

INFORMATION ABOUT DM

SOUTH WESTERN SYDNEY AREA HEALTH SERVICE

COMPLICATIONS OF DM – WHY WORRY ABOUT DIABETES?

- Even if someone has **no** symptoms from diabetes, the body can still be damaged **by** consistent high glucose levels, even slightly raised levels
- Whether someone is on diet, tablets or insulin, they can still have damage to the body from diabetes if the blood glucose levels are not controlled
- Parts of the body that are at particular risk of damage from DM include:
 - Eyes
 - Kidneys
 - Large blood vessels of the heart, legs and brain
 - Nerves, especially to the feet.

That is the reason why people with DM should keep blood glucose level under control.

1- Eyes

Diabetic Retinopathy/Diabetic Eye Damage

- Damage to the back part of the eye (retina) from high glucose levels can lead to blindness if untreated
- Can be detected by an optometrist - eyes should be checked yearly or as recommended by the treating health professional

Why is early detection important?

- Retinopathy has no symptoms at early stage
- Early damage is treatable
- Once more severe damage occur, vision may be lost; treatment can only stop it from getting worse



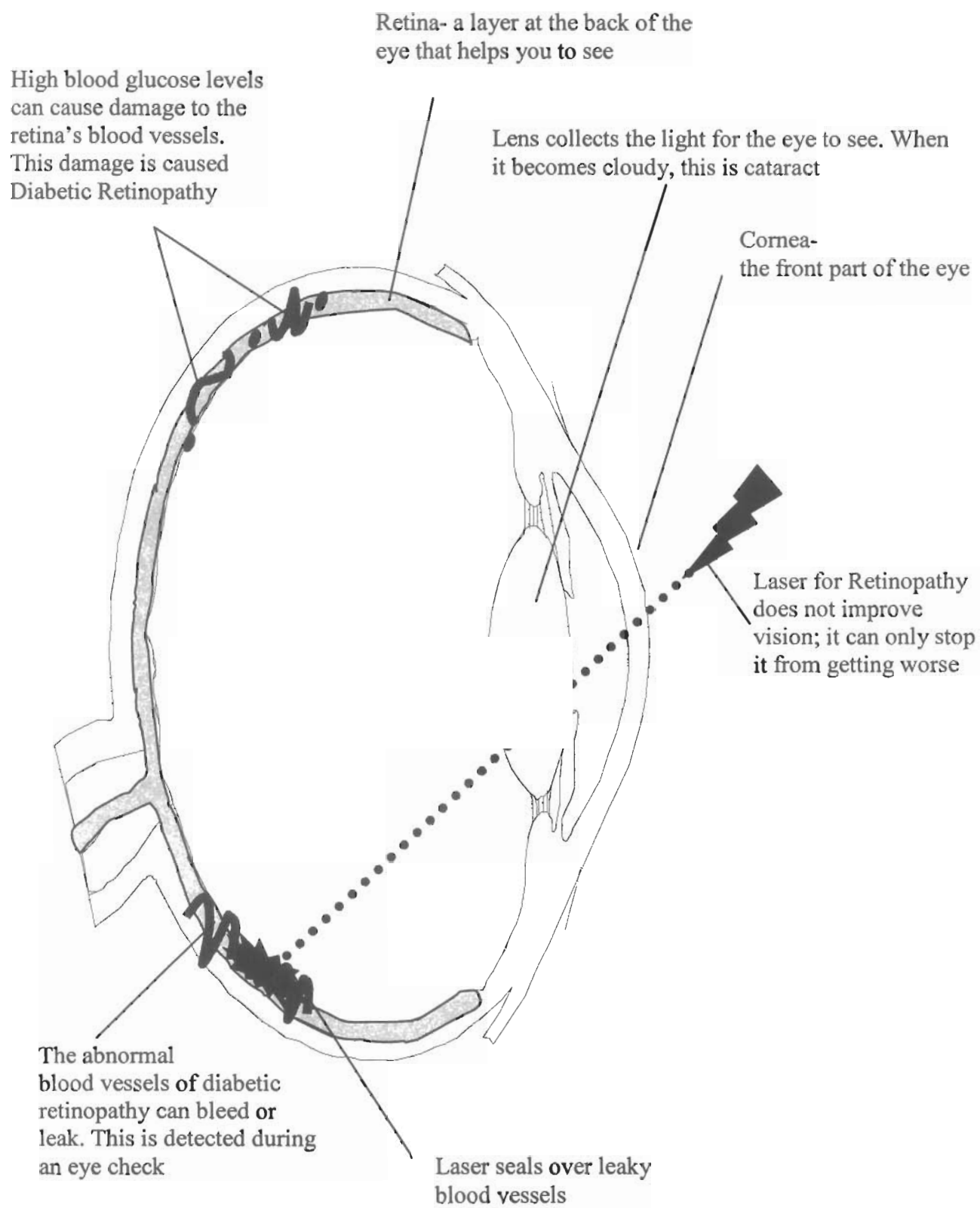
Where can I have an eye check?

Either you can go directly to see an optometrist or your doctor can refer you to an ophthalmologist (eye specialist) or an optometrist. Bring any glasses to the eye check. An eye check takes 30-60 minutes. ***Optometrists generally bulk-bill so bring your Medicare card.*** Ask a family member or friend to take you home. Driving is not recommended.

What happens in an eye check?

- How easily you can see will be checked **by** reading letters or naming pictures
- The front of the eye is checked by shining a special light into the eye
- The pressure in the eye may be checked **by** a puff of air onto the eye or by eye drops
- The pupil is dilated (opened up) with special eye drops so that the back of the eye can be seen

(If you develop pain afterwards, you should return immediately to where the check was performed or go to emergency department of your nearest hospital.)



