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**COMPONENTS OF URINE**

Normal urine consists of water, urea, salts, and pigments.

* Other constituents include chloride, sodium, potassium, creatinine and other dissolved ions, and inorganic and organic compounds.
* Urea is a non-toxic molecule made of toxic ammonia and carbon dioxide. Any abnormal constituents found in urine are an indication of disease.
* The presence of red blood cells in urine is referred to as hematuria.
* The presence of proteins, which are normally too large to pass through the tubules, can be an indication of damage to the tubules, and is called proteinuria.

Urine is an aqueous solution of greater than 95% water, with a minimum of these remaining constituents, in order of decreasing concentration:

* Urea 9.3 g/L.
* Chloride 1.87 g/L.
* Sodium 1.17 g/L.
* Potassium 0.750 g/L.
* Creatinine 0.670 g/L.
* Other dissolved ions, inorganic and organic compounds (proteins, hormones, metabolites).

Urine is sterile until it reaches the urethra, where epithelial cells lining the urethra are colonized by facultatively anaerobic gram-negative rods and cocci. Urea is essentially a processed form of ammonia that is non-toxic to mammals, unlike ammonia, which can be highly toxic. It is processed from ammonia and carbon dioxide in the liver.