

GLOSSARY

MEDICAL WORD PARTS—ENGLISH

Combining Form, Suffix, or Prefix	Meaning	Combining Form, Suffix, or Prefix	Meaning
a-, an-	no; not; without	aneurysm/o	aneurysm (widened blood vessel)
ab-	away from	angi/o	vessel (blood)
abdomin/o	abdomen	anis/o	unequal
-ac	pertaining to	ankyl/o	stiff
acanth/o	spiny; thorny	ante-	before; forward
acetabul/o	acetabulum (hip socket)	anter/o	front
acous/o	hearing	anthrac/o	coal
acr/o	extremities; top; extreme point	anthr/o	antrum of the stomach
acromi/o	acromion (extension of shoulder bone)	anti-	against
actin/o	light	anxi/o	uneasy; anxious
acu/o	sharp; severe; sudden	aort/o	aorta (largest artery)
-acusis	hearing	-apheresis	removal
ad-	toward	aphth/o	ulcer
-ad	toward	apo-	off, away
aden/o	gland	aponeur/o	aponeurosis (type of tendon)
adenoid/o	adenoids	append/o	appendix
adip/o	fat	appendic/o	appendix
adren/o	adrenal gland	aque/o	water
adrenal/o	adrenal gland	-ar	pertaining to
aer/o	air	-arce	beginning
af-	toward	arter/o	artery
agglutin/o	clumping; sticking together	arteri/o	artery
-agon	assemble, gather	arteriol/o	arteriole (small artery)
agora-	marketplace	arthr/o	joint
-agra	excessive pain	-arthria	articulate (speak distinctly)
-al	pertaining to	articul/o	joint
alb/o	white	-ary	pertaining to
albin/o	white	asbest/o	asbestos
albumin/o	albumin (protein)	-ase	enzyme
alges/o	sensitivity to pain	-asthenia	lack of strength
-algesia	sensitivity to pain	atel/o	incomplete
-algia	pain	ather/o	plaque (fatty substance)
all/o	other	-ation	process; condition
alveol/o	alveolus; air sac; small sac	atri/o	atrium (upper heart chamber)
ambly/o	dim; dull	audi/o	hearing
-amine	nitrogen compound	audit/o	hearing
amni/o	amnion (sac surrounding the embryo)	aur/o	ear
amy/o	starch	auricul/o	ear
an/o	anus	aut/o	self, own
-an	pertaining to	aut-, auto-	self, own
ana-	up; apart; backward; again, anew	axill/o	armpit
andr/o	male	azot/o	urea; nitrogen
		bacill/o	bacilli (bacteria)
		bacteri/o	bacteria



REVIEW SHEET

Write the meanings of the word parts in the spaces provided, and test yourself. Check your answers with the information in the chapter or in the Glossary (Medical Word Parts—English), beginning on page 954.

Combining Forms

COMBINING FORM	MEANING	COMBINING FORM	MEANING
anxi/o	_____	phil/o	_____
aut/o	_____	phren/o	_____
cycl/o	_____	psych/o	_____
hallucin/o	_____	pyr/o	_____
hypn/o	_____	schiz/o	_____
iatr/o	_____	somat/o	_____
klept/o	_____	ton/o	_____
ment/o	_____	xen/o	_____
neur/o	_____		

Suffixes

SUFFIX	MEANING	SUFFIX	MEANING
-form	_____	-pathy	_____
-genic	_____	-phobia	_____
-kinesia	_____	-phoria	_____
-leptic	_____	-somnia	_____
-mania	_____	-thymia	_____
-oid	_____	-tropic	_____

Prefixes

PREFIX	MEANING	PREFIX	MEANING
a-, an-	_____	eu-	_____
agora-	_____	hypo-	_____
cata-	_____	para-	_____
dys-	_____		



Please refer to the enclosed CD for additional exercises and images related to this chapter.

Combining Form, Suffix, or Prefix	Meaning	Combining Form, Suffix, or Prefix	Meaning
balan/o	glans penis	-chezia	defecation; elimination of wastes
bar/o	pressure; weight	chir/o	hand
bartholin/o	Bartholin glands	chlor/o	green
bas/o	base; opposite of acid	chlorhydr/o	hydrochloric acid
bi-	two	chol/e	bile; gall
bi/o	life	cholangi/o	bile vessel
bil/i	bile; gall	cholecyst/o	gallbladder
bilirubin/o	bilirubin	choledoch/o	common bile duct
-blast	embryonic; immature cell	cholesterol/o	cholesterol
-blastoma	immature tumor (cells)	chondr/o	cartilage
blephar/o	eyelid	chore/o	dance
bol/o	cast; throw	chori/o	chorion (outermost membrane of the fetus)
brachi/o	arm	chorion/o	chorion
brachy-	short	choroid/o	choroid layer of eye
brady-	slow	chrom/o	color
bronch/o	bronchial tube	chron/o	time
bronchi/o	bronchial tube	chym/o	to pour
bronchiol/o	bronchiole	cib/o	meal
bucc/o	cheek	-cide	killing
bunion/o	bunion	-cidal	pertaining to killing
burs/o	bursa (sac of fluid near joints)	cine/o	movement
byssin/o	cotton dust	cirr/h/o	orange-yellow
cac/o	bad	cis/o	to cut
calc/o	calcium	-clasis	to break
calcane/o	calcaneus (heel bone)	-clast	to break
calci/o	calcium	claustr/o	enclosed space
cali/o	calyx	clavicul/o	clavicle (collar bone)
calic/o	calyx	-clysis	irrigation; washing
capillar/o	capillary (tiniest blood vessel)	coagul/o	coagulation (clotting)
capn/o	carbon dioxide	-coccus (-cocci, pl.)	berry-shaped bacterium
-capnia	carbon dioxide	coccyg/o	coccyx (tailbone)
carcin/o	cancerous; cancer	cochle/o	cochlea (inner part of ear)
cardi/o	heart	col/o	colon (large intestine)
carp/o	wrist bones (carpals)	coll/a	glue
cata-	down	colon/o	colon (large intestine)
caud/o	tail; lower part of body	colp/o	vagina
caus/o	burn; burning	comat/o	deep sleep
cauter/o	heat; burn	comi/o	to care for
cec/o	cecum (first part of the colon)	con-	together, with
-cele	hernia	coni/o	dust
celi/o	belly; abdomen	conjunctiv/o	conjunctiva (lines the eyelids)
-centesis	surgical puncture to remove fluid	-constriction	narrowing
cephal/o	head	contra-	against; opposite
cerebell/o	cerebellum (posterior part of the brain)	cor/o	pupil
cerebr/o	cerebrum (largest part of the brain)	core/o	pupil
cerumin/o	cerumen	corne/o	cornea
cervic/o	neck; cervix (neck of uterus)	coron/o	heart
-chalasia	relaxation	corpor/o	body
-chalasis	relaxation	cortic/o	cortex, outer region
cheil/o	lip	cost/o	rib
chem/o	drug; chemical	crani/o	skull
		cras/o	mixture; temperament

Combining Form, Suffix, or Prefix**Meaning**

crin/o	secrete
-crine	secrete; separate
-crit	separate
cry/o	cold
crypt/o	hidden
culd/o	cul-de-sac
-cuis	hearing
cutane/o	skin
cyan/o	blue
cycl/o	ciliary body of eye; cycle; circle
-cysis	pregnancy
cyst/o	urinary bladder; cyst; sac of fluid
cyt/o	cell
-cyte	cell
-cytosis	condition of cells; slight increase in numbers
dacry/o	tear
dacryoaden/o	tear gland
dacryocyst/o	tear sac; lacrimal sac
dactyl/o	fingers; toes
de-	lack of; down; less; removal of
dem/o	people
dent/i	tooth
derm/o	skin
-derma	skin
dermat/o	skin
desicc/o	drying
-desis	bind, tie together
dia-	complete; through
diaphor/o	sweat
-dilation	widening; stretching; expanding
dipl/o	double
dips/o	thirst
dist/o	far; distant
dors/o	back (of body)
dorsi-	back
-dote	to give
-drome	to run
duct/o	to lead, carry
duoden/o	duodenum
dur/o	dura mater
-dynia	pain
dys-	bad; painful; difficult; abnormal
-eal	pertaining to
ec-	out; outside
echo-	reflected sound
-ectasia	dilation; dilatation; widening
-ectasis	dilation; dilatation; widening
ecto-	out; outside
-ectomy	removal; excision; resection
-edema	swelling
-elasma	flat plate
electr/o	electricity

Combining Form, Suffix, or Prefix**Meaning**

em-	in
-ema	condition
-emesis	vomiting
-emia	blood condition
-emic	pertaining to blood condition
emmetr/o	in due measure
en-	in; within
encephal/o	brain
end-	in; within
endo-	in; within
enter/o	intestines (usually small intestine)
eosin/o	red; rosy; dawn-colored
epi-	above; upon; on
epididym/o	epididymis
epiglott/o	epiglottis
episi/o	vulva (external female genitalia)
epitheli/o	skin; epithelium
equin/o	horse
-er	one who
erg/o	work
erythem/o	flushed; redness
erythr/o	red
-esis	action; condition; state of
eso-	inward
esophag/o	esophagus
esthes/o	nervous sensation (feeling)
esthesi/o	nervous sensation
-esthesia	nervous sensation
estr/o	female
ethm/o	sieve
eti/o	cause
eu-	good; normal
-eurysm	widening
ex-	out; away from
exanthemat/o	rash
exo-	out; away from
extra-	outside
faci/o	face
fasci/o	fascia (membrane supporting muscles)
femor/o	femur (thigh bone)
-ferent	to carry
fibr/o	fiber
fibros/o	fibrous connective tissue
fibul/o	fibula
-fication	process of making
-fida	split
flex/o	bend
fluor/o	luminous
follicul/o	follicle; small sac
-form	resembling; in the shape of
fung/i	fungus; mushroom (lower organism lacking chlorophyll)

**Combining
Form, Suffix,
or Prefix****Meaning**

furc/o	forking; branching
-fusion	to pour; to come together
galact/o	milk
ganglion/o	ganglion; collection of nerve cell bodies
gastr/o	stomach
-gen	substance that produces
-genesis	producing; forming
-genic	produced by or in
ger/o	old age
geront/o	old age
gest/o	pregnancy
gester/o	pregnancy
gingiv/o	gum
glauc/o	gray
gli/o	glial cells; neuroglial cells (supportive tissue of nervous system)
-globin	protein
-globulin	protein
glomerul/o	glomerulus
gloss/o	tongue
gluc/o	glucose; sugar
glyc/o	glucose; sugar
glycogen/o	glycogen; animal starch
glycos/o	glucose; sugar
gnos/o	knowledge
gon/o	seed
gonad/o	sex glands
goni/o	angle
-grade	to go
-gram	record
granul/o	granule(s)
-graph	instrument for recording
-graphy	process of recording
gravid/o	pregnancy
-gravida	pregnant woman
gynec/o	woman; female
hallucin/o	hallucination
hem/o	blood
hemat/o	blood
hemi-	half
hemoglobin/o	hemoglobin
hepat/o	liver
herni/o	hernia
-hexia	state of
hidr/o	sweat
hist/o	tissue
histi/o	tissue
home/o	sameness; unchanging; constant
hormon/o	hormone
humer/o	humerus (upper arm bone)
hydr/o	water

**Combining
Form, Suffix,
or Prefix****Meaning**

hyper-	above; excessive
hypn/o	sleep
hypo-	deficient; below; under; less than normal
hypophys/o	pituitary gland
hyster/o	uterus; womb
-ia	condition
-iac	pertaining to
-iasis	abnormal condition
iatr/o	physician; treatment
-ic	pertaining to
-ical	pertaining to
ichthy/o	dry; scaly
-icle	small
idi/o	unknown; individual; distinct
-ile	pertaining to
ile/o	ileum
ili/o	ilium
immun/o	immune; protection; safe
in-	in; into; not
-in, -ine	a substance
-ine	pertaining to
infra-	below; inferior to; beneath
inguin/o	groin
insulin/o	insulin (pancreatic hormone)
inter-	between
intra-	within; into
iod/o	iodine
ion/o	ion; to wander
-ion	process
-ior	pertaining to
ipsi-	same
ir-	in
ir/o	iris (colored portion of eye)
irid/o	iris (colored portion of eye)
is/o	same; equal
isch/o	hold back; back
ischi/o	ischium (part of hip bone)
-ism	process; condition
-ist	specialist
-itis	inflammation
-itus	condition
-ium	structure; tissue
jaund/o	yellow
jejun/o	jejunum
kal/i	potassium
kary/o	nucleus
kerat/o	cornea; hard, horny tissue
kern-	nucleus (collection of nerve cells in the brain)
ket/o	ketones; acetones
keton/o	ketones; acetones
kines/o	movement

Combining Form, Suffix, or Prefix	Meaning	Combining Form, Suffix, or Prefix	Meaning
kinesi/o	movement	mastoid/o	mastoid process (behind the ear)
-kinesia	movement	maxill/o	maxilla (upper jaw bone)
-kinesis	movement	meat/o	meatus (opening)
klept/o	to steal	medi/o	middle
kyph/o	humpback	mediastin/o	mediastinum
labi/o	lip	medull/o	medulla (inner section); middle; soft, marrow
lacrim/o	tear; tear duct; lacrimal duct	mega-	large
lact/o	milk	-megaly	enlargement
lamin/o	lamina (part of vertebral arch)	melan/o	black
lapar/o	abdominal wall; abdomen	men/o	menses; menstruation
-lapse	slide, fall, sag	mening/o	meninges (membranes covering the spinal cord and brain)
laryng/o	larynx (voice box)	meningi/o	meninges
later/o	side	ment/o	mind; chin
leiomy/o	smooth (visceral) muscle	meso-	middle
-lemma	sheath, covering	meta-	change; beyond
-lepsy	seizure	metacarp/o	metacarpals (hand bones)
lept/o	thin, slender	metatars/o	metatarsals (foot bones)
-leptic	pertaining to seizing, taking hold of	-meter	measure
leth/o	death	metr/o	uterus (womb); measure
leuk/o	white	metri/o	uterus (womb)
lex/o	word; phrase	mi/o	smaller; less
-lexia	word; phrase	micro-	small
ligament/o	ligament	-mimetic	mimic; copy
lingu/o	tongue	-mission	send
lip/o	fat; lipid	mon/o	one; single
-listhesis	slipping	morph/o	shape; form
lith/o	stone; calculus	mort/o	death
-lithiasis	condition of stones	-mortem	death
-lithotomy	incision (for removal) of a stone	-motor	movement
lob/o	lobe	muc/o	mucus
log/o	study	mucos/o	mucous membrane (mucosa)
-logy	study (process of)	multi-	many
lord/o	curve; swayback	mut/a	genetic change
-lucent	to shine	mutagen/o	causing genetic change
lumb/o	lower back; loin	my/o	muscle
lute/o	yellow	myc/o	fungus
lux/o	slide	mydr/o	wide
lymph/o	lymph	myel/o	spinal cord; bone marrow
lymphaden/o	lymph gland (node)	myocardi/o	myocardium (heart muscle)
lymphangi/o	lymph vessel	myom/o	muscle tumor
-lysis	breakdown; separation; destruction; loosening	myos/o	muscle
-lytic	reducing, destroying; separating; breakdown	myring/o	tympenic membrane (eardrum)
macro-	large	myx/o	mucus
mal-	bad	narc/o	numbness; stupor; sleep
-malacia	softening	nas/o	nose
malleol/o	malleolus	nat/i	birth
mamm/o	breast	natr/o	sodium
mandibul/o	mandible (lower jaw bone)	necr/o	death
-mania	obsessive preoccupation	nect/o	bind, tie, connect
mast/o	breast	neo-	new
		nephr/o	kidney

