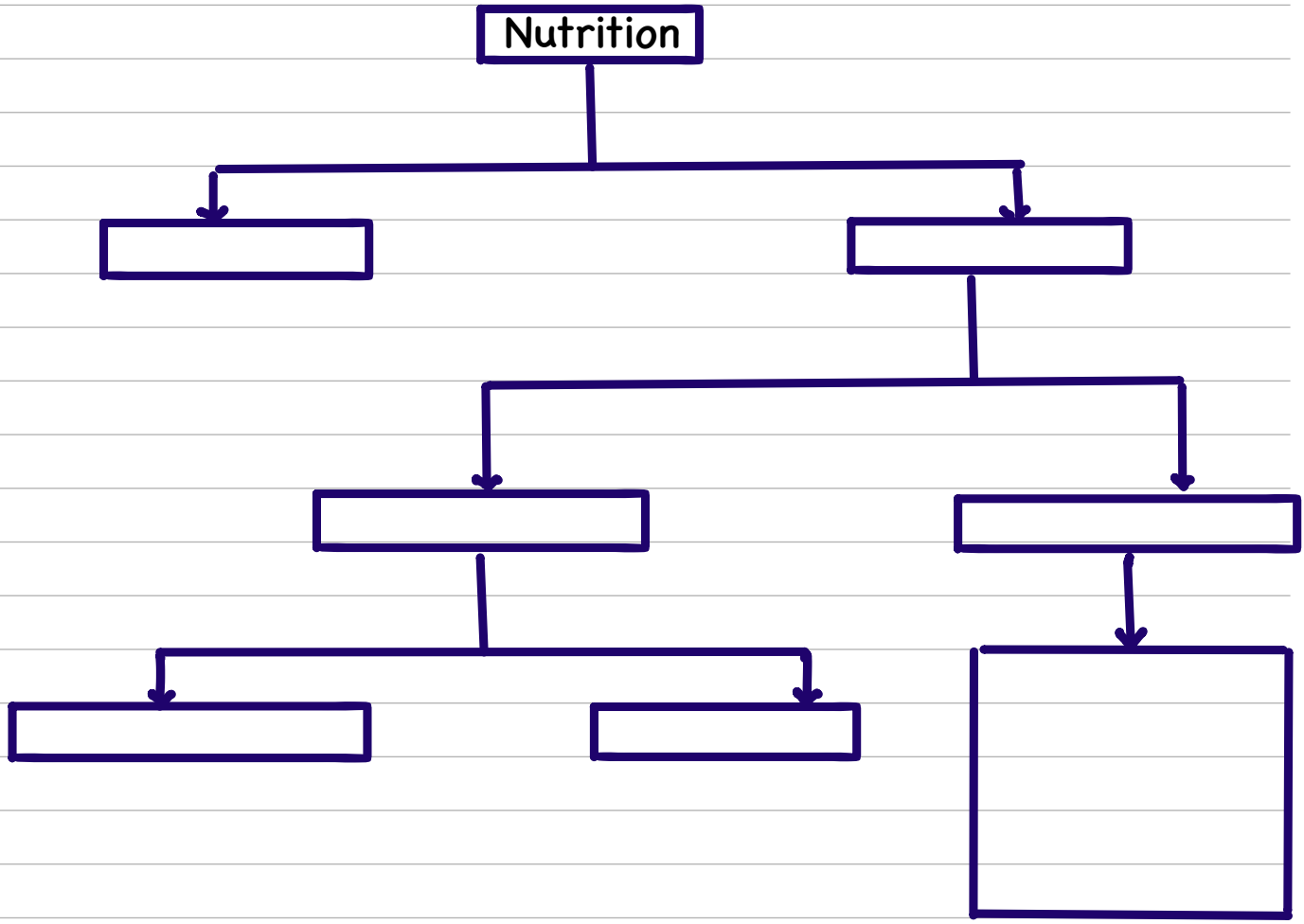
Chapter 33
Nutrition



Atkin diet - ……protein ……fat ……carbohydrate

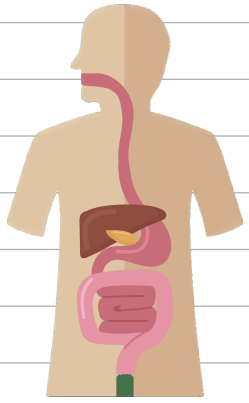
Vitamin A

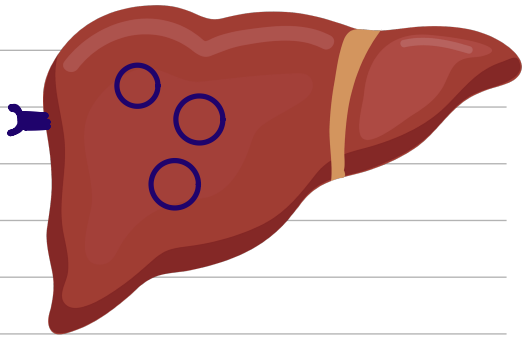
Forms of vitamin A - Retinal
Retinol
Retinoic acid

Function +

Precursor -

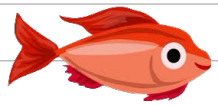
Vit A absorption





So vit. A uptake in liver is by ……. & stored in …… …… ……. Cell.

Source

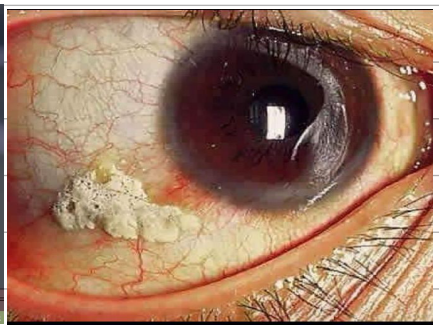




Recom. Daily allowance (RDA)
Child (1-6) -400 mcg/day Pregnancy-800 mcg/day Lactation-900 mcg/day

Vit A deficiency -







Abbreviation	*Form of xeropthalmia*
XN	Night blindness in children
X1A	Conjuctival xerosis
X1B	Bitot's spots
X2	Corneal xerosis
X3A	Corneal ulceration/keratomalacia < 1/3 corneal surface
X3B	Corneal ulceration/keratomalacia ≥ 1/3 corneal surface
XS	Corneal Scar
XF	Xerophthalmic fundus
pXN	Maternal night blindness

