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# LIVE WELL WITH DIABETES

# Sweet Life



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



**Treat And Control  
Diabetes Skin Conditions**



**KNOW MORE  
ABOUT DIABETES**



**Beat the Heat with  
Millet**



**DIABETIC FEET  
ARE VULNERABLE**



## What's New in Diabetes Research ?

- ▶ People with nerve damage in their lower limbs are at very great risk of developing foot ulcers as they lose sensitivity in the soles of their feet and find it difficult to estimate high pressure on it.
- ▶ To address this problem a UK research team is testing new technology to help find a way to raise an alarm if pressure is too high. The 'biofeedback' system uses special insoles in shoes to record foot pressure and relays this information to the screen of a 'smart watch'. When the system beeps or vibrates as a warning of high pressure, the user can use corrective measures to reduce the pressure. The scientists hope that this will empower people with diabetic neuropathy to protect their feet and reduce the risk of amputations.

*(Source: Diabetes Balance)*



Physical activity is beneficial for T1DM but it creates some problems with insulin administration and blood glucose levels. In Type 1 diabetes, the insulin comes from the injection site and not  $\beta$ - cells.

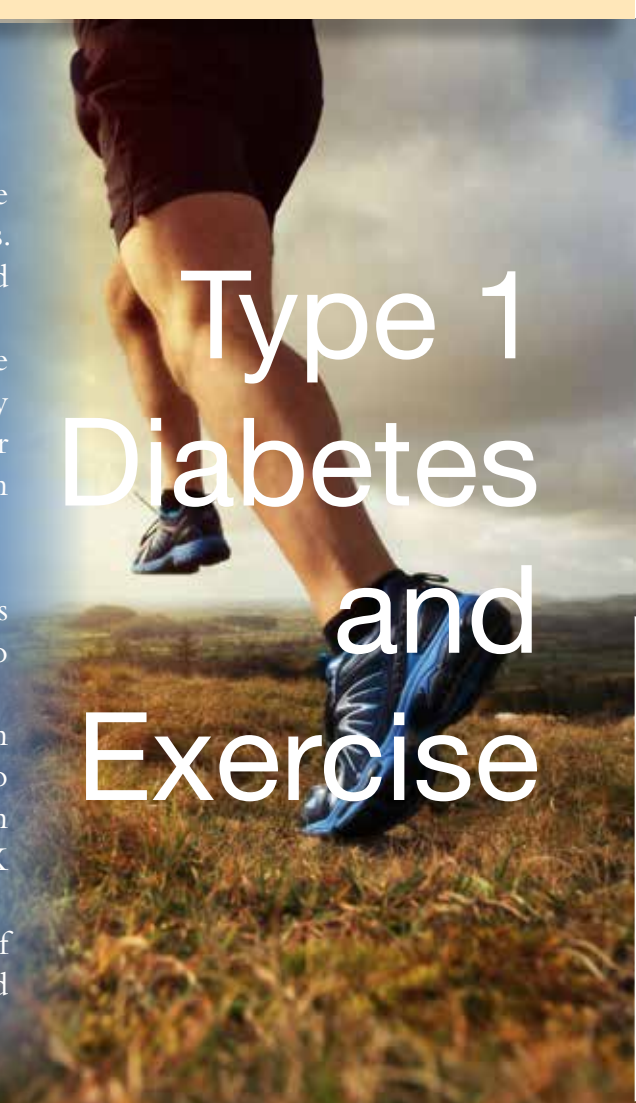
Increases in body temp and changes in blood flow towards the skin during exercise cause insulin to be released more quickly than usual from the injection site resulting in exercising under high insulin concentration and blood glucose concentration will fall leading to hypoglycaemia.

Education is vital for glycaemic control

Setting lower glucose targets and using more rigorous approaches to self- management to avoid diabetes complications can also increase the incidence of hypos.

The HypoCOMPaSS is an approach that provides education and support to people with Type 1 diabetes. It helps them to avoid hypos without compromising on activities to maintain tight control on blood glucose levels. The successful trial by UK researchers focused on 4 key elements:

- ▶ never delaying treatment for hypos, recognizing times of greater risk, recognizing the first hypo symptoms, and preventing night time hypos.

