WHAT IS DIABETES?

* TYPE 1
* TYPE 2
Acknowledgements:

This material has been developed in collaboration with the members of the KiDS Advisory Committee: Monika Arora, Anne Belton, David Cavan, David Chaney, Stephen A. Greene, Agnès Magnen, Angie Middlehurst, Denise Reis Franco, Nikhil Tandon.

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Illustration adaptation: Jayant Bholan

Printed by: Star Communications, New Delhi.

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SANOFI DIABETES
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INTRODUCTION

The following KiDS information pack has been prepared to guide you in making the school environment a better place for children with diabetes. The pack is an awareness and information tool created to inform teachers and children about diabetes. This pack should be seen purely as an information resource and is not intended to replace any medical advice.

THE AIM OF THIS PACK IS TO:

- Increase awareness of diabetes in school
- Improve the lives of children with diabetes at school and fight discrimination
- To help teachers address the topic of diabetes and need for a healthy lifestyle

Why a blue circle?

The icon was designed as a call to unite for diabetes and is a symbol of support for the UN Resolution on Diabetes. The colour blue represents the sky and it’s the same colour as the flag of the United Nations.
WHAT IS DIABETES?

1. When the pancreas doesn’t produce insulin, it is Type 1 Diabetes.
2. When the pancreas doesn’t produce enough insulin (or the insulin cannot be processed), it is Type 2 Diabetes.
3. When the insulin is less effective during pregnancy, it is Gestational Diabetes.

(Source: International Diabetes Federation, 2014; http://www.idf.org/about-diabetes)
WHY IS IT IMPORTANT TO TALK ABOUT DIABETES IN CHILDREN?

India ranks second in the world, just after China, in terms of existing number of people with diabetes.

A Chennai-based study suggests that one out of every four patients with Type 2 Diabetes is diagnosed before 15 years of age.

Every fifth child with Type 1 Diabetes in the world is an Indian.

Type 2 Diabetes, which usually develops in adults, is now increasingly affecting children due to unhealthy lifestyle habits, overweight and obesity.

Young diabetics (onset of diabetes before 15 years of age) constitute 1-4% of the total diabetic population in India.

Early intervention, when lifestyle habits are being formed among children is of utmost importance.

Awareness about diabetes in India is low. Around 25% of urban Indians have not even heard of diabetes.

Enabling school environment with well-informed teachers, can positively influence the students to adopt healthy lifestyle habits, and also aid management of students already suffering from Diabetes.
WHAT IS TYPE 1 DIABETES?

Type 1 diabetes is diagnosed when the pancreas stops making insulin completely. It is an autoimmune disease which means the body’s own immune system attacks the pancreas destroying the cells that make insulin. This results in the body being unable to control the amount of sugar in the blood.

Diabetes can develop in a child of any age, including infants and toddlers. Diabetes can affect both boys and girls. Type 1 diabetes often develops quickly and may be life-threatening if not diagnosed early.
MYTHS ABOUT DIABETES?

TRUE OR FALSE: Eating too much sugar causes diabetes
FALSE: When kids get type 1 diabetes, it’s because their bodies can’t make insulin anymore. It has nothing to do with eating too much sugar. When kids get type 2 diabetes there might be a connection because eating too much sugar (or foods with sugar, like toffees or soft drinks) can cause weight gain, and weight gain can lead to type 2 diabetes.

TRUE OR FALSE: People with diabetes should not exercise
FALSE: Exercise is important for all children— with or without diabetes. Exercise has many benefits. It keeps kids healthy and fit, and also helps them balance their blood sugar.

TRUE OR FALSE: You can catch diabetes from another person
FALSE: Diabetes is not contagious, so you can’t catch it from someone who has it.

TRUE OR FALSE: Kids with diabetes can never eat sweets
FALSE: Kids with diabetes can eat sweets — as part of a balanced, healthy diet. Like everyone else, a person with diabetes shouldn’t eat too many sweets because they may cause damage to teeth and they don’t have many vitamins and minerals.
AS A TEACHER, WHAT DO I NEED TO KNOW ABOUT TYPE 1 DIABETES?

CHILDREN WITH TYPE 1 DIABETES...

- can participate fully in physical education and other extracurricular activities (including field trips, camps, picnics, etc)
- sometimes can have low sugar levels in blood called Hypoglycaemia which needs to be managed
- need to inject insulin in a safe place and at prescribed times
- may need to eat snacks outside scheduled mealtimes

...should eat their meals at an appropriate time and have enough time to finish the meal

...should have free and unrestricted access to water and the bathroom

A DIABETES INFORMATION KIT
AS A TEACHER, WHAT DO I NEED TO KNOW ABOUT LOW BLOOD SUGAR?

Hypoglycaemia or low blood sugar

CAUSES:
Low blood sugar may be caused by:
- Taking too much insulin
- Too little carbohydrate
- Unplanned exercise and activities
- Missed or delayed meals/snacks

SYMPTOMS:
- Sweating
- Blurry vision
- Dizziness
- Anxiety
- Hunger
- Irritability
- Shakiness
- Fast heartbeat
- Headache
- Weakness
- Fatigue
WHAT TO DO IF A CHILD HAS LOW BLOOD SUGAR?
How to cope with Hypoglycaemia or low blood sugar?

When a hypoglycaemia does happen it is very important to act quickly:

Child’s blood sugar level should be checked

Ensure that the child consumes a fast acting carbohydrate (see next page)

Listen to the child, don’t ignore his/her needs or his/her friends’ worries

FOLLOW WITH A SNACK OR MEAL IF DUE

Be aware of the level of consciousness of the child. If the child is unconscious seek immediate medical attention and contact his/her family.

