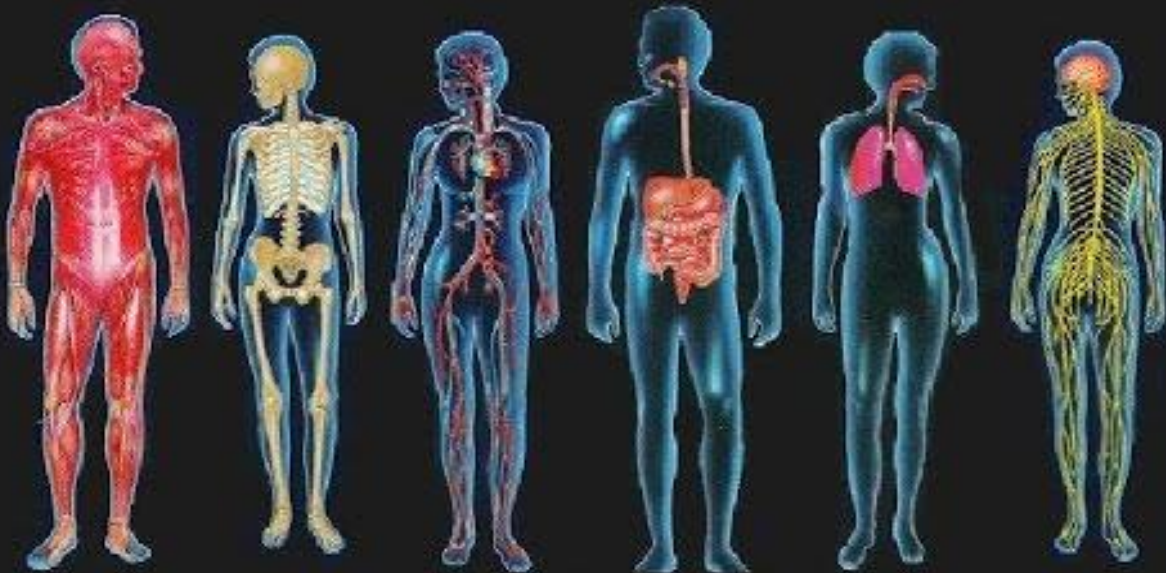


Introduction to MEDICAL TERMINOLOGY

Human Body Systems



Introduction to Medical Terminology

Word Root	the word part that usually, but not always, indicate the part of the body involved
Combining Form	a word root that has a vowel, usually the letter “o” put on the end before the addition of another word root or a suffix
Suffixes	the word part attached at the end of a word that usually but not always, indicates location, time, number or status
Prefixes	the word part attached at the beginning of the word that usually, but not always, indicates location, time, number or status
Pronunciation	learn how to pronounce words correctly using the “sound-like” pronunciation system and audio files
Basic Medical Terms	terms used to describe disease conditions
Spelling Is Important	a single spelling error can change the entire meaning of a term
Word Parts	used to create complex medical terms

Vocabulary Related to The Introduction to Medical Terminology

❖ WORD PARTS

- -algia pain, suffering
- dys- bad, difficult, or painful
- -ectomy surgical removal, cutting out
- hyper- excessive, increased
- hypo- deficient, decreased
- -itis inflammation
- -ostomy the surgical creation of an artificial opening to body surface
- -plasty surgical repair
- -rrhage bleeding, abnormal excessive fluid discharge
- -rrhaphy surgical suturing
- -rrhea flow or discharge
- -sclerosis abnormal hardening

❖ MEDICAL TERMS

- **arthralgia** (joint pain), cephalgia (headache), myalgia (muscle pain)
- **dyspepsia** (difficult digestion), dyskinesia (abnormal movement)
- **adenectomy** (surgical removal of a gland)
- **hyperglycemia** (high sugar in the blood)
- **hypoglycemia** (low blood sugar)
- **tonsillitis** (disease or inflammation to the tonsils)
- **colostomy** (small portion of colon is brought to surface of abdominal wall)
- **rhinoplasty** (surgical repair of the nose/ nasal area)
- **hemorrhage** (excessive bleeding)
- **myorrhaphy** (suture of muscles)
- **diarrhea** (flow of liquid waste from rectum), **menorrhea** (flow of blood at menstruation)
- multiple **sclerosis**, arteriolar **sclerosis**, lateral **sclerosis**

❖ WORD PARTS

Once you learn how word parts work together to form medical terms, learning medical terminology is much easier.

