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# LIVE WELL WITH DIABETES

# Sweet Life



(AN INITIATIVE OF MV HOSPITAL FOR DIABETES (PVT) LTD., ROYAPURAM, CHENNAI, INDIA)



**Hypoglycaemia is a preventable complication**



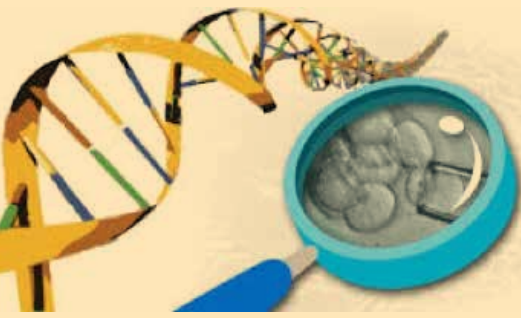
**Recipe - Carrot & Date Cake**



**Store insulin properly to get the best effect**



**Begin the day with a good breakfast**



## What's New in Diabetes Research ?

Scientists have found a new way to transform human skin cells in the laboratory. When transplanted into mice they appeared to protect them from developing diabetes. They are hopeful that the technique can be used to transplant new functioning  $\beta$ - cells into a person with diabetes. In theory, skin cells could be taken from a person's own body, so it is less likely to be rejected by the immune system. Generating insulin producing pancreatic cells in the laboratory that could be successfully transplanted into people with diabetes could change future treatment.

*Source : (Diabetes balance)*

## Protect from ulcers

Foot ulcers are one of the most common of diabetic complications and one of the leading causes of amputations.

A device approved by the NHS can prevent foot ulcers. It is a thin liquid gel insert in the shoe which changes the distribution of body weight as excessive pressure on the feet is one of the causes of foot damage. It also massages muscles on the sole of the foot and increases blood circulation.

Another patented device approved by the U.S. Food and Drug Administration can predict whether an ulcer will develop more than a month before it actually shows up. Foot ulcers are not easy to recognize or diagnose while they are developing. However, they do show some early warning signs. The place where an ulcer is likely to appear will be a warmer spot on your foot.

The device uses temperature data to predict whether an ulcer will develop which gives doctors more time to treat it. It is based on a study by Doctor of Podiatric Medicine, Robert G Fryberg, which investigated whether heat sensing mats at home could help detect foot ulcers early and help prevent them.

The device is a wireless monitoring system that collects foot temperature scans . Using the device is simple. 'People have to keep it turned on and step on it each morning. Data from the thermogram of the feet is sent to a central server. A difference of four or more degrees Fahrenheit on two successive days will register an alert, which is then transmitted to the user and to his or her doctor for necessary treatment'.

A company, Podimetrics makes and manages this system.

*Source : [www.mendosa.com](http://www.mendosa.com) | [diabetes.co.uk/news](http://diabetes.co.uk/news)*



*Hello!*

This issue highlights one of the most common of short term complications of diabetes - Hypoglycaemia or low blood sugar. It has to be treated immediately or it can have adverse side effects. It is also a frightening experience

for both the patient as well as the care giver. The good news is that it is preventable. Our diabetes consultant also provides answers for some frequently asked questions.

We hope our updates on advancements in treating diabetes are helpful. What we eat defines our health status. So we have also included some tips for healthy eating. Managing diabetes is a 24 hour effort. One of the things to do to make it less taxing is to help to spread the message of healthy living.

The MVH 'Feet Fest' from 3 - 9 October 2016 was a celebration of 25 years in saving legs where people with diabetes could get their feet tested and an exhibition was arranged in the auditorium of all 3 centres.

Being the final issue for 2016, I would like to extend Seasons Greeting to readers on behalf of all at MVH.

*With regards*

*Dr. Vijay Viswanathan,*

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Head & Chief Diabetologist,

M.V. Hospital for Diabetes (P) Ltd

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**Dr. Mitalee Barman, Consultant Diabetologist**

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# Hypoglycaemia in People with Diabetes

**Dr. Hemanga Barman**  
*Consultant Diabetologist*

## Hypo is a preventable complication

Hypoglycaemia or low blood sugar is one of the most common acute or short term complications of diabetes. It happens suddenly and has to be managed immediately. It occurs more commonly in diabetes patients who are using insulin but can also occur in people with diabetes using oral hypoglycaemic agents especially sulphonylureas.

Hypoglycaemia can range from very mild (60–70-mg/dL) to severe (<40 mg/dL). Mild hypoglycaemia is accompanied by minor symptoms or, at times, by no symptoms. Severe hypoglycemia results in very low glucose levels and can be accompanied by neurological damage.

Most patients as well as their care givers are frightened by symptoms of hypoglycaemia. Severe hypo can result in falls, accidents or other injuries. Frequent hypos especially in long standing diabetes can lead to ‘hypo unawareness’ where patients cannot recognize when an episode of hypo is coming on. This can be dangerous too.

