskeletal System

Class Reminders

Quizzes:

- 29b Kinesiology Quiz
 - Supraspinatus, infraspinatus, teres minor, subscapularis, pec minor, & serratus anterior
- 31a Quiz (20a, 20b, 21b, 22a, 23a, 24b, 29b, and 30a)
- 32a Quiz (24a, 25a, 26a, 27a, 28a, 29a, 30b, and 31b)

Assignments:

- 30a Review Questions
 - Packet A: 141-158

Preparation for upcoming classes:

- 28a A&P: Integumentary System
 - Trail Guide: serratus anterior
 - Packet E: 55-58
 - RQ Packet A: 154
- 28b Integration Massage: Swedish and Hydrotherapy
 - Packet F: 58, and 63-64



Classroom Rules

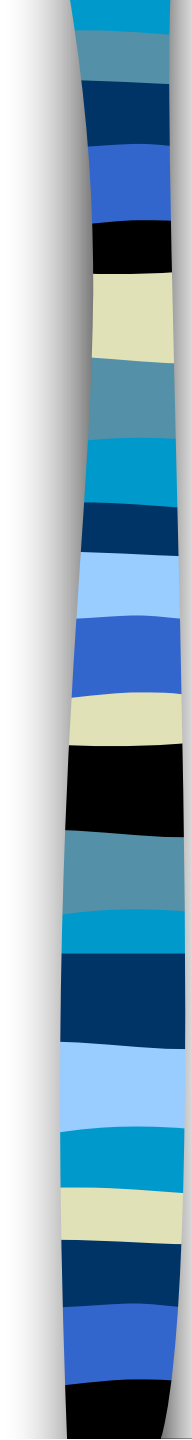
Punctuality - everybody's time is precious

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

The following are not allowed:

- Bare feet
- Side talking
- Lying down
- Inappropriate clothing
- Food or drink except water
- Phones that are visible in the classroom, bathrooms, or internship

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



27a Pathology: Musculoskeletal System E-49



Muscle Disorders

Muscular dystrophy

Spasms and Cramps

Fasciculations

Strains

Muscle Disorders

Muscular dystrophy Group of several closely related diseases characterized by genetic anomalies that lead to the degeneration and wasting away of muscle tissue.



Muscle Disorders

Spasms Low-grade and long-lasting involuntary contraction of skeletal muscles or muscle groups.



Cramps (AKA: charley horse) Strong, painful, and usually short-lived involuntary contractions of skeletal muscles or muscle groups.



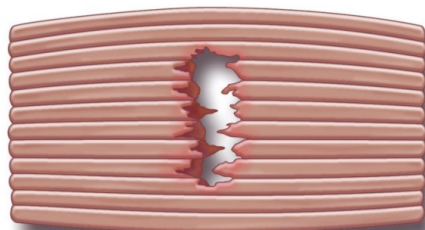


Muscle Disorders

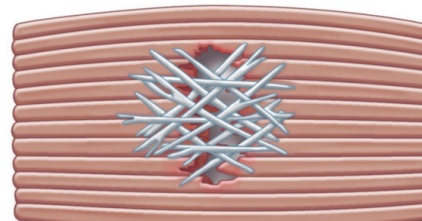
Fasciculations (AKA: twitching) Painless momentary contraction of a small number of superficial muscle fibers.

Muscle Disorders

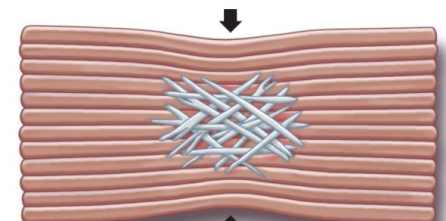
Strains Injuries to muscle fibers involving the tearing of muscle fibers and production of scar tissue.



Injured structure



Scar tissue accumulates



Scar tissue contracts: Structural weak spot



Bone Disorders

Osgood-Schlatter disease (AKA: OSD)

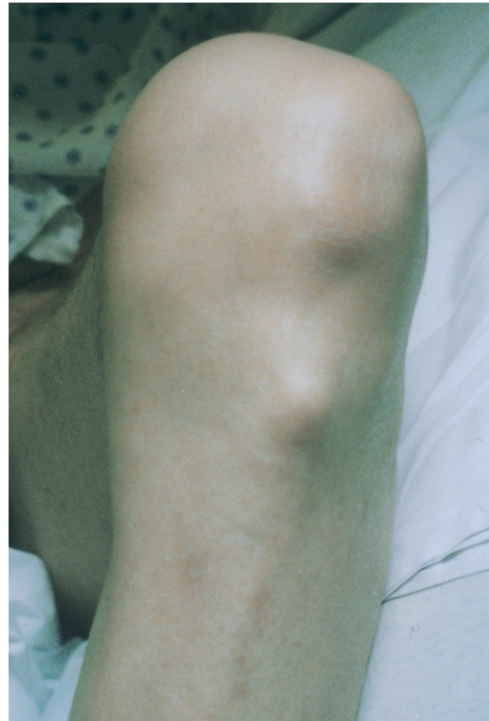
Osteoporosis and Osteopenia

Hyperkyphosis and Hyperlordosis

Scoliosis and Rotoscoliosis

Bone Disorders

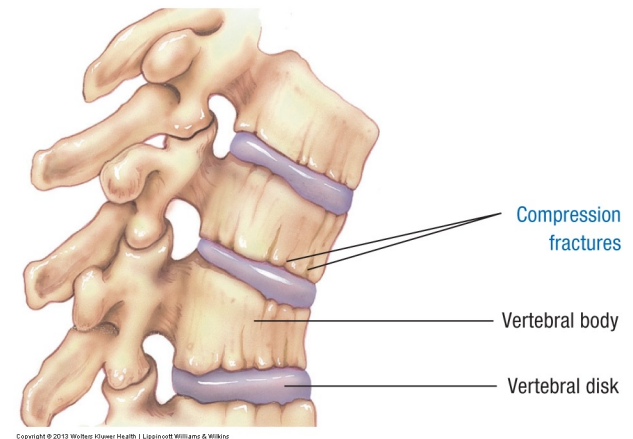
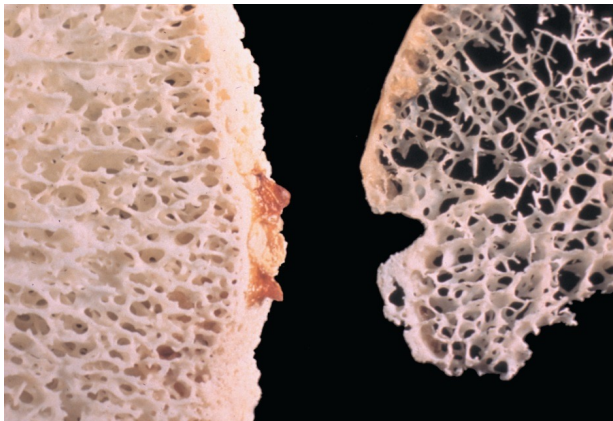
Osgood-Schlatter disease (AKA: OSD) Irritation and inflammation at the site of quadriceps attachment on the tibial tuberosity. Due to vigorous use and rapid leg bone growth.



Bone Disorders

Osteoporosis Calcium is pulled off the bones faster than it is replaced, leaving them thin, brittle, and prone to injury.

