

Al-Zahraa(A.S.) University for Women
College of Health and Medical Techniques
Department of Radiological Techniques



كلية التقنيات الصحية والطبية
HEALTH AND MEDICAL TECHNICAL COLLEGE

URINE EXAMINATION

(Urinalysis)

Lab 2

Practical Physiology



Asst. Lect. Duaa Daad

Outlines

Student should know:

- What is urine analysis?
- Sample collection
- Urinalysis tests
 - Physical examination
 - Chemical Examination
 - Microscopic Examination
 - Urine Culture

What is urinalysis?

- A urinalysis is a laboratory test. It can check several components of a urine sample.
- Visual, chemical, and microscopic tests are all part of a complete urinalysis

Why it's done?

- To diagnose urinary tract infection and kidney dysfunction
- To check your overall health

Part of a routine medical exam, pregnancy checkup or pre-surgery preparation.

- To diagnose a medical condition.

If you have abdominal pain, back pain, blood in your urine, or other urinary problems.

Sample collection

- ✓ First morning specimen
- ✓ Timed short-term specimens
- ✓ Timed long term specimens: 12 or 24 hours
- ✓ Clean-catch (midstream) specimen for urine culture

Urine Analysis

Physical examination



Chemical Examination



Microscopic Examination



Urine Culture



1. Physical examination

- **Urine volume**

Proportional to person's water intake

- **Color**

Yellow to amber (Normal)

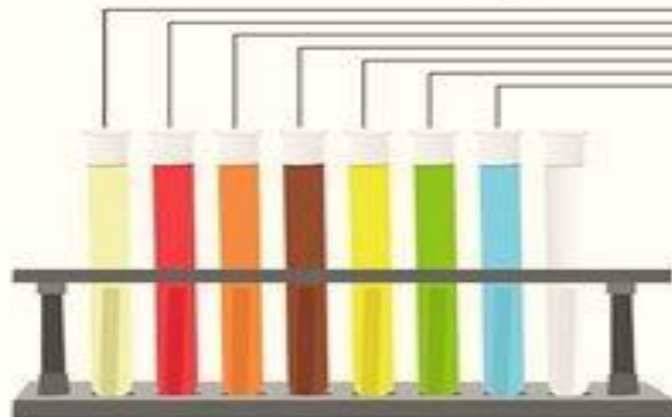
- **Deposits**

Normally, the urine contains no deposits.

- **Specific gravity (SG)**

Measure the amount of dissolved substances in urine

KNOW WHAT YOUR **URINE COLOR** TELLS ABOUT YOUR **HEALTH**



CLOUDY OR MURKY

Cloudy or Murky urine color can be a sign of a urinary tract infection (UTI) or kidney stones.

RED

Reddish or Pinkish urine may indicate a tumor in the bladder or kidneys.

ORANGE

If your urine has a light orange shade, it could be due to mild dehydration. It could also be a sign of problem in liver or bile ducts.

BROWN

If your pee is dark brown or cola-colored, it can be due to dehydration or liver disease. A brown color is also a cause of Hematuria.

NEON OR DARK YELLOW

Your urine may turn dark yellow due to severe dehydration or as a result of certain medicines.

GREEN

Consuming asparagus, green beer or artificial food coloring can change the color of your urine to a greenish tint.

BLUE

A rare genetic condition with excess calcium in blood can cause blue urine. Or, it could simply be due to medications containing blue dye.

2. Chemical Examination

- ❖ PH : The normal range is 5-8.

- ❖ Proteins

Access amount of protein in urine called proteinuria.

