



USER MANUAL

AUVON[®] Blood Glucose Monitoring System

MODEL: DS-W

Thank you for purchasing this product, please read this
user manual carefully before use!





Why was the test result test at home different from the result tested in the hospital?

(1) All BGMs tests at home use whole blood to measure glucose.

Whole blood is simply a blood sample that contains the red blood cells.

(2) Lab glucose tests in the hospital use plasma portion of the blood to measure glucose.

Only the plasma portion of the blood is used to measure glucose levels while the red blood cells are removed.

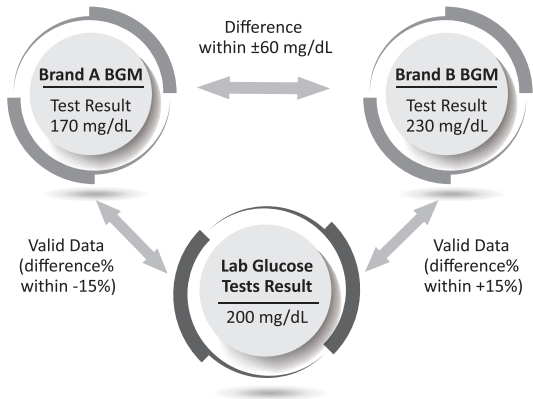
(3) Difference in test results.

Whole blood glucose test results are approximately 12-15% lower than the lab plasma results. For example, if your glucose meter result (whole blood) was 200 mg/dL, and the lab test result (plasma) was 230 mg/dL, the difference% will be $(\text{whole blood glucose value} - \text{plasma blood glucose value}) / \text{plasma} * 100$, the result will be $(200 - 230) / 230 * 100 = -13\%$, which has met the ISO 15197 standard. Thus, you should know about your glucose meter to help you make the most educated decisions about your diabetes management.



**Why the results measured by different companies' BGMs are different?
(e.g. I have 2 meters, but I get 2 different results at the same time?)**

The test results for the same blood sample may vary because each manufacturer's blood glucose meter setting is different.



It is not recommended to compare the test results tested with different brands of blood glucose meters.



Why were results different after measuring blood sugar twice in a row?

(1) Case Study.

I used the same finger to perform the test, but why did I get 2 different results? I used the portable BGM to check the blood sugar before having my breakfast, the first result was 270 mg/dL, and I tested it again immediately; however, the second one was 230 mg/dL. Which one was correct.

(2) Results: both of the results were pretty high.

You got 2 different results because of your blood circulation and the sugar mixed into the blood. You might test a blood drop with your meter that has more glucose; you might test next blood drop that contains less glucose. Both results reflected in your 2 different blood glucose checks. Basically, there is an about 5% difference when using the same blood sample but both are accurate.

NOTE:

1. AUVON blood sugar test kit is only suitable for human.
2. The shelf life of the test strip is only 3 months after opening, and it needs to be stored in a sealed state.
3. BGMs are considered clinically accurate if the result is within $\pm 15\text{mg/dL}$ ($< 100\text{ mg/dL}$) or $\pm 15\%$ ($\geq 100\text{ mg/dL}$).

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Understanding Your Meter & Strip

Meter



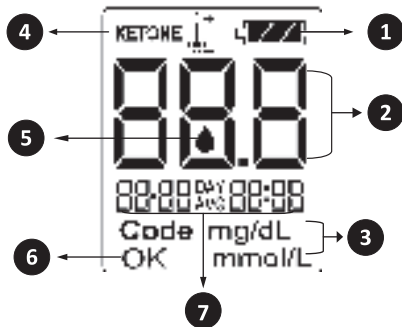
- 1** Test Strip Slot: Insert test strip here.
- 2** Display: shows test results, messages and memory records.
- 3** Query Button

Battery Cover :
Slide cover off to
replace battery



Setting button:
Press this button
to adjust date & time.

