

# Diagnosis and treatment of diabetes complications

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What are our diabetes  
treatment goals?

# Acute complications

- Hyperosmolar hyperglycaemia
- Ketoacidosis

# Chronic (vascular) complications

- Macrovascular disease
- Nephropathy
- Retinopathy
- Neuropathy

# Complications of therapy

- Weight gain
- Diabetes distress
- Hypoglycaemia

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# Ketoacidosis

- Consequence of increased glucagon/insulin ratio
- Underlying cause must be identified and managed
- Hepatic ketogenesis drives acidosis and rapid metabolic decompensation
- Insulin therapy is central to treatment

# Hyperosmotic hyperglycaemia

- pH is normal
- Dehydration is the key feature and IV fluid the key treatment
- Underlying cause must be identified and managed

**Most episodes of these complications are avoidable**

# Acute complications

- Hyperosmolar hyperglycaemia
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# Chronic (vascular) complications

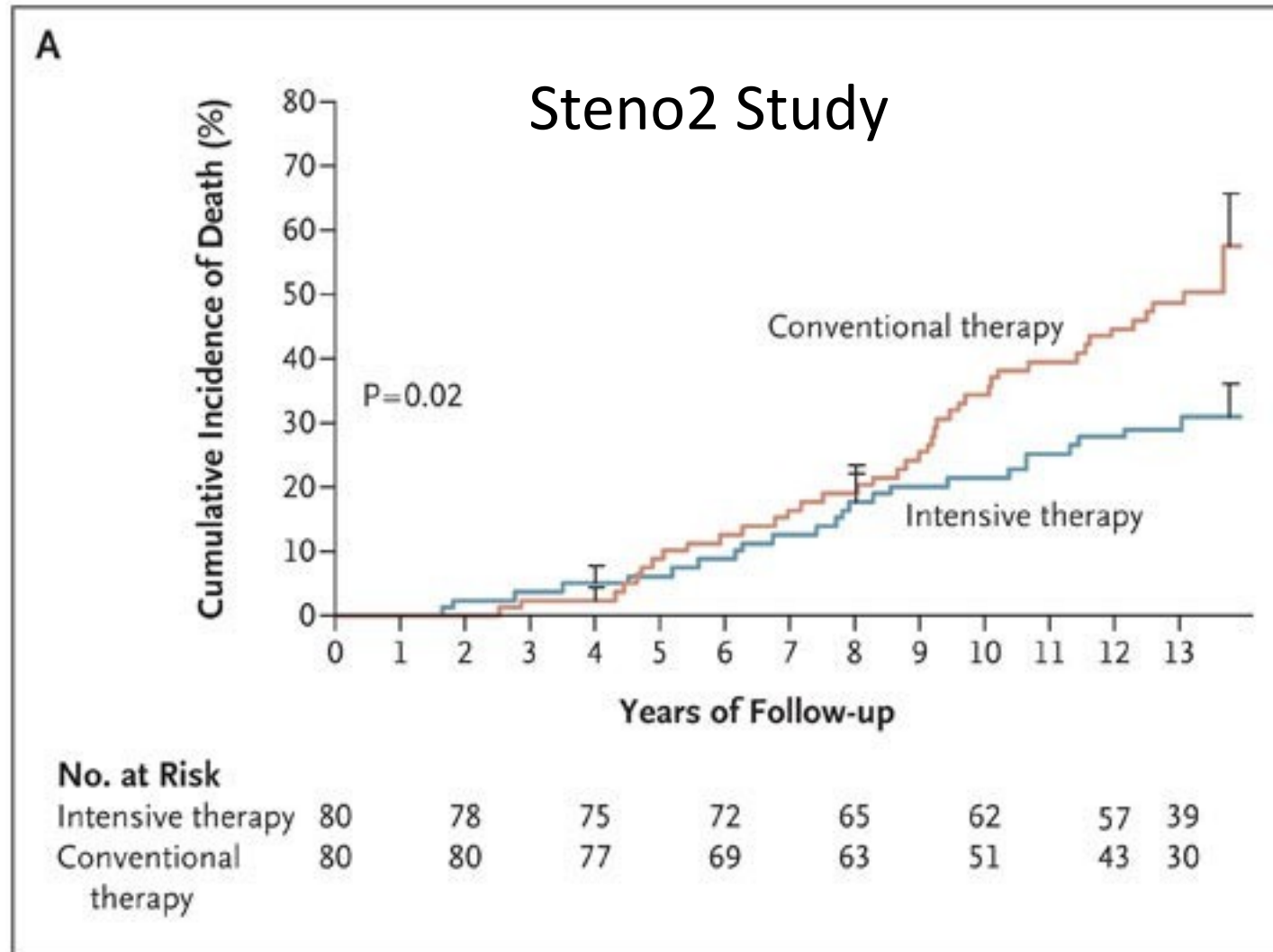
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# Ischaemic heart disease is the leading cause of diabetes death

