



welcome to knowledge sharing

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Animation By NAGARJUNA EDUCATIONAL SOCIETY

DRY EYE SYNDROME

- Dry eye is a multifactorial disease of the ocular surface characterized by a loss of homeostasis of the tear film, and accompanied by ocular symptoms, in which tear film instability and hyperosmolarity, ocular surface inflammation and damage, and neurosensory abnormalities play etiological roles.”



OCCURANCE

1. Inadequate tear production
2. Inadequate function

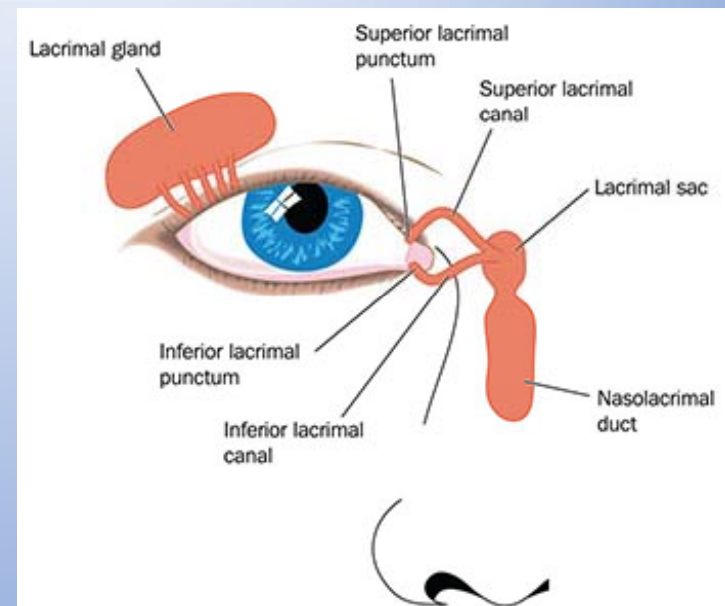
Results in unstable tear film

Tear production :