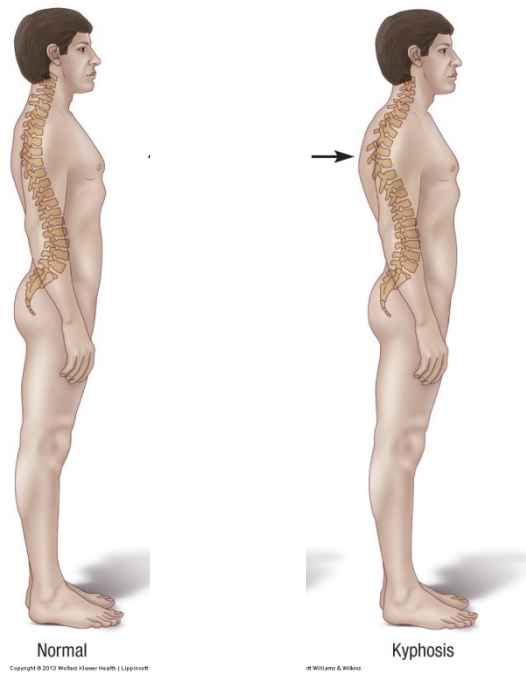
Osteopenia Pathological thinning of bones that may be a precursor to osteoporosis.



Bone Disorders

Hyperkyphosis A deformity of the spine characterized by excessive flexion.

Thoracic hyperkyphosis



Bone Disorders

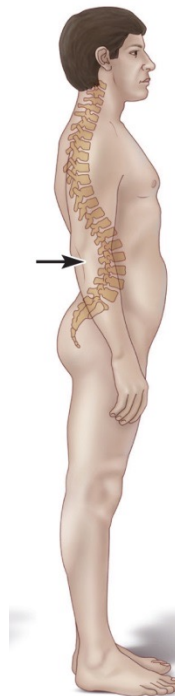
Hyperlordosis A deformity of the spine characterized by excessive extension.

Lumbar hyperlordosis



Normal

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Lordosis

Bone Disorders

Scoliosis Abnormal lateral curvature of the vertebral column.

Rotoscoliosis Combined lateral and rotational deviation of the vertebral column.



Scoliosis



Joint Disorders

Adhesive capsulitis

Baker cyst

Gout

Dislocations, Subluxations, and Dysplasia

Joint replacement surgery

Lyme disease

Osteoarthritis

Patellofemoral syndrome

Spondylolisthesis

Spondylosis

Sprains

Temporomandibular joint dysfunction

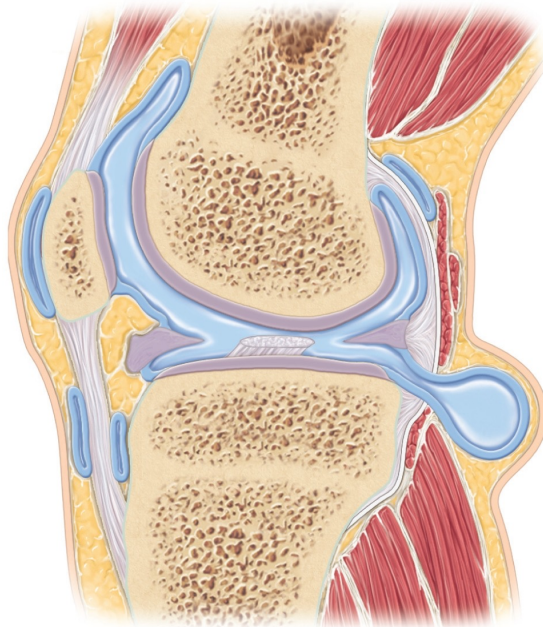


Joint Disorders

Adhesive capsulitis (AKA: frozen shoulder) Inflammatory thickening of a joint capsule, usually as the shoulder, leading to loss of range of motion.

Joint Disorders

Baker cysts (AKA: popliteal cysts) Synovial cysts found in the popliteal fossa, usually on the medial side.



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Joint Disorders

Gout Type of inflammatory arthritis caused by uric acid deposits in and around joints, especially the feet.



Joint Disorders

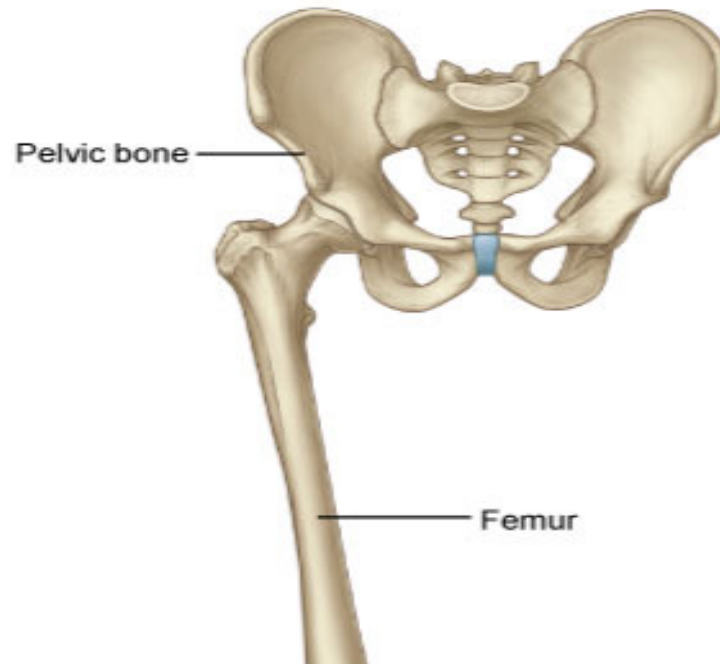


Dislocation Articulating bones are no longer touching; the shared surfaces have been disconnected.

Subluxations Bones are out of best alignment, but the joint capsule is intact. The joint is functional, but lacks full range of motion.

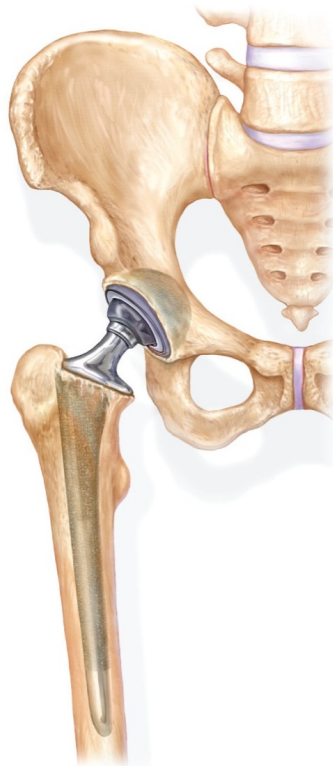
Joint Disorders

Dysplasia Congenital anomaly involving the formation of an abnormal acetabulum or femoral head. Increases risk of subluxation and dislocation.