Ensure that the child is supervised during hypoglycaemia and until recovery.

Check again after 15 minutes.
The child’s blood sugar level should be checked. If still low, repeat the treatment.

Inform the parents that their child had a low blood sugar at school.
AS A TEACHER, WHAT DO I NEED TO KNOW ABOUT HIGH BLOOD SUGAR?

Hyperglycaemia or high blood sugar

**CAUSES:**

- high blood sugar may be caused by:
  - Taking too little insulin.
  - Eating too much carbohydrate.
  - Stress from an illness.
    (such as a cold or flu)
  - Other stress/anxiety.
    (such as family conflicts or exams)

**SYMPTOMS**

- Very thirsty
- Need to urinate often
- Irritability
- Stomach pain
WHAT TO DO IF A CHILD HAS A HIGH BLOOD SUGAR?

How to cope with Hyperglycaemia or high blood sugar?

What to do in case of high blood sugar?

A CHILD WITH A HIGH BLOOD SUGAR LEVEL SHOULD BE ADVISED TO:

- Drink plenty of water to keep hydrated
- Check his/her blood sugar and repeat the blood sugar test level in about 2 hours
- If his/her blood sugar level is very high (270 mg/dl or 15 mmol/l) contact the school nurse or child’s parents so they can seek further advice

ATTENTION

When high blood sugar occurs over a number of days it’s important to report to parents and school nurse.
AS A TEACHER, WHAT DO I NEED TO KNOW ABOUT EXERCISE AND DIABETES?

Exercise is a key component of diabetes management. With few special considerations, I can fully participate in all physical activity opportunities available in schools.

The duration and intensity of exercise will have an influence on my blood glucose levels. To avoid low blood sugar episodes, I may need to eat an additional snack before, during and after exercising.

If I have symptoms of low blood sugar or will be participating in more than 40-45 minutes of physical activity, blood glucose levels should be checked before exercising.

All of the students with diabetes need to have their “Diabetes Pack” (see guidelines in annex).
WHAT ABOUT EXTRA CURRICULAR ACTIVITIES?

I CAN participate in all extracurricular activities. My teacher should notify my parents and invite them to the planning stage of the activity especially if this involves an overnight.

I’LL BRING WITH ME:

- a diabetes pack with a glucometer, insulin (along with syringe/injection pen) and a sugar source.
- a fast-acting carbohydrate snack or drink in case of hypoglycaemia
- extra snacks in case lunch is delayed or we get more exercise than usual.
- a bottle of water

An overnight activity means I need to be able to inject my insulin or this needs to be discussed by the teacher with my parents.
A DAY IN THE LIFE OF ARJUN, LIVING WITH TYPE 1 DIABETES

GET UP, ARJUN!

HELLO, ARJUN! HOW DID YOU SLEEP? DO YOU WANT YOUR BREAKFAST?

BY THE WAY... HAVE YOU CHECKED YOUR BLOOD SUGAR?

HERE IS YOUR INSULIN!

THANKS, MOM!

AND NOW... BREAKFAST!

... THEN GET DRESSED...

BURP!

BYE!
Hey guys!

Hey Arjun!

10:30 AM

RRRRRRR

Insulin before lunch...

Hey, Arjun! Do you want to play football after lunch?

Sure!
OK STUDENTS!
IT'S TIME FOR YOUR
PHYSICAL EDUCATION
PERIOD

SPORTS HALL

I'M COMING! I JUST NEED
TO CHECK MY BLOOD SUGAR!
I KNOW!

SLURP

SLURP

IT WAS GREAT!
SEE YOU TOMORROW!

Yeah
Hi, Mom!

Hi, Arjun! Did you have a good day at school?

Yeah, yeah! I'm hungry!

Have an apple!

Now quick with the homework...

...So I can skate more!

Ha! You're just in time for dinner!

Ok... let's see my blood sugar...

My insulin now, teek.

Dinner!

Ok! TV time

Last blood sugar check

A big glass of milk...

Time for bed, Arjun! Already?

The End
Type 2 diabetes is being diagnosed in children in a growing number of countries, including India. A Chennai-based study suggests that one out of every four patients with Type 2 Diabetes is diagnosed before 15 years of age.

**WHAT IS TYPE 2 DIABETES?**

Type 2 diabetes is diagnosed when the body does not produce enough insulin to function properly, or the body’s cells don’t react to insulin. This is known as insulin resistance. If this happens, the body is unable to control the amount of glucose in the blood.

**SYMPTOMS:**

Unlike type 1 diabetes, in people with type 2 diabetes the symptoms are often mild or absent, making this type of diabetes hard to detect.

In general the most common signs are:

- **Weight Loss**
- **Very Thirsty**
- **Need to Urinate Often**
- **Weakness and Fatigue**
AS A TEACHER WHAT DO I NEED TO KNOW ABOUT TYPE 2 DIABETES?

A CHILD WITH TYPE 2 DIABETES...

... may need to monitor blood sugar regularly

... should have free and unrestricted access to water and the bathroom

... needs to eat healthy food

... might take insulin or other medications

... needs to practise physical activity regularly
WHY DO PEOPLE NEED TO PREVENT & TAKE CARE OF TYPE 2 DIABETES?

Because it can lead to:

- Foot problems
- Damage to the retina
- Kidney disease
WHY IS IT IMPORTANT TO CHOOSE A HEALTHY LIFESTYLE?

TO PREVENT:

OVERWEIGHT

TIREDNESS

FEELING SICK

UNHEALTHY HEART
HOW TO STAY HEALTHY?

EAT WELL!

There is a lot of evidence that lifestyle changes can help prevent the development of type 2 diabetes.

