

Information leaflet on

Super Bolus



Name: _____



List up to three meals that cause a very high glucose level after 1-2 hours, but glucose returns to target after 4 hours with no correction.

1. _____

2. _____

3. _____

When to consider the Super Bolus

Does your blood glucose ever go very high one to two hours after eating, but then returns back to target by four hours, even though you have not given a correction at two hours?

If you answered yes, consider:

- What meals cause this to happen?
- Is there a time of day that this happens?
- What things have you tried to prevent this from happening?

This commonly happens after eating:

- Breakfast cereals
- Toast with jam

There are lots of solutions to this problem, ask yourself the following questions:

- Do I carbohydrate count accurately?
- Do I give my bolus insulin 15-30 minutes before eating?
- Have I tested my Insulin to carbohydrate ratio (ICR) to see if it's correct.
 - This means confirming a few times that four hours after eating, your blood glucose is back to target, with no snacking or correction in-between.

If you have answered **YES** to all of the above and are on an insulin pump, you can try a Super Bolus.

What is a Super Bolus?

Very simply...

A Super Bolus is where you borrow the basal insulin for two hours, and add it to the bolus insulin that is delivered 15-30 minutes before eating.

Why?

So that you get more insulin working in your blood when you need it the most. Which is just as you eat those foods that cause your blood glucose level to rise very quickly!

Lets take an example:

Craig has a basal rate of 1.00units per hour. He is eating 50g of carbohydrate (cornflakes) for breakfast and his ICR is 1unit:10g.

Normally he would bolus 5 units before breakfast.

What would be different with a Super Bolus?

- First, he would put a temporary basal rate of 0% on for 2 hours.
- Second, he would enter 50g carbohydrate into his bolus calculator, which would suggest 5 units of insulin.
- Finally, he would override the 5 units and increase it by 2 units, and he would deliver the 7 units before eating.

Would Craig not go hypo?

No because the total amount of insulin the pump delivers over the two hours after the bolus is exactly the same, 7 units. The only difference is he will be getting more of the 7 units working when he needs it the most, just after he eats his cornflakes.

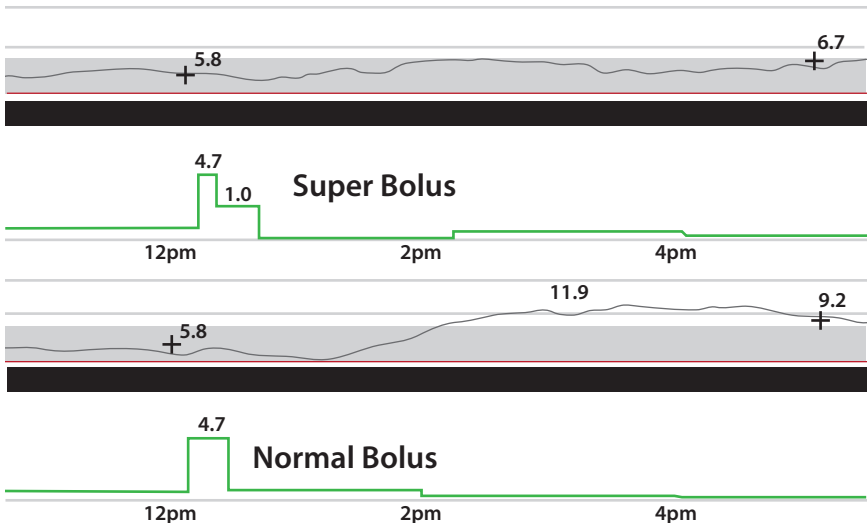
This will mean his blood glucose after two hours will be lower than usual, but his four hour glucose level will be the same, in target.

A Real life Super Bolus

Look at the picture below, this is a real life example of a young person with Type 1 Diabetes who used a Super Bolus for 57g of breakfast cereal on the first day, and then a normal bolus for the exact same meal the next day.

A few things to notice...

- On both days the amount of insulin for the cereal was 4.7units
- The basal rate must have been 0.5units per hour, because a temporary basal rate of 0% for two hours meant 1.0unit was added for the Super Bolus.
- After the Super Bolus the blood glucose never went above 7.7mmol/l.
- After the Normal Bolus the glucose level went up to 11.9mmol/l and took four hours to come back down to target.



Your turn to practice

What is your basal rate for the two hours after you eat the meal that causes this issue?

If you put a temporary basal rate of 0% for two hours, how much total basal insulin will you be missing?

Practice:

- Putting a temporary basal of 0% for 2 hours
- Entering 50g of carbohydrate into the bolus calculator
- Override to bolus amount and add the missed basal
- **DO NOT DELIVER** the Bolus
- Cancel the temporary basal rate

How will you know if the Super Bolus has worked?

Test your blood glucose level:

- Before the meal
- Two hours after the meal
- Four hours after the meal

Ideally the blood glucose should not increase more than 4mmol/l from the reading before the meal at two hours, and be back into target by 4 hours.

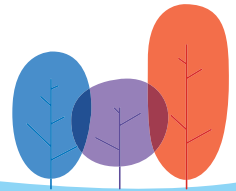
- If it has increased more than 4mmol/l, you could try making the Super Bolus more aggressive by doing a temporary basal for 3 hours at 0% and adding the 3 hours of missed basal onto the bolus.
- So in Craig's example, he would bolus 8 units instead of 7 units, and he will have a temporary basal of 0% for three hours running, not two hours.

Looking after and sharing information about you

We have a duty of care to help patients and families understand how information about them is kept and shared and we include the following information in all our patient leaflets:

Information is collected about you relevant to your diagnosis, treatment and care. We store it in written records and electronically on computer. As a necessary part of that care and treatment we may have to share some of your information with other people and organisations who are either responsible or directly involved in your care. This may involve taking your information off site. We may also have to share some of your information for other purposes; such as research etc. Any information that is shared in this way will not identify your child unless we have your consent.

If you have any questions and/or do not want us to share that information with others, please talk to the people looking after your child or contact PALS (Patient Advice and Liaison Service) on 0121 333 8403.



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