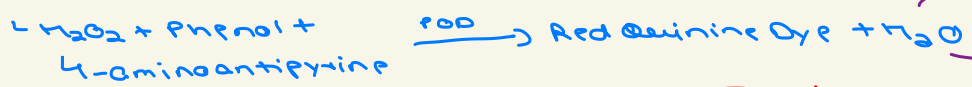
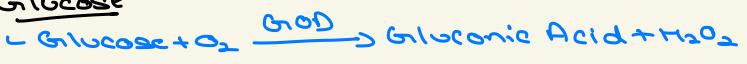


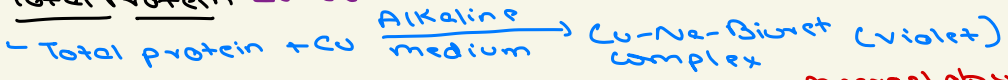
Glucose



70-110, 100-140
110-126,
140-200
→ 126, 7200

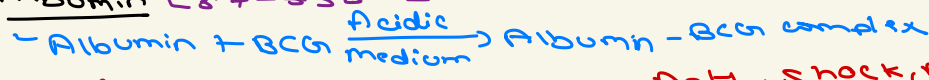
- ↑ - Hyper A of adrenal, Stress, mild Exercise
- ↓ - Tumor of P cell, HypoA, Starvation, ↓ absorption, Severe exercise

Total Protein [6-8gm/dl]



- ↑ - Collogen disease, multiple myeloma, macroglobulinemia, Dehydration
- ↓ - PEM, ↓ intake, nephrotic sd, liver ds, chronic infection, untreated DM, overhyd, hyperT

Albumin [2.7-5.3%]



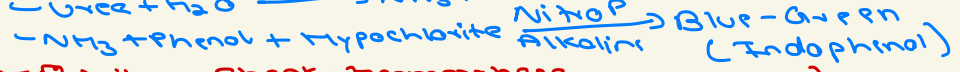
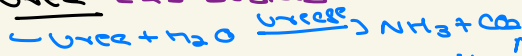
- ↑ - Tissue damage, Inflamm, DeH, Shock, malignancy
- ↓ - malN, liver ds, Nephrotic, hyperT, Untreated DM, Plasma dilution

Creatinine [μ - 1.0mg/dl, m - 0.7-1.4mg/dl, f - 0.5-1.0mg/dl]



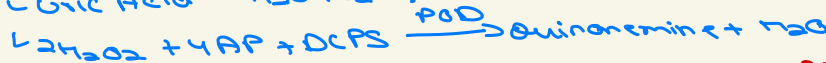
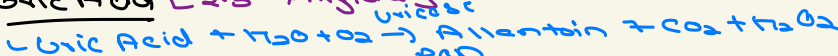
- ↑ - Renal failure, muscular Dystrophy, Polio (Early stage)
- ↓ - muscle wasting (Later stage)

Urea [22-30g/d]



- ↑ - D failure, Shock, Hemorrhage, (Pre-Renal) DeH (Vomiting, Diarrhea)
- Acute GlomerulN, Nephrotic, Renal Tb (Renal)
- Prostate ↑, Stone, Bladder tumor (Post-renal)

Uric Acid [2.5-7 mg/dl]



- ↑ - 1° - PRPP synthetase ↑, HGPRTase ↓, G6PD ↓
2° - Cancer, Psoriasis
- ↓ - Renal failure, Lactic Acidosis

Cholesterol [$<200\text{mg/dL}$, $<180\text{mg/dL}$]

- $\text{C} + \text{H}_2\text{O}$ Esterase \rightarrow Cholesterol + FFA
- $\text{C} + \text{O}_2$ Oxidase \rightarrow Cholesterol + H_2O
- $\text{H}_2\text{O}_2 + 4\text{-aminoantipyrene} + \text{Phenol} \xrightarrow{\text{POD}}$ Quinonimine dye + H_2O

- \uparrow - HypoT, DM, Obstructive Jaundice, Nephrotic wasting
- \downarrow - HyperT, Anemia, Hemolytic Jaundice, Malabsorption,

Phosphorus [Fiske Subbarow, 2.4-4.5mg/dL]



- \uparrow - HypoP, Renal failure, Hemolysis, Vitamin D intoxication
- \downarrow - HyperP, Osteomalacia, Rickets, Diet \downarrow (Fanconi)

-X-X-

- Protein - Esbach Test, Yellow ppt.
 - Heart failure, Nephrotic, Stone, UTI
- Reducing Sugar - Benedict, SmiBA + 8dU \rightarrow Boil 2-3 (cool) (Cr, Y, O, R)
 - DM, Fanconi, Lactating mother, Fructose Intolerance, Galactosemia, Cherry Plum
 - BR - CuSO_4 , Na_2CO_3 , Sodium Citrate

Abnormal Urine

- Ketone Bodies - Rothera (Purple Ring)
 - SmIUt + 8 (NH)₂SO₄ + 0.5M sodium nitroprusside + liquor NH₃
 - Uncontrolled DM, Starvation, Toxemia of pregnancy, High fat low carb

- Bile Salt - May's Sulphur
 - Dry sulphur, shake, sink

- Blood Pigment - Benzidine, 2dBT + 2mU, 4d NaO₂
 - Glue Green \uparrow
 - Renal Stone, Acute Glomerulonephritis, Trauma of kidney
 - Sickle Cell A, Malignant Hypert, Polycystic kidney Disease