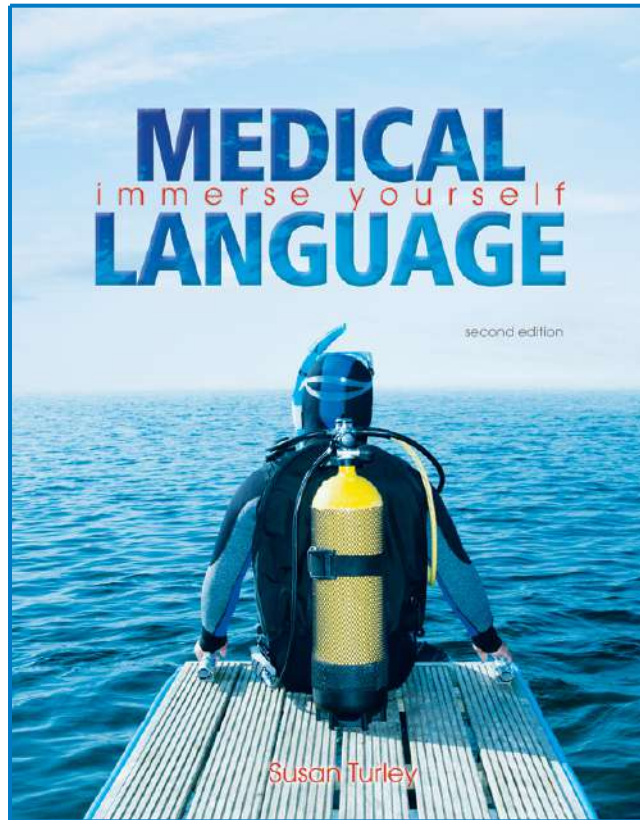# Medical Language

Second Edition

CHAPTER 1

The Structure of Medical Language

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Learning Objectives

1. Identify the five skills of medical language communication.

2. Describe the origins of medical language.

3. Recognize common Latin and Greek singular nouns and form their plurals.

4. Describe characteristics of combining forms, suffixes, and prefixes.

Learning Objectives

5. Give the medical meaning of common word parts.

6. Build medical words from word parts and divide medical words into word parts.

7. Spell and pronounce common medical words.

Learning Objectives

8. Describe the format and contents of common medical documents.

9. Dive deeper into the structure of medical language by reviewing the activities at the end of this chapter and online at Medical Terminology Interactive.

Multimedia Directory

Slide 11	Effective Communication Video

Slide 71	Patient Histories Video

Slide 72	Taking Vital Signs Video

Slide 74	Paramedic Career Video

Welcome to Medical Language!

Medical language is the language of the healthcare profession, and medical words are the tools of the trade. Learning medical language is your key to a successful career in the healthcare field.
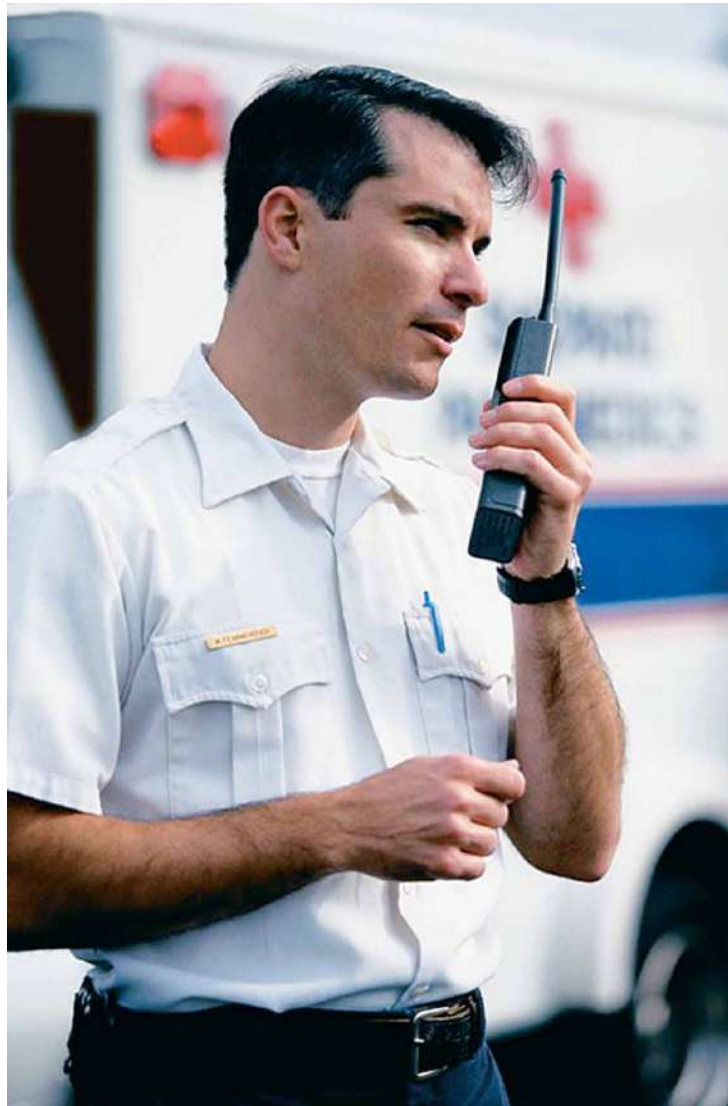
Figure 1-1 Medical language.
(Getty Images—Photodisc)

