

Chapter 9: Cardiovascular System - Heart

Building a Medical Terminology Foundation 2e – Student Companion by Kimberlee Carter; Marie Rutherford; and Connie Stevens

This book is intended as a companion to *Building a Medical Terminology Foundation 2e* (<https://ecampusontario.pressbooks.pub/medicalterminology2/>).

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Cardiovascular System – Heart

If you would like to review the textbook chapter content, please visit **Chapter 9: Cardiovascular System – Heart [New Tab]**.

Learning Objectives

- Identify the anatomy and describe the main functions of the heart
- Analyze, translate, and define medical terms and common abbreviations of the heart
- Practice the spelling and pronunciation of heart terminology
- Identify the medical specialties associated with the heart and explore common diseases, disorders, and diagnostic tests and procedures

Key Word Components

Identify meanings of key word components of the cardiovascular system – heart:

Prefixes

- a- (absence of, without)
- bi- (two)
- brady- (slow)
- dys- (bad, abnormal, painful, difficult)
- endo- (within, in)
- epi- (on, upon, over)
- hypo- (below, deficient)
- hyper- (above, excessive)

- inter- (between)
- pan- (all, total)
- peri- (surrounding, around)
- poly- (excessive, over, many)
- tachy- (fast, rapid)
- tri- (three)

Combining Forms

- angi/o (vessel)
- ather/o (yellowish, fatty plaque)
- arteri/o (artery)
- atri/o (atrium)
- cardi/o/ (heart)
- coron/o (crown or circle, heart)
- ech/o (sound)
- electr/o (electricity)
- isch/o (deficiency, blockage)
- my/o (muscle)
- myos/o (muscle)
- symptomat/o (symptom)
- thromb/o (clot)
- valv/o (valve)
- valvul/o (valve)
- vas/o (vessel)
- ven/o (vein)
- ventricul/o (ventricle)

Suffixes

- -ac (pertaining to)
- -ade (process of)
- -al (pertaining to)
- -apheresis (removal)
- -ar (pertaining to)
- -centesis (surgical puncture to aspirate fluid)
- -dynia (pain)
- -ectomy (excision, surgical removal)
- -emia (condition of blood)
- -genic (producing, originating, causing)
- -gia (pain)

- -gram (record, radiographic image)
- -graph (instrument used to record)
- -graphy (process of recording, radiographic imaging)
- -ia (condition of, diseased state, abnormal state)
- -ic (pertaining to)
- -ion (process)
- -itis (inflammation)
- -lysis (loosening, dissolution, separating)
- -megaly (enlarged, enlargement)
- -logist (specialist, physician who studies and treats)
- -oma (tumor)
- -osis (abnormal condition)
- -ous (pertaining to)
- -pathy (disease)
- -penia (abnormal reduction in number)
- -pexy (surgical fixation, suspension)
- -plasty (surgical repair)
- -poiesis (formation)
- -sclerosis (hardening)
- -scope (instrument used to view)
- -scopy (process of viewing)
- -stasis (stop, stopping, controlling)
- -stenosis (narrowing, constriction)
- -tomy (cut into, incision)

Cardiovascular System – Heart Words

Cardiovascular System – Heart Medical Terms (Text Version)

Practice the following cardiovascular system – heart medical terms by breaking into word parts and pronouncing.

1. **endocarditis**

- end/o/card/itis
- Inflammation of the inner (lining) of the heart

2. **echocardiogram**

- ech/o/cardi/o/gram

- a record (using) sound of the heart

3. **bradycardia**

- brady/card/ia
- condition of slow heart (rate)

4. **electrocardiograph**

- electr/o/cardi/o/graph
- instrument used to record the electrical (activity) of the heart

5. **tachycardia**

- tachy/card/ia
- condition of fast/rapid heart (rate)

6. **pericardiocentesis**

- peri/cardi/o/centesis
- Surgical puncture to aspirate fluid from the (sac) surrounding the heart

7. **electrocardiogram**

- electr/o/cardi/o/gram
- a record of electrical (activity) of the heart

8. **electrocardiography**

- electr/o/cardi/o/graphy
- process of recording the electrical (activity) of the heart

