



HOW IMPORTANT ARE GLASSES



HAPPY FAMILY



It was a happy family until one day

Bunty: Dad, my class teacher wants to meet you.

Father: Why? Whats the matter?

Bunty: I don't know.



AT THE SCHOOL



Next day the parents go to meet the teacher

Teacher: I am sorry to say but an intelligent child like Bunty has **failed** in his class test.

Father: Oh! I can't believe this. He is a sincere boy.



FATHER WITH SON



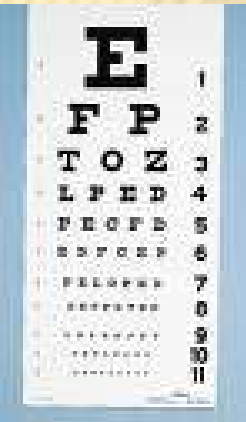
Father: Son, What is wrong? Why is your result so bad?

Bunty: Dad I sit on the last bench because I am taller than my friends & I cannot read what is written on the black board.



Putting 'EYE before 'I'

APPOINTMENT WITH DOCTOR



Without wasting time Father takes Bunty to an Eye Clinic.

Doctor: Sir I have examined Bunty's eyes thoroughly, He has refractive error. What is required is only glasses. Otherwise his eyes are perfectly ok.

Father: Will he now be able to read from the last bench?

Doctor: Yes, Very much. But that is not all. He will require an eye examination every 6 months as his numbers will increase till he is growing.



BUNTY WEARING GLASSES



Bunty started wearing glasses. Look at the smile on his face. He could see everything clearly and he also stood

FIRST
in his final exams.



CLEAR YOUR DOUBTS NOW

FREQUENTLY ASKED QUESTIONS



WHAT IS HUMAN

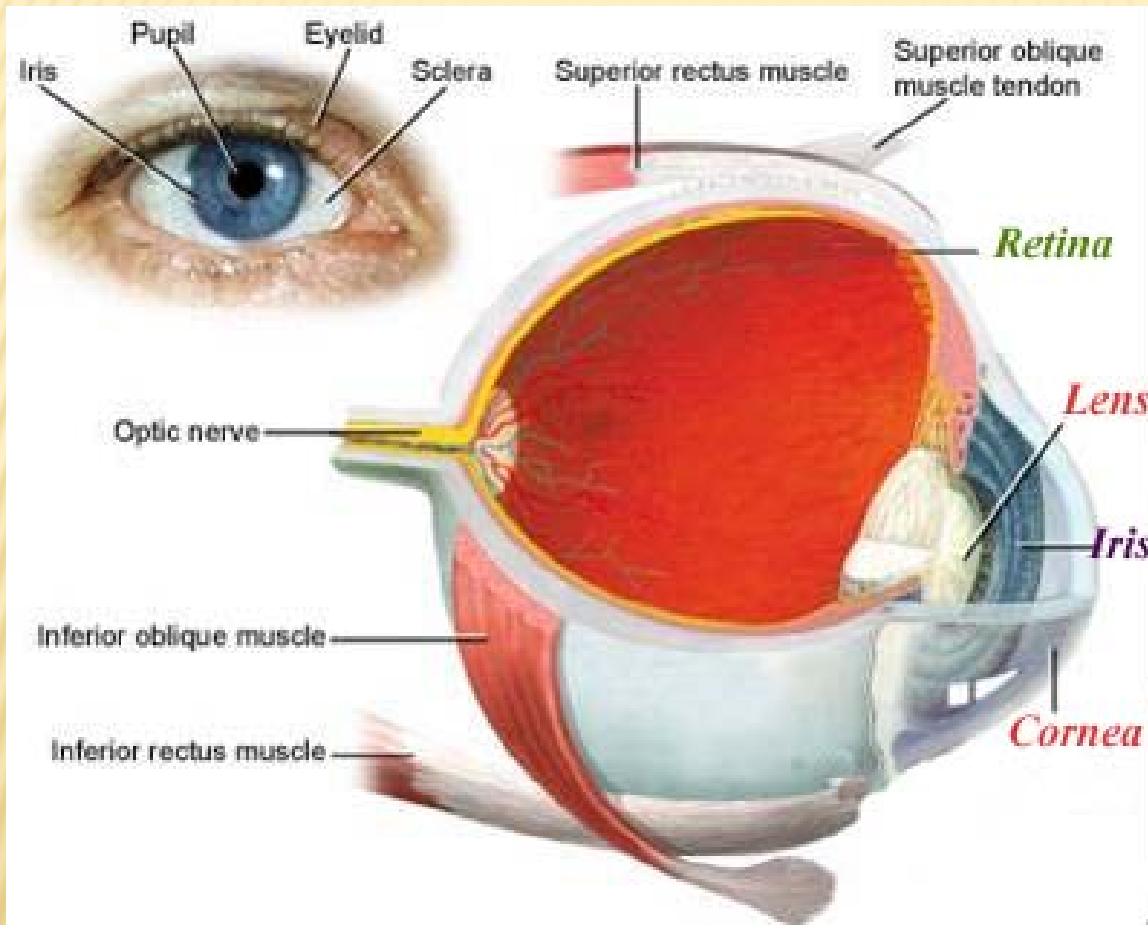
Human eye has an optical system.