Prevent blindness from retinopathy by:

- Keeping blood glucose levels under control
- Keeping blood pressure under control
- Having yearly eye check by an optometrist

2- Kidneys

Diabetic Nephropathy/Diabetic Kidney Damage

- Damage to the fine blood vessels in the kidney can lead to kidney failure if untreated
- Kidney disease can be detected by laboratory urine test performed yearly (urinary microalbuminuria)
- Symptoms: initially, there are no symptoms; once severe kidney damage has occurred, symptoms include poor appetite, weakness and itchiness of the body
- Kidney damage can be reversed or stabilised if detected early; therefore, yearly urinary albuminuria check is important to detect damage and give early treatment if necessary

The function of the kidneys

- The kidneys are 2 organs which sit at the back of the abdomen
- The normal job of the kidneys is to filter the blood and remove any impurities. The impurities are collected into the urine so that they can be removed. The kidneys are like a sieve: the good things in the blood are kept in the body, this includes proteins and the cells of the blood; any toxins in the blood pass through the sieve and are flushed away.

The kidneys can be damaged by high glucose levels. If the kidneys are damaged, they become leaky. Like a damaged sieve, the holes in the sieve become larger. This results in a special protein called albumin being lost into the urine. This is an early sign showing that the kidneys have been damaged by DM. Albumin in the urine can be detected with a test that measures the urinary microalbumin level. Urine is collected overnight or for 24 hours and is sent to the laboratory for analysis. If the kidney damage becomes more severe, then more protein is lost in the urine.

Prevent kidney failure from DM by:

- Yearly laboratory urine check (microalbumin measurement)
- Keep blood glucose levels under control
- Keep blood pressure under control
- Take any special kidney medication that the family doctor may prescribe to help heal any diabetic kidney damage

How and where to have a urinary microalbumin test?

- This test should be performed each year in those with DM
- The person with DM collects all the urine produced either overnight or for 24 hours
- The family doctor will send the urine away to the laboratory for testing

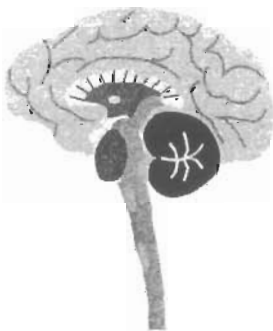


3- Arteries

Arteriosclerosis - damage to blood vessels (arteries) to the heart, brain and legs

Arteriosclerosis is where blood vessels are narrowed and there is a lack of blood supply to heart muscle, brain, and muscles of legs. This problem is more likely to happen in people with DM and it can lead to:

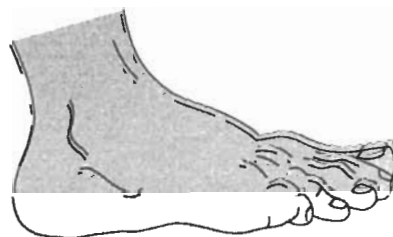
- **Angina or heart attack** (coronary artery disease)
- Pain or discomfort in chest and/or arm and/or neck can occur if lack of blood supply to heart muscle. Sometimes the person only experiences breathlessness. If the heart muscle is damaged, this is called a heart attack or 'myocardial infarction'



- **Stroke (cerebrovascular disease)**

Where part of the brain is damaged and causes paralysis in half of the body, loss of speech, and/or difficulty walking

- **Claudication:** pain in the calf muscles when walking due to a lack of blood supply to legs, leg muscles and especially the calf. This causes pain when walking. Patient may have risk of foot ulcers (peripheral vascular disease)



Prevent damage to blood vessels by:

- Keep blood glucose levels under control
- Keep blood pressure under control
- No smoking
- Have a low fat diet
- Medication may be prescribed to help control cholesterol and triglyceride (blood fats) levels

4- Nerve

Diabetic Neuropathy/diabetic nerve damage

Throughout the body, there is a network of nerves that can detect any pain that the body is experiencing. For example, if there is a stone in one's shoe, the nerves of the feet detect pain and send the message to the brain that there is a problem with the shoe. With diabetes, these nerves can be damaged; therefore, no message is received by the brain that there is a stone in the shoe. This may seem trivial, but a stone in the shoe for an entire day can rub the foot sufficiently to cause an ulcer. If the diabetes is poorly controlled, there is a greater risk of infection and if the circulation is poor, then healing is slower.

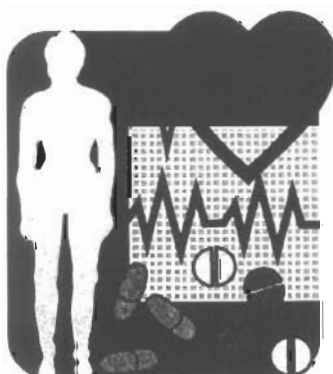
Damage to nerves especially of the feet from high glucose levels can lead to:

- Painful feet
- Numb feet
- Foot ulcers
- Foot amputations

Prevent diabetic neuropathy by:

- Examine your feet daily to detect blisters, cuts, scratches and possible infection
- Have your feet checked regularly by your family doctor
- See your doctor even with minor foot infections
- Never walk bare footed, especially on hot surfaces or to avoid stepping on pins, tacks or other things on the floor
- Never wear shoes without socks or stockings
- Wear comfortable and good shoes
- See podiatrist if necessary
- Keep blood glucose levels under control

Damage to arteries and nerves may also result in sexual problems in the male. One's doctor is able to provide advice on the newer and more effective treatments which are available.



NOTE: DM can cause blindness before you experience changes in your vision. You can prevent it by:

- Having a regular eye check with your optometrist
- Keep blood glucose levels under control
- Keep blood pressure under control
- No smoking