There are **FOUR TYPES** of word parts: a **word root, combining form, prefix and suffix**.

- When a combining form appears alone, it is shown with a back slash (/) between the root word and the combining vowel. For example, the combining form of the word root **gastr** is **gastr/o**.

❖ WORD ROOTS

Word roots act as the foundation for most medical terms. They usually, but not always, describe the part of the body that is involved.

- | | |
|-----------|-------------|
| • Myel/o | Spinal Cord |
| • My/o | Muscle |
| • Oste/o | Bone |
| • Neur/o | Nerve |
| • Arthr/o | Joint |

❖ WORD ROOT and COMBINING FORMS

- | | |
|-----------------|---|
| Cyan/o | Cyanosis (sigh-ah-NOH-sis) is blue discoloration of the skin caused by a lack of adequate oxygen in the blood (CYAN means BLUE and -OSIS means abnormal condition or disease). |
| Leuk/o | A leukocyte (LOO-koh-sight) is a white blood cell (LEUK/O means white and -CYTE means cell). |
| Erythr/o | An erythrocyte (eh-RITH-roh-sight) is a mature red blood cell (ERYTHR/O means RED). |
| Poli/o | Poliomyelitis (poh-lee-oh-my-eh LYE-tis) is a viral infection of the grey nerve tissue of the spinal cord (POLI/O means grey, MYEL means spinal cord and -ITIS means Inflammation). |

❖ SUFFIXES

An adjective is a word that defines or describes. In medical terminology, many suffixes meaning “pertaining to” are used to change the meaning of a word root into an adjective. For example, the word root CARDI means heart, and the suffix -ac means pertaining to. Once combined, they form the term cardiac (KAR-dee-ack), an adjective that means pertaining to the heart.

❖ SUFFIXES Meaning “Pertaining to”

- -ac
- -al
- -an
- -ar
- -ary
- -eal
- -ical
- -ial
- -ic
- -ine
- -ior
- -ory
- -ous
- -tic

❖ SUFFIXES Related to Procedures

- -centesis is a surgical puncture to remove fluid for diagnostic purposes or to remove excess fluid. Abdominocentesis (ab-dom-ih-noh-sen-TEE-sis) is the surgical puncture of the abdominal cavity to remove fluid (abdomen/o means abdomen and -centesis means a surgical puncture to remove fluid).
- -scopy means visual examination. Arthroscopy (ar-THROS-koh-pee) is the visual examination of the internal structure of a joint (arthr/o means joint, and -scopy means visual examination).
- -plasty means surgical repair. Myoplasty (MY-oh-plas-tee), the surgical repair of muscle

❖ PREFIXES

A prefix is something added to the beginning of a word to influence the meaning of that term. Prefixes usually, but not always, indicate location, time, or number. Example, the term natal (NAY-tal) means pertaining to birth (nat means birth, and -al means pertaining to). The following examples show how prefixes change the meaning of the terms.

- Prenatal means the time and events before birth (pre- means before, nat means birth, and -al means pertaining to).
- Perinatal (pehr-ih-NAY-tal) refers to the time and events surrounding birth (peri- means surrounding).

❖ PREFIXES Describing Direction, Quantity, Size and Amount

- ab- away from, negative, absent
- dextr/o right side
- ex- out of, outside, away from
- macro- large, abnormal size, or long
- mega- large or great
- pre- before
- ad- toward, to, on the direction of
- sinistro- left side
- in- in, into, not, without
- micr/o small
- olig/o scanty, few
- post- after, behind



❖ CONTRASTING and CONFUSING Prefixes

Some prefixes are confusing because they are similar in spelling but opposite in meaning. The more common prefixes of this type are listed below

- Sub- means under, less, below Subcostal means below a rib or ribs
- Supra- means above or excessive Supracostal means above or outside of ribs
- Hyper- means excessive or increased Hypertension is high blood pressure
- Hypo- means deficient or decreased Hypotension is low blood pressure
- Ab- means away from Abnormal means not normal/ away frm normal
- Ad- means toward or in the direction Addiction means being drawn towards drugs
- Intra- means within or inside Intramuscular means within the muscle
- Inter- means between or among Interstitial means between, but not within, the parts of the tissue
- Dys- means bad, difficult, painful Dysfunctional means an organ or body part that is not working properly.
- Eu- means good, normal, well, easy Eupnea means easy or normal breathing

❖ WORD PARTS and Determining the meaning

Knowing the meaning of the word parts often makes it easier to figure out the definition of an unfamiliar term.

