

# *INTRODUCTION TO MEDICAL LANGUAGE*

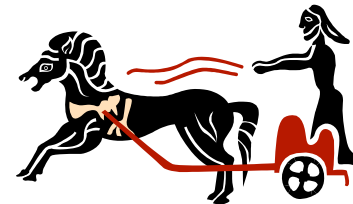


**Prof. Vanessa Leonardi**

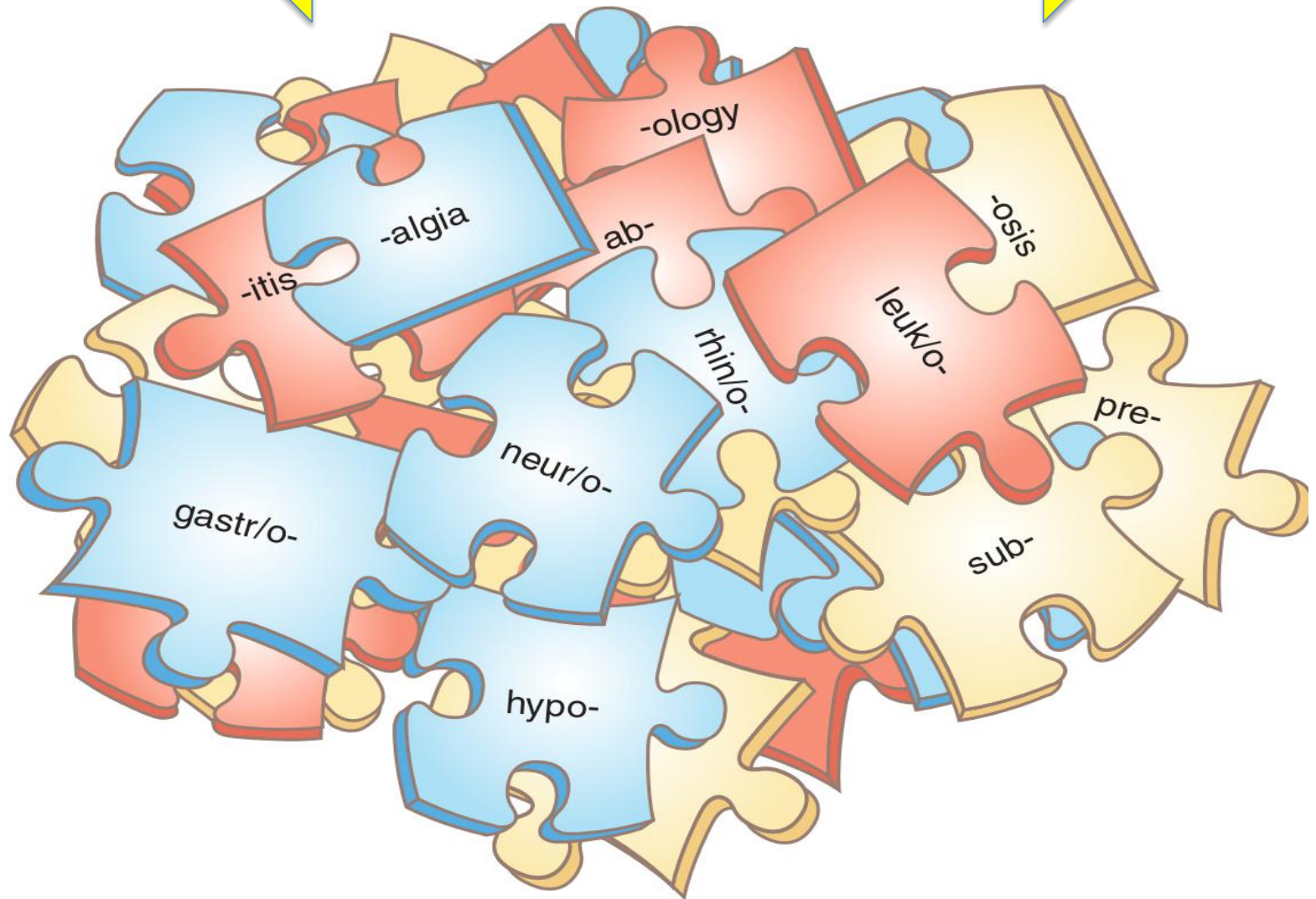
## WHAT'S IN A WORD?

