

MedlinePlus: Understanding Medical Words Tutorial

From the National Library of Medicine



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What's in this for me?

- Find out why you and your doctor sometimes are speaking different languages.
- Learn how to put together parts of medical words.
- See what you've learned by taking short quizzes.
- Learn more with links to lists of word parts and abbreviations.
- Get the reference material for this tutorial.

Introduction

What did the doctor say?

Do you ever feel as if you and your doctor weren't speaking the same language? Sometimes even words that you think you understand can have a different meaning to your doctor.

For example: **heart attack**.

Your uncle experienced the symptoms of what you understand to be a heart attack, including:

- racing heartbeat
- chest pain
- shortness of breath
- passing out

Your uncle's heart stopped beating! Luckily, the emergency responders used CPR and revived him.

Later when you're talking to the doctor, you say how glad you are that he survived his heart attack. The doctor says, "He didn't have a heart attack. He had a cardiac arrest; but no muscle damage." What does the doctor mean?

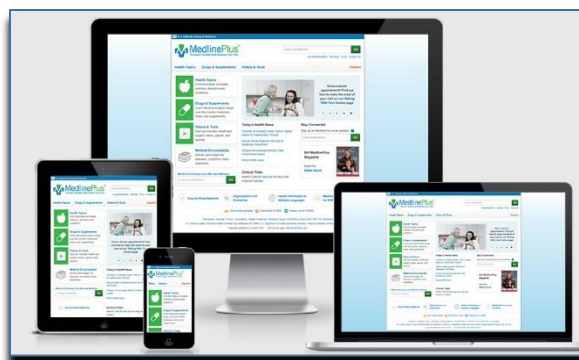
What is going on? To you, a heart attack means the heart doesn't beat. To the doctor, a heart attack means there is damage to the heart muscle.



Another example: **fever**. You take your child's temperature and it is 99.5 degrees. You call the doctor and say your child has a fever of 99.5 degrees. She says, "That's not a fever." What does she mean?

What is going on? To you, a fever is anything above 98.6 degrees. To the doctor, a fever is a temperature over 100.4 degrees. You and your doctor sometimes are speaking a different language; but using the same words.

So what can you do? **If what you're hearing doesn't make sense, make sure to ask questions!** You can also use the [MedlinePlus website](#), [MedlinePlus: Health Topics](#) or [MedlinePlus: Word Parts](#) to find out more about meanings of the medical words.



Now let's look at a couple of tongue-twisting, big words.

- Colonoscopic polypectomy
- Esophagogastroduodenoscopy

These next words sound alike and are similar in spelling, but one is high blood sugar and one is low blood sugar.

- Hyperglycemia
- Hypoglycemia

These next two words also sound alike, but one is a painful problem with your joints and the other is a disease that makes your bones weak.

- Osteoarthritis
- Osteoporosis

What did the doctor just say? Did she say you needed a colonoscopic polypectomy? What on earth do those two words mean?

You need a what? Transesophageal echocardiogram! What is that?

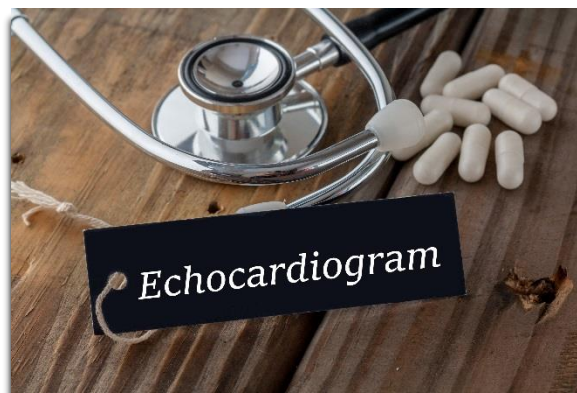
Medical words can be long and confusing. Let's figure out what these words mean.

Break It Up!

Some medical words are made up of multiple parts. They might make more sense if you break the word into different parts.

Breaking up isn't hard to do! Long medical words **can** have a:

- **Beginning** (or prefix): If there's a beginning, it can be about size, shape, color, direction, and amount.
- **Middle** (or root): The middle is often a part of the body.
- **Ending** (or suffix): If there's an ending, it can be about the same thing as the beginning, like size, or it can be about a test or it can describe a problem.