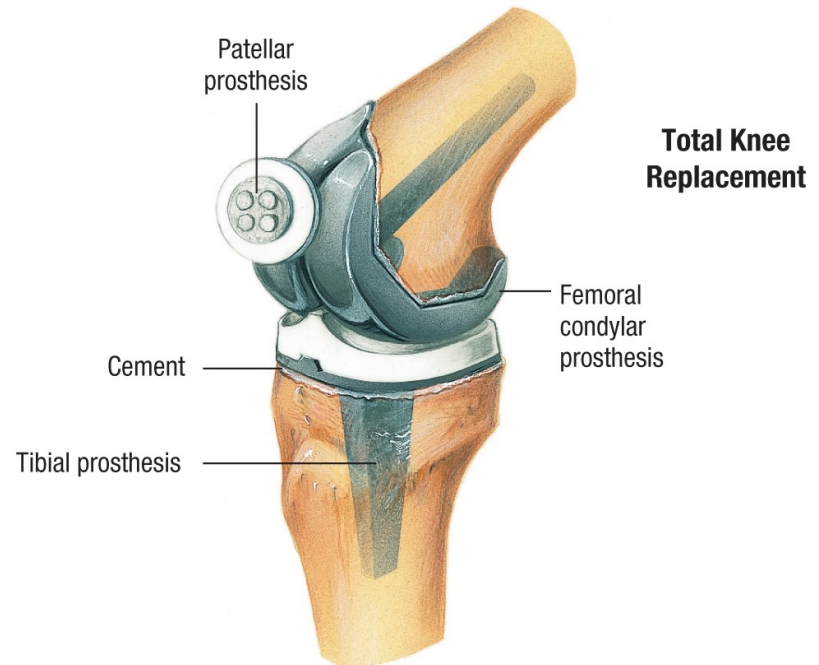


Joint Disorders

Joint replacement surgery (AKA: arthroplasty) Procedure to repair articulating surfaces within a synovial joint. The goal is reduced pain with joint movement although the range of motion may be permanently limited.



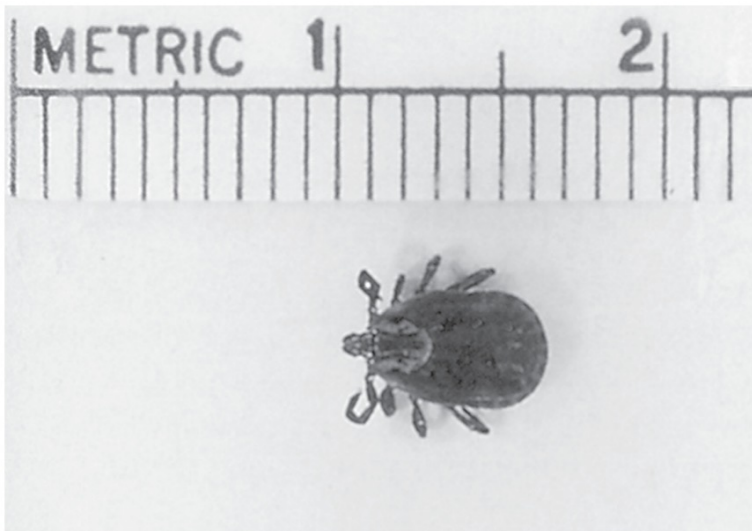
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Joint Disorders

Lyme disease Infection with *Borrelia burgdorferi* bacteria resulting in joint inflammation, as well as neurological and cardiovascular symptoms.



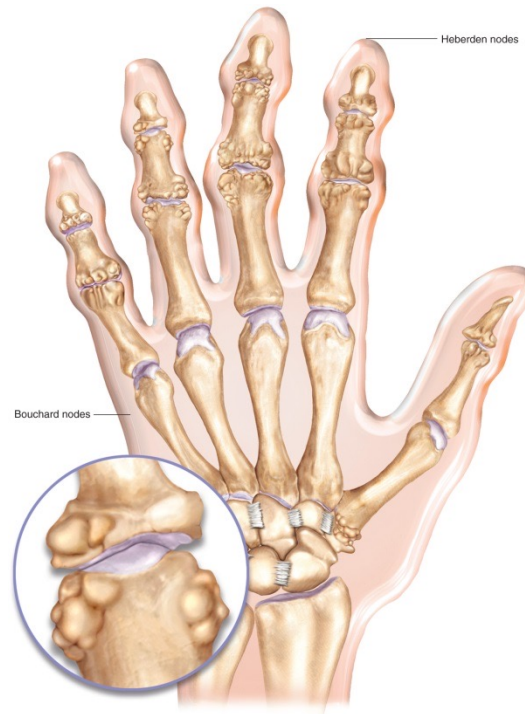
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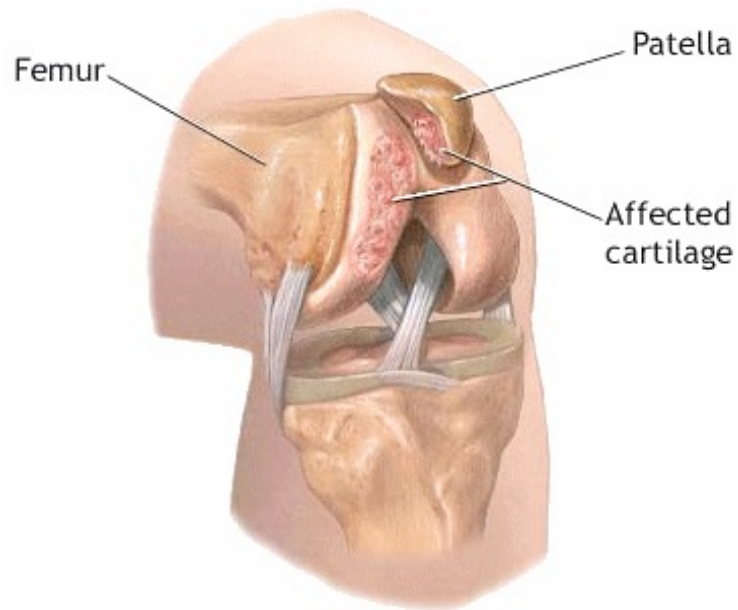
Joint Disorders

Osteoarthritis (AKA: degenerative joint disorder) Synovial joint inflammation caused by hyaline cartilage that has been damaged by wear and tear.



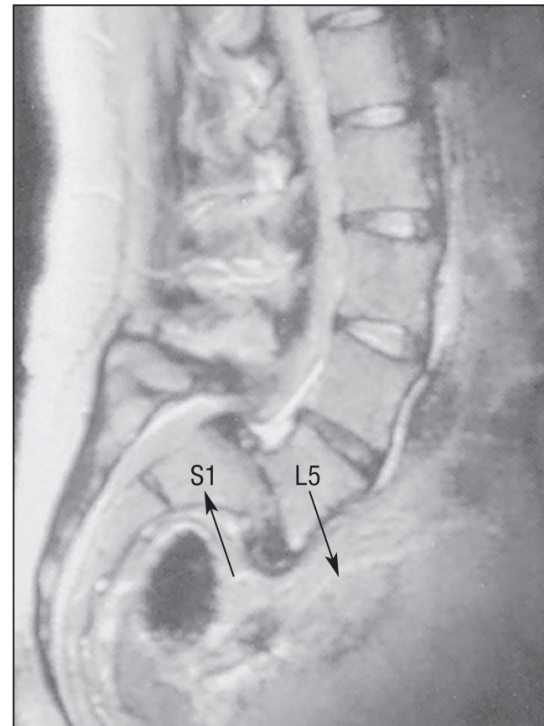
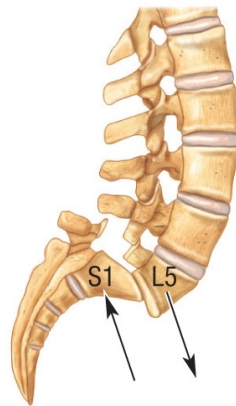
Joint Disorders

Patellofemoral syndrome (AKA: PFS) Patellar cartilage becomes irritated and damaged as it repeatedly contacts femoral cartilage. Usually a precursor to osteoarthritis, due to overuse.



