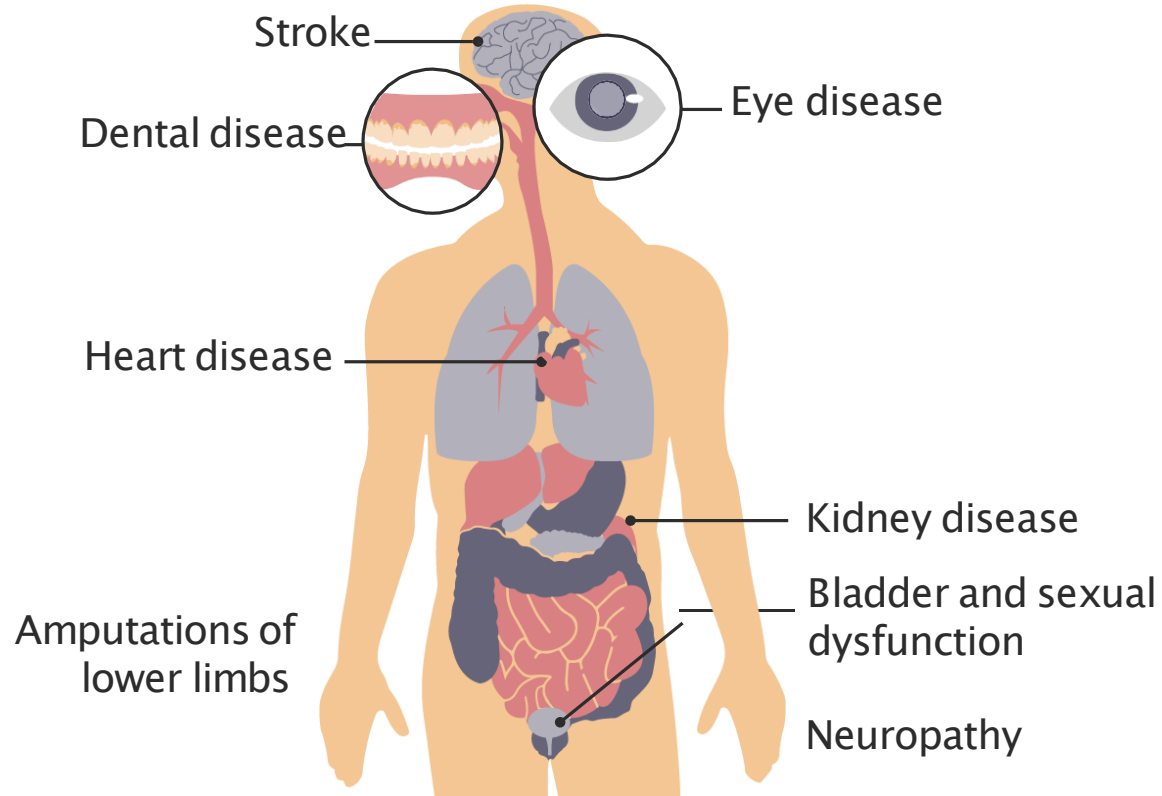




# **Complications of Diabetes**

How to Help Your Clients  
Live Their Best Life!

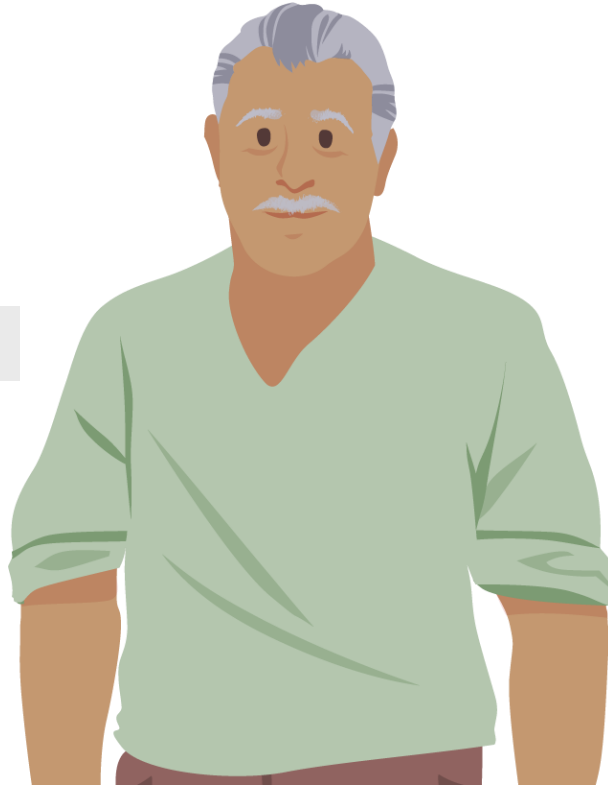
# Possible Diabetic Complications



# Let's Look at Mr. Sanchez



Married

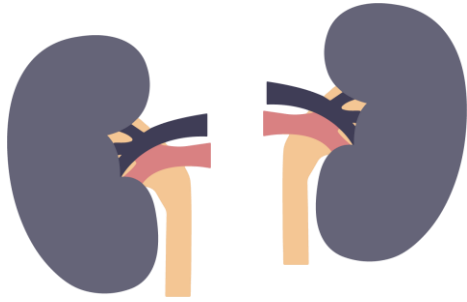


Children



Grand children

# Steps Towarda Healthier Life!



The higher the blood glucose,  
the higher the likelihood of  
complications



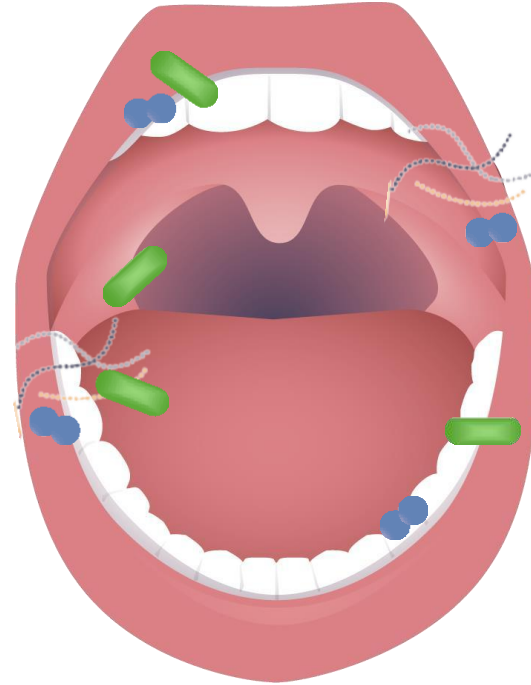
Better glucose control leads to  
fewer complications and less  
risk of chronic pain.

# Diabetes and Gum Disease

Higher levels of glucose in saliva  
cause bacteria to thrive.



