



[TRUST LOGO HERE]

Dear REPOSE Participant,

Recruitment and delivery of all the trial courses has now been completed, and many of you are already well over 12 months into the study.

One of the crucial things we need to collect in order to carry out the economic evaluations of the trial is the contact you have with health professionals regarding your diabetes control / treatment up until you complete the study at 2 years (after your course).

Therefore please remember to contact your local REPOSE team about any of the following:

- Advice regarding your diabetes
- Changes to your diabetes treatment
- Bad / severe hypos (needing help from another person)
- An increase in the number of hypos you are having
- Unexplained high blood glucose readings (over 20mmol/l for more than 12 hours)
- Any blood glucose reading above 30mmol/l
- Hospital admissions - for any reason
- Pregnancy
- Pump malfunctions (after first notifying Medtronic)
- Infusion site infection

We hope that you continue to find your course workbook a helpful source of information, however we have attached some additional advice about managing high blood glucose levels and illness / ketones.

Yours, etc.....

[insert name of local PI/educator and contact details]



TROUBLESHOOTING PROBLEMS AND MANAGING ILLNESS WITH YOUR INSULIN PUMP

If your blood glucose levels are running high, do not panic, but ask yourself some simple questions:

Are you taking enough insulin?

- Have you given the correct bolus according to the carbohydrate content of your meal?
- Did you forget to bolus before the meal? HINT: look at your bolus history on the pump*
- Did you overeat when treating a hypo?
- Is your basal rate too low? This may be true when you have just started on a pump.
- Is the pump 'suspended'? – restart it.

* If you have forgotten your meal bolus and remembered 2 hours later, EITHER give the bolus to match your carbohydrate intake of that meal, OR give a correction dose based on your present blood glucose level (not both).

Have your insulin requirements increased for any reason?

- Are you ill?
- Has your activity altered in any way?
- Are you feeling more stressed than normal?
- If female, at what stage of the menstrual cycle are you? 2-7 days prior to your period there is an increase in the circulation of progesterone causing a rise in blood glucose levels.
- Are you taking any medications, which may cause high blood sugar? (Ask your pharmacist.)
- Are you dehydrated, which may reduce the flow of insulin into the tissues?
- Has the temperature dropped? – insulin absorption is reduced in cool temperatures.
- Is the site of your infusion set inflamed? Does it need to be changed?

Are you having any difficulties with the insulin pump itself?

- Is there an air bubble in the infusion set?
- Is the infusion set inserted correctly or still in place on the skin?
- Are the infusion set and adapter connected properly?
- Did you fully prime the infusion set when you changed the set?
- Has the infusion set been placed in an area of hard/lumpy skin?
- Has the insulin itself been exposed to extreme temperatures?
- Is there any blood in the infusion set?
- Has the needle/cannula been in for more than 72 hours?
- Has the insulin expired? Check the insulin bottle in use.
- Is the pump alarming? eg low reservoir, low battery, occlusion (blocked tube).

If any of the above answers are YES, you should immediately change the full infusion set and reservoir and consider using insulin from a new vial/cartridge if possible.

Carry out a self-test to check that the pump is functioning properly (found in utilities menu). If you are concerned that the pump may not be working, please ring Medtronic's help line immediately (01923 205167 option 1).



Reduce the risks of hyperglycaemia by:

1. Checking blood glucose levels 4–6 times daily (additional tests will be needed when unwell, exercising or pregnant).
2. Using a correction bolus when appropriate.
3. Changing infusion set every 2–3 days.
4. Checking the infusion set and site regularly.

Hyperglycaemia management:

If your blood glucose is over 13mmol/l (for no apparent reason):

1. Take a correction bolus **via your pump**.
2. Re-check blood glucose in 2 hours.

If there has been no change or if your blood glucose has risen further:

1. Take a correction injection **using a syringe or pen**.
2. Check for KETONES – if present, follow ketone management (sick day rules).
3. Change your infusion set, site and reservoir (especially in hot weather).
4. Consider using a new insulin vial.
5. Check the pump by performing a self-test (found in utilities menu).
6. Re-check blood glucose in 2 hours.

If ketones remain negative:

1. Continue to take correction boluses via your pump every 4-6 hours (see 'Minor Illness' guidelines overleaf)
2. Remember to keep checking for ketones if blood glucose is still high
3. Think about why they may be high:
 - Are you becoming unwell?
 - Have you changed your pump settings and made a mistake?