# ORIGIN OF MEDICAL TERMS

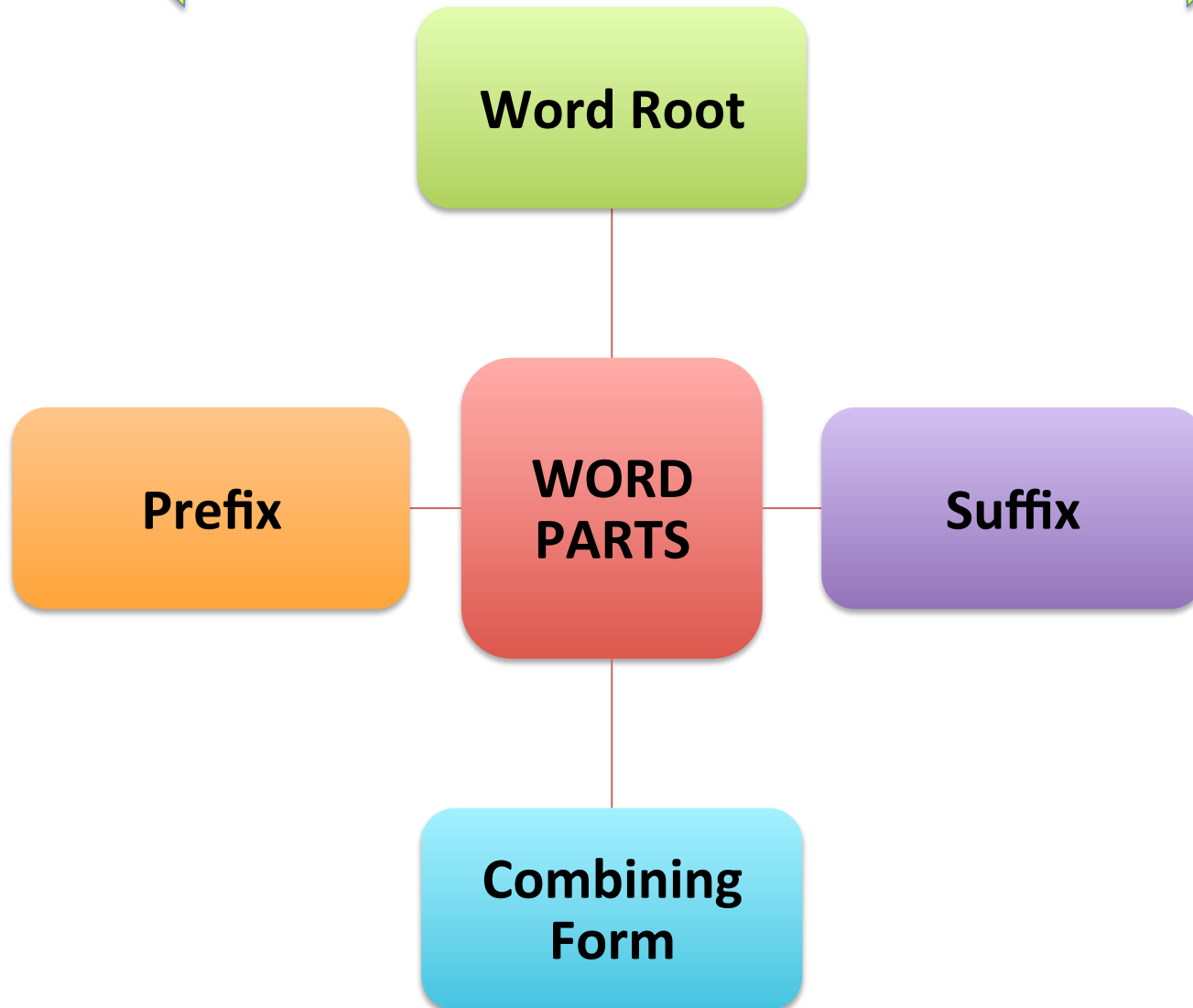
- Hippocrates was a Greek physician and is known as the “father of medicine.”
- 75% of medical terms are based on either Greek or Latin words.