9. **valvulitis**

- valvul/itis
- inflammation of a valve

10. **pericarditis**

- peri/card/itis
- inflammation of the (sac) surrounding the heart

11. **asymptomatic**

- a/symptomat/ic
- pertaining to without symptoms

12. **myocarditis**

- my/o/card/itis
- inflammation of the muscle of the heart

13. **cardiomegaly**

- cardi/o/megaly
- enlarged heart

14. **atherosclerosis**

- ather/o/scler/osis
- abnormal condition of plaque (build up) causing constriction

15. **valvuloplasty**

- valvul/o/plasty
- surgical repair of a valve

16. **Cardiologist**

- Cardi/o/logist
- A physician who studies and treats diseases of the heart

17. **cardiac**

- cardi/ac
- pertaining to the heart

18. **cardiology**

- cardi/o/logy
- study of the heart

19. **atrioventricular**

- atri/o/ventricul/ar
- pertaining to the atrium and ventricle

20. **cardiogenic**

- cardi/o/genic
- originating in the heart

21. **cardiomyopathy**

- cardi/o/my/o/pathy
- disease of the heart muscle

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Pronouncing and Defining Cardiovascular System – Heart Medical Terms

Cardiovascular System – Heart Terms Not Easily Broken Down (Text Version)

Practice the following **cardiovascular system** words by breaking into word parts and pronouncing.

1. **arrhythmia**
 - deviation in the normal pattern (rhythm) of a heartbeat
2. **congenital**
 - present at birth
3. **stethoscope**
 - An instrument used to hear heart and lung sounds
4. **aneurysm**
 - localized dilation of the wall of a blood vessel
5. **diastole**
 - Phase in the cardiac cycle where heart muscles relax allowing the chambers to fill with blood.
6. **bruit**
 - abnormal blowing, swishing heart sound heard on auscultation
7. **syncope**
 - brief lapse in consciousness (faint)
8. **auscultation**
 - listening to a patient's heart sounds
9. **occlude**
 - block or close tightly
10. **sphygmomanometer**
 - instrument used to measure blood pressure
11. **diaphoresis**
 - profuse (excessive) sweating
12. **myocardial infarction (MI)**

- heart attack, caused by lack of blood flow and oxygen to the heart

13. **systole**

- Phase in cardiac cycle when ventricles contract and eject blood

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Pronouncing and Defining Commonly Abbreviated Cardiovascular System – Heart Terms

Practice pronouncing and defining these commonly abbreviated cardiovascular system – heart terms:

- ACS (acute coronary syndrome)
- AED (automated external defibrillator)
- AFib (atrial fibrillation)
- AI (aortic insufficiency)
- AS (aortic stenosis)
- ASD (atrial septal defect)
- ASHD (arteriosclerotic heart disease)
- AV (atrioventricular)
- BP (blood pressure)
- BPM (beats per minute)
- CABG (coronary artery bypass graft)
- CAD (coronary artery disease)
- CCU (coronary care unit, cardiac care unit)
- CHD (coronary heart disease; chronic heart disease)
- CHF (congestive heart failure)
- CPR (cardiopulmonary resuscitation)
- DVT (deep vein thrombosis)
- ECG, EKG (electrocardiogram)
- ECHO (echocardiogram)
- HF (Heart Failure)
- HHD (hypertensive heart disease)
- HTN (hypertension)
- HR (heart rate)
- ICD (implantable cardioverter defibrillator)
- IV (intravenous)

- MI (Myocardial Infarction)
- PAD (peripheral artery disease)
- PTCA (percutaneous transluminal coronary angioplasty)
- SPECT (single-photon emission computed tomography)
- TEE (transesophageal echocardiogram)
- VSD (ventricular septal defect)

Sorting Terms

Sort the terms from the word lists above into the following categories:

- **Disease and Disorder** (terms describing any deviation from normal structure and function)
- **Diagnostic** (terms related to process of identifying a disease, condition, or injury from its signs and symptoms)
- **Therapeutic** (terms related to treatment or curing of diseases)
- **Anatomic** (terms related to body structure)

