

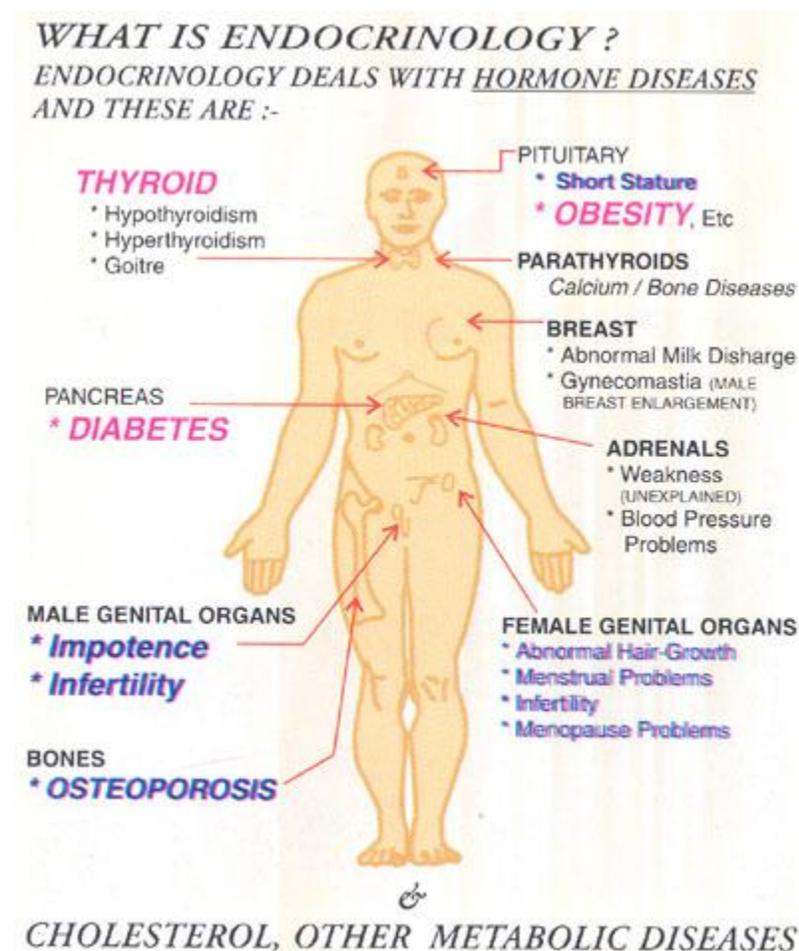
Endocrinologists are specialist doctor (D.M. in Endocrinology) who are specialized in Hormone disorder. An Endocrinologist is a medical doctor who has specialized in problems associated with the endocrine glands and the hormones these glands produce.

Dr. Pankaj jain is Consultant Endocrinologist , in **Pratham endocrine clinic & LAB** ,Gwalior

Dr. Pankaj jain is the only & best Diabetologist, Endocrinologist (Thyroid Specialist) in Gwalior.

Dr Pankaj jain run ENDOLAB- a state-of-the-art laboratory dedicated to hormone estimation.

Endocrinology:



Diabetes:

The numbers of diabetics in the world is very rapidly increasing esp. in India, where there are about 40 million diabetics. The number of diabetics in metro-cities has been reported to be as high as 16%, thus reaching epidemic proportions. Diabetes mellitus is the commonest metabolic disorder in the world. The prevalence of diabetes is highest among Asians especially Indians. Due to rapid urbanization, cultural changes and changing socio-economic status the incidence of diabetes in metro cities is now reported to be as high as 16% reaching epidemic proportions.

Diabetes is the commonest cause of blindness, kidney failure, heart attacks and gangrene of limbs. The available investigative facilities are:

- HbA1c
- Urinary micro-albuminuria
- Retinopathy screening

Facilities for continuous glucose monitoring system(CGMS) and insulin pump is available .

The basic aim of diabetes management is to improve quality of life and prevent/delay complications as far as possible.



EYE

Diabetes is the commonest cause of blindness in working age group.