Bacteria + Food = \_\_\_\_\_

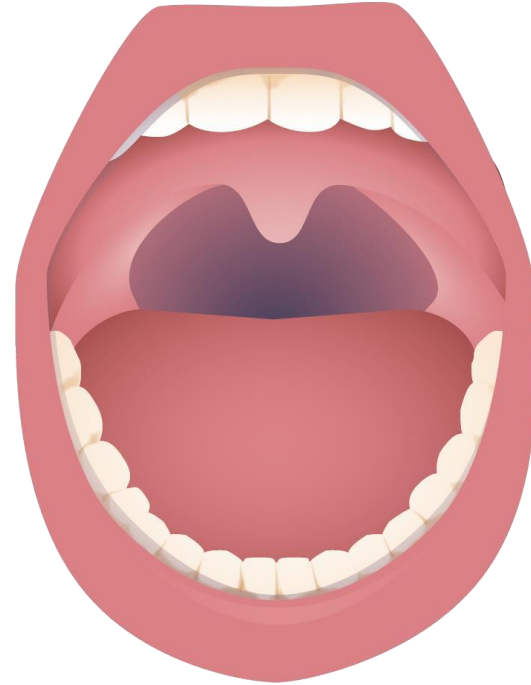


# Diabetes and Gum Disease

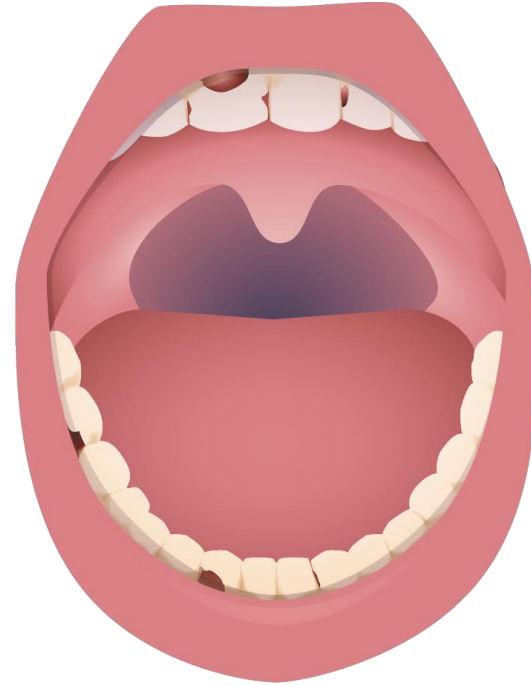
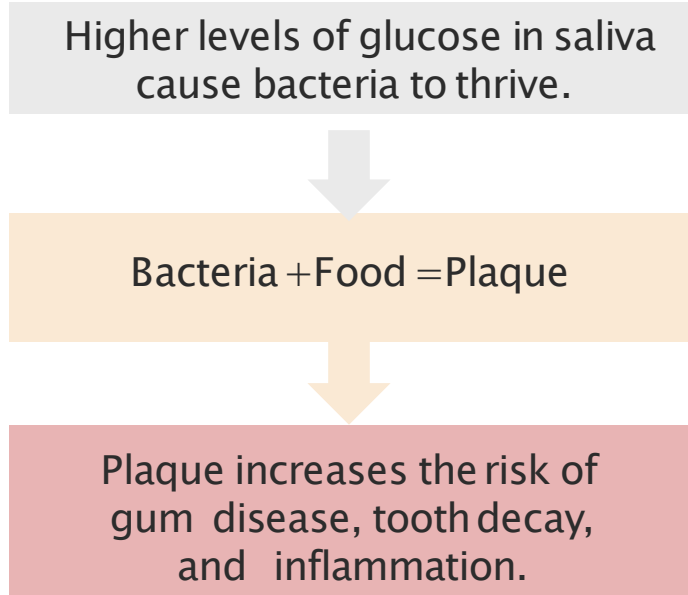
Higher levels of glucose in saliva  
cause bacteria to thrive.



Bacteria + Food = Plaque



# Diabetes and Gum Disease



# Common Mouth Problems with Diabetes

- **Gingivitis:** unhealthy or inflamed gums
- **Periodontitis:** gum disease
- **Candidiasis:** thrush
- **Xerostomia:** dry mouth
- **Oral burning:** burning sensation





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# Common Mouth Problems with Diabetes

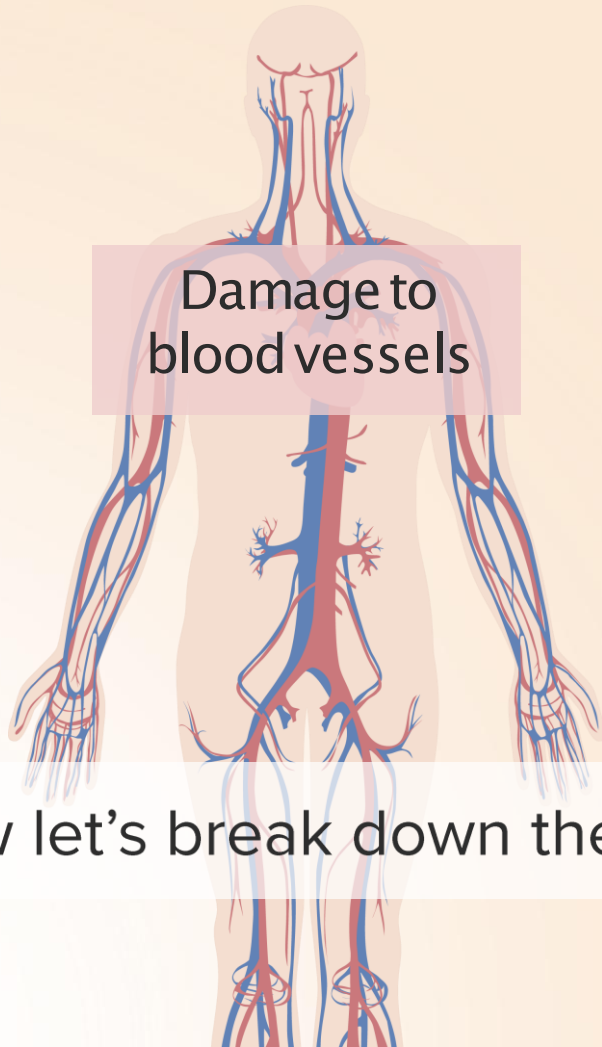
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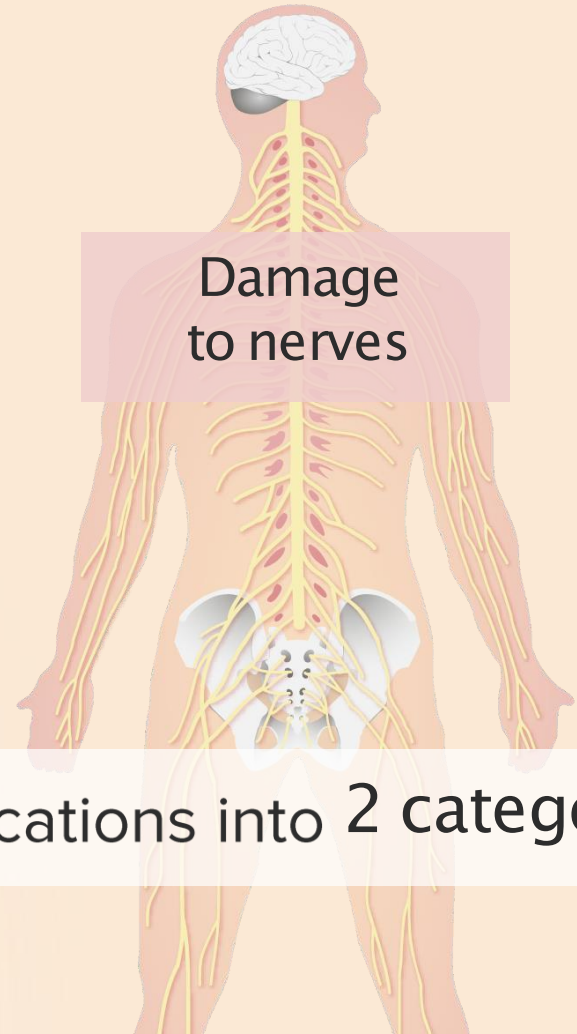
# Teach Mr. Sanchez

- Gargle with an antiseptic mouth wash for 30 seconds before you brush your teeth.
- Brush and floss your teeth daily.
- Use an electric toothbrush.
- Get your teeth cleaned every six months





Damage to  
blood vessels



Damage  
to nerves

Now let's break down the complications into 2 categories.