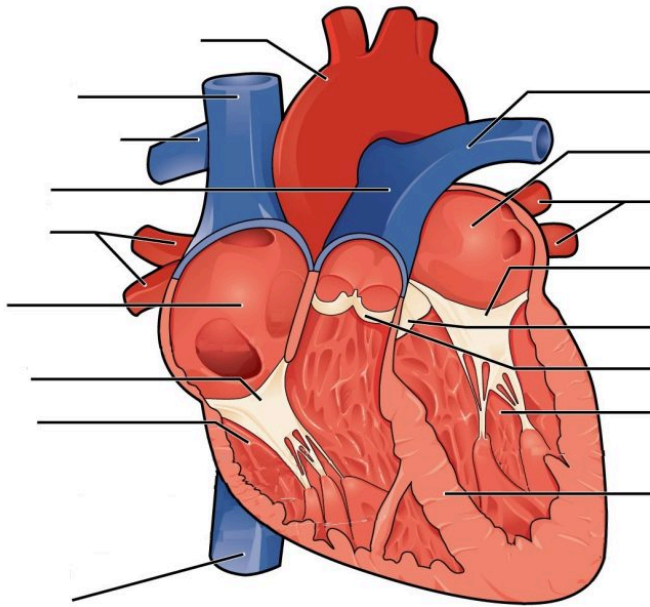
Cardiovascular System – Heart Structures

Label the following heart anatomy in the diagram below:

Cardiovascular System: The Heart Anatomy (Text Version)

Label the diagram with correct words listed below:

- | | | |
|----------------------------|--------------------------|----------------------------|
| 1. Aortic valve | 7. Inferior vena cava | 13. Right pulmonary veins |
| 2. Mitral (bicuspid) valve | 8. Left pulmonary artery | 14. Right pulmonary artery |
| 3. Aorta | 9. Right atrium | 15. Pulmonary valve |
| 4. Pulmonary trunk | 10. Left pulmonary veins | 16. left ventricle |
| 5. Tricuspid valve | 11. Left atrium | 17. Superior vena cava |
| 6. Interventricular septum | 12. Right ventricle | |



Anterior view

Cardiovascular System: The Heart Anatomy Diagram (Text Version)

This diagram shows the heart with an anterior view. The view shows from (from top, clockwise): the largest artery in the body known as the _____[Blank 1]. The _____[Blank 2] is shown which is the only vein in the body to carry oxygenated blood. The heart is divided into four chambers the _____[Blank 3] is one of the four chambers of the heart it is in the upper left portion of the heart. The _____[Blank 4] also known as the bicuspid valve contains two cusps or flaps and is positioned between the left atrium and lower left ventricle. The _____[Blank 5] is a structure located between the aorta and _____[Blank 6] of the heart which is the left lower chamber of the heart. The _____[Blank 7] is a thick wall of tissue that divides the right side of the heart from the left. The _____[Blank 8] lies between the right atrium and pulmonary artery. The _____[Blank 9] is a large vein that carries deoxygenated blood to the heart. The _____[Blank 10] is the lower right chamber of the heart. The _____[Blank 11] lies between the right ventricle and the _____[Blank 12] which is the upper right chamber of the heart. The _____[Blank 13] transfer oxygenated blood from the lungs to the heart. The _____[Blank 14] is part of the _____[Blank 15] and transfers deoxygenated blood to the lungs. The _____[Blank 16] a large vein that returns deoxygenated blood from systemic circulation to the right atrium of the heart.

Check your answers: ¹

Activity source: Cardiovascular System: The Heart Anatomy by Gisele Tuzon, from *Building a Medical Terminology Foundation*, illustration from *Anatomy and Physiology (OpenStax)*, licensed under CC BY 4.0./ Text version added.

Medical Terms in Context

Place the following medical terms in context to complete the scenario below:

Cardiovascular System – Consultation Report (Text version)

Fill in the consultation report with the words listed below:

- shortness
- ECG
- implant
- embolism
- BP
- venous
- CBC and Diff
- hypercholesterolemia
- cardiovascular
- hypertension,
- WBC
- bradycardia
- intravenous

PATIENT NAME: Lorna GILBERT

AGE: 52

SEX: Female

DOB: February 27

DATE OF CONSULTATION: June 12

REQUESTING PHYSICIAN: Trevor Sharpe, MD, Family Medicine

CONSULTING PHYSICIAN: Kevin Palmer, MD, Cardiology

HISTORY: This 52-year-old female was referred to our cardiology clinic by her family physician Dr. Trevor Sharpe. She had visited her physician last month with complaints of persistent fatigue, dizziness, light-headedness, fainting, and an inability to exercise without experiencing _____[Blank 1] of breath. She claims that she is otherwise healthy; however, there is a history of _____[Blank 2] diseases in her family. Her father had developed DVT during a long flight and subsequently suffered from pulmonary _____[Blank 3]. Her mother had idiopathic intracranial _____[Blank 4] and died from MI at a relatively young age. The patient has 3 siblings, 2 of them suffering from hypertension and _____[Blank 5].