Meter Display



- 1** Battery Status
- 2** Test Result
- 3** Unit Symbol
- 4** Ketone Warning
- 5** Blood Application
- 6** Code Message
Meter Checking
- 7** Date/Hr/Min
Average of Test Result
(7, 14, 30 days)

Test Strip



1 Reaction Zone:

This is located in the top of the test strip.

This area must be completely filled with blood sample.

2 Application Zone:

This is located on the middle side of the reaction zone.

When a drop of blood is applied to the reaction zone, it will be rapidly drawn in.

3 Introduction Zone:

On the test strip, black bars are located in the bottom area, and it must be inserted into the strip slot of the meter with the black bars facing up.

Attention:

The BLUE side with blood drop sign should face up when inserting the test strip. Test results might be wrong if the introduction bar is not fully inserted into the test slot.

NOTE:

- The AUVON DS-W Blood Glucose Meter should only be used with AUVON DS-W Blood Glucose Test Strips. Using other test strips with this meter can produce inaccurate results.
- The DS-W meter only requires a tiny sample of blood to perform a test. Choose a different spot each time you test. Repeat puncture in the same spot may cause soreness and calluses.
- The first drop of blood usually contains tissue and serum, which may affect the test result. It should be discarded.
- The blood should be completely filled the reaction window before the meter begins to count down. If you find that the reaction window is not filled with blood when the meter is counting, NEVER try to add more blood to the test strip. Discard the test strip and retest with a new one.

Correct Blood
Application



Incorrect Blood
Application



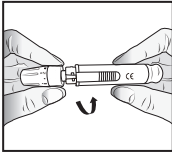
- If you do not apply a blood sample within one(1) minute, the meter will automatically turn off. You must remove the test strip and insert a new strip to start the test procedure.
- If you have trouble filling the test strip, please contact your healthcare professional or dealer for assistance.

Operation ※ Only use DS-W strip to turn on the meter.

Please refer to a video we uploaded to the listing for your better understanding of the operation

Step 1

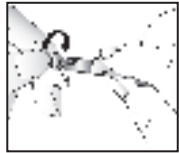
Preparing the lancing device to get blood sample



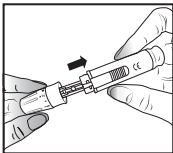
1. Turn and pull off the cap.



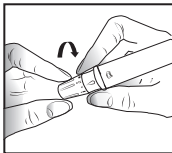
2. Insert the lancet firmly.



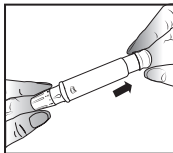
3. Twist off the lancet's protective cover.



4. Snap the cap back on to the device.



5. Turn the cap to set the lancet depth. For tougher skin, dial to a higher number.



6. Pull the plunger until it clicks. Set aside until later in the test.

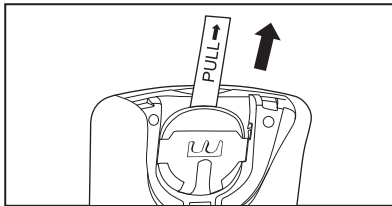
IMPORTANT :

- Lancet is for single use only. Use a new and sterile lancet to perform test.
- Keep lancing device and lancets clean.
- Be cautious when removing the used lancet from device and when disposing the used lancet.

NOTE :

- Choose the desired depth of penetration to get a good blood sample with the least amount of discomfort.
- Adjustments:
0-1 soft or dedicated skin 2-3 normal skin 4-5 thick or callused skin

Step 2 Preparing your Meter and Strip



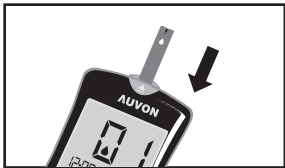
1. Pull out the isolated strip, the machine will automatically turn on and immediately enter the shutdown state.



2. Use warm water to wash your hands and dry them. Then, massage your fingertips gently. It will be easier to get blood sample with less pain.



