Diabetes?
1. What is diabetes?
Diabetes is the state when this balance fails
Two forms of diabetes

Type 1 diabetes

No insulin

No crank handle

Treat with insulin
Two forms of diabetes

Type 2 diabetes

Crank handle is stiff &
Can’t work harder

Metabolism

Pancreas works harder to turn metabolism over and eventually can’t do it any more

Treat insulin resistance +
Correct insulin deficiency

Overeating
Inactivity
Age
Ethnicity
Genes
Healthy metabolic control
Impaired glucose tolerance
(sometimes enough)
Diabetes (never enough)
2. How common is it?
Estimated diabetes footprint for 2012

350 million individuals
(1.5 million Australians)
9% of Australian adults
diabetes every year
1% of Australian adults develop
diabetes every day

~300 Australian adults develop
diabetes every day
Risk factors for diabetes

- Age
- Obesity
- Inactivity
- Hypertension/high cholesterol
- Heart disease
- Gestational diabetes/PCOS
- Indigenous Australians
- Low fruit and vegetable consumption
- Genes
Age- and gender-specific prevalence (%) of diabetes

![Bar chart showing age and gender-specific prevalence of diabetes](image-url)
3. Why is diabetes a problem?
Estimated diabetes footprint for 2012

Over four million deaths will be attributable to diabetes in 2012, accounting for 8% of global all-cause mortality in adults

(1 in 10 in Australia and 1 in 7 in the USA)
The excess in mortality associated with diabetes (2-3 times) is comparable to..

Indigenous Australians (3.2 times)
US Indigenous (2.4 times)

Being a smoker (2.2 times)
Previously had a heart attack (2.3 times)
Impact on active life expectancy of 5 years of diabetes
Cancer
Nerve disease
Infections
Chronic pain
Heart failure
Erectile dysfunction
Some Cancers
Bladder problems
Poor healing
Anemia
Dentistry disease
Amputations
Foot ulcers
Dementia
Heart attacks and strokes
Mental illness
Blindness
Cataracts
Kidney disease
Diabetes complications
5. Why does it happen?
Diabetes a state when glucose balance fails

Excess demand
- Caloric excess
- Resistance
- Ectopic fat
- High GI/GL

Insufficient resources
- Burnout
- Ectopic fat
- Genes
- Acquired losses
  - developmental
  - ageing
As long as its stored correctly, it won’t cause any problems.
Mean waist circumference change every five years in adult women

i.e. half of Australian women put on more than one dress size every five years

(2.5 cm = 1 dress size (waist)/five years)

AusDiab Study
Mean waist circumference change every five years in adult men

i.e. one third of Australian men put on more one belt rung more every five years

(2.5 cm = belt hole to belt hole)

AusDiab Study
Diabetes a state when glucose balance fails

Excess demand
• Resistance
• Ectopic fat
• High GI/GL

Insufficient resources
• Burnout
• Ectopic fat
• Genes
• Acquired losses
  • developmental
  • ageing
Beta cells can’t meet the effort?

- Accumulated wear and tear
- Overwork and making up for losses
- Some parts can’t be replaced/repaired
Excess demand
• Resistance
• Ectopic fat
• High GI/GL

Insufficient resources
• Burnout
• Ectopic fat
• Genes
• Acquired losses
  • developmental
  • ageing

Diabetes a state when glucose balance fails
5. How can I prevent diabetes?
A waist is a terrible thing to mind.
Weight loss surgery (known as bariatric surgery)

Gastric banding (also known as a Lap-Band) places an adjustable band around the upper part of the stomach, creating a small pouch, that reduces the amount you can eat at one time.

Gastric bypass surgery narrows the stomach into a thin tube, removes part of the stomach (that controls appetite) and surgically connecting the small intestine to the new thin stomach.

Diabetes actually resolves after surgery
~95% for bypass and ~50% for lap banding.
How can you prevent getting fat(ter)?

- Diet
- Physical activity
- Medications/supplements
- Surgery
Different waist loss diets

- Low calorie
- Low carb
- Low fat
- Low GI

Counting
Or
Recipe/Plan
Dieting is never the only answer
Putting a little health away every day
(Health Superannuation)
Which would you rather have, a diabetes test or a final exam?

For many, the first sign of heart disease is a heart attack. Did you know that one out of two adult Canadians is at risk of developing heart disease because they have sugar levels? And that cardiovascular disease is the leading cause of death in Canada?

Diabetes is a major risk factor for heart disease but managing your cholesterol can be quite simple.

If any of these apply to you, cut this screening test out and ask your doctor about getting your cholesterol tested:
- Woman 50 years or older
- Man 40 years or older
- Heart disease (angina, heart attack, coronary bypass, stroke, angioplasty)
- Diabetes
- Family history (mother, father, sister, brother or grandparent) of heart disease or high cholesterol
- Two or more of the following:
  - Overweight
  - Physically inactive
  - Smoker
  - High blood pressure

Call toll-free at 1-877-4-LOW-LDL (1-877-456-9535) or visit www.makingtheconnection.ca and you will receive this free booklet describing the connection between cholesterol and heart disease.
Asked for a diabetes check

- You have too much around your middle
- You have heart disease or high risks for it, such as high blood pressure or cholesterol.
- You are over the age of 65.
- You have a family history of diabetes.
- You had high sugar levels while pregnant.