THE FOOD PYRAMID

HOW TO STAY HEALTHY? 
MOVE WELL!

A healthy diet is built on a base of regular physical activity, which keeps calories in balance and weight in check.

TIPS TO GET ACTIVE:

- Try sports and choose the one you like
- Set regular times for activities; make it a part of your daily schedule
- Reduce use of screen time (TV, computers etc..) and play with friends
- Walk to school (if possible)
- Take the stairs instead of a lift
- Learn to use bicycle instead of using vehicle.
- Go for walk with your parents
- Turn off your TV, mobile or computer and spend some time playing with your friends
- Stay active: do a minimum of 30 minutes of exercise per day!
- Exercise with a friend
STAY HEALTHY: FOLLOW YOUR HEART

BECOME AN HEALTH ANGEL!

Physical activity keeps your heart healthy

Reducing intake of junk food can help reduce your risk of type 2 diabetes
ANNEX I

DIABETES MANAGEMENT PLAN

to be completed by parent or legal guardian

Child’s Name ________________________________
Date of Birth ________________________________
Mother’s Name ________________________________
Guardian/ Father’s Name ________________________________
Child’s age at time of diagnosis ________________________________

Contact phone numbers:
(list by order in which calls should be made, and note if it is a parent, friend, or caregiver and whether the number is home and or work. Also note if each person has legal authority to respond in an emergency situation.)

<table>
<thead>
<tr>
<th>Number</th>
<th>Name</th>
<th>Relationship</th>
<th>Location</th>
<th>Authority</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Doctor:

Name ________________________________ Phone ________________________________

Other Health Providers:

Name ________________________________ Phone ________________________________
Name ________________________________ Phone ________________________________
MONITORING:

Usual blood glucose monitoring times:

- Mid-Morning
- Noon
- Evening
- Night
- Others (Please Specify)

Does your child have a preferred location for monitoring (classroom, school office, etc.)?

Goal range for blood glucose: Between ________ and ________

LOWS:

If below ________, please do the following:

Call parent if below: ____________ (Tel: ____________)

Usual signs/symptoms of low blood glucose are:

- Sweating
- Dizziness
- Anxiety
- Irritability
- Headache
- Others (Please Specify)
- Blurry Vision
- Fast Heartbeat
- Hunger
- Shakiness
- Weakness/Fatigue
HIGHS:
If above _______, please do the following:

Usual signs/symptoms of high blood glucose are:

- [ ] Excessive Thirst
- [ ] Need to urinate often
- [ ] Irritability
- [ ] Stomach pain
- [ ] Others (Please Specify)

Insulin:

Will daily insulin be needed in school?  [ ] YES  [ ] NO

If insulin is needed at any other time, please specify time, amount and circumstances for administering insulin:

FOOD:

Will your child participate in school breakfast and/or school lunch?  [ ] YES  [ ] NO  [ ] NA

If yes, will modifications to the regular menu be needed?  [ ] YES  [ ] NO  [ ] NA
EXERCISE:
What are your child’s favourite physical activities?

Will your child participate in school sports? ☐ YES ☐ NO

SELF-CARE:
Please put an X in the box that best describes your child’s role:

<table>
<thead>
<tr>
<th>Activity</th>
<th>Does it alone</th>
<th>Does it with supervision</th>
<th>Parents help</th>
<th>Parents do it</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pricks finger</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Puts strip in Glucometer</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reads Glucometer</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Records result</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adjusts food based on result</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adjust insulin based on result</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Knows which foods to limit</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Can select kind and amount of food</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Helps plan meals</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Selects insulin injection site</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prepares for injection, selects site</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Injects insulin</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Measures insulin</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Determines amount and type of insulin</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
PARTIES AND SPECIAL FOOD OR MEALS:

Do you wish to be contacted before each event?  
☐ YES  ☐ NO

Additional instructions for the school:

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

EMERGENCIES:

What do you feel should be treated as an emergency?

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

What do you want the school to do in an emergency?

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

Other requests:

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

[Adapted on Recommendations for Management of Diabetes for Children in School – Vermont Department of Health]
ANNEX 2
GUIDELINES FOR MANAGEMENT OF CHILDREN WITH DIABETES IN SCHOOL

The following guidelines should be taken into consideration when dealing with diabetes in school. The daily routine of a child with diabetes includes: daily blood glucose monitoring and schedule of food, insulin and activities. Therefore, while at school, each child with diabetes must be allowed to:

- Do blood sugar checks.
- Treat hypoglycaemia with emergency sugar.
- Inject insulin when necessary.
- Eat snacks when necessary.
- Eat lunch at an appropriate time and have enough time to finish the meal.
- Have free and unrestricted access to water and the bathroom.
- Participate fully in physical education and other extracurricular activities, including field trips.

In addition:

- The extent of the student’s ability to participate in diabetes care should be agreed upon by the school personnel, the parent/guardian, and the health care team, as necessary.
- The ages at which children are able to perform self-care tasks are very individual and variable, and a child’s capabilities and willingness to provide self-care should be respected.

Successful management of diabetes in school requires teamwork between child, parents/guardians, health care team and the school.

Tips to establish an effective management program for diabetes at school:

- Plan for communicating with parents and the student’s physician, agree emergency procedures and list phone numbers required.
- School policies and procedures for administering medications, and handling equipment such as glucometers and pumps should be developed.
- Specific actions for school personnel to perform in the management program should be agreed.
- A specific plan of action for handling high and low blood sugar episodes, including the appropriate treatment foods and medications to have available should be agreed.
- A list of any medications the student receives, noting which ones need to be taken during school hours should be documented.
WHO DOES WHAT?

