

DIABETES

BACKGROUND

Diabetes, often referred to as Diabetes mellitus, is a group of metabolic diseases in which the person has high blood glucose (blood sugar), either because insulin production is inadequate, or because the body's cells do not respond properly to insulin, or both.

The symptoms of *Pramehas* are described as Polyuria/ turbid urine (*Prabbutavil Mutrata*) and specific *lakshna* of *Madhumeha* has been described as **Glycosuria (*Mutre abhidhavanti Pipalikashcha*)**. The level of sugar in blood rises above the normal levels and sugar may also be detected in urine.

TYPES

There are three main types of Diabetes mellitus:

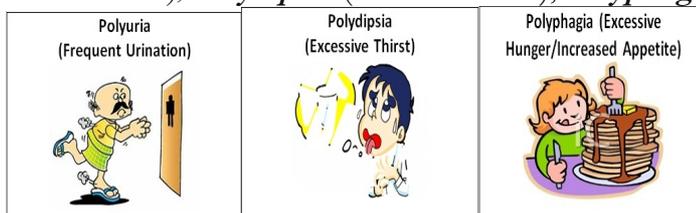
- **Type 1 Diabetes Mellitus (T1DM)** or "juvenile diabetes".
- **Type 2 Diabetes Mellitus (T2DM)** or "Adult-onset Diabetes is due primarily to lifestyle factors and genetics. The primary cause is excessive body weight and not enough exercise.
- **Gestational Diabetes (GD)** resembles type 2 diabetes, but occurs during pregnancy and may improve or disappear after delivery.

Pre-diabetes indicates a condition that occurs when a person's blood glucose levels are higher than normal but not high enough for a diagnosis of type 2 DM.

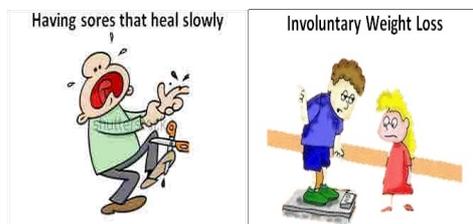
According to **Ayurveda**, *Prameha* is of two types (1) *Sahaj* (Hereditary) and (2) *Apathya nimittaja* (caused by lifestyle).

SYMPTOMS

- 3 P's **Polyuria** (frequent urination), **Polydipsia** (increased thirst), **Polyphagia** (excessive hunger).



- Passing of turbid urine (*Avila mutrata*)
- Burning/Tingling/Pricking sensation in the hands or feet (*Hasta pada suptata*)
- Feeling of tiredness (*Alasya*)
- Unexplained weight loss – even after eating frequently
- More infections than usual/ Wounds that are slow to heal
- Sudden vision changes



DIAGNOSTIC TESTS

Random Blood Sugar	:	Should be less than 200 mg/dL
Fasting Blood Sugar	:	Should be less than 126 mg/dL
PPBS (2 Hours)	:	Should be less than 140 mg/dL

Note: In a patient with characteristic sign and symptoms of diabetes, a fasting venous plasma glucose >126 mg%, OR, a random venous plasma glucose > 200 mg%, confirmed on repeat testing, is diagnostic. Negative test for diabetes does NOT mean that the person will never get diabetes. It only means that the person does NOT have diabetes at the time of testing.

HbA1c - is a form of hemoglobin that is measured primarily to identify the **three month average plasma glucose concentration**. A **normal** non-diabetic **HbA1C** is 3.5-5.5%. For non-diabetics, the usual reading is 4-5.9%. For people with diabetes, an **HbA1c level** of 6.5% is considered good control.

- **In pre-diabetics** - to check blood sugar control
- **In diabetics** - for monitoring blood sugar control

AYURVEDIC TREATMENT/MANAGEMENT MODALITIES:

(To be taken under supervision of a Registered Ayurvedic physician)

1. **Shamana (Palliative) treatment:** The following drugs (single/compound formulation) are commonly used for prevention and control of Diabetes mellitus:

Single Drugs: *Amalaki churna* (*Phyllanthus emblica* Gartn.), *Haridra churna* (*Curcuma longa* linn.), *Jambu bija churna* (*Syzygium cumini* Linn.), *Meshasringi churna* (*Gymnema sylvestre* R. Br), *Methika churna* (*Trigonella foenum-graecum* Linn), *Vijaysara churna* (*Pterocarpus marsupium* Roxb.)

Compound Formulations: *Nishamalaki churna/tablet*, *Triphala churna/ tablet*, *Shiva gutika*, *Chandraprabha vati*, *Silajativadi vati*, *Dhanvantara ghrita* (for Diabetic carbuncles), *Kshira baladi taila* (for Diabetic Neuropathy), *Saptamrita lauha* (for Diabetic Retinopathy),

2. **Samshodhana Chikitsa (Purificatory procedures):** is a specialized therapeutic approach of Ayurveda to eliminate toxins from the body by giving bio-cleansing procedures i.e. *Panchakarma*. It is usually followed by *Shamana Chikitsa* (Palliative therapy).