Diabetic retinopathy
(Leading to blindness)

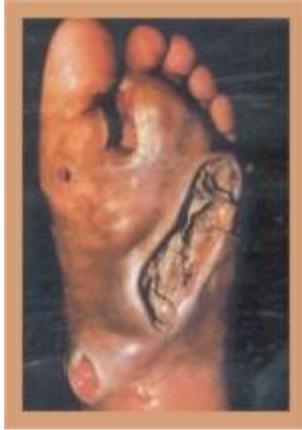


KIDNEY it is also the commonest cause of Kidney failure.

HEART

Heart Attacks are three times and Paralysis/Strokes are 3 to 5 times more common among diabetics.

Complication of Heart (Leading to heart attack)



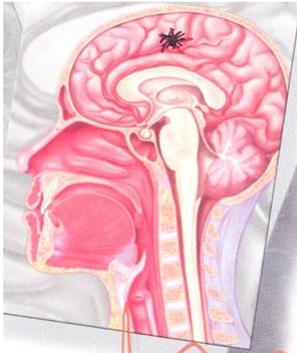
LEGS & FEET

The incidence of Amputations of legs and feet is 17 times more common in diabetics.

SEXUAL DISORDERS

Sexual problems are much more common in male diabetics.

Sexual problems



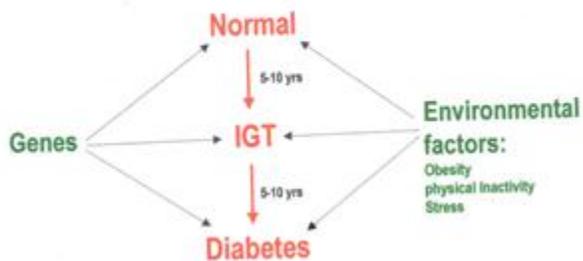
Brain & Nerves

Paralysis / stroke

Pain / Burning sensation over palms, soles & legs

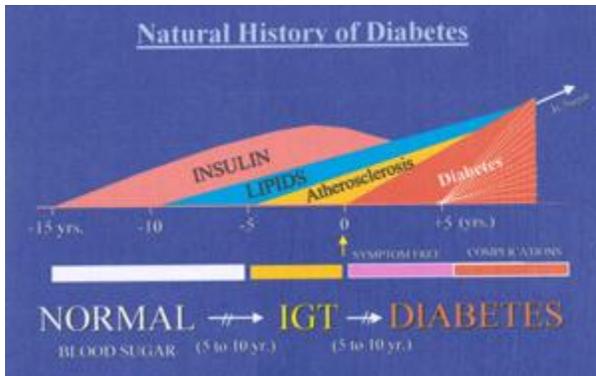
DIABETES

Natural history of diabetes



Diabetes is a symptom free disease at onset. It usually takes 5-10 years before it is diagnosed. It is preceded by a prediabetic stage which is called Impaired Glucose Tolerance

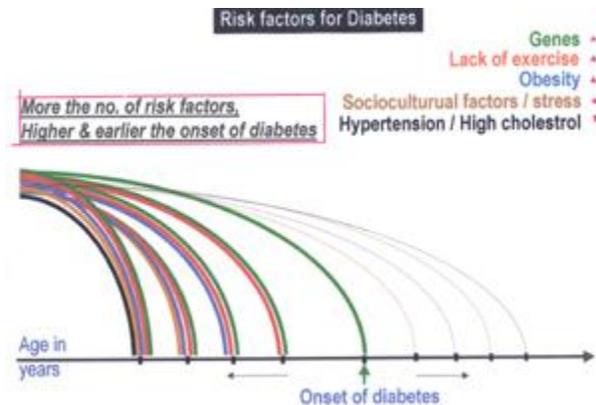
(IGT) which also last for 5-10 years before progressing to frank diabetes. It is during this pre-diabetic stage (IGT) that long term complications of diabetes start appearing. Hence, it is important to identify the high risk group at earliest and start treatment to prevent/dealy diabetes and its complications.