Vitamin A uses as therapeutic agent -

-
-

Extra point

Side effect of vit A

Vitamin D

Form -Calciferol

Cholecalciferol

Ergocalciferol

Richest source -

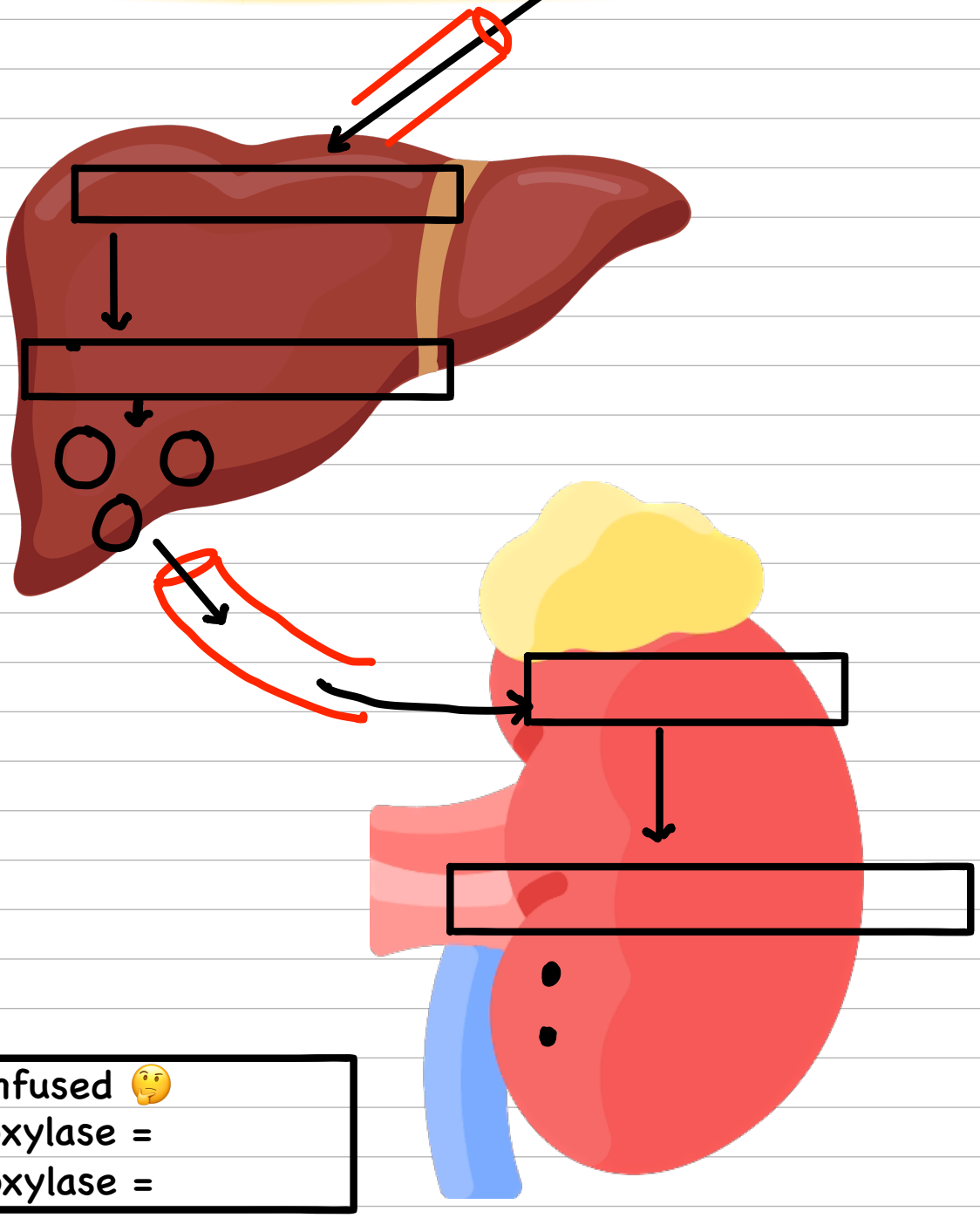
Recom. Daily allowance (RDA)
Child - 10 mcg / day
Adult - 5 mcg/ day
Pregnacny - 10 mcg /day

