



**Managing
Deterioration**

The Importance of Blood Glucose Regulation

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 @NatPatSIP / @MatNeoSIP

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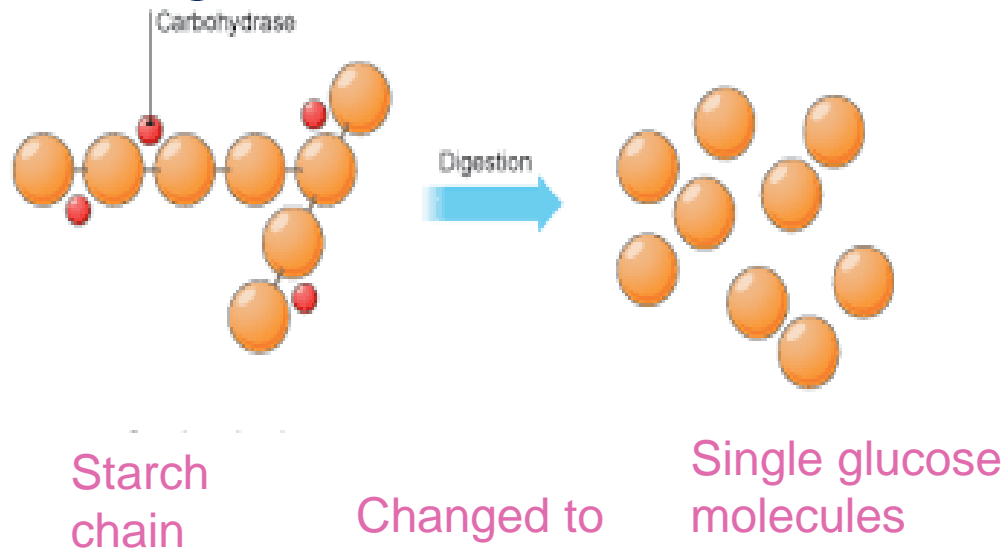
**Glucose is one of the body's main fuels.
Blood glucose is a sugar that is carried in the
blood
to all cells in the body to supply energy**



We obtain glucose from the food that we eat, mainly starch-rich foods such as:



Starch is a chain of glucose molecules that is broken down during digestion to single glucose molecules which are carried round the body in the blood i.e blood glucose



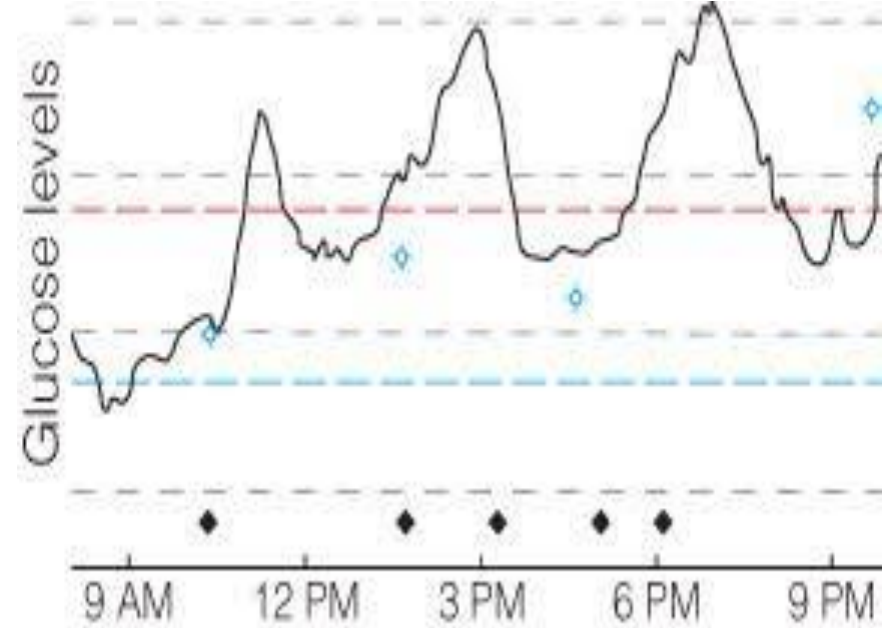
Other types of simple sugars in our diet are also fuels to aid the process



Glucose Regulation

Blood glucose levels change throughout the day.