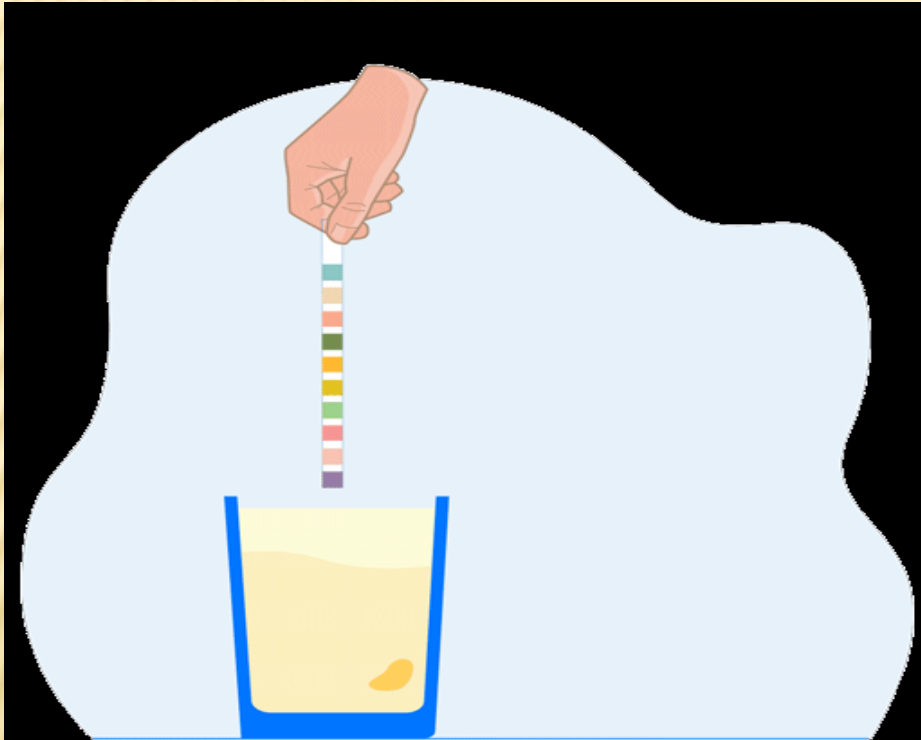
- ❖ Glucose

No glucose is present in the urine normally.

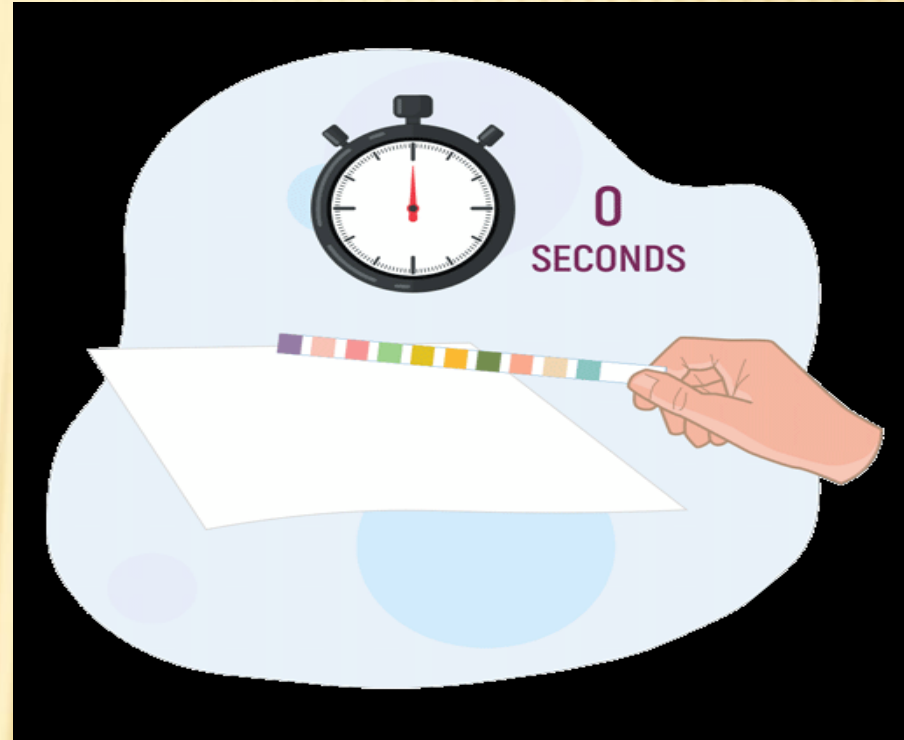
- ❖ Nitrite

Positive nitrite test is significant of **bacteruria** in urine.