3. Take one test strip from the vial and close the vial cap rapidly and tightly.



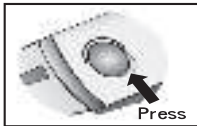
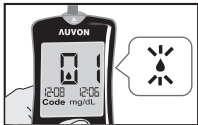
4. Running a Test
Insert the test strip with **BLUE SIDE** facing up into the meter. The machine will automatically turn on.

Normal Blood Glucose Range

Time of day	Normal Glucose Range (mg/dL)/(mmol/L)
Before Breakfast	(70-105)/(3.9-5.8)
Before lunch or dinner	(70-110)/(3.9-6.1)
1 hr after meals	Less than (160)/(8.9)
2 hrs after meals	Less than (120)/(6.7)
Between 2 and 4 a.m.	Greater than (70)/(3.9)

Source: Krall, L.P. and Beaser, R.S.; Joslin Diabetes Manual; Lea and Manual; Lea and Febiger (1989), p.138.

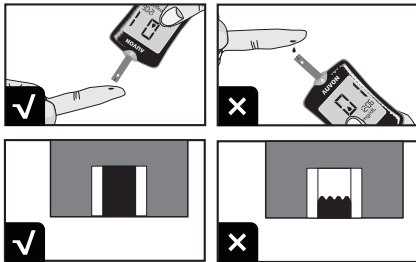
Step 3 Measuring Your Blood Glucose Level



1. When you see the flashing blood drop, hold the lancing device against the side of your fingertip and press the release button.



2. Gently squeeze your finger to assist the flow of blood.



3. Touch the drop to the tip of the application zone of the test strip. Do not apply blood on top surface of test strip. When you hear a "beep" sound, it means the strip has completed getting blood sample, and the result will be shown after 6 seconds.



4. Get result in 6 seconds.



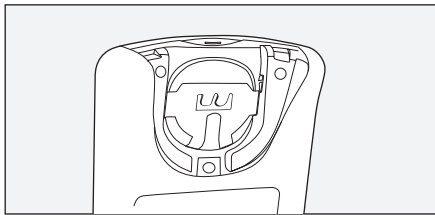
5. After finishing the test, please use the protective cap to cover the needle, eject the lancet, and discard it.


How to Check the Memory Records

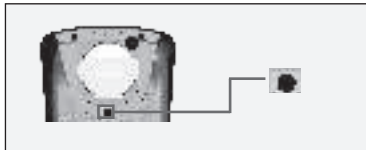
For people who want to check the average values.


Step 1: year, date, time setting

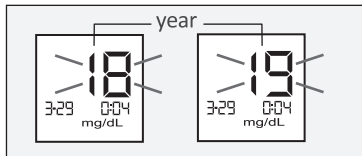
1. Make sure the isolated strip is removed and the machine is off and the battery is installed correctly as below.



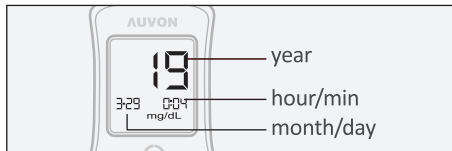
2. Press **black setting button**  besides the battery with battery back cover.




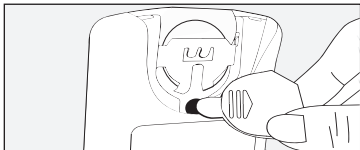
3. Find the flashing "YEAR" and click query button  until desired year is displayed.



4. Repeat STEP 2~3 to successively set month, day, hour and minute.



5. When desired minute is chosen, press the black setting button  again.



6. The screen displays off, indicating the setup is completed.

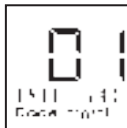




Step 2: check the memory records

Your meter automatically stores up to 300 test results, and you can review them at anytime. If you have set the time and date on the meter (see step1), the information is also stored and displayed with your test results. Moreover, the DS-W can also check the average value of blood glucose results for the past 7,14 and 30 days.

The DS-W meter will first display 7,14 and 30 days average values, as follows:

1. With the meter off, press  to turn on the meter.



2. Press  to display 7-day average. Press  again to display 14-day average. By repeating this step, you can check the average values of 30 days.