Breaking up long words.

Transesophageal has a:

- Beginning (or prefix) of **trans**
- Middle (or root) of **esophagi**
- Ending (or suffix) of **eal**

Echocardiogram has a:

- Beginning (or prefix) of **echo**
- Middle (or root) of **cardio**
- Ending (or suffix) of **gram**

Things to remember:

Not all medical words have a beginning or ending. Sometimes word pieces can appear in different places, like **cardi** in these words **cardi**ologist and myo**cardi**al. We'll cover what those words mean in the upcoming chapters.

Try a short [quiz #1 Let's See What You Know](#) or proceed to the next chapter [Words Roots](#).

Quiz #1, Let's See What You Know

Question 1 of 3: A word for inflammation of the throat.

The word ends in **-itis**, select the beginning.

- ☐ ot
- ☐ tonsil
- ☐ encephal
- ☐ rhin
- ☐ neur
- ☐ pharyng



Question 1 answer is **pharyng** for **pharyngitis**.

Question 2 of 3: A word for disease of the nerves.

The word begins with **neuro-**, select the ending.

- ☐ itis
- ☐ scopy
- ☐ logy
- ☐ pathy
- ☐ megaly
- ☐ gram

Question 2 answer is **pathy** for **neuropathy**.

Question 3 of 3: The word for a person working with the nerves.

The word ends in **-ologist**, select the beginning.

- ☐ ophthal
- ☐ neur
- ☐ cardi
- ☐ mamm
- ☐ colon
- ☐ gastr

Question 3 answer is **neur** for **neurologist**.

Great job!

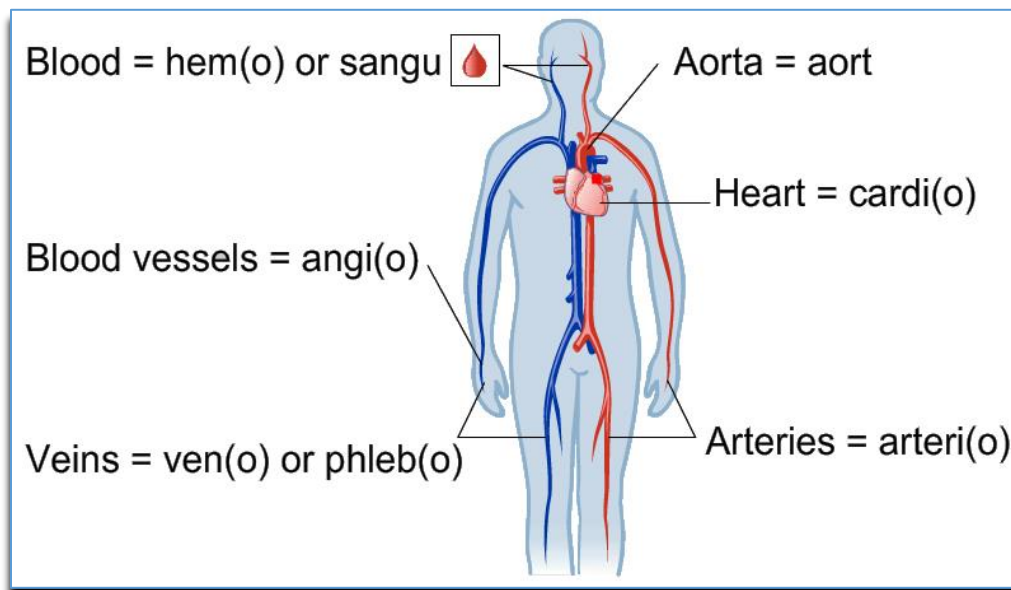
Word Roots

Let's begin with some basic body parts. The root of a medical word is usually a body part.

