

# iMOST-U Hematology Analyzer

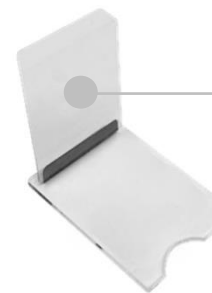
## System User Guide

Version 260402A

**Warning!**

Failure to follow instructions could  
cause inaccurate results

## iMOST-U Hematology Analyzer



**iMOST-U**  
Q-Card

## Precautions Before Testing:

- Ensure that the analyzer is used in the proper operating environment (15–30°C).
- Charge the analyzer to greater than 30% battery. System requires 10% battery for the testing.
- Only use the designated Q-Card before its expiration date, and it is intended for single use only.
  - Open the Q-Card's sealed pouch only when you are ready to perform the measurement.
  - Use the Q-Card immediately after removing it from the pouch.
  - Do not touch the surface of the Q-Card.
  - Do not attempt to bend, cut, or modify the Q-Card in any way.

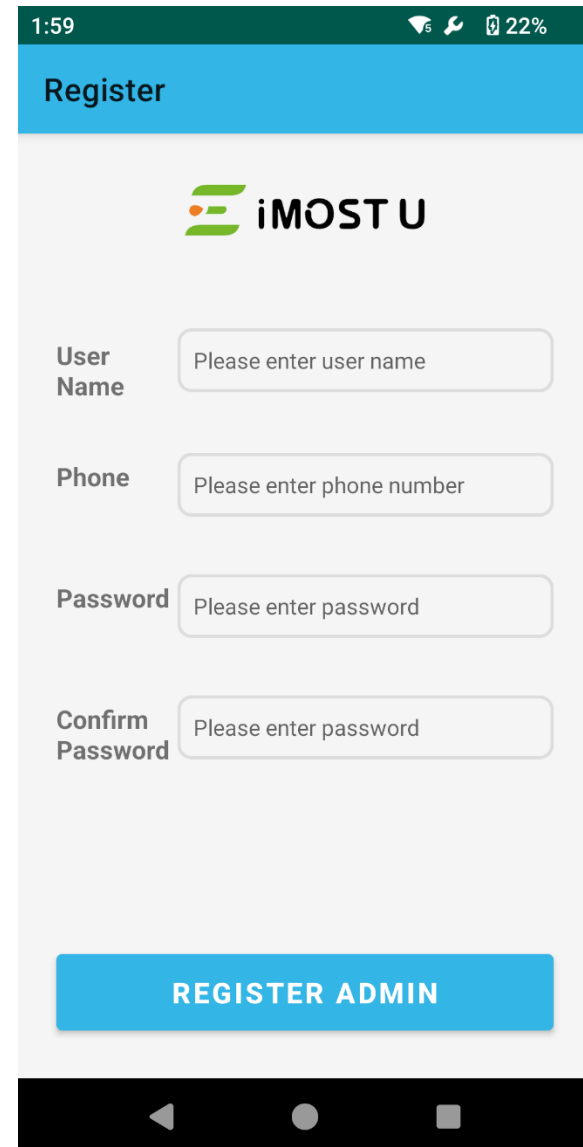
# Create an Admin Account

1. Enter **Username**
2. Enter **Password**
3. Confirm **Password**
4. Create an ADMIN account
5. Record the account details in the **“Account and Password Record”** section on the last page.

**Password requirement:**

length > 8

(one capital, one lower, one number, one special character)



The screenshot shows a mobile application interface for creating an admin account. At the top, a dark green status bar displays the time 1:59, signal strength, and 22% battery. Below this is a blue header bar with the word "Register" in white. The main content area is light gray and features the iMOST U logo (a green stylized 'E' followed by the text "iMOST U") at the top. Below the logo are four input fields, each with a label to its left and a placeholder text inside the field: "User Name" (placeholder: "Please enter user name"), "Phone" (placeholder: "Please enter phone number"), "Password" (placeholder: "Please enter password"), and "Confirm Password" (placeholder: "Please enter password"). At the bottom of the form is a large blue button with the text "REGISTER ADMIN" in white. The bottom of the screen shows a black navigation bar with three white icons: a back arrow, a circle, and a square.

# Step-1. Open the Analyzer and Login

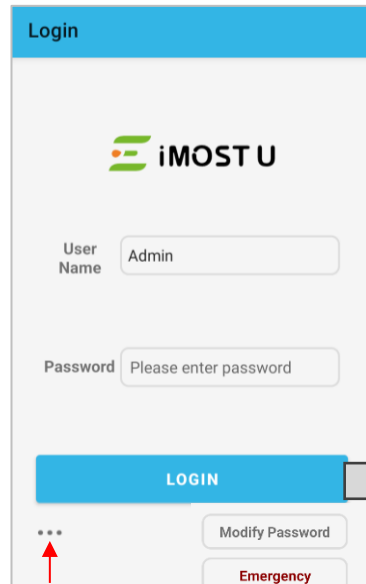
**Warning!** Place the iMOST on a flat, stable surface and do not move it during testing.