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Medical Language and Communication

- Communication in any language consists of five language skills.

- These same five language skills are important in medical language.

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The Five Medical Language Skills

- Reading
- Listening
- Thinking, analyzing, and understanding
- Writing (or typing) and spelling
- Speaking and pronouncing

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Figure 1-2 Medical language communication

Effective Communication Video

Click on the screenshot to view a video on the topic of effective communication.

Back to Directory

The Beginning of Medical Language

- Etymology is the study of word origins and derivations.

- Many words have been derived from other languages.

- Many medical words come from the ancient Latin or Greek language.

The Beginning of Medical Language (con't)

- Some medical words are identical to Latin or Greek words.

- Some medical words are similar (but not identical) to Latin or Greek words.

- Some medical words are similar to words from old English, Dutch, and French.

The Beginning of Medical Language (con't)

Medical Word	*Language of Origin*
nucleus	Latin *nucleus*
pelvis	Latin *pelvis*
sinus	Latin *sinus*
paranoia	Greek *paranoia*
thorax	Greek *thorax*

The Beginning of Medical Language (con't)

Medical Word	*Language of Origin*
artery	Latin *arteria*
muscle	Latin *musculus*
vein	Latin *vena*
phobia	Greek *phobos*
sperm	Greek *sperma*

The Beginning of Medical Language (con't)

Medical Word	Language of Origin
bladder	English *blaedre*
heart	English *heorte*
drug	Dutch *droog*
physician	French *physicien*

Medical Singular and Plural Nouns

Latin

Singular Ending	How to Form the Plural	Example
-a	Change *-a* to *-ae*	vertebra → vertebrae
-us	Change *-us* to -i	bronchus → bronchi
-um	Change *-um* to *-a*	bacterium → bacteria
-is	Change *-is to -es*	testis → testes
-ex, -ix	Change *-ex* to *-ices* Change *-ix* to *-ices*	apex → apices helix → helices

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Medical Singular and Plural Nouns (con't)

Greek

Singular Ending	How to Form the Plural	Example
-is	Change -is to -ides	iris → irides
-nx	Change -nx to -nges	phalanx → phalanges
-oma	Change -oma to -omata	fibroma → fibromata
-on	Change -on to -a	ganglion → ganglia

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Medical Words and Word Parts

- Medical language contains medical words.
- Most medical words contain word parts.
- Word parts are puzzle pieces that, when fit together, build a medical word.

Medical Words and Word Parts (con't)

- There are three different kinds of word parts.
  - Combining forms
  - Suffixes
  - Prefixes

Medical Words and Word Parts (con't)

Word Part	Meaning
combining form	the foundation of the word
suffix	the word ending
prefix	an optional word beginning