After eating, levels rise then settle after about an hour



The human body regulates blood glucose levels so that they remain moderate:

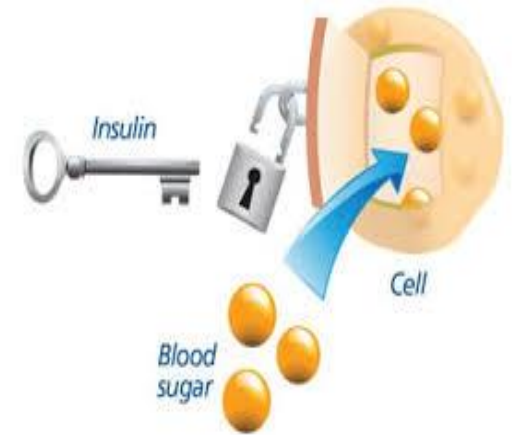
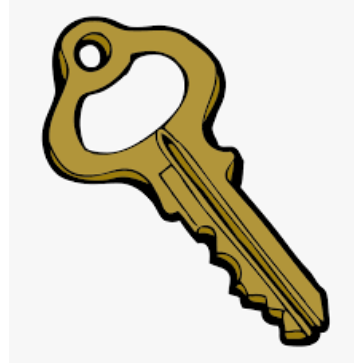
- enough glucose to fuel the body
- not enough to overload the blood stream

They are at their lowest point before the first meal of the day





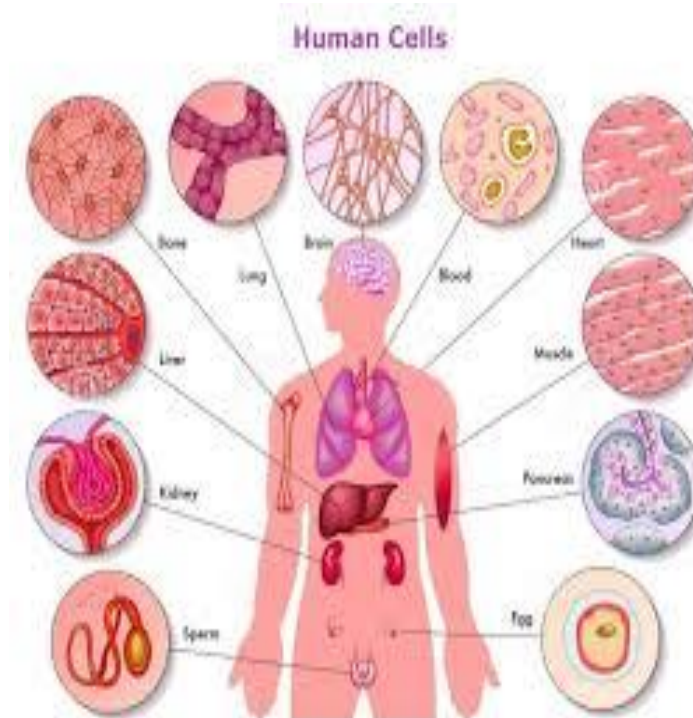
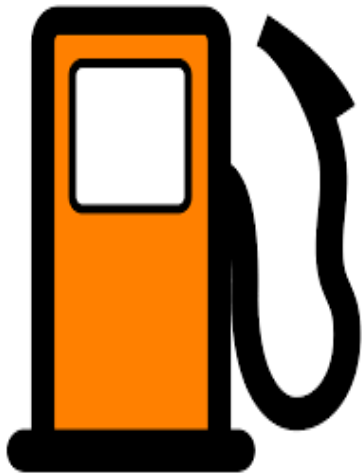
Insulin



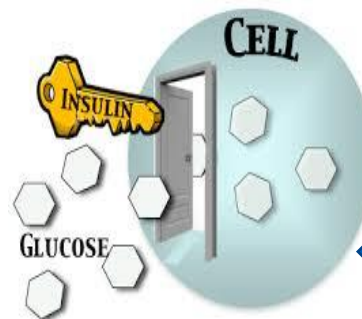
- Insulin is a hormone made by the pancreas
- All cells need glucose for energy but are they are 'locked'
- Cells cannot access the glucose without a key
- Insulin acts as the key
- Insulin helps keep the blood sugar levels from getting too high or too low

Glucose is the fuel that feeds your body's  cells but to enter the cells it needs a key.