## 1.A Power on iMOST System



## 1.B Login and Setup Test Information

1) Select **User**, Input Password, & **LOGIN**

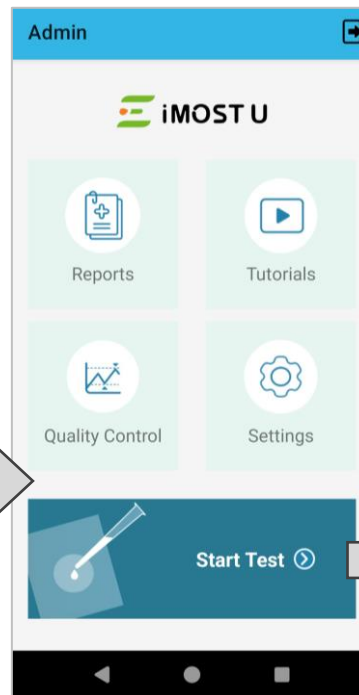


The login screen displays the iMOST U logo at the top. Below it, there are two input fields: 'User Name' with 'Admin' entered and 'Password' with 'Please enter password'. A blue 'LOGIN' button is at the bottom. To the right of the 'LOGIN' button are two smaller buttons: 'Modify Password' and 'Emergency'. A red arrow points to the 'Emergency' button.

Setting (Connect WIFI/Adjust Time)

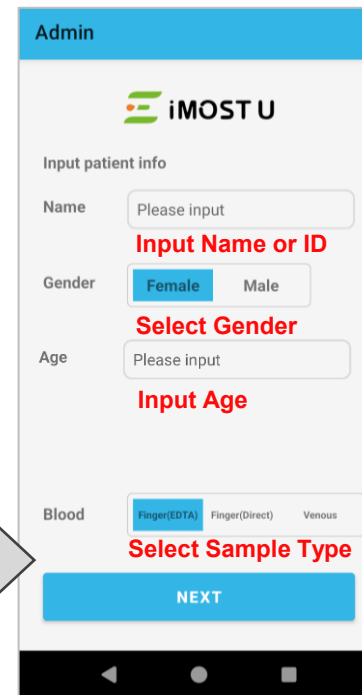
Make sure the time and date are correct before testing.

(2) Click **Start Test**



The admin screen shows the iMOST U logo and four icons: Reports, Tutorials, Quality Control, and Settings. At the bottom, there is a large blue button labeled 'Start Test' with a play icon.

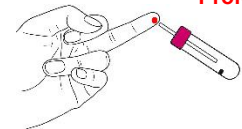
(3) Input Name, Gender, Age, Blood Type, Click **NEXT**



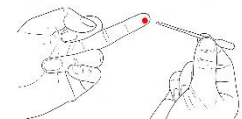
This screen is for inputting patient information. It includes fields for 'Name' (Please input), 'Gender' (Female/Male), 'Age' (Please input), and 'Blood' (Finger(EDTA), Finger(Direct), Venous). A blue 'NEXT' button is at the bottom.

Selecting an inappropriate sample type can lead to errors.

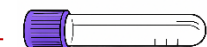
Finger (EDTA) – Recommend for Professional Use



Finger (Direct)



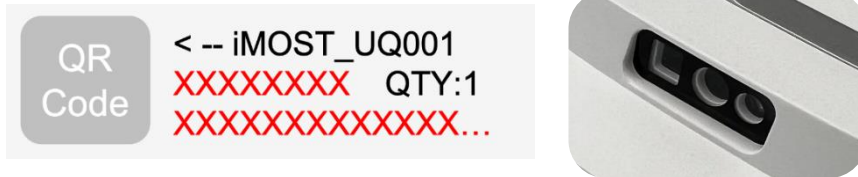
Venous



Click **Emergency** to enter Emergency Mode, which allows testing without normal login.

## Step-2. Scan the Q-Card QR Code on Pouch

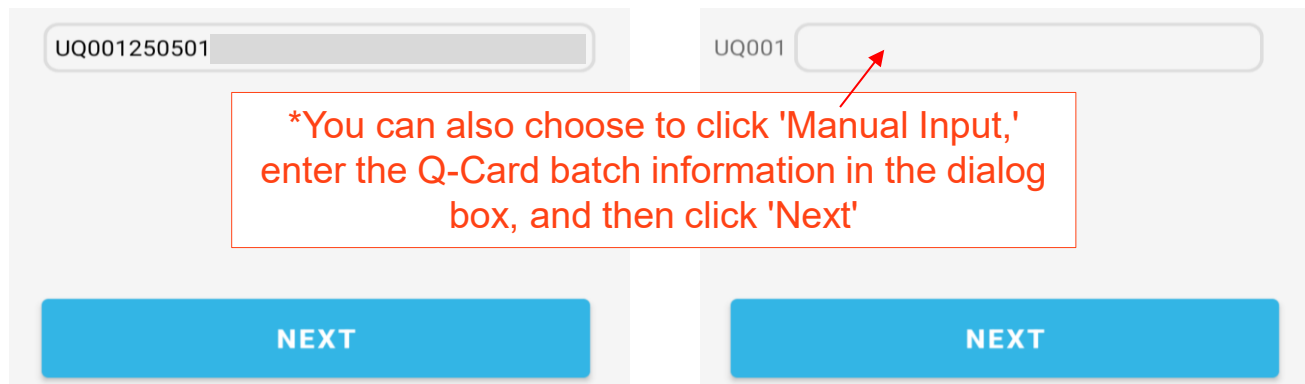
- (1) Align the scanner at the front of the analyzer with the QR code on the Q-Card pouch