**PARENT/GUARDIAN**
- Supply, equipment and medication necessary for the provision of health support services to students.
- Supply emergency contact numbers to address any expected situation that may arise.
- Supply information about the student’s meal/snack schedule.
- Keep the school informed of any changes in plan of care.

**SCHOOL STAFF**
- If possible, the school should have its own diabetes kit (containing a glucometer, sterilized lancets batteries) and a high sugar food source (glucose powder etc.)
- Arrange a meeting with parents / guardian at the beginning of the year to complete the diabetes management plan.
- Make sure they have contact numbers for parents / guardians and student’s physician (if applicable).
- Agree when parents / guardians need to be contacted.
- Support the child with diabetes at school.
- Allow the child to undertake blood glucose monitoring at agreed times.
- Provide a safe place for a child to inject insulin.
- Familiarise themselves with the signs and symptoms of low blood sugar.
- Know how to cope with a child who has a low blood sugar.
- Ensure a child with low blood sugar is supervised and not left alone.
- Provide unlimited access to water and bathroom.

**STUDENT**
- To tell the teacher when they are going low if possible.
- To tell the teacher when they do not feel well.
- To do their blood sugar and insulin injection if able in accordance with the management plan.
- Bring their diabetes equipment to school.
- Carry with them fast acting carbohydrate in case of a low blood sugar.
Games with images (for instance: recompose the table “A day in the life of someone with diabetes” using images like a puzzle)


Comics [http://www.comiccompany.co.uk/?category=34&collection=252&code=764](http://www.comiccompany.co.uk/?category=34&collection=252&code=764)
RESOURCE WEBSITES

- http://www.t1dstars.com/web/
- http://www.hriday-shan.org/
- http://healthy-india.org/

DIABETES MANAGEMENT PLAN IN SCHOOL CONSULTED FOR THE KIDS PACK:

- http://www.childrenwithdiabetes.com/d_0q_500.htm
- http://www.qnb.ca/0000/pol/e/704AH.pdf

For further information, please contact:

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A DIABETES INFORMATION KIT
WHAT IS DIABETES?

* TYPE 1
* TYPE 2

A diabetes information kit: India
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Why is it important to talk about diabetes in children?

- What is type 1 diabetes?
- Myths about diabetes.
- As a parent, what do I need to communicate to the school staff?
- As a parent, what do I need to know about low blood sugar?
- As a parent, what do I need to know about high blood sugar?
- As a parent, what do I need to know about exercise and diabetes?
- What about extra curricular activities?
- A day in the life of Arjun living with type 1 diabetes.
- Why it’s important to choose a healthy lifestyle?
- How to stay healthy: eat well, move well!

## Annexes

- Annexure 1: Diabetes management plan.
- Annexure 2: Guidelines for management of children with diabetes in school.

## Resource Websites

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A DIABETES INFORMATION KIT
INTRODUCTION

In your school, children are learning about diabetes. This information pack has been prepared for you as a parent / guardian of a child with type 1 diabetes. It should guide you in making the school environment a better place for your child. This pack is not intended to replace any medical advice.

THE AIM OF THIS PACK IS TO:

- Help you engage with your child’s school in the daily management of their diabetes
- Provide you with guidelines for the management of diabetes at school
- Provide you with a suggested management plan to help you and the teacher best care for your child’s needs

Why a blue circle?

The icon was designed as a call to unite for diabetes and is a symbol of support for the UN Resolution on Diabetes. The colour blue represents the sky and it’s the same colour as the flag of the United Nations.
WHAT IS DIABETES?

1. Insulin is needed to transform glucose into energy. Your body needs insulin to transform glucose into energy.

2. When the pancreas doesn’t produce enough insulin (or the insulin cannot be processed), it is TYPE 2 DIABETES.

3. When the pancreas doesn’t produce insulin or it is less effective during pregnancy, it is GESTATIONAL DIABETES.

(Source: International Diabetes Federation, 2014; http://www.idf.org/about-diabetes)
WHY IS ITIMPORTANT TOTALK ABOUTDIABETES IN CHILDREN?

India ranks second in the world, just after China, in terms of existing number of people with diabetes.

A Chennai-based study suggests that one out of every four patients with Type 2 Diabetes is diagnosed before 15 years of age.

Every fifth child with Type 1 Diabetes in the world is an Indian.

Type 2 Diabetes, which usually develops in adults, is now increasingly affecting children due to unhealthy lifestyle habits, overweight and obesity.

Young diabetics (onset of diabetes before 15 years of age) constitute 1-4% of the total diabetic population in India.

Early intervention, when lifestyle habits are being formed among children is of utmost importance.

Awareness about diabetes in India is low. Around 25% of urban Indians have not even heard of diabetes.

Enabling school environment with well-informed teachers, can positively influence the students to adopt healthy lifestyle habits, and also aid management of students already suffering from Diabetes.
Type 1 diabetes is diagnosed when the pancreas stops making insulin completely. It is an autoimmune disease which means the body’s own immune system attacks the pancreas destroying the cells that make insulin. This results in the body being unable to control the amount of glucose in the blood.

Diabetes can develop in a child of any age, including infants and toddlers. Type 1 diabetes often develops quickly and may be life-threatening if not diagnosed early.
MYTHS ABOUT DIABETES?

TRUE OR FALSE: Eating too much sugar causes diabetes

FALSE: When kids get type 1 diabetes, it’s because their bodies can’t make insulin anymore. It has nothing to do with eating too much sugar. When kids get type 2 diabetes there might be a connection because eating too much sugar (or foods with sugar, like toffees or soft drinks) can cause weight gain, and weight gain can lead to type 2 diabetes.

TRUE OR FALSE: People with diabetes should not exercise

FALSE: Exercise is important for all children— with or without diabetes. Exercise has many benefits. It keeps kids healthy and fit, and also helps them balance their blood sugar.