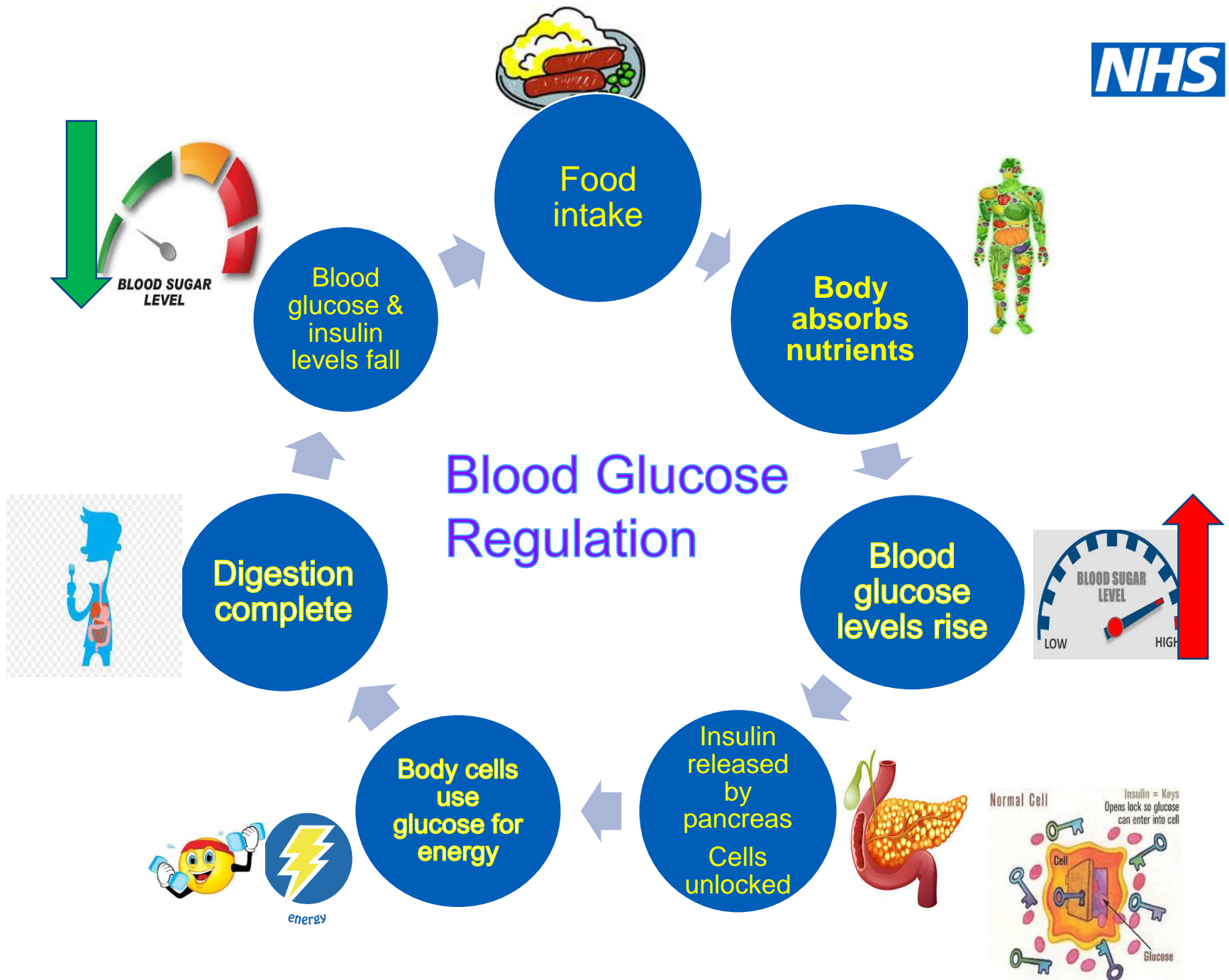
Insulin is that key



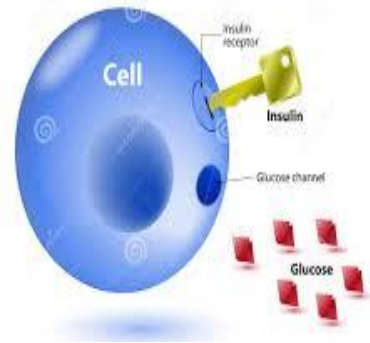
Glucose



Insulin



Diabetes







Diabetes is a condition when the body is unable to produce insulin or use it effectively. This means the body can't use glucose for energy as it should.



Type 1 No insulin is produced - commoner in children and adolescents

Type 2 Not enough insulin or the insulin that is produced is not effective - commoner in middle-aged and older people

Differences between type 1 and type 2 diabetes

	Cause	Treatment
<p>Type 1 No insulin No key</p> 	<p>Pancreas stops producing insulin</p>	<ul style="list-style-type: none">• Insulin injections necessary• Tablets will not work as the insulin would be destroyed by digestion if taken orally 
<p>Type 2 Some insulin Broken key</p> 	<ul style="list-style-type: none">• Pancreas does not produce enough insulin• Body cannot use the insulin properly	<ul style="list-style-type: none">• Diet alone may be enough• Tablets can be taken to:<ul style="list-style-type: none">○ make the insulin that is produced work effectively○ influence the pancreas to make more insulin 

Glucose monitoring and regulation is vital in the management of diabetes



A finger prick test is how to find out what the blood glucose level is at that moment in time. It is a snapshot measurement.