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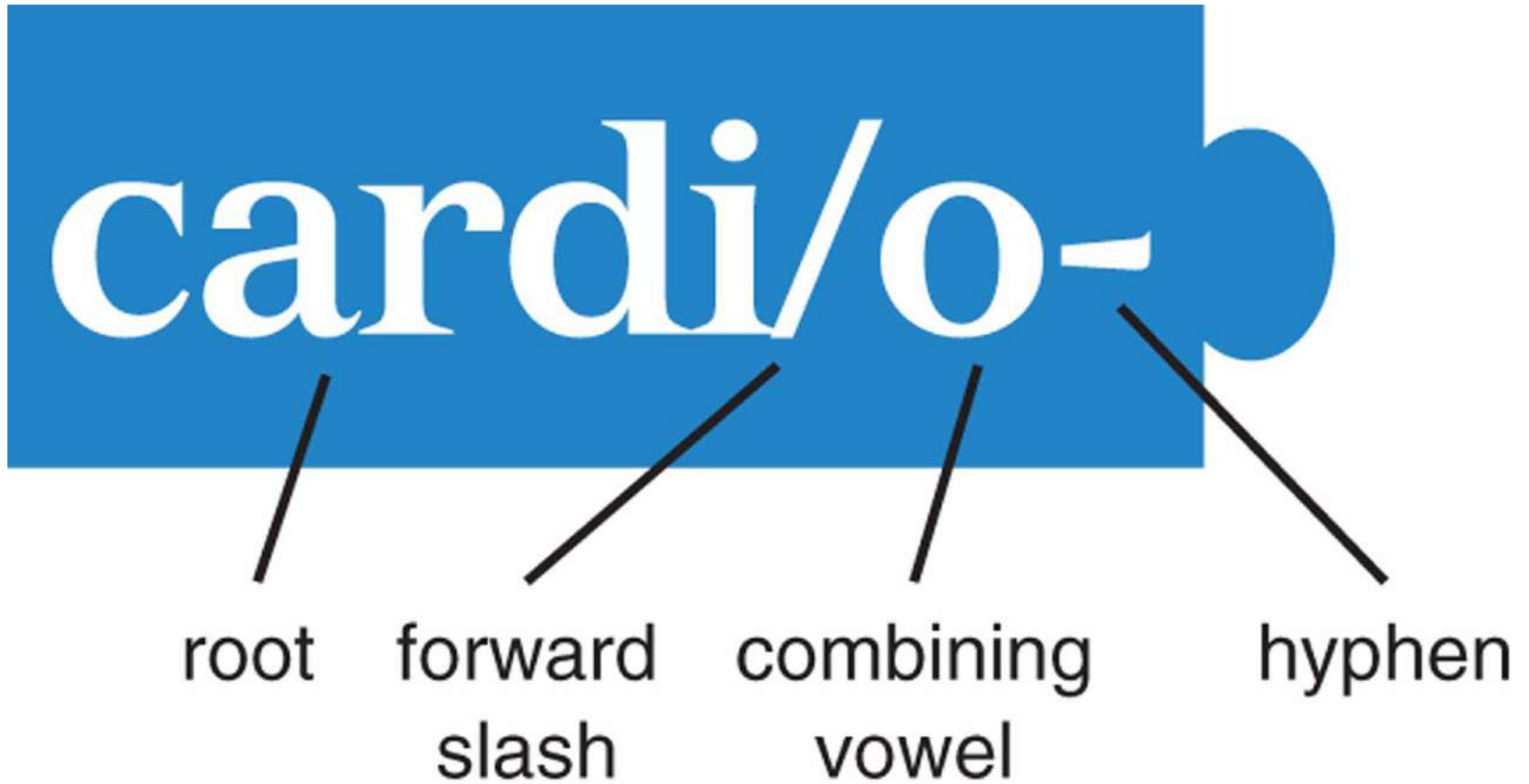
Figure 1-3 Combining form

Medical Word Parts

- Characteristics of a Combining Form
  - The foundation of a word
  - Gives the word its main medical meaning.
  - Has a root, a forward slash, a combining vowel, and a final hyphen.

Medical Word Parts (con't)

- Characteristics of a Combining Form
  - Most medical words contain a combining form.
  - Sometimes a medical word contains two or more combining forms, one right after the other.

Common Combining Forms

Combining Form	Medical Meaning
abdomin/o-	abdomen
append/o-	appendix
arteri/o-	artery
intestin/o-	intestine
laryng/o-	larynx (voice box)
muscul/o-	muscle
thyroid/o-	thyroid gland
tonsill/o-	tonsil
veno-	vein

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Common Combining Forms (con't)

Combining Form	Medical Meaning
arthr/o-	joint
cardi/o-	heart
derm/o-	skin
gastr/o-	stomach
mamm/o-	breast
nas/o-	nose
psych/o-	mind

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Common Combining Forms (con't)

Combining Form	Medical Meaning
cholecyst/o-	gallbladder
cost/o-	rib
enter/o-	intestine
hepat/o-	liver
hyster/o-	uterus
lapar/o-	abdomen

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Medical Word Parts: Suffixes

- Characteristics of a Suffix
  - A suffix is a word part that is at the end of a word.
  - A suffix modifies or clarifies the medical meaning of the combining form.
  - A suffix is a single letter or group of letters that begins with a hyphen.
  - Most medical words contain a suffix.