TRUE OR FALSE: You can catch diabetes from another person

FALSE: Diabetes is not contagious, so you can’t catch it from someone who has it.

TRUE OR FALSE: Kids with diabetes can never eat sweets

FALSE: Kids with diabetes can eat sweets — as part of a balanced, healthy diet. Like everyone else, a person with diabetes shouldn’t eat too many sweets because they may cause damage to teeth and they don’t have many vitamins and minerals.
AS A PARENT WHAT DO I NEED TO COMMUNICATE TO THE SCHOOL STAFF?

CHILDREN WITH TYPE 1 DIABETES...

...can participate fully in physical education and other extracurricular activities (including field trips, camps, picnics, etc.)

...sometimes can have low sugar levels in blood called Hypoglycaemia which needs to be managed

...need to inject insulin in a safe place and at prescribed times

...may need to eat snacks outside scheduled mealtimes

...should eat their meals at an appropriate time and have enough time to finish the meal

...should have free and unrestricted access to water and the bathroom

...should do blood sugar checks regularly

A DIABETES INFORMATION KIT 9
AS A PARENT, WHAT DO I NEED TO KNOW ABOUT LOW BLOOD SUGAR?

Hypoglycaemia or low blood sugar

CAUSES:
Low blood sugar may be caused by:
- Taking too much insulin.
- Too little carbohydrate.
- Unplanned exercise and activities.
- Missed or delayed meals/snacks.

SYMPTOMS

- Sweating
- Blurry vision
- Dizziness
- Anxiety
- Goas
- Hunger
- Irritability
- Shakiness
- Fast heartbeat
- Headache
- Weakness
- Fatigue
WHAT TO DO IF A CHILD HAS LOW BLOOD SUGAR?

How to cope with Hypoglycaemia or low blood sugar?

When a hypoglycaemia does happen it is very important to act quickly:

- Child’s blood sugar level should be checked.
- Ensure that the child consumes a fast acting carbohydrate. (see next page)
- Listen to the child, don’t ignore his/her needs or his/her friends’ worries.

FOLLOW WITH A SNACK OR MEAL IF DUE.

Be aware of the level of consciousness of the child. If the child is unconscious avoid putting food in the mouth of the child. Seek immediate medical attention.

Ensure that the child is supervised during hypoglycaemia and until recovery.

Check again after 15 minutes.
WHAT TO DO IF A CHILD HAS LOW BLOOD SUGAR?

How to cope with Hypoglycaemia or low blood sugar?

Get the child to recheck his/her blood sugar in 10 – 15 minutes. If still low, repeat the treatment.
AS A PARENT, WHAT DO I NEED TO KNOW ABOUT HIGH BLOOD SUGAR?

Hyperglycaemia or high blood sugar

CAUSES:
high blood sugar may be caused by:

- Taking too little insulin..
- Eating too much carbohydrate.
- Stress from an illness. (such as a cold or flu)
- Other stress/anxiety. (such as family conflicts or exams)

SYMPTOMS

- Very Thirsty
- Need to urinate often
- Irritability
- Stomach pain
WHAT TO DO IF A CHILD HAS A HIGH BLOOD SUGAR?

How to cope with Hyperglycaemia or high blood sugar?

What to do in case of high blood sugar?

A CHIL D W ITH A H IGH BLOOD SUGAR LEVEL SHOULD BE ADVISED TO:

- Drink plenty of water to keep hydrated
- Check his/her blood sugar and repeat the blood sugar test level in about 2 hours
- If his/her blood sugar level is very high (270 mg/dl or 15 mmol/l) contact the school nurse or child’s parents so they can seek further advice

ATTENTION

When high blood sugar occurs over a number of days it’s important to report to parents and school nurse.
AS A PARENT, WHAT DO I NEED TO KNOW ABOUT EXERCISE AND DIABETES?

Exercise is a key component of diabetes management. With few special considerations, I can fully participate in all physical activity opportunities available in schools. Children with diabetes need to carry their “Diabetes Pack” with them.

The duration and intensity of exercise will have an influence on my blood glucose levels. To avoid low blood sugar episodes, I may need to eat an additional snack before, during and after exercising.

If I have symptoms of low blood sugar or will be participating in more than 40-45 minutes of physical activity, blood glucose levels should be checked before exercising.
WHAT ABOUT EXTRA CURRICULAR ACTIVITIES?

I CAN participate in all extracurricular activities. My teacher should notify my parents and invite them to the planning stage of the activity especially if this involves an overnight.

I’LL BRING WITH ME:

- a diabetes pack with a glucometer, insulin (along with syringe/injection pen) and a sugar source.
- a fast-acting carbohydrate snack or drink in case of hypoglycaemia.
- extra snacks in case lunch is delayed or we get more exercise than usual.
- a bottle of water

An overnight activity means I need to be able to inject my insulin or this needs to be discussed by the teacher with my parents.
A DAY IN THE LIFE OF ARJUN, LIVING WITH TYPE 1 DIABETES

GET UP, ARJUN!

YAWN

HELLO, ARJUN! HOW DID YOU SLEEP? DO YOU WANT YOUR BREAKFAST?

HI, MOM!

BY THE WAY... HAVE YOU CHECKED YOUR BLOOD SUGAR?

HERE IS YOUR INSULIN!

THANKS, MOM!

CLICK

AND NOW... BREAKFAST!

... THEN GET DRESSED ...

BURP!

BYE!

SCHOOL BUS
OK STUDENTS!
IT'S TIME FOR YOUR
PHYSICAL EDUCATION
PERIOD

SPORTS HALL

I'M COMING! I JUST NEED
TO CHECK MY BLOOD SUGAR!