- (2) Tap **the scan icon** on the screen or **the scan button** on the top right of the analyzer

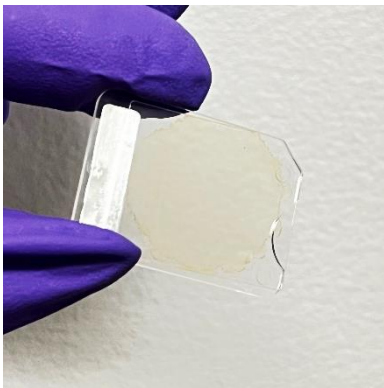


- (3) After the scan is complete, click "Next"

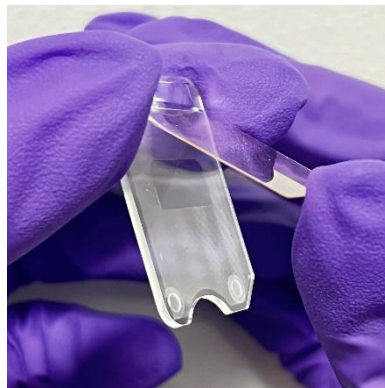


## Step-3. Open and Place the Q-Card

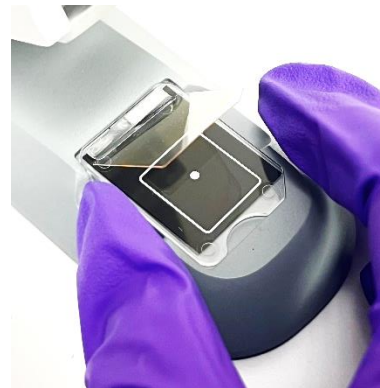
- It is recommended to use the Q-Card immediately after opening.
- Perform all steps — from collecting the blood to preparing and inserting the card — **continuously** without stopping. Delays may cause the blood sample to change and affect the test result.



(a) Hold the Q-Card by its sides with two fingers.



(b) Open Q-Card by lifting the thin film of the top plate at the notch to 30 – 70 degree.



(c) Hold Q-Card by its sides.



(d) Put Q-Card on and secure it in the “Card Slot” of Presser.

**Blood  
Landing Zone  
(White Spot)**

### Warning!

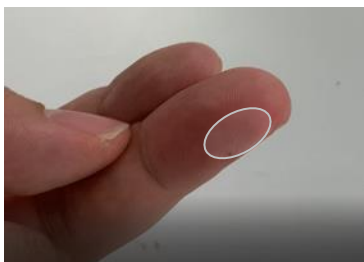
Never touch the inside surfaces of Q-Cards.

## Step-4. Finger Capillary or Venous Blood

### 4.A Finger Prick

(1)

Use middle finger or ring finger. Clean with disinfectant (allow it to dry).



**Warning!**

Warm the hand, if it is cold

(2)

Apply light pressure on the fingertip. Puncture the finger using the **lancet**.



(3)

Wipe away first **2** blood drops with gauze.



(4)

Re-apply light pressure. Collect the blood drop with transfer tube. Do not milk the finger.



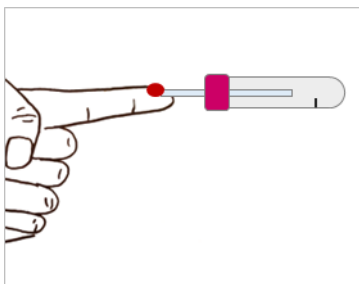
Ensure blood flows smoothly. Do not squeeze the finger too hard, to avoid mixing tissue fluid.  
Before collecting the sample, wipe away the first 2–3 drops of blood with gauze or a dry cotton ball to remove residual alcohol or other contaminants.

## Step-4. Finger Capillary or Venous Blood

**Finger (EDTA) Using Capillary Collection Tube recommended by Essenlix**  
**Here is one example. Please follow the Instructions for Use.**

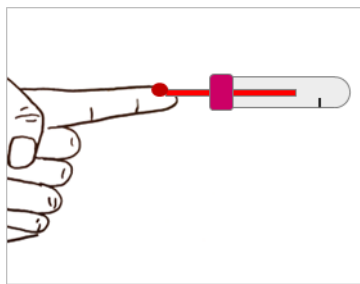
(1)

Keep **Capillary “straw”** horizontal while collecting blood from fingertips (Do not lift it in the middle to avoid air bubbles)



(2)

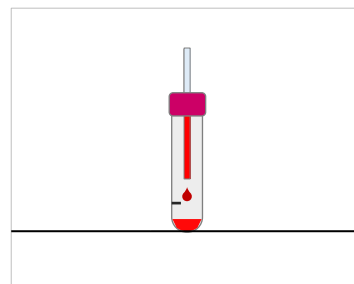
Fill the **Capillary “straw”** according to the instructions.