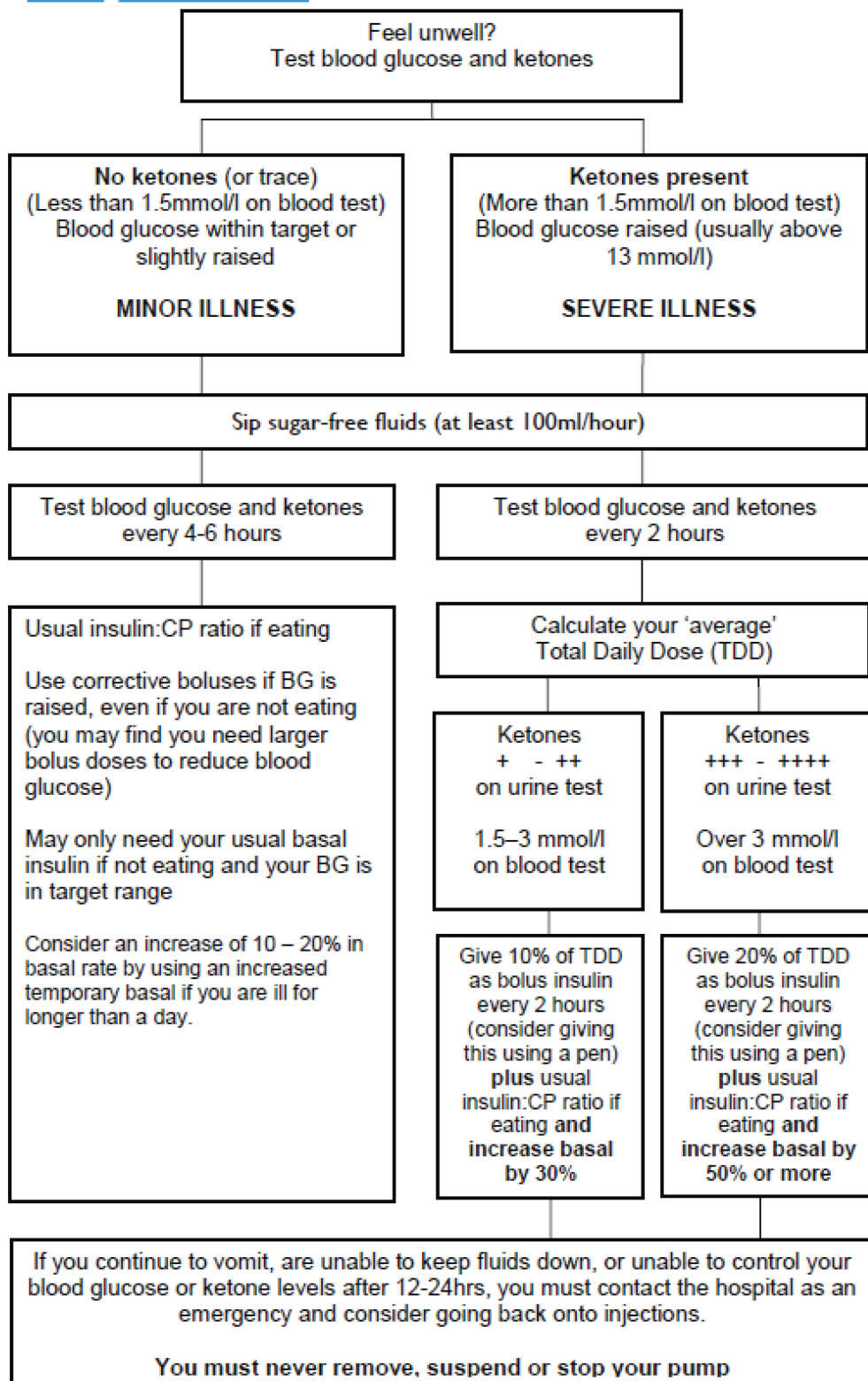
Ketone management: (see guidelines overleaf from your course workbook)

If ketones are present (i.e. small, moderate or large on urine test / over 1.5mmol/l on blood test), remember:

1. Carry out your usual pump check procedures:
 - Take a correction injection using a syringe or pen.
 - Change your infusion set, site and reservoir (especially in hot weather).
 - Consider using a new insulin vial.
 - Check the pump by performing a self-test (found in utilities menu).
2. Drink at least 100ml of sugar free fluid per hour.
3. Use a temporary increased basal rate of 130% - 150%, according to ketone level.
4. Re-check your blood glucose and ketone levels every 2 hours.
5. Use 2 hourly boluses of 10% or 20% of your total daily dose (TDD), according to ketone level – **remember, you need to override the Bolus Wizard!**
6. Have some carbohydrate with usual bolus ratio (e.g. 3 CPs every 6-8 hours).