Figure 1-4 Suffix.

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Suffixes for Adjective Forms

Suffix	Medical Meaning	Example and Definition
-ac	pertaining to	cardiac (pertaining to the heart)
-al	pertaining to	intestinal (pertaining to the intestine)
-ar	pertaining to	muscular (pertaining to the muscle)
-ary	pertaining to	urinary (pertaining the urine)

Suffixes for Adjective Forms (con't)

Suffix	Medical Meaning	Example and Definition
-ic	pertaining to	pelvic (pertaining to the pelvis)
-ine	pertaining to	uterine (pertaining to the uterus)
-ive	pertaining to	digestive (pertaining to digestion)
-ous	pertaining to	venous (pertaining to the vein)

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Suffixes for Processes

Suffix	Medical Meaning	Example and Definition
-ation	a process; being or having	urination (a process of [making] urine)
-ion	action; condition	digestion (action of breaking down food)
-lysis	process of breaking down or destroying	hemolysis (process of breaking down or destroying blood)

Suffixes for Diseases and Conditions

Suffix	Medical Meaning	Example and Definition
-ia	condition; state; thing	pneumonia (condition of the lung)
-ism	process; disease from a specific cause	hypothyroidism (disease from the specific cause of deficient thyroid hormone)
-itis	inflammation of; infection of	tonsillitis (inflammation of the tonsil)
-megaly	enlargement	cardiomegaly (enlargement of the heart)
-oma	tumor; mass	neuroma (tumor of the nerve)
-osis	condition; abnormal condition; process	psychosis (abnormal condition of the mind)
-pathy	disease, suffering	arthropathy (disease of the joint)

Suffixes for Diagnostic, Medical, and Surgical Procedures

Suffix	Medical Meaning	Example and Definition
-ectomy	surgical excision	appendectomy (surgical excision of the appendix)
-gram	a record or picture	mammogram (a record or picture the breast)
-graphy	process of recording	mammography (process of recording the breast)
-metry	process of measuring	spirometry (process of measuring the breath)
-scope	instrument used to examine	colonoscope (instrument used to examine the colon)

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Suffixes for Diagnostic, Medical, and Surgical Procedures (con't)

Suffix	Medical Meaning	Example and Definition
-scopy	process of using an instrument to examine	gastroscopy (process of using an instrument to examine the stomach)
-stomy	surgically created opening	colostomy (surgically creating an opening in the colon)
-therapy	treatment	psychiatry (treatment of the mind)
-tomy	process of cutting or making an incision	laparotomy (process of making an incision in the abdomen)

Suffixes for Medical Specialties

Suffix	Medical Meaning	Example and Definition
-iatry	medical treatment	psychiatry (medical treatment for the mind)
-ist	one who specializes in	therapist (one who specializes in therapy)
-logy	the study of	cardiology (the study of the heart)

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Medical Word Parts: Prefixes

- Characteristics of a Prefix
    - A prefix is a word part that, if present, is at the beginning of a word.
    - A prefix modifies or clarifies the medical meaning of the combining form.
    - A prefix is a single letter or group of letters that ends with a hyphen.
    - Occasionally, a medical word has two prefixes.

Figure 1-5 Prefix

Prefixes for Location or Direction

Prefix	Medical Meaning	Example and Definition
endo-	innermost; within	endotracheal (pertaining to within the trachea)
epi-	upon; above	epidermal (pertaining to upon the skin)
inter-	between	intercostal (pertaining to between the ribs)
intra-	within	intravenous (pertaining to within a vein)

Prefixes for Location or Direction (con't)

Prefix	Medical Meaning	Example and Definition
peri-	around	pericardial (pertaining to around the heart)
post-	after; behind	postnasal (pertaining to behind the nose)
pre-	before; in front of	premenstrual (pertaining to before menstruation)
sub-	below; underneath; less than	subcutaneous (pertaining to underneath the skin)
trans-	across; through	transvaginal (pertaining to through the vagina)