(3)

Tap downward to allow the blood in **Capillary “straw”** to enter the **Microtube**

Final volume should be near the target mark on the tube.

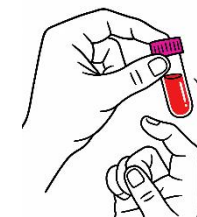


(4)

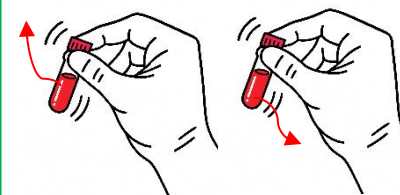
Discard **Capillary “straw”**



**Flick bottom 10-15 times.  
Shake tube 10 times.  
Before Adding to Q-Cards!**

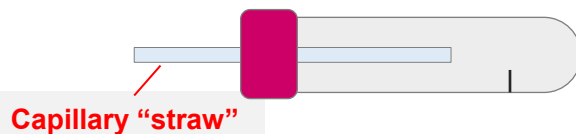


**Flick**



**Shake**

**Capillary Collection Tube**



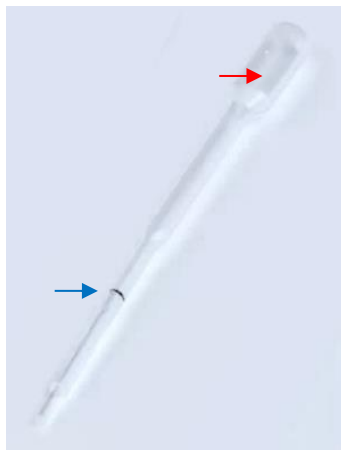
**Capillary “straw”**

**When using Finger (EDTA) samples:** Use the transfer pipette with an attached pipette tip to draw 10  $\mu$ L of the sample and add it to the Q-Card.

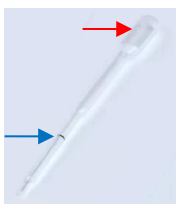
## Step-4. Finger Capillary or Venous Blood

Finger (EDTA) uses a pipet or disposable micro-tube (10  $\mu$ L, without anticoagulant)

- (1) Ensure that **the top opening** remains open during the collection process. Collect the blood up to **the indicated line**.



- (2) Dispense the blood onto the **"blood landing zone"** by slowly pressing the plunger of the transfer tube or pipette.



Ensure that **the top opening** is closed during the pressing process.



**Blood  
Landing Zone  
(White Spot)**

If the sample is not applied at the white spot, it may lead to measurement errors.



Leave last bit of blood inside the tube.  
Stop pushing before all sample is dispensed out.



Do not push air bubble into droplet.

**Step 5**



## Step-4. Finger Capillary or Venous Blood

### 4.B Venous Blood

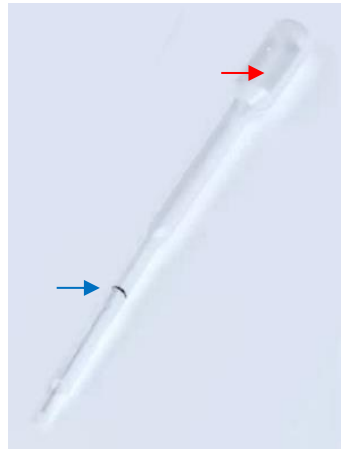
- (1) Draw the venous blood into a **EDTA** (e.g.,  $K_2EDTA$ ) tube. (Collected within 8 hours)
- (2) If the sample was stored in the refrigerator, leave the samples undisturbed at room temperature for at least 30 min.
- (3) Mix thoroughly before dropping on Q-Card by:
  - 3.a Manually and gently inverting the tube 10 - 15 times, **or**
  - 3.b Mixing it using a tube rocker for at least two minutes.

**When using Venous samples:** Use the transfer pipette with an attached pipette tip to draw 10  $\mu$ L of the sample and add it to the Q-Card.

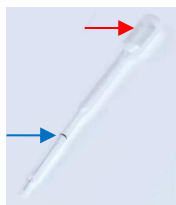
## Step-4. Finger Capillary or Venous Blood

Venous uses a pipet or disposable micro-tube (10  $\mu$ L, without anticoagulant)

- (1) Ensure that the **top opening** remains open during the collection process. Collect the blood up to the **indicated line**.



- (2) Dispense the blood onto the **"blood landing zone"** by slowly pressing the plunger of the transfer tube or pipette.



Ensure that the **top opening** is closed during the pressing process.