Combining Form, Suffix, or Prefix	Meaning	Combining Form, Suffix, or Prefix	Meaning
neur/o	nerve	oxy-	rapid; sharp; acid
neutr/o	neither; neutral; neutrophil	oxysm/o	sudden
nid/o	nest	pachy-	heavy; thick
noct/o	night	palat/o	palate (roof of the mouth)
norm/o	rule; order	palpebr/o	eyelid
nos/o	disease	pan-	all
nucle/o	nucleus	pancreat/o	pancreas
nulli-	none	papill/o	nipple-like; optic disc (disk)
nyct/o	night	par-	other than; abnormal
obstetr/o	pregnancy; childbirth	para-	near; beside; abnormal; apart from; along the side of
ocul/o	eye	-para	to bear, bring forth (live births)
odont/o	tooth	-parous	to bear, bring forth
odyn/o	pain	parathyroid/o	parathyroid glands
-oid	resembling; derived from	-paresis	weakness
-ole	little; small	-pareunia	sexual intercourse
olecran/o	olecranon (elbow)	-partum	birth; labor
olig/o	scanty	patell/a	patella
om/o	shoulder	patell/o	patella
-oma	tumor; mass; fluid collection	path/o	disease
omphal/o	umbilicus (navel)	-pathy	disease; emotion
onc/o	tumor	pector/o	chest
-one	hormone	ped/o	child; foot
onych/o	nail (of fingers or toes)	pelv/i	pelvis; hip region
o/o	egg	pelv/o	pelvis; hip region
oophor/o	ovary	pend/o	hang
-opaque	obscure	-penia	deficiency
ophthalm/o	eye	pen/o	penis
-opia	vision condition	-pepsia	digestion
-opsia	vision condition	per-	through
-opsy	view of	peri-	surrounding
opt/o	eye; vision	perine/o	perineum
optic/o	eye; vision	peritone/o	peritoneum
-or	one who	perone/o	fibula
or/o	mouth	-pexy	fixation; to put in place
orch/o	testis	phac/o	lens of eye
orchi/o	testis	phag/o	eat; swallow
orchid/o	testis	-phage	eat; swallow
-orexia	appetite	-phagia	condition of eating; swallowing
orth/o	straight	phak/o	lens of eye
-ose	full of; pertaining to; sugar	phalang/o	phalanges (of fingers and toes)
-osis	condition, usually abnormal	phall/o	penis
-osmia	smell	pharmac/o	drug
ossicul/o	ossicle (small bone)	pharmaceut/o	drug
oste/o	bone	pharyng/o	throat (pharynx)
-ostosis	condition of bone	phas/o	speech
ot/o	ear	-phasia	speech
-otia	ear condition	phe/o	dusky; dark
-ous	pertaining to	-pheresis	removal
ov/o	egg	phil/o	like; love; attraction to
ovari/o	ovary	-phil	attraction for
ovul/o	egg	-philia	attraction for
ox/o	oxygen	phim/o	muzzle
-oxia	oxygen		

Combining Form, Suffix, or Prefix**Meaning**

phleb/o	vein
phob/o	fear
-phobia	fear
phon/o	voice; sound
-phonia	voice; sound
phor/o	to bear
-phoresis	carrying; transmission
-phoria	to bear, carry; feeling (mental state)
phot/o	light
phren/o	diaphragm; mind
-phthisis	wasting away
-phylaxis	protection
physi/o	nature; function
-physis	to grow
phyt/o	plant
-phyte	plant
pil/o	hair
pineal/o	pineal gland
pituitar/o	pituitary gland
-plakia	plaque
plant/o	sole of the foot
plas/o	development; formation; growth
-plasia	development; formation; growth
-plasm	formation; structure
-plastic	pertaining to formation
-plasty	surgical repair
ple/o	more; many; varied
-plegia	paralysis; palsy
-plegic	pertaining to paralysis; palsy
pleur/o	pleura
plex/o	plexus; network (of nerves)
-pnea	breathing
pneum/o	lung; air; gas
pneumon/o	lung; air; gas
pod/o	foot
-poiesis	formation
-poietin	substance that forms
poikil/o	varied; irregular
pol/o	extreme
polio-	gray matter (of brain or spinal cord)
poly-	many; much
polyp/o	polyp; small growth
pont/o	pons (a part of the brain)
-porosis	condition of pores (spaces)
post-	after; behind
poster/o	back (of body); behind
-prandial	pertaining to eating or mealtime
-praxia	action
pre-	before; in front of
presby/o	old age
primi-	first

Combining Form, Suffix, or Prefix**Meaning**

pro-	before; forward
proct/o	anus and rectum
pros-	before; forward
prostat/o	prostate gland
prot/o	first
prote/o	protein
proxim/o	near
prurit/o	itching
pseudo-	false
psych/o	mind
-ptosis	falling; drooping; prolapse
-ptysis	spitting
pub/o	pubis (anterior part of hip bone)
pulmon/o	lung
pupill/o	pupil (dark center of the eye)
purul/o	pus
py/o	pus
pyel/o	renal pelvis
pylor/o	pylorus; pyloric sphincter
pyr/o	fever; fire
pyret/o	fever
pyrex/o	fever
quadri-	four
rachi/o	spinal column; vertebrae
radi/o	x-rays; radioactivity; radius (lateral lower arm bone)
radicul/o	nerve root
re-	back; again; backward
rect/o	rectum
ren/o	kidney
reticul/o	network
retin/o	retina
retro-	behind; back; backward
rhabdomy/o	striated (skeletal) muscle
rheumat/o	watery flow
rhin/o	nose
rhytid/o	wrinkle
roentgen/o	x-rays
-rrhage	bursting forth (of blood)
-rrhagia	bursting forth (of blood)
-rrhaphy	suture
-rrhea	flow; discharge
-rrhexis	rupture
rrhythm/o	rhythm
sacr/o	sacrum
salping/o	fallopian tube; auditory (eustachian) tube
-salpinx	fallopian tube; oviduct
sarc/o	flesh (connective tissue)
scapul/o	scapula; shoulder blade
-schisis	split
schiz/o	split
scint/i	spark

Combining Form, Suffix, or Prefix	Meaning	Combining Form, Suffix, or Prefix	Meaning
scirrh/o	hard	steth/o	chest
scler/o	sclera (white of eye); hard	-sthenia	strength
-sclerosis	hardening	-stital	pertaining to standing or positioned
scoli/o	crooked; bent	stomat/o	mouth
-scope	instrument for visual examination	-stomia	condition of the mouth
-scopy	visual examination	-stomy	new opening (to form a mouth)
scot/o	darkness	strept/o	twisted chains
seb/o	sebum	styl/o	pole or stake
sebase/o	sebum	sub-	under; below
sect/o	to cut	submaxill/o	mandible (lower jaw bone)
semi-	half	-suppression	stopping
semin/i	semen; seed	supra-	above, upper
seps/o	infection	sym-	together; with
sial/o	saliva	syn-	together; with
sialaden/o	salivary gland	syncop/o	to cut off, cut short; faint
sider/o	iron	syndesm/o	ligament
sigmoid/o	sigmoid colon	synov/o	synovia; synovial membrane; sheath around a tendon
silic/o	glass	syring/o	tube
sinus/o	sinus	tachy-	fast
-sis	state of; condition	tars/o	tarsus; hindfoot or ankle (7 bones between the foot and the leg)
-sol	solution	tax/o	order; coordination
somat/o	body	tel/o	complete
-some	body	tele/o	distant
somn/o	sleep	ten/o	tendon
-somnia	sleep	tendin/o	tendon
son/o	sound	-tension	pressure
-spadia	to tear, cut	terat/o	monster; malformed fetus
-spasm	sudden contraction of muscles	test/o	testis (testicle)
sperm/o	spermatozoa; sperm cells	tetra-	four
spermat/o	spermatozoa; sperm cells	thalam/o	thalamus
sphen/o	wedge; sphenoid bone	thalass/o	sea
spher/o	globe-shaped; round	the/o	put; place
sphygm/o	pulse	thec/o	sheath
-sphyxia	pulse	thel/o	nipple
splanchn/o	viscera (internal organs)	therapeut/o	treatment
spin/o	spine (backbone)	-therapy	treatment
spir/o	to breathe	therm/o	heat
splen/o	spleen	thorac/o	chest
spondyl/o	vertebra (backbone)	-thorax	chest; pleural cavity
squam/o	scale	thromb/o	clot
-stalsis	contraction	thym/o	thymus gland
staped/o	stapes (middle ear bone)	-thymia	mind (condition of)
staphyl/o	clusters; uvula	-thymic	pertaining to mind
-stasis	stopping; controlling; placing	thyr/o	thyroid gland; shield
-static	pertaining to stopping; controlling	thyroid/o	thyroid gland
steat/o	fat, sebum	tibi/o	tibia (shin bone)
sten/o	narrowing	-tic	pertaining to
-stenosis	tightening; stricture	toc/o	labor; birth
ster/o	solid structure; steroid	-tocia	labor; birth (condition of)
stere/o	solid; three-dimensional	-tocin	labor; birth (a substance for)
stern/o	sternum (breastbone)		

Combining Form, Suffix, or Prefix	Meaning	Combining Form, Suffix, or Prefix	Meaning
tom/o	to cut	urin/o	urine
-tome	instrument to cut	-us	structure; thing
-tomy	process of cutting	uter/o	uterus (womb)
ton/o	tension	uve/o	uvea, vascular layer of eye (iris, choroid, ciliary body)
tone/o	to stretch	uvul/o	uvula
tonsill/o	tonsil	vag/o	vagus nerve
top/o	place; position; location	vagin/o	vagina
-tory	pertaining to	valv/o	valve
tox/o	poison	valvul/o	valve
toxic/o	poison	varic/o	varicose veins
trache/o	trachea (windpipe)	vas/o	vessel; duct; vas deferens
trans-	across; through	vascul/o	vessel (blood)
-tresia	opening	ven/o, ven/i	vein
tri-	three	vener/o	venereal (sexual contact)
trich/o	hair	ventr/o	belly side of body
trigon/o	trigone (area within the bladder)	ventricul/o	ventricle (of heart or brain)
-tripsy	crushing	venul/o	venule (small vein)
troph/o	nourishment; development	-verse	to turn
-trophy	nourishment; development (condition of)	-version	to turn
-tropia	to turn	vertebr/o	vertebra (backbone)
-tropic	pertaining to stimulating	vesic/o	urinary bladder
-tropin	stimulate; act on	vesicul/o	seminal vesicle
tymp/an/o	tympenic membrane (eardrum); middle ear	vestibul/o	vestibule of the inner ear
-type	classification; picture	viscer/o	internal organs
-ule	little; small	vit/o	life
uln/o	ulna (medial lower arm bone)	vitr/o	vitreous body (of the eye)
ultra-	beyond; excess	vitre/o	glass
-um	structure; tissue; thing	viv/o	life
umbilic/o	umbilicus (navel)	vol/o	to roll
ungu/o	nail	vulv/o	vulva (female external genitalia)
uni-	one	xanth/o	yellow
ur/o	urine; urinary tract	xen/o	stranger
ureter/o	ureter	xer/o	dry
urethr/o	urethra	xiph/o	sword
-uria	urination; condition of urine	-y	condition; process
		zo/o	animal life

ENGLISH—MEDICAL WORD PARTS

Meaning	Combining Form, Suffix, or Prefix	Meaning	Combining Form, Suffix, or Prefix
abdomen	abdomin/o (<i>use with</i> -al, -centesis) celi/o (<i>use with</i> -ac) lapar/o (<i>use with</i> -scope, -scopy, -tomy)	appetite	-orexia
abdominal wall	lapar/o	arm	brachi/o
abnormal	dys- par- para-	arm bone, lower, lateral	radi/o
abnormal condition	-iasis -osis	arm bone, lower, medial	uln/o
above	epi- hyper- supra-	arm bone, upper	humer/o
acetabulum	acetabul/o	armpit	axill/o
acetones	ket/o keton/o	arteriole	arteriol/o
acid	oxy-	artery	arter/o arteri/o
acromion	acromi/o	articulate (speak distinctly)	-arthria
across	trans-	asbestos	asbest/o
action	-praxia	assemble	-agon
act on	-tropin	atrium	atri/o
adrenal glands	adren/o adrenal/o	attraction for	-phil -philia phil/o
after	post-	attraction to	salping/o
again	ana-, re-	auditory tube	ab-
against	anti- contra-	away from	apo- ex- exo- re- retro-
air	aer/o pneum/o pneumon/o	back	lumb/o
air sac	alveol/o	back, lower	dorsi-
albumin	albumin/o	back portion of body	dors/o
all	pan-	backbone	poster/o
along the side of	para-		spin/o (<i>use with</i> -al)
alveolus	alveol/o		spondyl/o (<i>use with</i> -itis, -listhesis, -osis, -pathy)
anew	ana-		vertebr/o (<i>use with</i> -al)
amnion	amni/o	backward	ana- retro-
aneurysm	aneurysm/o	bacteria	bacteri/o
angle	goni/o	bacterium	-coccus (-cocci, <i>pl.</i>)
animal life	zo/o	(berry-shaped)	
animal starch	glycogen/o	bacilli (rod-shaped bacteria)	bacill/o
ankle	tars/o	bad	cac/o dys- mal-
antrum (of stomach)	antr/o	barrier	claustr/o
anus	an/o	base (not acidic)	bas/o
anus and rectum	proct/o	bear, to	-para -parous -phoria phor/o
anxiety	anxi/o		
apart	ana-		
apart from	para-		
appendix	append/o (<i>use with</i> -ectomy) appendic/o (<i>use with</i> -itis)		

Meaning	Combining Form, Suffix, or Prefix	Meaning	Combining Form, Suffix, or Prefix
before	ante- pre- pro- pros-	body	corpor/o somat/o -some
beginning	-arche	bone	oste/o
behind	post- poster/o	bone condition	-ostosis
belly	retro- celi/o	bone marrow	myel/o
belly side of body	ventr/o	brain	encephal/o
below, beneath	hypo- infra- sub- flex/o	branching	furc/o
bend, to	scoli/o	break	-clasis -clast
bent	para-	breakdown	-lysis
beside	inter-	breast	mamm/o (<i>use with</i> -ary, -gram, -graphy, -plasty)
between	hyper-	breastbone	mast/o (<i>use with</i> -algia, -dynia, -ectomy, -itis)
beyond	meta- ultra-	breathe	stern/o
bile	bil/i	breathing	spir/o
bile vessel	chol/e	bring forth	-pnea -para -parous
bilirubin	cholangi/o	bronchial tube (bronchus)	bronch/o bronchi/o
bind	bilirubin/o	bronchiole	bronchiol/o
birth	-desis nect/o	bunion	bunion/o
birth, substance for births, live	nat/i	burn	caus/o cauter/o
black	-partum toc/o	bursa	burs/o
bladder (urinary)	-tocia -tocin	bursting forth	-rrhage -rrhagia
blood	-para	calcaneus	calcane/o
blood condition	anthrac/o	calcium	calc/o
blood vessel	melan/o	calculus	calci/o
blue	cyst/o (<i>use with</i> -ic, -itis, -cele, -gram, -scopy, -stomy, -tomy) vesic/o (<i>use with</i> -al)	calyx	cali/o calic/o
	hem/o (<i>use with</i> -dialysis, -globin, -lysis, -philia, -ptysis, -rrhage, -stasis, -stat)	cancerous	carcin/o
	hemat/o (<i>use with</i> -crit, -emesis, -logist, -logy, -oma, -poiesis, -uria)	capillary	capillar/o
	-emia	carbon dioxide	capn/o -capnia
	-emic	care for, to	comi/o
	angi/o (<i>use with</i> -ectomy, -genesis, -gram, -graphy, -oma, -plasty, -spasm)	carry	duct/o -phoresis -phoria
	vas/o (<i>use with</i> -constriction, -dilation, -motor)	carrying	-ferent
	vascul/o (<i>use with</i> -ar, -itis)	cartilage	chondr/o
	cyan/o	cast; throw	bol/o
		cause	eti/o
		cecum	cec/o
		cell	cyt/o -cyte
		cells, condition of	-cytosis
		cerebellum	cerebell/o
		cerebrum	cerebr/o
		cerumen	cerumin/o

Meaning	Combining Form, Suffix, or Prefix	Meaning	Combining Form, Suffix, or Prefix
cervix	cervic/o	contraction of muscles, sudden	-spasm
change	meta-	coordination	tax/o
cheek	bucc/o	copy	-mimetic
chemical	chem/o	cornea (of the eye)	corne/o
chest	pector/o		kerat/o
	steth/o	cortex	cortic/o
	thorac/o	cotton dust	byssin/o
	-thorax	crooked	scoli/o
child	ped/o	crushing	-tripsy
childbirth	obstetr/o	curve	lord/o
chin	ment/o	cut	cis/o
cholesterol	cholesterol/o		sect/o, -section
chorion	chori/o	cut off	tom/o
	chorion/o	cutting, process of	syncop/o
choroid layer (of the eye)	choroid/o	cycle	-tomy
ciliary body (of the eye)	cycl/o	cyst (sac of fluid)	cycl/o
circle or cycle	cycl/o	dance	cyst/o
clavicle (collar bone)	clavicul/o	dark	chore/o
clot	thromb/o	darkness	phe/o
clumping	agglutin/o	dawn-colored	scot/o
clusters	staphyl/o	death	eosin/o
coagulation	coagul/o		leth/o
coal dust	anthrac/o	defecation	mort/o, -mortem
coccyx	coccyg/o	deficiency	necr/o
cochlea	cochle/o	deficient	-chezia
cold	cry/o	derived from	-penia
collar bone	clavicul/o	destroying	hypo-
colon	col/o (use with -ectomy, -itis, -pexy, -stomy)	destruction	-oid
	colon/o (use with -ic, -pathy, -scope, -scopy)	development	-lytic
			-lysis
color	chrom/o	diaphragm	plas/o
come together	-fusion	difficult	-plasia
common bile duct	choledoch/o	digestion	troph/o
complete	dia-	dilation	-trophy
	tel/o		phren/o
condition	-ation	dim	dys-
	-ema	discharge	-pepsia
	-esis	disease	-ectasia
	-ia		-ectasis
	-ism	distant	ambly/o
	-itus		-rrhea
	-sis	distinct	nos/o
	-y	double	path/o
condition, abnormal	-iasis	down	-pathy
connect	nect/o	drooping	dist/o
connective tissue	sarc/o		tele/o
constant	home/o		idi/o
control	-stasis, -stat		dipl/o
contraction	-stalsis		cata-
			de-
			-ptosis