Vit D synthesis



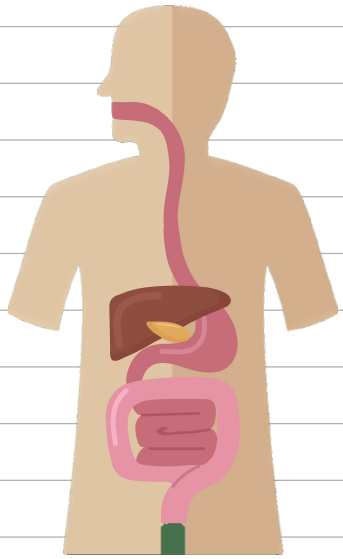
Skin

Adipose tissue -Cholesterol



Don't get confused 🤔
1 -α- Hydroxylase =
7 -α- Hydroxylase =

Function of Vit D





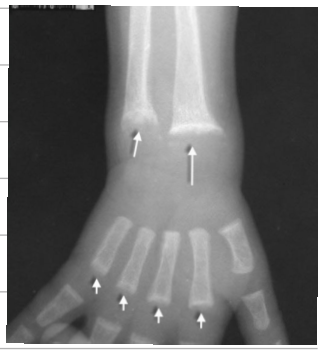


Clinical co-relation

Vit D deficiency –







Vitamin D deficiency - incease risk of - cancer - ……

……

……

Vitamin E –

Most potent antioxidant -

Deficiency of vit E -

Vitamin having anti-oxidant property -

Effect of selenium on vit E -

Vitamin K

Form-

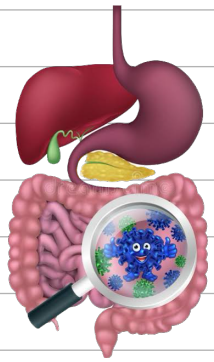
Function -

Factor 2/7/9/10 + Protein c/s → Contains → 

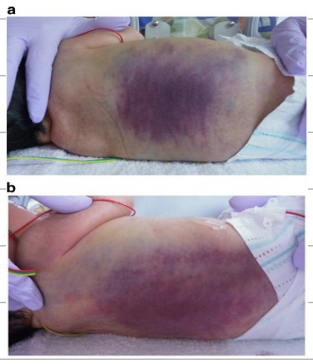
Vitamin k- toxicity-

Vitamin K antidote -

Clinical co-relation -







Vitamin B1

A/c/a -……\……

Active form - ……. …

Function- ……

……

……

……

Clinical co-relation -

- Glucose
- Glycolysis
- Pyruvate
- [ ]
- [ ]

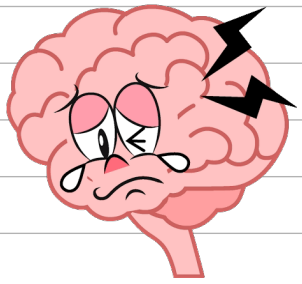
- Beri - beri

- Deficiency of vit B1



Ch. alcoholic

Damage to



……

……



Diagnosis -

Rx-

If treatment is not given -

Korsakoff psychosis -



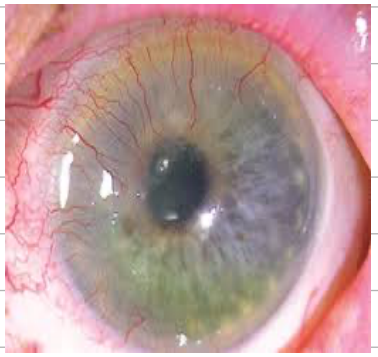
Vitamine B2

- a/c/a - ……/……
- Active form -
  -
-

Deficiency of vitamin B1







Vitamine B3

a/c/a - ……

Can be sythesized from …… AA.

Tryptophan ……Pathway → Niacin

RLS-

Coenzyme -

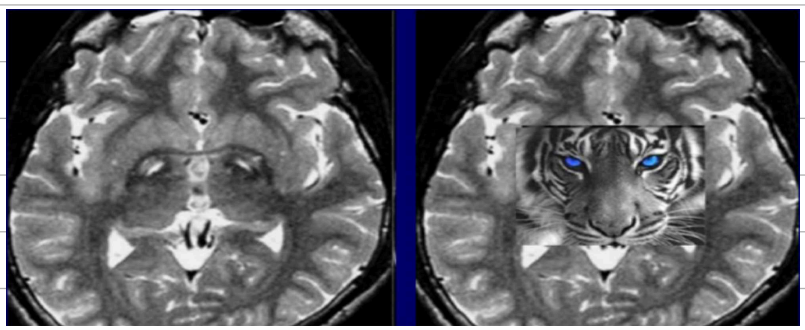
Deficiency of niacin-

Vitamin B5

a/c/a -

Deficiency leads to -

MRI -



Deficiency leads to -



Vitamin B6

a/c/a -……

Function - 1 …… 2……

Vitamin B7

a/c/a - …… /……

Function-

Vit B7 can be synthesized by …… ……. ……
So deficiency is rare , but deficiency can occur if there is high intake of …… …… which contains …… and …… absorption of vit B7.

Vitamin B9

a/c/a - ……



DHF - dihydro folate
THF - tetra hydro folate

💉Pharma connection

Deficiency - in pregnancy leads to -

To confirm vit B9 deficiency - …… loading test is done .

Q - which of the following contains cobalt -
a) vit b1
b) vit b6
c) vit b9
d) vit b12

Vitamin B12

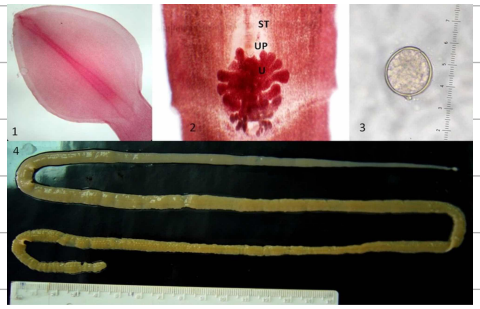
Also called as -

Absorption at - …… with the help of ……factor.