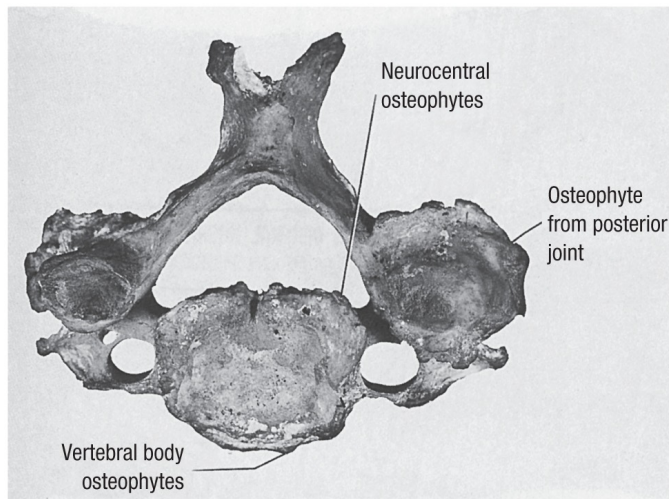
Joint Disorders

Spondylolisthesis Structural problem in the lumbar spine that allows one or more vertebral bodies to slip anteriorly resulting in pressure on the nerve roots or spinal cord .



Joint Disorders

Spondylosis Degenerative arthritis involving age-related changes of the vertebrae, discs, joints, and ligaments of the spine .



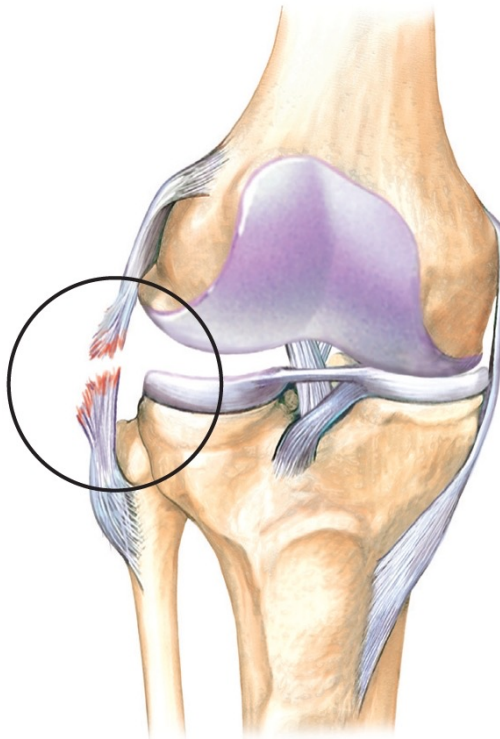
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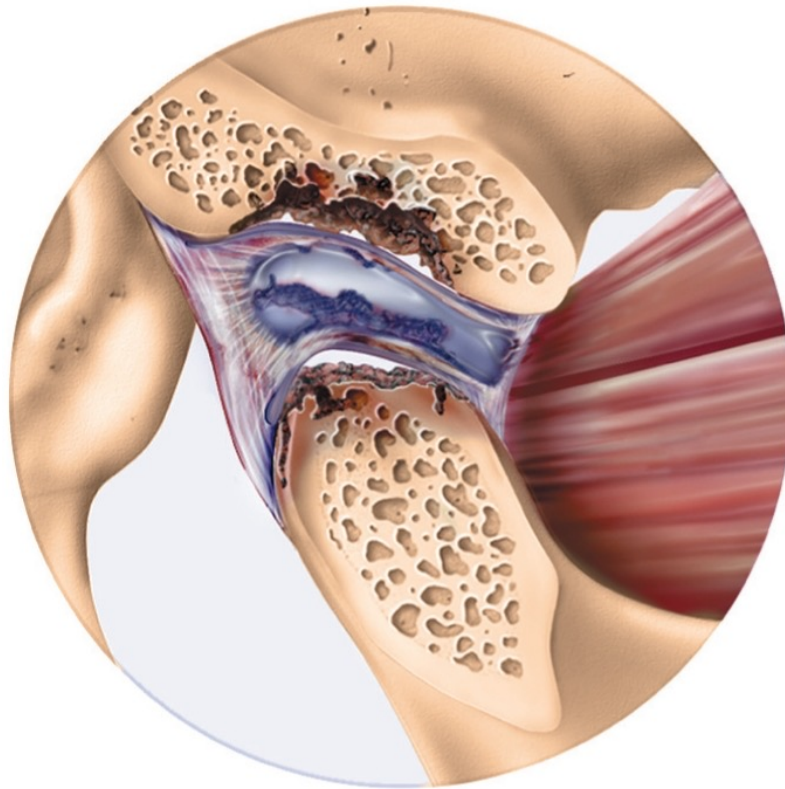
Joint Disorders

Sprains Torn or permanently stretched ligaments.



Joint Disorders

Temporomandibular joint dysfunction (AKA: TMJ dysfunction) Umbrella term that can refer to a multitude of common problems in and around the jaw. Signs and symptoms include dysfunctional bite (malocclusion), teeth grinding (bruxism), and loose ligaments surrounding the jaw.





Fascial Disorders

Compartment syndrome

Dupuytren contracture

Ganglion cyst

Hammertoe

Hernia

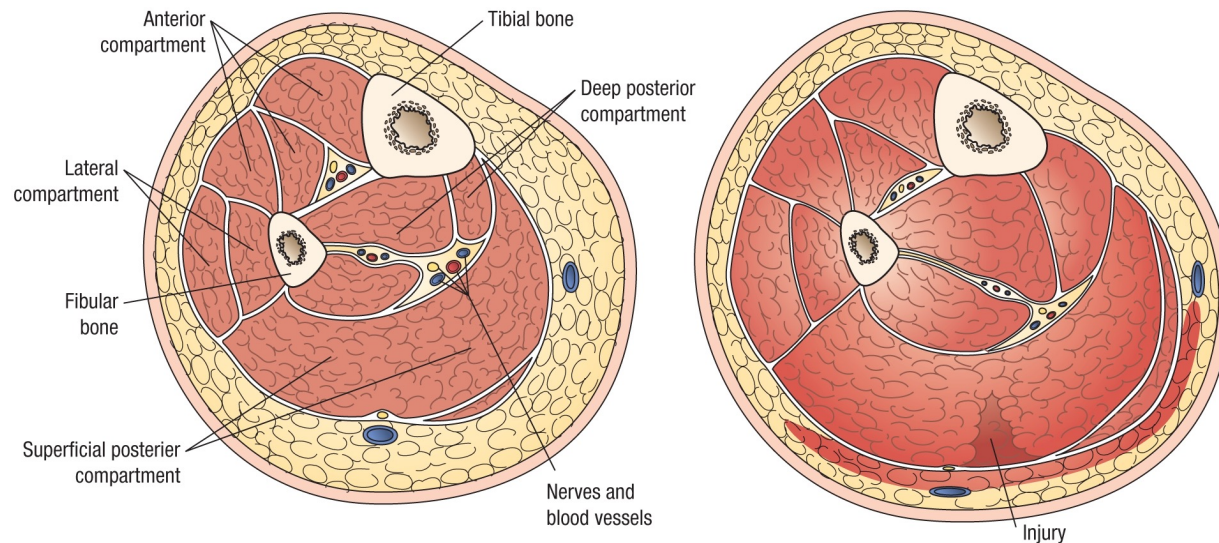
Plantar fasciitis

Pes planus

Pes cavus

Fascial Disorders

Compartment syndrome Injury or repetitive stress creates pressure inside a tight fascial compartment that can lead to the starvation and death of muscle and nerve cells.