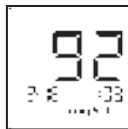
Example



Example



3. Press  to continue to recall each test result with date and time. The display will show the result number "01" first, and then Blood Glucose Result, Measuring Date, and Time. Repeat this step to check your other test results.



Introduction

1. Indication for Use


The DS-W Blood Glucose Monitoring System is used with the DS-W Draw-In Blood Glucose Test Strip for the measurement of glucose in whole blood. Testing is done outside the body (in vitro diagnostic use). It is indicated for use at home (over-the-counter [OTC]) by person with diabetes, or in clinical setting by health care professionals, as an aid to monitor the effectiveness of diabetes control. It is not intended for the diagnosis of or screening for diabetes mellitus, and is not intended for use on neonates. The frequent monitoring of blood glucose is an adjunct to the care of persons with diabetes.

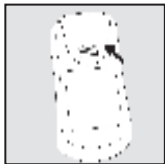
2. Standard Package

- | | | | |
|----------------|--------------------|---------------------------|-------------------|
| A. Meter | B. Lancet | C. Carrying case | D. Lancing Device |
| E. User Manual | F. Self-Test Diary | G. Quick Reference Manual | |

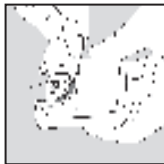
3. Change Battery

Changing the Battery

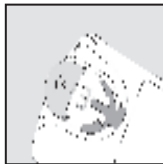
The **DS-W** uses with CR2032 3v lithium battery. Battery life will vary depending on usage, so always keep a spare battery on hand. The battery should last about 1000 tests. When the battery symbol  appears on the meter display, please replace with a new battery.



1. Press lightly on the battery cover and slide it in the direction of the arrow.



2. Use the battery cover lock to remove the old battery.



3. Replace a new battery under the copper hinge, make sure it is firmly positioned.

4. Important Information about Your New Meter




- DS-W blood glucose meter is designed and approved for testing fresh capillary whole blood samples from your fingertip, palm, and forearm. The meter is for in vitro diagnostic use ONLY (for testing outside the body). It should not be used to diagnose diabetes.
- Use only DS-W Blood Glucose Test Strips with DS-W Blood Glucose Meter. Other test strips will get inaccurate results.
- Testing is not valid for neonatal blood specimens.
- Always keep the meter clean and prevent the meter from direct sunlight. Store it in a safe place between the temperatures of 4°C-32°C (39.2°F-89.6°F).
- Altitude up to 2,610 meters (8563 ft.) above sea level has no effect on readings.
- DO NOT store the meter and test strips in a car, bathroom, or refrigerator.
- Keep the meter, test strips, lancing device, and lancets away from children and pets.
- Remove battery if the meter will not be used for 1 month or more.
- Please dispose device according to the local rules of the disposition of electronic device / accessory waste.







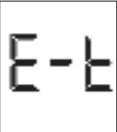

Consult with your healthcare provider before testing on your forearm.


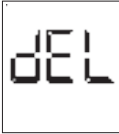

5. Message Description and Proceeding Solution

All messages will be displayed by symbols or images on the display. However, when the incorrect operation cause the incorrect test results, the glucose meter will not display any messages or symbols for the incorrectness. If you still have questions, please contact your local healthcare provider.

Message	Description	Proceeding Solution
	Every time after starting your glucose meter, please make sure all the symbols show on the display briefly. Please compare it with Meter Display.	If there are any symbols that do not display properly, it could cause incorrect test result. Please contact local healthcare provider.
	The Test Result will be stored in the memory.	After entering the Memory Mode, press  Key to recall saved Blood Glucose Results. The memory can record the latest 300 Blood Glucose Results.