- Bone is **oste**
- Muscle is **myo**
- Nerves is **neur**
- Skin is **derm**

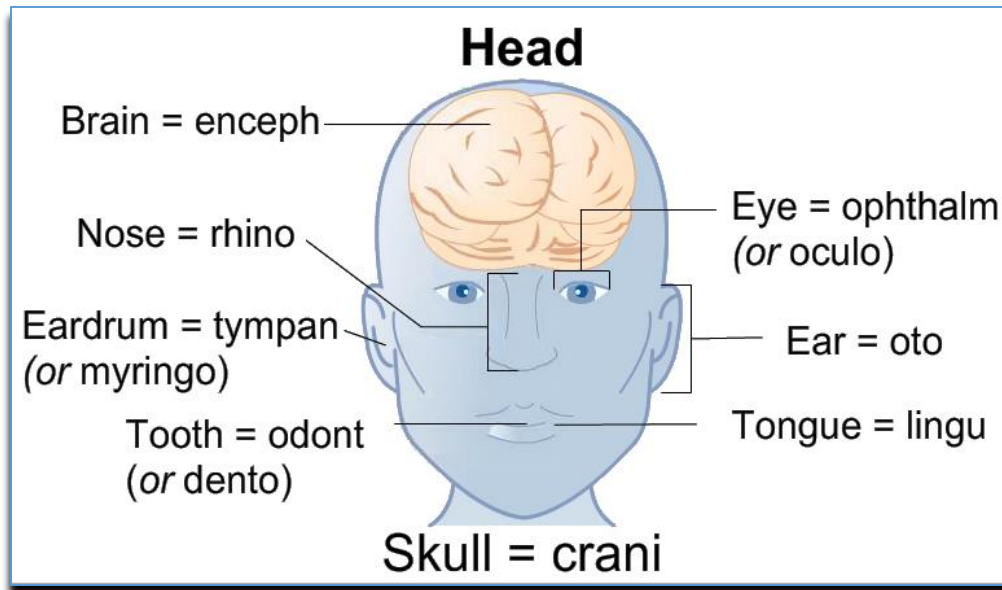
The root of echoccardiogram is **cardio**. It means heart. Here are some roots for your heart and blood vessels.

- Your heart is **cardio**
- Your veins and arteries are **vas** or **vasc**
- The system of heart and blood vessels is sometimes called the **cardiovascular** system



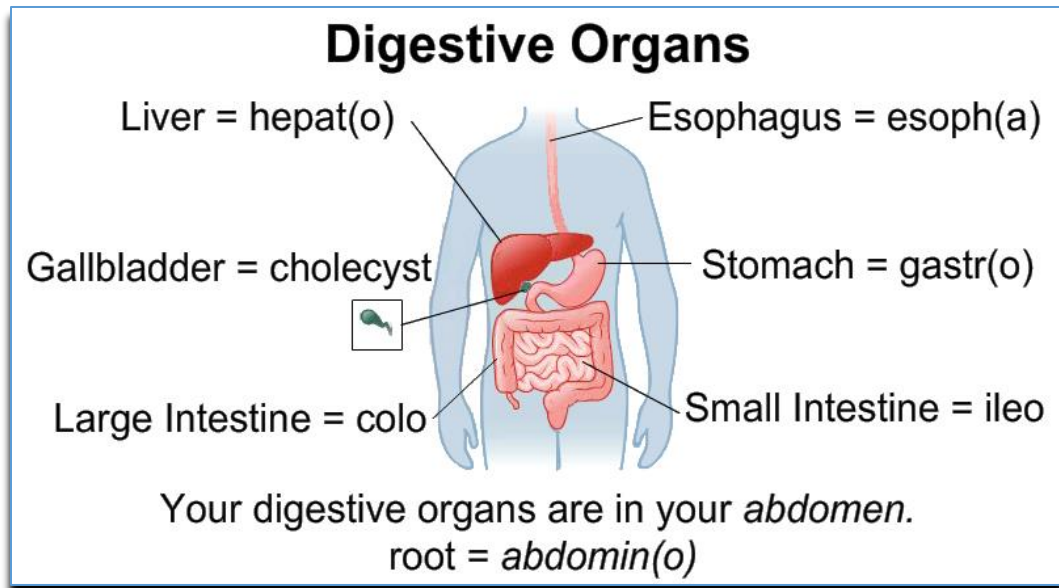
Here are more roots for your heart and blood vessels.