❖ TAKING TERMS APART

To determine a word's meaning by looking at the component pieces, you must first separate it into word parts.

- Always start at the end of the word, with the suffix and work toward the beginning
- As you separate the word parts, identify the meaning of each to get a definition of term
- Be aware that not all medical terms are made up of word parts

Look at the term otorhinolaryngology (oh-toh- rye-noh-lar-in-GOL-oh-jee), which is the study of the ears, nose, and throat (ENT).

OT/O.....EAR

RHIN/O.....NOSE

LARYNG.....THROAT (LARYNX)

LOGY.....STUDY OF

IF YOU DO NOT KNOW HOW TO SPELL THE WORD

Listen carefully to the term and write it down. If you cannot find the word in the MEDICAL DICTIONARY based on your spelling, start looking for alternative spelling based on the beginning sound.

IF it SOUNDS LIKE.....IT MAY BEGIN WITH.....EXAMPLES

F.....F.....flatus (FLAY-tus)
PH.....phlegm (FLEM)

J.....G.....gingivitis (jin-jih-VYE-tis)
J.....jaundice (JAWN-dis)

K.....C.....crepitus (KREP-ih-tus)
CH.....cholera (KOL-er-ah)
K.....kyphosis (kye-FOH-sis)
QU.....quadriplegia (kwad-rih-PLÉE-jee-ah)

S.....C.....cytology (sigh-KOL-oh-jist)
PS.....psychologist (sigh-KOL-oh-jist)
S.....serum (SEER-um)

Z.....X.....xeroderma (ZEE-roh-DER-mah)
Z.....zygote (ZYE-goht)

SPELLING IS IMPORTANT

Accuracy in spelling medical terms is extremely important!!!!!!!!!!!!!!!!!!!!!!

Changing just one or two letters can completely change the meaning of a word – and this difference literally could be a matter of life and death for the patient.

SINGULAR and PLURAL ENDINGS

Many medical terms have Greek or Latin origins. As a result of these different origins, there are unusual rules for changing a singular word into a plural form. In addition, English endings have been adopted for some commonly used terms. Guidelines will be listed below, to help you better understand.

❖ GUIDELINES FOR UNUSAL PLURAL FORMS

If the singular term ends in the suffix -a, the plural is usually formed by changing ending to -ae.

- Singular: bursa
vertebra
- Plural: bursae
vertebrae

If the singular term ends in the suffix -ex or -ix, the plural is usually formed by changing these endings to -ices

- Singular: appendix
index
- Plural: appendices
indices

If the singular term ends in the suffix -is, the plural is usually formed by changing ending to -es

- Singular: diagnosis
metastasis
- Plural: diagnoses
metastases

If the singular term ends in -itis, the plural is usually formed by changing the -is ending to -itides

- Singular: arthritis
meningitis
- Plural: arthritides
meningitides
- If the singular term ends in the suffix -um, the plural is usually formed by changing the ending to -a
Singular: diverticulum
- Plural: diverticula

LOOK – ALIKE, SOUND-ALIKE TERMS and WORD PARTS

- **-ectomy** means surgical removal. An appendectomy (ap-en-DECK-toh-mee) is the surgical removal of the appendix.
- **-ostomy** means the surgical creation of an artificial opening to the body surface. A colostomy (koh-LAHS-toh-mee) is the surgical creation of an artificial excretory opening between the colon and the body.
- **-otomy** means cutting or a surgical incision. A colotomy (koh-LOT-oh-mee) is a surgical incision into the colon.

Fissure and Fistula

A fissure (FISH-ur) is a groove or crack – like sore of the skin. This term also describes normal folds in the contours of the brain.

A fistula (FIS-chuh-lah) is an abnormal passage, usually between two internal organs or leading from an organ to the surface of the body. A fistula may be due to surgery, injury, or the draining of an abscess.

ILEUM and ILIUM

The ileum (ILL-ee-um) is the last and longest portion of the small intestine.
(Memory Aid: ileum is spelled with an **e** as in intestine).

