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DEPARTMENT:NURSING SCIENCE

Assignment

Write a short note on urinalysis

Answer

A urinalysis is a common test used to analyze the content and chemical makeup of urine. It is standardly performed before surgery to identify any kidney problems, a urinalysis may be used at a doctor's office if a kidney infection, urinary tract infection, or other urinary-related disorder is suspected. A urinalysis should not be confused with a urine drug screening, used to check for recent illicit drug use, or a home pregnancy test, used to detect the pregnancy hormone hCG in urine.

Visual exam

A lab technician examines the urine's appearance. Urine is typically clear. Cloudiness or an unusual odor may indicate a problem, such as an infection.

Blood in the urine may make it look red or brown. Urine color can be influenced by what a person has just eaten. For example, beets or rhubarb may add a red tint to urine.

Dipstick test

A dipstick — a thin, plastic stick with strips of chemicals on it — is placed in the urine to detect abnormalities. The chemical strips change color if certain substances are present or if their levels are above normal. A dipstick test checks for:

- **Acidity (pH).** The pH level indicates the amount of acid in urine. Abnormal pH levels may indicate a kidney or urinary tract disorder.
- **Concentration.** A measure of concentration, or specific gravity, shows how concentrated particles are in urine. A higher than normal concentration often is a result of not drinking enough fluids.
- **Protein.** Low levels of protein in urine are normal. Small increases in protein in urine usually aren't a cause for concern, but larger amounts may indicate a kidney problem.
- **Sugar.** Normally the amount of sugar (glucose) in urine is too low to be detected. Any detection of sugar on this test usually calls for follow-up testing for diabetes.
- **Ketones.** As with sugar, any amount of ketones detected in your urine could be a sign of diabetes and requires follow-up testing.
- **Bilirubin.** Bilirubin is a product of red blood cell breakdown. Normally, bilirubin is carried in the blood and passes into the liver, where it's removed and becomes part of bile. Bilirubin in your urine may indicate liver damage or disease.
- **Evidence of infection.** If either nitrites or leukocyte esterase — a product of white blood cells — is detected urine, it may be a sign of a urinary tract infection.
- **Blood.** Blood in your urine requires additional testing — it may be a sign of kidney damage, infection, kidney or bladder stones, kidney or bladder cancer, or blood disorders.

Microscopic exam

During this exam, several drops of urine are viewed with a microscope. If any of the following are observed in above-average levels, additional testing may be necessary:

- **White blood cells** (leukocytes) may be a sign of an infection.
- **Red blood cells** (erythrocytes) may be a sign of kidney disease, a

blood disorder or another underlying medical condition, such as bladder cancer.

- **Bacteria or yeasts** may indicate an infection.
- **Casts** — tube-shaped proteins — may form as a result of kidney disorders.
- **Crystals** that form from chemicals in urine may be a sign of kidney stones.

A urinalysis alone usually doesn't provide a definite diagnosis.

Depending on the reason your doctor recommended this test, abnormal results may or may not require follow-up.

3 Types of Urinalysis

1. Complete Urinalysis



Performed in lab
Looks at urine composition

2. Rapid Urinalysis



Performed at doctor's office using test strips
Checks for common renal abnormalities

3. 24-hour Urine Collection



Performed at home over 24 hours
Gives clearer picture of renal function

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References:

- www.mayoclinic.org
- Verywellhealth.com
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