**Blood  
Landing Zone  
(White Spot)**

If the sample is not applied at the white spot, it may lead to measurement errors.



Leave last bit of blood inside the tube.  
Stop pushing before all sample is dispensed out.



Do not push air bubble into droplet.

**Step 5**



## Step-5. Close the Q-Card

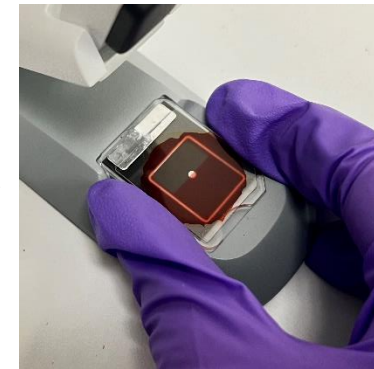
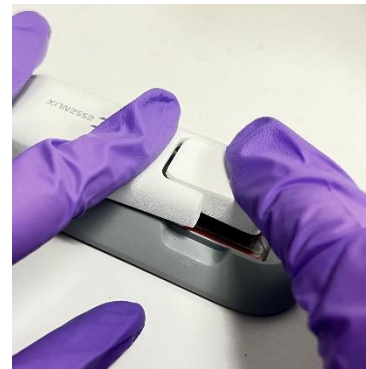
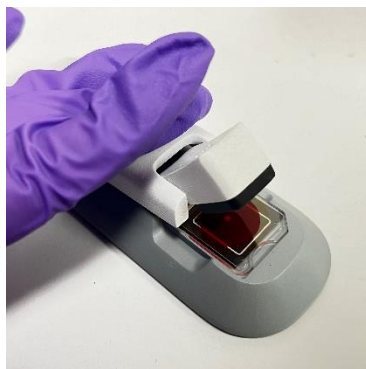


**Immediately** (within 15 sec), smoothly close the card by pressing the arm at (A).

**Press the arm at (A) gently and smoothly at a rate of ~4 sec from beginning to end until the blood stops spreading (wait ~2 sec).**

**Press the front head (B) against the Q-Card ~3 sec** to make sure the Q-card is tightly closed.

**Lift** by holding sides of Q-Card

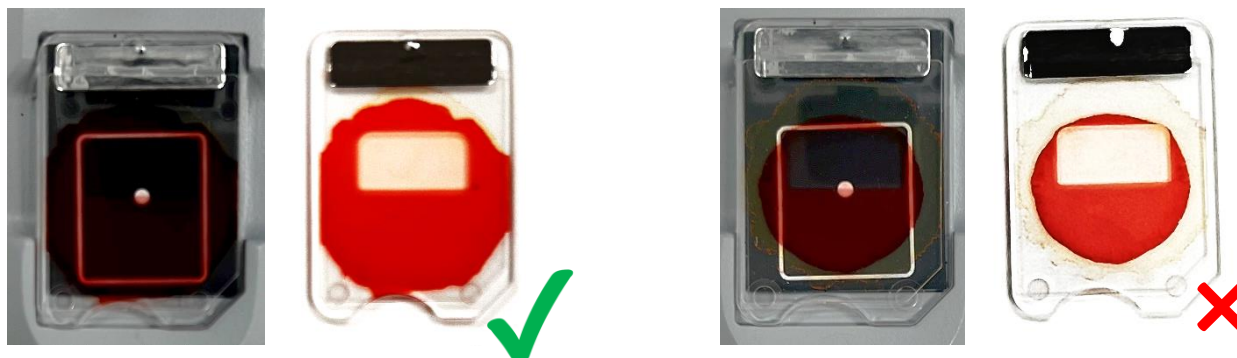


### Warning!

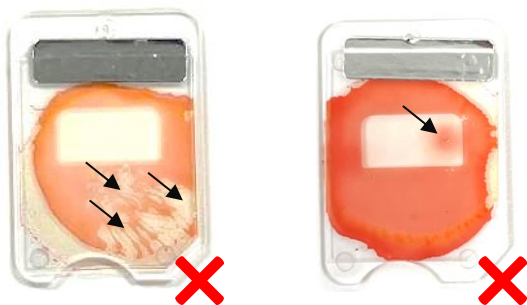
Never reopen the Q-Card before testing. If the Q-Card is accidentally opened, discard the Q-Card and make a new one.

## Step-6. Inspect the Sample in Q-Card

- 1) The blood must cover the white reference square, otherwise discard the Q-Card and make a new one.

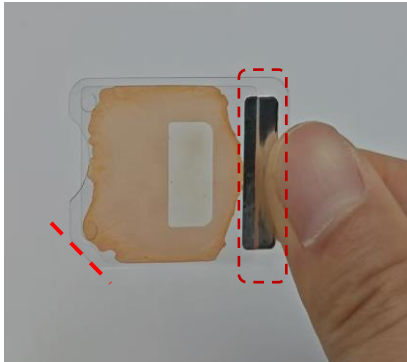


- 2) No large visible air bubble or dust, otherwise discard the Q-Card and make a new one.



