

AUDIO

Hi, and welcome to part two of the...

“Glucose reading with meaning” video series...

featuring the FreeStyle Libre 2 system, the world’s #1 flash glucose monitoring system.

My name is Lori Berard.

I’m a nurse and Diabetes Educator.

In this video, we’re going to talk about the difference between interstitial fluid glucose and blood glucose.

Blood glucose monitors measure capillary blood glucose with a painful finger prick. Scanning or viewing the results from the FreeStyle Libre 2 system measures interstitial fluid glucose.

In your body, the blood flows from the heart and goes through the arteries, ending up in the capillaries.

Fluid is then released into the tissue surrounding the cells.

This is called “interstitial fluid,” and it contains glucose.

Interstitial fluid glucose results can be different from blood glucose results because of the time it takes the glucose to move in and out of the capillary system.

This difference is called the “lag.”

With blood glucose monitoring, a lancet is inserted with...

pressure to reach the blood in the capillary.

With flash glucose monitoring, the sensor...

uses a filament inserted just under the skin...

where it floats in the interstitial fluid.

When your glucose is changing rapidly, it rises in the blood sooner than it rises in the interstitial fluid.
Let's use a train to demonstrate the lag.
Think of blood glucose as the engine on the train, and interstitial fluid glucose or sensor glucose as the back of the train.
As carbohydrates are absorbed by the body, they enter the bloodstream first.
Remember our capillary demonstration?
On level ground,
there can be very little difference in glucose levels.
But when the train climbs a hill, just like glucose might after you have a meal...
there's a bigger difference in those numbers.
As you can see, sensor glucose still lags behind blood glucose.
[DELAY VO UNTIL THE TRAIN RESUMES MOVEMENT]
Now, after insulin or exercise, the train may start to head down the hill.
But blood glucose still leads with sensor glucose lagging behind.
This means your blood glucose levels may be lower than your sensor glucose level.
That's why it's so important for you to look at all four elements of a scan or view... the current glucose, the trend arrow, the glucose graph, and the glucose message.
Let's have a closer look at the trend arrow.
The trend arrow shows you where your glucose levels are heading ... up, down or staying steady.
Thinking of what we learned from the train, trend arrows help you understand how quickly your glucose levels are changing, allowing you to act instead of react.
Well, that was a lot to take in. Let's summarize what you learned.
Glucose enters the blood first, before it enters the interstitial fluid.

The difference in timing is called the lag.

Blood glucose and sensor glucose readings don't always match.

And a number alone won't give you the full picture - you need to use all 4 pieces of information.

In our next video, I'll help set expectations for your first glucose reading, explain the four elements of your glucose reading and introduce you to the glucose alarms.

Until next time!