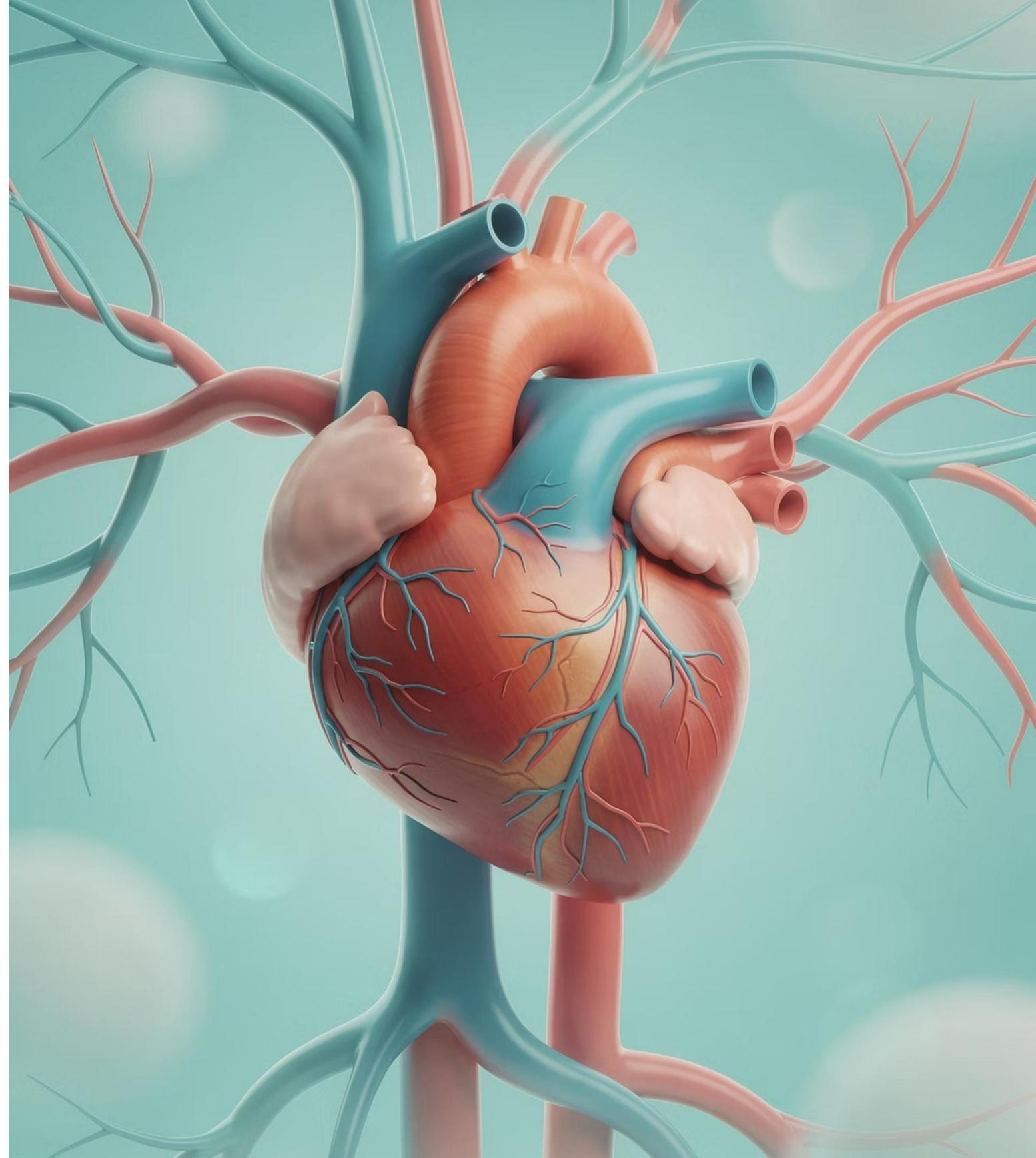


Cardiovascular System, Blood & Lymphatic Systems Body Fluids and Circulation

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Learning Objectives

By the end of this lecture, students will be able to:

- **Identify prefixes, roots, and suffixes related to cardiovascular, blood, and lymphatic systems**
- **Construct and analyze medical terms correctly**
- **Understand the clinical meaning of common terms**
- **Apply terminology in basic medical contexts**



PART I

Cardiovascular System Terminology

(Heart and Blood Vessels)

