SECTION 5  MUSCULAR SYSTEM

The muscular system is responsible for the movement of the body. Myology is the study of muscles (the root word my/o means muscle and the suffix -logy means the study of). With over 600 muscles in the body, this system is made up of three types of muscles:

1. cardiac muscle (kar’ de ak) is the muscle of the heart
   
   card/i means heart
   
   -ac means pertaining to
   
   cardiac muscle

2. smooth muscles are involuntary (in means against and voluntarius means will) and nonstriated (non means not and striated means striped or streaked)

   leiomyoma (li” o mi o’ ma) is a tumor that consists primarily of smooth muscle
   
   lei/o (li o) is the word element for smooth
   
   my/o (mi o) means muscle
   
   -oma (o ma) means tumor
   
   leiomyoma

3. skeletal muscle is attached to bone and is a voluntary muscle because it operates at will (voluntarius means will); these muscles are also called striated which means striped or streaked

   For example:
   
   rhabdomyoma (rab” do mi o’ ma) is a tumor in the striated muscular tissue
rhabd/o (rab do) means rod or striated
my/o means muscle
-oma means tumor
rhabdomyoma

Word Elements  (We will first look at some of the word elements that might be used in this system. Listen as each word element is being pronounced. Practice these word elements several times before going on to the next section.)

a- means not or without
a

ab- means away from
ab

ad- means toward
ad

adhes/o (ad he so) means to stick to
adheso

agon (ag on) means contest or struggle
agon
-algia (al’ je a) means pain
algia

ant- (ant) means against
ant

ap/o (ap’ o) means away from
apo

aponeur/o (ap” o nu ro) means away from a nerve
aponeuro

-asthenia (as the’ ne a) means weakness
asthenia

bi- (bi) means two
bi

brachial (bra’ ke al) means pertaining to the arm
brachial

brady- (brad e) means slow
brady
bucc/o (buk ko) means cheek
bucco

cardi, cardi/o (kard i, kar de o) means heart
cardi, cardio

carp/o (kar po) means wrist
carpo

-cele means swelling or tumor
cele

cleid/o (kli’ do) means collarbone (clavicle)
cleido

cnemis (ne mis) means shin, lower leg, or tibia
cnemis

collis (kol is) means neck
collis

condyl/o (kon di lo) means the end of a bone
condylo
corac/o (kor a ko) means shoulder blade (scapula)
coraco

creat (kret) means flesh
creat

-desis (de sis) means to bind or tie together
desis

dors/o (dor so) means back
dorso

duct/o (duk to) means vessel or channel
ducto

dys- (dis) means bad, labored, difficult, painful, disordered
dys

-ectomy (ek’ to me) means surgical removal or excision
ectomy

electr/o (e lek tro) means electric or electricity
electro
ergon (er gon) means work

ex- (eks) means out, away from, completely

fasci/o (fash e o) means band or sheet

fibr/o (fi bro) means fiber

flex/o (fleks o) means pliable or easily bent

form/a (for’ ma) means shape

gastr/o (gas’ tro) means stomach

-graphy (gra fe) means the procedure to record or write
hemi- (hem ɛ) means half
hemi

hyoid (hi ɔyd) means U-shaped. The hyoid bone is the horseshoe-shaped bone located at the base of the tongue.
hyoid

hyper- (hi ɔr per) means excessive, above, over
hyper

hyp/o (hi po) means under, below, beneath
hypo

in- means against or into
in

intra- (in tra) means within or inside
intra

-ist means one who specializes
ist

-itis (i’ ɪtis) means inflammation
itis
kinesi/o, kinesis (ki ne se o, ki ne sis) means movement or motion
kinesio, kinesis

lei/o (li o) means smooth
leio

lev/o (le vo), levat/o (le va to) means to raise or lift
levo, levato

-logy (lo je) means the study of
logy

-lysis (li sis) means to set free
lysis

-malacia (ma la’ she a) means abnormal softening of tissue
malacia

mast/o (mas to) means breast
masto

meter (me’ ter) is an instrument for measuring
meter
my/o (mi o) means muscle
myo

necr/o (nek ro) means death
necro

neur/o (nu ro) means nerve or nervous system
neuro

non- (non) means absence
non

-odynia (o din’ e a) means pain
odynia

-oid (oyd) means resembling or like
oid

-oma (o ma) means tumor
oma

-osis (o sis) means condition
osis
para- (par a) means near, beside, to bear
para