The optical system of the eye has three camera like features that is

1. Lens system (cornea & lens)
2. Diaphragm (iris) &
3. Film (Retina); The image of an object falls on the retina from where it is sent to brain for interpretation.



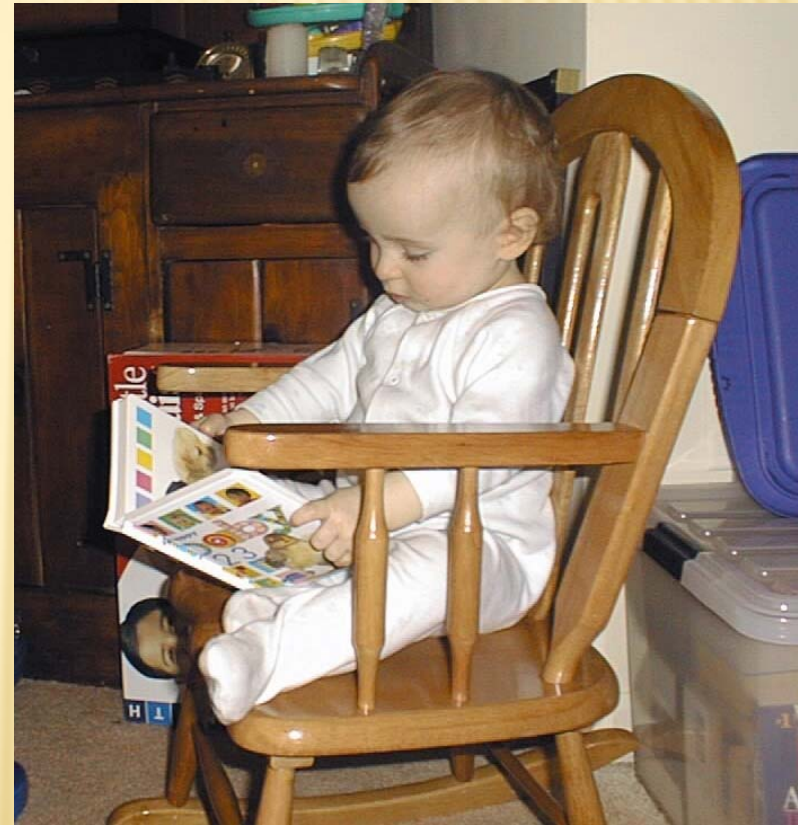
WHAT IS HUMAN



CAN I READ IN A DIM ILLUMINATION! IS IT HARMFUL?

Your eyes are not harmed by reading in dim illumination.

They may get tired because of the extra effort it takes to see clearly, but no permanent damage will occur.



WILL MORE READING AFFECT MY EYES?

There is no such evidence that more reading affects the eyes.

But you should always read with proper illumination and also use glasses if you have refractive error.



WILL MY EYES GET DAMAGED IF I HOLD BOOKS VERY CLOSE TO THE EYES?

The place where reading material is held has no effect on health of the eyes or need of the glasses ,but it is preferable to hold the books at arms length for comfortable reading



DOES WEARING GLASSES ALL THE TIME MAKE YOU DEPENDENT ON THEM?

Wearing eye glasses will never make you worse.

Once you enjoy clear vision with your glasses you will like to wear them.



CAN DAILY EYE EXERCISES KEEP THE EYE MUSCLE IN GOOD TONE?

Being alive and looking around the world is all that is necessary to keep our eye muscle toned, any extra effort is waste of time and has no benefit.



CAN EXERCISE CORRECT REFRACTIVE ERROR?



There is no proven evidence that any type of exercise can make any difference to refractive error.



CAN A WRONG DIET LEAD TO NEED OF GLASSES?

There is no scientific evidence that diet plays any role in the need for glasses, nor will a change in diet or a special diet or vitamins makes any difference.

There are a few eye diseases related to lack of vitamins or to malnutrition , especially in people who are the victims of famine or primitive condition



DOES EATING LOTS OF CARROT GIVE ME GOOD EYES AND EYESIGHT?

Carrots contain vitamin A , which, in small amounts , is necessary for the eyes to function .





IS IT SAFE TO LOOK AT A SOLAR ECLIPSE

It is never safe to look directly at an eclipse through any device except those scientifically designed for that purpose



DOES PROLONGED VIEWING OF COMPUTER SCREENS DAMAGE YOUR EYES?

There is no scientific evidence that any permanent damage to your eyes can occur in this way, but may lead to dry eye syndrome



I SEE SOMETHING MOVING IN FRONT OF MY EYES!