High glucose level damages the brain and the heart.

# Teach Mr. Sanchez



One of the main reasons we're talking about keeping your blood sugar closer to normal is because we want to keep your **blood vessels** and the **nerves** that help you move your body and control your organs strong.

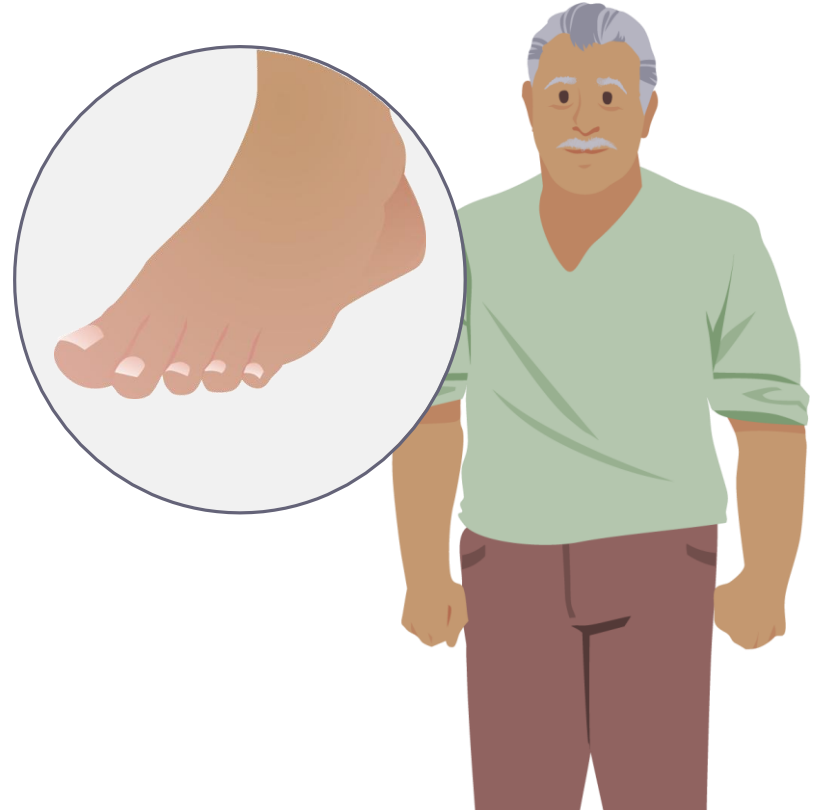
This will help prevent a stroke or a heart attack.

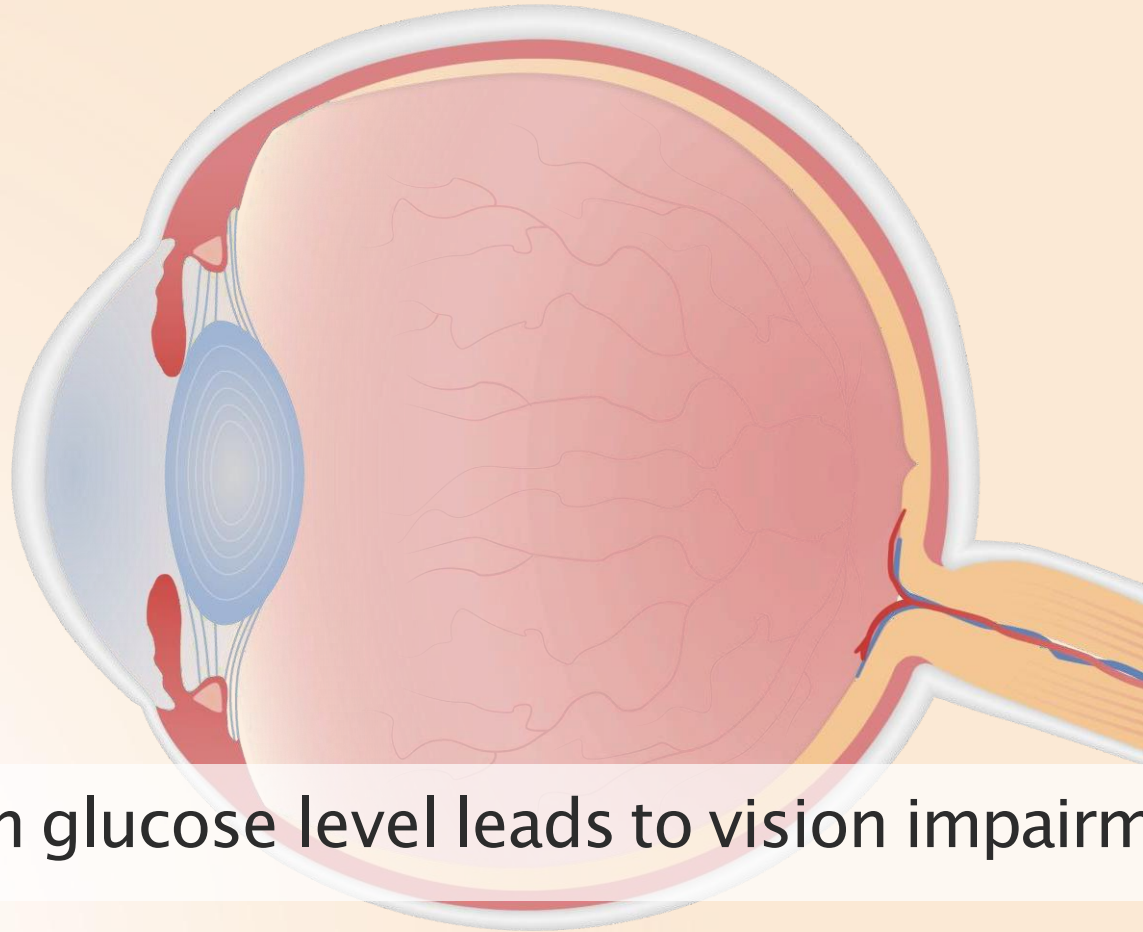




# Teach Mr. Sanchez

- This is also why it is so important for the healthcare team to look at Mr. Sanchez's feet.
- Think through a **practical** plan for Mr. Sanchez to do this at home.





High glucose level leads to vision impairment.

# Teach Mr. Sanchez



What about your vision?

Have you noticed any changes?

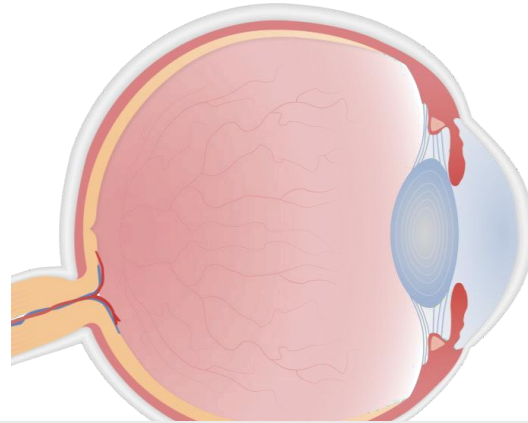
Do things look blurry to you?