-paresis (par’ e sis, pa re’ sis) means partial or incomplete paralysis
paresis

-pathy (path e) means disease or feeling
pathy

pector/o (pek’ to ro) means chest or breast
pector o

peritone/o (per” i to ne’ o) means the peritoneum
peritoneo

physi/o (fiz e o) means relationship to nature
physio

pirum (pir um) means pear
pirum

-plasty (plas te) means surgical correction or surgical repair
plasty
plegia (ple’ je a) means paralysis or stroke
plegia

poly- (pol e) means excessive, many, much
poly

press/o (pres’ o) means to press or draw
presso

pseud/o (soo do) means false
pseudo

pteryg/o (ter ij o) means wing shaped
pterygo

quad- (kwod) means four
quad

quadr/i, quadr/o (kwod ri, kwod ro) means having four or consisting of four
quadri, quadro

radicul/o (ra dik u lo) means root
radiculo
rhabd/o (rab’ do) means rod

rhabdo

-rrhaphy (r raf e) means suture or sew

rrhaphy

-rrhea (re a) means flow or discharge

rrhea

-rrhexis (r hex is) means rupture

rrhexis

sarc/o (sar’ ko) means flesh. This word element is very similar to another word element
sacr/o (sak’ ro) which means sacrum the next to the last part of the lower spine. Be careful
not to confuse these two root words.
sarco

-scopy (skop e) means procedure to view or visually examine

scopy

serrat/o (ser a to) means notched

serrato
skelet/o (skel’ e to) means skeleton
skeleto

spas/o (spaz o) means to draw or pull
spaso

sphincter/o (sfingk’ ter o) means tight band
sphinctero

stern/o (ster no) means sternum; also called the breast bone
sterno

striated (stri’ a ted) means marked by streaks
striated

super- (soo per) means above, beyond, superior
super

syn- (sin) means joined or together
syn

synov/o (sin o vo) means the lubricating fluid in joints
synovo
tax/o (taks o) means order
taxo

ten/o, tend/o, tendin/o (ten o, ten do, ten din o) means tendon, which attaches muscle to bone
ten o, ten do, ten din o

tens/o (ten’ so) means tense
ten o

-therapy (ther’ a pe) means treatment
therapy

thyr/o (thi ro) means oblong, shield or thyroid
thyro

-tome (tom) means instrument to cut
tome

-tomy (to me) means procedure to cut	tomy

ton (ton) means tension or tone
ton o
tonia (to ne a) means condition of tension or contraction

tonia

 tort/i (tor ti) means twisted

torti

trans- (trans) means through or across

trans

tri- (tri) means three

tri

troph/o, troph/y (tro fo, tro fe) means nourishment

trophi, trophy

viscer/o (vis er o) means pertaining to internal organs

viscero

voluntarius (vol un ter e us) means will

voluntarius

Muscular System Words

abduction (ab duk’ shun) means moving away from the source
ab- means away from

abduction

abductor (ab duk’ tor) is a muscle that moves a part away from a common center

ab- means away from

duct/o means carry or lead

abductor

Achilles tendon (a kil’ ez) attaches the heel bone to the major muscle of the calf of the leg

Achilles tendon

adduction (a duk’ shun) means moving toward the source

ad- means toward

adduction

adductor (a duk’ tor) is a muscle that moves a part toward a common center

ad- means toward

duct/o means carry or lead

adductor

adhesion (ad he’ zhun) means a band of fibers that abnormally holds structures together

adhes/o means to stick to

adhesion

aponeurosis (ap” o nu ro’ sis) means a tendon or fibrous sheet attached to muscular fiber
aponeur/o means away from nerve