A photograph of a person's legs and feet as they run through a field of tall grass. The person is wearing dark shorts and blue athletic shoes. The background is a soft-focus landscape under a bright sky.

# Type 1 Diabetes and Exercise



*Hello!*

Greetings to all on the New Year.

Diabetes is a condition that does not go away. It has to be well managed at all times. Sometimes, on the spot decisions for day –to – day care regarding diet, medication, and

exercise have to be taken. This is where diabetes education steps in. A person with diabetes as well as people who provide care for them must learn more about how diabetes affects health. This will help them work proactively with their doctors and support team, and making changes in life style will be more meaningful. Meet with our dietitians, educators and psychologists and learn more about diabetes.

This issue highlights the effect of diabetes on the skin and what preventive measures need to be taken. We have observed an increase in cases of feet with dry skin and this has prompted us to provide answers to frequently asked questions on cracked feet and its significance for a person with diabetes.

Replacing rice with millet is getting increasingly popular. A person does not become obese overnight. It is the result of long term malnourishment. Starting millets at a young age keeps children energetic and well –nourished and also decreases the chances of obesity in later life. So let's fight diabetes from every angle.

*With regards*

*Dr. Vijay Viswanathan,*

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**Dr. Mitalee Barman**  
*Consultant Diabetologist*



# Skin Problems in Diabetes Mellitus

**H**igh blood sugar levels over a period of time can result in nerve damage and changes in blood vessels which often bring about undesirable changes in the skin. So, it is important for a person with diabetes to know about skin problems as most of them can be treated if diagnosed in the early stages.

## *Why are people with diabetes prone to skin problems?*

Bacteria and fungi can grow well when blood glucose levels are high. People with diabetes lose a lot of fluids through urine and so they are likely to have dry, scaly skin. Peripheral neuropathy also affects the proper functioning of sweat glands in hands and legs which can also be a reason for dryness of skin. Poorly controlled blood sugar, metabolic changes and early ageing thickens the skin on the fingers and upper back. Poor immunity increases the chances of infections. Some skin changes can be the result of reaction to diabetes medications.

## *Skin changes in diabetes can be infectious or non-infectious.*

### **Non-infectious skin changes**

**Xerosis-** The skin may peel or crack and may itch. Dry skin is more prone to infections.

**Acanthosis nigricans** is the darkening and thickening of certain parts of the skin especially in the folds of the skin. The skin becomes dark and often raised or 'velvety'. This usually precedes diabetes and is a marker. It is also a marker of insulin resistance in obese T2DM.

Skin changes linked to diabetes –

**Vitiligo** is a skin problem mostly associated with T1DM which affects skin colouration and results in patches of discoloured skin.

**Scleroderma diabetorum** often affects people with T2DM causing thickening of skin on the back of the neck and upper back. This is usually due to high blood glucose and is considered a marker of future retinopathy or nephropathy.

Skin changes linked to blood supply to skin-

The lower legs and feet are the most often affected for poor blood flow.

**Necrobiosis lipoidica diabetorum (NLD)-** The upper layer of skin mostly on the lower leg becomes thin



## Prevention & Awareness

Diabetes is a chronic health condition that is preventable.

Uncontrolled diabetes is a leading cause of complications such as loss of sight, kidney failure, heart attack and stroke, and amputations.

There is a direct correlation between diabetes and the expanding waistline. People who are overweight and obese are at higher risk of developing this condition.

*Tackle overweight and obesity and make better life style changes to lower the incidence of T2DM.*

and red, sometimes itchy and painful and can ulcerate due to trauma.



**Diabetic dermopathy**- or shin spots- Changes in blood vessels to the skin can cause shiny round or oval lesions of thin skin over the front lower part of the lower leg.

**Digital sclerosis**- The skin on the toes and fingers and hands thicken and become waxy and tight. There may be stiffness in the finger joints.