I KNOW!

SLURP

IT WAS GREAT!
SEE YOU TOMORROW!

YEAH

SLURP
Hi Mom!

Hi, Arjun, did you have a good day at school?

Yeah, yeah! I'm hungry!

Have an apple!

Now quick with the homework...

So I can skate more!

Ha! You're just in time for dinner!

OK... let's see my blood sugar...

My insulin now...

Dinner!

OK! TV time

Last blood sugar check

A big glass of milk...

Time for bed, Arjun! Already?

The end.
WHY IS IT IMPORTANT TO CHOOSE A HEALTHY LIFESTYLE?

TO PREVENT:

OVERWEIGHT

TIREDNESS

FEELING SICK

UNHEALTHY HEART
HOW TO STAY HEALTHY?

EAT WELL!

There is a lot of evidence that lifestyle changes can help prevent the development of type 2 diabetes.

THE FOOD PYRAMID

(Figure: Exercise regularly and be physically active)

- **EAT SPARINGLY**
  - Fried, fatty, salty, sugary foods (e.g. chips, samosa, namkeen, desserts, sweets etc.)

- **EAT MODERATELY**
  - Oils and non-vegetarian food

- **EAT LIBERALLY**
  - Fruits and vegetables

- **CONSUME ADEQUATELY**
  - Cereals, pulses, water, milk

HOW TO STAY HEALTHY?
MOVE WELL!

A healthy diet is built on a base of regular physical activity, which keeps calories in balance and weight in check.

TIPS TO GET ACTIVE:

- Try sports and choose the one you like
- Set regular times for activities; make it a part of your daily schedule
- Reduce use of screen time (TV, computers etc..) and play with friends
- Walk to school (if possible)
- Take the stairs instead of an lift
- Learn to use the skateboard, the bike or run instead of getting a ride
- Go for walk with your parents
- Turn off your TV, mobile or computer and spend some time playing with your friends
- Stay active: do a minimum of **30 minutes of exercise per day**
- Exercise with a friend
ANNEX 1
DIABETES MANAGEMENT PLAN

to be completed by parent or legal guardian

Child’s name

Date of birth

Mother’s name

Guardian/
Father’s Name

Child’s age
at time of
diagnosis

Contact phone numbers:
(list by order in which calls should be made, and note if it is a parent, friend,
or caregiver and whether the number is home and or work. Also note if each
person has legal authority to respond in an emergency situation.)

<table>
<thead>
<tr>
<th>Number</th>
<th>Name</th>
<th>Relationship</th>
<th>Location</th>
<th>Authority</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Doctor:

Name

Phone

Other health providers:

Name

Phone

Name

Phone
MONITORING:
Usual blood glucose monitoring times:

☐ Mid-Morning ☐ Noon
☐ Evening ☐ Night
☐ Others (Please Specify)

Does your child have a preferred location for monitoring (classroom, school office, etc.)?

Goal range for blood glucose: Between _______ and _______

LOWS:
If below ______, please do the following:

Call parent if below: ________ (Tel: ________)

Usual signs/symptoms of low blood glucose are:

☐ Sweating ☐ Blurry Vision
☐ Dizziness ☐ Fast Heartbeat
☐ Anxiety ☐ Hunger
☐ Irritability ☐ Shakiness
☐ Headache ☐ Weakness/Fatigue
☐ Others (Please Specify)
HIGHS:

If above ________, please do the following:

_________________________________________________________________________
_________________________________________________________________________
_________________________________________________________________________
_________________________________________________________________________

Usual signs/symptoms of high blood glucose are:

☐ Excessive Thirst  ☐ Need to urinate often
☐ Irritability       ☐ Stomach pain
☐ Others (Please Specify)

Insulin:

Will daily insulin be needed in school?  ☐ YES  ☐ NO

If insulin is needed at any other time, please specify time, amount and circumstances for administering insulin:

_________________________________________________________________________
_________________________________________________________________________
_________________________________________________________________________
_________________________________________________________________________

FOOD:

Will your child participate in school breakfast and/or school lunch?  ☐ YES  ☐ NO  ☐ NA

If yes, will modifications to the regular menu be needed?  ☐ YES  ☐ NO  ☐ NA

_________________________________________________________________________
_________________________________________________________________________
**EXERCISE:**
What are your child’s favourite physical activities?

Will your child participate in school sports? ☐ YES  ☐ NO

**SELF-CARE:**
Please put an X in the box that best describes your child’s role:

<table>
<thead>
<tr>
<th>Activity</th>
<th>Does it alone</th>
<th>Does it with supervision</th>
<th>Parents help</th>
<th>Parents do it</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pricks finger</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Puts strip in Glucometer</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reads Glucometer</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Records result</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adjusts food based on result</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adjust insulin based on result</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Knows which foods to limit</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Can select kind and amount of food</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Helps plan meals</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Selects insulin injection site</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prepares for injection, selects site</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Injects insulin</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Measures insulin</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Determines amount and type of insulin</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
PARTIES AND SPECIAL FOOD OR MEALS:

Do you wish to be contacted before each event?  □ YES □ NO

Additional instructions for the school:

____________________________________________________________________
____________________________________________________________________
____________________________________________________________________

EMERGENCIES:

What do you feel should be treated as an emergency?

____________________________________________________________________
____________________________________________________________________
____________________________________________________________________

What do you want the school to do in an emergency?