- Blood is **hem** or **hemo** or **sangu**
- Blood vessels are **angi** or **angio**
- Veins are **ven** or **veno** or **phleb** or **phlebo**
- Aorta is **aort**
- Heart is **cardi** or **cardio**
- Arteries are **arteri** or **arterio**



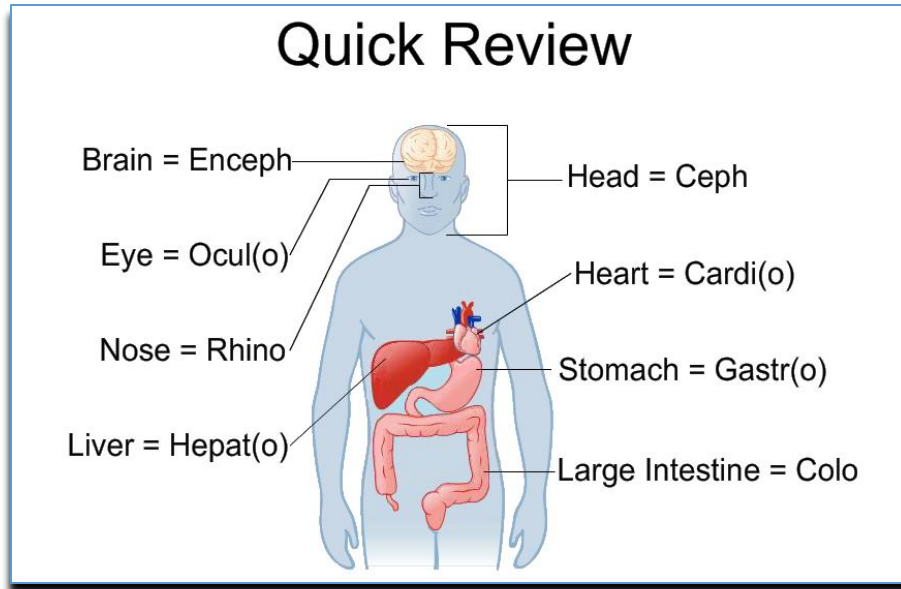
Here are word roots for parts of your head.

- Brain is **enceph**
- Nose is **rhino**
- Eardrum is **tympan** or **myringo**
- Tooth is **odont** or **dento**
- Skull is **crani**
- Eye is **ophthalm** or **oculo**
- Ear is **oto**
- Tongue is **lingu**



Here are word roots for your digestive organs.

- Liver is **hepat** or **hepato**
- Gallbladder is **cholecyst**
- Esophagus is **esoph** or **esopha**
- Large intestine is **colo**
- Stomach is **gastr** or **gastro**
- Small intestine is **ileo**

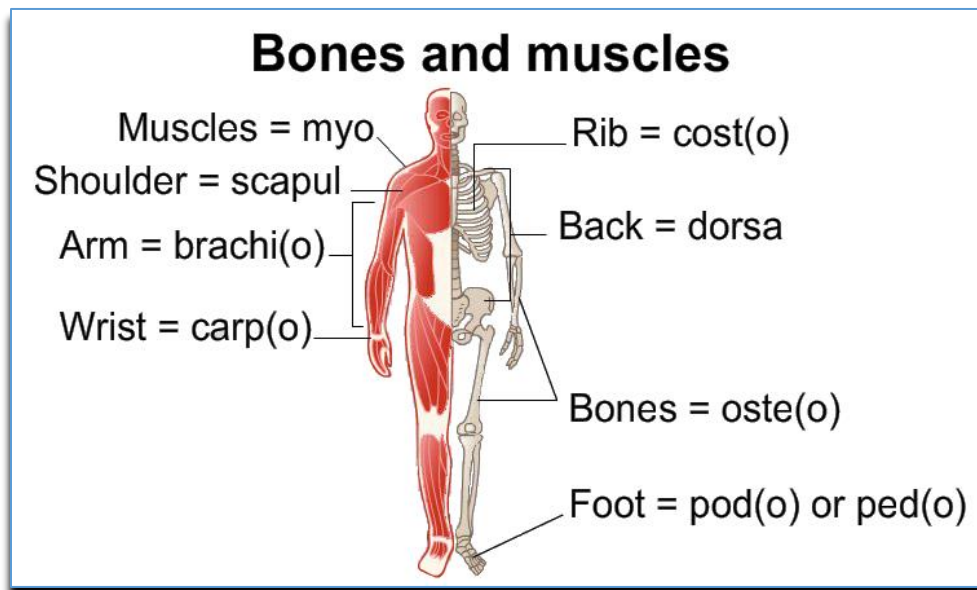


A quick review of what we covered so far.