These are floaters which is a common complaint

If you are short sighted, some floaters are common

Sudden appearance of floaters in any person needs to be examined

If you see sparks of light also, you must get your retina checked immediately



MY CHILD'S GLASSES NUMBER IS INCREASING TOO FAST!

Get your child's eye examined regularly.

Usually the number increases in growing age till puberty or till the body height increases.

If your child is healthy, he does not need any medicines

If there is excessive use of computer or TV viewing, it can be reduced



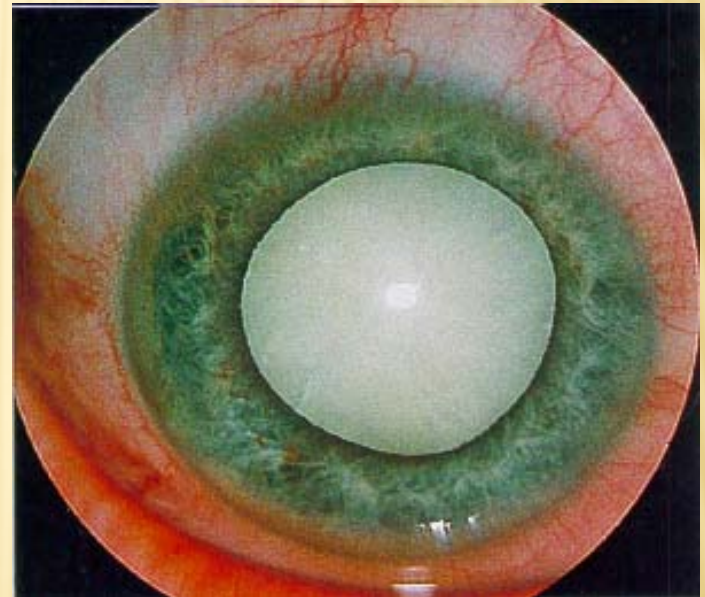
WHY DO WE NEED TO WAIT FOR SO LONG? DO WE NEED TO PUT EYE DROPS ALWAYS?

For a complete check up we need to dilate the pupils so that the view of retina is complete and any problem with the retina can be detected at an early stage.



CAN CATARACT BE DUE TO OVERUSE OF THE EYES?

Cataracts are usually related to age and many years of exposure to bright sunlight. They have nothing to do with how you use your eyes.



Mature Cataract



CAN CATARACT BE TREATED WITH EYE DROPS OR MEDICATIONS?

Cataract can never be treated with medication or eye drops.



THEN WHAT IS THE CURE FOR CATARACT?

In a person with cataract , the doctor sees if his vision can be improved with glasses, accordingly ,he advises glasses.

If vision is less and not good enough to pursue daily activity, then surgery is the answer.



WHAT IS LASER OPERATION FOR CATARACT?

Lasers are not normally used for cataract operation , it is a misconception

Today, majority of cataracts are operated by PHAKOEMULSIFICATION . This is a stitchless operation , here cataract is broken into small pieces and removed by suction and subsequently, foldable lens is implanted



IF YOU ARE DIABETIC READ THE STORY CAREFULLY

**WHAT HAPPENED TO MR. RAMESH, A
DIABETIC PATIENT**



LAST NIGHT

Last Night Mr. Ramesh was very relaxed and watched TV till late night.



NEXT DAY MORNING

Mr. Ramesh woke up late. To his surprise he could not see his watch with his Right eye. In PANIC he rushed to the eye doctor.



CHECK UP WITH EYE DOCTOR

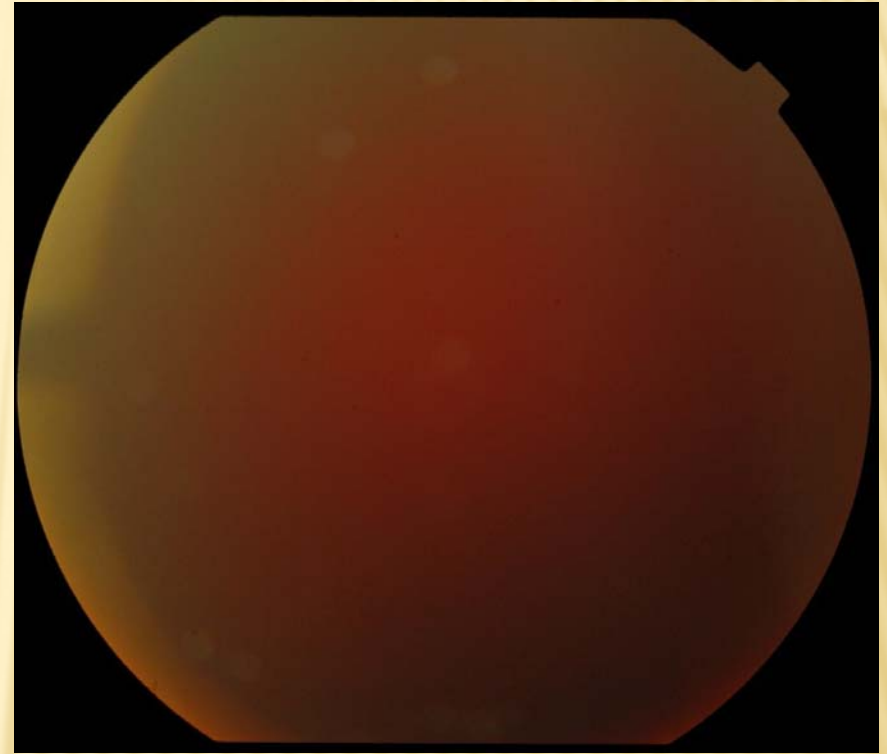
Doctor took his history and found that he was diabetic since 8 years and had never got his eyes examined.