- In obese patients (*Sthoola Pramehi*): *Samsodhana Chikitsa* (Bio Cleansing Therapy) in the form of *Vamana*, *Virechana*, *Vasti* followed by *Shamana Chikitsa* (Palliative therapy) is performed. However, it is decided by the physician according to the condition of the patient whether *Shodhana* therapy is indicated or not.
- In lean and thin patients (*Krish Pramehi*): only *Shamana Chikitsa* (Palliative Therapy) is given.

3. **Rasayana (Rejuvenation Therapy)** – *Shilajatu*, *Amalaki*, *Haridra*.

4. Life Style Modifications such as regular exercise especially walking, regular practice of Yoga, Meditation etc. under supervision.

PREVENTIVE MEASURES AS PER AYURVEDA

Do's (Pathya)

- Timely intake of diet.
- Intake of old harvested cereals, barley (*Yava*), Sorghum (*Jowar*), whole wheat atta, bitter melon (*Karela*), green leafy vegetables, garlic (*Lasuna*), turmeric (*Haridra*), aloe (*Kumari*) in vegetables and fruits like Guava, Oranges, Indian Blackberry (*Jamun*) etc. may be useful.
- Reduce intake of rice, food rich in carbohydrate and fried or processed food.

Don'ts (Apathya)

- Sugarcane juice, jaggery, sugar, milk products.
- Tubers, sweets, soft drinks, fried foods and sweet fruits like mango, banana, custard apple and date etc. are to be avoided.
- Staying too long on empty stomach.
- Ice cream, burger- pizza and other fast foods etc.
- Sedentary lifestyle.
- Sleeping in the day time and excessive sleeping
- Alcohol

Note: 1. Medication is to be taken strictly under supervision of Registered Ayurvedic physician.

2. Visit National Institutes/ CCRAS Research Centres for necessary consultation (www.ccras.nic.in)

FREQUENTLY ASKED QUESTIONS (FAQs)

What causes diabetes?

The exact cause is yet unknown. The following factors may increase the chance of getting diabetes:

Family history of diabetes, Being overweight, Age (Chances increase with age), Taking certain medicines, Being pregnant (Pregnancy puts extra stress on a woman's body that causes some women to develop diabetes. Blood sugar levels often return to normal after childbirth. Yet, women who get diabetes during pregnancy have an increased chance of developing diabetes later in life.)

What is normal blood sugar level and how can I know if I have diabetes?

Blood and urine tests can be performed to check if a person has diabetes or not. Normal blood sugar is between 70 mg/dl and 100 mg/dl. The standard diagnosis of diabetes is made when two blood tests show that your fasting blood sugar level, preferably in the morning (blood sugar after 8 hours of fasting) is 126 mg/dl or greater. Generally, if blood sugar is less than 70 mg/dl or more than 180 mg/dl for three days in a row, consult the doctor.

Can diabetes be cured?

No. A cure for diabetes has not yet been found. However, diabetes can be treated and controlled. Most people with diabetes manage their disease and lead normal lives.

What are the symptoms of low blood sugar?

Most people have symptoms of low blood sugar (hypoglycemia) when their blood sugar is less than 60 mg/dl. Common low blood sugar symptoms include the following:

Early symptoms: Feeling of weakness, Dizziness, hungry, tremble, sweating, pounding heart, pale skin, frightened or anxious

Late symptoms: Confusion, headache, poor coordination, having bad dreams or nightmares, lack of concentration, feeling of numbness in your mouth and tongue.

Can I take Ayurvedic medicines along with Allopathic medicines to control my blood sugar?

Combination therapies are often found helpful for people having type-II diabetes (adult onset diabetes) to gain better control of their blood sugar. Even then it should be strictly taken under the supervision of the Consultant.

How frequent blood sugar should be checked?

After 40 years, blood sugar should be checked regularly. If a person is overweight, the blood sugar level should be checked even before the age of 40 years. In known Diabetics - blood sugar should be checked once in 3 months, and If you are taking insulin, then you will need to monitor blood sugar more often to reduce the risk of low blood sugar.

What are the possible complications and how can I monitor the development and progression of diabetic complications?

Without proper care, diabetes can lead to: Heart disease, Kidney disease, High blood pressure, Low blood pressure, Eye damage and blindness, Gum disease, serious infections in feet, sometimes requiring amputation, Damage to nerves, resulting in pain or loss of sensation

Eye disease (Retinopathy): All patients with diabetes should see an ophthalmologist regularly for eye examination. Patients with known eye disease, symptoms of blurred vision in one eye, or blind spots may need to see their ophthalmologist more frequently.

Kidney disease (Nephropathy): Urine testing should be performed yearly. Persistent leg or foot swelling may be a symptom of kidney disease and should be reported to the doctor.

Nerve disease (Neuropathy): Numbness or tingling in the feet should be reported to the doctor at regular visits. Feet should be checked daily for redness, calluses, cracks, or skin breakdown.