- Brain is **enceph**
- Eye is **ocul** or **oculo**
- Nose is **rhino**
- Liver is **hepat** or **hepato**
- Head is **ceph**
- Heart is **cardi** or **cardio**
- Stomach is **gastr** or **gastro**
- Large intestine is **colo**

These are root words for the other areas of your body.

- Chest is **thorac** or **thoraco**
- Lung is **pneumo** or **pleura**
- Breast is **mamm** or **mammo**
- Blood clot is **thromb** or **thrombo**
- Kidney is **neph**



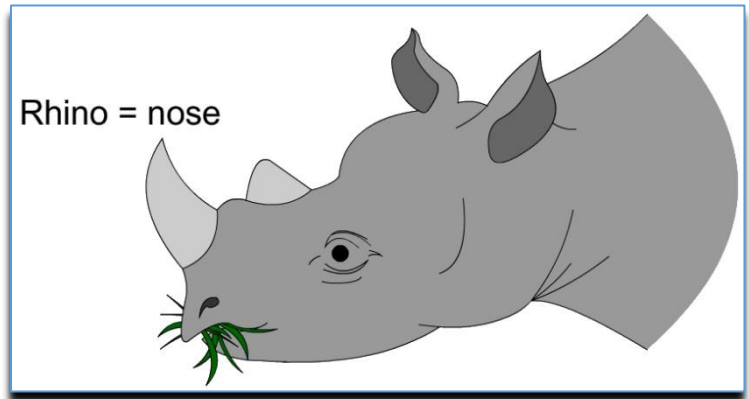
Root words for specific bones and muscles areas of your body.

- Muscles is **myo**
- Shoulder is **scapula**
- Arm is **brachi** or **brachio**
- Wrist is **carp** or **carpo**
- Rib is **cost** or **costo**
- Back is **dorsa**
- Bones are **oste** or **osteo**
- Foot is **pod** or **podo** or **ped** or **pedo**

Sometimes a memory shortcut will help you remember words, like **gastro** for stomach or intestines. Think of one of the things your digestive system produces — gas!

And a picture is worth a thousand words. **Rhino** is nose. Think rhinoceros!

You can find more information at [Medlineplus: Word Parts and What They Mean.](#)



Try a quiz on word roots with [quiz #2](#), [Let's Practice Roots](#) or proceed to the next chapter [Beginnings and Endings](#).

Quiz #2, Let's Practice Roots

Question 1 of 8: The word for a picture of the ultrasonic waves your heart makes is an **echo-[blank]-gram**.

Select the correct word part to fill in the blank.

- ☐ cephalo
- ☐ arterio
- ☐ neuro
- ☐ cardio
- ☐ osteo
- ☐ oto



Question 1 answer is **cardio** for **echocardiogram**.

Question 2 of 8: The word for the study of the bones is **[blank]-ology**.

Select the correct word part to fill in the blank.

- ☐ odont
- ☐ rhin
- ☐ phleb
- ☐ ot
- ☐ cardi
- ☐ oste

Question 2 answer is **oste** for **osteology**.

Question 3 of 8: The word for inflammation of the throat is **[blank]-itis**.

Select the correct word part to fill in the blank.

- ☐ ot
- ☐ tonsill
- ☐ encephal
- ☐ rhin
- ☐ neur
- ☐ pharyng

Question 3 answer is **pharyng** for **pharyngitis**.

Question 4 of 8: The word for a slow heartbeat is **brady-[blank]**.

Select the correct word part to fill in the blank.

- ☐ gastro
- ☐ rhino
- ☐ derma
- ☐ cardia
- ☐ oculo
- ☐ lacrima

Question 4 answer is **cardia** for **bradycardia**.

Question 5 of 8: The word for inflammation of the area around the heart is **peri-[blank]-itis**.

Select the correct word part to fill in the blank.

- ☐ gastr
- ☐ cholecyst
- ☐ hepat
- ☐ col
- ☐ rhin
- ☐ card

Question 5 answer is **card** for **pericarditis**.

Question 6 of 8: The word for inflammation of the brain is **[blank]-itis**.

Select the correct word part to fill in the blank.