Deficiency leads to -

-

Deficiency is common in-



Vitamin C

a/c/a -

Cannot be synthesized in humans due to physiological deficiency Of enzyme - ……

Function-

Deficiency. -

Minerals

Iron

Best indicator for iron store -

Ferritin

Hemosiderin

Iron toxicity leads to

Chromosome - …… --> ……gene mutation

C/f -

Investigation

Rx -

Iron is cofactor of enz - ……

Copper

Cofactor of -

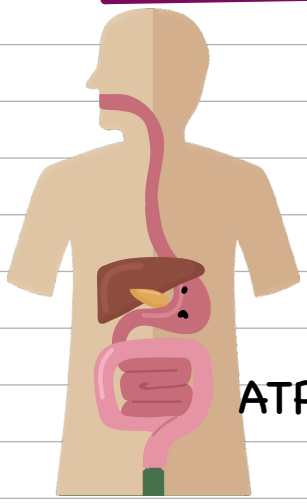
-

Deficiency -

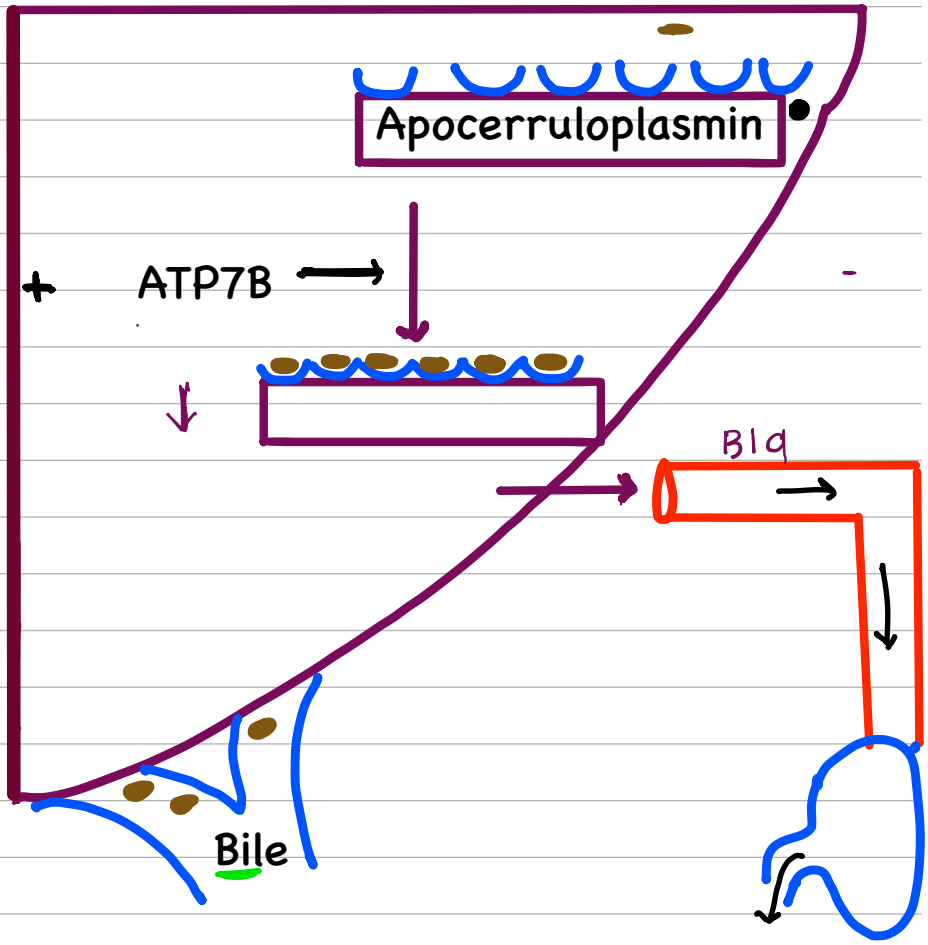
Toxicity -

Wilson disease -

Pathogenesis -



ATP 7A



ATP7B

ATP 7B defect - …… form of cerruloplasm & ……

Excreation if copper in bile

↓

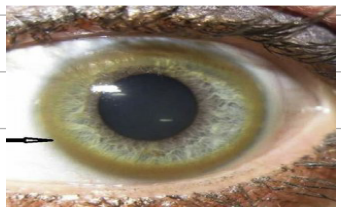
So copper acculates in liver

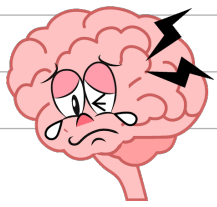
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Distruction of hepatocyte