Have you noticed any spots in front of your eyes?

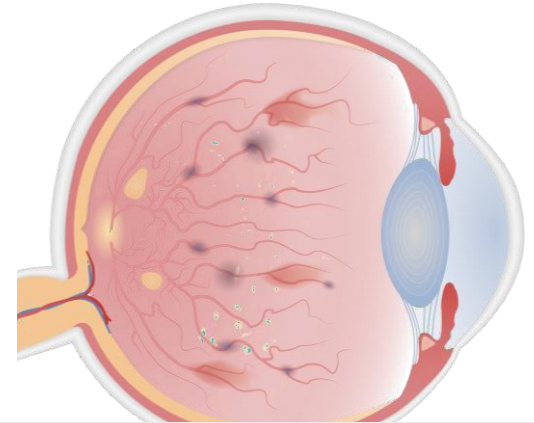


# Eye Diseases from High Glucose

- Diabetic retinopathy
- Diabetic macular edema
- Glaucoma
- Cataracts

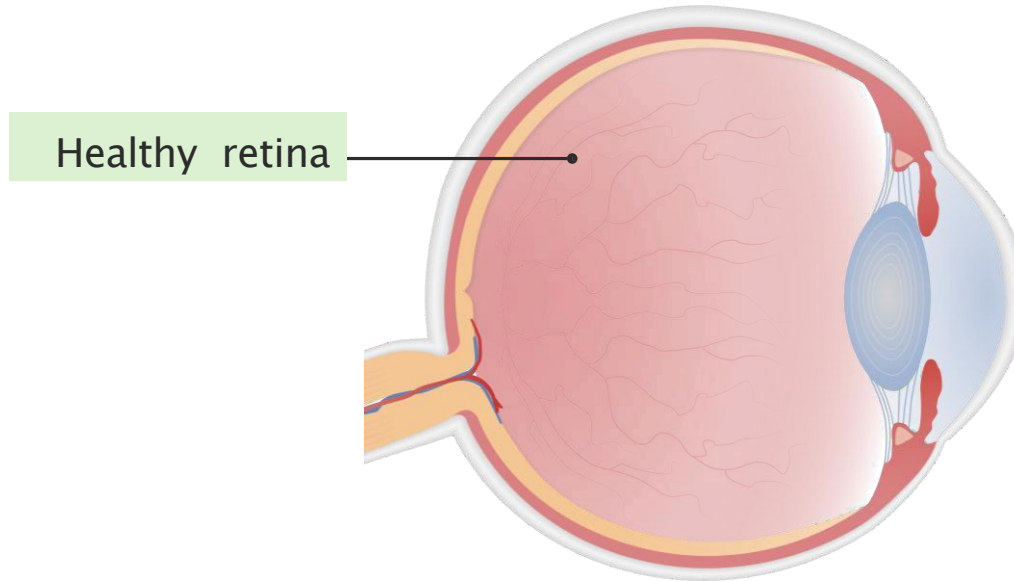


Healthy Eye

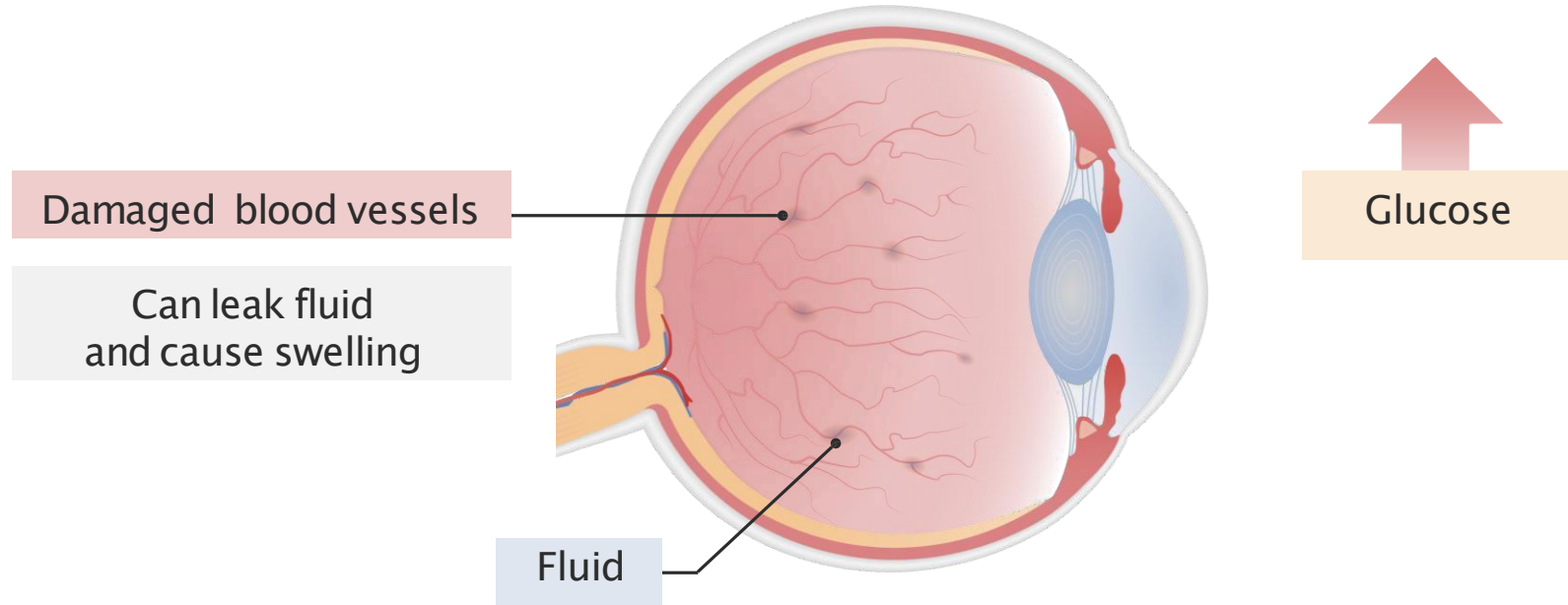


Damaged Eye  
(Diabetic retinopathy)