- ☐ ot
- ☐ hepa
- ☐ gastr
- ☐ encephal
- ☐ tonsill
- ☐ col

Question 6 answer is **encephal** for **encephalitis**.

Question 7 of 8: The word for a person who works with the nerves is a **[blank]-ologist**.

Select the correct word part to fill in the blank.

- ☐ opthtal
- ☐ mamm
- ☐ cardi
- ☐ gastr
- ☐ neur
- ☐ colon
- ☐ neur

Question 7 answer is **neur** for **neurologist**.

Question 8 of 8: The word for Inflammation of the nose is **[blank]-itis**.

Select the correct word part to fill in the blank.

- ☐ pharyng
- ☐ neph
- ☐ hepat
- ☐ ot
- ☐ rhin
- ☐ gastr
- ☐ rhin

Question 8 answer is **rhin** for **rhinitis**.

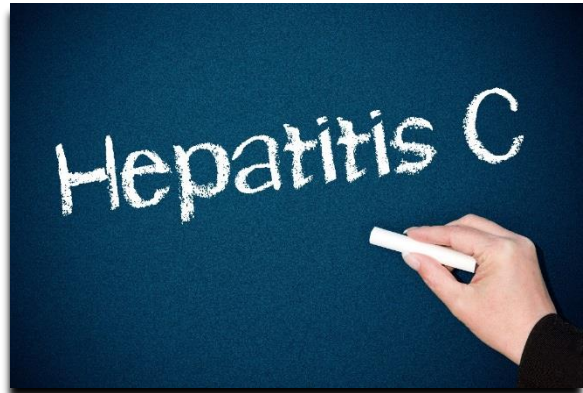
Great job!

Beginnings and Endings!

Is it a beginning or an ending? Beginnings and endings, also called prefix and suffix, are added to word roots to change the meaning or add more information.

In this section, we will use a dash after the word part to show it's a beginning.

Example: **hepat-**



We will use a dash before the word part to show it's an ending.

Example: **-itis**

Beginnings and endings that are about **size**:

- **Macro-** is very large
- **Megalo-** or **-megaly** is large
- **Micro-** is small

Beginnings on **level** or **speed**:

- **Hyper-** is above normal
- **Hypo-** is below normal
- **Tachy-** is fast
- **Brady-** is slow

Beginnings about **where**:

- **Peri-** is around
- **Trans-** is across
- **Endo-** is within or inside
- **Inter-** is between

Here are beginnings about **tests** and **procedures**:

- **Echo-** means using ultrasonic waves
- **Electro-** means using electricity

Here are endings about **tests** and **procedures**:

- **-Ectomy** means removal of
- **-Gram** means a picture
- **-Graph** or **-graphy** means the process of making a picture
- **-Otomy** means making a cut in
- **-Scopy** means use of instrument for viewing
- **-Stomy** means create an opening



Beginnings and endings about **problems**:

- **Dys-** is not working correctly
- **Mal-** is bad
- **-Emia** is blood condition
- **-Itis** is inflammation
- **-Osis** is condition or disease
- **-Pathy** is disease

Endings about **specialties** and **specialists**: who are you going to see?

- **-ology** is the study of a part of the body
So....
- An **-ologist** means a person working with a specific part of the body or a specific disease
- **-iatry** is a medical treatment
So....
- An **-iatrist** means a person providing specific treatment

Now let's see how those beginnings, roots, and endings get combined:

- **Derma-** is skin and **-itis** equals inflammation
So....
- **Dermatitis** is inflammation of the skin
- **Colo-** is colon and **-ostomy** is opening of
So....
- **Colostomy** is creating an opening in the colon



Now that you know **cardi** or **cardio** means heart, look at what else you know!

- **Carditis** is inflammation of the heart
- **Cardiology** is study of the heart
- **Cardiomyopathy** is disease of the heart muscle
- **Echocardiography** is heart test using ultrasonic waves

You now know that **colo** is **colon**, look at what else you know!

- **Colitis** is inflammation of the colon
- **Colectomy** means removal of the colon
- **Colonoscopy** is view of the colon

Now, you know that the word ending of **-itis** means inflammation, look at what else you know!

- **Hepatitis** is inflammation of the liver
- **Pneumonitis** is inflammation of the lungs
- **Gastritis** is inflammation of the stomach
- **Encephalitis** is inflammation of the brain
- **Otitis** is inflammation of the ear

You also now know that the word ending of **-ectomy** equals removal, so...