# MEDICAL TERMINOLOGY



# MEDICAL TERMS AND WORD PARTS





## WORD PART GUIDELINES

1

- A word root cannot stand alone
- A suffix must be added

2

- Combining forms may be needed to connect words or word roots to suffixes to facilitate pronunciation

3

- Prefixes always at the beginning of the word

4

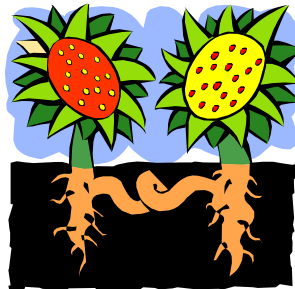
- Exceptions apply!!!!

# Medical Terms Are Built from Word Parts

- Word root
- **cardi**ogram (record of the heart)
- Prefix
- **peri**cardium (around the heart)
- Suffix
- cardi**itis** (inflammation of the heart)
- Combining form
- cardi**o**my**o**pathy (heart muscle disease)

# WORD ROOTS or ROOT WORDS

- A root is the foundation or basic meaning of a word.
- May appear with a prefix or suffix, or between a prefix or suffix.
- cardi - root for heart
- hepat- root for liver
- natal - root for birth
- neur/o - root for nerve
- tonsil - root for tonsils
- nephr - root for kidney
- cyt- root for cell
- Etc.....



## COMBINING FORMS

The word root +  
a connecting  
vowel

to attach  
another root  
word or suffix

to facilitate  
pronunciation

## Basic Rules for the Combining Vowel

```
graph TD; A[Basic Rules for the Combining Vowel] --> B[The combining vowel is used when the suffix begins with a consonant. (Neuroplasty)]; A --> C[The combining vowel is not used when the suffix begins with a vowel. (Neuritis)]; B --> C;
```

The combining vowel is used when the suffix begins with a consonant.

**(Neuroplasty)**

The combining vowel is not used when the suffix begins with a vowel.

**(Neuritis)**

## Word Roots and Combining Forms Indicating Color

**cyan/o** means blue

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).

**erythr/o** means red

An erythrocyte (eh-RITH-roh-sight) is a mature red blood cell (**erythr/o** means red, and **-cyte** means cell).

**leuk/o** means white

A leukocyte (LOO-koh-sight) is a white blood cell (**leuk/o** means white, and **-cyte** means cell).

**melan/o** means black

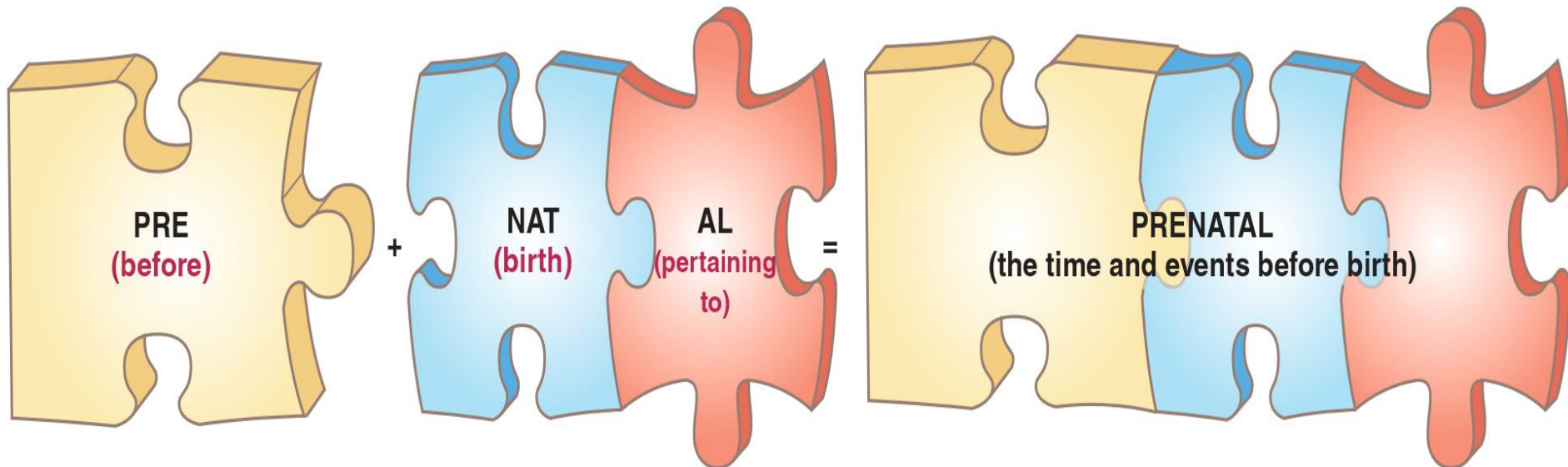
Melanosis (mel-ah-NOH-sis) is any condition of unusual deposits of black pigment in body tissues or organs (**melan** means black, and **-osis** means abnormal condition or disease).