LABORATORY DATA: The laboratory results show normal _____[Blank 6]. Hemoglobin, Hct, _____[Blank 7] count, and platelet count are within normal range. The patient's PT and partial thromboplastin time are normal.

ALLERGIES: She is not allergic to any medications.

PHYSICAL EXAMINATION: Today the patient is alert and oriented but feels completely exhausted. She is also complaining of a mild chest pain. Her _____[Blank 8]- is 180/110. Heart rate is in the high 50s with irregular rate and rhythm. NECK: is supple, without jugular _____[Blank 9] distention or bruits. LUNGS: are clear, without wheezing, rhonchi, or rales.

IMPRESSION: I suspect the patient suffers from _____[Blank 10] and needs a pacemaker to regulate her heart rhythms. However, given the significant history of cardiovascular disorders in her family, I will order more tests before making a definite diagnosis.

PLAN: I will admit the patient to a telemetry bed and monitor her for 48 hours. If her chest pain worsens, she will be moved to CCU and will be treated with _____[Blank 11] nitroglycerin. An

_____ [Blank 12] has also been ordered to confirm bradycardia. If the ECG results confirm my speculations, the patient will be scheduled for a pacemaker _____ [Blank 13] as soon as possible.

Kevin Palmer, MD, Cardiology

Note: Report samples (H5P and Pressbooks) are to encourage learners to identify correct medical terminology and do not represent the Association for Health Documentation Integrity (AHDI) formatting standards.

Check your answers: ²

Activity source: Cardiovascular System – Consultation Report by Seedah Akram & Heather Scudder, from *Building a Medical Terminology Foundation* by Kimberlee Carter and Marie Rutherford, licensed under CC BY-4.0. /Text version added.

Test Your Knowledge

Test your knowledge by answering the questions below:

Cardiovascular System – Heart Glossary Reinforcement Activity (Text version)

1. _____ [Blank 1] is the ability of the blood vessels to dilate and constrict as needed.
 - a. Compliance
 - b. LDL
 - c. Syncope
2. A disorder in which too many red blood cells are produced is called _____ [Blank 2].
 - a. Mitral valve
 - b. Polycythemia
 - c. Great vessels
3. _____ [Blank 3] is difficult breathing.
 - a. Dyspnea
 - b. Pacemaker
 - c. Roots of the Great Vessels
4. A condition in which cells receive insufficient amounts of blood and oxygen is called _____ [Blank 4].

- a. Diaphoresis
 - b. Ischemic
 - c. Serous
5. Using extreme heat or extreme cold to destroy cells in part of the heart which were causing abnormal rhythms is called _____[Blank 5].
- a. Congenital
 - b. Ablation
 - c. Cyanosis