Secreted by lacrimal glands

Spreads over the ocular surface

Drained the lacrimal canaliculi into the nasolacrimal duct

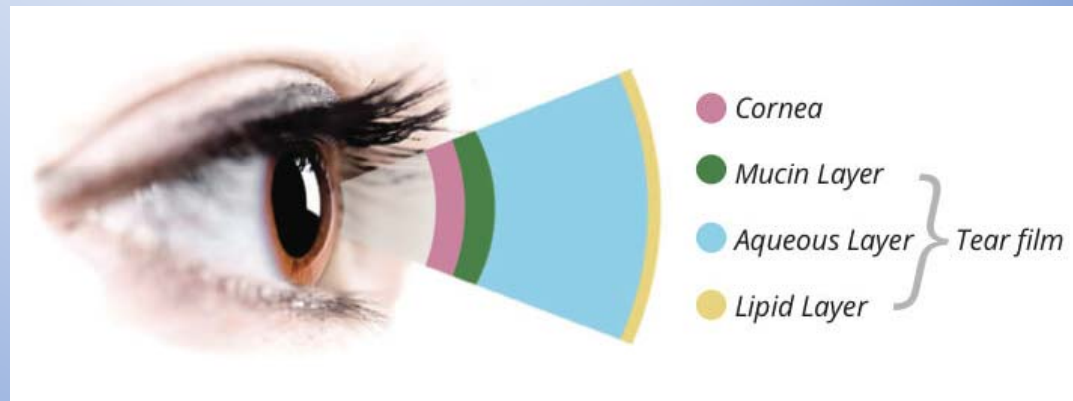


TEAR FILM LAYERS

Lipid layer : 0.1 μm

Aqueous layer : 7 μm

Mucus layer : 0.2 μm

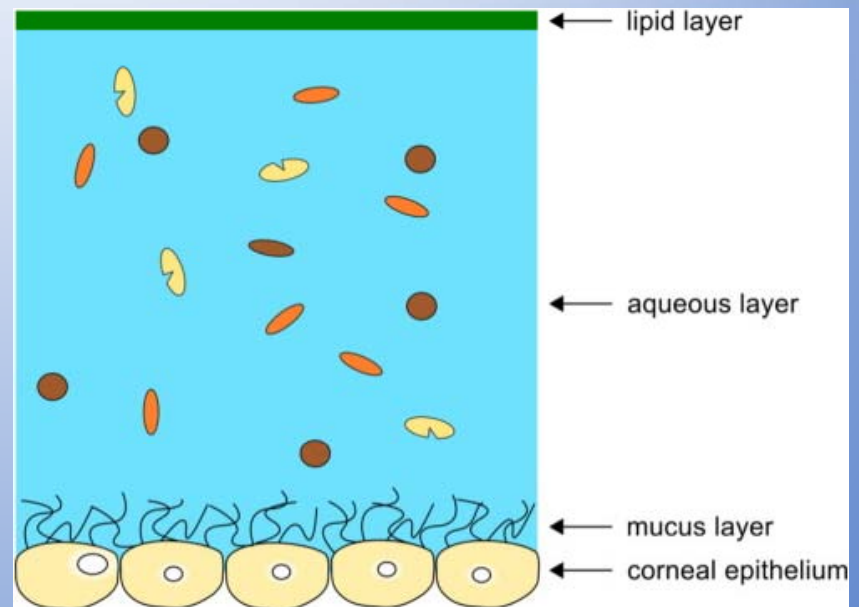


FUNCTIONS OF TEAR FILM

Lipid layer : Prevention of evaporation of tears

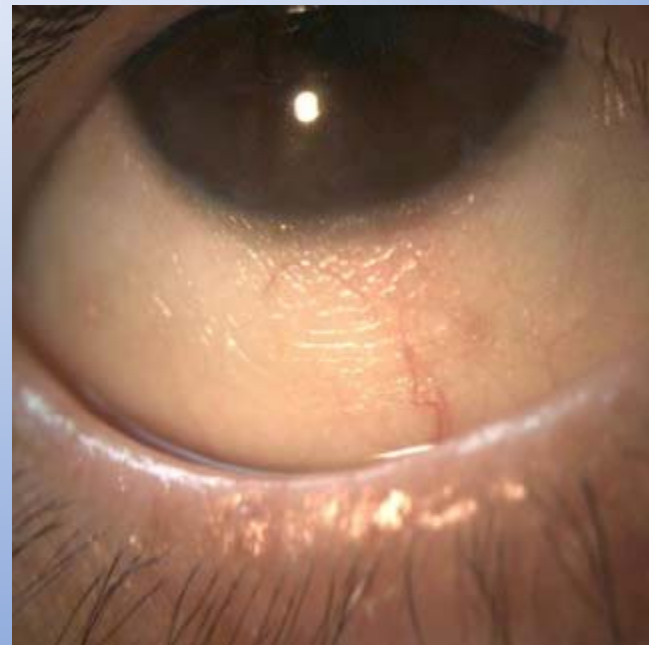
Aqueous middle layer : Provides atmospheric O_2
Antibacterial
washes away foreign particles

Mucus layer : allows evenly spread of watery layer



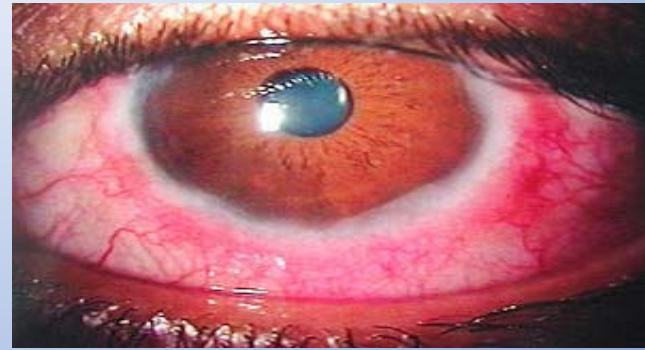
VITAMIN A DEFICIENCY

Xerosis of the conjunctiva resulting in goblet cell
destruction & mucin layer deficiency



Other causes

- Allergic conjunctivitis
-
- Computer vision syndrome
- Steven jhonson s disease
- Ocular cicatricial pemphigoid