Fascial Disorders

Dupuytren contracture (AKA: palmar fasciitis) Idiopathic thickening and shrinking of the palmar fascia that limits movement of the fingers.



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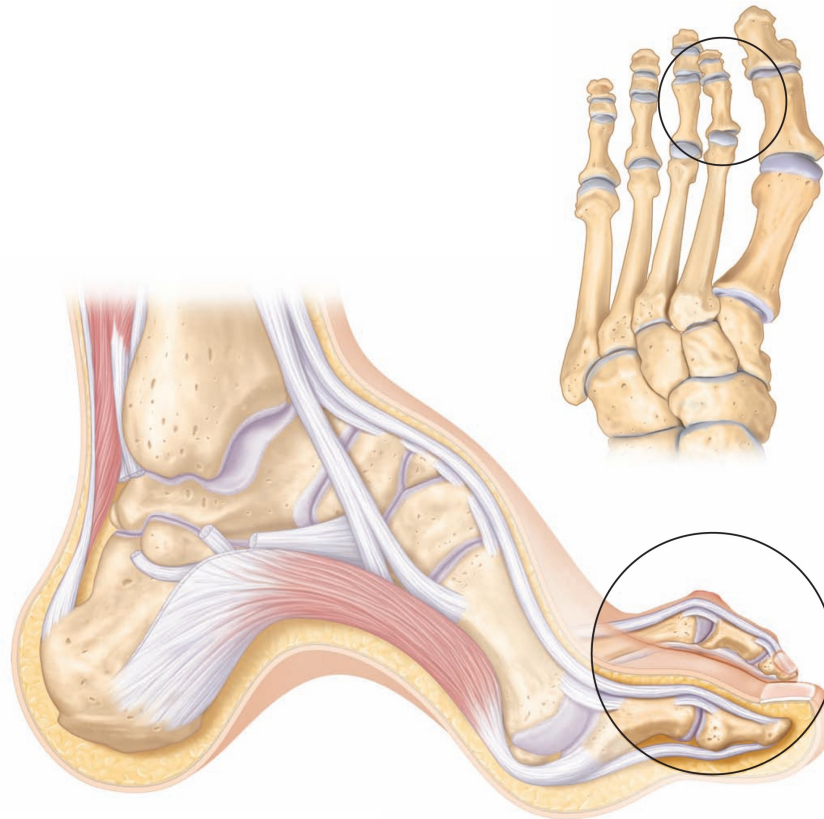
Fascial Disorders

Ganglion cyst Small connective tissue pouches filled with fluid that grow on joint capsules or tendinous sheaths.



Fascial Disorders

Hammertoe Foot deformity that affects the lateral toes by permanently shortening the muscles and tendons. Results in hyperextension at the metacarpal-phalangeal and distal interphalangeal joints, but flexion at the proximal interphalangeal joint.





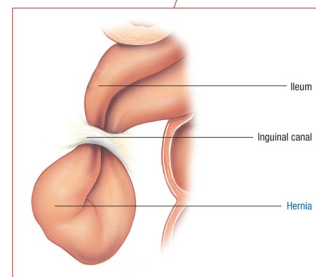
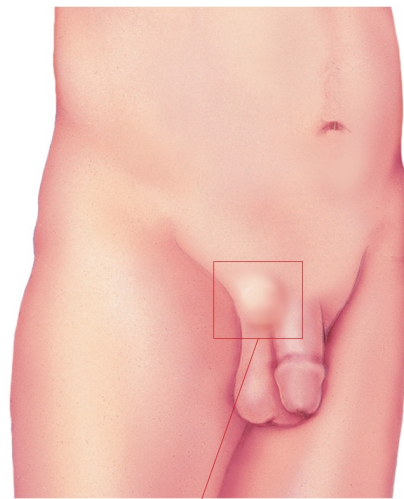
Fascial Disorders

Hernia Hole or rip in fascia through which structures such as muscles or vertebral discs may protrude.

Fascial Disorders

Hernia Hole or rip in fascia through which structures such as muscles or vertebral discs may protrude.

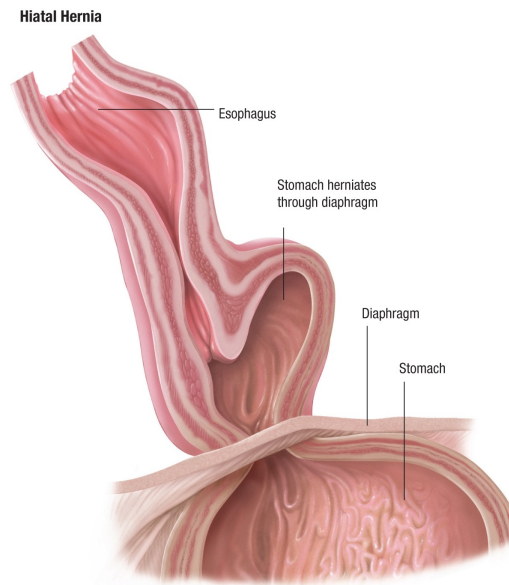
Inguinal hernia Hole in the abdominal wall at the inguinal ring caused by a sudden change in abdominal pressure such as coughing, sneezing, or heavy lifting especially with simultaneous twisting.



Fascial Disorders

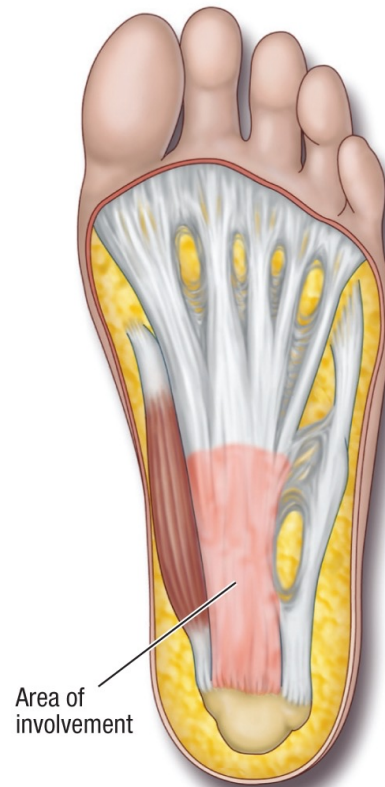
Hernia Hole or rip in fascia through which structures such as muscles or vertebral discs may protrude.

Hiatal hernia Enlargement of the diaphragmatic hiatus allowing the esophagus to pass from the thorax to the abdomen or the stomach to protrude into the thorax. Major contributor to gastroesophageal reflux disorder (GERD).