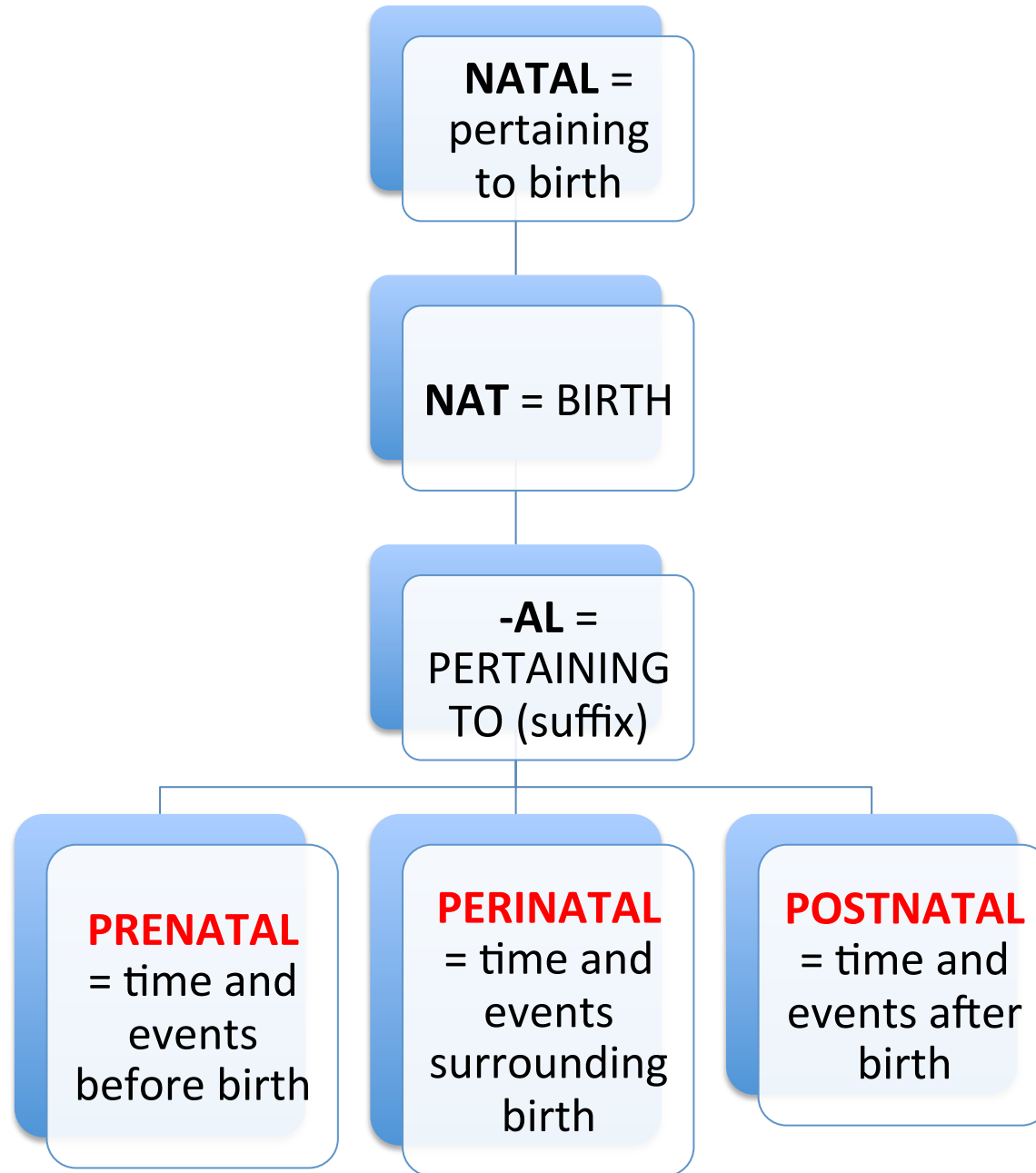
**poli/o** means gray

Poliomyelitis (poh-lee-oh-my-eh-LYE-tis) is a viral infection of the gray matter of the spinal cord (**poli/o** means gray, **myel** means spinal cord, and **-itis** means inflammation).