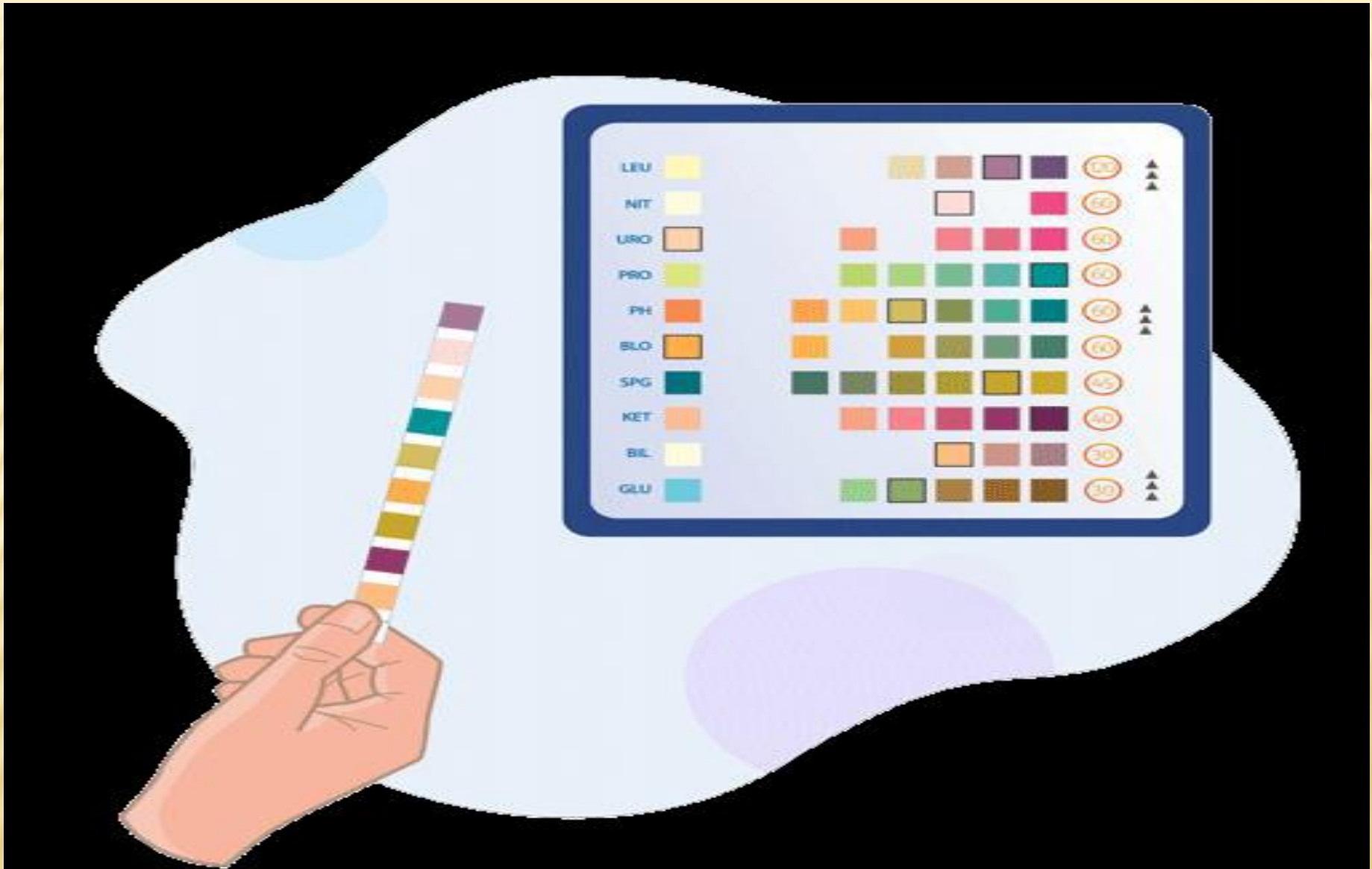
Procedure



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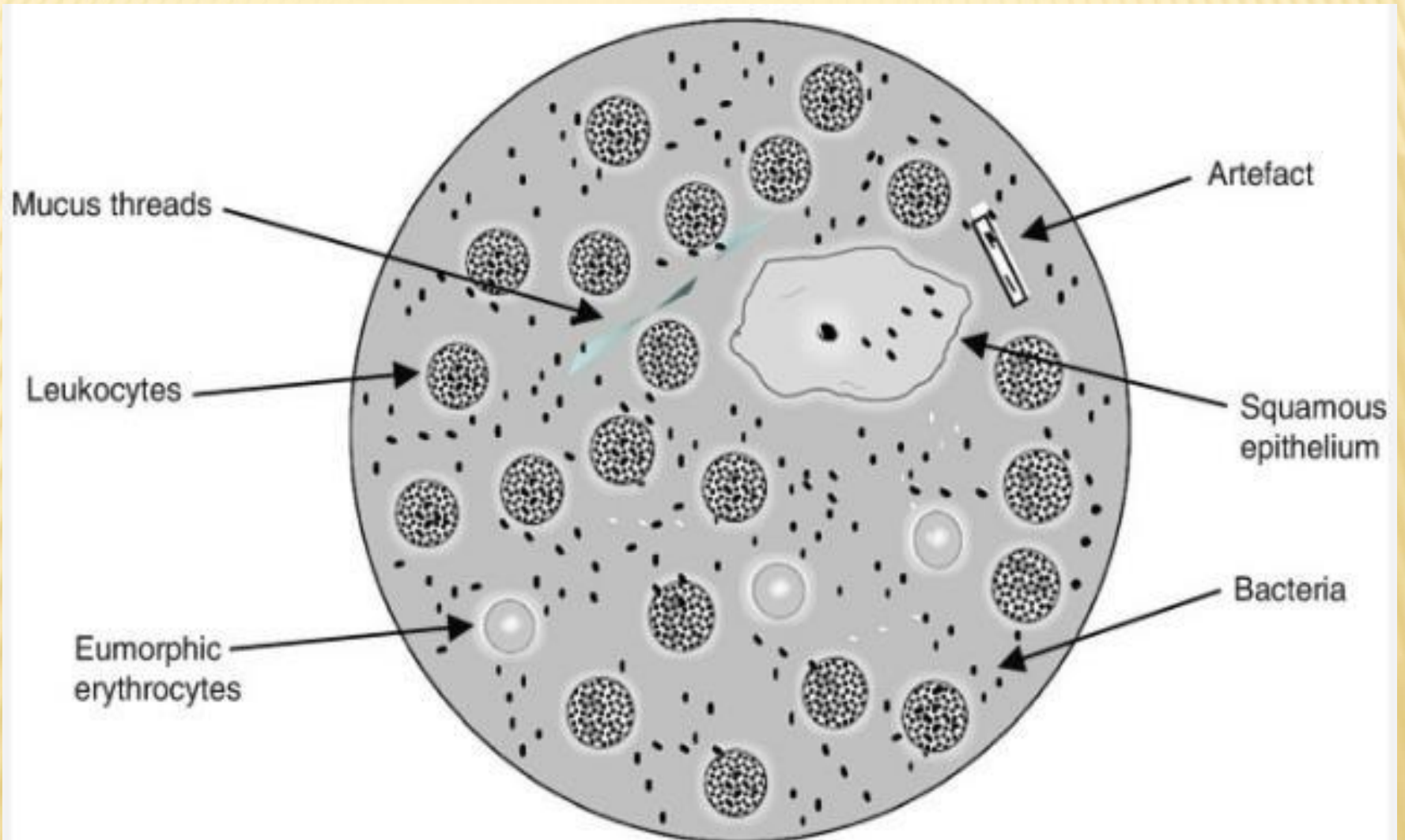


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3. Microscopic Examination

- White blood cells(leukocytes) might be a sign of an infection.
- Red blood cells(erythrocytes) might be a sign of kidney disease, a blood disorder or another underlying medical condition, such as bladder cancer.
- Bacteria, yeast or parasites can indicate an infection.
- Casts—tube-shaped proteins —can be a result of kidney disorders.
- Crystals that form from chemicals in urine might be a sign of kidney stones.



4. Urine Culture