-osis means condition

aponeurosis

arthrodesis (ar thro de’ sis) means a binding or fusion of a joint

arthr/o means joint

-desis means to bind or tie together

arthrodesis

ataxia (a tak’ se a) means the inability to coordinate muscles

a- means without, not

taxia means order

ataxia

biceps (bi’ seps) is the muscle of the anterior upper arm that flexes the elbow

bi- means two

biceps

bradykinesia (brad” e ki ne’ se a) means extreme slowness in movement

brady- means slow

kinesia means movement

bradykinesia

cardioplegia (kar” de o ple’ je a) means paralysis of the muscles of the heart
cardi/o means heart
-plegia means paralysis
cardioplegia

carpal tunnel syndrome occurs when the median nerve is compressed or damaged as it passes through the carpal tunnel
carp/o means wrist
carpal tunnel syndrome

circumduction (ser” kum duk’ shun) is a circular movement of a limb
circum means around
duct means to carry or lead
circumduction

contracture (kon trak’ chur) means the abnormal shortening of muscle tissues
contracture

deltoid muscle forms the muscular shoulder cap and is named such because it is shaped like an inverted triangle, or the Greek letter delta
delt means delta
-oid means like or resembling
deltoid muscle

dystonia (dis to’ ne a) means abnormal condition of muscle tone

dys- means bad, disordered
tonia means pertaining to tone
dystonia

electromyography (e lek” tro mi og’ ra fe)--also known as EMG--records strength of muscle contractions that result from electrical stimulation

electro- means electricity
my/o means muscle
-graphy means procedure to record or write

electromyography

epicondylitis (ep” i kon” di li’ tis) —also known as tennis elbow—is the inflammation of the tissues surrounding the elbow

epi- means over, upon
condyl/o means the end of a bone
-itis means inflammation

epicondylitis

extension (eks ten’ shun) means increasing the angle between two bones or the straightening of a limb

ex- means away from
tens/o means to stretch out

extension
extensor is a muscle that straightens a limb at a joint

ex- means away from

extensor

fascia (fash’ e a) means a sheet or band of fibrous tissue that supports, separates, and covers muscles

fascia

fasciectomy (fash’ e ek’ to me) means the surgical removal of fascia

fasc/i means sheet, band

-ectomy means surgical removal

fasciectomy

fascioplasty (fash’ e o plas” te) means the surgical repair of fascia

fasc/i means sheet, band

-plasty means surgical repair

fascioplasty

fibroma (fi bro’ ma) —also called fibroid (fi’ broyd—means a tumor composed mainly of fibrous or fully developed connective tissue)

fibr/o means fiber

-oma means tumor

-oid means resembling, like

fibroma, fibroid
flexion (flek’ shun) means the bending of a limb at a joint

flexion

flexor (fleks’ or) means a muscle that bends at a joint

flex/o means bend

flexor

gastrocnemius (gas” trok ne’ me us) is the main muscle of the calf of the leg

gastr/o means stomach

cnemi us means shin, lower leg or tibia

gastrocnemius

gluteus maximus (gloo te us) is the largest muscle of the buttocks (but’ uks)

gluteus maximus

gluteus minimus (gloo te us) is the smallest muscle of the buttocks (but’ uks)

gluteus minimus

hemiparesis (hem” e par’ e sis) means slight paralysis of one side of the body

hemi- means half

paresis means partial or incomplete paralysis

hemiparesis
hemiplegia (hem e ple’ je a) means total paralysis of one side of body

hemi- means half

-plegia means paralysis

hemiplegia

herniorrhaphy (her ne or’ a fe) means the surgical suturing of a defect in a muscular wall

herni/o means hernia

-rrhaphy means to sew or suture

herniorrhaphy

hyperextension (hi” per eks ten’ shun) is the overextension of a limb or body part beyond normal limits

hyper- means excessive

ex- means away from

tens/o means to stretch out

hyperextension

hypotonia (hi” po to’ ne a) means a condition of diminished tone of the skeletal muscles

hyp/o means under, below

tonia means pertaining to tone

hypotonia

kinesiology (ki ne” se ol’ o je) means the study of muscular activity and movement of body parts
kinesi/o means movement

-logy means study of

kinesiology

muscle atrophy (at’ ro fe) means a weakness and wasting away due to disuse of muscles over a long period of time

a- means without, not

-trophy means nourishment, growth

muscle atrophy

myalgia (mi al’ je a) means pain in a muscle

my means muscle

-algia means pain

myalgia

myasthenia gravis (mi as the’ ne a gra vis) means an autoimmune disorder of neuromuscular function characterized by episodic muscle weakness

my/o means muscle

-asthenia means weakness

myasthenia gravis

myectomy (mi ek’ to me) means surgical removal of a portion of a muscle

my/o means muscle

-ectomy means surgical removal

myectomy
myocardium (mi o kar’ de um) is the muscle of the heart

my/o means muscle

cardium means pertaining to heart

myocardium

myocele (mi’ o sel) means the protrusion of a muscle through its ruptured sheath or fascia

