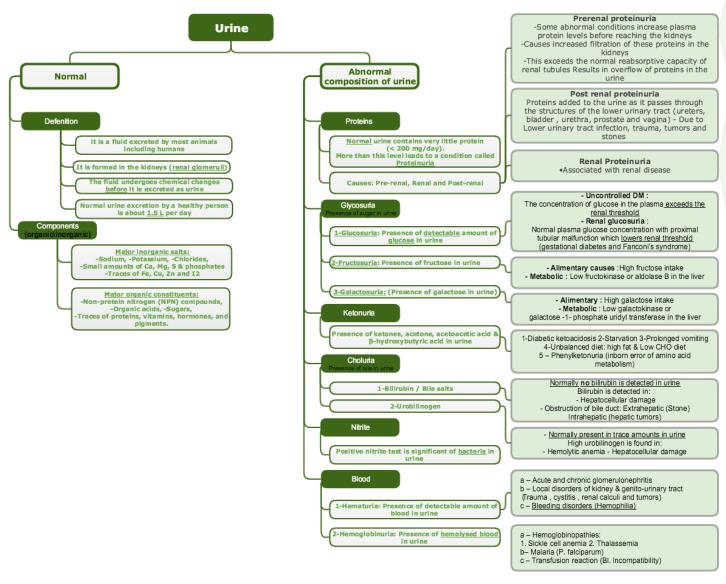
Chemical Examination of Urine



Done By: Nouf Alabdulkarim https://www.gliffy.com/go/publish/image/10408357/L.png

Multiple myeloma causes pre-renal proteinuria:

- ·A proliferative disorder of the immunoglobulinproducing plasma
 - cells
- •The serum contains elevated levels of monoclonal light chains antibodies (Bence-Jones protein)
- ·Bence-Jones protein is filtered in kidneys in high amounts ·Exceeding the tubular reabsorption capacity
- Hence excreted in the urine •The Bence-Jones protein coagulate at 40-60 oC •Dissolves at 100 oC
 - ·Multiple myeloma cases are diagnosed by using: -Serum electrophoresis -Immunoelectrophoresis

RENAL PROTEINUREA

1-Orthostatic (Postural) Proteinuria:

- Persistent benign protenuria
- -Occurs frequently in young adults due to periods spent in a vertical posture
- -Increased pressure on the renal vein in the vertical position causes orthostatic proteinuria -Disappears in horizontal posture
 - 2-Glomerular proteinuria:
- High glomerular permeability
- Causes filtration of high molecular weight proteins (e.g. glomerulonephritis)

3-Tubular proteinuria:

- Low tubular reabsorption with normal glomerular permeability
- Causes excretion of low molecular weight proteins (e.g. chronic nephritis) 4-Microalbuminuria:

- Presence of small amounts of albumin in the urine (20- 200 mg/L)
- -Cannot be detected by ordinary urine testing
- -Needs special tests for detection
- -Early indicator of glomerular dysfunction due to uncontrolled diabetes mellitus or hypertension