

# Understanding Type 2 Diabetes

- The pancreas produces insulin, which acts like a key allowing sugar (glucose) to enter cells to be used as energy.
- In Type 2 diabetes, the body either:
  - Doesn't make enough insulin, or
  - Doesn't use insulin effectively (insulin resistance).
- This causes high blood sugar (hyperglycemia) — the blood becomes “sticky”, circulation decreases, and organs receive less oxygen and nutrients.
- Type 2 diabetes is progressive — the pancreas produces less insulin over time.

## Risk Factors

- Age (risk increases over time)
- Family history of diabetes
- Overweight, especially abdominal fat
- Physical inactivity
- High blood pressure and/or high cholesterol
- History of gestational diabetes (during pregnancy)

## Diagnosis

- **A1C test** (3-month average of blood sugar):
  - Normal: under 6.0%
  - **Prediabetes:** 6.0–6.4%
  - **Diabetes:** 6.5% or higher
- **Fasting blood sugar targets:**
  - Prediabetes: <6 mmol/L
  - Diabetes: 4–7 mmol/L
- **2 hours after eating:**
  - Prediabetes: <8 mmol/L
  - Diabetes: 5–10 mmol/L

## Symptoms of High Blood Sugar

- Increased thirst and urination
- Recurrent infections (especially yeast or urinary)
- Fatigue and brain fog
- Blurred vision

## Blood Sugar Monitoring

- Use a glucometer for home testing.

- Alternate testing times (morning, after meals, before bed) for a full picture.
- Over 65? Ontario Drug Benefit Program covers 200 test strips per year

## Factors Affecting Blood Sugar

- Food and caffeine
- Medications (e.g., steroids)
- Stress, illness, or poor sleep
- Physical activity type and timing
- Environmental changes and seasons

## Complications of Uncontrolled Diabetes

- **Macrovascular:** heart attack, stroke, poor circulation
- **Microvascular:** eye, kidney, and nerve damage
- Key statistics:
  - 30% of strokes
  - 40% of heart attacks
  - 50% of kidney failure
  - 70% of non-traumatic amputations are linked to diabetes

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## Eye Health

- Annual eye exams are critical.
- Diabetic retinopathy occurs in 40–45% of people with diabetes.
- High blood sugar can cause retinal bleeding or vision loss.

## Foot Care

- Check feet daily for cuts, blisters, or colour changes.
- Keep feet clean and moisturized (not between toes).
- Trim nails straight across.
- Wear proper footwear and avoid walking barefoot.
- Have annual foot exams; more often if circulation or sensation is reduced.

## Kidney Health

- Monitored via blood and urine tests (creatinine, eGFR, ACR).
- High blood sugar and blood pressure can damage kidney vessels.
- Up to 50% of Type 2 diabetics have chronic kidney disease.

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## Blood Pressure & Cholesterol

- **Blood pressure goal:** <130/80 mmHg
- **Cholesterol goals:**
  - Increase HDL (“good”)
  - Lower LDL (“bad”) and triglycerides
- High BP + high sugar = increased vessel damage
- People with diabetes often take **cholesterol and BP medications** preventively.

## Medications

- Metformin is usually the first-line drug.
- Others may be added depending on kidney function and heart risk.
- Avoid certain medications when sick (e.g., some BP drugs, NSAIDs, or specific diabetes meds)
- Consult with your pharmacist and doctor before taking or stopping taking medications when sick.

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## Mental Health

- People with diabetes are 2–3x more likely to experience depression.
- Stress, lifestyle changes, and self-management can be overwhelming — seek support early.

## Lifestyle Recommendations

- Quit smoking — it constricts blood vessels.
- Limit alcohol — it increases cancer and glucose risks.
- Maintain a balanced diet, stay active, manage stress, and get routine follow-ups.