Meaning	Combining Form, Suffix, or Prefix	Meaning	Combining Form, Suffix, or Prefix
drug	chem/o pharmac/o pharmaceut/o	eyelid	blephar/o (<i>use with</i> -chhalasis, -itis, -plasty, -plegia, -ptosis, -tomy)
dry	ichthy/o xer/o	face	palpebr/o (<i>use with</i> -al)
drying	desicc/o	faint	faci/o
duct	vas/o	falling	syncop/o
dull	ambly/o	fallopian tube	-ptosis salping/o
duodenum	duoden/o	false	-salpinx pseudo-
dura mater	dur/o	far	dist/o
dusky	phe/o	fascia	fasci/o
dust	coni/o	fast	tachy-
ear	aur/o (<i>use with</i> -al, -icle) auricul/o (<i>use with</i> -ar) ot/o (<i>use with</i> -algia, -ic, -itis, -logy, -mycosis, -rrhea, -sclerosis, -scope, -scopy)	fat	adip/o (<i>use with</i> -ose, -osis) lip/o (<i>use with</i> -ase, -cyte, -genesis, -oid, -oma) steat/o (<i>use with</i> -oma, -rrhea)
ear, condition of	-otia	fear	phob/o
eardrum	myring/o (<i>use with</i> -ectomy, -itis, -tomy) tympan/o (<i>use with</i> -ic, -metry, -plasty)	feeling	-phobia esthesi/o
eat	phag/o -phage	female	-phoria estr/o (<i>use with</i> -gen, -genic) gynec/o (<i>use with</i> -logist, -logy, -mastia)
eating	-phagia	femur	femor/o
egg cell	o/o ov/o ovul/o	fever	pyr/o pyret/o pyrex/o
elbow	olecran/o	fiber	fibr/o
electricity	electr/o	fibrous connective tissue	fibros/o
elimination of wastes	-chezia	fibula	fibul/o (<i>use with</i> -ar) perone/o (<i>use with</i> -al)
embryonic	-blast	finger and toe bones	phalang/o
enlargement	-megaly	fingers	dactyl/o
enzyme	-ase	fire	pyr/o
epididymis	epididym/o	first	prot/o
epiglottis	epiglott/o	fixation	-pexy
equal	is/o	flat plate	-elasma
esophagus	esophag/o	flesh	sarc/o
eustachian tube	salping/o	flow	-rrhea
excess	ultra-	fluid collection	-oma
excessive	hyper-	flushed	erythem/o
excision	-ectomy	foot	pod/o
expansion	-ectasia -ectasis	foot bones	metatars/o
extreme	pol/o	forking	furc/o
extreme point	acr/o	form	morph/o
extremities	acr/o	formation	plas/o -plasia -plasm -poiesis
eye	ocul/o (<i>use with</i> -ar, -facial, -motor) ophthalm/o (<i>use with</i> -ia, -ic, -logist, -logy, -pathy, -plasty, -plegia, -scope, -scopy) opt/o (<i>use with</i> -ic, -metrist) optic/o (<i>use with</i> -al, -ian)	forming	-genesis
		forward	ante-, pro-, pros-

Meaning	Combining Form, Suffix, or Prefix	Meaning	Combining Form, Suffix, or Prefix
four	quadri-	hardening	-sclerosis
front	anter/o		scler/o
full of	-ose	head	cephal/o
fungus	fung/i (<i>use with</i> -cide, -oid, -ous, -stasis)	hearing	acous/o
	myc/o (<i>use with</i> -logist, -logy, -osis, -tic)		audi/o
gall	bil/i (<i>use with</i> -ary)		audit/o
gallbladder	chol/e (<i>use with</i> -lithiasis)	heart	-acusis
ganglion	cholecyst/o		-cusis
	gangli/o		cardi/o (<i>use with</i> -ac, -graphy, -logy, -logist, -megaly, -pathy, -vascular)
gas	ganglion/o	heart muscle	coron/o (<i>use with</i> -ary)
	pneum/o	heat	myocardi/o
gather	pneumon/o		cauter/o
genetic change	-agon	heavy	therm/o
	mut/a	heel bone	pachy-
	mutagen/o	hemoglobin	calcane/o
give, to	-dote	hernia	hemoglobin/o
given, what is	-dote		-cele
gland	aden/o	hidden	herni/o
glans penis	balan/o	hip region	crypt/o
glass	silic/o	holding back	pelv/i, pelv/o
	vitre/o	hormone	isch/o
glial cells	gli/o		hormon/o
globe-shaped	spher/o	horn-like	-one
glomerulus	glomerul/o	horse	kerat/o
glucose	gluc/o	humerus	equin/o
	glyc/o	humpback	humer/o
	glycos/o	hydrochloric acid	kyph/o
glue	coll/a	ileum	chlorhydr/o
	gli/o	ilium	ile/o
glycogen	glycogen/o	immature cell	ili/o
go, to	-grade	immature tumor	-blast
good	eu-	(cells)	-blastoma
granule(s)	granul/o	immune	immun/o
gray	glauc/o	in, into, within	em-
gray matter	poli/o		en-
green	chlor/o		endo-
groin	inguin/o		in-, intra-
grow	-physis		ir-
growth	-plasia	in due measure	emmetr/o
gum	gingiv/o	in front of	pre-
habit	-hexia	incomplete	atel/o
hair	pil/o	increase in cell	-cytosis
	trich/o	numbers (blood	
half	hemi-	cells)	
	semi-	individual	idi/o
hallucination	hallucin/o	infection	seps/o
hand	chir/o	inferior to	infra-
hand bones	metacarp/o	inflammation	-itis
hang, to	pend/o	instrument for	-graph
hard	kerat/o	recording	
	scirr/h/o		

Meaning	Combining Form, Suffix, or Prefix	Meaning	Combining Form, Suffix, or Prefix
instrument for visual examination	-scope	life	bi/o vit/o viv/o
instrument to cut	-tome	ligament	ligament/o syndesm/o
insulin	insulin/o	like	phil/o
internal organs	splanchn/o viscer/o	lip	cheil/o labi/o
intestine, large	col/o	lipid	lip/o
intestine, small	enter/o	little	-ole -ule
iodine	iod/o	liver	hepat/o
ion	ion/o	lobe	lob/o
iris	ir/o irid/o	location	top/o
iron	sider/o	loin	lumb/o
irregular	poikil/o	loosening	-lysis
irrigation	-clysis	love	phil/o
ischium	ischi/o	luminous	fluor/o
itching	prurit/o	lung	pneum/o (<i>use with</i> -coccus, -coniosis, -thorax) pneumon/o (<i>use with</i> -ectomy, -ia, -ic, -itis, -lysis) pulmon/o (<i>use with</i> -ary)
jaw, lower	mandibul/o submaxill/o	lymph	lymph/o
jaw, upper	maxill/o	lymph gland	lymphaden/o
joint	arthr/o articul/o	lymph vessel	lymphangi/o
ketones	ket/o keton/o	make, to	-fication
kidney	nephr/o (<i>use with</i> -algia, -ectomy, -ic, -itis, -lith, -megaly, -oma, -osis, -pathy, -ptosis, -sclerosis, -stomy, -tomy) ren/o (<i>use with</i> -al, -gram, -vascular)	male	andr/o
killing	-cidal -cide	malformed fetus	terat/o
knowledge	gnos/o, gno/o	malleolus	malleol/o
labor	-partum toc/o -tocia	mandible	mandibul/o submaxill/o
labor, substance for	-tocin	many	multi- ple/o poly-
lack of	de-	marketplace	agora-
lack of strength	-asthenia	marrow	medull/o
lacrimal duct	dacry/o lacrim/o	mass	-oma
lacrimal sac	dacryocyst/o	mastoid process	mastoid/o
lamina	lamin/o	maxilla	maxill/o
large	macro- mega-	meal	cib/o -prandial
larynx	laryng/o	measure	-meter metr/o
lead	duct/o	meatus	meat/o
lens of eye	phac/o phak/o	mediastinum	mediastin/o
less	de- mi/o	medulla oblongata	medull/o
less than normal	hypo-	meninges	mening/o meningi/o men/o
		menstruation; menses	
		metacarpals	metacarp/o
		metatarsals	metatars/o

Meaning	Combining Form, Suffix, or Prefix	Meaning	Combining Form, Suffix, or Prefix
middle	medi/o medull/o meso-	nerve root	radicul/o
middle ear	tympan/o	nest	nid/o
midwife	obstetr/o	new	neo-
milk	galact/o lact/o	network	reticul/o
mimic	-mimetic	network of nerves	plex/o
mind	ment/o phren/o psych/o -thymia -thymic	neutral	neutr/o
mixture	cras/o	neutrophil	neutr/o
monster	terat/o	night	nocti/i nyct/o
mood	-thymia -thymic	nipple	thel/o
more	ple/o	nipple-like	papill/o
mouth	or/o (<i>use with -al</i>) stomat/o (<i>use with -itis</i>) -stomia	nitrogen	azot/o
movement	cine/o kines/o kinesi/o -kinesia -kinesis -motor	nitrogen compound	-amine
much	poly-	no, not	a- an-
mucous membrane	mucos/o	none	nulli-
mucus	muc/o myx/o	normal	eu-
muscle	muscul/o (<i>use with -ar, -skeletal</i>) my/o (<i>use with -algia, -ectomy, -oma, -neural, -pathy, -rrhaphy, -therapy</i>) myos/o (<i>use with -in, -itis</i>)	nose	nas/o (<i>use with -al</i>) rhin/o (<i>use with -itis, -rrhea, -plasty</i>)
muscle, heart	myocardi/o	nourishment	troph/o -trophy
muscle, smooth (visceral)	leiomy/o	nucleus	kary/o nucle/o kern-
muscle, striated (skeletal)	rhabdomy/o	nucleus (collection of nerve cells in the brain)	
muscle tumor	myom/o	numbness	narc/o
muzzle	phim/o	obscure	-opaque
nail	onych/o ungu/o	obsessive preoccupation	-mania
narrowing	-constriction sten/o -stenosis	off	apo- ger/o, geront/o
nature	physi/o	old age	presby/o
navel	omphal/o umbilic/o	olecranon (elbow)	olecran/o
neck	cervic/o	on	epi- mon/o
neither	neutr/o	one	mono- uni- aut/o auto- -er -or -tresia -stomy
nerve	neur/o	one's own	contra- papill/o
		one who	cirrh/o norm/o tax/o
		opening	viscer/o
		opening, new	ossicul/o
		opposite	all/o
		optic disc (disk)	par-
		orange-yellow	
		order	
		organs, internal	
		ossicle	
		other	
		other than	

Meaning	Combining Form, Suffix, or Prefix	Meaning	Combining Form, Suffix, or Prefix
out, outside	ec- ex- exo- extra-	phalanges	phalang/o
outer region	cortic/o	pharynx (throat)	pharyng/o
ovary	oophor/o (<i>use with</i> -itis, -ectomy, -pexy) ovari/o (<i>use with</i> -an)	phrase	-lexia
own	aut-	physician	iatr/o
oxygen	ox/o	pineal gland	pineal/o
	-oxia	pituitary gland	hypophys/o pituuit/o pituitar/o
pain	-algia (<i>use with</i> arthr/o, cephal/o, gastr/o, mast/o, my/o, neur/o, ot/o) -dynia (<i>use with</i> coccyg/o, pleur/o) odyn/o	place	-stasis the/o top/o
pain, excessive	-agra	plant	phyt/o
pain, sensitivity to	-algesia algesi/o	plaque	-phyte ather/o -plakia
painful	dys-	pleura	pleur/o
palate	palat/o	pleural cavity	-thorax
palsy	-plegia -plegic	plexus	plex/o
pancreas	pancreat/o	poison	tox/o toxic/o
paralysis	-plegia -plegic	pole	styl/o
paralysis, slight	-paresis	polyp	polyp/o
patella	patell/a (<i>use with</i> -pexy) patell/o (<i>use with</i> -ar, -ectomy, -femoral)	pons	pont/o
pelvis	pelv/i pelv/o	pores, condition of	-porosis
penis	balan/o pen/o phall/o	position	top/o
people	dem/o	potassium	kal/i
perineum	perine/o	pour	chym/o -fusion
peritoneum	peritone/o	pregnancy	-cyesis gest/o gester/o gravid/o -gravida obstetr/o
pertaining to	-ac (<i>as in</i> cardiac) -al (<i>as in</i> inguinal) -an (<i>as in</i> ovarian) -ar (<i>as in</i> palmar) -ary (<i>as in</i> papillary) -eal (<i>as in</i> pharyngeal) -iac (<i>as in</i> hypochondriac) -ic (<i>as in</i> nucleic) -ical (<i>as in</i> psychological) -ile (<i>as in</i> penile) -ine (<i>as in</i> equine) -ior (<i>as in</i> superior) -ose (<i>as in</i> adipose) -ous (<i>as in</i> mucous) -tic (<i>as in</i> necrotic) -tory (<i>as in</i> secretory)	pressure	bar/o -tension
		process	-ation -ion -ism -y
		produced by or in producing	-genic -gen -genesis -ptosis
		prolapse	prostat/o
		prostate gland	immun/o
		protection	-phylaxis
		protein	albumin/o -globin -globulin prote/o
		pubis	pub/o
		pulse	sphygm/o -sphyxia

Meaning	Combining Form, Suffix, or Prefix	Meaning	Combining Form, Suffix, or Prefix
puncture to remove fluid	-centesis	scanty	olig/o
pupil	cor/o core/o pupill/o	sclera	scler/o
pus	py/o, purul/o	scrotum	scrot/o
put	the/o	sea	thalass/o
put in place	-pexy	sebum	seb/o sebase/o steat/o
pyloric sphincter, pylorus	pylor/o	secrete	crin/o -crine
radioactivity	radi/o	seed	gon/o semin/i
radius (lower arm bone)	radi/o	seizure	-lepsy
rapid	oxy-	seizing, taking hold of (pertaining to)	-leptic
rash	exanthemat/o	self	aut/o auto-
rays	radi/o	semen	semin/i
record	-gram	seminal vesicle	vesicul/o
recording, process of	-graphy	send, sending	-mission
rectum	rect/o	sensation (nervous)	-esthesia
recurring	cycl/o	separate	-crine -lytic
red	eosin/o erythr/o	separation	-lysis
redness	erythem/o erythemat/o	set, to	-stitial
reduce	-lytic	severe	acu/o
relaxation	-chaliasia, -chhalasis	sex glands	gonad/o
removal	-apheresis -ectomy -pheresis	sexual intercourse	-pareunia
renal pelvis	pyel/o	shape	-form morph/o
repair	-plasty	sharp	acu/o oxy-
resembling	-form -oid	sheath	thec/o
retina	retin/o	shield	thyr/o
rib	cost/o	shin bone	tibi/o
roll, to	vol/o	shine	-lucent
rosy	eosin/o	short	brachy-
round	spher/o	shoulder	om/o
rule	norm/o	side	later/o
run	-drome	sieve	ethm/o
rupture	-rrhexis	sigmoid colon	sigmoid/o
sac, small	alveol/o follicul/o	single	mon/o
sac of fluid	cyst/o	sinus	sinus/o
sacrum	sacr/o	skin	cutane/o (<i>use with</i> -ous) derm/o (<i>use with</i> -al) -derma (<i>use with</i> erythr/o, leuk/o) dermat/o (<i>use with</i> -itis, -logist, -logy, -osis)
safe	immun/o	skull	crani/o
sag, to	-ptosis	sleep	hypn/o somn/o -somnia
saliva	sial/o	sleep, deep	comat/o
salivary gland	sialaden/o		
same	ipsi- is/o		
sameness	home/o		
scaly	ichthy/o		

