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Official Preparation

of

Calcium, Ferrous and Iodine

Iron Compounds

In medicine,

a) Ferrous salts(Fe^{++})

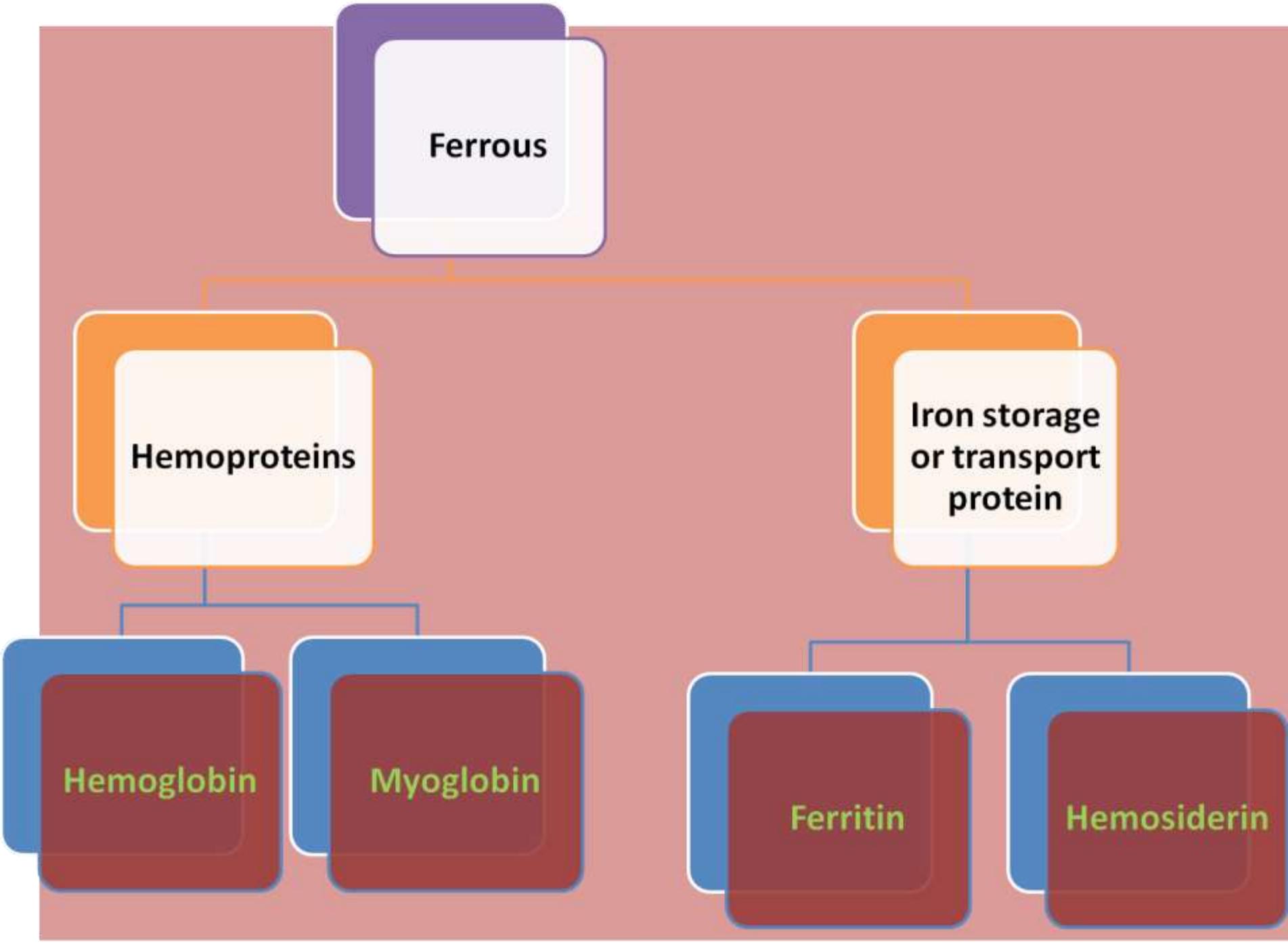
b) Ferric salts(Fe^{+++})

Eg: Ferric ammonium citrate

Iron is,

- **essential constituent of body.**
- **45 mg/kg body weight**
- **Very imp role in body function.**
- **Essential constituent of blood system and tissue.**

- Associated with following types of proteins,
  a) Hemoproteins
  b) Iron storage / transport proteins.
- Food is common source
- Content of iron in body is regulated by absorption


Ferrous
Hemoproteins
Iron storage or transport protein
Hemoglobin
Myoglobin
Ferritin
Hemosiderin

Official Preparation

- Ferrous Sulphate
- Ferrous Sulphate Tablets
- Dried Ferrous Sulphate
- Ferrous Sulphate mixture paedriatic
- Ferric Ammonium Citrate
- Ferrous Fumarate

- Ferrous Fumarate Tablets
- Ferrous Gluconate
- Ferrous Gluconate Tablets
- Ferrous Succinate
- Ferrous Succinate Tablets and capsules
- Iron & Dextran Injection
- Iron Sorbital Injection

Ferrous Sulphate

$FeSo_4. 7\ H_2O$

MOP:

By dissolving iron in dilute suphuric acid

Physical Properties

- Pale bluish – green crystalline powder
- Odorless
- Metallic astringent taste
- Soluble in water
- Insoluble in ethanol

Uses

Storage

“ It should be stored in well closed air tight container at a cool place.”