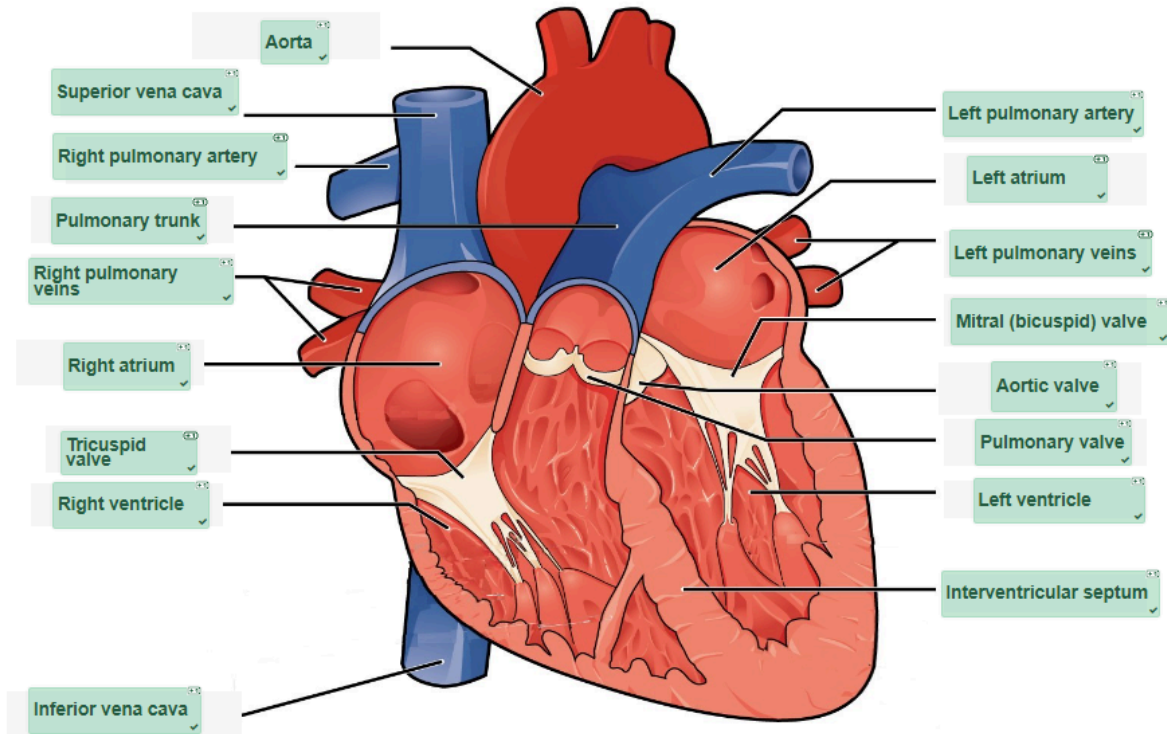
Check your Answers: ³

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Notes



1.

Check your answers: Cardiovascular System: The Heart Anatomy Diagram (Text Version) This diagram shows the heart with an anterior view. The view shows from (from top, clockwise): the largest artery in the body known as the **aorta**. The **left pulmonary vein** is shown which is the only vein in the body to carry oxygenated blood. The heart is divided into four chambers the **left atrium** is one of the four chambers of the heart it is in the upper left portion of the heart. The **mitral valve** also known as the bicuspid valve contains two cusps or flaps and is positioned between the left atrium and lower left ventricle. The **aortic valve** is a structure located between the aorta and **left ventricle** of the heart which is the left lower chamber of the heart. The **interventricular septum** is a thick wall of tissue that divides the right side of the heart from the left. The **pulmonary valve** lies between the right ventricle and pulmonary artery. The **inferior vena cava** is a large vein that carries deoxygenated blood to the heart. The **right ventricle** is the lower right chamber of the heart. The **tricuspid valve** lies between the right ventricle and the **right atrium** which is the upper right chamber of the heart. The **right pulmonary veins** transfer oxygenated blood from the lungs to the heart. The **pulmonary trunk** is part of the **right pulmonary artery** and transfers deoxygenated blood to the lungs. The **superior vena cava** is a large vein that returns deoxygenated blood from systemic circulation to the right atrium of the heart.

1. shortness 2. cardiovascular 3. embolism 4. hypertension 5. hypercholesterolemia 6. CBC and Diff 7. WBC 8. BP 9. venous 10. bradycardia 11. intravenous 12. ECG 13. implant
1. Compliance, 2. Polycythemia, 3. Dyspnea, 4. Ischemic, 5. Ablation



Cardiovascular Combined Chapter 9 and 10 Worksheet

Instructions

Work through the chapter and find the meaning for the following prefixes, suffixes, and abbreviations. Add in any that are missing on the worksheet.

Prefixes and Suffixes

Prefix	Meaning	Suffix	Meaning
brady-		-ac	
pan-		-apheresis	
tachy-		-ar	
		-centesis	
		-ectomy	
		-genic	
		-gram	
		-graph	
		-graphy	
		-ia	
		-itis	
		-lysis	
		-megaly	
		-logist	
		-oma	
		-osis	
		-tomy	
		-ous	
		-pathy	
		-penia	
		-pexy	
		-plasty	
		-poiesis	
		-sclerosis	
		-scope	
		-scopy	
		-stenosis	

Abbreviations

Abbreviation	Meaning
ACS	
AFib	
AICD	
aPTT	
AV	
BP	
CABG	
CAD	
CBC and DIFF	
CCU	
CPK	
CPR	
DSA	
DVT	
ECG, EKG	
ECHO	
Hct	
HF	
Hgb	
HHD	
HTN	
IV	
MI	
PAD	
PT	
PTCA	
RBC	
SPECT	
TEE	
WBC	

Words easily broken into word parts listed by combining form (root)

