

Musculoskeletal System

Functions:

1. supports and gives shape to the body
2. Protects Internal Organs
3. Makes movement possible
4. Forms blood cells (bone marrow)



3 Types of Muscles

1. Smooth.....involuntary.....visceral
2. Skeletal.....voluntary.....striated
3. Cardiac....branched striated

Attachment of Muscles

Each skeletal muscle composed of fibers (cells) held together by this sheets of fibrous connective tissue**Fascia**.

Tendons are the fascia combined, thick fibrous bands that connect the muscle to the bones.

Insertion = point of attachment to the bone it moves.

Origin = point of attachment of muscle to the less movable bone.

Coordinated Muscle Actions

Prime mover

produces most of force

Synergist aids the prime mover

stabilizes the nearby joint

modifies the direction of movement that occurs

Antagonist

opposes the prime mover preventing excessive movement and injury

Fixator

prevents movement of bone that prime mover is attached to

Skeletal muscle actions

Flexion	Extension	Hyperextension
Abduction		Adduction
Rotation		Circumduction
Dorsiflexion		Plantar flexion
Eversion		Inversion
Supination		Pronation

Muscle Combining forms

Fasci/o	fascia	facioplasty fasciorrhaphy fasciotomy
Fibr/o	fibrous tissue	fibrocystic
Leiomy/o	smooth muscle	leiomyofibroma
My/o	muscle	myotomy myosalpingitis myoparalysis myoparesis
Myocardi/o	heart muscle	myocardopathy

Myos/o	muscle	myositis
Plant/o	sole of foot	plantar
Rhabdomy/o	skeletal muscle	rhabdomyolysis
Suffixes		
-asthenia	lack of strength	myasthenia gravis
-trophy	development	atrophy hypertrophy
		amyotrophic lateral sclerosis

Paralysis = loss of sensation and voluntary muscle movement.		
-plegia	paralysis	hemiplegia paraplegia quadriplegia
-paresis	slight paralysis	hemiparesis myoparesis
-sthenia	strength	asthenia

- ### Muscle Pathology
- ALS
 - Muscular Dystrophy
 - Myasthenia Gravis
 - Myositis/polymyositis
 - Myofascial damage
 - Carpal Tunnel syndrome
 - Fibroma
 - fasciodesis

- Tenodynia
- Ataxia
 tax/o = coordination
- Dystaxia
- Atonia
- Hypertonia
- Hypotonia
- Myotonia
- myoclonus

- Singultus = myoclonus of diaphragm
- Paralyses
- Myoparaesis
- Hemiparesis
- Paraplegia quadriplegia
- Myonecrosis
- Myomalacia
- Myosclerosis
- Myorrhaxis

- Fasciectomy
- Fascioplasty
- Fasciorrhaphy
- Fasciotomy
- tenorrhaphy

Muscles to Know

- Pectoralis major
deltoid
- Biceps brachi
- Sternocleidomastoid / sternomastoid
- Triceps brachi
- Rectus abdominus
- Rectus femoris
- Gluteusmaximus
- Gastrocnemius
- Achilles tendon

MUSCLES

Arthr/o	atrophy Crepitation	arthroscopy
Troph/o		Dorsiflexion
Contract	contraction	plantarflexion
Cardi/o	cardiomyopathy	Bursa
Fasci/o	fasciectomy	Ganglion
Bucc/o	buccal	bunion
Dors/o	dorsal	Subluxation
Electr/o	electrocardiogram	sprain
Fibr/o	fibromyalgia	strain
Leiomy/o	leiomyosarcoma	myalgia
Pector/o	pectoral	Rhabdomy/o
	rhabdomyosarcoma	
Ankyl/o		ankylosing spondylitis

Muscles and Joints Terms

Arthralgia	Polymyositis
Dystonia	fibroma
Electromyogram	biceps femoris
Rhabdomyosarcoma	triceps brachi
Leiomyofibroma	IM, MD,
Electroneuromyography	arthrodesis
Tendinitis	ligamental
Anklyosing spondylitis	subluxation
Crepitation	fasciectomy
Buccal	contracture
Bunionectomy	metatarsophalangeal

The End

