



GENERAL URINE ANALYSIS

Second stage
college of Dentistry
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shaimaalsabty@gmail.com



INTRODUCTION

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1. Definition

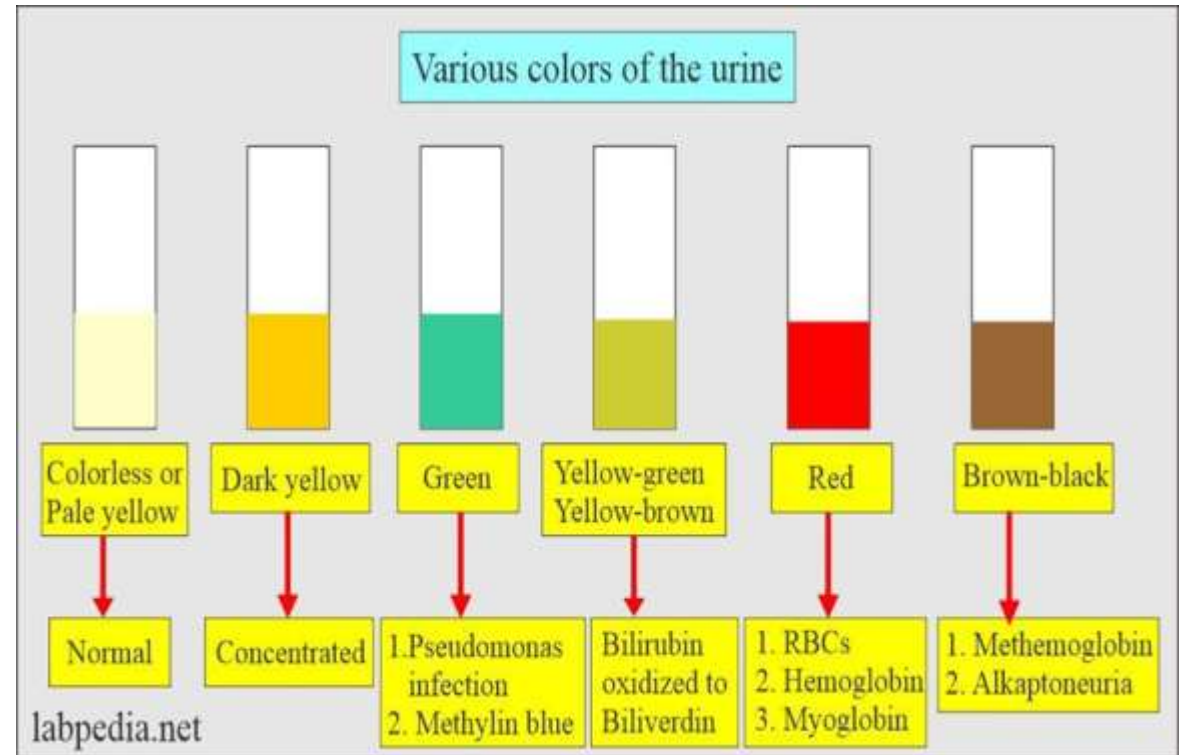
General urine analysis (urinalysis) is a routine laboratory test used to evaluate overall health and detect diseases such as:

- Urinary Tract Infection
- Kidney Disease
- Diabetes Mellitus
- Liver disorders

2. Components of Urinalysis

Urinalysis consists of three main parts:

A-Physical Examination

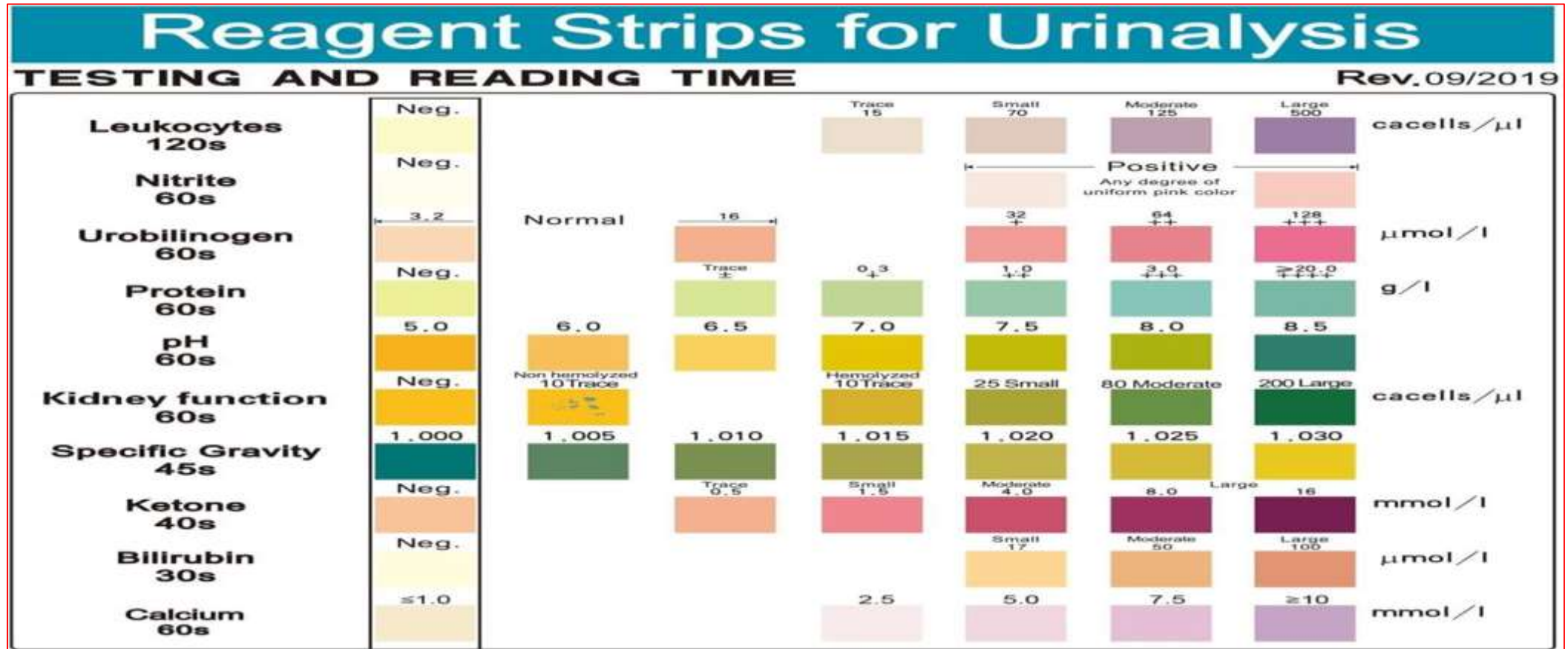


Includes:

- **Color:**
- Normal: pale yellow → dark yellow
- Dark: dehydration
- Red: blood (hematuria)
- **Clarity:**
- Clear → normal
- Cloudy → infection, cells, or crystals
- **Odor:**
- Normal: mild
- Fruity odor → may indicate Diabetes Mellitus



B- Chemical Examination (Dipstick Test)



Performed using a reagent strip:

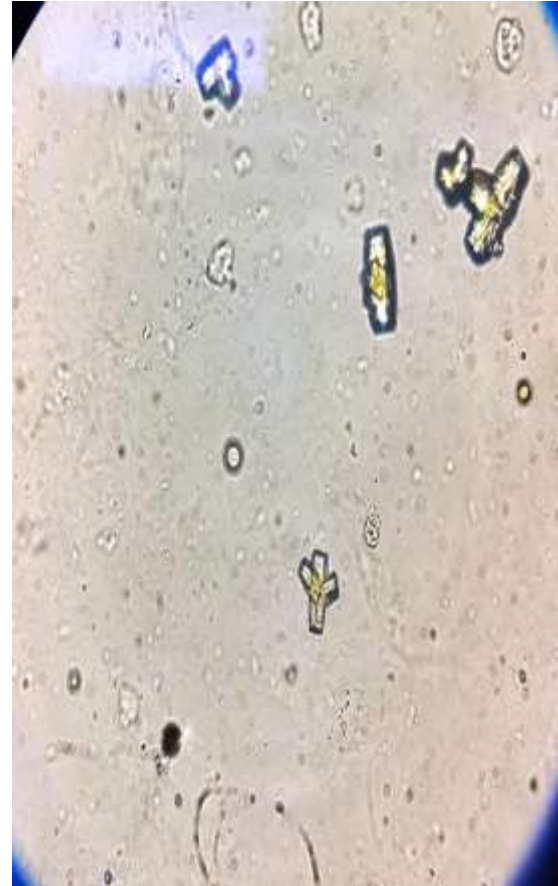
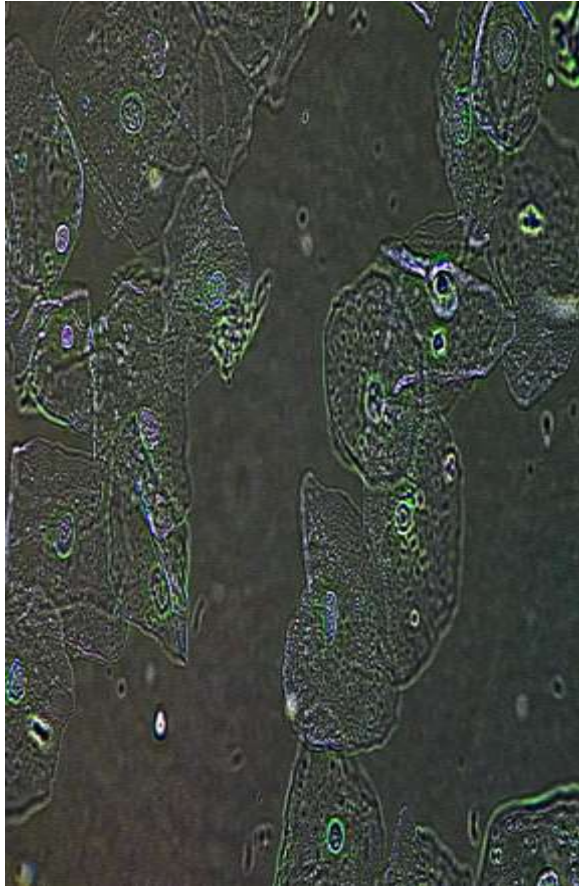
- **pH:**
- **Normal:** 4.5 – 8
- **Protein:**
- **Normal:** negative
- **Positive** → kidney disease
- **Glucose:**
- **Normal:** negative
- **Positive** → Diabetes Mellitus
- **Ketones:**

Present in fasting or diabetes



- **Blood:**
- Indicates bleeding, trauma, or stones
- Leukocytes & Nitrites:
- Suggest bacterial infection (UTI)

C- MICROSCOPIC EXAMINATION



Examined under a microscope:

- **RBCs (Red Blood Cells):**
- Presence → bleeding
- **WBCs (White Blood Cells):**
- Increased → infection
- **Bacteria:**
- Indicates infection
- **Crystals:**
- May indicate kidney stones
- **Casts:**
- Suggest kidney disease

3. IMPORTANCE OF URINALYSIS

- Early detection of diseases
- Monitoring chronic conditions (e.g., diabetes, kidney disease)
- Routine health screening

4. SAMPLE COLLECTION

- Use midstream urine sample
- Collect in a sterile container
- Analyze within 1 hour

5. ASSOCIATED DISEASES

- Urinary Tract Infection
- Kidney Disease
- Diabetes Mellitus
- Kidney stones



- **Urinalysis is:**
- Simple
- Fast
- Highly informative

It provides valuable information about:

- ☞ Kidney function
- ☞ Urinary system
- ☞ Overall health