Skin changes linked to allergic reactions to diabetes medications -

**Allergic reactions to oral medicines** mostly result in rashes and bumps.

**Allergic reactions to insulin** can result in a burning sensation and hive formation at injection sites. Sometimes it causes depletion of fat at the site that results in indentation marks (lipoatrophy) or lumps due to excess fat (hypertrophy) . Skin can also darken at injection sites.

**Diabetic blisters** mostly occur in people with severe diabetes and diabetic neuropathy. They look like burn blisters on fingers, hands, toes, feet, legs or forearms. They are usually painless, and heal on their own.

**Disseminated Granuloma annulare**- They are sharp defined rings or arc shaped areas on skin and are red, red - brown or skin coloured. They occur mostly on the fingers and ears but can also be seen on the chest and abdomen.

### Infectious skin changes -

Bacterial infections and staphylococcus infections are more common in people with diabetes who have uncontrolled blood glucose. These bacteria can result in boils, hair follicle infections, sties in eye glands, and bacterial nail infections.

### Bacterial

**Impetigo** – is a very common bacterial infection usually seen on face and hands as yellow honeycombed crusted spots on red skin

**Abscesses**- are commonly seen at injection sites mostly among T1DM patients due to contamination of injecting apparatus.

**Folliculitis** – Diabetes can result in infection of hair follicles mostly on the back of the neck, groin, armpit or legs.

**Diabetic Foot infections**- Loss of sensation in feet can result in foot damage which if neglected can get infected and in severe cases leads to amputation.



### Fungal

**Candidiasis** – is a fungal infection due to a yeast-like fungus. It is usually seen as small cuts in corners

of the mouth, between toes and fingers and nails, and in the warm moist folds of skin such as underarm, breast, groin and anal and vaginal region as reddened areas with yellow pustules.

**Tinea infections**- due to fungus show as itchy red rashes or rings and scaling on toes and palms and back of hands, groin region and upper body.

**Cellulitis**- Red and tender swelling with advancing red border on the lower limbs in people with severe diabetes is often considered as a simple problem and often neglected with dangerous results.

### Viral

**Herpes zoster**- or shingles causes fever and painful dermatitis along the nerves and occurs in people with lowered immunity.

### Prevention Strategies

#### While bathing...

Use mild neutral soaps and apply moisturizing cream on the body taking care to avoid areas where the skin touches such as between the toes and in the folds of the body.

Bathe in luke- warm water as very hot water can burn the skin and rob it of moisture.

Use mild shampoo, preferably with natural ingredients.

#### Body care...

Dry body folds under arms, breast, and in the groin well. Dust with anti- fungal powder as moist areas invite infections.

Treat a callus or blister, discoloured area, or area of cold sensation immediately to avoid infections.

Feeling itchy? Do not scratch the skin as it may break and get infected. Wipe gently with a soft cloth.

Use clean towels and fresh clothes.

Do not share body care equipment.

### **Control blood sugar...**

Keep blood glucose levels at optimum and choose what you eat wisely. Do not eat too much fat and carbs. Eat plenty of vegetables.

Take prescribed medications and keep track of your blood glucose levels.



### **Care of feet...**

Inspect feet daily. Treat minor cuts and injuries as quickly as possible as people with diabetes are prone to

infections that take a long time to heal.

*Good control of blood glucose levels, good nutrition, recommended exercise, prescribed medication and appropriate skin care can help people with diabetes avoid skin problems.*

## WHY DIABETES EDUCATION IS IMPORTANT

Diabetes is a life - long condition that one has to learn to live with. Hence, diabetes education is an important part of the treatment.

- It empowers - by increasing knowledge.
- It helps to play a part in managing the condition - by allowing a patient to interact better with doctors and support team,
- It helps one to take correct decisions and make better choices - by separating fact from fiction.

## Therapeutic Footwear Prevents Foot problems

**Seena Rajasekar • Bamila S**  
*Podiatry*

Foot ulcers are a frequent complication and develop in 15% of patient with diabetes.

- Ulceration is caused by several factors such as neuropathy, arterial insufficiency and infection.
- Neuropathy results in loss of the protective sensation, high plantar pressure and foot deformities.
- Offloading is an important part of the treatment and reduces pressure, prevents ulceration and also improves wound healing.