MEDICATIONS CAUSING DRY EYE

Diuretics

Beta - blockers

Anti- histamines

Sedatives

Anti - anxiety medications

Analgesics



SYMPTOMS

Burning sensation

Foreign body sensation

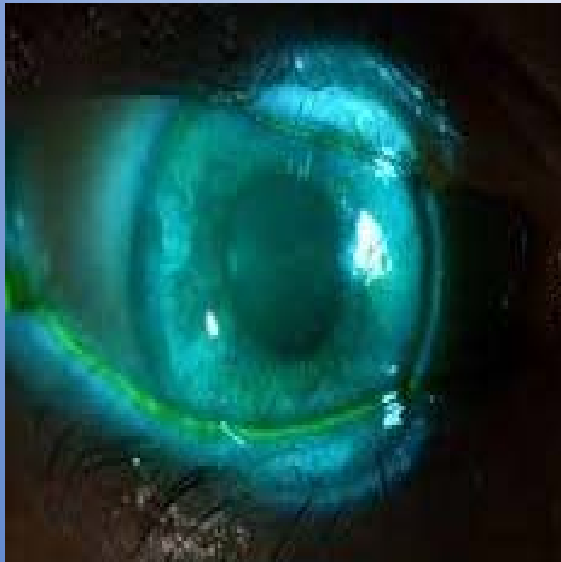
Stringy mucus discharge

Transient blurring of vision

Redness



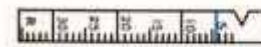
WORK- UP



1.TBUT

2.SCHIRMER S TEST

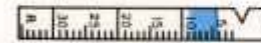
3.TEAR FILM VOLUME



Schirmer Tear Test strip
and procedure



Results



Insufficient tear production



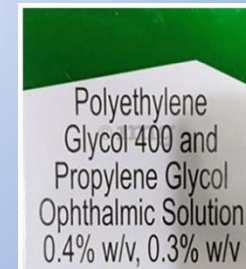
Possible shortage of tears



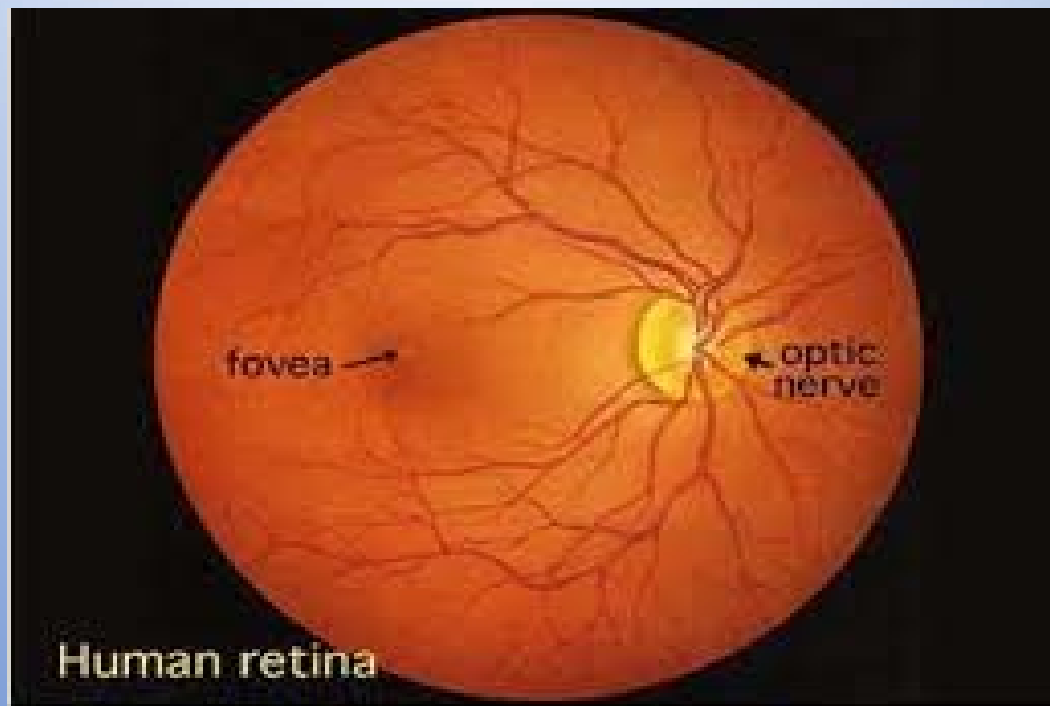
Normal tear production

TREATMENT

- ARTIFICIAL TEARS (CMC ,hypromellose , sodium hyaluronate , propylene glycol)
- Temporary insertion of punctal plugs
- Acetylcysteine (to break the sticky mucin)



NORMAL FUNDUS (RETINA)



