

## A Patient Education Guide to Diabetic Emergencies



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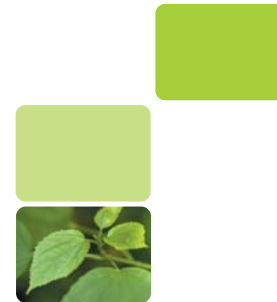
6 Commonwealth Lane, Level 6, GMTI Building, Singapore 149547  
Tel: 6471 8900 Fax: 6471 2129



NHG Diabetes Workgroup



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## Diabetic Emergencies

When your blood glucose level is out of control and reaches dangerously high or low levels, you will experience serious complications which should be treated as emergencies. These are known as acute complications as they can happen very quickly.

You do not have to feel lost or helpless in such situations. Knowing beforehand what to do when you have these complications will prepare you for the situation when it happens. Inform your family members and people around you so that they too will know what to do in case you lose consciousness.

What is more important is preventing these complications from occurring by taking care of your diabetes. If you take your medication at the appropriate time, eat the right foods at the proper times, and monitor your blood glucose regularly, you are unlikely to suffer from severe forms of these complications. Controlling your blood glucose closely may drop your levels to lower than normal. However, close monitoring can alert you to the drop and allow you to treat it before it affects your mental and physical functioning.





### Acute Complications of Diabetes

- Low blood glucose (Hypoglycaemia).
- High blood glucose (Hyperglycaemia).
- Diabetic ketoacidosis (DKA).
- Hyperglycaemic Hyperosmolar Nonketotic State (HHS).

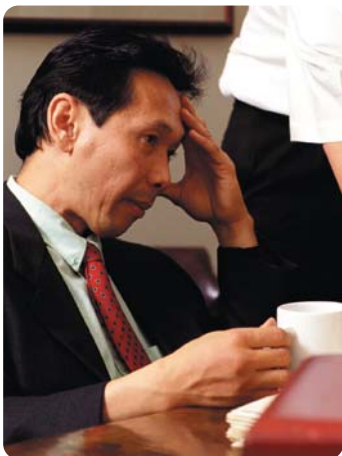
### Low blood glucose (Hypoglycaemia)

A glucose level of less than 4mmol/L (80mg/dl) in the blood is considered low. A low blood glucose level can be caused by:

- delaying meals, skipping a meal or snack, or eating less than usual.
- extra exercise without extra food.
- taking too much insulin.
- drinking alcohol without taking food.

### Signs of hypoglycaemia:

- Hunger.
- Weakness, tiredness and trembling.
- Sweating.
- Fast heartbeat.
- Headache or giddiness.
- Change in mood or behaviour.
- Numbness of lips or tongue.
- Slurred speech.
- Confusion.
- Loss of coordination.
- Loss of consciousness.
- Skin turns pale and moist.



### What can you do?

- If a blood glucose meter is available, check your blood glucose quickly to confirm that your reading is low.
- Take any one of these:
  - Half a glass of fruit juice
  - 2 – 4 teaspoons of sugar, honey or syrup
  - 3 special glucose sweets (e.g. B-D glucose tablets)
  - 5 sugar cubes or sweets (not sugar-free)
- Repeat the above if you feel no improvement within 10 – 15 minutes.
- If you are alone and feeling faint, call your doctor or your diabetes care team or an ambulance at once.
- Once you are feeling better, eat a snack (e.g. bread, biscuit and milk) or your scheduled meal. This will prevent another drop in your blood glucose.
- Check your blood glucose half an hour later to confirm that your blood glucose is no longer low.

### How can you prevent hypoglycaemia?

- Take your medication as prescribed.
- Eat at planned, regular intervals.
- Eat extra food before starting any form of heavy exercise or work.
- If a meal is delayed, take a serving of fruit or fruit juice first.
- Always have some form of sugar with you wherever you are. Carry some sweets in your pocket, bag or car whether you are at home, at work or in school. Take them at the first sign of hypoglycaemia.



### High blood glucose (Hyperglycaemia)

A glucose level of more than 15mmol/L (approximately 250mg/dl) in your blood is considered high. A blood glucose level that stays high is called hyperglycaemia.

Hyperglycaemia can happen when you:

- forget to take or take too little of your medication.
- are careless about your insulin injections.
- do not follow the diet prescribed by your dietitian or doctor.
- are sick or have an infection, which makes your body require more insulin.
- are under stress, which also makes your body require more insulin.

#### Signs of hyperglycaemia:

- Passing urine frequently.
- More thirsty and hungry than usual.
- Dry mouth and skin.
- Drowsiness and tiredness.
- Nausea and vomiting.
- Unable to see clearly.
- Cuts or sores that heal slowly.



#### What can you do?

- Do extra blood tests, if possible every 4 hours, when you know your blood glucose is high.
- Take a lot of sugar-free drinks e.g. water and tea.
- Call your doctor or diabetes care team if urine ketones are present in moderate or large quantities. Get help from the nearest emergency department if you cannot reach your diabetes care team.





## Diabetic ketoacidosis (DKA)

If your high blood glucose level or hyperglycaemia goes on for too long, you may develop diabetic ketoacidosis (DKA).

Diabetic ketoacidosis develops when your body does not have enough insulin to use the blood glucose for energy. As a result, your body begins to use fat instead of glucose for energy. This produces large amount of chemicals called ketones.

Sometimes DKA can happen when you:

- Have an illness or infection.
- Have an injury or operation.
- Did not take your diabetes tablets or missed your insulin injections.

### Signs of DKA:

- Passing urine frequently.
- Very hungry or thirsty.
- Dry mouth or skin.
- Flushed skin.
- Fast, deep breathing.
- Fruity-smelling breath (which is the smell of ketones).
- Drowsiness.
- Ketones in urine tests.

### What can you do?

- Call a doctor or ambulance at once if you have any of these signs. DKA has to be treated with insulin and fluids. So, if you get DKA, you will have to be treated in hospital.

## Hyperglycaemic Hyperosmolar Nonketotic State (HHS)

Hyperglycaemic hyperosmolar nonketotic state (HHS) is also a state of hyperglycaemia or high blood glucose levels which have been high for too long. Compared to diabetic ketoacidosis, which can occur very quickly, HHS occurs more gradually.

Urine ketones are usually negative or present only in small quantities. It can occur in older people or people with type 2 diabetes treated with insulin, tablets or diet. It may be caused by:

- Not taking enough medication.
- Illness such as infection.
- Injury.

### Signs of HHS:

- Thirst.
- Large volumes of urine.
- Tiredness.
- Weight loss.
- Drowsiness.
- Unconsciousness.

### What can you do?

If your blood glucose is 15mmol/L (approximately 250mg/dl) or higher for more than two readings and you feel unwell, it is important that you consult your doctor quickly as you may have HHS and require urgent treatment.



### To prevent Hyperglycaemia, DKA and HHS

- Take your medicine as prescribed.
- Follow your meal plan carefully.
- Exercise as usual.
- Do regular blood tests to check that your blood glucose level is under good control.
- Drink plenty of fluids.
- Remember when you are sick, having an infection or under stress, you may need to increase your insulin. See your doctor early for advice.



### For more information

Please contact:

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Doctor's Name

\_\_\_\_\_  
Tel

\_\_\_\_\_  
Nurse's Name

\_\_\_\_\_  
Tel

\_\_\_\_\_  
Case/Care Manager's Name

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Tel

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