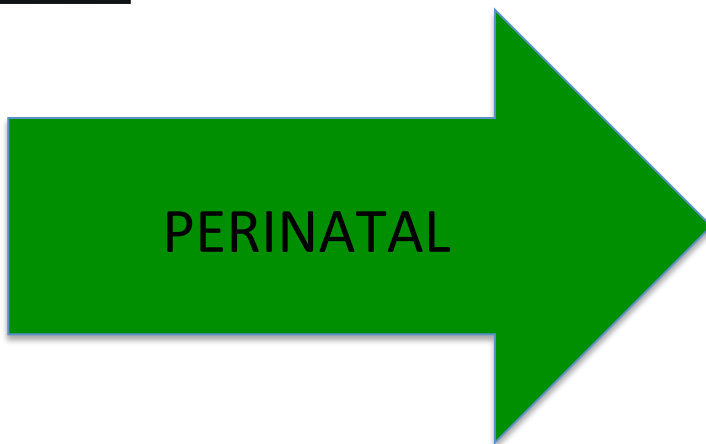
# PREFIX

- The prefix is a part of the word that precedes the word root and changes its meaning.
- Often indicates location, time or number.









## 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-, megal/o** large, great

---

**pre-** before

**ad-** toward, to, in the direction of

---

**sinistr/o** left side

---

**in-** in, into, not, without

---

**micr/o, micro-** small

---

**olig/o** scanty, few

---

**post-** after, behind

## Contrasting Prefixes

**ab-** means away from.

**Abnormal** means not normal or away from normal.

**ad-** means toward or in the direction of.

**Addiction** means drawn toward or a strong dependence on a drug or substance.

**dys-** means bad, difficult, or painful.

**Dysfunctional** means an organ or body part that is not working properly.

**eu-** means good, normal, well, or easy.

**Eupnea** means easy or normal breathing.

**hyper-** means excessive or increased.

**Hypertension** is higher-than-normal blood pressure.

**hypo-** means deficient or decreased.

**Hypotension** is lower-than-normal blood pressure.

**inter-** means between or among.

**Interstitial** means between, but not within, the parts of a tissue.

**intra-** means within or inside.

**Intramuscular** means within the muscle.

**sub-** means under, less, or below.

**Subcostal** means below a rib or ribs.

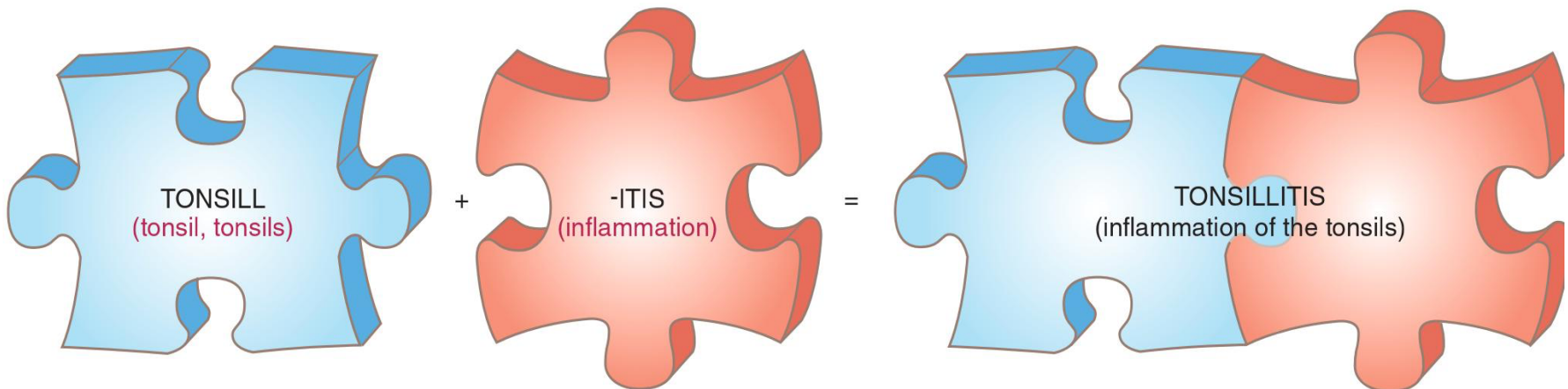
**super-, supra-** mean above or excessive.