*Wearing special Diabetic therapeutic footwear prevents foot problems due to diabetes.*

Designer Diabetic footwear has been designed by M.V.Hospital for Diabetes in technical collaboration with the Central Leather Research Institute (CLRI) and Central Footwear Training Institute (CFTI), Chennai. A wide range of therapeutic footwear is available at our Footwear Unit in Royapuram and also at all our other centres.

## M.V DIABETES FOOTWEAR UNIT



Our designer diabetic footwear comes in a wide range of styles:



PLEASE VISIT OUR WEBSITE TO PLACE ORDERS

[www.mvdiabetesfoot.com](http://www.mvdiabetesfoot.com)



## Millet for the Young

*Tackle obesity from the very beginning...*

**Manjusha R Menon (Dietitian)**

**Ranjini TC (Dietitian)**

*MV Centre for Diabetes, Banashakari, Bengaluru*

Millet is good for young ones from six months to six years. It is very nourishing and easily digestible. From one year onwards, they can be given hard foods like Berraka roti and Jowar roti instead of biscuits. Even a six month old child can nibble on Jowar roti and mash it in the mouth. Commonly used cereal based baby foods given as supplements in the early months can be substituted with home- made millet preparations that keep children active and healthy.

Millet is also good for lactating mothers as it increases milk production. Child obesity is on the rise. One reason is the wrong choice of food especially refined and over processed foods with additives. When you start your child off on nutritious foods you lay the foundation for healthy eating habits later, possibly preventing obesity and other health complications.

### RECIPE : FINGER MILLET BABY FOOD

#### **Ingredients:**

- Wheat - 125 g
- Red gram dal - 125 g
- Green gram dal - 125 g
- Finger millets - 125 g
- Ghee and salt for taste

#### **Method:**

Heat the first 4 ingredients separately in a pan and powder. Mix the powders and keep in a container. Add a few dried fruit or peanut to the ingredients while grinding to enhance the taste. Take the required quantity, mix with cold water and cook to make a porridge. Add salt and a little ghee for taste if required.



# Q & A **Foot Care -** **Know More about Xerosis**

**Seena Rajasekar • Bamila S**  
*Podiatry*

## 1 **WHAT IS XEROSIS?**

It is an abnormal dryness of the skin and is one of the most common types of skin conditions in people with diabetes that leads to cracks and fissures especially on the soles of the feet.

## **HOW DOES DRY SKIN GET INFECTED?**

First, the skin becomes dry and rough, with well-defined skin lines. This is followed by hardening of skin with cracks and redness. The skin loses its flexibility. Any injury can cause breaks in the skin which in turn can result in infection.

## 4 **WHAT CAUSES THIS CONDITION?**

In diabetes, the body loses fluids and this reduces its capacity to keep skin flexible. In addition, sweat glands that usually control oil and moisture in the foot deteriorate when autonomic neuropathy sets in. Xerosis causes structural changes to the top layers of the skin cells and results in a rough epidermal surface. Blood supply to the skin surface is affected and the skin loses elasticity and splits, creating portals for bacteria to enter.

## 2 **WHAT ARE THE COMMON SIGNS?**

Extremely dry, rough, uneven and cracked skin, scaling, flaking, chapping, and itching, excessive dryness and scaling on the heels and feet, and linear cracks in the skin are the common signs of Xerosis.

## **WHAT IS THE TREATMENT FOR THIS CONDITION?**

Apply a moisturizing lotion or cream to the feet every day in order to maintain skin moisture. Use moisturizers that contain urea or lactic acid. Lactic acid in the form of alpha hydroxy acid helps to make the skin soft and urea allows the upper skin layer to hold more moisture.

Avoid products that contain alcohol because they evaporate, and their drying action adds to the original problem.

Avoid petroleum-based products because they don't get absorbed into the skin and don't replace skin moisture.

## 6 **WHAT SHOULD I DO TO PROTECT MY FEET?**

- Avoid bathing too many times in a day.
- Use cool or lukewarm water
- Pat yourself dry – don't rub the skin
- Avoid strong soaps.
- Avoid lotions with dyes or perfumes
- Apply skin moisturizers regularly and frequently.

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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