SELF ASSESSMENT FOR DIABETES

1. Is there any family history of diabetes ?	Yes
2. Are you over weight ?	Yes
3. Are you over 40 years of age ?	Yes
4. Is your job sedentary ?	Yes
5. Is your waist hip ratio more than one ?	Yes
6. Did you have diabetes during pregnancy ?	Yes
7. Do you suffer form high Blood Pressure ?	Yes
8. Do you have high cholesterol levels ?	Yes
9. Were you under/ over weight at birth ?	Yes
10. Does your blood sugar go up during stress ?	Yes

The more the number of "yes", the higher is the risk of developing diabetes.



Thyroid

Thyroid diseases are common especially in women. These are :

Hypothyroidism

- Swelling of body
- Weight Gain
- Lethargy
- Weakness
- Cold Intolerance
- Excessive Hair Fall

- Poor Memory
- Low Sexual Desire



- Joint /Body Pains
- Menstrual Irregularity
- Dry Skin
- Chronic constipation
- Depression

If you are having any two of the above you may be suffering from Hypothyroidism

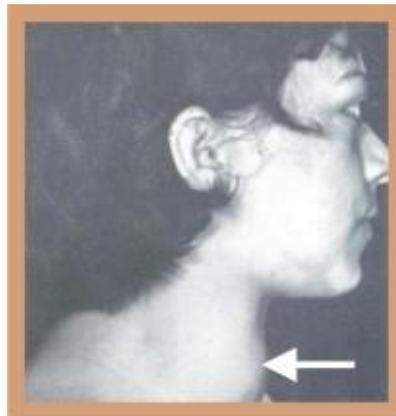
Thyrotoxicosis

- Weight Loss
- Marked Weakness
- Heat Intolerance
- Prominent Eyes
- Excessive Sweating
- Nervousness
- Tremors of Hands/Body
- Palpitation



Goitre

Enlargement of Thyroid Gland is called Goitre. It may be due to Cancer, or other diseases of Thyroid.



Obesity

Obesity is the mother of all diseases. It is a preventable and treatable condition. The Complications of obesity are as follows :



- Depression
- Disturbed/Excessive sleep
- Stroke
- Breathlessness
- High Cholesterol/Blood Pressure
- Heart Attack
- Diabetes
- Gall Stone
- Cancer
- Impotence/Infertility
- Arthritis
- More prone to Accidents

Male sexual problems

Common male sexual problems are:

- Impotence
- Infertility
- Male Breast Enlargement
- Micro-penis in Children



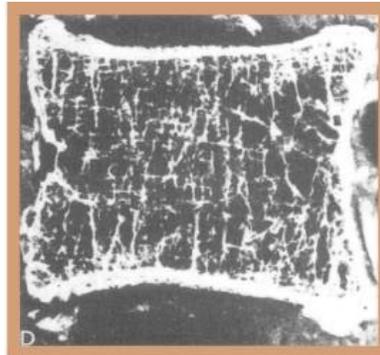
Female sexual problems



- Abnormal Hair-Growth on face and other parts of the body.
- Infertility
- Menstrual Problems
- Menopause Problems
- Abnormal Milk Discharge from Breast

Osteoporosis

It is a disease where there is thinning/ weakening of the bones and it leads to fracture with minimum trauma. Even forceful cough can produce fracture in severe osteoporosis. It is the fracture of the hip and vertebrae which immobilizes the patient and is most dreaded. Osteoporosis is a preventable and treatable condition. Majority of the patients remain unrecognized and undiagnosed till fracture develops. It is more common in females esp. after the age of 40-45 yrs.



Normal & Osteoporotic Bone

SELF ASSESSMENT FOR OSTEOPOROSIS

1. Is there any family history of frequent fractures ?	Yes
2. Are you a post menopausal woman ?	Yes
3. Are you taking eltroxin/ steroids?	Yes
4. Is your physical activity less than normal ?	Yes
5. Is your diet low in milk products ?	Yes
6. Are you suffering from Arthritis/Asthma ?	Yes
7. Do you smoke or consume Alcohol in excess ?	Yes
8. Are you under weight ?	Yes

The more the number of "yes", the higher is the risk of developing osteoporosis.