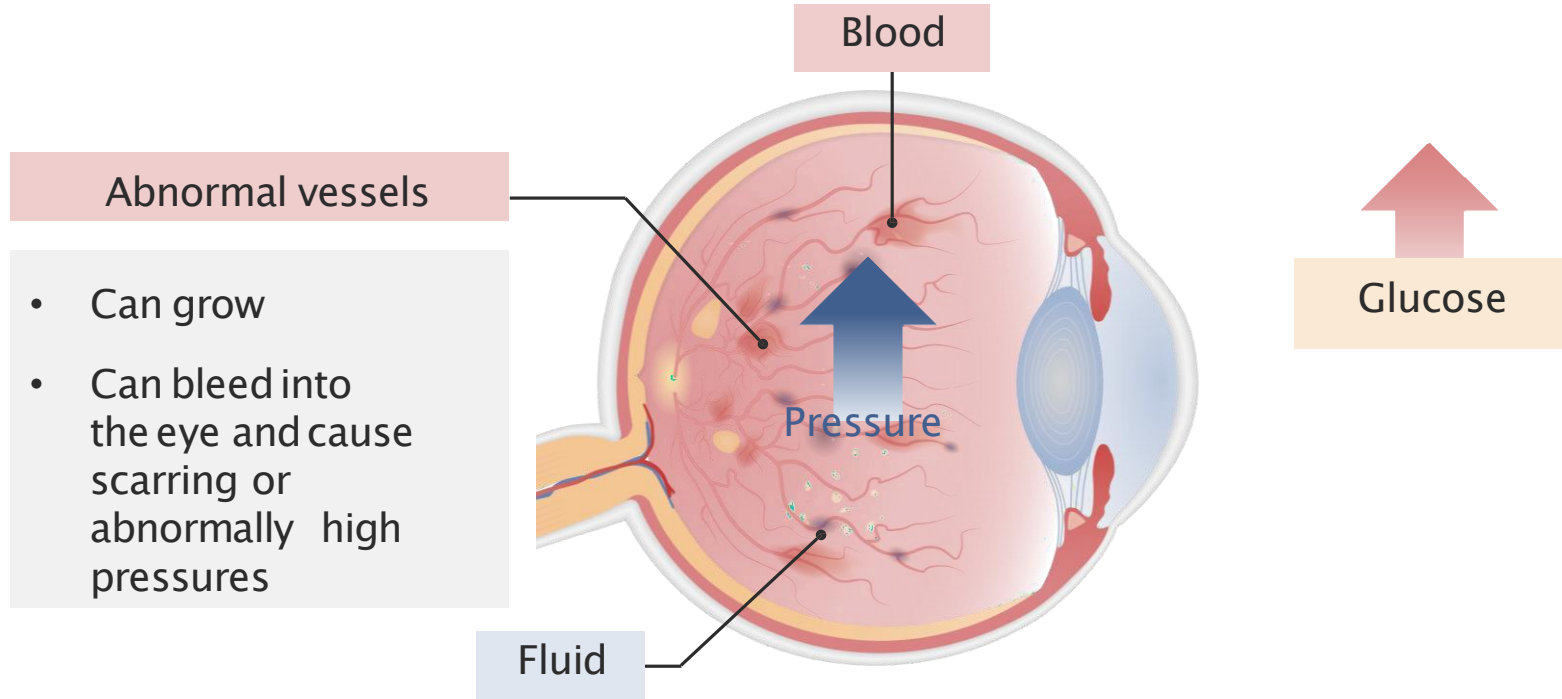
# High Blood Glucose and Permanent Changes



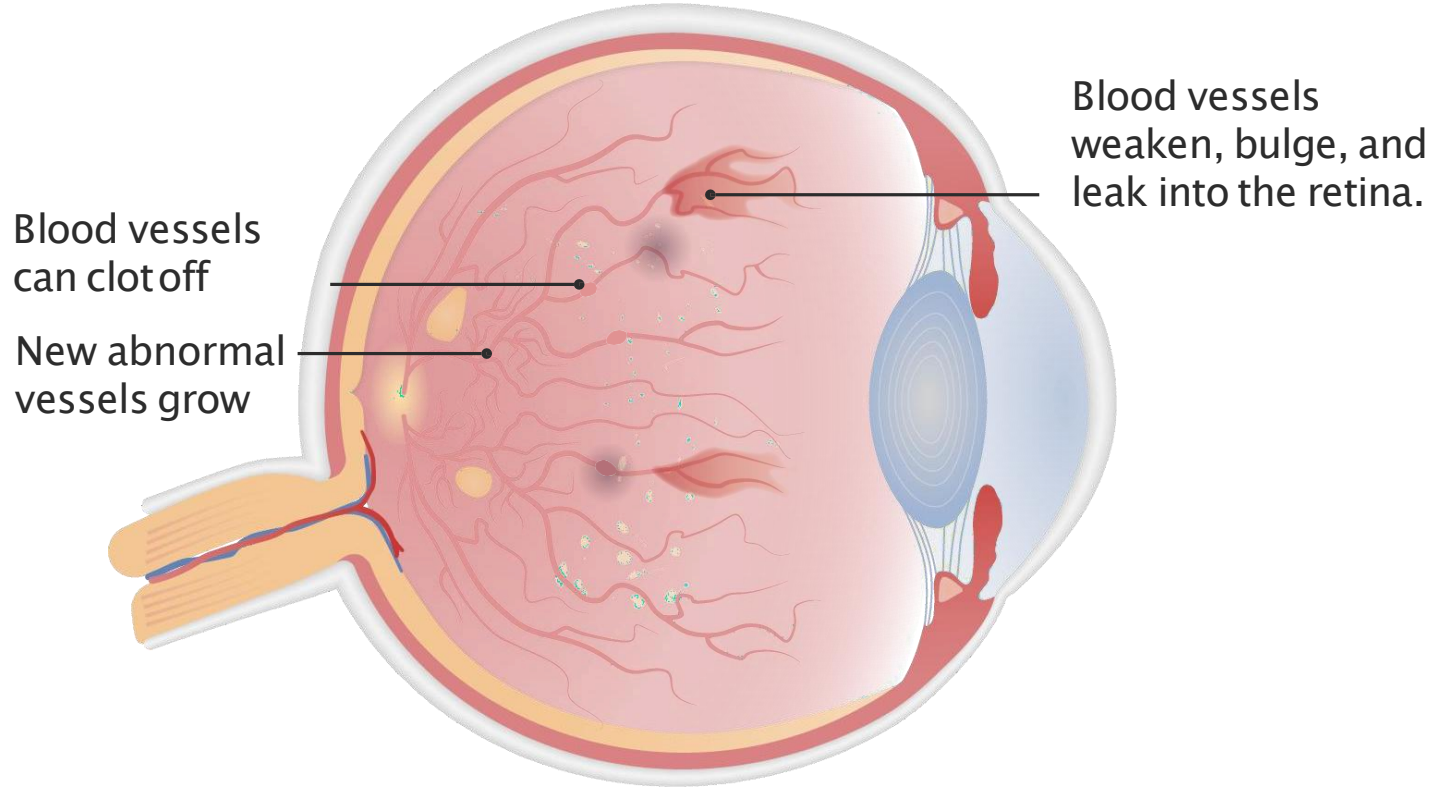
# High Blood Glucose and Permanent Changes



# High Blood Glucose and Permanent Changes



# Diabetic Retinopathy





# Diabetic Retinopathy

- **Early Symptoms:**None
- **Later Symptoms:** Blurry vision, floating spots in your vision, blindness



