Characteristics and components of Urine

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**Components of Urine**:

Urine is a liquid produced by the kidney, collected in the bladder and excreted through the urethra. Urine is used to extract excess minerals or vitamins as well as blood corpuscles from the body.

The components of urine include:

* Water-96%
* Urea-2%
* Uric Acid-2%
* Creatinine-2%
* Ammonia-2%
* Sodium-2%
* Potassium-2%
* Chlorides-2%
* Phosphate-2%
* Sulphate-2%
* Oxalates-2%

**Characteristics of Urine:**

The physical characteristics that can be applied to urine include color, turbidity (transparency), smell (odor), pH (acidity – alkalinity) and density. Many of these characteristics are notable and identifiable by vision alone, but some require laboratory testing.

* Color:

Typically yellow-amber, but varies according to recent diet and the concentration of the urine. Drinking more water generally tends to reduce the concentration of urine, and therefore causes it to have a lighter color. Dark urine may indicate dehydration. Red urine indicates red blood cells within the urine, a sign of kidney damage and disease.

* Smell:

The smell of urine may provide health information. For example, urine of diabetics may have a sweet or fruity odor due to the presence of ketones (organic molecules of a particular structure) or glucose. Generally fresh urine has a mild smell but aged urine has a stronger odor similar to that of ammonia.

* The pH of normal urine is generally in the range 4.6 – 8, with a typical average being around 6.0. Much of the variation occurs due to diet. For example, high protein diets result in more acidic urine, but vegetarian diets generally result in more alkaline urine (both within the typical range of 4.6 – 8).
* Density:

Density is also known as “specific gravity.” This is the ratio of the weight of a volume of a substance compared with the weight of the same volume of distilled water. The density of normal urine ranges from 0.001 to 0.035.