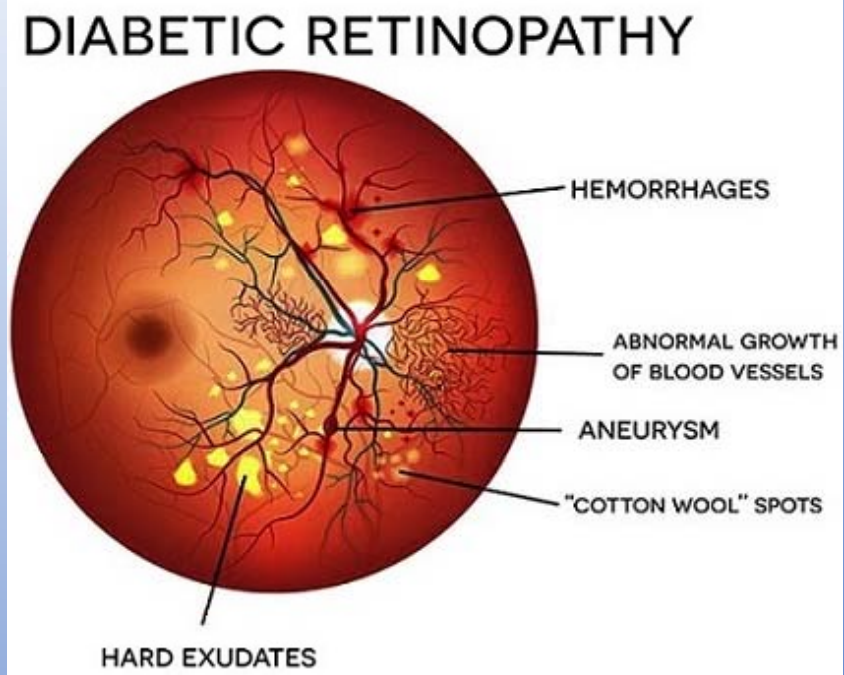
DIABETIC RETINOPATHY

RISK FACTORS :

HIGH BLOOD SUGAR

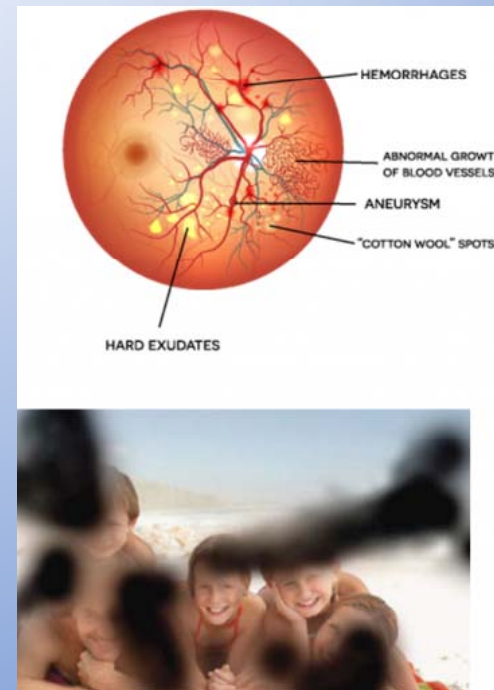
HYPERTENSION

HYPERLIPIDEMIA



IMPLICATIONS ON VISION

- Difficulty in viewing fine details .
- Hour - hour visual fluctuations .
- Seeing images as rippled .
- Blurred , hazy double vision .
- Having difficulty focusing .



STAGES OF DIABETIC RETINOPATHY

Non proliferative diabetic
retinopathy (NPDR):

Mild
moderate
severe

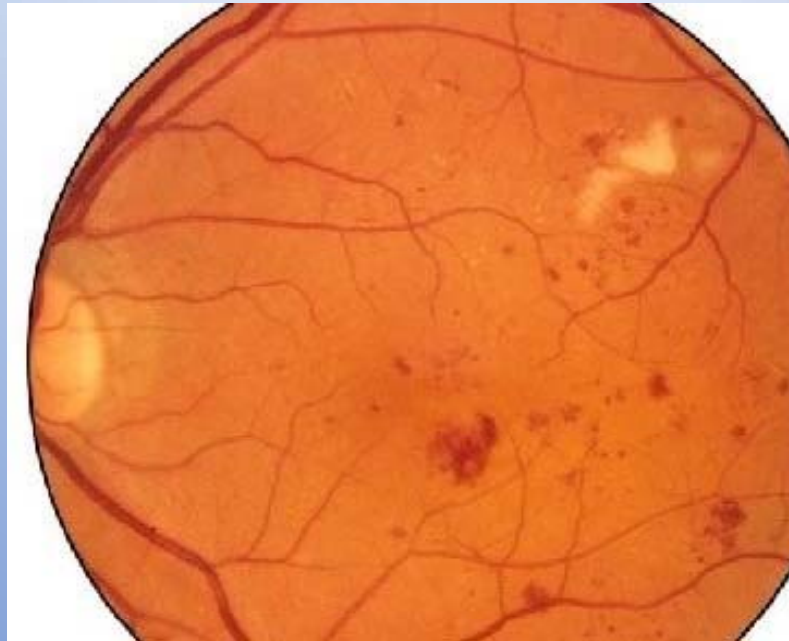
Proliferative diabetic
retinopathy(PDR)