Fascial Disorders

Plantar fasciitis (AKA: PF) Pain in the plantar fascia caused by repeated microscopic injury and collagen degeneration.



Fascial Disorders

Pes planus (AKA: flat feet) Feet that lack the medial, lateral, and transverse arches of the plantar surface of the foot.



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Fascial Disorders

Pes cavus (AKA: high arches) Feet with hyperaccentuated arches that do not flatten out with each step, but instead stay high and immobile.





Neuromuscular Disorders

Carpal tunnel syndrome

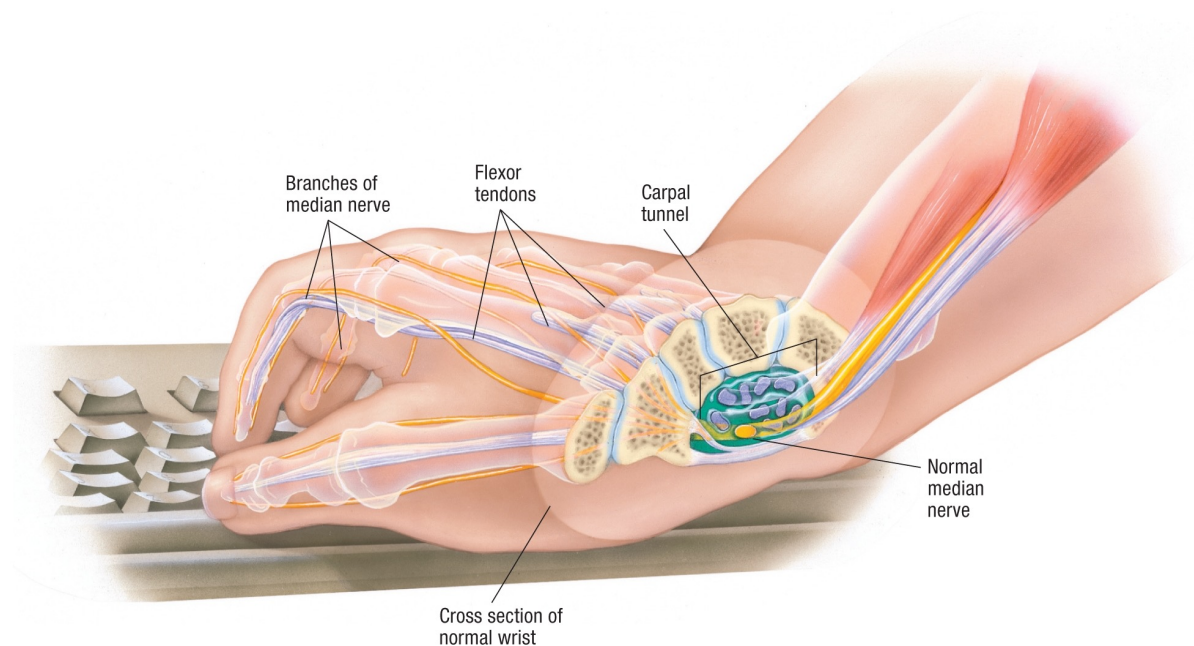
Disc disease

Herniated disc

Myofascial pain syndrome

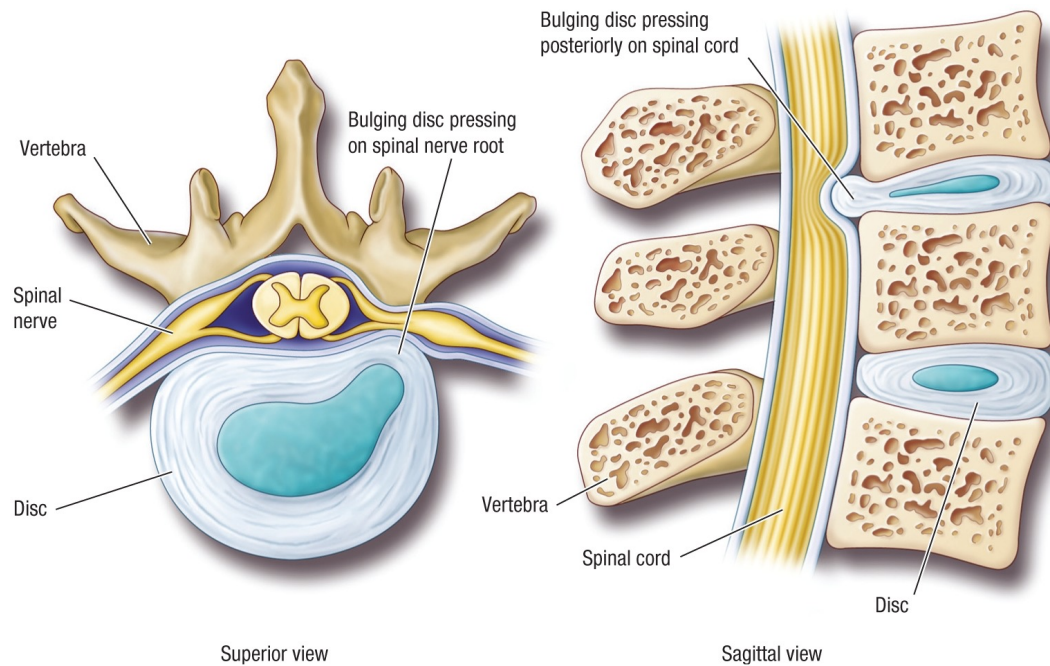
Neuromuscular Disorders

Carpal tunnel syndrome (AKA: CTS) Set of signs and symptoms brought about by the entrapment of the median nerve between the carpal bones of the wrist and the transverse carpal ligament that holds down the flexor tendons.



Neuromuscular Disorders

Disc disease Collection of problems in which the nucleus pulposus and or the annulus fibrosus of an intervertebral disc extends beyond its normal borders.





Neuromuscular Disorders

Herniated disc The nucleus pulposus of a vertebral disc extends beyond the vertebral body.

Bulge Entire disc protrudes symmetrically.

Protrusion Nucleus pulposus extends out in one direction.

Extrusion Narrow piece of the nucleus pulposus protrudes.

Rupture Nucleus pulposus bursts and leaks its entire contents.