- Smoking cessation and therapy to control blood pressure and lipids is critically important (and more important than glucose control)



# Assessing cardiovascular risk ([cvdcheck.org.au](http://cvdcheck.org.au))

History of smoking, prior event, family history of an event

Blood pressure (target 120-130mmHg systolic)

LDL cholesterol (target 2.0-3.0mmol/l)

HbA1c (target 6.5-8.0%)

## Management

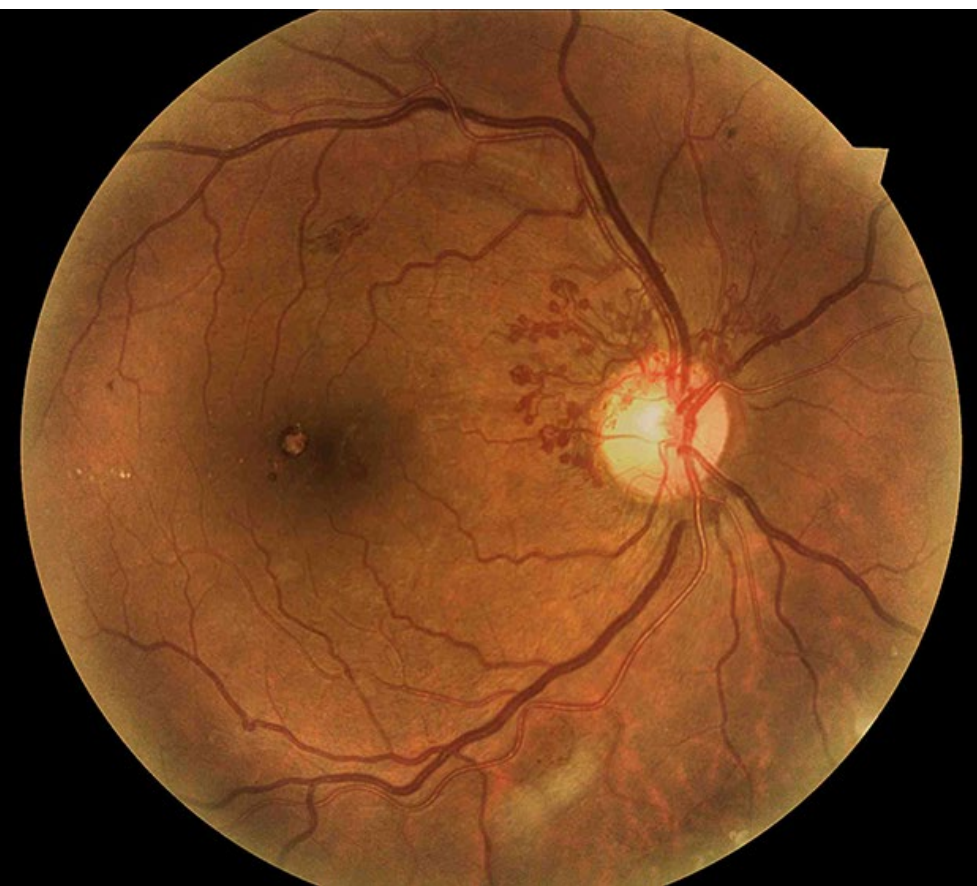
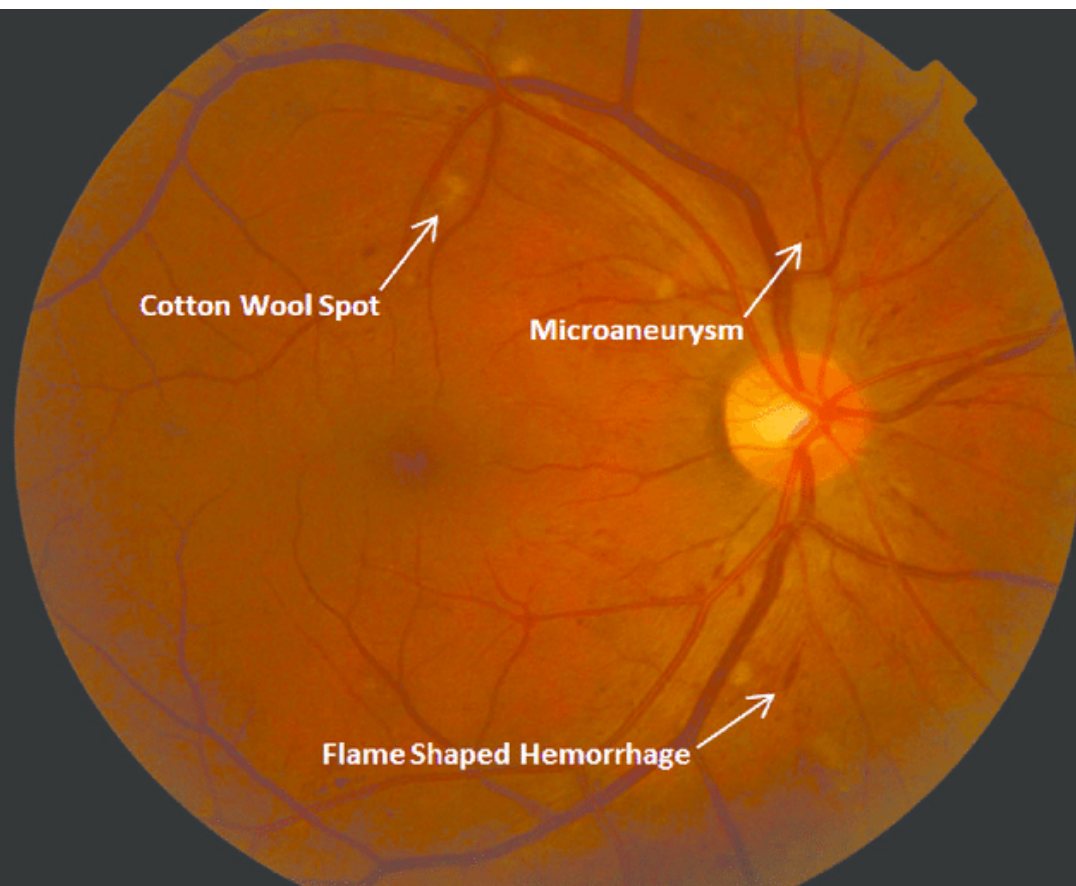
Lifestyle modification

Statin±fibrate/ezetrol, ACE inhibitors or ARBs

Aspirin if prior event

?GLP-1 agonist or SGLT inhibitor





Presence of retinopathy mandates annual or semi-annual assessment of visual acuity and optic fundus  
Fenofibrate may prevent disease progression

# Neuropathy

- Most commonly peripheral sensory neuropathy±pain
- Impotence
- Orthostatic hypotension
- Hypoglycaemia unawareness
- Gastroparesis
- Diarrhoea
- Bladder disturbance

Important to rule out other causes (alcohol, other drugs, hypothyroidism, B12 deficiency) and educate on the importance of foot care

# Nephropathy

- Usually progresses through predictable stages of hyperfiltration, albuminuria, proteinuria with decline in eGFR and, ultimately, end-stage renal failure
- Screen with urine albumin/creatinine and eGFR
- Blood pressure and glucose control will limit risk of progression
- ACE inhibitors, ARBs and SGLT inhibitors are particularly effective to prevent progression
- Weight loss will often resolve microalbuminuria

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