**Supracostal** means above or outside the ribs.

# SUFFIX

A suffix is the word ending that follows the word root and changes its meaning.

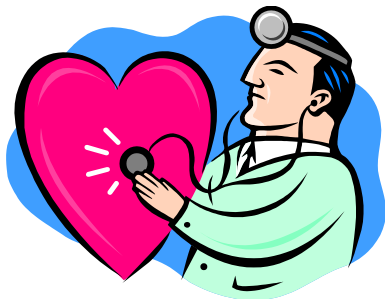
- Often indicates the procedure, condition, disorder, or disease.



# Examples ...

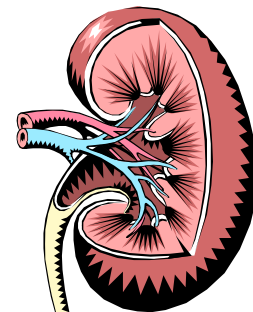
## CARDIOLOGY

- **Cardi** - root means heart.
- **-ology** - suffix means the study of.
- **Cardiology** - the study of the heart.

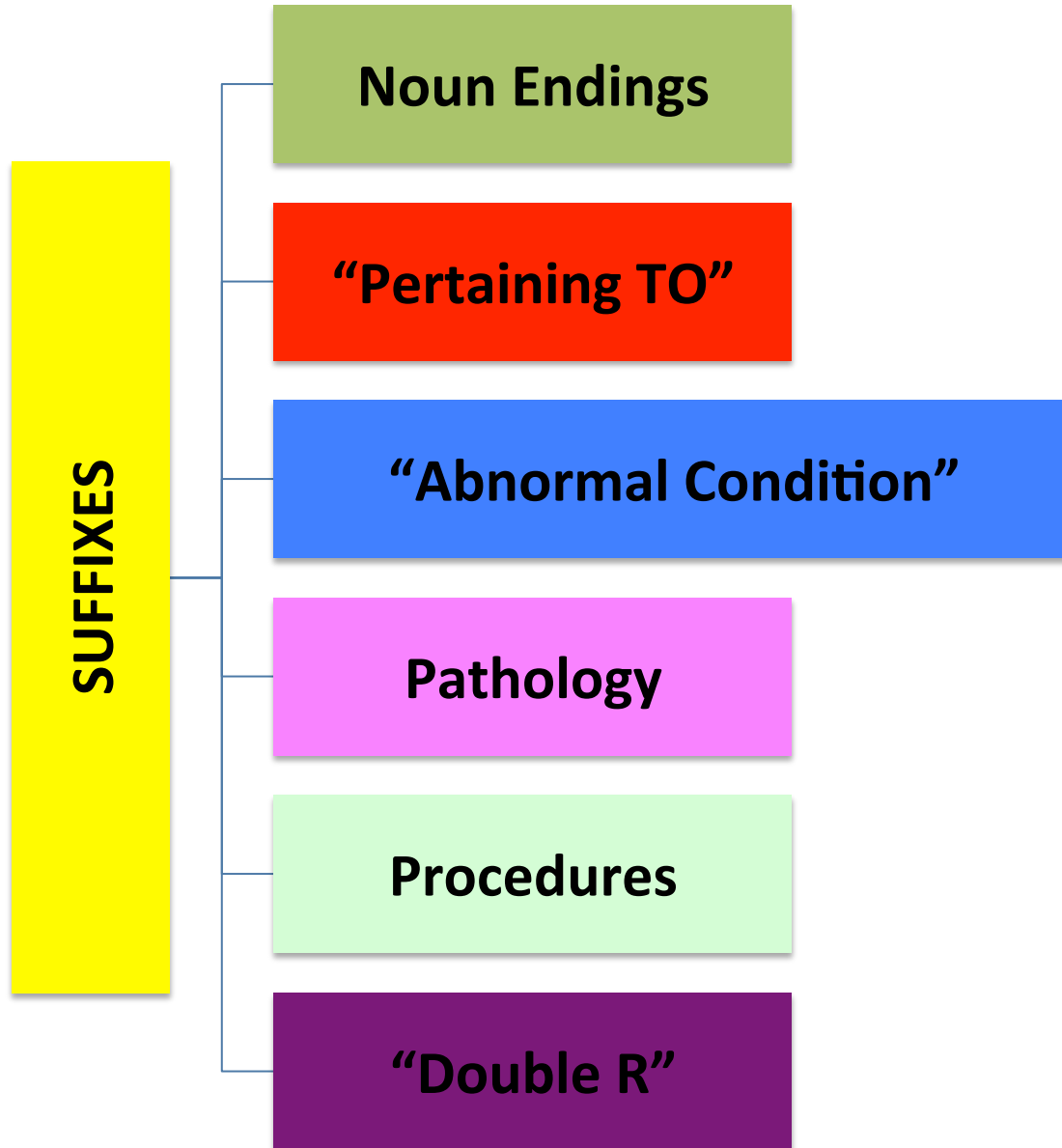


## • NEPHRITIS

- **Nephr** - root words means kidney
- **-itis** suffix means inflammation
- **Nephritis** means inflammation of the kidney







# Suffixes as Noun Endings

**CRANIUM**

**the portion of the skull that encloses the brain**

**CRANI**

**= SKULL**

**- UM**

**= Noun Ending**

# Suffixes as Noun Endings

## Suffixes as Noun Endings

**-a**

**-um**

**-y**

**-e**

**-us**



## Suffixes meaning Pertaining To

**CARDIAC = Adjective = pertaining to the heart**

**CARDI = Heart**

**-ac = pertaining to**

## Suffixes meaning Pertaining To

### Suffixes Meaning "Pertaining To"

**-ac**

**-eal**

**-ior**

**-al**

**-ical**

**-ory**

**-an**

**-ial**

**-ous**

**-ar**

**-ic**

**-tic**

**-ary**

**-ine**

## Suffixes meaning Abnormal Condition

GASTROSIS = any disease of  
the stomach

GASTR = stomach

- OSIS = abnormal condition  
or disease