my/o means muscle

cele (seal) means hernia, swelling

myocele

myolysis (mi ol’ i sis) means the breaking down or degeneration of muscle tissue

my/o means muscle

-lysis means breaking down or destruction

myolysis

myomalacia (mi” o ma la’ se a) means the abnormal softening of muscle tissue

my/o means muscle

-malacia means abnormal softening

myomalacia

myoneural junction (mi o nu ral junk shun) is a point where nerve endings and muscle cells come into contact

my/o means muscle
neural means pertaining to nerves

myoneural junction

myoplasty (mi o plas” te) means surgical repair of a muscle

my/o means muscle

-plasty means surgical repair

myoplasty

myorrhaphy (mi or’ a fe) means suturing a muscle wound

my/o means muscle

-rrhaphy means to sew or suture

myorrhaphy

paraplegia (par a ple’ je a) means paralysis of both legs and the lower part of the body

para- means beside

-plegia means paralysis

paraplegia

pectoralis major (pek” to ra’ lis) is a large triangular muscle and is one of the important muscles of the chest

pector means chest, breast

pectoralis major

polymyalgia (pol” e mi al’ je a) means pain in several muscle groups
poly means excessive, many
my/o means muscle
-algia means pain
polymyalgia

pronation (pro na’ shun) is the rotation of an arm or leg so that the palm of the hand or the sole of the foot is turned downward or backward. It is the opposite of supination.
pronation

quadriceps femoris (kwod’ ri seps fem’ or is) is the large muscle on the anterior thigh that assists in extending the leg
quadri- means four
quadriceps femoris

quadriplegia (kwod” ri ple’ je a) means paralysis of all four extremities
quadri- means four
-plegia means paralysis
quadriplegia

rhabdomyosarcoma (rab” do mi” o sar ko’ ma) is a neoplasm that originates in the skeletal muscle and is extremely malignant
rhabd/o means rod
my/o means muscle
sarc/o means flesh
-oma means tumor

rhabdomyosarcoma

sciatica (si at’ i ka) is the inflammation of the sciatic nerve

sciatica

spasm, also known as cramp, means a violent, sudden, involuntary contraction of a muscle

spasm

sphincter (sfingk’ ter) is a circular muscle that tightly constricts the opening of a passageway

sphincter

sphincterotomy (sfingk” ter ot’ o me) means the incision into a sphincter muscle

sphincter/o means sphincter muscle

-tomy means to cut into or incision

sphincterotomy

sternocleidomastoid (ster” no kli” do mas’ toyd) is the muscle that helps flex the neck and rotate the head

stern/o means sternum

cleid/o means collar bone

mast/o means breast

-oid means resembling
sternocleidomastoid

subluxation (sub luks a’ shun) is a partial or incomplete dislocation

subluxation

supination (su” pin a’ shun) is the rotation of an arm or leg so that the palm of the hand or the sole of the foot is turned forward or upward. It is the opposite of pronation.

supination

tendinitis (ten” din i’ tis) —also known as tendonitis (ten” do ni’ tis) —is the inflammation of a tendon

  tendin or tendon means tendon

  -itis means inflammation

tendinitis or tendonitis

tenectomy (te nek’ to me) means surgical removal of a lesion from a tendon

  ten means tendon

  -ectomy means surgical removal

tenectomy

tenolysis (ten ol’ i sis) means to release a tendon from adhesions

  ten/o means tendon

  -lysis means to set free

tenolysis
tenosynovitis (ten” o sin” o vi’ tis) is the inflammation of a tendon sheath

  ten/o means attaches muscle to bone or tendon

  synov/o means synovial

  -itis means inflammation

tenosynovitis

torticollis (tor” ti kol’ is) —also known as wryneck—means a stiff neck due to spasmodic contraction of the sternocleidomastoid (ster” no kli” do mas’ toyd) muscle

  tort/i means twisted

  collis (kol is) means neck

torticollis

triceps are formed from three divisions and are the muscles of the posterior upper arm that extend the elbow

  tri- means three

triceps

viscous (vis’ kus) means sticky or gelatinous

viscous

This ends the section on the Muscular System. If you have any questions, please ask your instructor for further clarification or refer to your textbook. You should repeat this section as many times as you feel is necessary to feel comfortable with the meaning and pronunciation of the words presented.