Review of Word Parts

Please note that sometimes words are made up of word parts but are not translated literally. Several combining forms are shown in bold below. List their meaning from chapter 9 and 10.

angi/o –

1. angioma -
2. angiostenosis
3. angioplasty
4. angiography
5. angioscope
6. angiосcopy

aort/o -

7. aortic stenosis
8. aortogram

arteri/o -

9. arteriosclerosis
10. arteriogram
11. endarterectomy
12. polyarteritis

ather/o -

13. atherosclerosis
14. atherectomy

atri/o-

15. atrioventricular (AV)

cardi/o-

16. bradycardia
17. cardiomegaly
18. cardiomyopathy
19. endocarditis
20. myocarditis
21. pericarditis
22. tachycardia
23. pericardiocentesis
24. echocardiogram (ECHO)
25. electrocardiogram (ECG,EKG)
26. electrocardiograph
27. electrocardiography

- 28. cardiac
- 29. cardiogenic
- 30. cardiologist
- 31. cardiology

cyt/o –

- 32. erythrocytopenia
- 33. pancytopenia
- 34. leukocytopenia

ech/o -

- 35. echocardiogram (ECHO)

electr/o -

- 36. electrocardiogram

hemat/o, hem/o –

- 37. hematoma
- 38. hematologist
- 39. hematology
- 40. hematopoiesis
- 41. hemolysis
- 42. hemostasis

isch/o-

- 43. *ischemia

lymph/o –

- 44. lymphoma

lymphaden/o-

- 45. lymphadenitis
- 46. lymphadenopathy

myel/o-

- 47. multiple myeloma

48. myelopoiesis

phleb/o-

49. Phlebitis

50. phlebectomy

51. phlebotomy

52. phlebologist

53. phlebology

54. thrombophlebitis

plasm/o

55. plasmapheresis

therm/o

56. hypothermia

thromb/o

57. thrombophlebitis

58. thrombocytopenia

59. thrombosis

60. thrombus

61. thrombolysis

thym/o

62. thymoma

63. thymectomy

splen/o

64. splenomegaly

65. splenectomy

66. splenopexy

valv/o, valvul/o

67. valvulitis

68. valvuloplasty

ven/o

- 69. venogram
- 70. intravenous (IV)

ventricul/o

- 71. atrioventricular

Words not built from word parts that you should memorize:

- 72. aneurysm
- 73. arrhythmia
- 74. anemia
- 75. sepsis
- 76. sphygmomanometer
- 77. bruit
- 78. occlude
- 79. phlebotomist
- 80. systole
- 81. anaphylaxis
- 82. immunodeficiency

Definitions Using Word Parts



(Cardiovascular - Heart)

Definitions Using Word Parts – Cardiovascular - Heart

Instructions

Type the terms from the numbered list found below. For each term keyed, divide the combining form, suffix, and prefix with a slash to show the individual word parts. Then define the term in your own words according to the rules provided in the resource (reading from the suffix, then back to the beginning of the word, then across). Be sure to number each term in your document.

Example

hepat/itis - inflammation of the liver

Define the following terms by breaking into word parts:

1. Arrhythmia
2. Atherosclerosis
3. Atrioventricular
4. Bradycardia
5. Cardiogenic
6. Cardiologist
7. Cardiomegaly
8. Cardiomyopathy
9. Diastole
10. Echocardiogram
11. Electrocardiograph
12. Electrocardiography
13. Endocarditis

14. **Epicardium**
15. **Hypertension**
16. **Hypertrophy**
17. **Hypotension**
18. **Interventricular**
19. **Myocarditis**
20. **Myocardium**
21. **Pericardiocentesis**
22. **Pericarditis**
23. **Stethoscope**
24. **Systole**
25. **Tachycardia**
26. **Valvulitis**
27. **Valvuloplasty**
28. **Ventricular**

ACTIVITY

Words Not Easily Broken into Word Parts

(Cardiovascular - Heart)



Words Not Easily Broken into Word Parts – Cardiovascular - Heart

Instructions

Type the words listed below this section. Define the word in your own words. Please number the terms.

Example

1. Cancer - A disease caused by an uncontrolled division of abnormal cells in a part of the body

Term List:

Type these terms and provide a definition for the words not easily built from word parts:

1. Aneurysm
2. Auscultation
3. Diaphoresis
4. (Myocardial) Infarction
5. Syncope