Prefixes for Amount, Number, or Speed

Prefix	Medical Meaning	Example and Definition
bi-	two	bilateral (pertaining to two sides)
brady-	slow	bradycardia (condition of a slow heart)
hemi-	one half	hemiplegia (condition of one half [of the body] with paralysis)
hyper-	above; more than normal	hypertension (condition of more than normal pressure)

Prefixes for Amount, Number, or Speed (con't)

Prefix	Medical Meaning	Example and Definition
hypo-	below; deficient	hypothyroidism (disease from a specific cause of deficient thyroid gland [hormone])
mono-	one; single	mononucleosis (abnormal condition of [white blood cells that each have] one [large] nucleus)
poly-	many; much	polyneuritis (inflammation of many nerves)
quadri-	four	quadriplegia (condition of four [limbs] with paralysis)

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Prefixes for Amount, Number, or Speed (con't)

Prefix	Medical Meaning	Example and Definition
tachy-	fast	tachycardia (condition of a fast heart)
tri-	three	trigeminal (pertaining to three [nerve branches in a] group)

Prefixes for Degree or Quality

Prefix	Medical Meaning	Example and Definition
a-	away from; without	aspermia (condition [of being] without sperm)
an-	without; not	anesthesia (condition [of being] without sensation)
anti-	against	antibiotic (pertaining to against living organisms)
de-	reversal of; without	dementia (condition [of being] without a mind)

Prefixes for Degree or Quality (con't)

Prefix	Medical Meaning	Example and Definition
dys-	painful; difficult; abnormal	dysphagia (condition of painful or difficult eating and swallowing)
eu-	normal; good	euthyroidism (process of normal thyroid gland [function])
mal-	bad; inadequate	malnutrition (being or having inadequate nourishment)
re-	again and again	respiration (a process of again and again breathing)

Analyze and Define Words: Combining Form and Suffix

- Divide the medical word into its combining form and suffix.

- Define each word part.

- Put the word part meanings in this order: meaning of the suffix first, followed by the meaning of the combining form.

- Add small connecting words, if needed, to make a correct and complete definition of the medical word.

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Analyze and Define Words: Combining Form, Suffix and Prefix

- Divide the medical word into its prefix, combining form and suffix.

- Define each word part.

Analyze and Define Words: Combining Form, Suffix and Prefix (con't)

- Put the word part meanings in this order: meaning of the suffix first, followed by the meaning of the prefix, followed by the meaning of the combining form.

- Add small connecting words, if needed, to make a correct and complete definition of the medical word.

Building Medical Words: Suffix that Begins with a Consonant

- Select the suffix and combining form whose meanings match the definition of the medical word.

- Change the order of the word parts to put the suffix last.

- Delete the forward slash and hyphen from the combining form. Delete the hyphen from the suffix.

- Join the two word parts.

Building Medical Words: Suffix that Begins with a Consonant (con't)

Medical Word	*Word Part*	*Word Part Meaning*
cardiology	combining form *cardi/o-*	**heart**
	suffix **-logy**	**the study of**

Medical Word Definition**the study of the heart**

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Building Medical Words: Suffix that Begins with a Vowel

- Select the suffix and combining form whose meanings match the definition of the medical word.

- Change the order of the word parts to put the suffix last.

- Delete the forward slash, combining vowel, and hyphen from the combining form. Delete the hyphen from the suffix.

- Join the two word parts.

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Building Medical Words: Suffix that Begins with a Vowel (con't)

Medical Word	*Word Part*	*Word Part Meaning*
cardiac	combining form *cardi/o-*	**heart**
	suffix **-ac**	**pertaining to**

Medical Word Definition**pertaining to the heart**

Building Medical Words: Contains a Prefix

- Select the suffix, prefix and combining form whose meanings match the definition of the medical word.

- Change the order of the word parts to put the suffix last.

Building Medical Words: Contains a Prefix (con't)

- Delete the hyphen from the prefix. Delete the forward slash, combining vowel, and hyphen from the combining form. Delete the hyphen from the suffix.

- Join the three word parts.

Building Medical Words: Contains a Prefix

Medical Word	Word Part	Word Part Meaning
intracardiac	combining form cardi/o-	*heart*
	suffix *-ac* prefix *intra-*	*pertaining to* *within*

Medical Word Definition*pertaining to within the heart*

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Pronounce Medical Words

- Knowing the definition of a medical word is important.

