Blood Urea

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What is urea?

- **Urea is the main end product of protein metabolism.**
- **It is formed by removal of amino group from amino acids in liver and excreted in urine.**
- **Urea represents 50% of non protein nitrogen of normal blood.**

- **Normal blood contains 15-40 mg/dl of urea**
- **In adults over 60 years it rises to 50 mg/dl**
- **During pregnancy it is 15-20 mg/dl**
- **Raised values are seen in dehydration**
- **In renal failure it rises up to 500 mg/dl**
- **In sever liver disease blood urea is decreased**

Reference values:

- **Newborns (< 10 days) : 6.4-53.5 mg/dl**
- **Adults (12-60 years) : 15-40 mg/dl**

Physiological:

- *Increase:*

It occurs in normal people on high protein diet.

- **Decrease:**

➢ **In infants**

➢ **Pregnancy**

➢ **Low protein and high carbohydrates diet**

Pathological:

- **Increase:**

➢ **Excessive formation: increased protein catabolism in fever and sepsis.**

➢ Faulty excretion:

- **Pre-renal failure: a low renal blood supply leads to reduced GFR ex: CHF**
- **Renal failure: damage to nephrons leads to decreased urine formation and excretion ex: nephritis**
- **Post-renal failure: urinary tract obstructions**

- **Decrease:**

In transfusion of glucose solution due to dilution of body fluids and reduced protein catabolism

What are medicines that increase blood urea?

- *Amphotericin B*
- *Nafcilline*
- *Gentamicin*
- *Diuretics*
- *Corticosteroids*