The ilium (ILL-ee-um) is part of the hip bone.
(Memory Aid: ilium is spelled with an **i** as in hip).

Laceration and Lesion

A laceration (lass-er-AY-shun) is a torn or jagged wound or an accidental cut

A lesion (LEE-zhun) is a pathologic change of the tissues due to disease or injury.

Mucous and Mucus

The adjective mucous (MYOU-kus) describes the specialized membranes that line the body cavities.

The noun mucus (MYOU-kus) is the name of the fluid secreted by these mucous membranes.

-Ologist and -Ology

-ologist means specialist. A dermatologist (der-mah-TOL-oh-jist) is a physician who specializes in diagnosing and treating disorders of the skin (dermat means skin, and -ologist means specialist).

-ology means the study of, Neonatology (nee-oh-nay-TOL-oh-jee) is the study of disorders of the newborn.

Palpation and Palpitation

Palpation (pal-PAY-shun) is an examination technique in which the examiner's hands are used to feel the texture, size, consistency, and location of certain body parts.

Palpitation (pal-pih-TAY-shun) is a pounding or racing heart.

Viral and Virile

Viral (VYE-ral) means pertaining to a virus (vir means virus or poison and -al means pertaining to).

Virile (VYE-ill) means having the nature, properties or qualities of an adult male.

Supination and Suppuration

Supination (soo-pih-NAY-shun) is the act of rotating the arm so that the palm of the hand is forward or upward.

Suppuration (sup-you-RAY-shun) is the formation or discharge of pus.

Infection and Inflammation

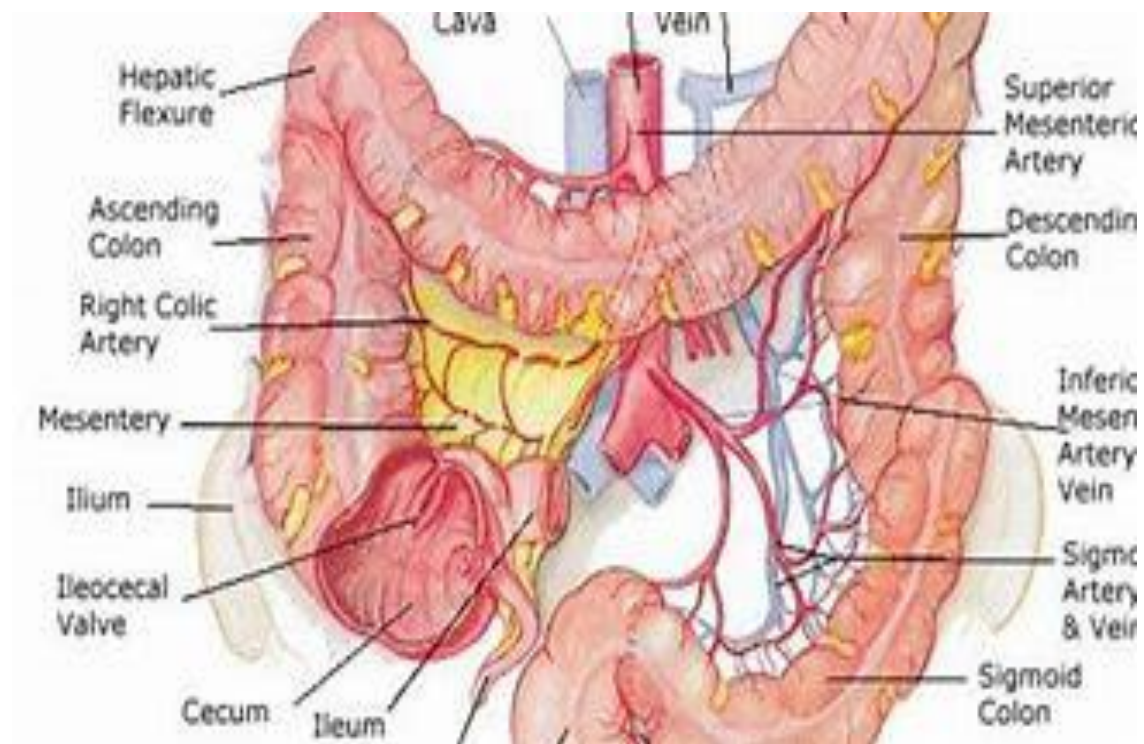
Although the suffix -itis means inflammation, it also is commonly used to indicate infection. An example is meningitis (mening means the meninges and -itis means inflammation), in which the cause of the inflammation is an infection. Another example is tendonitis, inflammation in the tendon. The inflammation is usually caused by overuse rather than infection.