Message	Description	Proceeding Solution
	After drawing the blood sample into the test strip, the 6-second countdown shall start. After the countdown is finished, the test result will display on the screen.	NONE
	Your blood glucose may be extremely low, lower than 20 mg/dL.	Ensure the test strip has applied sufficient blood sample to the blood application zone and test again with a new strip. If it is still displaying the “LO” symbol, please consult with your healthcare provider.
	Your blood glucose may be extremely high, higher than 600 mg/dL.	Make a new test with new test strip again. If it is still displaying the “Hi” symbol, please consult with your healthcare provider.

Message	Description	Proceeding Solution
	The battery is out of power.	Please change the battery to avoid incorrect test results or else the glucose meter cannot be operated.
	If the temperature is extremely high or low during the operation of the glucose meter.	Move to an area between 14°C- 40°C (57.2 °F- 104 °F), wait for 5 minutes and do the test again.
	The test strip is used or damaged.	Please DO NOT reuse the test strip. Please use a new strip to test again.

Message	Description	Proceeding Solution
	<p>Ketone warning. When the glucose level is over 240 mg/dL(13.33 mmol/L), three alarm sounds will be alerted.</p>	<p>When the Ketone warning appears, please check if the strip has sufficient blood, and please use a piece of new strip to test again. If the meter still shows the Ketone warning, please consult with your health care provider.</p>
	<p>Delete the test result.</p>	<p>After showing the test result, press  for 2 seconds without pulling out the strip. That test result will be deleted. NOTE: Historical test results can't be deleted.</p>

6. About Alternative Site Testing (AST)

Understanding Alternative Site Testing

What is AST?

Besides the fingertip, you can test your palm or forearm instead.

What is the advantage of AST?

You have different options of testing other places on your body besides the fingertip.

We strongly recommend that you:

DO AST ONLY in the following intervals:

- In a pre-meal or fasting state (more than 2 hours from last meal).
- Two hours or more after taking insulin.
- Two hours or more after exercising.

Do NOT use AST if:

- You are unaware of hypoglycemia.
- If you are pregnant.
- Your AST results do not match the way you feel.
- You are testing for hyperglycemia.
- You think your blood glucose is low.
- Your routine glucose results are often fluctuating.

Fingertip test only:

- If sick.
- After exercising.
- Two hours or less after eating.
- If blood glucose is low.
- After injecting rapid-acting insulin (two hours or less).
- When you have just taken insulin.

AST Results

- If the blood glucose test result from the AST does not match how you feel, do a fingertip test to check the result again.
- if you often do not notice when your blood glucose is low, do a fingertip test.

NOTE:

- Talk with your healthcare professional before you test with your forearm.
- DO NOT ignore symptoms of high or low blood glucose.
- Fingertip samples are able to show the rapid change of glucose faster than forearm samples.

7. Caring for Your Meter and Test Strip

To avoid the meter and test strips getting dirt, dust or other contaminants, please wash and dry your hands thoroughly before use.

Cleaning

Cleaning is the removal of organic material or soil from meters. To clean your meter and lancing device, wipe the outside with disinfectant towels for at least one minute. We recommend use DISPATCH® Hospital Cleaner Disinfectant Towels with Bleach by CALTECH (EPA Reg. No, 56392-8. Do not use alcohol or another solvent to clean your meter and lancing device. We recommend cleaning your meter and lancing device every time after using your meter and lancing device.

Disinfection

A disinfectant is a chemical or physical agent that is applied to meters to kill microbes. We recommend using DISPATCH® Hospital Cleaner Disinfectant Towels with Bleach by CALTECH {EPA Reg. No. 56392-8} wipes to disinfect your meter and lancing device twice a week. Wipe the devices for at least one minute. Environmental Protection Agency (EPA)-registered disinfection effective against Hepatitis B can be found at the following website: http://www.epa.gov/oppad001/list-d_hepatitisbhiv.pdf

NOTE:

- For the usage of disinfectant towels, please refer to its instruction manual.
- To clean the meter exterior, wipe with disinfectant towels for at least one minute. Do not flush with water.
- Do not use organic solvents or use anti-bacterial solution to clean the blood glucose meter, you may damage the display of the meter.
- Your meter is a precision instrument, please handle it with care.
- Please ensure that the cleaning solution, blood, water, dust or dirt does not enter inside the strip port or inside of the meter.
- If the meter is being operated by a second person who is providing testing assistance to the user, the meter and lancing device should be disinfected prior to use by the second person.
- If the meter manifested by the polymer crazing (thin silver streaks appear), cracking, swelling, dissolving, softening, or becoming brittle. Please contact us.
- The meter and lancing device are for single patient use. Do not share them with anyone including other family members! Do not use on multiple patients.