____________________________________________________________________
____________________________________________________________________
____________________________________________________________________

Other requests:

____________________________________________________________________
____________________________________________________________________
____________________________________________________________________

(Adapted on Recommendations for Management of Diabetes for Children in School – Vermont Department of Health)
ANNEX 2
GUIDELINES FOR MANAGEMENT OF CHILDREN WITH DIABETES IN SCHOOL

The following guidelines should be taken into consideration when dealing with diabetes in school. The daily routine of a child with diabetes includes: daily blood glucose monitoring and schedule of food, insulin and activities. Therefore, while at school, each child with diabetes must be allowed to:

- Do blood sugar checks.
- Treat hypoglycaemia with emergency sugar.
- Inject insulin when necessary.
- Eat snacks when necessary.
- Eat lunch at an appropriate time and have enough time to finish the meal.
- Have free and unrestricted access to water and the bathroom.
- Participate fully in physical education and other extracurricular activities, including field trips.

In addition:

- The extent of the student’s ability to participate in diabetes care should be agreed upon by the school personnel, the parent/guardian, and the health care team, as necessary.
- The ages at which children are able to perform self-care tasks are very individual and variable, and a child’s capabilities and willingness to provide self-care should be respected.

- Successful management of diabetes in school requires teamwork between child, parents/guardians, health care team and the school.

Tips to establish an effective management program for diabetes at school:

- Plan for communicating with parents and the student’s physician, agree emergency procedures and list phone numbers required.
- School policies and procedures for administering medications, and handling equipment such as glucometers and pumps should be developed.
- Specific actions for school personnel to perform in the management program should be agreed.
- A specific plan of action for handling high and low blood sugar episodes, including the appropriate treatment foods and medications to have available should be agreed.
- A list of any medications the student receives, noting which ones need to be taken during school hours should be documented.
WHO DOES WHAT?

PARENT/GUARDIAN
- Supply, equipment and medication necessary for the provision of health support services to students.
- Supply emergency contact numbers to address any expected situation that may arise.
- Supply Information about the student’s meal/snack schedule.
- Keep the school informed of any changes in plan of care.

SCHOOL STAFF
- If possible, the school should have its own diabetes kit (containing a glucometer, sterilized lancets batteries) and a high sugar food source (glucose powder etc.)
- Arrange a meeting with parents / guardian at the beginning of the year to complete the diabetes management plan.
- Make sure they have contact numbers for parents / guardians and student’s physician (if applicable).
- Agree when parents / guardians need to be contacted.
- Support the child with diabetes at school.
- Allow the child to undertake blood glucose monitoring at agreed times.
- Provide a safe place for a child to inject insulin.
- Familiarise themselves with the signs and symptoms of low blood sugar.
- Know how to cope with a child who has a low blood sugar.
- Ensure a child with low blood sugar is supervised and not left alone.
- Provide unlimited access to water and bathroom.

STUDENT
- To tell the teacher when they are going low if possible.
- To tell the teacher when they do not feel well.
- To do their blood sugar and insulin injection if able in accordance with the management plan.
- Bring their diabetes equipment to school.
- Carry with them fast acting carbohydrate in case of a low blood sugar.
RESOURCE WEBSITES

- http://www.t1dstars.com/web/
- http://www.hriday-shan.org/
- http://healthy-india.org/

DIABETES MANAGEMENT PLAN IN SCHOOL CONSULTED FOR THE KIDS PACK:

- http://www.childrenwithdiabetes.com/d_0g_500.htm
- http://www.qnb.ca/0000/pol/e/704AH.pdf
WHAT IS DIABETES?

* TYPE 1
* TYPE 2

A diabetes information kit: India
Acknowledgements:

This material has been developed in collaboration with the members of the KiDS Advisory Committee: Monika Arora, Anne Belton, David Cavan, David Chaney, Stephen A. Greene, Agnès Magnen, Angie Middlehurst, Denise Reis Franco, Nikhil Tandon.

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# TABLE OF CONTENTS

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- What is diabetes?
- What is type 1 diabetes?
- A day in the life of Arjun, living with type 1 diabetes.
- What is type 2 diabetes?
- Why do people need to prevent and take care of type 2 diabetes?
- Why it’s important to choose a healthy lifestyle?
- Stay healthy: eat well, move well!

## Resource Websites
INTRODUCTION

The following KiDS information pack has been prepared to guide you in making the school environment a better place for children with diabetes. The pack is an awareness and information tool created to inform you about diabetes. This pack should be seen purely as an information resource. This pack is not intended to replace any medical advice.

THE AIM OF THIS PACK IS TO:

- Increase awareness of diabetes in school
- Improve the lives of children with diabetes at school and fight discrimination
- To help teachers address the topic of diabetes and need for a healthy lifestyle

Why a blue circle?

The icon was designed as a call to unite for diabetes and is a symbol of support for the UN Resolution on Diabetes. The colour blue represents the sky and it’s the same colour as the flag of the United Nations.
WHAT IS DIABETES?

Your body needs insulin to transform glucose into energy.

1. When the pancreas doesn't produce insulin, it is TYPE 1 DIABETES.

2. When the pancreas doesn't produce enough insulin (or the insulin cannot be processed), it is TYPE 2 DIABETES.

3. When the insulin is less effective during pregnancy, it is GESTATIONAL DIABETES.

(Source: International Diabetes Federation, 2014; http://www.idf.org/about-diabetes)
Diabetes can develop in a child of any age, including infants and toddlers. Type 1 diabetes often develops quickly and may be life-threatening if not diagnosed early.