If the ketones do not clear within 8-12 hours:

1. Try a temporary increased basal rate of 175%.
2. Take 20% TDD doses **using a syringe or pen** every 2 hours.





Contact numbers for URGENT medical support:

Diabetes team (during office hours):

Diabetes team (out of hours):

GP:

Local on-call/out of hours GP services:

Emergency Department:

Call 999

PUMP TECHNICAL PROBLEMS

If you think your pump is not working properly / broken, please contact the Medtronic Helpline immediately. Please let your DAFNE / Pump team know you have had a problem with your pump.

MEDTRONIC HELPLINE

24hr Product Support Line:



Please note that the pump companies may not give medical advice and can only offer technical support if you are having problems with the pump. Please contact the Diabetes Team if you need advice regarding your diabetes.

If you cannot reach your Diabetes team for clinical support, return to your regular insulin injections and doses and contact the Diabetes team at the earliest opportunity.



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- Pregnancy

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Yours, etc.....

[insert name of local PI/educator and contact details]



TROUBLESHOOTING PROBLEMS AND MANAGING ILLNESS

If your blood glucose levels are running high, do not panic, but ask yourself some simple questions:

Are you taking enough insulin?

- Have you given the correct dose of QA insulin according to the carbohydrate content of your meal?
- Did you forget to take your QA insulin before the meal?
- Did you overeat when treating a hypo?
- Are your BI doses too low?
- Did you forget a dose of BI?

* If you have forgotten your meal QA and remembered 2 hours later, EITHER give the dose to match your carbohydrate intake of that meal, OR give a correction dose based on your present blood glucose level (not both).

Have your insulin requirements increased for any reason?

- Are you ill?
- Has your activity altered in any way?
- Are you feeling more stressed than normal?
- If female, at what stage of the menstrual cycle are you? 2-7 days prior to your period there is an increase in the circulation of progesterone causing a rise in blood glucose levels.
- Are you taking any medications, which may cause high blood sugar? (Ask your pharmacist.)
- Are you dehydrated, which may reduce the flow of insulin into the tissues?
- Has the temperature dropped? – insulin absorption is reduced in cool temperatures.

Are you having any difficulties with the insulin itself?

- Is there an air bubble in your cartridge? Clear this by doing a test / air shot, or change the cartridge
- Have you changed and attached a new needle correctly? Remove it and attach another needle
- Did you carry out a test / air shot when you changed the needle?
- Have you injected in an area of hard/lumpy skin (Lipo)? Change your injection site
- Has the insulin itself been exposed to extreme temperatures? If in doubt, use a new cartridge / batch
- Has the insulin expired? Check the insulin cartridges in use and change if necessary.



Reduce the risks of hyperglycaemia by:

1. Checking blood glucose levels 4–6 times daily (additional tests will be needed when unwell, exercising or pregnant).
2. Using a correction dose of QA when appropriate.
3. Checking injection sites regularly.

Hyperglycaemia management:

If your blood glucose is over 13mmol/l (for no apparent reason):

1. Take a correction dose of QA.
2. Re-check blood glucose in 4 hours.

If there has been no change or if your blood glucose has risen further:

1. Take a further correction dose of QA.
2. Check for KETONES – if present, follow ketone management (sick day rules).
3. Consider using a new insulin cartridge.
4. Re-check blood glucose in 4 hours.