An **INFECTION** (in-FECK-shun) is the invasion of the body by a pathogenic (disease-producing) organism. The infection can remain localized (near the point of entry) or can be systemic (affecting the entire body). Signs and symptoms of infection include malaise, chills and fever, redness, heat and swelling, or exudate from a wound.

MALAISE (may-LAYZ) is a word of French origin referring to a feeling of general discomfort or uneasiness that is often the first indication of an infection or other disease.

An **EXUDATE** (ECKS-you-dayt) is a fluid, such as pus, that leaks out of an infected wound.

INFLAMMATION (in-flah-MAY-shun) is a localized response to an injury or to the destruction of tissues. The key indicators of inflammation are (1) erythema (redness), (2) hyperthermia (heat), (3) edema (swelling), and (4) pain. These are caused by extra blood flow into the area as part of the healing process.



BASIC MEDICAL TERMS to DESCRIBE DISEASE CONDITIONS

A **SIGN** is objective evidence of disease, such as fever. **OBJECTIVE** means the sign can be evaluated or measured by the patient or others.

A **DIAGNOSIS** (dye-ah-NOH-sis) (DX) is the identification of a disease (plural, diagnoses). To **DIAGNOSE** is the process of reaching a diagnosis.

An **ACUTE** condition has a rapid onset, a severe course, and a relatively short duration.

A **DISEASE** is a condition in which one or more body parts are not functioning normally. Some diseases are named for their signs and symptoms. For example, chronic fatigue syndrome is a persistent, overwhelming fatigue of unknown origin.

A **SYMPTOM** (SIMP-tum) is a subjective evidence of a disease, such as pain or headache. **SUBJECTIVE** means that it can be evaluated or measured only by the patient.

A **DIFFERENTIAL DIAGNOSIS** (D/DX), also known as a rule out (R/O), is an attempt to determine which one of several possible diseases is causing the signs and symptoms that are present.

A **CHRONIC** condition is of long duration. Although such diseases can be controlled, they are rarely cured.

An **EPONYM** (EP-oh-nim) is a disease, structure, operation, or procedure named for the person who discovered or described it first. For example, Alzheimer's disease is named for German neurologist Alois Alzheimer.

A **SYNDROME** (SIN-drohm) is a set of signs and symptoms that occur together as part of a specific disease process.

A **PROGNOSIS** (prog-NOH-sis) is a prediction of the probable course and outcome of a disease (plural, prognoses).

A **REMISSION** is the temporary, partial, or complete disappearance of the symptoms of a disease without having achieved a cure.

An **ACRONYM** (ACK-roh-nim) is a word formed from the initial letter of the major parts of a compound term. For example, the acronym **LASER** stands for **L**ight **A**mplification by **S**timulated **E**mission of **R**adiation.

USING ABBREVIATIONS

Abbreviations are frequently used as a shorthand way to record long and complex medical terms.

- Abbreviations can also lead to confusion and errors!! Therefore, it is important that you use caution when using or interpreting an abbreviation.
- For example, the abbreviation BE means both “below elbow” (when describing an amputation) and “barium enema”. Just imagine what a difference a mix up here would make for the patient.
- If there is any question in your mind about which abbreviation to use, always follow this rule: When in doubt, spell it out.

EXAMPLES of “DO NOT USE” Abbreviations

ABBREVIATION

POTENTIAL PROBLEM

MS

CAN MEAN EITHER MORPHINE SULFATE/ MAGNESIUM SULFATE

QD/ QOD

MEAN DAILY & EVERY OTHER DAY, RESPECTIVELY;

Anatomy and Physiology Prefix-Suffix List

Those prefixes and suffixes preceded by an asterisk are **MUST KNOW** and will be assessed at some point. Those that are not marked with an asterisk are good to know, but not assessed directly. Keep this list as a reference- many assignments will refer to these terms.