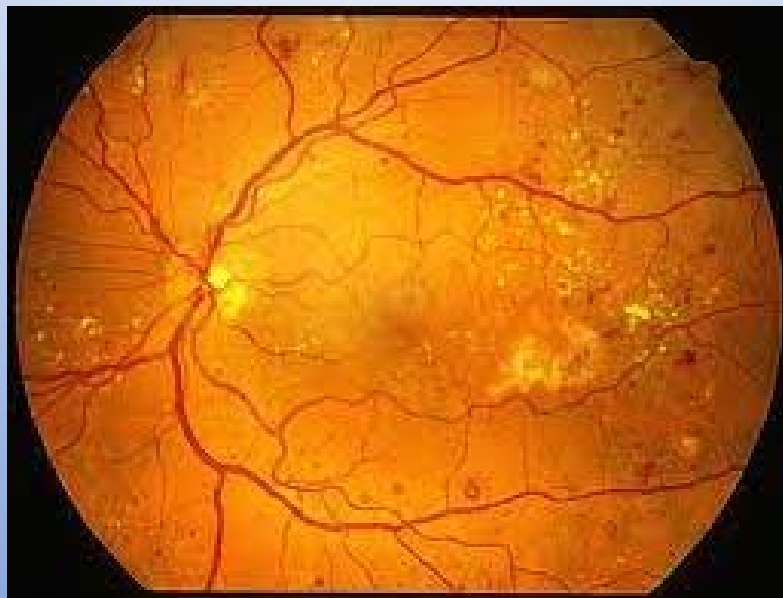
MILD NPDR



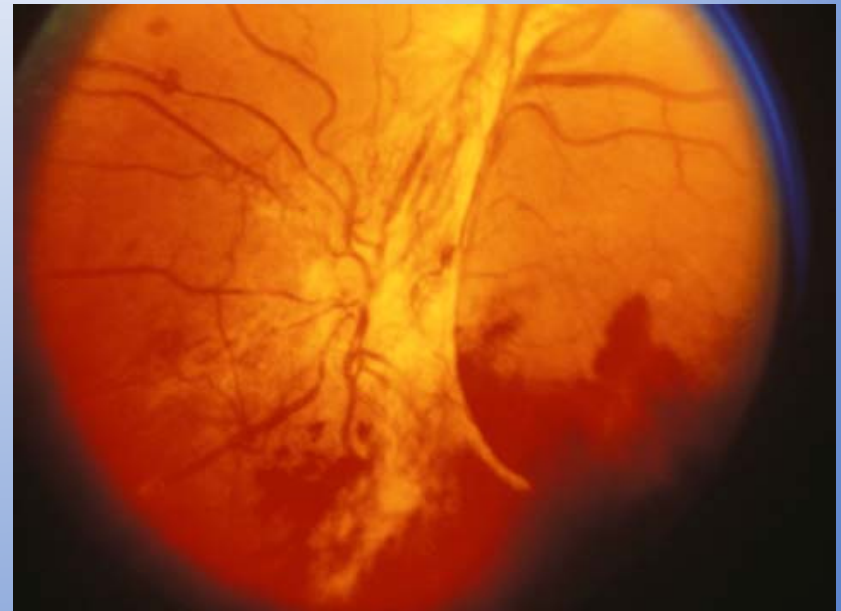
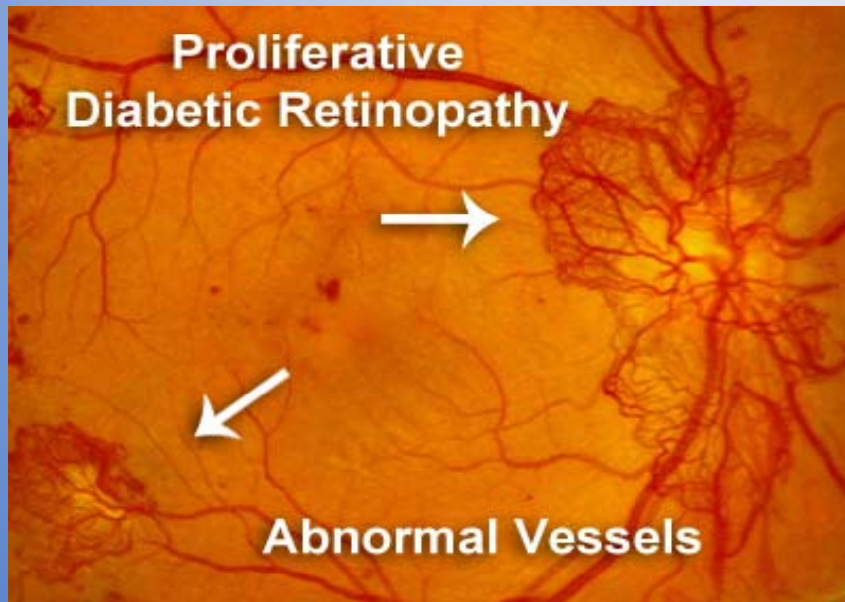
MODERATE NPDR



SEVERE NPDR

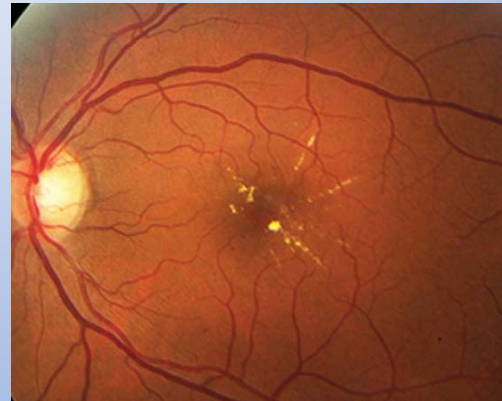


PROLIFERATIVE DIABETIC RETINOPATHY



MACULAR EDEMA

- Leading cause of blindness in diabetics .
- Can be present at any stage of disease .