Meaning	Combining Form, Suffix, or Prefix	Meaning	Combining Form, Suffix, or Prefix
slender	lept/o	stopping	-stasis
slide, to	lux/o		-static
sliding, condition of	-lapse	straight	orth/o
slipping	-listhesis	stranger	xen/o
slow	brady-	strength	-sthenia
small	-icle	stretch	tone/o
	micro-	stretching	-ectasia
	-ole		-ectasis
	-ule	stricture	-stenosis
small intestine	enter/o	structure	-ium
smaller	mi/o		-plasm
smell	-osmia		-um, -us
sodium	natr/o	structure, solid	ster/o
soft	medull/o	study of	log/o
softening	-malacia		-logy
sole (of the foot)	plant/o	stupor	narc/o
solution	-sol	substance	-in
sound	echo-		-ine
	phon/o	substance that forms	-poietin
	-phonia	sudden	acu/o
	son/o		oxysm/o
spark	scint/i	sugar	gluc/o
specialist	-ist		glyc/o
speech	phas/o		glycos/o
	-phasia	surgical repair	-ose
sperm cells (spermatozoa)	sperm/o	surrounding	-plasty
spinal column (spine)	spermat/o	suture	peri-
	spin/o	swallow	-rrhaphy
	rachi/o	swallowing	phag/o
	vertebr/o	swallowing	-phagia
spinal cord	myel/o	swayback	lord/o
spiny	acanth/o	sweat	diaphor/o (use with -esis)
spitting	-ptysis		hidr/o (use with -osis)
spleen	splen/o	sword	xiph/o
split	-fida	synovia (fluid)	synov/o
	schiz/o	synovial membrane	synov/o
split	-schisis	tail	caud/o
stake (pole)	styl/o	tailbone	coccyg/o
stapes	staped/o	tear	dacry/o (use with -genic, -rrhea)
starch	amyl/o		lacrim/o (use with -al, -ation)
state of	-sis	tearing (cutting)	-spadia
	-hexia	tear gland	dacryoaden/o
steal	klept/o	tear sac	dacryocyst/o
sternum	stern/o	temperament	cras/o
steroid	ster/o	tendon	ten/o
sticking together	agglutin/o		tend/o
stiff	ankyl/o	tension	tendin/o
stimulate	-tropin	testis	ton/o
	-tropic		orch/o (use with -itis)
stomach	gastr/o		orchi/o (use with -algia, -dynia, -ectomy, -pathy, -pexy, -tomy)
stone	lith/o		orchid/o (use with -ectomy, -pexy, -plasty, -ptosis, -tomy)
stop	-suppression		test/o (use with -sterone)

Meaning	Combining Form, Suffix, or Prefix	Meaning	Combining Form, Suffix, or Prefix
thick	pachy-	two	bi-
thigh bone	femor/o	tympanic membrane	myring/o tympan/o
thin	lept/o	ulcer	aphth/o
thing	-um -us	ulna	uln/o
thing that produces	-gen	umbilicus, navel	omphal/o (<i>use with</i> -cele, -ectomy, -rrhagia, -rrhexis) umbilic/o (<i>use with</i> -al)
thirst	dips/o	unchanging	home/o
thorny	acanth/o	under	hypo-
three	tri-	unequal	anis/o
throat	pharyng/o	unknown	idi/o
through	dia- per- trans-	up	ana-
throw, to	bol/o	upon	epi-
thymus gland	thym/o	urea	azot/o
thyroid gland	thyr/o thyroid/o	ureter	ureter/o
tibia	tibi/o	urethra	urethr/o
tie	nect/o	urinary bladder	cyst/o (<i>use with</i> cele, -ectomy, -itis, -pexy, -plasty, -plegia, -scope, -scopy, -stomy, -tomy) vesic/o (<i>use with</i> -al)
tie together	-desis	urinary tract	ur/o
tightening	-stenosis	urination	-uria
time	chron/o	urine	ur/o -uria urin/o
tissue	hist/o histi/o -ium -um	uterus	hyster/o (<i>use with</i> -ectomy, -graphy, -gram, -tomy) metr/o (<i>use with</i> -rrhagia, -rrhea, -rrhexis) metri/o (<i>use with</i> -osis) uter/o (<i>use with</i> -ine)
toes	dactyl/o	uvea	uve/o
together	con- sym- syn-	uvula	uvul/o (<i>use with</i> -ar, -itis, -ptosis) staphyl/o (<i>use with</i> -ectomy, -plasty, -tomy)
tongue	gloss/o (<i>use with</i> -al, -dynia, -plasty, -plegia, -rrhaphy, -spasm, -tomy) lingu/o (<i>use with</i> -al)	vagina	colp/o (<i>use with</i> -pexy, -plasty, -scope, -scopy, -tomy) vagin/o (<i>use with</i> -al, -itis)
tonsil	tonsill/o	vagus nerve	vag/o
tooth	dent/i odont/o	valve	valv/o valvul/o
top	acr/o	varicose veins	varic/o
toward	ad- af- -ad	varied	poikil/o ple/o
trachea	trache/o	vas deferens vein	vas/o phleb/o (<i>use with</i> -ectomy, -itis, -tomy)
transmission	-phoresis	vein, small	ven/o (<i>use with</i> -ous, -gram)
treatment	iatr/o therapeut/o -therapy	venereal	ven/i (<i>use with</i> -puncture)
trigone	trigon/o	ventricle	venul/o vener/o ventricul/o
tube	syring/o		
tumor	-oma onc/o		
turn	-tropia -verse -version		
twisted chains	strept/o		

Meaning	Combining Form, Suffix, or Prefix	Meaning	Combining Form, Suffix, or Prefix
vertebra	rachi/o (<i>use with</i> -itis, -tomy) spondyl/o (<i>use with</i> -itis, -listhesis, -osis, -pathy) vertebr/o (<i>use with</i> -al)	wedge	sphen/o
vessel	angi/o (<i>use with</i> -ectomy, -genesis, -gram, -graphy, -oma, -plasty, -spasm) vas/o (<i>use with</i> -constriction, -dilation, -motor) vascul/o (<i>use with</i> -ar, -itis)	weight	bar/o
view of	-opsy	white	alb/o
viscera	splanchn/o	wide	albin/o
vision	-opia -opsia opt/o optic/o	widening	leuk/o
visual examination	-scopy	windpipe	mydr/o
vitreous body	vitro/o	with	-dilation
voice	phon/o -phonia	within	-ectasia
voice box	laryng/o	woman	-ectasis
vomiting	-emesis	womb	-eurysm
vulva	episi/o (<i>use with</i> -tomy) vulv/o (<i>use with</i> -ar)	word	trache/o
wander	ion/o	work	con-
washing	-clysis	wrinkle	sym-
wasting away	-phthisis	wrist bone	syn-
water	aque/o hydr/o	x-rays	en-, end-
watery flow	rheumat/o	yellow	endo-
weakness	-paresis		intra-

APPENDIX I

Plurals

The rules commonly used to form plurals of medical terms are as follows:

1. For words ending in **a**, retain the **a** and add **e**.

Examples:

Singular	Plural
vertebra	vertebrae
bursa	bursae
bullae	bullae

2. For words ending in **is**, drop the **is** and add **es**.

Examples:

Singular	Plural
anastomosis	anastomoses
metastasis	metastases
epiphysis	epiphyses
prosthesis	prostheses
pubis	pubes

3. For words ending in **ex** and **ix**, drop the **ex** or **ix** and add **ices**.

Examples:

Singular	Plural
apex	apices
varix	varices

4. For words ending in **on**, drop the **on** and add **a**.

Examples:

Singular	Plural
ganglion	ganglia
spermatozoon	spermatozoa

5. For words ending in **um**, drop the **um** and add **a**.

Examples:

Singular	Plural
bacterium	bacteria
diverticulum	diverticula
ovum	ova

6. For words ending in **us**, drop the **us** and add **i**.

Examples:

Singular	Plural
calculus	calculi
bronchus	bronchi
nucleus	nuclei

Two exceptions to this rule are viruses and sinuses.

7. Additional rules are used to form plurals in other word families.

Examples:

Singular	Plural
foramen	foramina
iris	irides
femur	femora
anomaly	anomalies
biopsy	biopsies
adenoma	adenomata



Pronunciations for plural terms as well as other terms can be found on the enclosed CD.

APPENDIX II

Abbreviations, Acronyms, Eponyms, and Symbols

ABBREVIATIONS

Many of these abbreviations may appear with or without periods and with either a capital or a lowercase first letter. (Latin abbreviations are spelled out in *italics* in parentheses.)

A, B, AB, O	blood types; may have subscript numbers	ADD	attention deficit disorder
A₂, A₂	aortic valve closure (a heart sound)	add	adduction
@	at	ADH	antidiuretic hormone; vasopressin (secreted by the posterior pituitary gland)
ā	before	ADHD	attention-deficit hyperactivity disorder
AAA	abdominal aortic aneurysm	ADL	activities of daily living
AAL	anterior axillary line	ADT	admission, discharge, transfer
AB, ab	abortion	AED	automated external defibrillator
Ab	antibody	AF	atrial fibrillation
ABCDE	asymmetry (of shape), border (irregularity), color (variation with one lesion), diameter (greater than 6 mm), evolution (change)—characteristics associated with melanoma	AFB	acid-fast bacillus/bacilli—the TB organism
abd	abdomen; abduction	AFO	ankle-foot orthosis (device for stabilization)
ABGs	arterial blood gases	AFP	alpha-fetoprotein
AC	acromioclavicular (joint)	Ag	silver (<i>argentum</i>)
ac, a.c.	before meals (<i>ante cibum</i>)	AHF	antihemophilic factor (same as coagulation factor XIII)
ACE	angiotensin-converting enzyme (ACE inhibitors treat hypertension)	AICD	automatic internal defibrillator
ACh	acetylcholine (a neurotransmitter)	AIDS	acquired immunodeficiency syndrome
ACL	anterior cruciate ligament (of knee)	AIHA	autoimmune hemolytic anemia
ACLS	advanced cardiac life support	AKA	above-knee amputation
ACS	acute coronary syndrome(s)	alb	albumin (protein)
ACTH	adrenocorticotrophic hormone (secreted by the anterior pituitary gland)	alk phos	alkaline phosphatase (elevated in liver disease)
AD	Alzheimer disease	ALL	acute lymphocytic leukemia
A.D.	right ear (<i>auris dextra</i>); better to specify “right ear” rather than abbreviating as desired (<i>ad libitum</i> , “freely”)	ALS	amyotrophic lateral sclerosis (Lou Gehrig disease)
ad lib.		ALT	alanine aminotransferase (elevated in liver and heart disease) formerly called serum glutamic-pyruvic transaminase (SGPT)

AM, a.m.,	in the morning <i>or</i> before noon	BMT	bone marrow transplantation
AM	(<i>ante meridiem</i>)	BP, B/P	blood pressure
AMA	against medical advice; American Medical Association	BPH	benign prostatic hyperplasia/hypertrophy
amb	ambulate, ambulatory (walking)	BPV	benign paroxysmal positional vertigo
AMD	age-related macular degeneration	BRBPR	bright red blood per rectum (hematochezia)
AMI	acute myocardial infarction	BRCA1, BRCA2	breast cancer 1, breast cancer 2 (genetic markers for disease risk)
AML	acute myelocytic/myelogenous leukemia	bs	blood sugar; breath sound(s)
ANA	antinuclear antibody	BSE	breast self-examination
ANC	absolute neutrophil count	BSO	bilateral salpingo-oophorectomy
AP, A/P	anteroposterior	BSP	Bromsulphalein (bromosulphophthalein)—dye used in liver function testing; its retention is indicative of liver damage or disease
A&P	auscultation and percussion	BT	bleeding time
APAP	acetyl- <i>para</i> -aminophenol	BUN	blood urea nitrogen
APC	acetylsalicylic acid/aspirin, phenacetin, caffeine	bw, BW	birth weight
aq.	water (<i>aqua</i>); aqueous	Bx, bx	biopsy
ARDS	acute respiratory distress syndrome	C	carbon; calorie
AROM	active range of motion	°C	degrees Celsius (on “metric” temperature scale); degrees centigrade
AS	aortic stenosis	c̄	with (<i>cum</i>)
A.S.	left ear (<i>auris sinistra</i>); better to specify “left ear,” rather than abbreviating	C1, C2	first cervical vertebra, second cervical vertebra (and so on)
ASA	acetylsalicylic acid (aspirin)	CA	cancer; carcinoma; cardiac arrest; chronologic age
ASCUS	atypical squamous cells of undetermined significance (abnormal Pap smear finding that does not fully meet the criteria for a cancerous lesion)	Ca	calcium
ASD	atrial septal defect	CABG	coronary artery bypass graft/grafting (cardiovascular surgery)
ASHD	arteriosclerotic heart disease	CAD	coronary artery disease
AST	aspartate aminotransferase (elevated in liver and heart disease); formerly called serum glutamic-oxaloacetic transaminase (SGOT)	CAO	chronic airway obstruction
A.U.	both ears (<i>auris uterque</i>); better to specify “in each ear/for both ears,” rather than abbreviating	cap	capsule
Au	gold (<i>aurum</i>)	CAPD	continuous ambulatory peritoneal dialysis
AUB	abnormal uterine bleeding	Cath	catheter; catheterization
AV	arteriovenous; atrioventricular	CBC	complete blood (cell) count
AVM	arteriovenous malformation	CBT	cognitive behavioral therapy
AVR	aortic valve replacement	CC	chief complaint
AZT	azidothymidine	cc	cubic centimeter (same as mL; 1/1000 of a liter)
A&W	alive and well	Ccr	creatinine clearance
B cells	lymphocytes produced in the bone marrow	CCU	coronary care unit; critical care unit
Ba	barium	CDC	Centers for Disease Control and Prevention
BAL	bronchoalveolar lavage	CDH	congenital dislocated hip
bands	immature white blood cells (granulocytes)	CEA	carcinoembryonic antigen
baso	basophils	cf.	compare (<i>confer</i>)
BBB	bundle branch block	CF	cystic fibrosis; complement fixation (test) with (<i>cum</i>) glasses
BC	bone conduction	c.gl	continuous glucose monitoring system
BE	barium enema	CGMS	centigray (1/100 of a gray; a rad)
bid, b.i.d.	twice a day (<i>bis in die</i>)	cGy	coronary heart disease; chronic heart disease
BKA	below-knee amputation	CHD	chemotherapy
BM	bowel movement	chemo	congestive heart failure
BMD	bone mineral density	CHF	cholesterol
BMR	basal metabolic rate	chol	chronic
		chr	microcurie
		μCi	

CIN	cervical intraepithelial neoplasia	DEXA or DXA	dual-energy x-ray absorptiometry (a test of bone mineral density)
CIS	carcinoma in situ	DI	diabetes insipidus; diagnostic imaging
CK	creatin kinase	DIC	disseminated intravascular coagulation
CKD	chronic kidney disease	DICOM	digital image communication in medicine
Cl	chlorine	diff.	differential count (of kinds of white blood cells)
CLD	chronic liver disease	DIG	digoxin; digitalis
CLL	chronic lymphocytic leukemia	DKA	diabetic ketoacidosis
cm	centimeter (1/100 of a meter)	dL, dl	deciliter (1/10 of a liter)
CMA	certified medical assistant	DLco	diffusion capacity of the lung for carbon monoxide
CMC	carpometacarpal (joint)	DLE	discoid lupus erythematosus
CMG	cystometrogram	DM	diabetes mellitus
CML	chronic myelogenous leukemia	DNA	deoxyribonucleic acid
CMV	cytomegalovirus	DNR	do not resuscitate
CNS	central nervous system	D.O.	doctor of osteopathy
CO	carbon monoxide; cardiac output	DOA	dead on arrival
CO₂	carbon dioxide	DOB	date of birth
Co	cobalt	DOE	dyspnea on exertion
c/o	complains of	DPT	diphtheria-pertussis-tetanus (vaccine)
COD	condition on discharge	DRE	digital rectal examination
COPD	chronic obstructive pulmonary disease	DRG	diagnosis-related group
CP	cerebral palsy; chest pain	DSA	digital subtraction angiography
CPA	costophrenic angle	DSM	<i>Diagnostic and Statistical Manual of Mental Disorders</i>
CPAP	continuous positive airway pressure	DT	delirium tremens (caused by alcohol withdrawal)
CPD	cephalopelvic disproportion	DTR	deep tendon reflex(es)
CPR	cardiopulmonary resuscitation	DUB	dysfunctional uterine bleeding
CR	complete response; cardiorespiratory	DVT	deep venous thrombosis
CRBSI	catheter-related bloodstream infection	D/W	dextrose in water
CRF	chronic renal failure	Dx	diagnosis
C&S	culture and sensitivity (of sputum)	EBV	Epstein-Barr virus (cause of mononucleosis)
C-section	cesarean section	ECC	endocervical curettage; extracorporeal circulation; emergency cardiac care
CSF	cerebrospinal fluid; colony-stimulating factor	ECF	extended care facility
C-spine	cervical spine (films)	ECG	electrocardiogram
CT scan	computed tomography (x-ray imaging in axial and other planes)	ECHO	echocardiography
ct.	count	ECMO	extracorporeal membrane oxygenation
CTPA	CT pulmonary angiography	ECT	electroconvulsive therapy
CTS	carpal tunnel syndrome	ED	erectile dysfunction; emergency department
Cu	copper (<i>cuprum</i>)	EDC	estimated date of confinement
CVA	cerebrovascular accident; costovertebral angle	EEG	electroencephalogram
CVP	central venous pressure	EENT	eyes, ears, nose, throat
CVS	cardiovascular system; chorionic villus sampling	EGD	esophagogastroduodenoscopy
c/w	compare with; consistent with	EKG	electrocardiogram
CX, CXR	chest x-ray (film)	ELISA	enzyme-linked immunosorbent assay
Cx	cervix	EM	electron microscope
cysto	cystoscopy	EMB	endometrial biopsy
D/C	discontinue	EMG	electromyogram
D&C	dilatation/dilation and curettage	EMLA	eutectic mixture of local anesthetics
DCIS	ductal carcinoma in situ	EMT	emergency medical technician
DD	discharge diagnosis; differential diagnosis	ENT	ear, nose, throat
Decub.	decubitus (lying down)		
Derm.	dermatology		
DES	diethylstilbestrol; diffuse esophageal spasm		