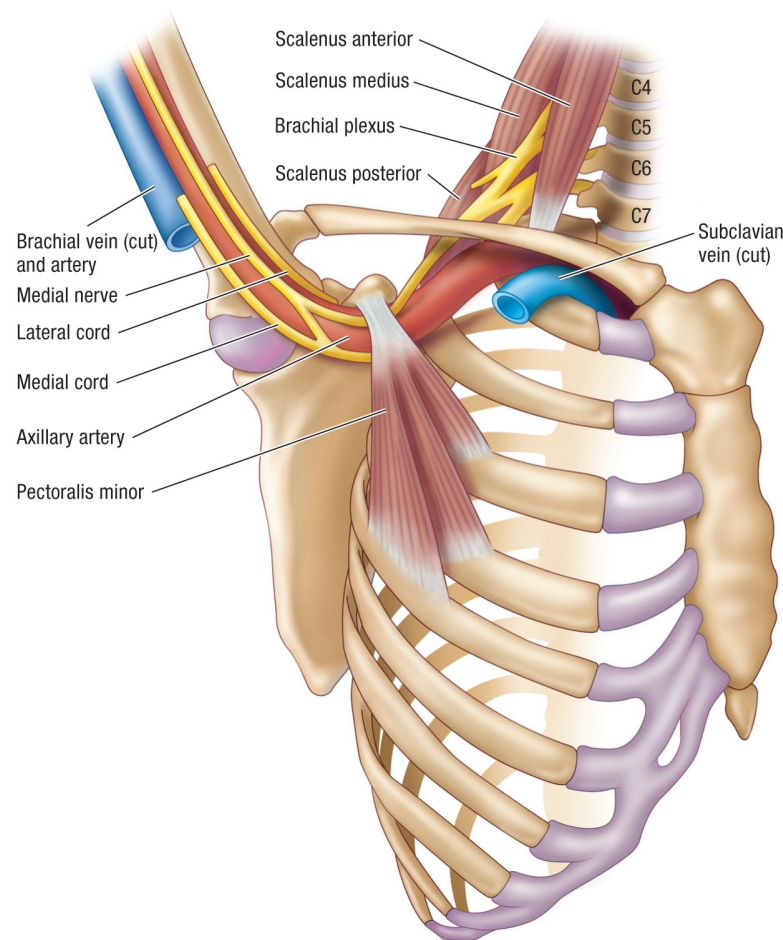


Neuromuscular Disorders

Myofascial pain syndrome (AKA: MPS) Condition involving the development of many myofascial trigger points.

Neuromuscular Disorders

Thoracic outlet syndrome (AKA: TOS) Nerves of the brachial plexus or blood vessels running to or from the arm are impinged or impaired at one or more of three places: anterior / medial scalenes, clavicle / ribs, pectoralis minor / ribs.





Other Connective Tissue Disorders

Bunions

Bursitis

Shin splints

Tendinitis

Tendinosis

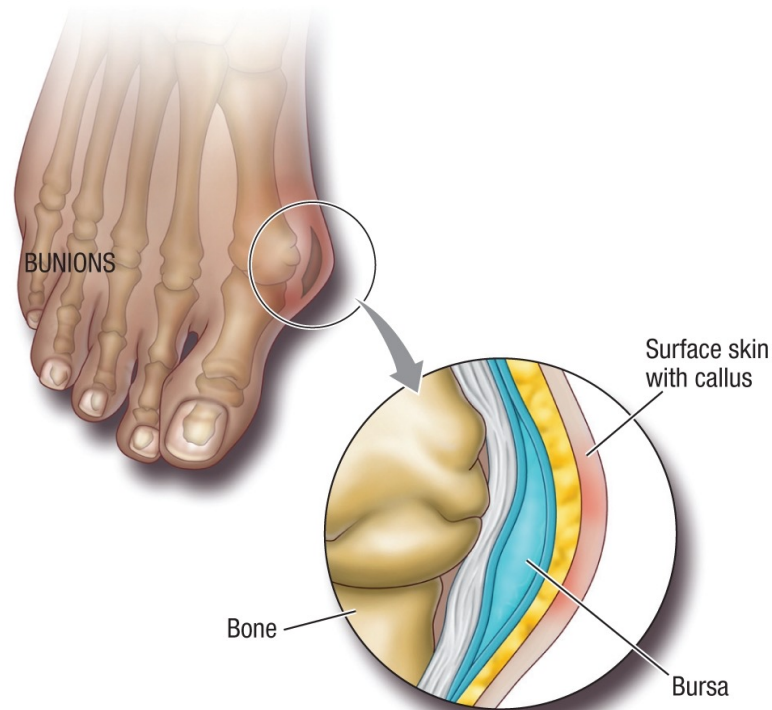
Tenosynovitis

De Quervain tenosynovitis

Whiplash

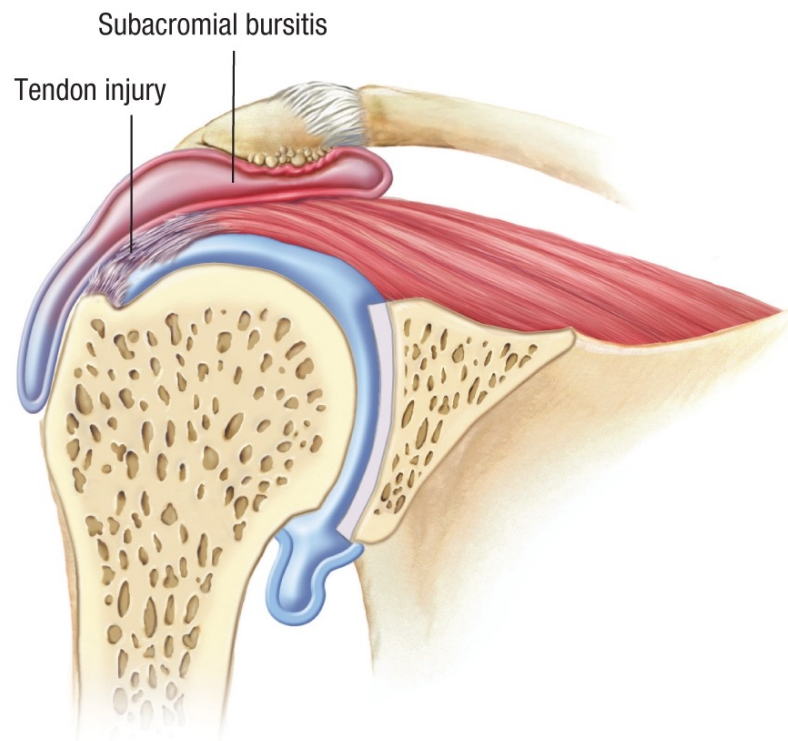
Other Connective Tissue Disorders

Bunions (AKA: hallux valgus) Bursa protrusion at the metatarsophalangeal joints of the great toe that occurs when the great toe is laterally deviated.



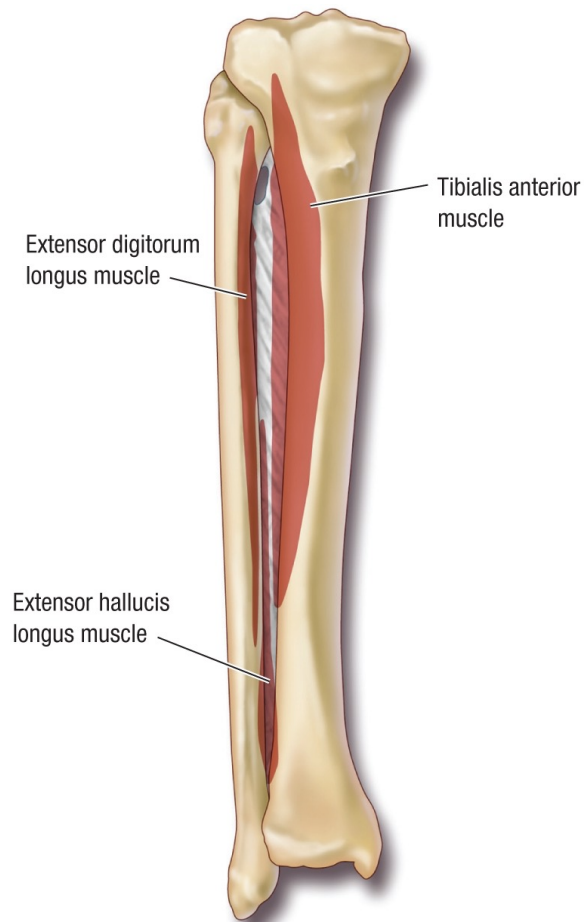
Other Connective Tissue Disorders

Bursitis Inflammation of a bursa due to irritation and generation of excess fluid.