# Diabetic Retinopathy

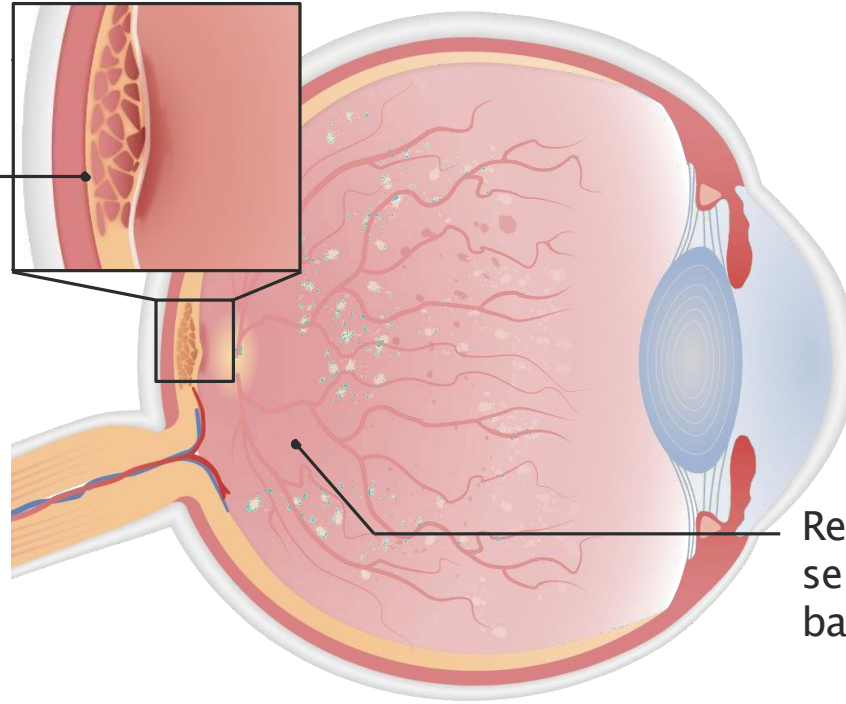
- **Early Symptoms:**None
- **Later Symptoms:** Blurry vision, floating spots in your vision, blindness



# Diabetic Macular Edema

## Fluid buildup in the macula

- Macula is responsible for sharp, straight-ahead vision.
- Edema causes vision distortion.

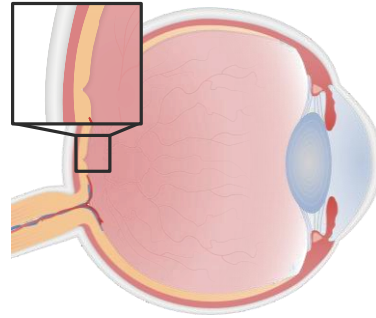


Retina is the light – sensitive tissue at the back of the eye.

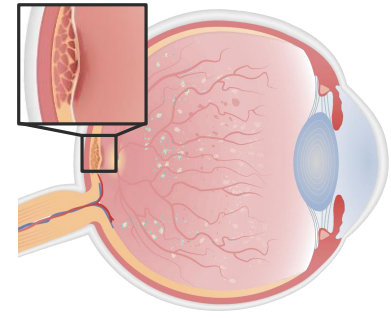
# Diabetic Macular Edema

- The primary symptom of macular edema is blurry or wavy vision near or in the center of the field of vision.
- Colors might also appear washed out or faded.
- If only one eye is affected, the client may not notice their vision is blurry until the condition is well-advanced.

Normal retina



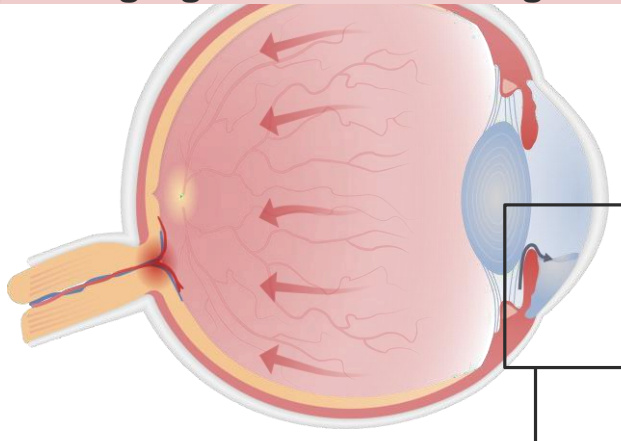
Diabetic macular edema



# Glaucoma

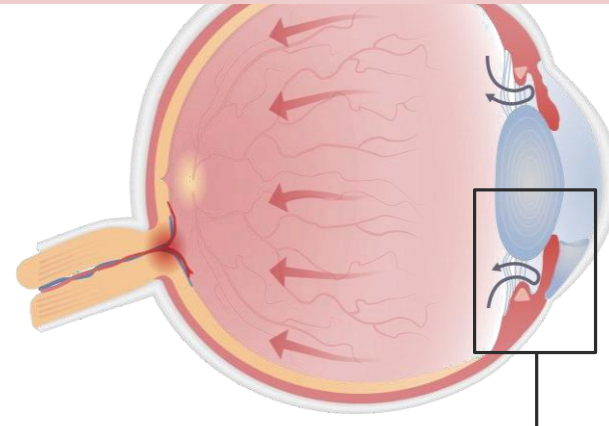
Glaucoma causes abnormally high fluid pressure in the eye. There are two types of glaucoma:

## Open angle glaucoma/chronic glaucoma



Caused by blockage of the channel through which aqueous humor drains

## Angle-closure glaucoma/acute glaucoma



Caused by pressure of the iris against the lens, which traps the aqueous humor

# Glaucoma

Normal retina



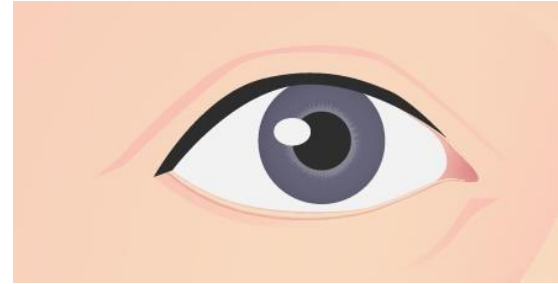
Glaucoma



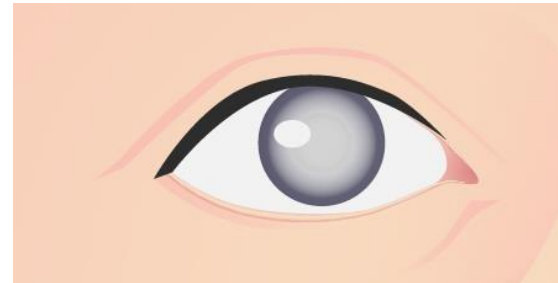
# Cataracts

- Diabetic clients are 2–5 times more likely to develop cataracts, usually at a younger age.
- The most common symptom of cataracts is seeing blurry images at any distance.
- People may describe their vision as foggy, cloudy, or filmy.
- Cataracts get worse with time and less light reaches the retina.
- Over time, cataracts can lead to vision loss.

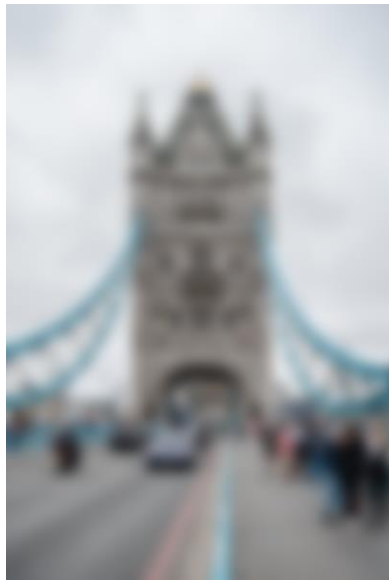
Normal eye



Cataracts



# Cataracts





# Diabetes and Temporary Vision Changes

- Temporary vision changes can occur when changing diabetes plans or medications.
- High glucose can change fluid levels or cause swelling in the eyes.