## Suffixes meaning Abnormal Condition

### Suffixes Meaning "Abnormal Condition"

**-ago**

**-iasis**

**-osis**

**-esis**

**-ion**

**-ia**

**-ism**

## Suffixes Related to Pathology

Pathology = the  
study of all aspects  
of diseases

PATH = disease

- OLOGY = study of

Suffixes related to pathology describe  
specific disease conditions

# Suffixes Related to Pathology

SUFFIX	MEANING	EXAMPLE
- ALGIA	pain and suffering	<b>GASTRALGIA</b>
- DYNIA	pain	<b>GASTRODYNIA</b>
- ITIS	inflammation	<b>GASTRITIS</b>
- MEGALY	enlargement	<b>HEPATOMEGALY</b>
- MALACIA	abnormal softening	<b>ARTERIOMALACIA</b>
- NECROSIS	tissue death	<b>ARTERIONECROSIS</b>
- SCLEROSIS	abnormal hardening	<b>ARTERIOSCLEROSIS</b>
- STENOSIS	abnormal narrowing	<b>ARTERIOSTENOSIS</b>

## Suffixes Related to Procedures

SUFFIX	MEANING	EXAMPLE
- CENTESIS	surgical puncture to remove (excess) fluid	<b>ABDOMINOCENTESIS</b>
- GRAPHY	producing a picture or record	<b>ANGIOGRAPHY</b>
- GRAM	picture or record	<b>ANGIOGRAM</b>
- PLASTY	surgical repair	<b>MYOPLASTY</b>
- SCOPY	visual examination	<b>ARTHROSCOPY</b>

# The Double RR Suffixes

SUFFIX	MEANING	EXAMPLE
- RRHAGE / -RRHAGIA	bleeding	<b>HEMORRHAGE</b>
- RRHAPHY	surgical suturing to close a wound	<b>MYORRHAPHY</b>
- RRHEA	flow or discharge (most body fluids)	<b>DIARRHEA</b>
- RRHEXIS	rupture	<b>MYORRHEXIS</b>