1. System Overview

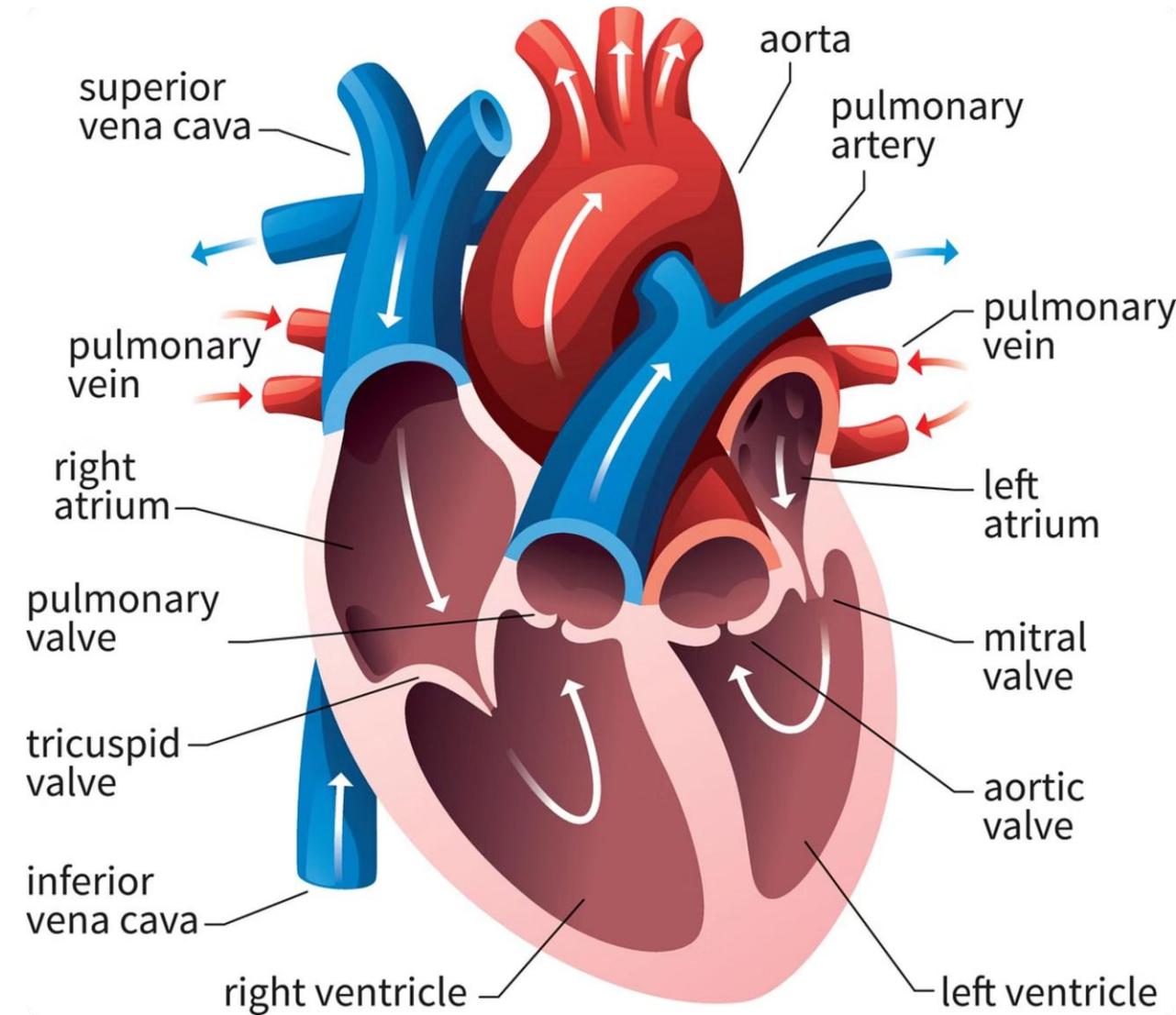
The cardiovascular system is responsible for:

- Pumping blood throughout the body
- Supplying oxygen and nutrients
- Removing metabolic waste

It consists of:

- Heart
- Arteries
- Veins
- Capillaries

Understanding medical terminology helps in interpreting cardiovascular diseases and procedures.