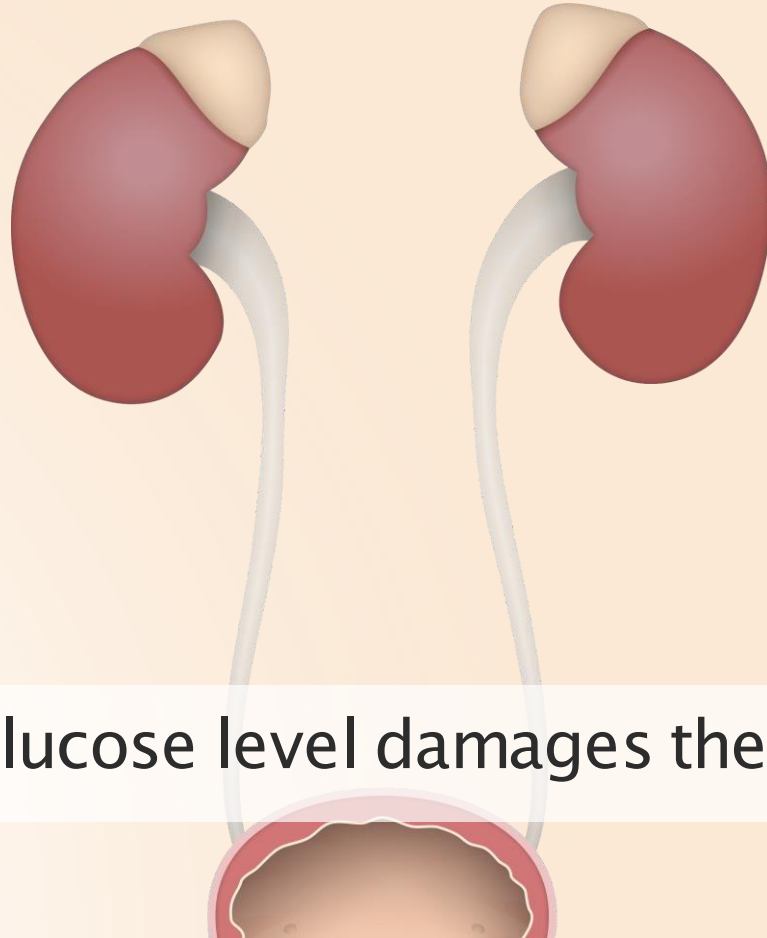


# Diabetic Retinopathy

He needs a complete eye exam at least yearly.



If he notices any changes in his vision, he needs to contact his healthcare provider early.



- Nephrons, the filtering units of the kidney, are filled with tiny blood vessels.
- Over time, high sugar levels in the blood can cause these vessels to become narrow and clogged

High glucose level damages the kidneys.

# Teach Mr. Sanchez

- Help Mr. Sanchez understand that nerves are what control our organs and keep us safe.
- That means every thing from being able to Control your bladder to being able to have sex.



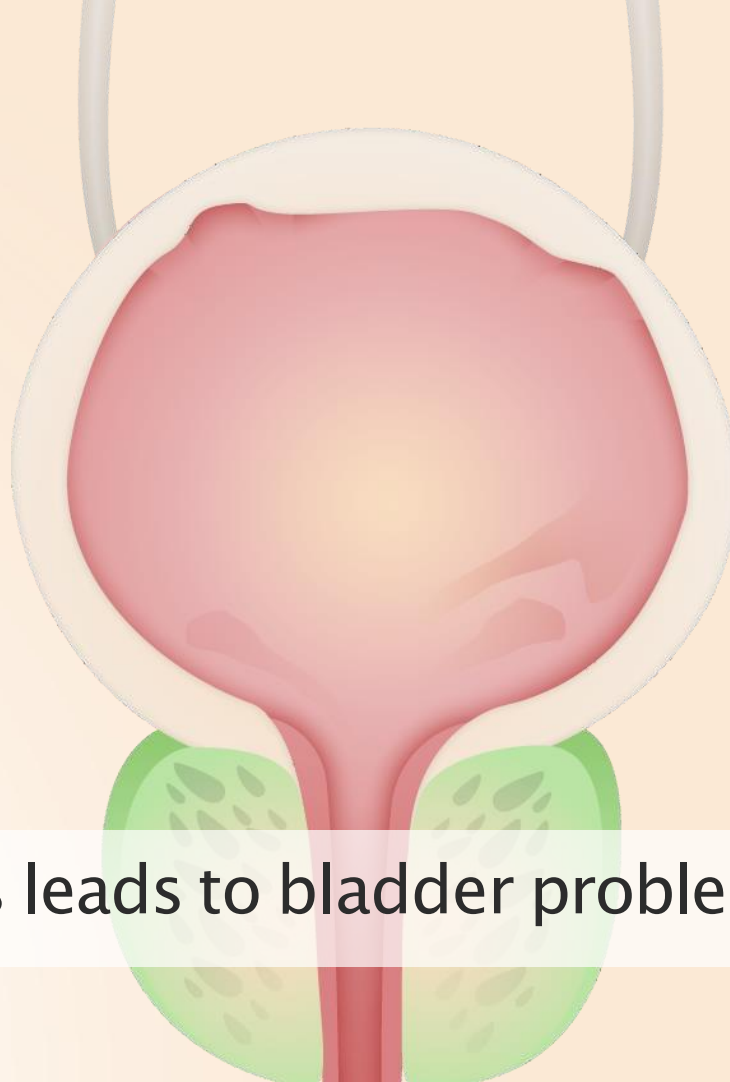
# Teach Mr. Sanchez



I understand this may not feel comfortable for you to talk with me about, but this is important Mr. Sanchez.

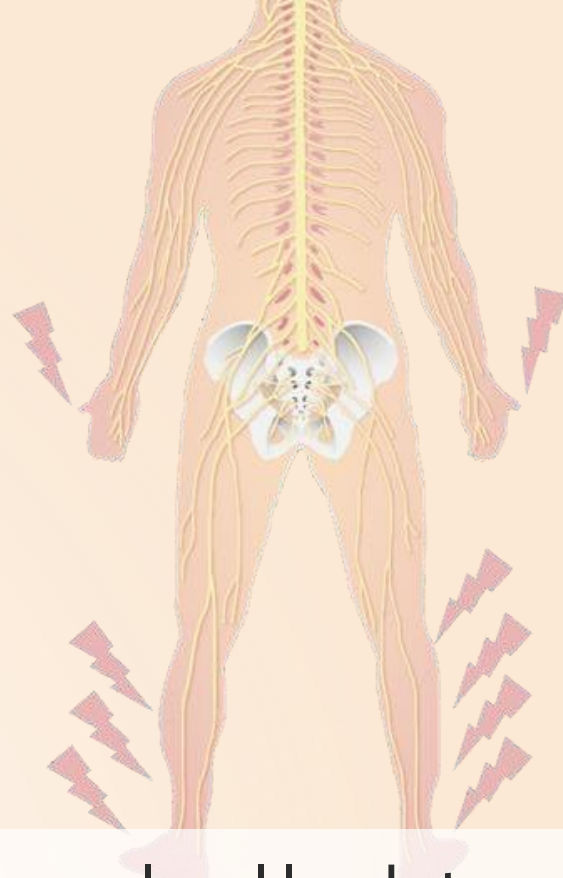


- Blood vessels and nerves that control the bladder are damaged, which causes urine leakage and incomplete emptying.

