Pharmacology

PHSa 212

Write a short note on the characteristics (and components) of urine

Characteristics of the urine change, depending on influences such as water intake, exercise,

environmental temperature, nutrient intake, and other factors (Table below). Some of the

characteristics such as color and odor are rough descriptors of your state of hydration. For

example, if you exercise or work outside, and sweat a great deal, your urine will turn darker and

produce a slight odor, even if you drink plenty of water. Athletes are often advised to consume

water until their urine is clear. This is good advice; however, it takes time for the kidneys to

process body fluids and store it in the bladder. Another way of looking at this is that the quality of

the urine produced is an average over the time it takes to make that urine. Producing clear urine

may take only a few minutes if you are drinking a lot of water or several hours if you are working

outside and not drinking much.

Normal Urine Characteristics

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| Characteristic | Normal values |
| Colour | Pale yellow to deep amber |
| Odour | Odorless |
| Volume | 750–2000 mL/24 hour |
| pH | 4.5–8.0 |
| Specific gravity | 1.003–1.032 |
| Osmolarity | 40–1350 mOsmol/kg |
| Urobilinogen | 0.2–1.0 mg/100 mL |
| White blood cells | 0–2 HPF (per high-power field of  microscope) |
| Leukocyte esterase | None |
| Protein | None or trace |
| Bilirubin | <0.3 mg/100 mL |
| Ketones | None |
| Nitrites | None |
| Blood | None |
| Glucose | None |