Incompatibility

Official Preparation

- Ferrous Sulphate
- Ferrous Sulphate Tablets
- Dried Ferrous Sulphate
- Ferrous Sulphate mixture paedriatic

Calcium Compounds

- One of essential element
- Required for various function
- 90% of body calcium found in bone as a calcium carbonate and calcium phosphate
- Remaining calcium found in extracellular fluids.
- In body it is in various form

Calcium is ingested through normal diet.

Daily requirement = 450 mg

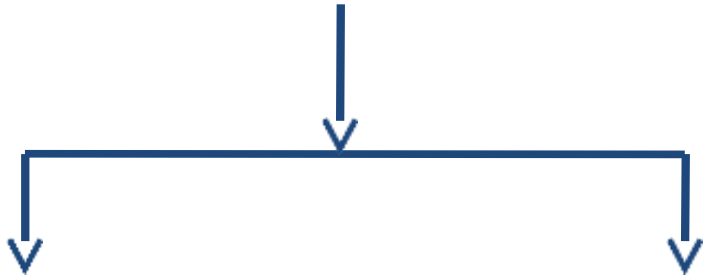
It is absorb from upper intestinal tract

Excreted through kidney.

Role of calcium:

- Essential for normal functioning of ANS & Voluntary systems.
- Maintenance of normal body functions
- Normal cardiac function
- Important for coagulation
- Formation of tissue and bones.

Calcium Deficiencies Condition



Hypocalcemia

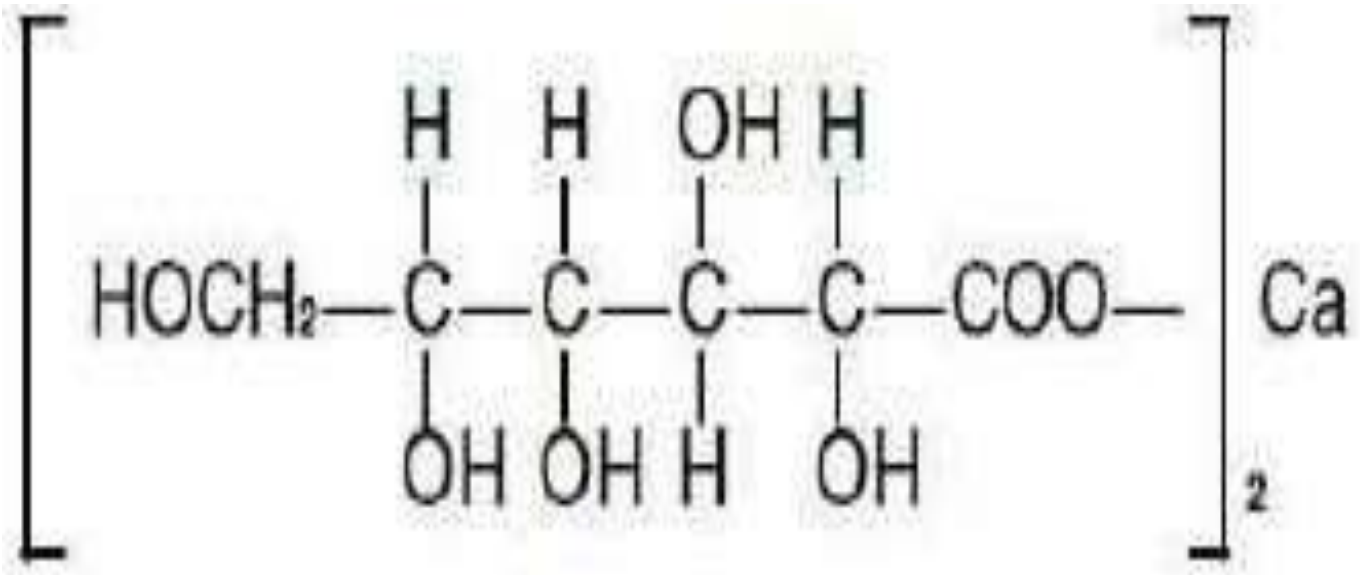
- Less than normal
- Tetany – increased neuromuscular excitability, muscle cramps etc.
- Convulsions

Hypercalcemia

- More than normal
- Loss of weight
- Bradycardia
- Muscular pain
- Cardiac arrhythmia.

