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STANDARD OF ACCURACY

According to the American Diabetes Association glucose meters must read within 20% of “true” in order to be considered accurate. Try testing your blood glucose 3 times in quick succession from separate fingers. Are the results exactly the same? It is unlikely they will be.

Try testing on different meters and you will also get different results. That said, a plus or minus of 10 points, or better yet, a total spread of 10 points is nothing to worry about. Your actual blood sugar could even vary several points while you are running the three tests.

The FDA advises that you use one model of meter and stick with it. Don't switch between different models of meter, if possible.

CHANGING MODELS

When changing meter models, some users find that it takes some time to get used to the new features. This is quite normal.

Blood glucose testing meters look like they display a very precise result: with mg/dl it is to the nearest integer, eg 86 mg/dl. In mmol/l, to the nearest 1 decimal place, eg 4.7 mmol/l. However, the result it displays is much less accurate than that. In an ideal world, your meter reading would be the absolute truth, but this is not the case. The standard of accuracy recommended by the American Diabetes Association (ADA), which most meter manufacturers follow, requires that the meter reading be within 20% of the true reading. This is surprisingly inaccurate.

The following table shows how far off your true blood glucose (bg) could be, compared with the reading your meter has displayed:

TRUE BG AS LO AS	METER READS	TRUE BG AS HI AS
17	20	24
25	30	36
33	40	48
42	50	60
50	60	72
58	70	84
67	80	96
75	90	108
83	100	120
92	110	132
100	120	144
108	130	156
117	140	168
125	150	180
133	160	192
142	170	204
150	180	216
158	190	228
167	200	240
175	210	252
183	220	264
192	230	276
200	240	288
208	250	300
250	300	360
292	350	420
333	400	480
375	450	540
417	500	600

TESTING

All meters have a fairly high degree of accuracy if used properly. Over time the meter may become less accurate so it is important to test your glucose meter to ensure it is providing an accurate reading. Test meter accuracy at least once a month (or according to manufacturer's instructions).

SUSPECTED INACCURACY

Most users repeat tests because they believe the first test result was incorrect. Users question test results based on their expectations about what the results should be or past experience with a different model of meter. If the glucose level seemed “off,” they'll usually repeat the test.



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FACTS ABOUT GLUCOSE METERS & HELPFUL HINTS WHEN CONVERTING TO A NEW METER

USER COMMENT

“I sometimes get a reading of perhaps 300 and then 180 on a retest. This happens in about 1 in 50 tests.”

“Glucose tablet residue on my finger can throw results way off.”

“Sometimes I get higher readings than I expect.”

“The date wears off of the vial and I end up using expired strips.”

“Humidity seems to affect performance of the strips.”

TESTING FACT

Testing procedure and/or various physical and environmental factors can be a cause of this.

Other things such as food residue on the finger or not cleaning the finger can also throw the results off.

Perhaps the meter was left out of the case or food got on it... this is common in communal settings or with multiple users.

It is absolutely imperative that the date be written in permanent ink on the vial of strips and the bottle(s) of solution.

Leaving the vial of strips and/or the bottle of control solution uncapped leads to unwanted results and contamination.

Besides repeating tests due to a suspected inaccuracy in the first test, a frequent reason to repeat a test is that the meter indicates LO or ERR with a test strip icon. When this happens, users need to perform another finger-stick. Often times, users think it's the meter when in actuality they have done something to cause an ERR code to display. If you receive a message that you are unfamiliar with, refer to page 38 and 46 of the User's Guide.

Users who are properly trained, in-serviced, and observed the manufacturer's instructions for use do not have this problem. Many of the excerpts from this bulletin can be referenced to the official website of the FDA under diabetes/glucose. www.fda.gov.