TREATMENT

THE BEST MEASURE FOR PREVENTION OF LOSS OF VISION FROM DIABETIC RETINOPATHY IS STRICT GLYCEMIC CONTROL !!!!!!!

PREVENTION

90 PERCENT OF DIABETIC EYE DISEASE CAN BE PREVENTED SIMPLY BY
PROPER REGULAR EXAMINATION , TREATMENT AND BY CONTROLLING
BLOOD SUGARS !

**PRIMARY
PREVENTION :**

Strict glycemc control

Blood pressure control

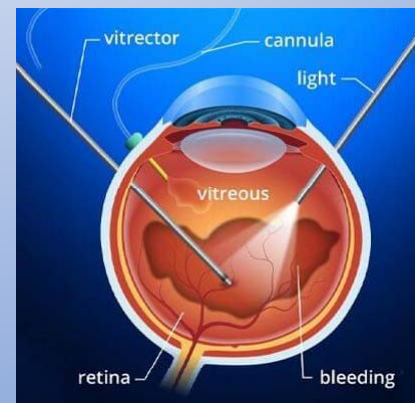
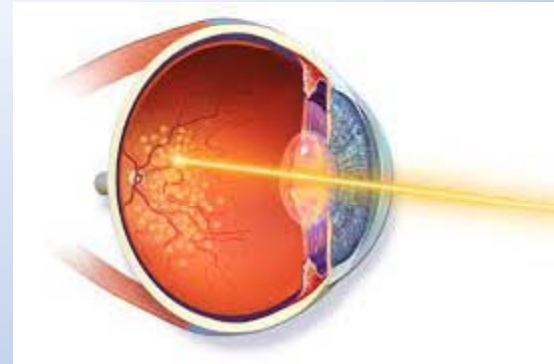
**SECONDARY
PREVENTION :**

Annual exams

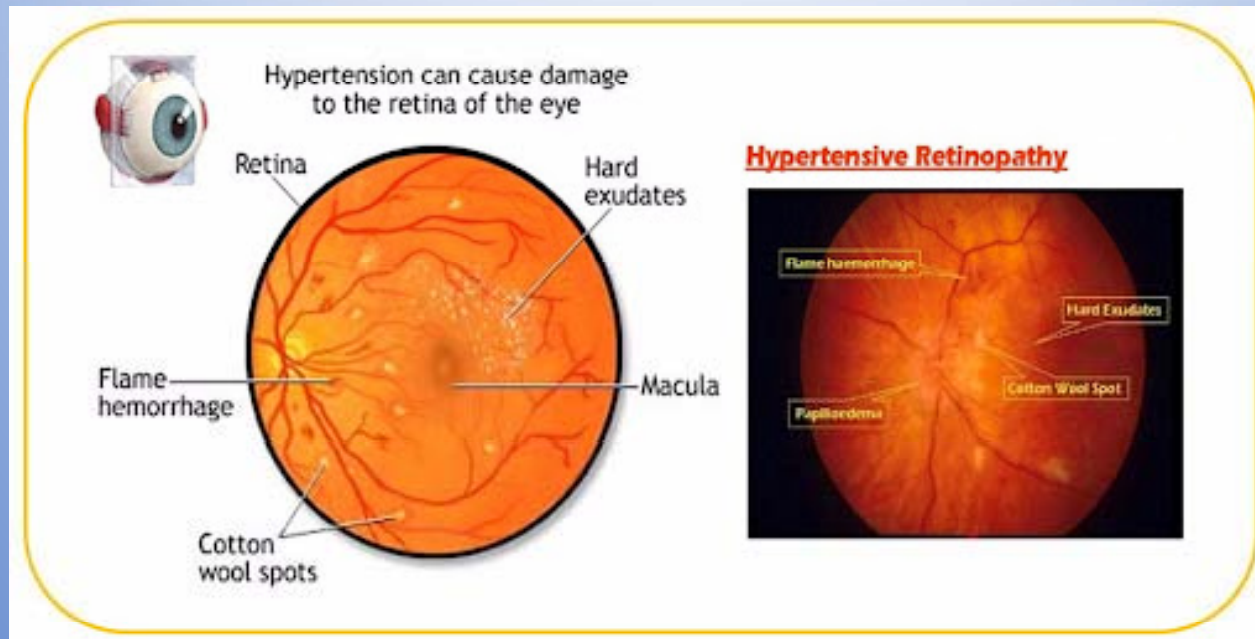
TERTIARY TREATMENT :