Ramesh: Doc., I have never had any eye complaint. Till yesterday night I was watching tv.



RIGHT EYE ON EXAMINATION

He was examined thoroughly and was found to have blood in his vitreous cavity (Vitreous - Haemorrhage) in his Right eye.



Here is the Photograph of Right Eye Retina details not seen, it is filled with blood



LEFT EYE PHOTOGRAPH

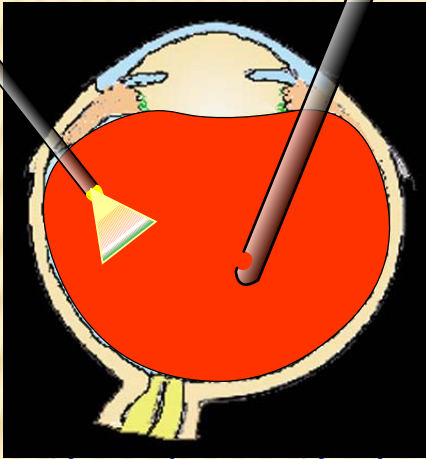
Also there were diabetic changes in his left eye too, though he had no complaint. He was taken aback.



Here is the Photograph of Left Eye having diabetic changes.



SURGERY



Vitreous
Haemorrhage

Mr. Ramesh had to undergo surgery in his Right eye to remove the blood.

This Surgery is called vitrectomy.

He was lucky to have recovered well.



LASER TREATMENT

Mr. Ramesh had to undergo Laser Treatment twice in his Left eye to stabilize the disease.



Left Eye Laser Treatment



WHAT DO WE LEARN?

We wonder why he did not come for check up earlier when he had no problem with vision.

Treatment of Diabetic Eye Diseases is most effective when your sight is normal. We could have avoided a major operation, had he come in time for check up & treatment.



WHAT DO WE LEARN?

All diabetic should therefore get their eyes checked regularly ie. Atleast once or if possible twice a year.



Do you have Diabetes!

You can become

Blind

If proper care not taken



Diabetic Retinopathy



WHAT IS DIABETES

- Diabetes mellitus or diabetes is a disorder of sugar/glucose metabolism in the human body.
- Though there is plenty of sugar in the body, the body cannot utilize it for energy as, a chemical 'insulin' which burns this sugar is in shortage.



WHAT IS DIABETES

- It is like a person feeling thirsty in the sea: “water water everywhere but not a drop to drink”
- Thus this extra unutilised sugar acts like a ‘poison’ for the whole body affecting every organ specially the eye, potentially leading to blindness



HOW MANY ARE DIABETIC

Unfortunately, diabetes affects about 1 in every 15 people in our country.



TYPES OF DIABETES

There are two types of diabetes:

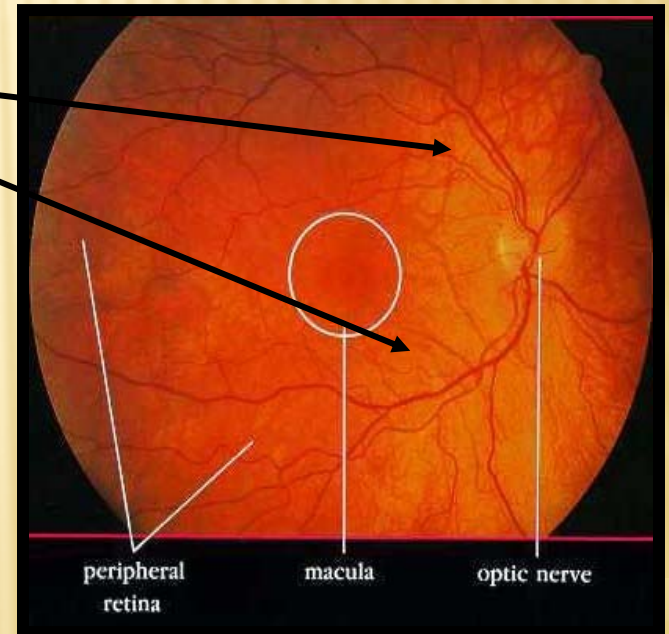
- In young people who mainly need insulin treatment
- In elderly who mainly need tablets, diet and exercise



HOW DOES IT AFFECT THE EYE

Retina is the inner window of the eye with which we see.

