

IMPROVE YOUR METABOLIC HEALTH

How metabolic health affects your whole body, and how to measure it

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For general education only, not medical advice. Values are general guides; your doctor will set targets for you.

Everyday signs of good metabolic health

Healthy body composition

Waist in proportion to your height and hips; good muscle mass

Steady energy and appetite

No big energy crashes or strong cravings between meals

Clear thinking

Good focus and mental sharpness through the day

These are useful clues, but they can't replace testing. Many people feel well while their markers are already drifting.

Singapore at a glance

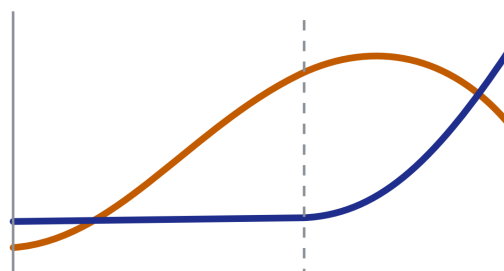
33.8% high blood pressure	30.5% high cholesterol	12.7% obesity (BMI 30+), up from 10.5%	9.1% diabetes
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Source: MOH National Population Health Survey 2024, residents surveyed 2023–2024.

Insulin resistance sits at the core

1. After a meal, blood sugar rises and insulin moves it into your cells.
2. With insulin resistance, cells respond less, so the pancreas makes **more** insulin to keep blood sugar normal.
3. This can go on for years. When the pancreas can't keep up, blood sugar rises towards diabetes.

So what: a normal blood sugar test can miss years of rising insulin. Fasting insulin shows it earlier.



— Insulin — Blood sugar

Years → (schematic). Dashed line: where routine sugar tests start to flag.

Conditions linked to poor metabolic health

Heart disease and stroke · Type 2 diabetes · Fatty liver · Kidney disease · Chronic inflammation · Joint pain and gout · PCOS · Cognitive decline · Skin ageing · More...

Know your numbers

A standard check-up shows only part of the picture. Values are in Singapore units (mmol/L) unless stated.

1. Blood sugar and insulin

Marker	What it tells you	Aim for	Worth a closer look
Fasting glucose	Blood sugar after an overnight fast	<5.6	5.6–6.9 prediabetes* 7.0+ diabetes
HbA1c	Average blood sugar over about 3 months	<5.7%	5.7–6.4% prediabetes 6.5%+ diabetes
Fasting insulin	How hard your pancreas is working	<10 µIU/mL	10+ high insulin†
HOMA-IR	Estimate of insulin resistance	<2.0	2.0+ possible insulin resistance†

HOMA-IR = fasting insulin (µIU/mL) × fasting glucose (mmol/L) ÷ 22.5

* ADA range; Singapore and WHO start at 6.1. † No official cut-off: 10 is used in US research (NHANES); 2.0 comes from a Hong Kong Chinese study. HbA1c can read falsely high or low with anaemia or thalassaemia trait.

2. Standard lipid panel

Marker	What it tells you	Aim for
Triglycerides	Most sensitive to insulin resistance and refined carbs	<1.7
HDL	Low HDL often travels with high triglycerides	1.0 or above
LDL	Cholesterol carried in LDL particles; the main target in guidelines	<2.6; your target depends on your risk – ask your Dr
Total cholesterol	Least useful on its own	<5.2

3. Free extras from the same report

Marker	How to work it out	Why it matters	Aim for
TG:HDL ratio	Triglycerides ÷ HDL	Simple sign of insulin resistance	<1.3
Non-HDL cholesterol	Total – HDL	Counts all artery-clogging cholesterol	Your LDL target + 0.8
Remnant cholesterol	Total – LDL – HDL	Rises with insulin resistance; linked to heart disease	No agreed cut-off; track over time

The TG:HDL cut-off of 1.3 applies to mmol/L. In US units (mg/dL) the same cut-off is 3.0.

4. Markers that complete the picture

Marker	What it tells you	Aim for
ApoB	Number of artery-damaging particles; can be high when LDL looks normal	<0.9 g/L
ApoB/ApoA1 ratio	Harmful vs protective particles	<0.9 men, <0.8 women
Lp(a)	Mostly inherited heart risk; test once in your life	<30 mg/dL (<75 nmol/L)
hs-CRP	Low-grade chronic inflammation	<1.0 mg/L (1–3 average, above 3 higher risk)
ALT, GGT	Liver stress, often from fatty liver	ALT ≤33 men, ≤25 women; GGT within lab range
FIB-4	Liver scarring risk, calculated from age, AST, ALT and platelets	<1.3

Repeat hs-CRP if you were unwell recently. Avoid hard exercise for a few days before liver tests, as muscle can raise them.

Six pillars of lifestyle medicine

Targeted nutrition Whole foods, fibre, enough protein	Physical activity 150–300 min moderate a week, plus strength 2+ days (WHO)	Restorative sleep 7–9 hours, regular timing
Stress management Daily practices that calm the nervous system	Social connection Supportive relationships	Avoid harmful substances No smoking; limit alcohol

How health coaching works

1 Look at the whole picture: labs, family history, diet, sleep, stress and more	2 Build a plan together: personal, prioritised, practical	3 Ongoing support: so changes stick and show results	4 Re-test and adjust as your needs change
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Coaching works alongside your doctor. Bring any result outside the healthy range to your doctor for review.

Get in touch with Miriam

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