Retinal laser photocoagulation

Vitrectomy



HYPERTENSIVE RETINOPATHY



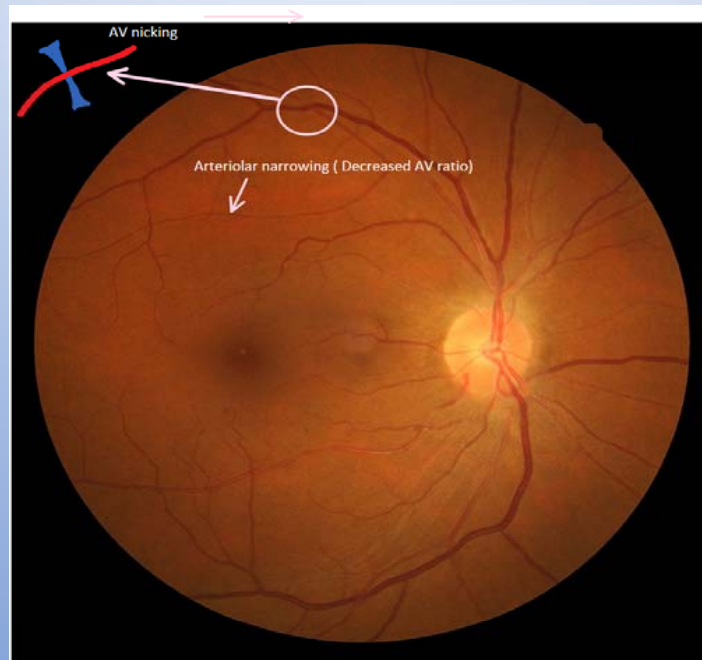
GRADES OF HYPERTENSIVE RETINOPATHY

Grade 1	Mild generalized retinal arteriolar narrowing
Grade 2	Definite focal narrowing and arteriovenous nipping
Grade 3	Signs of grade 2 retinopathy plus retinal hemorrhages, exudates and cotton wool spots
Grade 4	Severe grade 3 retinopathy plus papilledema

GRADE 1



GRADE 2



GRADE 3



GRADE 4



TREATMENT

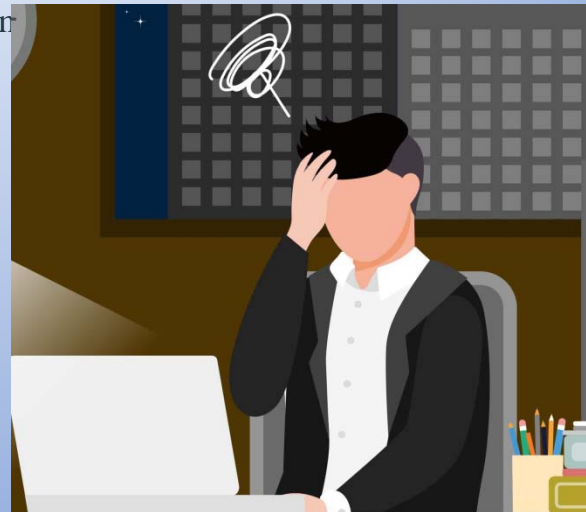
- *STRICT CONTROL OF HYPERTENSION !!



COMPUTER VISION SYNDROME

Term used to describe a variety of vision related symptoms that are caused by using a computer for two or more hours a day

Longer use = decrease in blink reflex



BLINKING!

Normal blink rate : 16-20 per minute

DURING SCREEN USAGE : 6-8 per minute

Extensive focussing does not give much opportunity to the eye muscles to move and this leads to eye strain , burning , tiredness of eyes



ARE THE COMPUTERS/SCREENS THE CULPRIT??

When we look in the distance , our eyes are relatively relaxed and at rest.

But when we look at the computer continuously :

Characters (pixels) on computer screen do not have well defined edges . They are brightest at the centre and diminish in intensity towards the edges .