It has lots of blood vessels supplying 'food'. Diabetes affects these blood vessels.



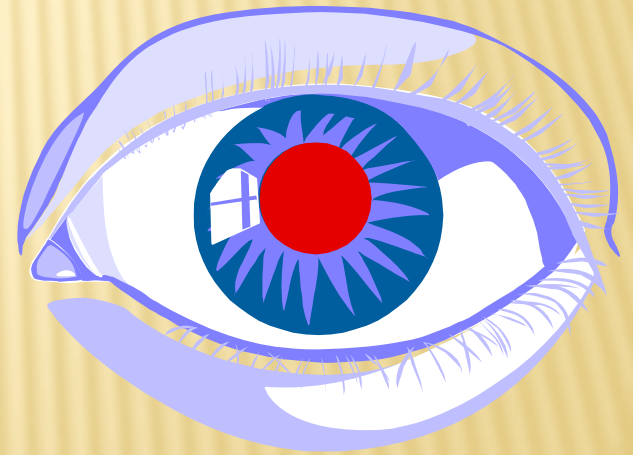
WHAT ARE THE RISK FACTORS

- **Age of onset of diabetes**
- **Duration of diabetes**
- **Type of control of diabetes: poor and fluctuating control increase risk.**
- **Family history of diabetic retinopathy**
- **High blood pressure & smoking**



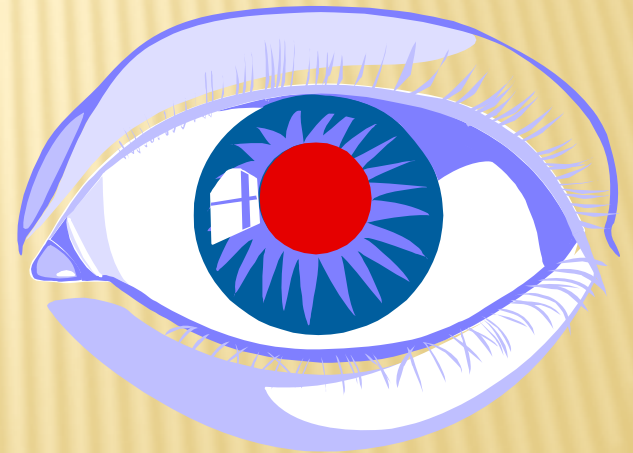
STAGES OF DIABETIC RETINOPATHY

There are four main stages but the disease may not follow a predictable course and some people may present with Severe damage



STAGES OF DIABETIC RETINOPATHY

- 1) Background (BDR)
- 2) Maculopathy
- 3) Proliferative (PDR)

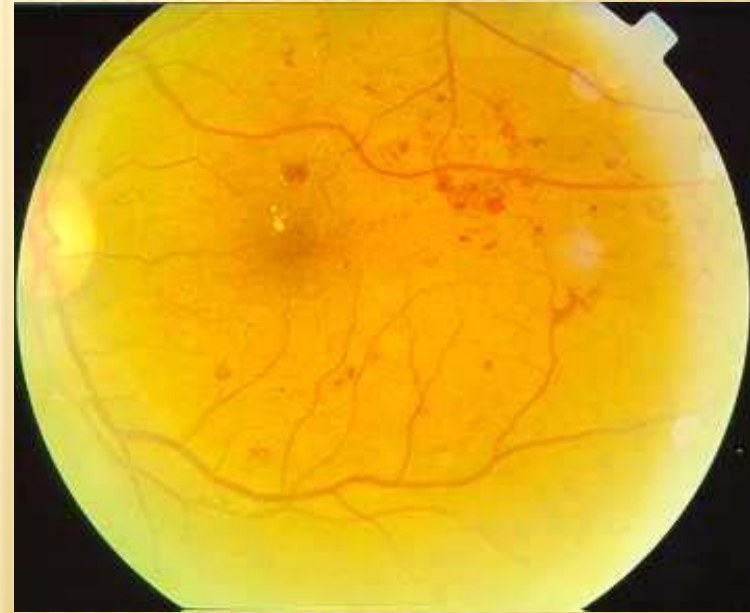


BACKGROUND DIABETIC RETINOPATHY (BDR)

- Early stage, it is a warning stage
- Vision is usually good
- Blood vessels leak fluid and blood.