↓

Copper will come in blood & can deposite in different parts of body





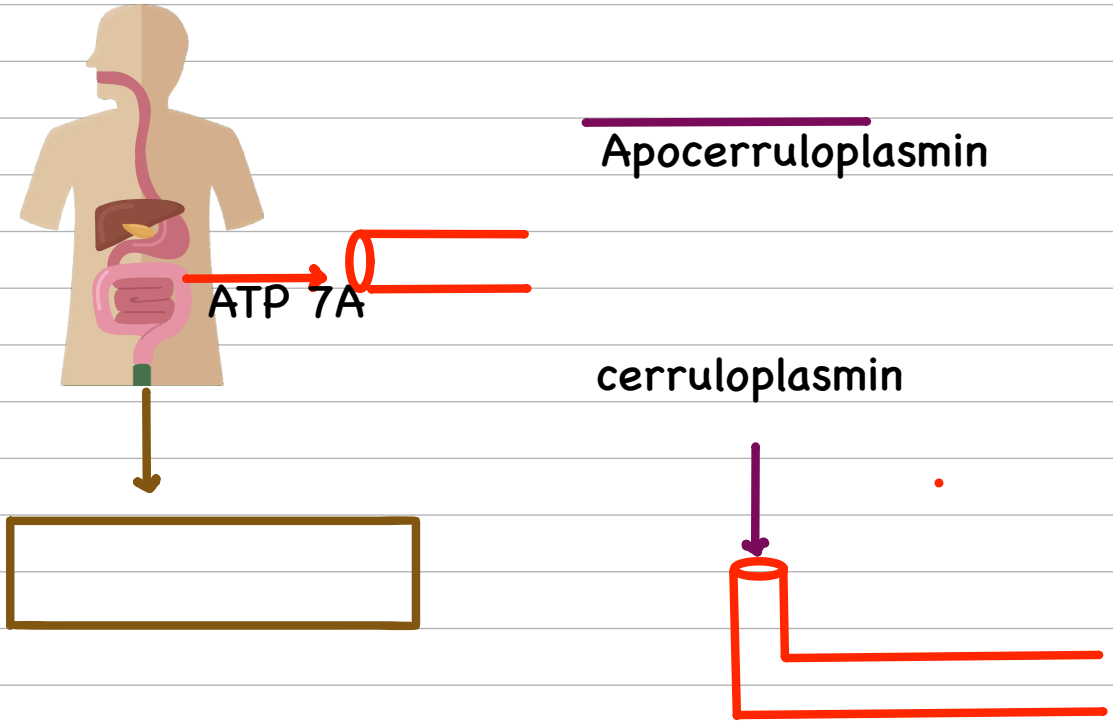
Investigation- serum copper level ……

Serum cerruloplasmin level ……

Gold standard for diagnosis -

Rx -

Menke disease



In menke disease - serum copper -

Serum cerruloplasmin -

Zinc

Function-

Deficiency -



Selenium

Deficiency -

Toxicity -

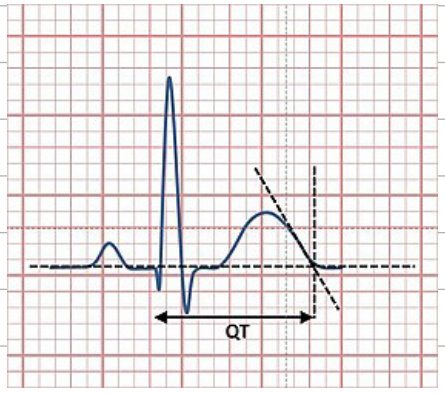
Calcium

Total body calcium -

Normal blood calcium level -

Function-

ECG relation -



S. Calcium

Qt interval