### What causes Hypos?

- Delaying or skipping a meal or a snack
- Taking too much medication
- Eating less quantity of food and /or decreasing carbohydrate content of food
- Increasing physical activity by overexerting or doing unplanned exercise
- Consuming alcohol
- Having hypo unawareness

### Symptoms

Every individual shows a different reaction to hypoglycaemia so it is necessary to be aware of the different symptoms.

Mild	Moderate	Severe
Capable of self-treatment	May require help	Not capable of self-treatment
Tremors, palpitation, sweating, hunger	Headache, dizziness	Conscious or unconscious
Fatigue, cold and clammy skin	Mood changes	Coma, convulsions
Anxiety, irritability	Low attentiveness	Disoriented behaviour, loss of memory (Lethargy, Lack of interest, and depression are unusual symptoms)
	Drowsiness, blurred vision, slurred speech	

## Be prepared ...

When you have a hypo, do not panic. The following are foods that can raise the blood glucose levels

Fruit juice	120 – 180 ml	Non-diet soft drink	120 – 180 ml
Milk	200 – 220 ml	Raisins	20 g or 2 tbsp
Glucose	15 g or 3 tsp	Bread	1 slice or 25 g
Sugar	15 g or 3 tsp	Chapatti	1 or 25 g
Idli	1 or 55 g	Rice	½ katori or 50 g

*It is important to know that drinks and foods high in fat do not digest and absorb quickly so it takes a longer time to raise blood glucose. Adding protein also does not raise blood glucose levels and does not prevent subsequent episodes of hypoglycaemia.*

*Therefore, Ice cream, meat, milk shakes, cakes, cheese, potato chips, pizza, nuts and cookies are a poor choice of foods to manage hypos.*

## Managing hypo



### If hypo is mild ...

15 g of glucose as tablet or powder, ½ cup of fruit juice, ¼ cup of soft drink, 3 tsp sugar/ honey can be given.

If blood glucose is still < 70 mg/dL or if symptoms persist, repeat the foods.

When blood glucose is > 70 and symptoms have subsided, if meal / snack is not planned in the next 30 minutes, give extra snack of complex carbohydrate and protein.

A tablet called 'Hypotab' is available in pharmacies and 2 tablets can be chewed if hypo is mild.

### For moderate hypo...

The treatment is the same as for mild hypo but 30 g of fast acting carbohydrate may be needed.

4 tablets of 'Hypotab' can be taken for moderately severe type of hypo.

### For severe episodes ...

Inject Glucagon. (Adults 1 mg, Children <5 yrs = 0.5 mg, Infants = 0.25mg)

Do not give a second dose. In case of seizure, place sideways if possible. Clear airway before giving any form of glucose,

### Prevention is better than cure, so

- ▶ Eat at regular times. Be regular with medication and exercise
- ▶ Have low calorie foods like butter milk, clear soups, salads, tomato juice between meals, and as bed time snacks.
- ▶ Always carry some form of glucose- sweet/candy



- ▶ Educate others around you about all the signs of hypo so that they can help in an emergency.
- ▶ Always carry a diabetes ID card

## Prevent hypos in special situations

### *During times of fasting...*

In India, there are many occasions such as Karva Chauth, Ramzan, and Guru Purnima that require one to fast.

Do not over do or fast without adequate safeguards especially when having glucose lowering medications. Meals before the fasting period suit the situation. Adequate water and fluids are needed. Continue with routine activities but moderate to vigorous exercise should be avoided.

Medication – for an occasional fast consult with the doctor for adjustment of medicine dosage for the day. For fasts that are more frequent – weekly or fortnightly– consult the doctor for modification in the drug regimen. Go for a check-up after the fast.

### *While exercising...*

Test blood glucose before you start. Snack before exercise as physical activity can lower blood glucose levels. Stop exercise if you feel symptoms of hypoglycaemia. Have a snack of glucose/candy/

biscuit. Avoid alcohol and test glucose often and establish a routine.

### *Stressful situations...*

Find the stress point and manage it effectively. Maintain good eating habits and eat at proper meal times.

### *While driving...*

Check your fitness before starting. You should know how to take steps to avoid symptoms, recognize symptoms and treat hypoglycaemia. If confused and shaky, stop the vehicle at once and test blood glucose. Treat low blood glucose with the 15/15 rule. DO not start driving until symptoms go away. Keep fast acting snacks. Wear a diabetes identification. Keep a separate glucometer for the car as extreme temperatures can make it inaccurate. So, take it out of the vehicle when not driving. Finally, don't drink before driving.

### *During pregnancy...*

Plan a diet and medication chart. Have small regular meals at frequent intervals to avoid hypo. Learn to manage hypoglycaemia. Check blood glucose and blood pressure regularly. Stay well hydrated especially during the summer. Avoid strenuous activity or long distance journeys.

## Spreading the message...

Coping with diabetes can become less taxing if you can help to spread the message of healthy living. Here is a collection of well-tried activities to help inspire people to take small achievable steps to live healthier.