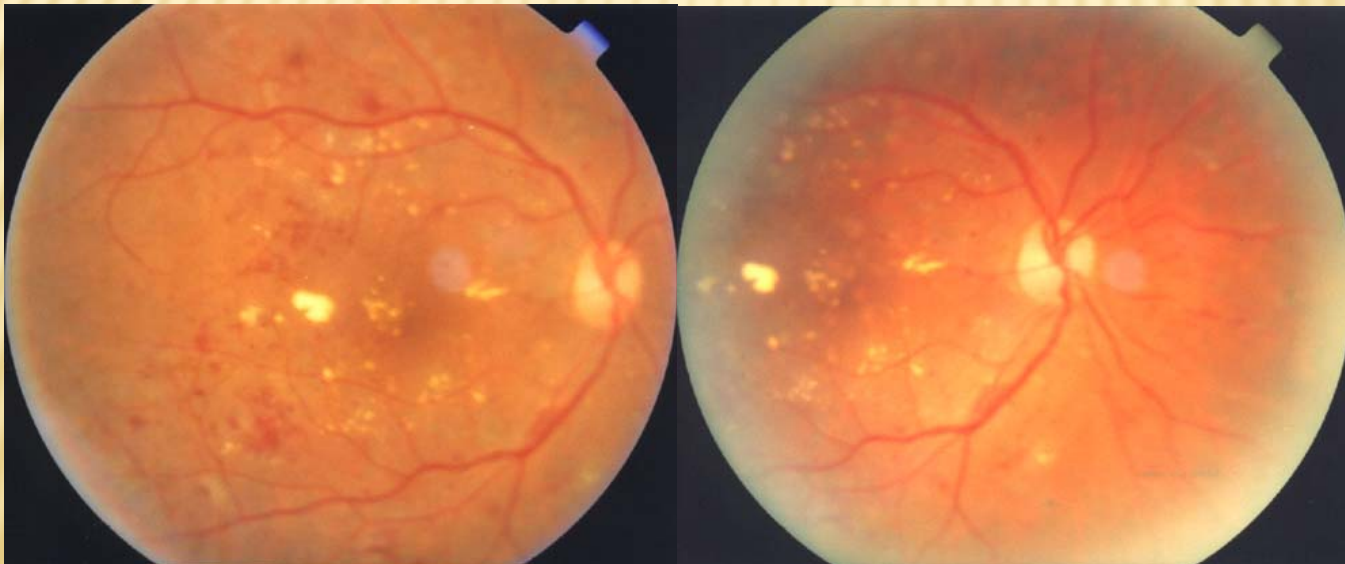
Their walls also become weak

- Treatment is proper diabetic control
- Regular detailed retinal check up.



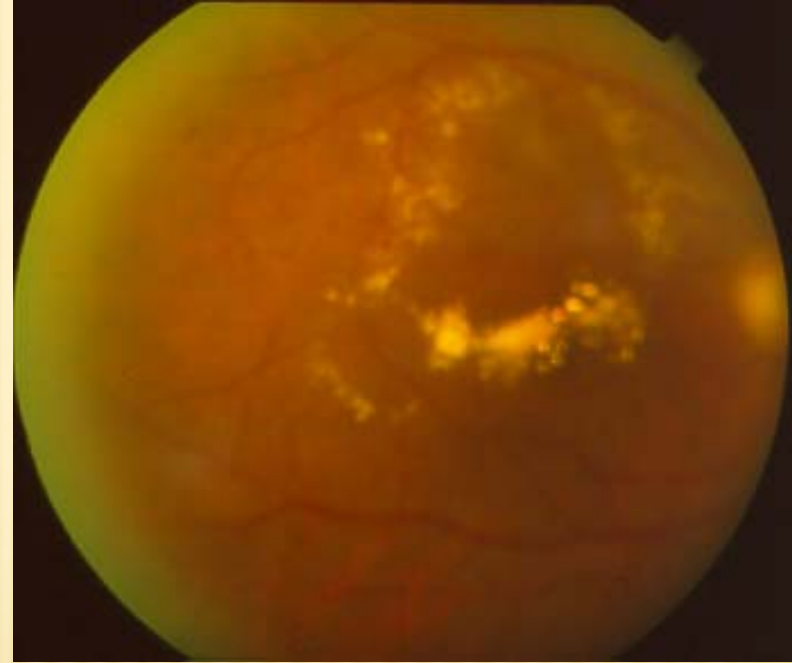
MACULOPATHY

- Macula is the most important and sensitive part of the retina. It is responsible for clear and sharp vision.



MACULOPATHY

- In some diabetics this macula accumulates fluid leaked from the blood vessels. This is macular oedema.
- This leads to drop in critical vision



