# NAME: NWOKOCHA PRISCILLIA MATRIC NO: 17/MHSO2/057 DEPT: NURSING ASSIGNMENT TITLE: RENAL PHYSIOLOGY

# QUESTION

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

# ANSWERS

# CHARACTERISTICS OF URINE

**A)** **Composition:** Normal urine is composed of about 95 percent water and 5 percent solutes. Normal solutes found in urine include;

(1) Urea.

(2) Creatinine.

(3) Uric acid.

(4) Ketone bodies.

(5) Potassium.

(6) Sodium.

(7) Chloride.

**B)**  **Specific Gravity**. The specific gravity of urine depends upon the amount of solutes present. The greater the concentration of solutes, the higher the specific gravity. Normal range for specific gravity is from 1.008 to 1.030.

**C)**  **Appearance**. Urine is a transparent (clear) fluid. Color varies from pale yellow to dark amber, depending upon its concentration. (Concentration is the ratio of solutes to water.)

(1) Dilute urine may be pale, straw colored, or even appear colorless.

(2) Concentrated urine appears highly colored (for example, bright yellow or deep amber).

(3) Turbid (cloudy) urine is usually considered abnormal. It may be the result of blood, pus, sperm, or bacteria present in the urine.

**D)** **Odor**. Normal, freshly voided urine has a faint aromatic odor. Old, stale urine develops a strong ammonia odor from chemical breakdown.

(1) A strongly offensive odor may indicate the presence of bacteria.

(2) Diet selection can alter normal odor. Asparagus is a good example

(3) Some medications may alter the normal odor of urine. Ampicillin is one example.

**E)** **Amount**. The average, normal adult will excrete approximately 1,500 to 2,000 ml of urine each day (every 24 hours). This will vary with fluid intake and fluid loss. Fluid losses other than urination include fluid lost through vomiting, diarrhea, and “insensible” losses. Insensible fluid loss is that which is not perceptible or appreciable. Such loss includes that fluid which is lost through respiration, evaporation from the skin, and fecal content.

**COMPONENTS OF URINE**

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).

**SUMMARY:** Urine is a liquid by-product of the body secreted by the kidneys through a process called urination and excreted through the urethra. It is an aqueous solution of greater than 95% water. Other constituents include urea, 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.