EOM	extraocular movement; extraocular muscles	GP	general practitioner
eos	eosinophils (type of white blood cell)	GM-CSF	granulocyte-macrophage colony-stimulating factor (promotes myeloid progenitor cells with differentiation to granulocytes)
EPO	erythropoietin	grav. 1, 2, 3	<i>gravida</i> 1, 2, 3—first, second, third pregnancy
ER	emergency room; estrogen receptor	gt, gtt	drop (<i>gutta</i>), drops (<i>guttae</i>)
ERCP	endoscopic retrograde cholangiopancreatography	GTT	glucose tolerance test
ERT	estrogen replacement therapy	GU	genitourinary
ESR	erythrocyte sedimentation rate (increase indicates inflammation)	Gy	gray—unit of radiation absorption (exposure); equal to 100 rad
(sed rate)		GYN, gyn	gynecology
ESRD	end-stage renal disease	H	hydrogen
ESWL	extracorporeal shock wave lithotripsy	h., hr	hour
ETOH	ethyl alcohol	H₂ blocker	H ₂ histamine receptor antagonist (inhibitor of gastric acid secretion)
ETT	exercise tolerance test	HAART	highly active antiretroviral therapy (for AIDS)
EUS	endoscopic ultrasonography	HAI	hemagglutination inhibition
F, °F	Fahrenheit, degrees Fahrenheit	Hb, hgb	hemoglobin
FB	fingerbreadth; foreign body	HbA_{1c}	glycosylated hemoglobin test (for diabetes)
FBS	fasting blood sugar	HBV	hepatitis B virus
FDA	U.S. Food and Drug Administration	hCG, HCG	human chorionic gonadotropin
FDG-PET	2-deoxy-2[F-18]fluoro-D-glucose positron emission tomography	HCl	hydrochloric acid
Fe	iron (<i>fer</i>)	HCO₃	bicarbonate
FEF	forced expiratory flow	Hct, HCT	hematocrit
FEV₁	forced expiratory volume in first second	HCV	hepatitis C virus
FH	family history	HCVD	hypertensive cardiovascular disease
FHR	fetal heart rate	HD	hemodialysis (performed by artificial kidney machine)
FPG	fasting plasma glucose	HDL	high-density lipoprotein
FROM	full range of movement/motion	He	helium
FSH	follicle-stimulating hormone	HEENT	head, eyes, ears, nose, throat
F/U	follow-up	Hg	mercury
5-FU	5-fluorouracil (a chemotherapy drug)	H&H	hematocrit and hemoglobin (measurement)—red blood cell tests
FUO	fever of undetermined origin	HIPAA	Health Insurance Portability and Accountability Act (of 1996)
Fx	fracture	HIV	human immunodeficiency virus
G	gravida (pregnant)	HLA	histocompatibility locus antigen (identifies cells as “self”)
g, gm	gram	HNP	herniated nucleus pulposus
µg	microgram (one millionth of a gram)	h/o	history of
g/dL	grams per deciliter	H₂O	water
Ga	gallium	H&P	history and physical (examination)
GABA	gamma-aminobutyric acid; also spelled γ-aminobutyric acid—a neurotransmitter	HPF; hpf	high-power field (in microscopy)
GB	gallbladder	HPI	history of present illness
GBS	gallbladder series (an x-ray study)	HPV	human papillomavirus
GC	gonococcus	HRT	hormone replacement therapy
G-CSF	granulocyte colony-stimulating factor (promotes neutrophil production)	hs	half-strength
Gd	gadolinium	h.s.	at bedtime (<i>hora somni</i>)—write out so as not to confuse with hs (half-strength)
GERD	gastroesophageal reflux disease	HSG	hysterosalpingography
GFR	glomerular filtration rate	HSV	herpes simplex virus
GH	growth hormone	ht	height
GI	gastrointestinal		
GIST	gastrointestinal stromal tumor		
G6PD	glucose-6-phosphate dehydrogenase (enzyme missing in an inherited red blood cell disorder)		

HTN	hypertension (high blood pressure)	LDL	low-density lipoprotein (high levels are associated with heart disease)
Hx	history	L-dopa	levodopa (a drug used to treat Parkinson disease)
I	iodine	LE	lupus erythematosus
¹³¹I	a radioactive isotope of iodine	LEEP	loop electrocautery excision procedure
IBD	inflammatory bowel disease (Crohn's and ulcerative colitis)	LES	lower esophageal sphincter
ICD	implantable cardioverter-defibrillator	LFTs	liver function tests
ICP	intracranial pressure	LH	luteinizing hormone
ICSH	interstitial cell-stimulating hormone	LLL	left lower lobe (of lung)
ICU	intensive care unit	LLQ	left lower quadrant (of abdomen)
ID	infectious disease	LMP	last menstrual period
I&D	incision and drainage	LMWH	low-molecular-weight heparin
IgA, IgD, IgE, IgG, IgM	immunoglobulins (type of antibodies)	LOC	loss of consciousness
IHD	ischemic heart disease	LOS	length of (hospital) stay
IHSS	idiopathic hypertrophic subaortic stenosis	LP	lumbar puncture
IL-1 to IL-15	interleukins	lpf	low-power field (in microscopy)
IM	intramuscular; infectious mononucleosis	LPN	licensed practical nurse
inf.	infusion; inferior	LS	lumbosacral spine
INH	isoniazid (a drug used to treat tuberculosis)	LSD	lysergic acid diethylamide (a hallucinogen)
inj.	injection	LSH	laparoscopic supracervical hysterectomy
I&O	intake and output (measurement of patient's fluids)	LSK	liver, spleen, kidneys
IOL	intraocular lens (implant)	LTB	laryngotracheal bronchitis (croup)
IOP	intraocular pressure	LTC	long-term care
IPPB	intermittent positive-pressure breathing	LTH	luteotropic hormone (same as prolactin)
IQ	intelligence quotient	LUL	left upper lobe (of lung)
ITP	idiopathic thrombocytopenic purpura	LUQ	left upper quadrant (of abdomen)
IUD	intrauterine device	LV	left ventricle
IUP	intrauterine pregnancy	LVAD	left ventricular assist device
IV	intravenous	L&W	living and well
IVP	intravenous pyelogram	lymphs	lymphocytes
K	potassium	lytes	electrolytes
kg	kilogram (equal to 1000 g)	MA	mental age
KJ	knee jerk	MAC	monitored anesthesia care; <i>Mycobacterium avium</i> complex (a common cause of opportunistic pneumonia)
KS	Kaposi sarcoma	MAI	<i>Mycobacterium avium-intracellulare</i>
KUB	kidneys, ureters, bladder (x-ray study)	MAOI	monoamine oxidase inhibitor (a type of antidepressant)
L, l	liter; left; lower	MBD	minimal brain dysfunction
μL	microliter (one millionth of a liter)	mcg	microgram—also abbreviated μg; equal to one millionth of a gram
L1, L2	first lumbar vertebra, second lumbar vertebra (and so on)	MCH	mean corpuscular hemoglobin (average amount in each red blood cell)
LA	left atrium	MCHC	mean corpuscular hemoglobin concentration (average concentration in a single red cell)
LAD	left anterior descending (coronary artery); lymphadenopathy	mCi	millicurie
LADA	latent autoimmune diabetes in adults	μCi	microcurie
lat	lateral	MCP	metacarpophalangeal (joint)
LB	large bowel	MCV	mean corpuscular volume (average size of a single red blood cell)
LBBB	left bundle branch block (a form of heart block)	M.D.	doctor of medicine
LBW	low birth weight	MDI	multiple daily injections; metered-dose inhaler (used to deliver aerosolized medication to a patient)
LD	lethal dose		
LDH	lactate dehydrogenase		

MDR	minimum daily requirement	NK cells	natural killer cells
MSD	myelodysplastic syndrome (bone marrow disorder)	NKA	no known allergies
MED	minimum effective dose	NKDA	no known drug allergies
mEq	milliequivalent	NOTES	natural orifice transluminal endoscopic surgery
mEq/L	milliequivalent per liter (unit of measure for the concentration of a solution)	NPO	nothing by mouth (<i>nil per os</i>)
mets	metastases	NSAID	nonsteroidal anti-inflammatory drug (often prescribed to treat musculoskeletal disorders)
MG	myasthenia gravis	NSR	normal sinus rhythm (of heart)
Mg	magnesium	NTP	normal temperature and pressure
mg	milligram (1/1000 of a gram)	O, O₂	oxygen
mg/cc³	milligram per cubic centimeter	OA	osteoarthritis
mg/dL	milligram per deciliter	OB/GYN	obstetrics and gynecology
MH	marital history; mental health	OCPs	oral contraceptive pills
MI	myocardial infarction; mitral insufficiency	O.D.	doctor of optometry; right eye (<i>oculus dexter</i>); better to specify "right eye," rather than abbreviating
mL, ml	milliliter (1/1000 of a liter)	OD	overdose
mm	millimeter (1/1000 of a meter); 0.039 inch	OMT	osteopathic manipulative treatment
mm Hg, mmHg	millimeters of mercury	OR	operating room
MMPI	Minnesota Multiphasic Personality Inventory	ORIF	open reduction plus internal fixation
MMR	measles-mumps-rubella (vaccine)	ORTH;	orthopedics
MMT	manual muscle testing	Ortho.	
μm	micrometer (one millionth of a meter, or 1/1000 of a millimeter); sometimes seen in older sources as μ (for "micron," an outdated term)	OS	left eye (<i>oculus sinister</i>); better to specify "left eye," rather than abbreviating
MoAb	monoclonal antibody	os	opening; bone
MODS	multiple organ dysfunction syndrome	OT	occupational therapy (helps patients perform activities of daily living and function in work-related situations)
monos	monocytes (type of white blood cells)	OU	both eyes (<i>oculus uterque</i>); better to specify "both eyes," rather than abbreviating
MR	mitral regurgitation; magnetic resonance	oz	ounce
MRA	magnetic resonance angiography	P	phosphorus; posterior; pressure; pulse; pupil
MRI	magnetic resonance imaging	p̄	after
mRNA	messenger RNA	P₂, P₂	pulmonary valve closure (a heart sound)
MRSA	methicillin-resistant <i>Staphylococcus aureus</i>	PA	pulmonary artery; posteroanterior
MS	multiple sclerosis; mitral stenosis; morphine sulfate	P-A	posteroanterior
MSL	midsternal line	P&A	percussion and auscultation
MTD	maximum tolerated dose	PAC	premature atrial contraction
MTX	methotrexate	Paco₂	partial pressure of carbon dioxide in arterial blood
MUGA	multiple-gated acquisition scan (of heart)	PACS	picture archival communications system
multip	multipara; multiparous	PAD	peripheral arterial disease
MVP	mitral valve prolapse	palp.	palpable; palpation
myop	myopia (nearsightedness)	PALS	pediatric advanced life support
N	nitrogen	PaO₂	partial pressure of oxygen in blood
NA, N/A	not applicable; not available	Pap smear	Papanicolaou smear (from cervix and vagina)
Na	sodium (<i>natrium</i>)	para 1, 2, 3	unipara, bipara, tripara (number of viable births)
NB	newborn	pc, p.c.	after meals (<i>post cibum</i>)
NBS	normal bowel sounds; normal breath sounds	PCA	patient-controlled anesthesia
ND	normal delivery; normal development		
NED	no evidence of disease		
neg.	negative		
NG tube	nasogastric tube		
NHL	non-Hodgkin lymphoma		
NICU	neonatal intensive care unit		

PCI	percutaneous coronary intervention	PT	prothrombin time; physical therapy (helps patients regain use of muscles and joints after injury or surgery)
PCO₂, pCO₂	partial pressure of carbon dioxide	pt.	patient
PCP	<i>Pneumocystis</i> pneumonia; phencyclidine (a hallucinogen)	PTA	prior to admission (to hospital)
PCR	polymerase chain reaction (process that allows making copies of genes)	PTC	percutaneous transhepatic cholangiography
PD	peritoneal dialysis	PTCA	percutaneous transluminal coronary angioplasty
PDA	patent ductus arteriosus	PTH	parathyroid hormone
PDR	<i>Physicians' Desk Reference</i>	PTHC	percutaneous transhepatic cholangiography
PE	physical examination; pulmonary embolus	PTSD	post-traumatic stress disorder
PEEP	positive end-expiratory pressure	PTT	partial thromboplastin time (a test of blood clotting)
PEG	percutaneous endoscopic gastrostomy (feeding tube placed in stomach)	PU	pregnancy urine
PEJ	percutaneous endoscopic jejunostomy (feeding tube placed in small intestine)	PUVA	psoralen ultraviolet A (a treatment for psoriasis)
per os	by mouth	PVC	premature ventricular contraction
PERRLA	pupils <u>e</u> qual, <u>r</u> ound, <u>r</u> eactive to <u>l</u> ight and <u>a</u> ccommodation	PVD	peripheral vascular disease
PET	positron emission tomography	PVT	paroxysmal ventricular tachycardia
PE tube	ventilating tube for eardrum	PWB	partial weight-bearing
PFT	pulmonary function test	Px	prognosis
PG	prostaglandin	Q	blood volume; rate of blood flow (daily)
PH	past history	q	every (<i>quaque</i> , "each")
pH	potential hydrogen (scale to indicate degree of acidity or alkalinity)	qAM	every morning; better to specify than to abbreviate
PI	present illness	qd, q.d.	every day (<i>quaque die</i>); better to specify "each/every day," rather than confusing with qid or qod
PICC	peripherally inserted central catheter	qh	every hour (<i>quaque hora</i>); better to specify than to abbreviate
PID	pelvic inflammatory disease	q2h	every 2 hours; better to specify than to abbreviate
PIN	prostatic intraepithelial neoplasia	qid	four times daily (<i>quater in die</i>); better to specify than to abbreviate
PIP	proximal interphalangeal (joint)	q.n.s.	quantity not sufficient (<i>quantum non sufficit</i>)
PKU	phenylketonuria	qod	every other day; better to specify than to abbreviate
PM, p.m., PM	in the afternoon (<i>post meridiem</i>)	qPM	every evening; better to specify than to abbreviate
PMH	past medical history	QRS	a wave complex in an electrocardiographic study
PMN	polymorphonuclear leukocyte	q.s.	sufficient quantity (<i>quantum sufficit</i>)
PMS	premenstrual syndrome	qt	quart
PND	paroxysmal nocturnal dyspnea	R	respiration; right
PNS	peripheral nervous system	RA	rheumatoid arthritis; right atrium
PO, p.o.	by mouth (<i>per os</i>)	Ra	radium
p/o	postoperative	rad	radiation absorbed dose
PO₂, pO₂	partial pressure of oxygen	RAIU	radioactive iodine uptake test
poly	polymorphonuclear leukocyte	RBBB	right bundle branch block
postop	postoperative (after surgery)	RBC, rbc	red blood count; red blood cell
PPBS	postprandial blood sugar	RDDA	recommended daily dietary allowance
PPD	purified protein derivative (used in test for tuberculosis)	RDS	respiratory distress syndrome
preop	preoperative	REM	rapid eye movement
prep	prepare for		
PR	partial response		
primip	primipara		
PRL	prolactin		
p.r.n.	as needed; as necessary (<i>pro re nata</i>)		
procto	proctoscopy		
prot.	protocol		
Pro. time	prothrombin time (test of blood clotting)		
PSA	prostate-specific antigen		