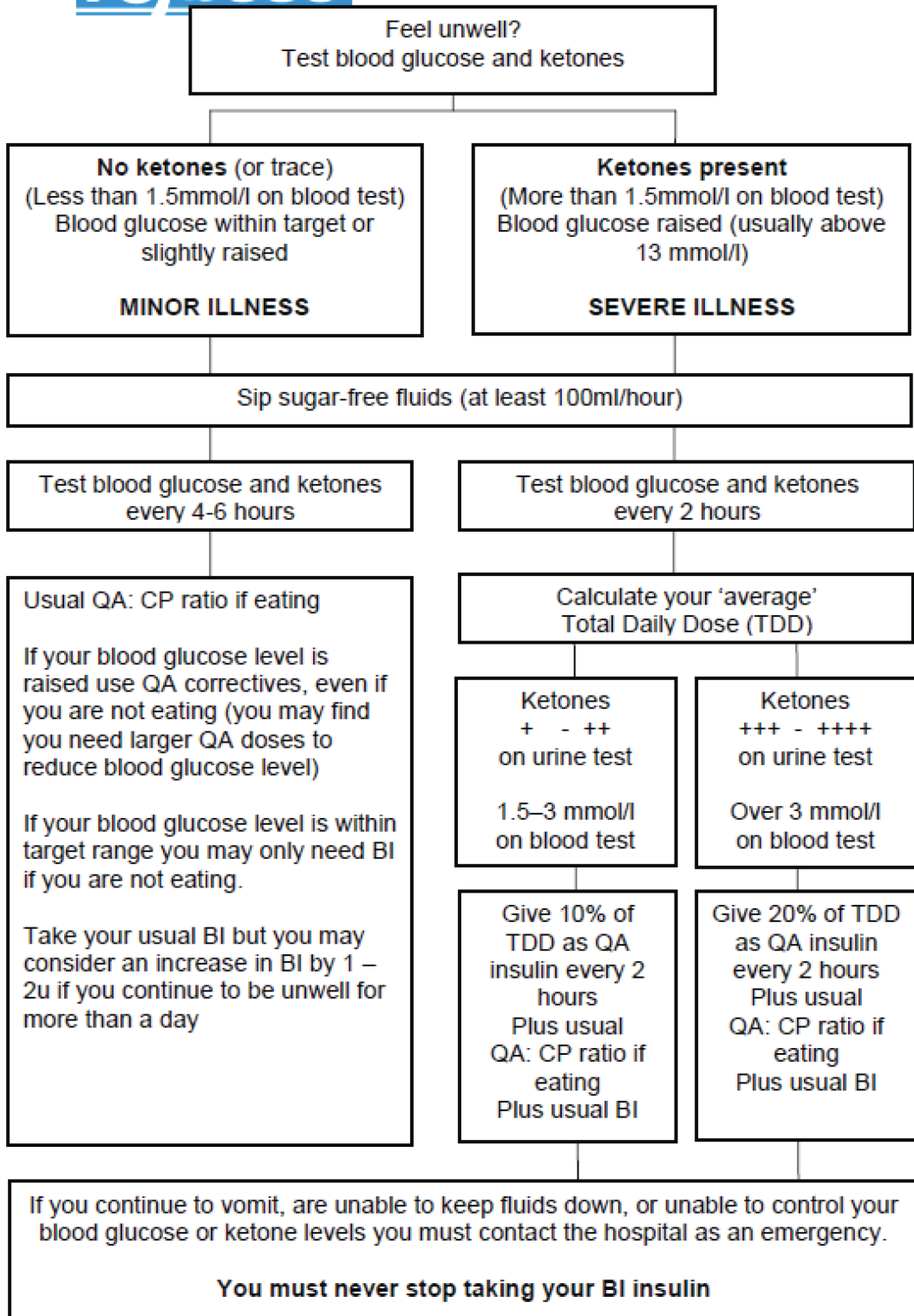
If ketones remain negative:

1. Continue to take correction doses of QA every 4-6 hours (see 'Minor Illness' guidelines overleaf)
2. Remember to keep checking for ketones if blood glucose is still high
3. Think about why they may be high:
 - Are you becoming unwell?
 - Have you missed a dose of (BI) insulin?

Ketone management: (see guidelines overleaf from your course workbook)

If ketones are present (i.e. small, moderate or large on urine test / over 1.5mmol/l on blood test), remember:

1. Drink at least 100ml of sugar free fluid per hour.
2. Re-check your blood glucose and ketone levels every 2 hours.
3. Use 2 hourly QA doses of 10% or 20% of your total daily dose (TDD), according to ketone level – **remember, you need to override the Bolus Adviser!**
4. Have some carbohydrate with usual QA:CP ratio (e.g. 3 CPs every 6-8 hours).





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