All blood glucose meters/glucometers are slightly different. It is therefore important to find out which meter is in use in your local area, read the instructions carefully & become familiar with use.

How to measure Blood Glucose levels

You will need the following items to perform the test:

- Blood glucose meter/glucometer
- Calibration strip and test strips
- Finger prick device
- Lancet (a very short, fine needle)
- Cotton wool or tissue
- Record book
- Sharps bin
- Gloves



Wash hands prior to the test
i.e. resident and carer.



How to measure Blood Glucose levels



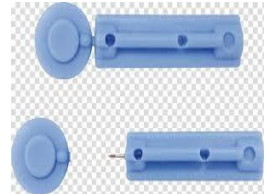
- Ensure the test strips are calibrated according to the manufacturer's instructions for that particular glucometer. This is important to confirm the test strips give an accurate result
- Unwrap the blood glucose testing strip noting the black lines which are inserted into the bottom of the meter
- The meter itself will switch itself on and indicate that it is ready to receive blood



How to measure Blood Glucose levels



- Open up the finger prick device and use a new lancet, pushing this securely into place
- Twist off the top to expose the lancet



- With the test strip in place waiting in the glucometer and a new lancet in the finger prick device, apply to the side of the finger
- When in place, depress the button allowing the lancet to pierce the skin and obtain a sample





The best place to take a sample:

- Along the edges of the top third of the finger as here there are fewer nerves to signal pain while also having adequate blood flow for the test
- Advisable to use the middle fingers avoiding the index finger and the thumb
- Try to use a different finger so sites don't get sore.



Bring the glucometer containing prepared test strip to the finger and place it next to the drop of blood allowing the blood to soak into the end edge of the strip



Press the tissue/cotton wool onto the puncture wound for a few seconds

The result will appear on the glucometer



Disposal Procedure

Once the procedure has been completed the lancet must be safely disposed of

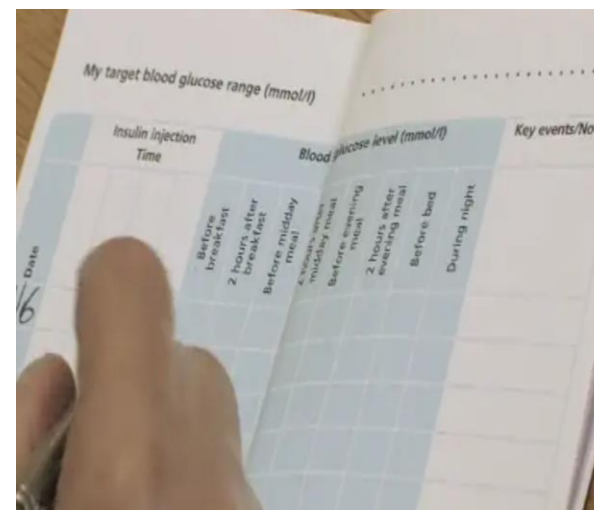


- Snap open the lid of the lancet device and carefully remove the lancet
- Immediately dispose of the lancet into the nearby sharps bin
- Reapply the cover to the lancet device without putting a needle in
- Discard the used test strip and tissue/cotton wool into a suitable bin



Documentation

When the result is obtained, the result must be recorded in the person's blood glucose record book so an accurate record of all blood sugars can be obtained and reviewed collectively



Inform the most appropriate person

When should blood glucose levels be measured?



The number of times per day blood glucose levels should be measured depends entirely on the diabetics.

Type 1 diabetics using insulin should check their blood sugar levels before every meal, sometimes as often as five times per day.

Type 2 diabetics controlling their condition with diet, you should test several times a week.

However, this doesn't apply to everyone, and each individual will have their own plan

Normal blood glucose results

Blood glucose levels are literally the amount of glucose or sugar in the blood. Usually, this amount is expressed as millimoles per litre (mmol/l).

Normal levels in people *without* diabetes stay stable at around **4-8mmol/L**

	Adults- Type 1 Diabetes	Adults Type 2 diabetes
Before meals	4.7 mmol/L	4.7 mmol/L
2 hours after meals	5.9 mmol/L	Less than 8.5 mmol/L



<https://www.youtube.com/watch?v=NUskHI7APHE>

Questions?

Contact for further support/information:

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