Type 1 diabetes is diagnosed when the pancreas stops making insulin completely. It is an autoimmune disease which means the body’s own immune system attacks the pancreas destroying the cells that make insulin. This results in the body being unable to control the amount of glucose in the blood.
A DAY IN THE LIFE OF ARJUN, LIVING WITH TYPE 1 DIABETES

**Panel 1**: Get up, Arjun! 
**Panel 2**: Hi, Mom! How did you sleep? Do you want your breakfast? 
**Panel 3**: Hello, Arjun! Have you checked your blood sugar? 
**Panel 4**: By the way... 
**Panel 5**: Here is your insulin! 
**Panel 6**: Thanks, Mom. Click. 
**Panel 7**: Corn flakes. 
**Panel 8**: And now... breakfast! 
**Panel 9**: ...then get dressed... 
**Panel 10**: Burp! 
**Panel 11**: Bye! 
**Panel 12**: Bus.
HEEY GUYS!

HEEY ARJUN!

10:30 AM

RRRRRRRR

\[ \sqrt{256} = 18 \]

INSULIN BEFORE LUNCH

HEY, ARJUN! DO YOU WANT TO PLAY FOOTBALL AFTER LUNCH?

SURE!
HI, MOM!

HI, ARJUN
DID YOU HAVE
A GOOD DAY
AT SCHOOL?

YEAH, YEAH!
I'M HUNGRY!

HAVE AN APPLE!

NOW QUICK
WITH THE
HOMEWORK...

...SO I CAN
SKATE MORE!

HA! YOU'RE
JUST IN TIME
FOR DINNER!

OK... LET'S SEE
MY BLOOD SUGAR...

MY INSULIN
NOW...

DINNER!

OK! TV TIME

LAST BLOOD
SUGAR CHECK

A BIG GLASS
OF MILK...

TIME FOR
BED, ARJUN!

ALREADY?

The End
WHAT IS TYPE 2 DIABETES?

Type 2 diabetes is being diagnosed in children in a growing number of countries, including India. A Chennai-based study suggests that one out of every four patients with Type 2 Diabetes is diagnosed before 15 years of age.

Symptoms:

Unlike type 1, in people with type 2 diabetes the symptoms are often mild or absent, making this type of diabetes hard to detect.

In general the most common signs are:

- Weight loss
- Very thirsty
- Need to urinate often
- Weakness and fatigue

Type 2 diabetes is diagnosed when the body does not produce enough insulin to function properly, or the body’s cells don’t react to insulin. This is known as insulin resistance. If this happens, the body is unable to control the amount of glucose in the blood.
WHY DO PEOPLE NEED TO PREVENT & TAKE CARE OF TYPE 2 DIABETES?

Because it can lead to:

- Foot problems
- Kidney disease
- Damage to the retina
WHY IS IT IMPORTANT TO CHOOSE A HEALTHY LIFESTYLE?

TO PREVENT:

- **OVERWEIGHT**
- **TIREDNESS**
- **FEELING SICK**
- **UNHEALTHY HEART**
HOW TO STAY HEALTHY?

EAT WELL

There is a lot of evidence that lifestyle changes can help prevent the development of type 2 diabetes.

THE FOOD PYRAMID

HOW TO STAY HEALTHY?
MOVE WELL!

A healthy diet is built on a base of regular physical activity, which keeps calories in balance and weight in check.

TIPS TO GET ACTIVE:

☐ Choose a sport you like
☐ Set regular times for activities; make it a part of your daily schedule
☐ Reduce use of screen time (TV, computers etc...) and play with friends
☐ Walk to school (if possible)
☐ Take the stairs instead of an lift
☐ Learn to cycle, the bike or run instead of using vehicles
☐ Go for walk with your parents
☐ Turn off your TV, mobile or computer and spend some time playing with your friends
☐ Stay active: do a minimum of 30 minutes of exercise per day
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For further information, please contact:

T-7, Green Park Extn., New Delhi-110016, India.
Phone: +911164546720, +911141031191
Email: contact@hriday-shan.org
info@hriday-shan.org, Web: www.hriday-shan.org
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WHAT IS DIABETES?

Glucose is your body’s main source of energy. Insulin is a hormone that helps glucose move from the bloodstream into cells. This is how your body uses glucose for energy.

1. When the pancreas doesn’t produce enough insulin (or the insulin cannot be processed), it is **TYPE 2 DIABETES**.
2. When the pancreas doesn’t produce insulin, it is **TYPE 1 DIABETES**.
3. When the insulin is less effective during pregnancy, it is **GESTATIONAL DIABETES**.

(Source: International Diabetes Federation, 2014; http://www.idf.org/about-diabetes)
A DAY IN THE LIFE OF ARJUN, LIVING WITH TYPE 1 DIABETES

GET UP, ARJUN!

YAWN

HELLO, ARJUN! HOW DID YOU SLEEP? DO YOU WANT YOUR BREAKFAST?

Hi, Mom!

BY THE WAY... HAVE YOU CHECKED YOUR BLOOD SUGAR?

HERE IS YOUR INSULIN!

THANKS, MOM!

AND NOW... BREAKFAST!

... THEN GET DRESSED...

BURP!

BYE!
OK STUDENTS! IT'S TIME FOR YOUR PHYSICAL EDUCATION PERIOD

I'M COMING! I JUST NEED TO CHECK MY BLOOD SUGAR!

I KNOW!

SLURP

IT WAS GREAT! SEE YOU TOMORROW!

YEAH!
Hi, Mom!  
Did you have a good day at school?

Yeah, yeah! I'm hungry!

Have an apple!

Now quick with the homework...

Ha! You're just in time for dinner!

Okay... let's see my blood sugar...

My insulin now...

Dinner!

Okay, TV time

Last blood sugar check

A big glass of milk...

End

Time for bed, Arjun!

The end
WHY IS IT IMPORTANT TO CHOOSE A HEALTHY LIFESTYLE?

TO PREVENT:

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TIREDNESS

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- Stay active: do a minimum of 30 minutes of exercise per day
- Exercise with a friend