1. Cardiovascular Prefix + Root + Suffix Table

Prefix	Root	Suffix	Medical Term	Meaning
brady-	cardi	-ia	Bradycardia	slow heart rate
tachy-	cardi	-ia	Tachycardia	fast heart rate
hyper-	tens	-ion	Hypertension	high blood pressure
hypo-	tens	-ion	Hypotension	low blood pressure
endo-	cardi	-itis	Endocarditis	inflammation of inner heart layer
peri-	cardi	-itis	Pericarditis	inflammation of heart sac
ather/o	scler	-osis	Atherosclerosis	narrowing of arteries
dys-	rhythm	-ia	Dysrhythmia	abnormal heart rhythm

2. Clinical Explanation

Cardia refers to the heart

-itis always indicates inflammation

Hyper / Hypo describe increase or decrease

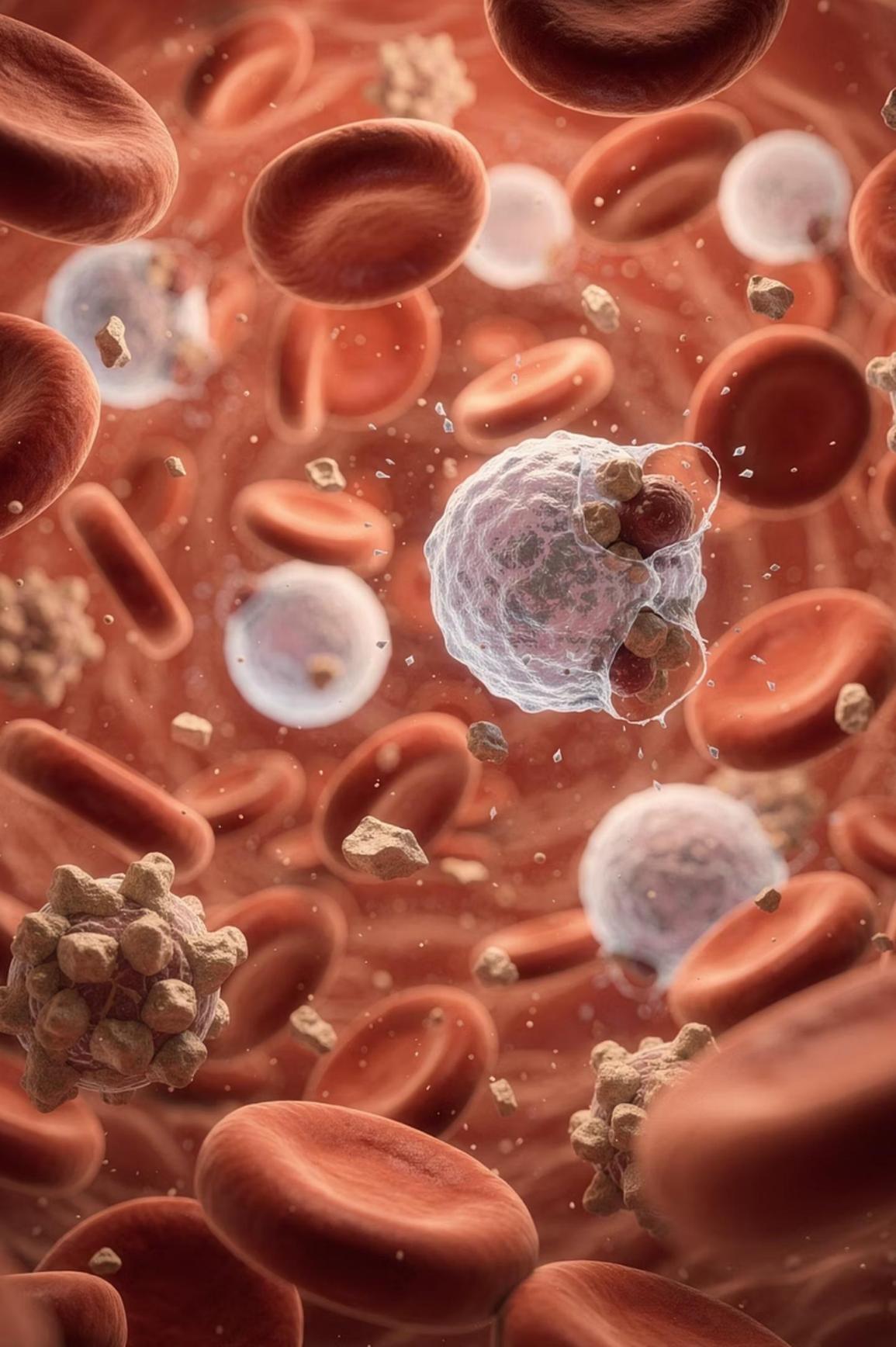
📌 **Example:** Hypertension = hyper (high) + tension (pressure)