## Step-7. Insert the Card into the Analyzer

Hold the card on silver strip, with the **front side** facing you



**Immediately,** gently insert the Q-Card into the analyzer until a **physical stop is reached**.



**Close the cap.**



### Warning!

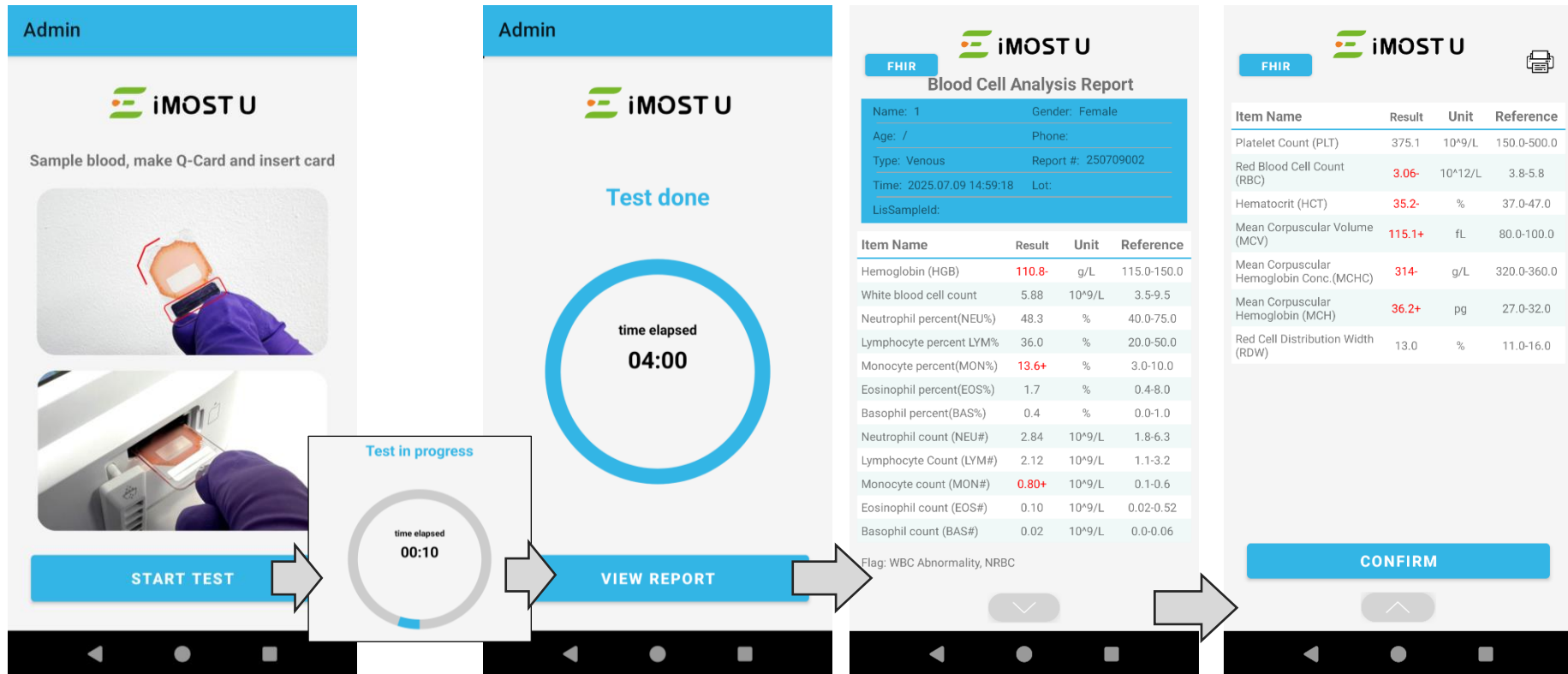
If the card is accidentally opened during insertion, discard it and prepare a new one.

## Step-8. Measure

(1) Click **NEXT**  
and Wait **4-5 min**

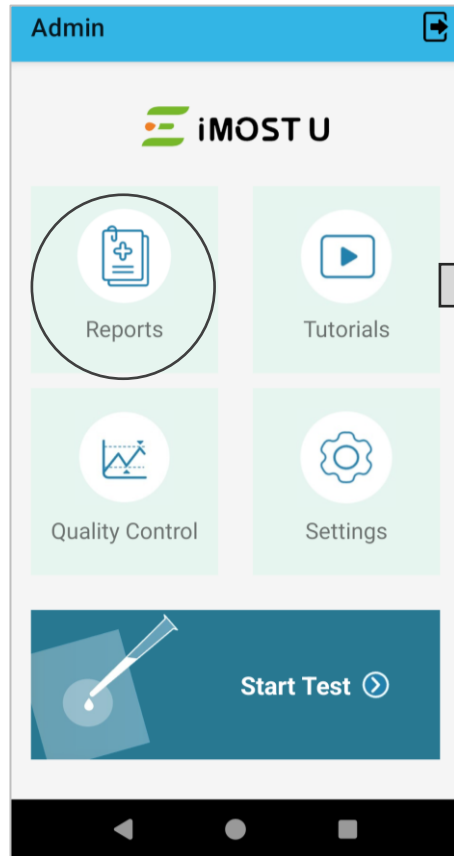
(2) Click **VIEW REPORT**

(3) **CONFIRM**



## Step-9. Observe Results

(1) Click **REPORTS**



(2) **CLICK Individual Results**



**iMOST U**

**FHIR**

**Blood Cell Analysis Report**

Name: 1      Gender: Female  
Age: /      Phone:  
Type: Venous      Report #: 250709002  
Time: 2025.07.09 14:59:18      Lot:  
LisSampleId:

| Item Name                | Result | Unit               | Reference   |
|--------------------------|--------|--------------------|-------------|
| Hemoglobin (HGB)         | 110.8- | g/L                | 115.0-150.0 |
| White blood cell count   | 5.88   | 10 <sup>9</sup> /L | 3.5-9.5     |
| Neutrophil percent(NEU%) | 48.3   | %                  | 40.0-75.0   |
| Lymphocyte percent LYM%  | 36.0   | %                  | 20.0-50.0   |
| Monocyte percent(MON%)   | 13.6+  | %                  | 3.0-10.0    |
| Eosinophil percent(EOS%) | 1.7    | %                  | 0.4-8.0     |
| Basophil percent(BAS%)   | 0.4    | %                  | 0.0-1.0     |
| Neutrophil count (NEU#)  | 2.84   | 10 <sup>9</sup> /L | 1.8-6.3     |
| Lymphocyte Count (LYM#)  | 2.12   | 10 <sup>9</sup> /L | 1.1-3.2     |
| Monocyte count (MON#)    | 0.80+  | 10 <sup>9</sup> /L | 0.1-0.6     |
| Eosinophil count (EOS#)  | 0.10   | 10 <sup>9</sup> /L | 0.02-0.52   |
| Basophil count (BAS#)    | 0.02   | 10 <sup>9</sup> /L | 0.0-0.06    |

Flag: WBC Abnormality, NRBC

**Long press to delete specific results**

\* iMOST abnormal flags alert the operator to a possible abnormal cell population, an abnormal WBC scatter/distribution pattern, and/or reduced reliability of WBC classification. Flags include Abnormal WBC, IG/Left Shift/WBC Abn Scatter, Blast/Abn Lym/Atypical Lym, and nRBC.

# Maintenance and Troubleshooting Guide

## Maintenance

|                    |                                                                                                                                                                    |
|--------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Before Test</b> | Charge the system to greater than <b>30%</b> battery. System requires <b>10%</b> battery for the testing.                                                          |
| <b>After Test</b>  | You may choose to clean the exterior surface of the iMOST with a disinfectant reagent, as needed.<br>Note: After wiping, remove any residual liquid with a tissue. |

## Troubleshooting – Error Messaging and Action Required

| Warning/Symbol                                                                 | Possible Cause                                                                                      | Action                                                                                                                                             |
|--------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| Warning: Q-Card not detected or incorrect Q-Card used.                         | No Q-Card inserted, incorrect Q-Card inserted, or Q-Card inserted incorrectly.                      | Please verify that you are using the correct Q-Card and retest.                                                                                    |
| Warning: Q-Card is not fully inserted.                                         | The Q-Card is not fully inserted into the slot.                                                     | Please remove and reinsert the Q-Card until it reaches the physical stop position.                                                                 |
| Warning: Insufficient blood sample.                                            | Insufficient blood sample in the Q-Card.                                                            | Please refer to the user guide and ensure that the Q-Card contains enough blood.                                                                   |
| N/A in certain parameter in “Results”                                          | Certain parameters are rejected due to improper samples, incorrect Q-Cards, or defects on the card. | Use a new Q-Card, repeat the measurement                                                                                                           |
| N/A in certain parameter in “Results” <u>again</u>                             | This sample’s parameter is improper to be tested in iMOST system.                                   | This sample’s parameter is improper to be tested in iMOST system. Refer the sample to a laboratory for confirmation using other reference methods. |
| Abnormal noise from inside the device                                          | Foreign matter is present inside the device.                                                        | Please turn off the power and unplug the device. Check the Q-Card compartment and heat dissipation holes, then remove any foreign matter.          |
| Warning: Over Temperature Protection                                           | The internal temperature of the iMOST system exceeds acceptable levels.                             | Please check the surrounding environment, as well as whether the Q-Card cover and the vent at the bottom of the instrument are blocked.            |
| Long test duration warning                                                     | The duration of a single test is longer than usual.                                                 | Please retest or use a new Q-Card. If the same error persists, contact customer support.                                                           |
| Hardware Error                                                                 | Hardware error.                                                                                     | Please retest or use a new Q-Card. If the same error persists, contact customer support.                                                           |
| Low Battery                                                                    | Low Battery                                                                                         | Battery level is below 10%. Please charge to at least 30% before testing.                                                                          |
| 5,000 tests completed (Reminders will appear at 4,000, 4,500, and 4,900 tests) | 5,000 tests completed. You need to contact Essentlix to service the device.                         | Contact Essentlix to service the device.                                                                                                           |