8. Health-Related Information

1. Apply only capillary whole blood sample to test your blood glucose level. DO NOT apply other substances or plasma, serum will cause wrong results.
2. If you are experiencing dehydration, frequent urination, low blood pressure, shock or hyperosmolar hyperglycemic nonketotic coma (HHNKC), You may get a false low result and please contact your healthcare provider.
3. If you have followed all instructions described in this user's manual and you are still experiencing false results, please consult your healthcare provider.
4. If your blood glucose result is unusually high, over 300 mg/dL, the user should check all two levels of control solution. If your blood glucose is under 50 mg/dL, please contact your healthcare provider immediately.















5. Inaccurate results may occur in severely hypotensive individuals or patients in shock. Inaccurate low results may occur for individuals experiencing a hyperglycemic-hyperosmolar state, with or without ketosis. Critically ill patients should not be tested with blood glucose meters.
6. If the fresh blood sample has very high density of reducing substrate (Vitamins C, Uric Acid, etc....) it will affect the value of the test result.
7. The hematocrit of the blood sample is higher than 60%, it will cause the value of test result lower than normal value of test result [e.g. the blood from newborn baby].
8. Please read your test strip instructions carefully for additional health-related information.

9. Meter Specifications

Model Name	DS-W
Assay Method	Electrochemical biosensor
Test Sample	Capillary Whole Blood
Alternative Site Testing	Fresh blood from fingertip, palm, or forearm
Sample Size	0.7µL
Measuring Time	6 seconds count down
Measuring Range	20 – 600 mg/dL
Hematocrit Range	20~60%
Operation Condition	14°C - 40°C (57.2°F - 104°F) < 95%R.H.

Storage/Transportation Condition	4°C - 32°C (39.2°F - 89.6°F) < 95% R.H.
Battery Life	1000+ tests
Memory Capacity	300results
Measurement Units	mg/dL or mmol/L
Power Supply	CR2032 3V Lithium battery x 1
Sleep Mode	Power consumption less than 3µA
Auto turn-off	1 minute
Temperature Warning	Less than 14°C (57.2°F) or above 40°C (104°F)
Dimension	76 mm x 45 mm x 21.9mm
Weight	46g

10. Signs and Symbols

	Consult instructions for use		Caution
	Lot number		Do not re-use
	In vitro diagnostic medical device		Temperature limitation
	Use by		Blood glucose test result in mg/dL
	Manufactured by		Blood glucose test result in mmol/L
	Serial number		Separate collection for WEEE- Waste of electrical and electronic equipment
	3 months until the product expires upon opening		This product meets the requirements of Directive 98/97/EC in vitro diagnostic medical devices

Troubleshooting for the Meter

Trouble: The meter was turned off automatically. It seemed to be defective.

Cause: The meter turned on by pressing the query button at the first use while it turned off after only 2 seconds. The query button was designed for checking your previous test results. **If there is no record in the meter, it will automatically be turned off on your first use.**

Solution: Please do not press the query button when you use it at the first time. Please refer to the guide of how to use the meter for the first time on Amazon product listing or read page 8-10

Trouble: I pressed the black button near the battery at the back of the meter but failed to set the year and date

Cause: Once the meter is on, pressing the black button near the battery cannot activate the settings for Year-Date-Time.