Other Connective Tissue Disorders

Shin splints Variety of lower leg problems including medial tibial stress syndrome, periostitis, and stress fractures.



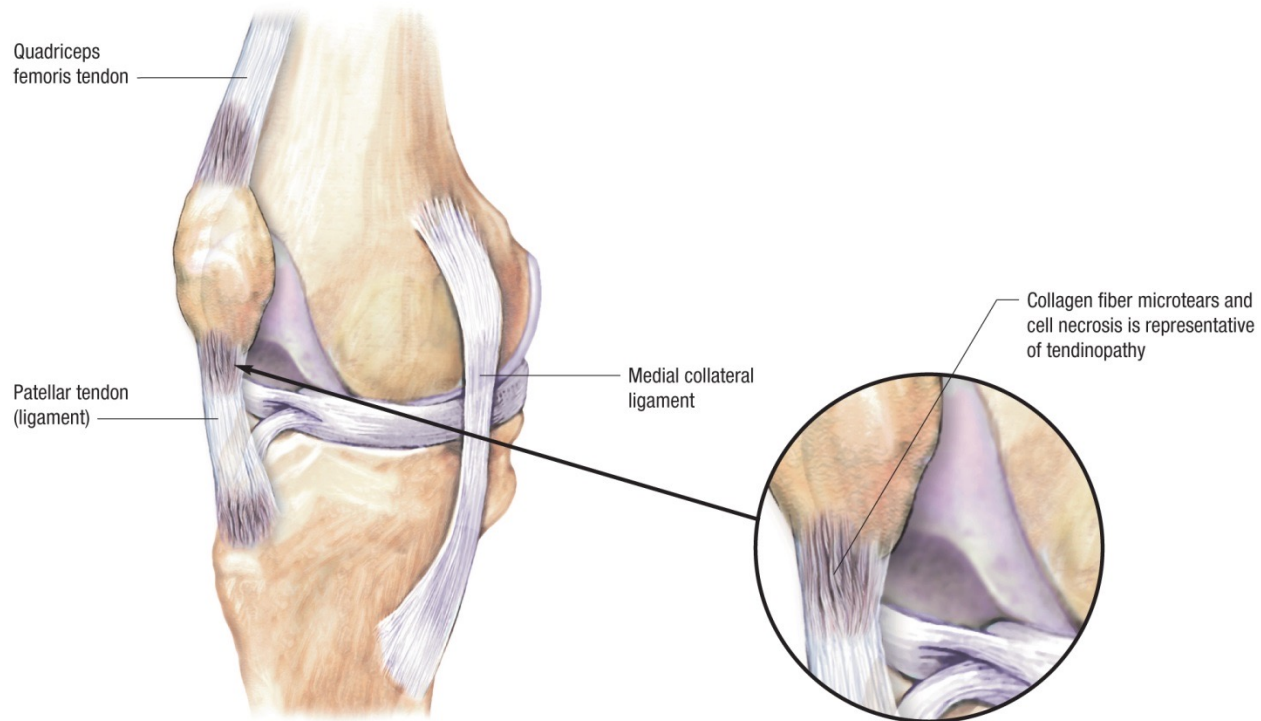


Other Connective Tissue Disorders

Tendinitis Acute tendon injury leading to inflammation.

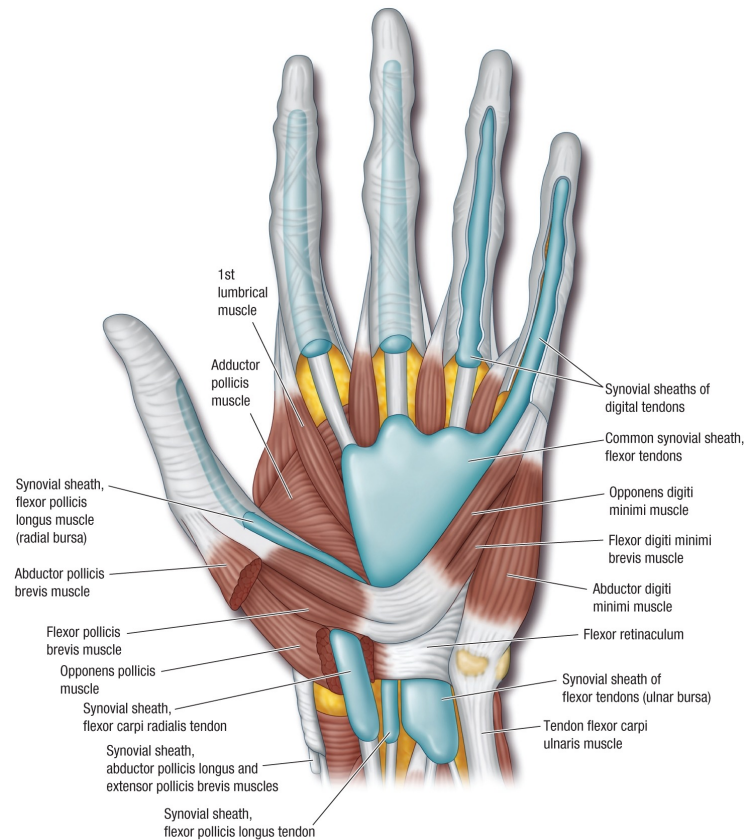
Other Connective Tissue Disorders

Tendinosis Long-term degeneration of collagen fibers in tendons.



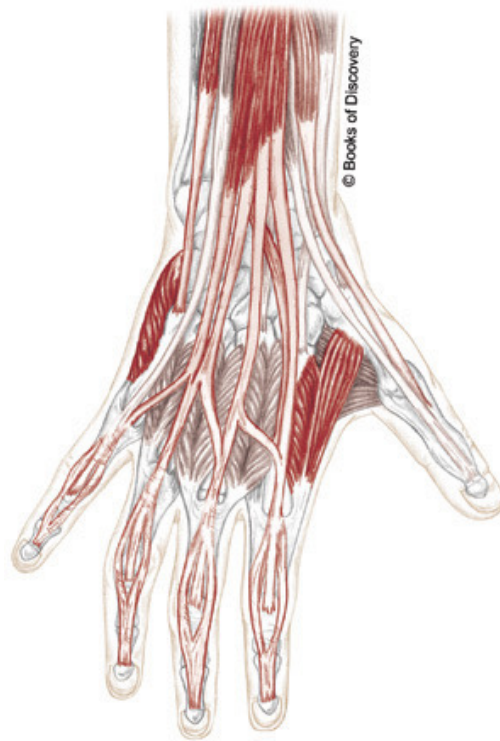
Other Connective Tissue Disorders

Tenosynovitis Irritation developing where tendons slide through their synovial sheaths.



Other Connective Tissue Disorders

De Quervain tenosynovitis Tenosynovitis of the abductor and extensor pollicis tendons.



Other Connective Tissue Disorders

Whiplash (AKA: cervical acceleration-deceleration, CAD) Mixture of injuries including sprains, strains, and joint trauma associated with the head whipping backwards and then forward in rapid succession.





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