- Being able to pronounce the medical word correctly is equally important.

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Pronounce Medical Words (con't)

- Follow these simple directions for pronouncing medical words:
  - Say each syllable by following the "see-and-say" pronunciation guide.
  - Accented syllables are in all capital letters.
  - Secondary accented syllables are in smaller capital letters.
  - Practice pronouncing the word several times until you have mastered its pronunciation.

Pronounce Medical Words (con't)

appendectomy	(ap-pen-DEK-toh-mee)
arthritis	(ar-THRY-tis)
gastric	(GAS-trik)
laryngitis	(LAIR-in-JY-tis)
mammography	(mah-MAWG-rah-fee)
pneumonia	(noo-MOH-nee-ah)
therapist	(THAIR-ah-pist)

The Medical Record

- The *medical record* is where healthcare professionals document all care provided to a patient.

- Contains not only medical documents but those that are also legal documents that can be used in a court of law.

The Health Record (con't)

- The *paper medical record* has been the traditional form of a medical record, but it has some disadvantages:
  - Only one person can access it at a time.
  - It can become lost or damaged, and it can take time to retrieve a patient's past medical records.
  - This delay can compromise the delivery of quality care.

Computerized Patient Records (CPRs)

- More offices, hospitals, and other healthcare facilities are converting to computerized patient records (CPRs).

- Healthcare professionals can have immediate access to both current and previous medical records.

Figure 1-6 Computerized patient record.(CPR).

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The Electronic Patient Record

- In the future, an all-encompassing electronic patient record (EPR), electronic medical record (EMR), or electronic health record (EHR) will provide seamless, immediate, and simultaneous access by many healthcare professionals to all parts of a patient's record regardless of where those parts were created or stored.

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Standard Headings in Hospital Admission and Discharge Documents

- Chief Complaint (CC)

- History of Present Illness (HPI)

- Past Medical (and Surgical) History (PMH)

- Social History (SH) and Family History (FH)

Standard Headings (con't)

- Review of Systems (ROS)
- Physical Examination (PE)
- Laboratory and X-ray Data
- Diagnosis (Dx)
- Disposition

Types of Documents in the Medical Record

- Consent to Treatment Forms
  - Before patients can be treated at any type of healthcare facility, they must sign *consent to treatment forms* that give the physicians and other healthcare professionals the right to treat them.
    - Treatment without consent is against the law and is considered to be battery (touching another person without his or her consent).

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Types of Documents in the Medical Record (con't)

- Consent to Treatment Forms
  - For patients who are minors, the parent or legal guardian signs the consent to treatment.
    - In an emergency situation, care is provided until the appropriate person is able to consent.

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Types of Documents in the Medical Record (con't)

- Informed Consent
  - Patients must sign another consent form if they are to have surgery.
  - Prior to a surgery, the physician describes the purpose of the surgery and informs the patient of alternatives, risks, and possible complications.
  - If patients elect to proceed with the surgery, they sign the form, thus giving informed consent.

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Types of Documents in the Medical Record (con't)

- The Health Insurance Portability and Accountability Act (HIPAA) of 1996.
  - Patients must also sign a form that allows the facility to contact their insurance companies to obtain payment for the health care provided.

Types of Documents in the Medical Record (con't)

- The Health Insurance Portability and Accountability Act (HIPAA) of 1996.
  - All healthcare settings must provide patients with a statement verifying that their medical record information is secure and is only released to authorized healthcare providers, insurance companies, or to healthcare quality monitoring organizations.

Patient Histories Video

Taking Patient Histories

Click on the screenshot to view a video on the topic of taking patient histories.

Medical Language, Second Edition
Susan Turley

Vital Signs Video

Click on the screenshot to view a video on the topic of vital signs.

Medical Language, Second Edition
Susan Turley

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Abbreviations

CC	chief complaint		**H&P**	history and physical (examination)
CPR	computerized patient record		**HIPAA**	Health Insurance Portability and Accountability Act (pronounced "HIP-ah")
DS	discharge summary			
Dx	diagnosis		**HPI**	history of present illness
EHR	electronic health record		**PE**	physical examination
EMR	electronic medical record		**PMH**	past medical history
EPR	electronic patient record		**ROS**	review of systems
FH	family history		**SH**	social history

Paramedic Career Video

Click on the screenshot to view a video on the topic of paramedics and emergency medicine.

Back to Directory