# Determining Meanings on the Basis of **WORD PARTS**

1

- **START** at the end of the word toward the beginning

2

- Separate the word parts and identify their meaning

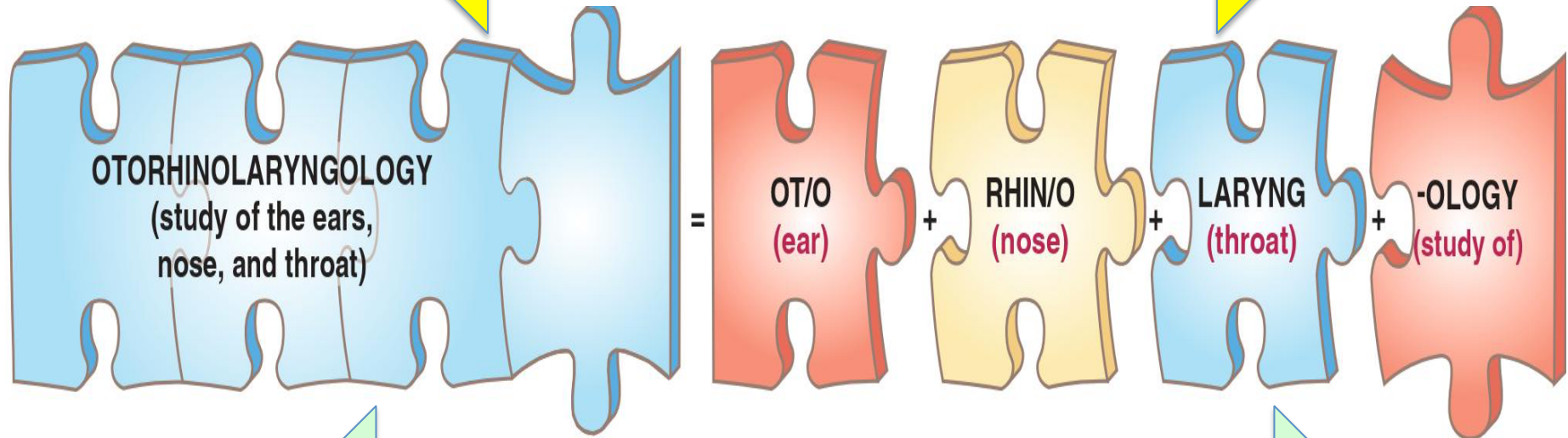
3

- Some word parts have more than one meaning –  
**DETERMINE** the context of use

4

- **NOT** all medical terms are made up of word parts

An Example to Take Apart ....



ENT or OTOLARYNGOLOGY

**WATCH OUT!!!!**

**PRONUNCIATION**

**SPELLING**

# Guidelines to Unusual Plural Forms

Guideline	Singular	Plural
If the singular term ends in the suffix <b>-a</b> , the plural is usually formed by changing the ending to <b>-ae</b> .	bursa vertebra	bursae vertebrae
If the singular term ends in the suffix <b>-ex</b> or <b>-ix</b> , the plural is usually formed by changing these endings to <b>-ices</b> .	appendix index	appendices indices
If the singular term ends in the suffix <b>-is</b> , the plural is usually formed by changing the ending to <b>-es</b> .	diagnosis metastasis	diagnoses metastases
If the singular term ends in the suffix <b>-itis</b> , the plural is usually formed by changing the <b>-is</b> ending to <b>-ides</b> .	arthritis meningitis	arthritides meningitides
If the singular term ends in the suffix <b>-nx</b> , the plural is usually formed by the <b>-x</b> ending to <b>-ges</b> .	phalanx meninx	phalanges meninges
If the singular term ends in the suffix <b>-on</b> , the plural is usually formed by changing the ending to <b>-a</b> .	criterion ganglion	criteria ganglia
If the singular term ends in the suffix <b>-um</b> , the plural usually is formed by changing the ending to <b>-a</b> .	diverticulum ovum	diverticula ova
If the singular term ends in the suffix <b>-us</b> , the plural is usually formed by changing the ending to <b>-i</b> .	alveolus malleolus	alveoli malleoli



Università  
degli Studi  
di Ferrara

*Thanks for Your Attention*

*Prof. Vanessa Leonardi*