Other Hormone Diseases

Height & Growth Problem

Height of a child is controlled by Growth hormone (GH). Deficiency of this hormone can lead to short stature and if diagnosed and treated in time normal height of the child can be restored.

Disorders of Puberty

Pubertal period is a phase during which child develops secondary sexual characters and transforms to become an adult. Pubertal development problems can lead to either delayed or early onset of puberty.



Yoga in Diabetes

Diabetes Mellitus can be of Type 1 or Type 2 or pancreatic diabetes or gestational diabetes.

Yoga helps only in Type 2 Diabetes.

Type 1 diabetes is caused by beta cell destruction and hence no production of insulin . Here there is no role of Yoga.

Similarly Yoga is not useful for pancreatic diabetes or gestational diabetes.

Type 2 diabetes which is caused by life style, stress related diseases can be, effectively, controlled with Yoga.

Stress has been shown to play an important role in diabetes by elevating blood glucose levels and increasing the odds of developing certain complications, such as heart disease, stroke and infections. And having a chronic disease that requires major lifestyle changes and constant monitoring can be very stressful in itself. Research shows that chronically elevated levels of cortisol (hormone produced by the stress response) can lead to blood sugar problems, insulin resistance, and diabetes. Yoga and meditation are the two best practices to reduce stress and yoga has been shown to dramatically lower cortisol levels in the body. Forward bending poses have a calming effect on the body as well as nurturing poses like child, supine bound angle, knee down twist, and half pyramid. Practicing Dirgha and Nadi Sodhana pranayamas will also be calming and stress reducing.

Following are useful in type 2 Diabetes:

Sun Salutation (Surya Namaskar)

Sun Salutation is very good exercise for people suffering from diabetes. It increases the blood supply to various parts of body, improving insulin administration in the body. It gives all the benefits of exercise if practiced at 4 rounds per minute. If practiced at slow speed, it offers the benefits of asanas.

Asanas

Asanas are beneficial in controlling of diabetes. Important aspect of Asanas is stability and comfort experienced in the position. After attaining the position, one needs to relax all the muscles and try to maintain the positions for long. Due to various twists, stretches and strains in the body, the internal organs are stretched and subjected to strain. This increases the blood supply, oxygen supply to the organs increasing the efficiency and functioning of the organ. Stretching various glands result in increased efficiency of the endocrine system. Asanas like Dhanurasana (Bow pose in prone position), Ardhamatsyendrasana (Half spinal twist), Vajrasana, Yoga Mudra, Pavan Muktasana, Sarvangasana, Halasana, and Matsyasana have been found useful in diabetes. These asanas have positive effect on pancreas and also insulin functioning. But to get this result, one needs to maintain the asana for longer duration while relaxing the muscles.

Pranayama

There are 8 types of Pranayama mentioned in Hatha Yoga. One of the basic preparations for Pranayama is Nadi Shodhan Pranayama or alternate nostril breathing. This type is found useful in diabetes as alternate nostril breathing has calming effect on nervous system, which reduces stress levels, helping in diabetes treatment. Also research has shown that Bhramari and Bhastrika Pranayama help in diabetes. Bharamari has calming effect on mind, brain and nervous system. Bhastrika Pranayama is revitalizing Pranayama, which increases oxygen levels and reduces carbon dioxide levels in the blood. In Bhastrika Pranayama, the abdominal muscles and diaphragm are used which puts pressure on the internal organs. But before practicing these Pranayama, one must learn from expert Yoga instructor and practice deep breathing, fast breathing, alternate nostril breathing, Bandhas (Jalandhar bandha or chin lock, moola bandha and Uddiyan bandha or abdominal lock).

Meditation

Practice of meditation is especially useful in management of stress. Relaxed and concentrated state of mind is the aim of any form of meditation which creates calming effect on nervous system, brings balance between Sympathetic and Parasympathetic nervous systems. Initially meditation may be difficult, and one can practice Omkar Chanting to concentrate on breathing.

Especially for diabetes, concentration on pancreas during the meditation practice has shown positive effects on sugar levels. One can even visualize the proper functioning of pancreas, proper insulin administration in the body can help in treatment of diabetes.