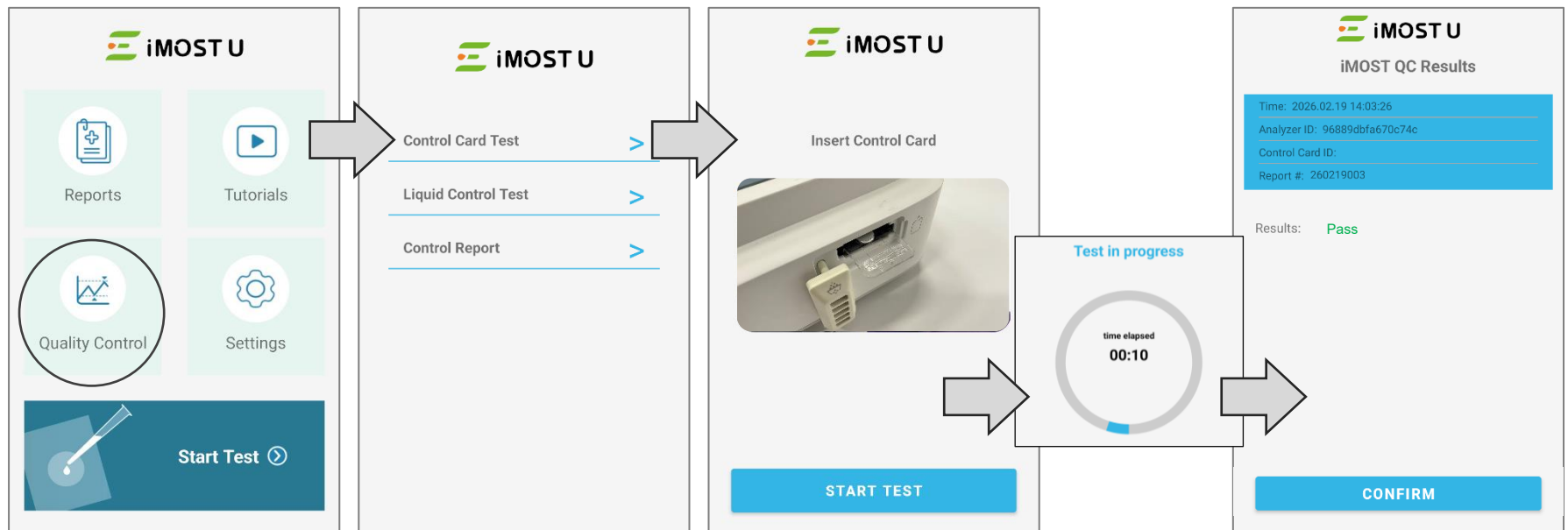
- The entire process—from blood collection, to preparing the card, to inserting it for testing—should be carried out **continuously**, without pausing or waiting in between.
- Place the analyzer on a **flat, stable surface** and do not move it during testing.
- Use the Q-Card **immediately** after removing it from the pouch. Do not put used Q-Card back to box.
- **Finger (EDTA) mode** uses **capillary collection tube recommended by Essenlix**.
- **Mix the blood well** before adding to Q-Card.
- Drop blood on **Blood Landing Zone (White Spot)**.
- Leave last bit of blood inside the tube. **Do not push air bubble** into droplet.
- Press the arm at (A) **gently and smoothly** at a rate of ~4 sec from beginning to end until the **blood stops spreading (wait ~2 sec)**. Press the front head (B) against the Q-Card ~3 sec
- **Inspect** the Q-Card
- Insert the Q-Card - Hold the card on silver strip, with **the front side facing you**

# iMOST Control Q-Card Usage

The iMOST QC Card is **Reusable (multiple runs)**. No blood needs to be added in.

The iMOST QC Card can serve as the routine daily/shift release check.

**Covers:** All key functional components of the iMOST system, including instrument optics, scan-stage motion, hardware functions, and software integrity.



If the result is **Fail**, please retest or use a new Control Q-Card. If the issue persists, contact Customer Support.

# Account and Password Record

Please ensure accurate recording of your account and password information and store it in a secure place.

Date: \_\_\_\_\_

Account: \_\_\_\_\_

Password: \_\_\_\_\_

Date: \_\_\_\_\_

Account: \_\_\_\_\_

Password: \_\_\_\_\_

Date: \_\_\_\_\_

Account: \_\_\_\_\_

Password: \_\_\_\_\_

Date: \_\_\_\_\_

Account: \_\_\_\_\_

Password: \_\_\_\_\_

Date: \_\_\_\_\_

Account: \_\_\_\_\_

Password: \_\_\_\_\_

Date: \_\_\_\_\_

Account: \_\_\_\_\_

Password: \_\_\_\_\_