RF	rheumatoid factor	SPECT	single photon emission computed tomography
Rh (factor)	rhesus (monkey) factor in blood	SQ	subcutaneous
RhoGAM	drug to prevent Rh factor reaction in Rh-negative women	S/S, Sx	signs and symptoms
RIA	radioimmunoassay (test for measuring minute quantities of a substance)	SSCP	substernal chest pain
RLL	right lower lobe/lung	SSRI	selective serotonin reuptake inhibitor (a type of antidepressant)
RLQ	right lower quadrant (abdomen)	Staph.	staphylococci (berry-shaped bacteria in clusters)
RML	right middle lobe (lung)	stat., STAT	immediately (<i>statim</i>)
RNA	ribonucleic acid	STD	sexually transmitted disease
R/O	rule out	STH	somatotropic hormone (somatotropin) (a growth hormone)
ROM	range of motion	STI	sexually transmitted infection
ROS	review of systems	Strep.	streptococci (berry-shaped bacteria in twisted chains)
RRR	regular rate and rhythm (of heart)	sub-Q	subcutaneously
RT	right; radiation therapy	SVC	superior vena cava
RUL	right upper lobe (of lung)	SVD	spontaneous vaginal delivery
RUQ	right upper quadrant (of abdomen)	Sx	symptoms; signs and symptoms
RV	right ventricle	Sz	seizure
Rx	treatment; therapy; prescription	T	temperature; time
̄	without (<i>sine</i>)	T cells	lymphocytes produced in the thymus gland
S1, S2	first sacral vertebra, second sacral vertebra (and so on)	T tube	tube placed in biliary tract for drainage
S-A node	sinoatrial node (pacemaker of heart)	T1, T2	first thoracic vertebra, second thoracic vertebra (and so on)
SAD	seasonal affective disorder	T₃	triiodothyronine (test)
SARS	severe acute respiratory syndrome	T₄	thyroxine (test)
SBE	subacute bacterial endocarditis	TA	therapeutic abortion
SBFT	small bowel follow-through (x-ray study of small intestine function)	T&A	tonsillectomy and adenoidectomy
segs	segmented, mature white blood cells (neutrophils)	TAB	therapeutic abortion
SERM	selective estrogen receptor modulator	TAH	total abdominal hysterectomy
s.gl	without (<i>sine</i>) glasses	TAT	Thematic Apperception Test
SGOT	see AST	TB	tuberculosis
SGPT	see ALT	Tc	technetium
SIADH	syndrome of inappropriate antidiuretic hormone	TEE	transesophageal echocardiogram
SIDS	sudden infant death syndrome	TENS	transcutaneous electrical nerve stimulation
Sig.	directions—medication instructions (<i>sigma</i> , “mark”)	TFT	thyroid function test
SIRS	systemic inflammatory response syndrome (severe bacteremia)	THR	total hip replacement (an arthroplasty procedure)
SL	sublingual	TIA	transient ischemic attack
SLE	systemic lupus erythematosus	tid, t.i.d.	three times daily (<i>ter in die</i>)
SMA-12	blood chemistry profile including 12 different studies/assays	TKR	total knee replacement (an arthroplasty procedure)
SMAC	sequential multiple analyzer computer (automated analytical device for testing blood)	TLC	total lung capacity
SOAP	subjective, objective, assessment, plan (used for patient notes)	TLE	temporal lobe epilepsy
SOB	shortness of breath	TM	tympanic membrane
s.o.s.	if necessary (<i>si opus sit</i> , “if there should be [such a] necessity”)	TMJ	temporomandibular joint
S/P	status post (previous disease, condition, or procedure)	TNF	tumor necrosis factor
sp. gr.	specific gravity	TNM	tumor-node-metastasis (cancer staging system)
		tPA	tissue plasminogen activator
		TPN	total parenteral nutrition
		TPR	temperature, pulse, respirations
		TRUS	transrectal ultrasound (examination) (test to access the prostate and guide precise placement of a biopsy needle)

TSH	thyroid-stimulating hormone	VCUG	voiding cystourethrogram
TSS	toxic shock syndrome	VDRL	Venereal Disease Research Laboratory (test for syphilis)
TUR, TURP	transurethral resection of the prostate	VEGF	vascular endothelial growth factor
TVH	total vaginal hysterectomy	VF	visual field; ventricular fibrillation
Tx	treatment	V/Q scan	ventilation-perfusion scan (of lung)
UA	unstable angina (chest pain at rest or of increasing frequency)	V/S	vital signs; versus
UAO	upper airway obstruction	VSD	ventricular septal defect
UC	uterine contraction(s)	VT	ventricular tachycardia (an abnormal heart rhythm)
UE	upper extremity	VTE	venous thromboembolism
UGI	upper gastrointestinal	WAIS	Wechsler Adult Intelligence Scale
umb.	navel (<i>umbilicus</i>)	WBC, wbc	white blood cell; white blood count
U/O	urinary output	WDWN	well developed and well nourished
URI	upper respiratory infection	WISC	Wechsler Intelligence Scale for Children
U/S	ultrasound; ultrasonography	WNL	within normal limits
UTI	urinary tract infection	wt	weight
UV	ultraviolet	XRT	radiation therapy
VA	visual acuity	y/o, yr	year(s) old
VATS	video-assisted thoracic surgery (a thorascopy procedure)		
VC	vital capacity (of lungs)		

ACRONYMS

An *acronym* is the name for an abbreviation that forms a pronounceable word.

ACE ("ace") a ngiotensin- c onverting e nzyme	NICU (NĪK-yū) n eonatal i ntensive c are u nit
AIDS (ādz) a cquired i mmunode f iciency s yndrome	PACS (pāks) p icture a rchival c ommunications s ystem
APGAR (ĀP-gahr) a pppearance, p ulse, g rimace, a ctivity, respiration	PALS (pālz) p ediatric a dvanced l ife s upport
BUN ("bun" or bē-yū-ĒN) b lood u rea n itrogen	PEEP ("peep") p ositive e nd- e xpiratory p ressure
CABG ("cabbage") c oronary a rtery b ypass g raft/grafting	PEG ("peg") p ercutaneous e ndoscopic g astrostomy
CAT ("cat") c omputerized a xial t omography (<i>outdated term; use CT</i>)	PERRLA (PER-lă) p upils e qual, r ound, r eactive to l ight and a ccommodation
CPAP ("see"-pāp) c ontinuous p ositive a irway p ressure	PET ("pet") p ositron e mission t omography
DEXA (DECKS-ă) d ual e nergy x -ray a bsorptometry	PICU (PIK-yū) p ediatric i ntensive c are u nit
ELISA ("eliza") e nzyme- l inked i mmunosorbent a ssay	PIP ("pip") p roximal i nter p halangeal (joint)
GERD (gěrd) g astro e sophageal r eflux d isease	PUVA (poo-vă) p soralen u ltraviolet A
GIST (jĭst) g astro i ntestinal s tromal t umor	REM (rēm) r apid e ye m ovement
HAART ("heart") h ighly a ctive a nti r etroviral t herapy	SAD ("sad") s easonal a ffective d isorder
HIPAA (HĪP-ă) H ealth I nsurance P ortability and Accountability A ct of 1996	SARS (sahrz) s evere a cute r espiratory s yndrome
LASER (LĀ-zěr) l ight a mplification by s timulated emission of r adiation	SERM (sěrm) s elective e strogen r eceptor m odulator
LASIK (LĀ-sĭk) l aser in situ k eratomileusis	SIDS (sĭdz) s udden i nfant d eath s yndrome
LEEP ("leap") l oop e lectrocautery e xcision p rocedure	SIRS (sěrz) s ystemic i nflammatory r esponse s yndrome
MAC (măk) m onitored a nesthesia c are; <i>Mycobacterium avium</i> complex	SMAC ("smack") s equential m ultiple a nalyzer c omputer (blood testing)
MICU (MĪK-yū) m edical i ntensive c are u nit	SOAP ("soap") s ubjective, o bjective, a ssessment, p lan
MIS ("miss") m inimally i nvasive s urgery	SPECT (spěkt) s ingle p hoton e mission c omputed tomography
MODS (mōdz) m ultiple o rgan d ysfunction s yndrome	TENS (těnz) t ranscutaneous e lectrical n erve s timulation
MUGA (mū-gă) m ultiple- g ated a cquisition (scan)	TRUS ("truss") t rans r ectal u ltrasound
NSAID (ĒN-sěd) n onsteroidal a nti- i nflammatory d rug	TURP (tŭerp) t rans u rethral r esection of the p rostate
	VATS (vătz) v ideo- a ssisted t horacic s urgery

Hodgkin disease (Thomas Hodgkin, English physician, 1798-1866)	Malignant tumor of the lymph nodes.
Huntington disease (George S. Huntington, American physician, 1851-1916)	Rare, hereditary condition marked by chronic, progressively worsening dance-like movements (chorea) and mental deterioration, resulting in dementia.
Kaposi sarcoma (Moricz Kaposi, Austrian dermatologist, 1837-1902)	Malignant neoplasm of cells that line blood and lymph vessels. Soft brownish or purple papules appear on the skin. The tumor can metastasize to lymph nodes and internal organs. It is often associated with AIDS.
Marfan syndrome (Bernard-Jean A. Marfan, French pediatrician, 1858-1942)	Hereditary condition that affects bones, muscles, the cardiovascular system (leading to aneurysms), and eyes (lens dislocation). Affected people have overlong extremities with "spider-like" fingers (arachnodactyly), underdeveloped muscles, and easily movable joints.
Ménière disease (Prosper Ménière, French physician, 1799-1862)	Chronic disease of the inner ear with recurrent episodes of dizziness (vertigo), hearing loss, and ringing in the ears (tinnitus).
<i>Neisseria gonorrhoeae</i> (Albert L. S. Neisser, Polish dermatologist, 1855-1916)	A type of bacterium that causes gonorrhea (sexually transmitted disease).
Paget disease (James Paget, English surgeon, 1814-1899)	Disease of bone, often affecting middle-aged or elderly people; marked by bone destruction and poor bone repair.
Pap test (George Papanicolaou, Greek physician in the United States, 1883-1962)	Method of examining stained cells obtained from the cervix and vagina. It is a common way to detect cervical cancer.
Parkinson disease (James Parkinson, English physician, 1755-1824)	Slowly progressive degenerative neurologic disorder marked by tremors, mask-like facial appearance, shuffling gait (manner of walking), and muscle rigidity and weakness.
Raynaud phenomenon (Maurice Raynaud, French physician, 1834-1881)	Intermittent attacks of loss of blood flow (ischemia) of the extremities of the body (fingers, toes, ears, and nose). Episodes most often are caused by exposure to cold.
Reye syndrome (R. Douglas Reye, Austrian pathologist, 1912-1978)	Acute brain disease (encephalopathy) and disease of internal organs following an acute viral infection.
Rinne test (Heinrich A. Rinne, German otologist, 1819-1868)	Hearing test using a vibrating tuning fork placed against a bone behind the patient's ear (mastoid bone).
Rorschach test (Herman Rorschach, Swiss psychiatrist, 1884-1922)	Personality test based on a patient's interpretation of 10 standard ink blots.
<i>Salmonella</i> (Daniel E. Salmon, American pathologist, 1850-1914)	Type of bacteria (rod-shaped) that causes typhoid fever and types of gastroenteritis (inflammation of the stomach and intestines).
<i>Shigella</i> (Kiyoshi Shiga, Japanese bacteriologist, 1870-1957)	Type of bacteria that causes severe infectious gastroenteritis (inflammation of stomach and intestines) and dysentery (diarrhea, abdominal pain, and fever).
Sjögren syndrome (Heinrik S.C. Sjögren, Swedish ophthalmologist, 1899-1986)	Abnormal dryness of the mouth, eyes, and mucous membranes, caused by deficient fluid production. It is a disorder of the immune system.
Snellen test (Herman Snellen, Dutch ophthalmologist, 1834-1908)	Test of visual clarity (acuity) using a special chart. Letters, numbers, or symbols are arranged on the chart in decreasing size from top to bottom.

EPONYMS

Achilles tendon (Achilles, Greek mythological hero)	This tendon connects the calf muscles to the heel. It lies at the only part of Achilles' body that was still vulnerable after his mother dipped him as an infant into the river Styx, when she held him by the heel.
Alzheimer disease (Alois Alzheimer, MD, German neurologist, 1864-1915)	Progressive mental deterioration marked by confusion, memory failure, and disorientation.
Apgar score (Virginia Apgar, MD, American anesthesiologist, 1909-1974)	Evaluation of an infant's physical condition, usually performed 1 minute and then 5 minutes after birth. Highest score is 10. An Apgar rating of 9/10 is a score of 9 at 1 minute and 10 at 5 minutes.
Asperger syndrome (Hans Asperger, Austrian psychiatrist, 1906-1980)	A developmental disorder characterized by impairment of social interactions (resembling autism) but lacking in delays in language development and mental functioning.
Bell palsy (Charles Bell, Scottish surgeon, 1774-1842)	Unilateral (one-sided) paralysis of the facial nerve.
Burkitt lymphoma (Denis Burkitt, English surgeon in Africa, 1911-1993)	Malignant tumor of lymph nodes; chiefly seen in central Africa. The Epstein-Barr virus is associated with this lymphoma.
Cheyne-Stokes respiration (John Cheyne, Scottish physician, 1777-1836, and William Stokes, Irish physician 1804-1878)	Abnormal pattern of breathing with alternating periods of stoppage of breathing and deep, rapid breathing.
Colles fracture (Abraham Colles, Irish surgeon, 1773-1843)	A break (fracture) of the radius (outer forearm bone) near the wrist.
Crohn disease (Burrill B. Crohn, American physician, 1884-1983)	Chronic inflammatory bowel disease of unknown origin; usually affecting the ileum (last part of the small intestine), colon, or any part of the gastrointestinal tract.
Cushing syndrome (Harvey W. Cushing, American surgeon, 1869-1939)	A disorder resulting from chronic, excessive production of cortisol from the adrenal cortex. It can also result from administration of glucocorticoids (cortisone) in large doses for long periods of time.
Duchenne muscular dystrophy (Guillaume Benjamin Amand Duchenne, French neurologist, 1806-1875)	Abnormal, inherited condition marked by progressive hardening of muscles in the leg and hips (pelvis) beginning in infancy.
Epstein-Barr virus (Michael A. Epstein, English pathologist, born 1921; Yvonne M. Barr, English virologist, born 1932)	The herpesvirus that causes infectious mononucleosis and is associated with malignant conditions such as nose and throat cancer, Burkitt lymphoma, and Hodgkin disease.
eustachian tube (Bartolomeo Eustachio, Italian anatomist, 1524-1574)	Anatomic passageway that joins the throat and the middle ear cavity.
Ewing sarcoma (James Ewing, American pathologist, 1866-1943)	Malignant tumor that develops from bone marrow, usually in long bones or the hip (pelvis).
fallopian tube (Gabriele Falloppio, Italian anatomist, 1523-1562)	One of a pair of tubes or ducts leading from the ovary to the upper portion of the uterus.
Foley catheter (Frederic Foley, American physician, 1891-1966)	Rubber tube that is placed in the urethra to provide drainage of urine.
Giardia (Alfred Giardia, French biologist, 1846-1908)	One-celled organism (protozoan) that causes gastrointestinal infection with diarrhea, abdominal cramps, and weight loss. Cause of infection is usually fecally contaminated water.

APPENDIX III

Normal Hematologic Reference Values and Implications of Abnormal Results

The implications of abnormal results are major ones in each category. SI units are those used in the International System of Units, which generally are accepted for all scientific and technical uses. All laboratory values should be interpreted with caution because normal values differ widely among clinical laboratories.

cu mm = cubic millimeter (mm^3)
dL = deciliter (1/10 of a liter or 100 mL)
g = gram
L = liter
mg = milligram (1/1000 of a gram)
mL = milliliter
mEq = milliequivalent

mill = million
mm = millimeter (1/1000 of a meter)
mmol = millimole
thou = thousand
U = unit
 μL = microliter
 μmol = micromole (one millionth of a mole)

Tay-Sachs disease (Warren Tay, English ophthalmologist, 1843-1927, and Bernard Sachs, American neurologist, 1858-1944)	Inherited disorder of nerve degeneration caused by deficiency of an enzyme. Most affected children die between the ages of 2 and 4 years.
Tourette syndrome (Georges Gilles de la Tourette, French neurologist, 1857-1927)	Condition marked by abnormal facial grimaces, inappropriate speech, and involuntary movements of eyes, arms, and shoulders (tics).
von Willebrand disease (Erick A. von Willebrand, Finnish physician, 1870-1949)	Inherited blood disorder marked by abnormally slow blood clotting; caused by deficiency in a blood clotting factor (factor VIII).
Weber tuning fork test (Hermann D. Weber, English physician, 1823-1918)	Test of hearing using a vibrating tuning fork with the stem placed in the center of the patient's forehead.
Whipple procedure (Allen O. Whipple, American surgeon, 1881-1963)	A surgical procedure to remove a portion of the pancreas and the stomach and the entire first part of the small intestine (duodenum). Used in the treatment of pancreatic cancer and other conditions.
Wilms tumor (Max Wilms, German surgeon, 1867-1918)	Malignant tumor of the kidney occurring in young children.