Yoga Nidra

Yoga Nidra is very important process of deep relaxation. It helps alleviate the stress and has very good positive effects on the entire body – mind complex.

Cleansing Processes

Master cleansing or Shankha Prakshalana is recommended for diabetes. Complete Shankha Prakshalana takes 1 day and is recommended once in 6 months, but smaller version of it can be done 3 times a week. This process cleanses the gastro intestinal tract completely.

This process is done by drinking 2 glasses of warm, salty water and lemon juice added to it. Then 6 different exercises should be performed. These exercises speed up the peristaltic movements and one needs to evacuate bowels. In 2 hours about 7 to 8 bowel-cleansing are completed. One should continue the exercise till the clear water is evacuated.

How to inject insulin?

- Pancreas in our body produces insulin, a hormone throughout life. Insulin shifts glucose from blood to inside of cells and its deficiency leads to rise in Glucose level that is Diabetes. If after taking full dose of oral tablets, still the level of blood sugar is high then in such a situation it is best to take insulin.
 - Now, I will tell you about correct technique of injecting insulin. Any one including kids can easily inject Insulin.
 - Today it is easy to inject Insulin due to availability of syringes with very fine needles, insulin pens, and insulin pump.
 - Some people have misconception that insulin cannot be kept out of Refrigerator. But the fact is - insulin can be kept at room temperature for 3 weeks.
 - Before injecting clean hands with soap and water and maintain good personal hygiene.
 - Clean the site of prick, preferably with spirit. Inject only after the spirit evaporates and surface is dry. The site of injection can also be cleaned with soap and water. Avoid using dettol or savlon.
 - For injecting insulin it is important to inject the right insulin strength with the right syringe. It means if you are using 40 U insulin, use 40 U syringe whose cap is red and marked till 40 units and if using 100 U insulin then use 100 unit syringe, whose cap is orange and marked till 100 units
 - If insulin is cloudy type then roll the insulin vial between your palms for 8 to 10 times so that it mixes properly. Now whatever units you want to inject draw that much of air in syringe and push this air into the vial.
 - Now invert the vial and draw required amount of insulin into the syringe.
 - If there is air in syringe tap the tip of syringe and remove air and recheck the insulin dose.
 - If you are injecting Insulin with a pen, then load the correct penfill.
 - If penfill is milky then move the pen up and down for 8 to 10 times so that insulin mixes properly.
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- Now dial the prescribed dose of Insulin.
 - Now you are ready to take your insulin shot. Now I will tell you the correct method of taking insulin. We have to make sure that the insulin reaches the fatty tissue beneath the skin. For this some sites in the body are better than others.
 - on Abdomen, 3 inches away from umbilicus
 - Outer thighs
 - Outer arms
 - Clean the site of insulin injection with spirit. Inject only after the spirit evaporates and surface is dry. The site of injection can also be cleaned with soap and water. Wait for surface to dry.
 - Hold the syringe or pen in such a way that you can inject with 90 degree angle.
 - Now insert the needle fully into the skin and by pressing the plunger or the dial of pen, push the dose of insulin.
 - Wait for 5 seconds.
 - Now while keeping the plunger or dial pressed and take out the needle.

- It is very important not to inject insulin at the same site daily. Insulin should be injected at different sites. The injection site should be rotated in such a way that there are few days interval between same sites.
- So you now know how easy it is to inject insulin.
- Now I will give you 4 tips, to make insulin shot, a virtually painless experience.
 - Tip 1 : keep the insulin in use, at room temperature since cold insulin is pains more
 - Tip 2 : if cleaning with spirit wait till spirit is fully evaporated and the skin is dry
 - Tip 3: do not prick through the hair roots.
 - Tip 4 : use a new needle every time
- If your pancreas is not producing sufficient amount of insulin, you can easily replace insulin with help pen devices or syringes.
- Don't be scarred of insulin. Insulin treatment is now virtually painless and it helps you lead a better life with diabetes. In true sense, Insulin is the most natural treatment of Diabetes, if our body is producing less insulin, then why not to replace it.
- If your Doctor is suggesting you to go on insulin , start today , it is for your betterment.