CAUSES OF CVS

* Poor position in relation to computer



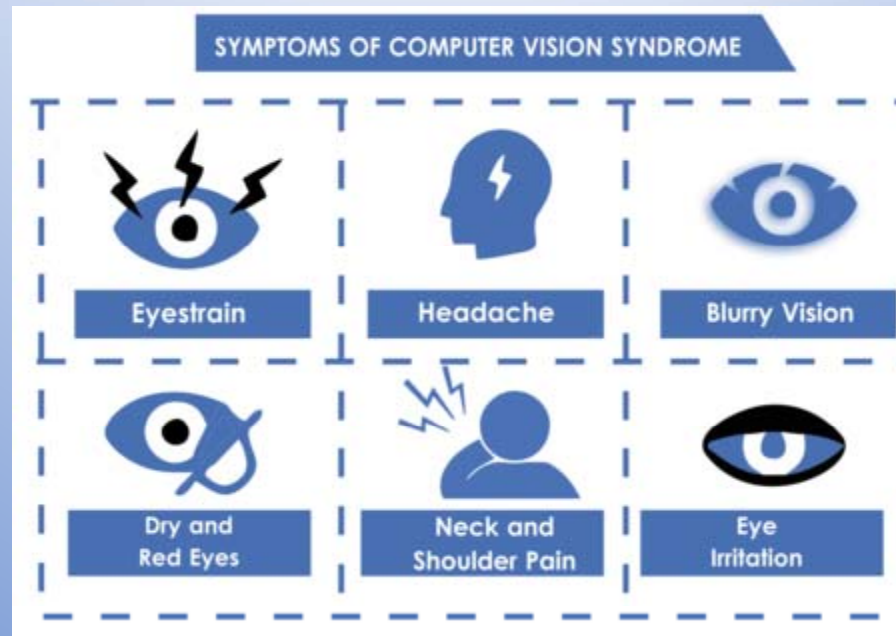
*Glare or reflections , fuzzy images or images that are too dim or too bright



- Use of glasses that are inappropriate for the user's position and distance from the screen .
- Minor visual defects like astigmatism that might go unnoticed can be exaggerated with intense computer use.



SYMPTOMS OF CVS

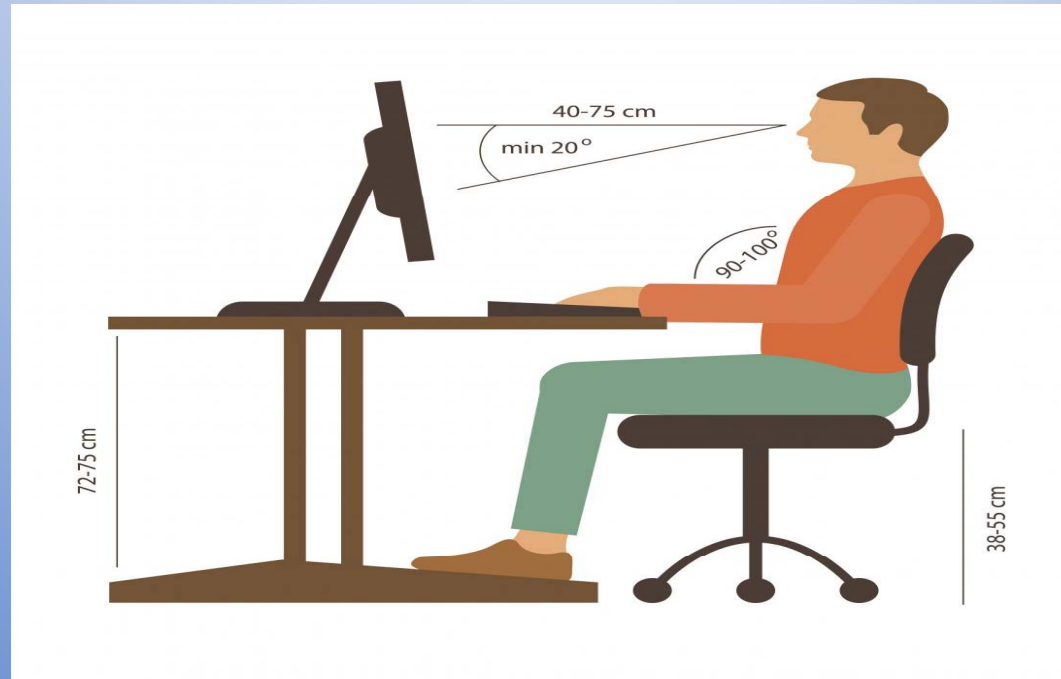


PREVENTION OF CVS

20 : 20 : 20 RULE



- Adjusting the height of the seat.
- Middle of the computer should be about 20 degrees below eye level.



- Direct overhead lights away from computer.
- Position monitor so that all windows are to the side rather than to the back or front .
- Adjust window/ blinds so that sunlight is away from screen and eyes.
- Avoid direct exposure to AC drafts .
- Take a break !!!!!
- .



THANK YOU FOR YOUR PATIENCE

- Queries :
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