SYMBOLS

=	equals	̄	ounce
≠	does not equal	%	percent
+	positive	°	degree; hour
-	negative	:	ratio; "is to"
↑	above, increase	±	plus or minus (either positive or negative)
↓	below, decrease	'	foot
♀	female	"	inch
♂	male	∴	therefore
→	to (in direction of)	@	at, each
>	is greater than	̄	with
<	is less than	̄	without
1°	primary to	#	pound; number
2°	secondary to	≅	approximately equals, is about
̄	dram	Δ	change
		p	short arm of a chromosome
		q	long arm of a chromosome

BLOOD CELL COUNTS

Cell Category	Conventional Units	SI Units	Implications
Erythrocytes (RBCs)			
Females	4.0–5.5 million/mm ³ or μL	$4.0\text{--}5.5 \times 10^{12}/\text{L}$	<i>High</i> ♦ Polycythemia ♦ Dehydration
Males	4.5–6.0 million/mm ³ or μL	$4.5\text{--}6.0 \times 10^{12}/\text{L}$	<i>Low</i> ♦ Iron deficiency anemia ♦ Blood loss
Leukocytes (WBCs)			
Total	5000–10,000/mm ³ or μL	$5.0\text{--}10.0 \times 10^9/\text{L}$	<i>High</i> ♦ Bacterial infection ♦ Leukemia
Differential (%)			<i>Low</i> ♦ Eosinophils high in allergy ♦ Viral infection
Neutrophils	54–62		♦ Aplastic anemia
Lymphocytes	20–40		♦ Chemotherapy
Monocytes	3–7		
Eosinophils	1–3		
Basophils	0–1		
Platelets	150,000–350,000/mm ³ or μL	$200\text{--}400 \times 10^9/\text{L}$	<i>High</i> ♦ Hemorrhage ♦ Infections ♦ Malignancy ♦ Splenectomy
			<i>Low</i> ♦ Aplastic anemia ♦ Chemotherapy ♦ Hypersplenism

COAGULATION TESTS

Test	Conventional Units	SI Units	Implications
Bleeding time (template method)	2.75–8.0 min	2.7–8.0 min	<i>Prolonged</i> ♦ Aspirin ingestion ♦ Low platelet count
Coagulation time	5–15 min	5–15 min	<i>Prolonged</i> ♦ Heparin therapy
Prothrombin time (PT)*	11–12.5 sec	11–12.5 sec	<i>Prolonged</i> ♦ Vitamin K deficiency ♦ Hepatic disease ♦ Oral anticoagulant therapy (warfarin)
Partial thromboplastin time (PTT)	25–34 sec	25–37 sec	<i>Prolonged</i> ♦ Intravenous heparin therapy

*The INR (international normalized ratio) is a standard tool for monitoring the effects of an anticoagulant, warfarin; the normal INR value is <1.5.

RED BLOOD CELL TESTS

Test	Conventional Units	SI Units	Implications
Hematocrit (Hct)			
Females	37%–47%	0.37–0.47	<i>High</i> ♦ Polycythemia
Males	40%–54%	0.40–0.54	♦ Dehydration
			<i>Low</i> ♦ Loss of blood
			♦ Anemia
Hemoglobin (Hb, Hgb)			
Females	12.0–14.0 g/dL <i>or</i> 120–140 g/L	1.86–2.48 mmol/L	<i>High</i> ♦ Polycythemia
Males	14.0–16.0 g/dL	2.17–2.79 mmol/L	♦ Dehydration
			<i>Low</i> ♦ Anemia
			♦ Blood loss

SERUM TESTS

Test	Conventional Units	SI Units	Implications
Alanine aminotransferase (ALT; SGPT)	5–30 U/L	5–30 U/L	<i>High</i> ♦ Hepatitis
Albumin	3.5–5.5 g/dL	35–55 g/L	<i>Low</i> ♦ Hepatic disease
			♦ Malnutrition
			♦ Nephritis and nephrosis
Alkaline phosphatase (ALP)	20–90 U/L	20–90 U/L	<i>High</i> ♦ Bone disease
			♦ Hepatitis or tumor infiltration of liver
Aspartate aminotransferase (AST; SGOT)	10–30 U/L	10–30 U/L	<i>High</i> ♦ Biliary obstruction
			♦ Hepatitis
			♦ Cardiac and muscle injury
Bilirubin			<i>High</i> ♦ Hemolysis
Total	0.3–1.0 mg/dL	5.1–17 μmol/L	♦ Neonatal hepatic immaturity
Neonates	1–12 mg/dL	17–205 μmol/L	♦ Cirrhosis
			♦ Biliary tract obstruction
Blood urea nitrogen (BUN)	10–20 mg/dL	3.6–7.1 mmol/L	<i>High</i> ♦ Renal disease
			♦ Reduced renal blood flow
			♦ Urinary tract obstruction
			<i>Low</i> ♦ Hepatic damage
			♦ Malnutrition
Calcium	9.0–10.5 mg/dL	2.2–2.6 mmol/L	<i>High</i> ♦ Hyperparathyroidism
			♦ Multiple myeloma
			♦ Metastatic cancer
			<i>Low</i> ♦ Hypoparathyroidism
			♦ Total parathyroidectomy
Cholesterol (desirable range)			
Total	<200 mg/dL	<5.2 mmol/L	<i>High</i> ♦ High-fat diet
LDL cholesterol	<130 mg/dL	<3.36 mmol/L	♦ Inherited
HDL cholesterol	>60 mg/dL	>1.55 mmol/L	hypercholesterolemia
			<i>Low</i> ♦ Starvation

APPENDIX IV

Drugs

Following is an alphabetized list of the drugs referred to in Chapter 21 (tables), with brand name(s) in parentheses and explanation of use, including drug category and/or class.

Generic Name (Brand Name)

acarbose (Precose)
acetaminophen (Tylenol)
acyclovir (Zovirax)
adalimumab (Humira)
albuterol (Proventil, Ventolin)
alendronate (Fosamax)
alprazolam (Xanax)
aluminum antacid (Rolaids)
aluminum + magnesium antacid (Gaviscon)
amiodarone (Cordarone)
amlodipine (Norvasc)
amoxicillin trihydrate (Amoxil, Trimox)
amoxicillin + clavulanate (Augmentin)
anastrozole (Arimidex)
aripiprazole (Abilify)
aspirin (Anacin, Ascription, Excedrin)
atenolol (Tenormin)
atorvastatin (Lipitor)
azithromycin (Zithromax)

budesonide (Pulmicort)
buspirone (BuSpar)
butabarbital (Butisol)

caffeine
calcitonin (Cibacalcin)
carbamazepine (Tegretol)
cefprozil (Cefzil)
ceftazidime (Fortaz)
cefuroxime axetil (Ceftin)
celecoxib (Celebrex)
cephalexin (Keflex)
certolizumab pegol (Cimzia)
cetirizine (Zyrtec)
chlorpheniramine maleate (Chlor-Trimeton)
chlorpromazine (Thorazine)
cholestyramine (Questran)

Explanation of Use

Antidiabetic (type 2 diabetes)/alpha-glucosidase inhibitor
Analgesic/mild
Antiviral
Gastrointestinal/anti-TNF
Bronchodilator
Antiosteoporosis/bisphosphonate
Tranquilizer/minor/benzodiazepine
GI/antacid
GI/antacid
Cardiovascular/antiarrhythmic
Cardiovascular/calcium antagonist
Antibiotic/penicillin
Antibiotic/penicillin
Endocrine/aromatase inhibitor
Tranquilizer/major
Analgesic/NSAID
Cardiovascular/beta-blocker
Cardiovascular/cholesterol-lowering
Antibiotic/erythromycin class

Respiratory/steroid inhaler
Tranquilizer/minor
Sedative-hypnotic

Stimulant
Endocrine/thyroid
Anticonvulsant
Antibiotic/cephalosporin
Antibiotic/cephalosporin
Antibiotic/cephalosporin
Analgesic/NSAID
Antibiotic/cephalosporin
Gastrointestinal/anti-TNF
Antihistamine
Antihistamine
Tranquilizer, major/phenothiazine
Cardiovascular/cholesterol-binding

Test	Conventional Units	SI Units	Implications
Creatine kinase (CK)			
Females	30–135 U/L	30–135 U/L	<i>High</i> ♦ Myocardial infarction
Males	55–170 U/L	55–170 U/L	♦ Muscle disease
Creatinine	<1.5 mg/dL	<133 μ mol/L	<i>High</i> ♦ Renal disease
Glucose (fasting)	75–115 mg/dL	4.2–6.4 mmol/L	<i>High</i> ♦ Diabetes mellitus
			<i>Low</i> ♦ Hyperinsulinism
			♦ Fasting
			♦ Hypothyroidism
			♦ Addison disease
			♦ Pituitary insufficiency
Lactate dehydrogenase (LDH)	100–190 U/L	100–190 U/L	<i>High</i> ♦ Tissue necrosis
			♦ Lymphomas
			♦ Muscle disease
Phosphate (PO_4^-)	3.0–4.5 mg/dL	1.0–1.5 mmol/L	<i>High</i> ♦ Renal failure
			♦ Bone metastases
			♦ Hypoparathyroidism
			<i>Low</i> ♦ Malnutrition
			♦ Malabsorption
			♦ Hyperparathyroidism
Potassium (K)	3.5–5.0 mEq/L	3.5–5.0 mmol/L	<i>High</i> ♦ Burn injury
			♦ Renal failure
			♦ Diabetic ketoacidosis
			<i>Low</i> ♦ Cushing syndrome
			♦ Loss of body fluids
Sodium (Na)	136–145 mEq/L	136–145 mmol/L	<i>High</i> ♦ Inadequate water intake
			♦ Water loss in excess of sodium
			<i>Low</i> ♦ Adrenal insufficiency
			♦ Inadequate sodium intake
			♦ Excessive sodium loss
Thyroxine (T_4)	5–12 μ g/dL	64–154 nmol/L	<i>High</i> ♦ Graves disease
			(hyperthyroidism)
			<i>Low</i> ♦ Hypothyroidism
Uric acid			
Females	2.5–8.0 mg/dL	150–480 μ mol/L	<i>High</i> ♦ Gout
Males	1.5–6.0 mg/dL	90–360 μ mol/L	♦ Leukemia

Generic Name (Brand Name)

cimetidine (Tagamet)
 ciprofloxacin (Cipro)
 clarithromycin (Biaxin)
 clopidogrel bisulfate (Plavix)
 clotrimazole (Lotrimin, Mycelex)
 codeine
 colestipol (Colestid)

dalteparin (Fragmin)
 dexamethasone (Decadron)
 dextroamphetamine sulfate (Dexedrine)
 diazepam (Valium)
 diclofenac sodium (Voltaren)
 digoxin (Lanoxin)
 diltiazem (Cardizem CD)
 diphenhydramine (Benadryl)
 diphenoxylate + atropine (Lomotil)
 donepezil (Aricept)
 doxycycline

econazole, topical (Spectazole)
 efavirenz (Sustiva)
 enalapril maleate (Vasotec)
 enoxaparin sodium (Lovenox)
 epinephrine
 erythromycin (Ery-Tab)
 escitalopram (Lexapro)
 estrogen (Premarin, Prempro, Estradiol)
 etanercept (Enbrel)
 ethambutol (Myambutol)
 ether

famotidine (Pepcid)
 felbamate (Felbatol)
 fexofenadine (Allegra)
 fluconazole (Diflucan)
 flunisolide (AeroBid)
 fluoxymesterone (Halotestin)
 flutamide (Eulexin)
 fluticasone propionate (Flovent)
 formoterol (Foradil)
 formoterol + budesonide (Symbicort)
 fulvestrant (Faslodex)
 furosemide (Lasix)

gabapentin (Neurontin)
 glipizide (Glucotrol XL)
 glyburide
 goserelin (Zoladex)

haloperidol (Haldol)
 halothane (Fluothane)
 hydrochlorothiazide (Hydrodiuril)
 hydrocodone w/APAP (Lortab, Vicodin)
 hydromorphone (Dilaudid)

Explanation of Use

GI/antiulcer/anti-GERD
 Antibiotic/quinolone
 Antibiotic/erythromycin class
 Antiplatelet
 Antifungal
 Analgesic/narcotic
 Cardiovascular/cholesterol-binding

Anticoagulant
 Respiratory/steroid, intravenous or oral
 Stimulant
 Tranquilizer/minor/benzodiazepine
 Analgesic/NSAID
 Cardiovascular/anti-CHF
 Cardiovascular/calcium antagonist
 Antihistamine
 GI/antidiarrheal
 Anti-Alzheimer disease
 Antibiotic/tetracycline

Antifungal
 Anti-HIV
 Cardiovascular ACE inhibitor
 Anticoagulant
 Bronchodilator
 Antibiotic/erythromycin
 Antidepressant
 Endocrine/estrogen
 Gastrointestinal/anti-TNF
 Antitubercular
 Anesthetic/general

GI/antiulcer/anti-GERD
 Anticonvulsant
 Antihistamine
 Antifungal
 Respiratory/steroid inhaler
 Endocrine/androgen
 Endocrine/antiandrogen
 Respiratory/steroid inhaler
 Bronchodilator
 Bronchodilator
 Endocrine/aromatase inhibitor
 Cardiovascular/diuretic

Anticonvulsant
 Antidiabetic (type 2 diabetes)/sulfonylurea
 Antidiabetic (type 2 diabetes)/sulfonylurea
 Endocrine/antiandrogen

Tranquilizer/major
 Anesthetic/general
 Cardiovascular/diuretic
 Analgesic/narcotic
 Analgesic/narcotic

Generic Name (Brand Name)

ibuprofen (Motrin, Advil)
 ibutilide (Corvert)
 indinavir (Crixivan)
 infliximab (Remicade)
 insulin aspart (NovoLog)
 insulin detemir (Levemir)
 insulin glargine (Lantus)
 insulin glulisine (Apidra)
 insulin lispro (Humalog)
 insulin NPH (Humulin N)
 insulin regular (Humulin R)
 insulin zinc suspension (Ultralente)
 interferon alfa-n1 (Wellferon)
 ipratropium bromide + albuterol (Combivent)
 irbesartan (Avapro)
 isoniazid *or* INH (Nydravid)
 itraconazole (Sporanox)

ketorolac (Toradol)

lamivudine (Epivir)
 lansoprazole (Prevacid)
 lepirudin (Refludan)
 letrozole (Femara)
 leuprolide (Lupron)
 levalbuterol (Xopenex)
 levofloxacin (Levaquin)
 levothyroxine (Levoxyl, Levotheroid, Synthroid)
 lidocaine (Xylocaine)
 lidocaine + prilocaine (EMLA)
 liothyronine (Cytomel)
 liotrix (Thyrolar)
 lisinopril (Prinivil, Zestril)
 lithium carbonate (Eskalith)
 loperamide (Imodium)
 loratadine (Claritin)
 lorazepam (Ativan)
 losartan (Cozaar)
 lovastatin (Mevacor)

magnesium antacid (milk of magnesia)
 meclizine (Antivert)
 medroxyprogesterone acetate (Cycrin, Provera)
 megestrol (Megace)
 memantine (Namenda)
 meperidine (Demerol)
 metaproterenol (Alupent)
 metformin (Glucophage)
 methaqualone (Quaalude)
 methylphenidate (Ritalin)
 methylprednisolone (Medrol)
 methyltestosterone (Virilon)
 metoclopramide (Reglan)
 metoprolol (Lopressor, Toprol-XL)
 miconazole (Monistat)

Explanation of Use

Analgesic/NSAID
 Antiarrhythmic
 Antiviral/protease inhibitor/anti-HIV
 Gastrointestinal/anti-TNF
 Antidiabetic (type 1 diabetes)
 Antidiabetic (type 1 diabetes)
 Antidiabetic (type 1 diabetes)
 Antidiabetic (type 1 diabetes)
 Antidiabetic (type 1 diabetes)
 Antidiabetic (type 1 diabetes)
 Antidiabetic (type 1 diabetes)
 Antidiabetic (type 1 diabetes)
 Antidiabetic (type 1 diabetes)
 Antiviral/anti-cancer drug
 Bronchodilator
 Cardiovascular/angiotensin II receptor antagonist
 Antitubercular
 Antifungal

Analgesic/NSAID

Antiviral/reverse transcriptase inhibitor/anti-HIV
 GI/antiulcer/anti-GERD
 Anticoagulant
 Endocrine/aromatase inhibitor
 Endocrine/antiandrogen
 Bronchodilator
 Antibiotic
 Endocrine/thyroid hormone
 Anesthetic/local
 Anesthetic/local
 Endocrine/thyroid hormone
 Endocrine/thyroid hormone
 Cardiovascular/ACE inhibitor
 Tranquilizer/major
 GI/antidiarrheal
 Antihistamine
 Tranquilizer/minor/benzodiazepine
 Cardiovascular/angiotensin II receptor antagonist
 Cardiovascular/cholesterol-lowering

GI/antacid
 Antihistamine
 Endocrine/progestin
 Endocrine/progestin
 Anti-Alzheimer disease
 Analgesic/narcotic
 Bronchodilator
 Antidiabetic (type 2 diabetes)/biguanide
 Sedative-hypnotic
 Stimulant
 Respiratory/steroid, intravenous or oral
 Endocrine/androgen
 GI/antinauseant
 Cardiovascular/beta-blocker
 Antifungal