Solution: Please make sure the meter is OFF at first, then press the black button near the battery at the back of the meter to start the settings for year, date and time. To set the year, date and time, please refer to the video guide on Amazon product listing or read page 11-14.

Trouble: The meter was turned off automatically after setting the year, date and time.

Cause: Once the settings for year, date and time finish, the meter will be turned off automatically. It's normal.

Solution: The OFF implies that your setup is complete.

Trouble: The test cannot be started, or there is no beep sound on the meter after applying the blood sample.

Cause: The sample size may be too small.

Solution: Please repeat the test with a new test strip and a bigger blood sample size than 0.7ul.

Trouble: The meter is not turned on after I insert the test strip.

Cause: (1) The test strip is inserted incorrectly, (2) No battery inside, or (3) the battery is inserted incorrectly.

Solution: (1) Please make sure that you have installed the battery at first with the +sign up facing the right direction, then (2) Please make sure the test strip is inserted correctly with the Logo sign up and facing the right direction, and then (3) Please make sure the test strip is completely inserted into the test strip port straightly.

The possible reasons to a failed test:

- A failed test will appear if the meter is ON before you insert the test strip.
- A failed test will appear if you insert with black strip facing up into the meter.
- A failed test will appear if the strip is not inserted completely.
- A failed test will appear if the battery is out of power and it shows “E-b” on the screen.
- A failed test will appear if the test strip is used or damaged and it shows “E-u” on the screen.
- A failed test will appear if the temperature is too high or low during the operation of the glucose meter. The normal temperature range is 14 - 40 °C

Factors that Affect Accuracy

1. **Blood Glucose Meter (BGM) designed accuracy.**
2. **Manufacturing and quality control methods affect accuracy stability.**
3. **Test strip problems.** Throw out damaged or outdated test strips. Store strips in their sealed container.
Remove one test strip from your bottle or box of strips. Be sure to close the bottle or box completely to avoid contaminating the other strips with dirt or moisture.
4. **Extreme temperatures.** Keep your glucose meter and test strips at room temperature, keep them away from heat, moisture and humidity.
5. **Alcohol, dirt or other substances on your skin.** Wash your hands with warm, soapy water. Then dry them well with a clean towel thoroughly before pricking your skin. Wipe off the first drop of blood, and then collect a drop of blood on the test strip, be careful to let only the blood, not your skin, touch the strip. Residue from food or medication may affect the test's results.

- 6. Monitor problems.** Fully insert the test strip into the monitor. Replace the monitor battery as needed.
AUVON DS-W meter has insert the strip into the meter before you collect blood, so you can add the blood sample to the strip when it's in the meter.
- 7. Not enough blood applied to the test strip.** Make sure you have an adequate amount for a reading. Don't add more blood to the test strip after the first drop is applied.
- 8. Testing site location.** Blood samples from alternate sites aren't as accurate as fingertip samples when your blood sugar level is rising or falling quickly.
- 9. The amount of red blood cells in your blood.** If you are dehydrated or your red blood cell count is low (anemia), your test results may be less accurate.
- 10. Clean lancing device and clean needle.** Prepare a clean lancing device by inserting a clean needle. This is a spring-loaded device that holds the needle, and it's what you'll use to prick the end of your finger.


Preventing Sore Fingertips

- △ Use multi-track lancing device with precise pricking depth control.
- △ Don't reuse a lancet. Lancets can become dull, making pricking your finger more painful.
- △ Be sure to prick the side of your finger, not the pad. Pricking the end of your finger can be even more painful.
- △ In addition:
 - You can help increase blood flow by washing your hands with warm water.
 - If you still have too little blood, you can squeeze your finger starting at the part closest to your palm and working the way down your finger until you have enough.
 - Don't test on the same finger each time. As part of your routine, establish which finger you'll use to avoid repeatedly testing on the same finger during the same day.
 - If a finger becomes sore anyway, avoid prolonging the pain by not using it for several days. Use a different finger if possible.

CUSTOMER SERVICE

 24-Month Limited Warranty

 Lifetime Technical Support

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