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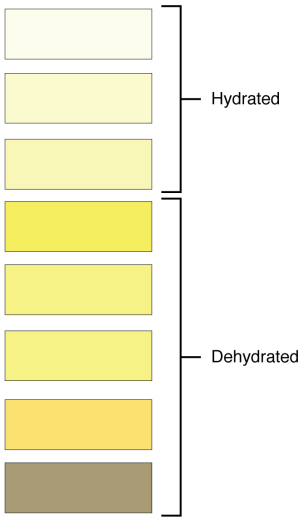
WRITE A SHORT NOTE ON URINALYSIS.

Urinalysis is the examination of urine for certain physical properties, solutes, cells, casts, crystals, organisms, or particulate matter. Urinalysis can reveal diseases such as diabetes mellitus, various forms of glomerulonephritis, and chronic urinary tract infections.



The most cost-effective device used to screen urine is a paper or plastic dipstick. This microchemistry system has been available for many years and allows qualitative and semi-quantitative analysis within one minute by simple but careful observation. The color change occurring on each segment of the strip is compared to a color chart to obtain results. Microscopic urinalysis requires a light microscope and a centrifuged urine sample. Urinalysis (urine analysis) often provides clues to renal disease. Normally, only traces of protein are found in urine, and when higher amounts are found, damage to the glomeruli is the likely basis. Unusually large quantities of urine may point to diseases like diabetes mellitus or hypothalamic tumors that cause diabetes insipidus. The color of urine is determined mostly by the breakdown products of red blood cell destruction. The “heme” of hemoglobin is converted by the liver into water-soluble forms that can be excreted into the bile and indirectly into the urine. This yellow pigment is urochrome. Urine color may also be affected by certain foods like beets, berries, and fava beans. A kidney stone or a cancer of the urinary system may produce sufficient bleeding to manifest as pink or even bright red urine. Diseases of the liver or obstructions of bile drainage from the liver impart a dark “tea” or “cola” hue to the urine. Dehydration produces darker, concentrated urine that may also possess the slight odor of ammonia. Most of the ammonia produced from protein breakdown is converted into urea by the liver, so ammonia is rarely detected in fresh urine. The strong ammonia odor you may detect in bathrooms or alleys is due to the breakdown of urea into ammonia by bacteria in the environment. About one in five people detect a distinctive odor in their urine after consuming asparagus; other foods such as onions, garlic, and fish can impart their own aromas! These food-caused odors are harmless.
This color chart shows different shades of yellow and associates each shade with hydration or dehydration.

Complete urinalysis consists of three parts: Physical properties, chemical properties, and urine sediment findings.

THE TECHNIQUE OF URINALYSIS.
The rationale and technique of urinalysis are straightforward.Nevertheless,various circumstances may alter the information obtained. For example, one should not be surprised if the urine analyzed did not come from the patient named, or that the protein and red cells were added to the urine after it reached the collection bottle. Such illicit treatment of the sample is not frequent, but may be used in an attempt to justify disability, military discharge, or need for hospitalization. Interestingly, if the temperature of fresh urine is checked, it may help to diagnose factitious oral or rectal fevers.