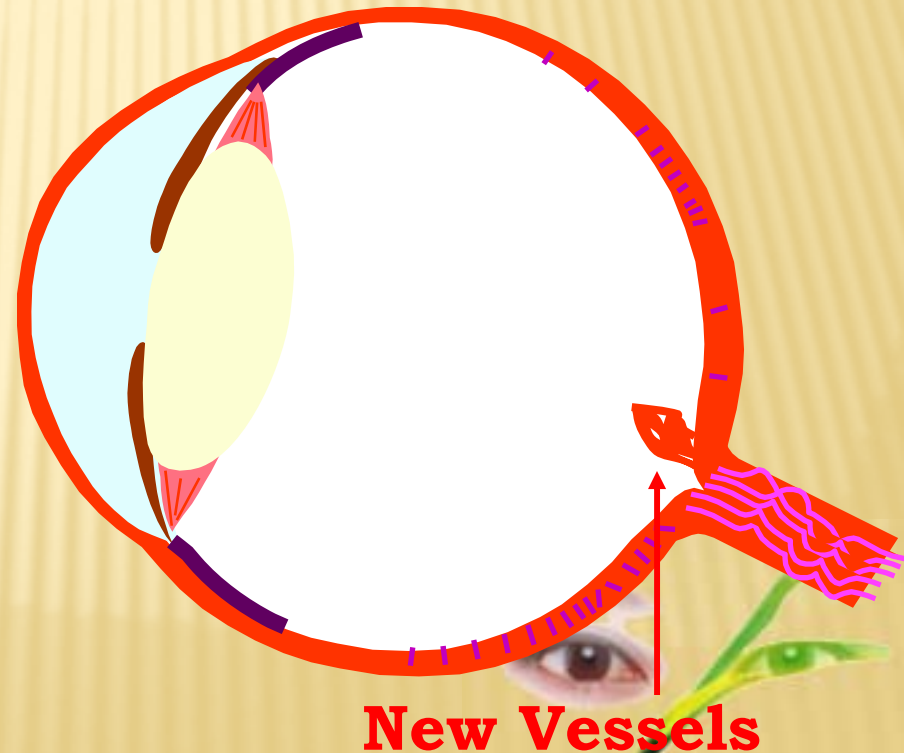
PROLIFERATIVE DIABETIC RETINOPATHY (PDR)

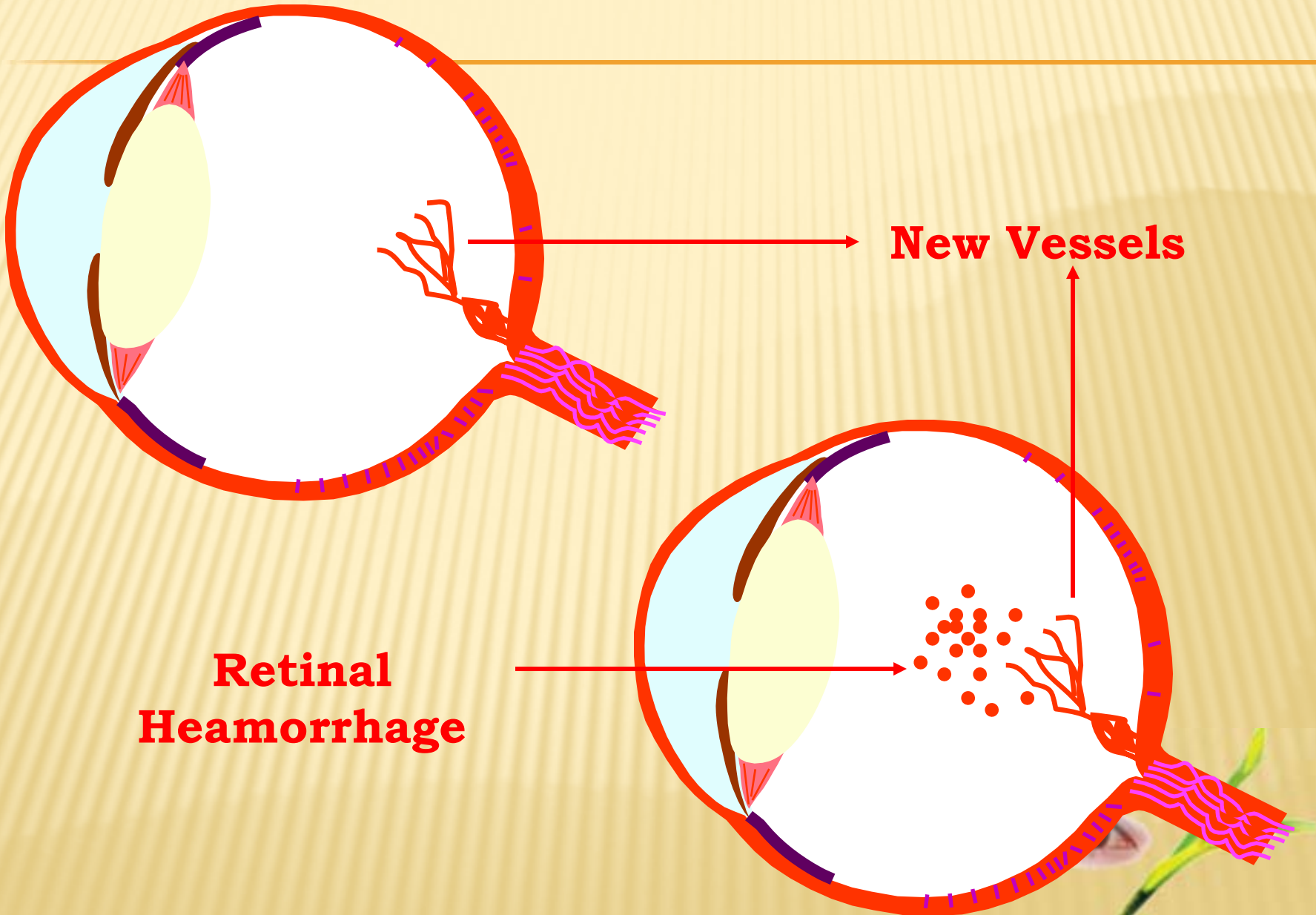
- Some small blood vessels close causing lack of nutrition to that part
- This sets the stage for new vessel formation which is the worst feature of Diabetic Retinopathy