- **Gastrectomy** means removal of the stomach
- **Colectomy** means removal of the colon
- **Nephrectomy** means removal of the kidney
- **Tonsillectomy** means removal of the tonsils
- **Appendectomy** means removal of the appendix

Now if you go to the doctor and say, "It hurts to swallow. My nose is running and I can't stop coughing."

Your doctor says, "Open wide and say ahh." After looking, your doctor says, "You have **pharyngitis**."

You now know what that is, inflammation (**itis**) of your throat (**pharyng**.)



Now back to the phrase of **transesophageal echocardiogram**, which is the name of a medical test.

We can break up **transesophageal** into the following three parts:

- **Trans** meaning across
- **Esophag** means esophagus or throat
- **Eal** means pertaining to

Transesophageal means a test that involves going across the throat.

We already figured out that **echocardiogram** breaks into three parts:

- **Echo** means using ultrasonic waves
- **Cardio** means heart
- **Gram** means recording

Echocardiogram is a recording of a heart test using ultrasonic waves.

During a **transesophageal echocardiogram**, you swallow a tube that does a heart test using ultrasonic waves.

Try a quiz on word beginnings and endings with [quiz #3, Connecting Word Parts](#) or proceed to the next chapter [Abbreviations](#).

Quiz #3, Connecting Word Parts

Question 1 of 5: The word for inflammation of the area around the heart is **[blank]-card-[blank]**.

Select the correct word parts to fill in the blanks.

- ☐ itis
- ☐ micro
- ☐ chloro
- ☐ oscopy
- ☐ peri
- ☐ endo



Question 1 answer is **peri** and **itis** for **pericarditis**.

Question 2 of 5: The word for disease of the nerves is **neuro-[blank]**.

Select the correct word part to fill in the blank.

- ☐ megaly
- ☐ scopy
- ☐ logy
- ☐ itis
- ☐ gram
- ☐ pathy

Question 2 answer is **pathy** for **neuropathy**.

Question 3 of 5: The word for a picture taken of the heart using electricity is **[blank]-cardio-[blank]**.

Select the correct word parts to fill in the blanks.

- ☐ gram
- ☐ ologist
- ☐ hyper
- ☐ gram
- ☐ scope
- ☐ electro
- ☐ echo

Question 3 answer is **electro** and **gram** for **electrocardiogram**.

Click the correct word part to fill in the blank.

Question 4 of 5: The word for inflammation of the skin is **dermat-[blank]**.

- ☐ pathy
- ☐ stomy
- ☐ itis
- ☐ graph
- ☐ ectomy
- ☐ iatry

Question 4 answer is **itis** for **dermatitis**.

Click the correct word part to fill in the blank.

Question 5 of 5: The word for too much cholesterol in the blood is **[blank]-cholesterol-[blank]**.

- ☐ exo
- ☐ itis
- ☐ pathy
- ☐ hyper
- ☐ megalo
- ☐ emia

Question 5 answer is **hyper** and **emia** for **hypercholesterolemia**.

Great job!

Abbreviations

Some final tips about "alphabet soup." You know—those strings of letters that you see on requests for lab work or other tests.

They aren't words—the letters are shorthand for longer words. They may be abbreviations or acronyms (words made of letters from several words.)

Here are some examples:

- **CBC** is **Complete Blood Count**, a lab test that measures the number of different types of blood cells.
- **UTI** is **urinary tract infection**, an infection of the kidney or bladder.



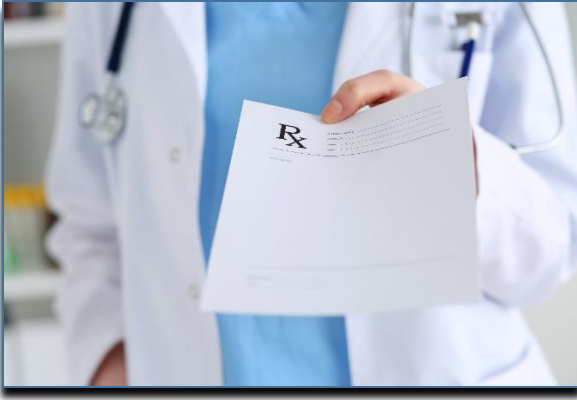
Who invented these? And why? Health professionals use abbreviations so they don't have to repeatedly write out those long medical words!