prefix, root, suffix	meaning	example
*a-, an-	without, lack of, absence of	aseptic, anaerobic, anesthetic, analgesic
aden(o)	gland, glandular tissue	adenitis, adenocarcinoma
aer(o)	air, with air, with oxygen, in gas	aerobic, aerate, aerosol, aerocele
alg-	pain	algometry, algogenic, algescic
-algia	pain	gastralgia, neuralgia, arthralgia
angi(o)	vessel	angioplasty, angioma
ante-	before, forward, in front of	anteartum, anteflexion, anteversion
*anter(i), anter(o)	front, forward	anterior, anterolateral
anti-	against	antihistamine, antiinflammatory, antipyretic
arteri(o)	artery	arteriopathy, arteriole, arterial
arthr(o)	joint	arthritis, arthrotomy, arthralgia
-ase	enzyme	protease, urease, amylase, lactase
ather(o)	fatty	atheroma, atheromatosis
audi(o)	hearing	audiogram, auditory, audiology
brady-	slow	bradycardia, bradycrotic
*bronch(o)	bronchial tube, bronchus	bronchoscope, bronchospasm, bronchitis
carcin(o)	cancer	carcinogenic, carcinoma
*cardi(o)	heart	cardiotonic, cardiovascular
-cele	hernia, herniation	meningocele, encephalocele
-centesis	surgical puncture	amniocentesis, arthrocentesis, paracentesis
*cephal(o)	head	cephalalgia, cephalic
*cerebr(o)	cerebrum, brain	cerebrospinal, cerebrovascular
*cervic(o)	neck, cervix	cervical, cervicectomy, cervicitis
chol(e)	bile, gall	cholecystogram, choleresis
chondr(o)	cartilage	hypochondriac, chondrodysplasia
*circum-	around, about, encircling	circumcision, circumscribed, circumduction
-coccus, -cocci	bacterium, bacteria	pneumococcus, gonococcus, streptococci
col(o)	colon	colonoscopy, colostomy
contra-	against	contraindication, contraceptive
cortic(o)	cortex	corticosteroid, adrenocorticotropic
cost(o)	rib	intercostal, costectomy
*crani(o)	skull, cranium	craniometry, craniectomy
cyan(o)	blue, blueness	cyanosis, cyanobacteria, acrocyanosis
cyst(o)	bladder	cystex, cystoscopy, cystocele, cystitis
cyt(o)	cell	cytology, cytoplasm
*-cyte	cell	hepatocyte, leukocyte, monocyte
*derm(o), dermat(o)	skin	dermatologist, acrodermatitis
diplo-	double, twofold	diplomyelia, diplocardiac, diploneural
dors(o)	back	dorsal, dorsispinal
dys-	difficult, abnormal, bad, painful	dysplasia, dyspnea, dyschromia
*-ectomy	excision, excise, to cut out	appendectomy, thrombectomy
*-emia	blood condition	anemia, septicemia

MATCHING WORDS

<u>DEFINITION</u>	<u>CORRECT ANSWER</u>	<u>POSSIBLE ANSWERS</u>
1. bad, difficult, painful	_____	-algia
2. excessive, increased	_____	dys-
3. enlargement	_____	-ectomy
4. pain, suffering	_____	-mega
5. surgical removal	_____	hyper-
6. abnormal condition	_____	hypo-
7. abnormal softening	_____	-itis
8. deficient, decreased	_____	-malcia
9. inflammation	_____	-necrosis
10. tissue death	_____	-osis
11. visual examination	_____	-rrhea
12. rupture	_____	-rrhexis
13. abnormal hardening	_____	-sclerosis
14. abnormal narrowing	_____	-scopy
15. flow or discharge	_____	-stenosis

16. The medical term for high blood pressure is _____.

- A. Hepatomegaly
- B. Hypotension
- C. Hypertension
- D. Supination

17. The term _____ means pertaining to birth.

- A. Natal
- B. Postnatal
- C. Perinatal
- D. Prenatal

18. Pain is classified as a _____.

- A. Diagnosis
- B. Symptom
- C. Sign
- D. Syndrome

19. The medical term _____ describes an inflammation of the stomach.

- A. Gastritis
- B. Gastrosis

20. The formation of pus is called _____.

- A. Supination
- B. Suppuration

21. A fever is considered to be a _____.

- A. Prognosis
- B. Symptom
- C. Sign
- D. Syndrome