Calcium Gluconate

$C_{12}H_{22}CaO_{14}. H_2O$



MOP

By using glucose and calcium carbonate with oxidizing agent

Physical Properties

- White crystalline powder
- Odorless
- Tasteless
- Sparingly soluble in water
- Insoluble in alcohol

Uses

- Used in treatment of calcium deficiency
- Source of calcium
- Used in treatment of Hypocalcemia tetany
- It may be used to treat bone loss (osteoporosis)
- It may be used to treat weak bones (osteomalacia/rickets)
- decreased activity of the parathyroid gland (hypoparathyroidism)

Storage

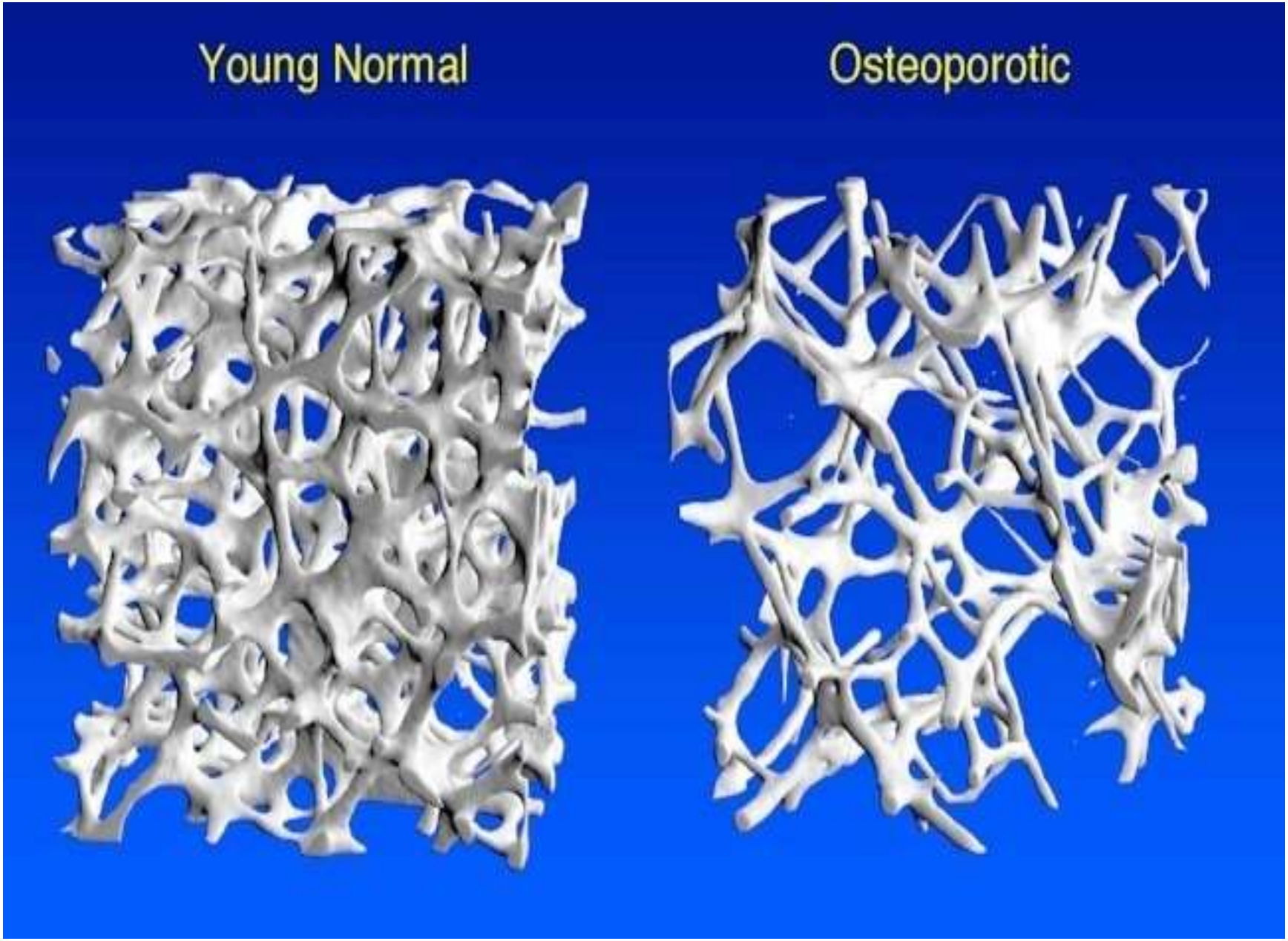
“ It should be stored in well closed container at a cool place.”

Incompatibility

With oxidizing agent, oxalates and borates

Official Preparation

- Calcium Gluconate
- Calcium Gluconate injection
- Calcium Gluconate Tablets


Young Normal
Osteoporotic