PART II

Blood System

Terminology

Blood System Overview



Blood performs vital functions:

- **Oxygen transport**
- **Immune defense**
- **Clot formation**
- **Nutrient delivery**

1. Blood Prefix + Root + Suffix Table

Prefix	Root	Suffix	Medical Term	Meaning
hypo-	chrom	-emia	Hypochromemia	low haemoglobin level
poly-	cyt	-emia	Polycythemia	increased red blood cells
leuko-	cyt	-osis	Leukocytosis	increased white blood cells
thrombo-	cyt	-penia	Thrombocytopenia	low platelets
pan-	cyt	-penia	Pancytopenia	deficiency of all blood cells
anti-	coagul	-ant	Anticoagulant	prevents blood clotting
hyper-	coagul	-ation	Hypercoagulation	excessive clot formation

2. Clinical Explanation



-emia indicates a blood condition



-penia means deficiency



-cyt refers to cells

 **Example:** Leukocytosis = leuko (white) + cyt (cell) + osis (increase)

Lymphatic System Terminology

The lymphatic system:

- Maintains fluid balance
- Supports immune function
- Filters pathogens

Main components:

- Lymph
- Lymph nodes
- Lymph vessels
- Spleen

1. Lymphatic Prefix + Root + Suffix Table

Prefix	Root	Suffix	Medical Term	Meaning
lymph	aden	-itis	Lymphadenitis	inflamed lymph nodes
dys-	lymph	-ia	Dyslymphia	abnormal lymph flow
hyper-	lymph	-ia	Hyperlymphia	excess lymph
lymph	—	-oma	Lymphoma	lymphatic cancer
splen	—	-megaly	Splenomegaly	enlarged spleen
immun	—	-ity	Immunity	immune protection

Lymphaden- refers to lymph nodes

- **Lymphadenitis:** Inflammation of a lymph node.
- **Lymphadenopathy:** Enlargement or disease of the lymph nodes, often a sign of infection or cancer.

-oma indicates tumor or mass

- **Lymphoma:** A type of cancer that begins in infection-fighting cells of the immune system, called lymphocytes, which are found in the lymph nodes, spleen, thymus, and bone marrow.
- **Thymoma:** A tumor originating from the epithelial cells of the thymus.

-megaly means enlargement

- **Splenomegaly:** Enlargement of the spleen, which can be caused by infections, liver disease, or certain blood cancers.
- **Hepatomegaly:** Enlargement of the liver (often seen with splenomegaly in systemic diseases).

Lymph- refers to lymph or lymphatic vessels

- **Lymphocyte:** A type of white blood cell (leukocyte) that is part of the immune system.
- **Lymphangioma:** A benign tumor of the lymphatic vessels.
- **Lymphedema:** Swelling caused by a buildup of lymph fluid in the body, often due to a blockage in the lymphatic system.

-itis signifies inflammation

- **Lymphangitis:** Inflammation of the lymphatic vessels, often characterized by red streaks extending from an infected area towards lymph nodes.
- **Tonsillitis:** Inflammation of the tonsils, which are part of the lymphatic system located in the throat.

Thym- refers to the thymus gland

- **Thymectomy:** Surgical removal of the thymus gland, sometimes performed in cases of thymoma or certain autoimmune diseases like myasthenia gravis.
- **Thymic Hypoplasia:** Underdevelopment of the thymus, leading to impaired T-cell maturation and immune deficiencies.

Body Fluids and Circulation Terminology

They are divided into:

- Intracellular
- Extracellular

Body Fluids Overview

Body fluids are essential for:

- Cellular metabolism
- Temperature regulation
- Transport of nutrients and waste

1. Body Fluids & Circulation Prefix + Root + Suffix Table

Prefix	Root	Suffix	Medical Term	Meaning
hyper-	volem	-ia	Hypervolemia	excess blood volume
hypo-	volem	-ia	Hypovolemia	decreased blood volume
intra-	ven	-ous	Intravenous	within a vein
extra-	cellular	-ar	Extracellular	outside the cell
isch	-	-emia	Ischaemia	reduced blood supply
edem	-	-a	Oedema	fluid accumulation
de-	hydrat	-ion	Dehydration	loss of body fluids