Sometimes the shortcut is the first letters of a group of words. Sometimes the shortcut is selected letters from one long word.

Other examples:

- **MRI** is **magnetic resonance imaging**, a type of diagnostic test using images.
- **CMV** is **cytomegalovirus**, a virus that causes a variety of infections.

It's all Greek to me! Or Latin! Sometimes the shortcut has from roots in Greek or Latin.



Your doctor gives you a prescription. It says **b-i-d**. What does that mean?

When you get the prescription, the bottle says, "Twice a day." Where is b-i-d?

B-i-d comes from the Latin "**bis in die**" which means **twice-daily dosage**.

Sometimes medical words really ARE a foreign language!

Getting creative with shortcuts. To test the function of your thyroid gland, your doctor may order two tests.

She's written **T3** and **T4**. What's are these?

- **T3** stands for **triiodothyronine**. **Tri** is Greek for **three**.
- **T4** stands for **tetraiodothyronine** or **thyroxine**. **Tetra** is Greek for **four**.

Which would you rather write?

Your doctor might order an **electrocardiogram**, a test that measures electrical waves from your heart.

He might write **EKG** on the prescription pad. Why is **electrocardiogram** abbreviated **E-K-G**?

It is to make sure that you get a heart test instead of a brain test called an **electroencephalogram**, which is written as **EEG**. That could look like **ECG** if the doctor wrote it in a hurry.

You can find more abbreviations at [MedlinePlus: Abbreviations](#).

Try a quiz on things covered so far with [quiz #4, See What You Know Now](#) or proceed to the next chapter [Learn More](#).

Quiz #4, See What You Now Know

You have learned a lot about medical words. Try this quiz to find out how much you now know.

Question 1 of 8: If the doctor wants to look at your colon what is this procedure called?

- ☐ Microscopy
- ☐ Mammography
- ☐ Colonoscopy



Question 1 answer is **colonoscopy**, col means colon and scopy means looking inside.

Question 2 of 8: True or false, **electrocardiogram** is the removal of the heart?

- ☐ "true"
- ☐ "false"

Question 2 answer is **false**. The ending **gram** means a picture not removal. An **electrocardiogram** is a picture of the electrical waves your heart makes.

Question 3 of 8: Which word does not belong?

- ☐ hypersensitivity
- ☐ hyperactivity
- ☐ hypotension

Question 3 answer is **hypotension**. The other two words have the beginning of "**hyper**," which means **high**. The beginning of "**hypo**" means **low**. Very good!

Question 4 of 8: True or false, **appendectomy** is the removal of the gall bladder?

- ☐ "true"
- ☐ "false"

Question 4 answer is **false**. **Appendectomy** is the removal of the **appendix**, not the **gallbladder**. The root for **gallbladder** is **chole**.

Question 5 of 8: What body system does **osteoporosis** affect?

- ☐ heart
- ☐ bone
- ☐ eye

Question 5 answer is **osteo** which means **bone**.

Question 6 of 8: What is it called if you have an **inflammation** of the **colon**?

- ☐ Colostomy
- ☐ Colitis
- ☐ Cholecystectomy

Question 6 answer is **colitis**. **Col** means **colon** and **itis** means **inflammation**.

Question 7 of 8: True or false, **pericarditis** is **inflammation** of the **kidney**?

- ☐ "true"
- ☐ "false"

Question 7 answer is **false**. **Pericarditis** is **inflammation** of the **area around the heart**. The root for kidney is **neph**.

Question 8 of 8: True or false, **hepatitis** is the **inflammation** of the **liver**.

- ☐ "true"
- ☐ "false"

Question 8 answer is **true**. **Hep** is the root for the **liver** and **itis** means **inflammation**.

Great job!

Learn More

Want to learn more? You can find more information on medical words at [Medlineplus: Word Parts and What They Mean](#) and [MedlinePlus: Abbreviations](#). You can also find out more health information at [MedlinePlus: Health Topics](#).

Great job! Congratulations! You've come a long way in learning about medical words!



Things to Remember:

Trusted health information for you, look it up on the [MedlinePlus website](#).