- Form a website where people can set achievable goals to boost their health and well-being, monitor targets, and read tips and inspiring messages.
- Organize fun events such as walking and cycling and games; and food workshops where families can pick up food and cooking tips to help change their eating habits for the better.
- Spread the word that reducing 5 to 10 % weight can help reduce the risk of conditions such as Type 2 diabetes and heart and circulatory disease.
- Good diabetes care in schools is achievable. Students, school staff and parents can work together to ensure that children and young people with Type 1 diabetes have the same opportunities as their peers without the condition and are fully able to participate in their education and reach their full academic potential.
- Share best practices among schools to ensure that all students with diabetes achieve their full academic potential.

Source : *Diabetes Balance*

# Insulin at its **BEST**

## Store insulin properly to get the best effect

Insulin is very sensitive to sunlight and to extreme hot or cold temperatures and loses its ability to do what it should.

Read and follow storage instructions given on every vial of insulin or box of insulin pens.

Unopened vials and pens stored in the fridge are good until expiration date. Opened vials can be stored in the refrigerator (2° -8° C ) or at room temperature. (25° - 30° C.)

Allow Insulin vials kept in the refrigerator to reach room temperature before injection. Opened vials of insulins such as Insulin Glargine, Insulin Glulisine, Insulin Aspart, Insulin Lispro, Insulin Isophane,

Human insulin, and mixtures of insulin are stable for 28 days either at room temperature (25° - 30° C ) or in a refrigerator at 2° - 8° C.

Opened vials of Insulin Detemir are stable up to 42 days at the recommended conditions. Moving opened insulin vials between refrigerator and room temperature does not appear to affect the insulin's potency under these conditions and time periods.

Used Insulin pens can be stored at room temperature (25° - 30° C) without exposure to direct sunlight or in the refrigerator door. Pens last for 7 to 28 days if stored at room temperature depending on the type of pen used.

## Begin the day with a good breakfast

Indian cuisine provides a variety of food for the breakfast table - Oats porridge, Roti with cauliflower or cabbage vegetable, methi /mixed vegetable parantha, dalia with vegetable, dal khichdi, Jowar/Bajra/Ragi roti, boiled sprouts, baked beans on toast, plain idli/dosa, vegetable upma and pesarattu are all healthy breakfast foods. There are many other commonly used breakfast items that can be made healthier by making a few changes.

Food	Make it Healthier
French Toast	Use Sugar Free, Skim milk & Egg white and whole wheat bread
Bread Omelette	Use whole wheat or multi grain bread and egg white
Poori and potato	Replace with roti. Add a salad, Use less oil.
Masala Dosa	Use cabbage, tomatoes and capsicum instead of potato
Sheera	Use less ghee. Use low-fat milk/ skim milk. Add almonds instead of raisins
Coconut chutney	Use mint and coriander instead. Use less oil for tempering
Muesli with milk	Use low fat/skim milk and do not add sugar
Cornflakes with milk	Use Oat / Wheat flakes instead and low fat/skim milk
Cheese sandwich	Use multigrain/whole wheat bread and low fat cheese / cottage cheese
Potato Poha	Use hand pounded poha. Add sprouts. Use less oil and avoid sugar
Besibele Rice	Use brown/unpolished rice. Reduce coconut
Appam and stew	Use brown/unpolished rice. Make vegetable stew with tomato and onions and without coconut



Recipe

## Carrot & Dates Cake

(Eat in moderation. Keep the rest of the meal low carb).

Wheat flour	1 cup	Carrot grated	½ cup
Oats	½ cup	Flax seed powder	2 tablespoons
Chopped almonds and walnuts	½ cup	Vanilla essence	½ teaspoon
Chopped dates	15	Lemon	1 teaspoon
Milk	1 ½ cups	Baking powder	1 teaspoon

### Method

Soak dates in water overnight and puree with carrot and a little milk.

Add the remaining milk to the pureed mixture.

Add 2 tablespoons flax seed and mix well.

Add all dry ingredients slowly.

Add vanilla essence, lemon juice and baking soda.

Bake in oven for 30-35 mins at 200° C.



# You can prevent hypoglycaemia

Dr. Hemanga Barman, *Consultant Diabetologist*

1

## What changes are needed for pre fast meals?

Pre fast meals should provide complex carbohydrates with low glycaemic index and proteins like unprocessed cereals, fruits, nuts and lentils. Adequate water and fluids are needed.

2

## Do any changes have to be made in medication during fasting periods?

For infrequent fasts such as Karvachauth, Ramzan and Guru Poornima, ask the doctor to adjust medication doses for the day  
For frequent fasts, the doctor will modify the drug regimen. Visit the doctor after the fast.

3

## I can exercise in the evenings only. What special precautions should I take?

If exercising in the evening, physical activity can mean low blood glucose at night. So have a snack. Do not use hot tubs or sauna after exercise as it can increase heart rate and lower blood glucose even after exercise has stopped.

4

## What is the 15/15 rule for managing hypoglycaemia?

According to the 15/15 rule, 15g of carbohydrate food first, to manage Hypo and test 15 minutes later. Keep repeating this till blood sugar levels are up.

M.V.Hospital for Diabetes, Royapuram has been treating people with Diabetes mellitus and conducting research in diabetes for over 60 years. It is also a teaching institute. It has branches at

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