

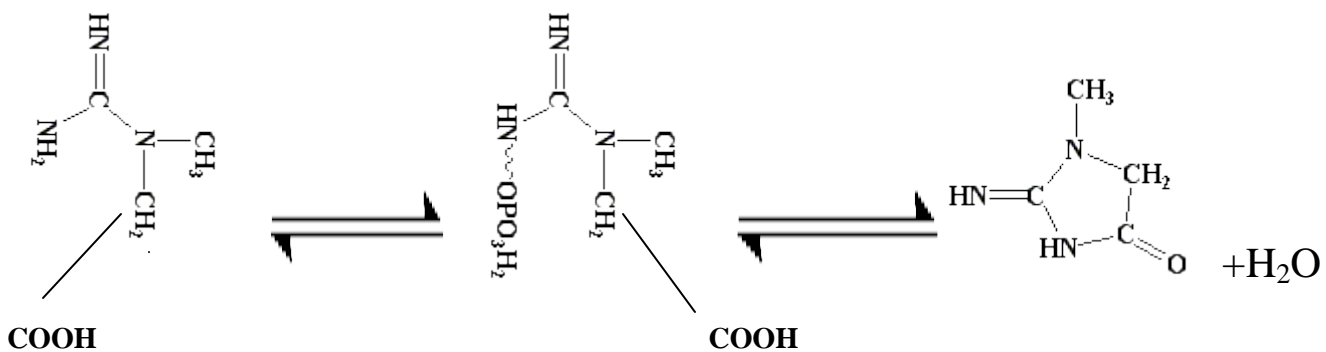
Determination of Creatinine

Creatine is synthesized in the liver from glycine , arginine and methionine . It is then transported to muscle cells , where it is phosphorylated to creatine phosphate. Creatine phosphate serves as a high energy source in muscle tissue either creatine phosphate lose phosphoric acid or water respectively to form anhydride , creatinine then excreted into the plasma .

The level of creatinine in the plasma is directly related to the muscle mass of the individual .

Creatinine is removed from the plasma almost entirely by the glomerular filtration and excreted in the urine . The measurement of creatinine clearance is used as a measure of glomerular filtration rate .

The structure of creatinine from creatine :-

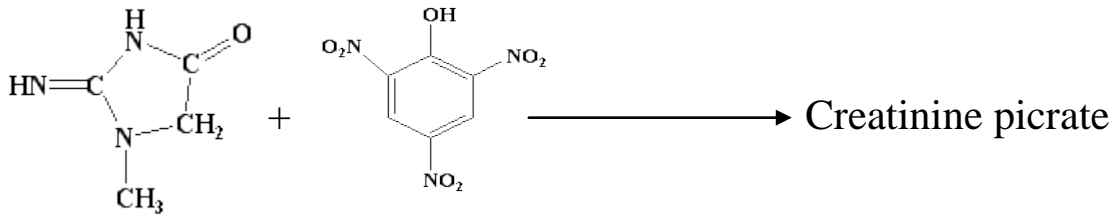


Normal value :-

Children	0.3 – 0.7 mg / dL
Male	0.6 – 1.2 mg / dL
Female	0.5 – 1.1 mg / dL

Principle :-

This method depends on Jaffe reaction by the reaction of creatinine in serum or urine with alkaline sodium picrate in 500 nm.



Clinical Significance :-

Creatinine increased in :

Renal disease , infection , increased of acromegly , diabetes , hypo thyroidism

Creatinine decreased in :

Leukemia , anemia , advance renal disease , muscular dystrophy , hyper thyroidism and trauma .