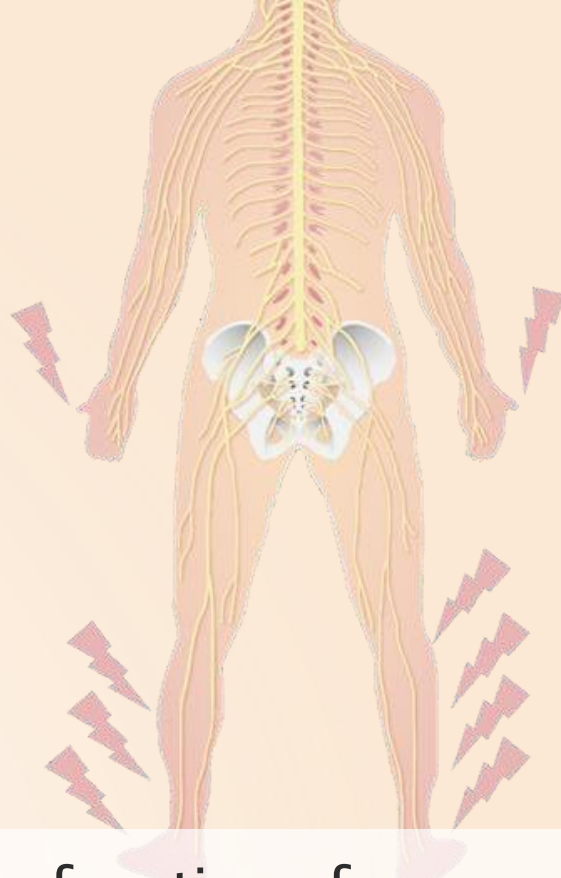


- When the nerves that control sexual function are damaged, the client may experience impotence.

High glucose levels leads to bladder problems and impotence



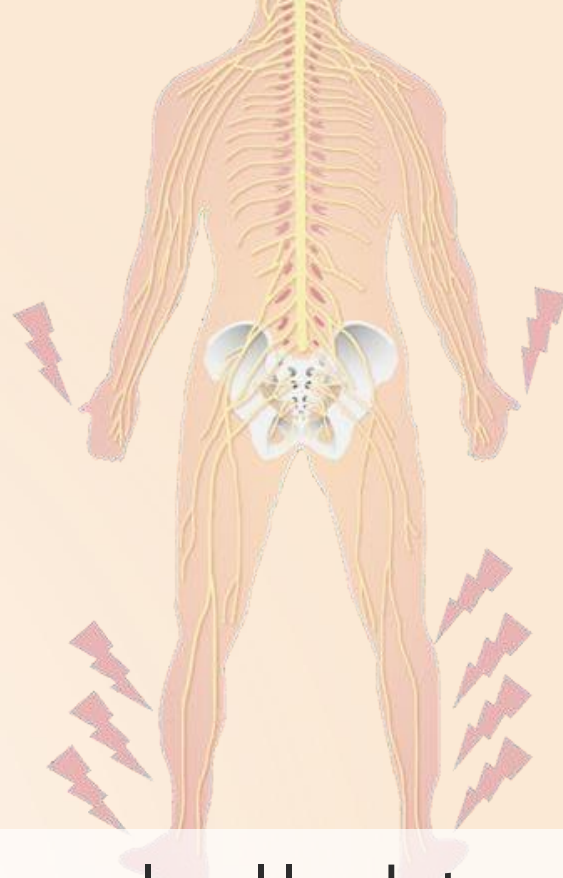
High glucose level leads to neuropathy.



- Neuropathies can cause weakness, numbness, and pain.

Neuropathy leads to dysfunction of one or more peripheral nerves.





Peripheral

Autonomic

Focal

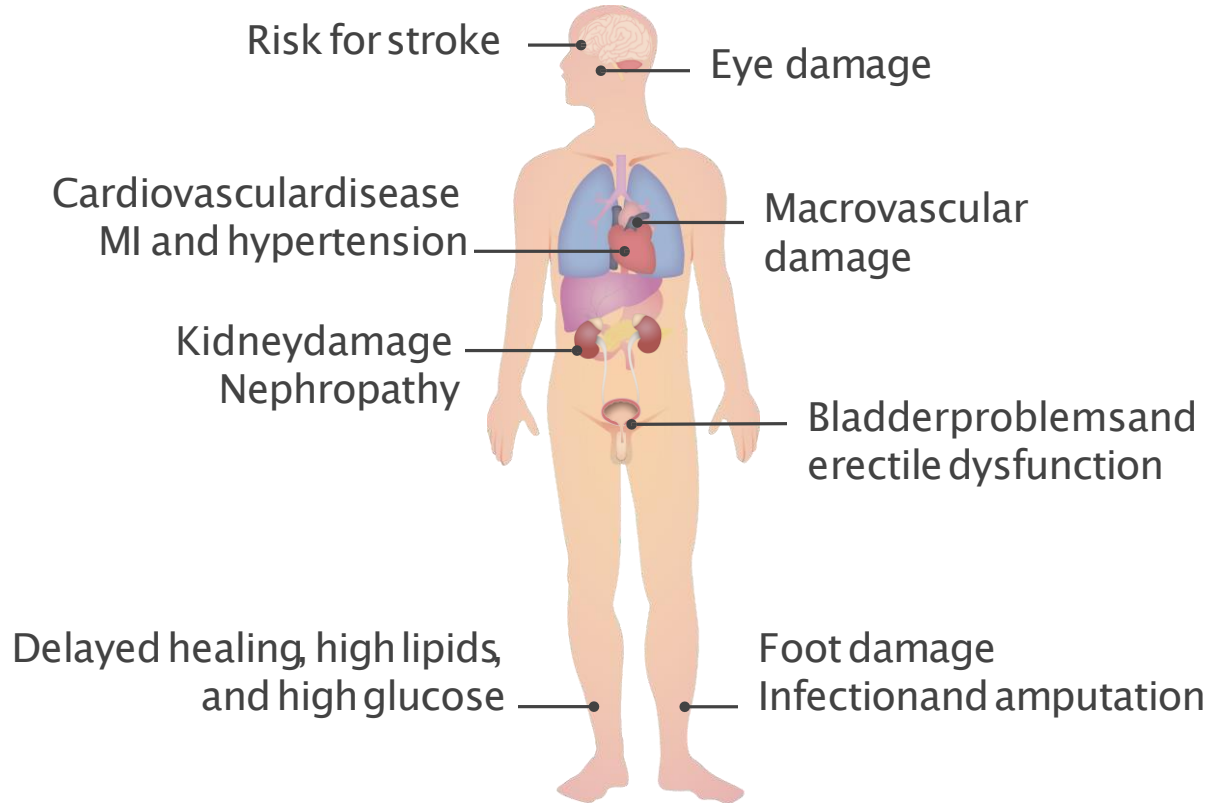
Proximal

High glucose level leads to neuropathy.



High glucose level increases the risk of amputation.

# Complications of Diabetes



# Clients and Nurses Are on the Same Team!



Diagnosis: diabetes distress

# Smoking Accelerates the Effects of High Glucose



Known risks of diabetes:

- Stroke
- Heart attack and heart disease
- Neuropathy
- Kidney disease
- Amputation

## In a Nutshell

- ✓ Possible complications caused by high blood glucose levels include increased risk of stroke, cardiovascular disease, vision impairment, dental disease, renal disease, bladder problems, impotence, amputations, and delayed healing.
- ✓ Steps toward maintaining a consistently healthier blood glucose over time can help to decrease the risks of these complications.
- ✓ Nurses should partner with clients to help them take the next steps toward a healthier lifestyle and improved health behaviors.