Generic Name (Brand Name)

midazolam (Versed)
 modafinil (Provigil)
 mometasone (Asmanex)
 montelukast sodium (Singulair)

nafcillin (Unipen)
 naproxen (Naprosyn)
 nifedipine (Adalat CC, Procardia)
 nilutamide (Casodex)
 nitroglycerin
 nitrous oxide
 nystatin (Nilstat)

octreotide (Sandostatin)
 ofloxacin (Floxin)
 olanzapine (Zyprexa)
 omeprazole (Prilosec)
 ondansetron (Zofran)
 oxacillin (Bactocill)
 oxycodone (OxyContin, Roxicodone)
 oxycodone w/APAP (Roxicet, Endocet, Percocet)

pamidronate disodium (Aredia)
 paregoric
 phenobarbital (Luminal)
 phenytoin sodium (Dilantin)
 pioglitazone (Actos)
 pirbuterol (Maxair)
 pravastatin (Pravachol)
 prednisone
 promethazine (Phenergan)
 procaine (Novocain)
 prochlorperazine maleate (Compazine)
 propoxyphene (Darvon)
 propranolol (Inderal)

quinapril (Accupril)

raloxifene (Evista)
 ramipril (Altace)
 ranitidine (Zantac)
 repaglinide (Prandin)
 rifampin (Rifadin)
 risperidone (Risperdal)
 rosiglitazone (Avandia)
 rosuvastatin calcium (Crestor)

salmeterol (Serevent)
 salmeterol + fluticasone (Advair)

simvastatin (Zocor)
 sotalol (Betapace)
 spironolactone (Aldactone)
 sulfamethoxazole + trimethoprim (Bactrim)
 sulfisoxazole (Gantrisin)

Explanation of Use

Sedative-hypnotic
 Stimulant/sleep antagonist
 Respiratory/inhaler
 Respiratory/leukotriene modifier

Antibiotic/penicillin
 Analgesic/NSAID
 Cardiovascular/calcium antagonist
 Endocrine/antiandrogen
 Cardiovascular/antianginal
 Anesthetic/general
 Antifungal

Endocrine/growth
 Antibiotic/quinolone
 Tranquilizer/major/antipsychotic
 GI/antiulcer/anti-GERD
 GI/antinauseant
 Antibiotic/penicillin
 Analgesic/narcotic
 Analgesic/narcotic

Anti-osteoporosis/bisphosphonate
 GI/antidiarrheal
 Sedative-hypnotic/anticonvulsant
 Anticonvulsant
 Antidiabetic (type 2 diabetes)
 Bronchodilator
 Cardiovascular/cholesterol-lowering
 Respiratory/steroid, intravenous or oral
 Antihistamine
 Anesthetic/local
 GI/antinauseant
 Analgesic/narcotic
 Cardiovascular/beta-blocker

Cardiovascular/ACE inhibitor

Endocrine/SERM/antiosteoporosis
 Cardiovascular/ACE inhibitor
 GI/antiulcer/anti-GERD
 Antidiabetic (type 2 diabetes)/meglitinide
 Antitubercular
 Tranquilizer/major
 Antidiabetic (type 2 diabetes)
 Cholesterol-lowering statin

Bronchodilator
 Corticosteroid anti-inflammatory–bronchodilator
 combination
 Cardiovascular/cholesterol-lowering
 Cardiovascular/beta-blocker
 Cardiovascular/diuretic
 Antibiotic/sulfonamide-antibacterial combination
 Antibiotic/sulfonamide

Generic Name (Brand Name)

tamoxifen (Nolvadex)
 temazepam (Restoril)
 terbinafine (Lamisil)
 teriparatide (Forteo)
 tetracycline (Sumycin, Terramycin)
 theophylline (Theo-Dur)
 thiopental (Pentothal)
 thioridazine (Mellaril)
 tiotropium (Spiriva)
 tissue plasminogen activator *or* tPA
 tramadol (Ultram)
 triamcinolone (Azmacort)
 triamterene (Dyazide)
 triazolam (Halcion)
 trifluoperazine (Stelazine)

valdecoxib (Bextra)
 valproic acid (Depakote)

warfarin (Coumadin)

zafirlukast (Accolate)
 zidovudine *or* AZT (Retrovir)
 zidovudine + lamivudine (Combivir)
 zileuton (Zyflo)
 zoledronic acid (Zometa)
 zolpidem tartrate (Ambien)

Explanation of Use

Endocrine/SERM
 Sedative-hypnotic/benzodiazepine
 Antifungal
 Endocrine/parathyroid
 Antibiotic/tetracycline
 Bronchodilator
 Anesthetic/general
 Tranquilizer/major/phenothiazine
 Bronchodilator
 Anticoagulant
 Analgesic/narcotic
 Respiratory/steroid inhaler
 Cardiovascular/diuretic
 Sedative-hypnotic/benzodiazepine
 Tranquilizer/major/phenothiazine

Analgesic/NSAID
 Anticonvulsant

Anticoagulant

Respiratory/leukotriene modifier
 Antiviral/reverse transcriptase inhibitor/anti-HIV
 Anti-HIV
 Respiratory/leukotriene modifier
 Antiosteoporosis/bisphosphonate
 Sedative-hypnotic

APPENDIX V

Complementary and Alternative Medicine Terms*

Following is a listing of common complementary and alternative medicine (CAM) terms. A comprehensive listing of CAM terms, as well as more detailed information on some of the terms listed here, can be found in *Mosby's Dictionary of Complementary and Alternative Medicine*.

Note: The practice of any complementary or alternative medicine techniques and the use of any herbal remedies should be approached with caution and care, or under the supervision of a CAM professional or your physician.

acupoints	Particular locations on the body that allow the practitioner to balance the client's qi (life force) to effect therapeutic changes using acupuncture or acupressure.
acupressure	Technique used to release blocked qi (life force) by applying finger pressure to points on meridians.
acupuncture	Practice in Chinese medicine (developed more than 2000 years ago) in which the skin, at various points along meridians, is punctured with needles to remove energy blockages and to stimulate the flow of qi (life force).
aloe	This plant's leaves are used to treat minor burns, wounds, skin and GI disorders, menstrual cramps, premenstrual syndrome, and other ailments.
antioxidants	Substances that may protect cells from damage caused by unstable molecules known as free radicals. Such damage may lead to cancer, aging, and other conditions. Examples of antioxidants are beta-carotene and vitamins C, E, and A.
apiotherapy	Use of products produced by honeybees, including pollen and venom, for therapeutic and pharmacologic purposes.
applied kinesiology	Physical therapy model that draws on various therapeutic schools of thought. The aim of this therapy is the recovery of muscles that are functionally inhibited with respect to normal range of motion and strength (possibly as a result of disturbances in the nervous or neuromuscular system).
aromatherapy	Use of essential oils (extracts and essences) from flowers, herbs, and trees applied topically or inhaled to promote and maintain overall health.
ayurvedic medicine	Also known as <i>ayurveda</i> —meaning the science (<i>veda</i>) of life (<i>ayu</i>). It is an ancient Indian health system that works to reestablish the balance between the body and the mind (uses diet, herbal remedies, meditation, massage, and other modalities).

*Excerpts from Jonas WB: *Mosby's Dictionary of Complementary and Alternative Medicine*. St. Louis, Mosby, 2005; and from <http://nccam.nih.gov/health/bytreatment.htm#s1>, on the website of the National Center for Complementary and Alternative Medicine of the National Institutes of Health.

bilberry	This berry is used to treat myopia, retinal problems, inflammation of the mouth and pharynx, GI disorders, varicose veins, and other ailments.
biofeedback	Process in which equipment sensors provide measurements of body functions (such as heart rate or neural activity), and those signals are displayed to the patient, to permit conscious control of the measured function.
black cohosh	This plant's roots are used to treat menopause, menstrual cramps, diarrhea, and other ailments.
chamomile	This plant's dried buds are used to treat inflammatory disease of the GI and upper respiratory tracts and inflammation of the skin and mucous membranes; to promote healing of wounds, rashes, and ulcers (applied topically); and to relieve motion sickness, GI spasms, restlessness, nervousness or insomnia, and other ailments.
chelation therapy	Medical treatment in which heavy metals are flushed from the bloodstream by means of a chelator that binds metal ions; used in cases of mercury or lead poisoning.
chi	In Tibetan medicine, awareness, one of the three functions of the mind, providing the direction for actions.
chiropractic therapy	A health discipline focusing on the relationship between body structure (primarily of the spine) and function. Chiropractors use manipulative therapy to treat the client's back, neck, and limbs.
chondroitin	Naturally occurring substance responsible for cartilage repair and taken as a dietary supplement. Used with glucosamine for knee osteoarthritis.
circadian rhythm	The biologic patterns (of a specific person) within a 24-hour cycle, over the course of a day.
coenzyme Q10	A compound, made naturally in the body, that is used for cell growth and to protect cells from damage. The dietary supplement is used to help the immune system work better, especially during the treatment of cancer and heart failure.
complementary and alternative medicine (CAM)	A group of diverse medical and health care systems, practices, and products that at present are not considered part of conventional or mainstream medicine. Complementary medicine is used <u>together with</u> conventional medicine (e.g., aromatherapy to lessen patient discomfort after surgery). Alternative medicine is used <u>in place of</u> conventional medicine (e.g., patient may choose to follow a special diet to address ADHD symptoms, rather than drug therapy).
dehydroepiandrosterone (DHEA)	A hormone precursor that exists naturally in yams. Used to slow the effects of aging, to support or improve memory, and to treat erectile dysfunction, depression, osteoporosis, and atherosclerosis.
echinacea	This plant's roots, flowers, and leaves are used to treat upper respiratory and urinary tract infections, allergic rhinitis, and other ailments, and to promote wound healing.
electromagnetic fields (EMFs)	Invisible lines of force that surround all electrical devices. Bioelectromagnetic-based therapies involve unconventional use of electromagnets, such as pulsed fields and magnetic currents, to treat chronic disease or to manage pain, especially migraine headaches.
ergonomics	Applied study of psychology, anatomy, and physiology relating to people and work environments.
folate	A water-soluble B vitamin that occurs naturally in food. Folic acid is the synthetic form of folate that is found in supplements and added to fortified foods. Folate helps produce and maintain new cells. This is especially important during periods of rapid cell division and growth, such as infancy and pregnancy.
garlic	This plant's bulbs are used to manage and treat hypercholesterolemia (elevated cholesterol levels), atherosclerosis, hypertension, upper respiratory tract infections, and other conditions.
ginger	This plant's roots are used to manage and treat nausea and vomiting, motion sickness, and other conditions.
ginkgo (<i>Ginkgo biloba</i>)	This plant's leaves are used to manage and treat Alzheimer disease, dementia, depression, asthma, retinal disease, heart disease, peripheral arterial occlusive disease, varicose veins, premenstrual syndrome, tinnitus, and other conditions.

ginseng	This plant's roots are used to manage and treat fatigue, stress, mild depression, decreased libido, and other conditions and ailments.
glucosamine	An amino sugar that the body produces and distributes in cartilage and other connective tissue. Glucosamine is used alone and in conjunction with chondroitin sulfate to treat knee osteoarthritis.
guided imagery	Directed relaxation and visualization, as well as exercises in self-relaxation and other beneficial practices, to support changes in health.
herbalism	Study and practice of using plants to treat illnesses and promote health; also called <i>phytotherapy</i> .
homeopathy	System of treating disease based on the administration of minute doses of a drug that in massive amounts produces symptoms in healthy persons similar to those of the disease itself.
hydrotherapy	A therapeutic modality that uses water, such as whirlpools or sitz baths.
integrative medicine	Combines mainstream medical therapies and CAM therapies for which there is some evidence for safety and effectiveness.
kava	This plant's rhizomes and roots are used to treat anxiety, restlessness, fibromyalgia, tension headaches, insomnia, alcohol dependence, and other ailments.
kinesiology	Study of the body's structure and processes as they relate to movement.
lymphatic drainage	A specific type of massage that supports and assists circulation in the lymphatic system.
macrobiotic diet	Designed to bring yin/yang energies into balance, the macrobiotic diet, developed by Michio Kushi, is part of a larger lifestyle/philosophy and whole-body regimen.
manipulation	In massage therapy, osteopathic medicine, chiropractic, and traditional Chinese medicine, the use of various manual techniques to adjust the joints and spinal column, improve the range of motion of the joints, relax and stretch connective tissue and muscles, and promote overall relaxation.
massage therapy	The application of diverse manual techniques of touch and stroking to muscles and soft tissue to achieve relaxation and to improve sense of well-being.
meditation	Directing one's attention toward a symbol, sound, thought, or breath to alter the state of consciousness, to attain a state of relaxation and stress relief; used for spiritual growth, healing, deepening concentration, and unlocking creativity.
melatonin	Hormone secreted from the pineal gland and thought to regulate circadian rhythms; also used in supplement form as a sleep aid.
meridians	In acupuncture, a system of pathways or channels running through the body that connect vital organs and carry qi.
milk thistle	This plant's seeds are used to make a tea to treat liver and gallbladder disease, hepatitis, and dyspepsia, and to support the liver during transplantation recovery.
mistletoe	Leafy shoots and berries of mistletoe are used to make extracts that can be taken by mouth. Mistletoe has been used for centuries to treat seizures, headaches, and other conditions. Clinical trials are ongoing for possible effects on cancer treatment.
naturopathy	Therapeutic system that relies on using natural agents such as light, natural foods, warmth, massage, and fresh air. Naturopaths believe in the power of the body's natural processes to heal illnesses.
omega-3 fatty acids	A group of polyunsaturated fatty acids that come from food sources such as fish, fish oil, some vegetable oils (primarily canola and soybean), walnuts, wheat germ, and certain dietary supplements. Clinical trials are ongoing to test the effects of omega-3 fatty acids on various conditions and for enhancement of general well-being.
osteopathy	A form of medicine that uses joint manipulation, physical therapy, and postural reeducation to restore the structural balance of the musculoskeletal system.

1000 APPENDIX V Complementary and Alternative Medicine Terms

qi	The body's life force. In Chinese philosophy, qi is the force that flows through channels in the body and enlivens all living beings; an imbalance in qi is believed to cause illness.
qi gong	Cultivation of qi. <i>Qi gong</i> (chē-GUNG) is the general term for all Chinese techniques of breathing, visualization, and movement, the purpose of which is the promotion of balanced qi flow (vital energy) for enhanced immune function and blood flow.
reflexology	A natural healing system based on the principle that reflexes in the hands and feet correspond to various organs and body systems; stimulating such reflexes by applying pressure on hands and feet improves circulation, thereby optimizing body functions.
Reiki	A system of spiritual healing/energy medicine developed by Japanese physician Dr. Mikao Usui. Reiki (RĀ-kē) is a Japanese word representing universal life energy. It is based on the belief that when spiritual energy is channeled through a Reiki practitioner, the patient's spirit is healed, which then heals the physical body.
Rolfing	A 10-session manual therapy developed to optimize the body's movement and alignment and coordination with the forces of gravity, for relief of muscular and emotional tension.
selenium	A trace mineral that is essential to good health but required only in small amounts. Selenium is incorporated into proteins to make selenoproteins, which are important antioxidant enzymes. The antioxidant effects of selenoproteins help prevent cellular damage from free radicals. Free radicals are natural byproducts of oxygen metabolism that may contribute to the development of chronic diseases such as cancer and heart disease. Clinical trials are ongoing to test the effects of selenium in the treatment and prevention of cancer.
shiatsu	A type of massage developed in Japan; it consists of the application of pressure to specific points on the human body with the palms and thumbs.
soy	Soybeans ingested in various forms may support healthy body tissues by neutralizing free radicals. Soy may offer a diversity of antioxidant mechanisms.
St. John's wort	This plant's flowers may be used to treat mild to moderate depression, anxiety, sleep disorders, and other ailments.
tai chi	In traditional Chinese medicine, a family of health-promoting exercises that provide benefits for the body, mind, and soul by maintaining balance between the yin and yang components; these exercises comprise flowing movements that imitate the motions and forms of animals, all of which share fundamental elements rooted in qi gong.
valerian	This plant's rhizomes and roots are used to treat sleeping disorders, nervousness, anxiety, restlessness, irritable bowel syndrome, and other ailments.
yin and yang	Governing theory behind traditional Chinese medicine: the idea that life is filled with opposite yet complementary characteristics and qualities on the spiritual and physical levels and on the macro and micro levels. The concept is that each entity can be essentially itself and its opposite; additionally, yang's "seed" is believed to be contained within yin; a balance of yin and yang is considered essential for good health, whereas an imbalance can manifest as disease.
yoga	A family of mind-body disciplines that share the goals of the integrated body and mind or the union of the self with the divine. All yogic systems are aimed at nurturing the body through breath and posture and cultivating the mind through meditation.
zinc	An essential mineral, found in almost every cell, that stimulates the activity of approximately 100 enzymes, which are substances that promote the body's biochemical reactions. Zinc supports a healthy immune system, is needed for wound healing, helps maintain sense of taste and smell, and is needed for DNA synthesis. Zinc also supports normal growth and development during pregnancy, childhood, and adolescence. Clinical trials are ongoing to test the use of supplemental zinc on the effects of the common cold.