PROLIFERATIVE DIABETIC RETINOPATHY (PDR)

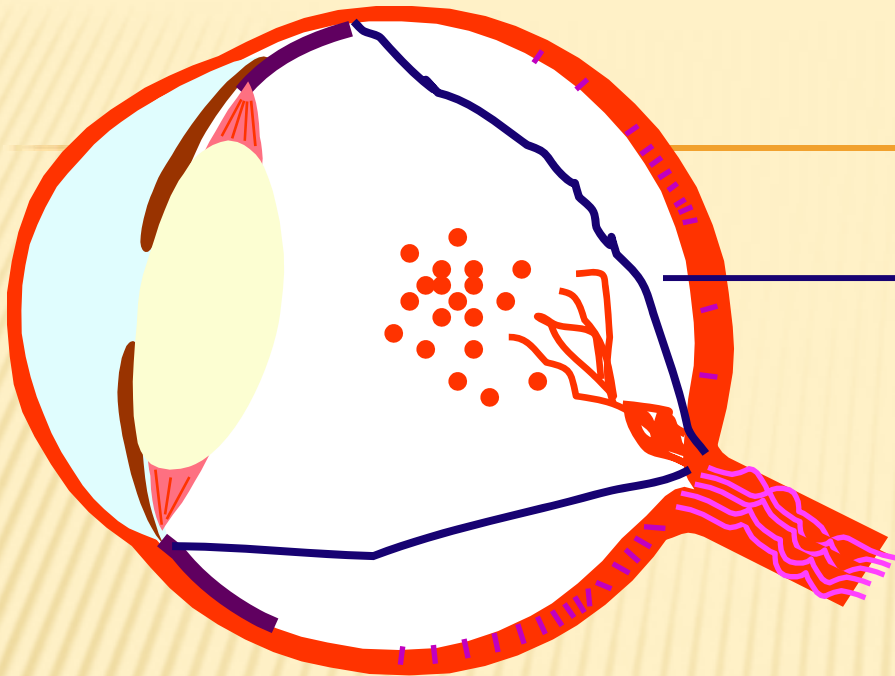
- Unfortunately these new vessels are in the wrong place and are weak. They also bleed easily and form scar tissue



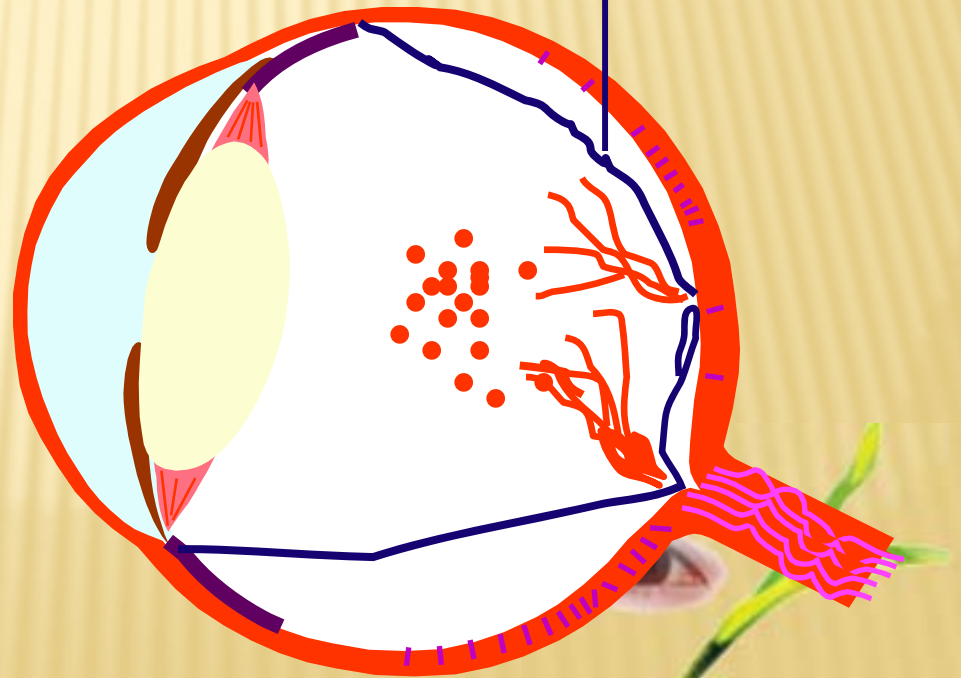


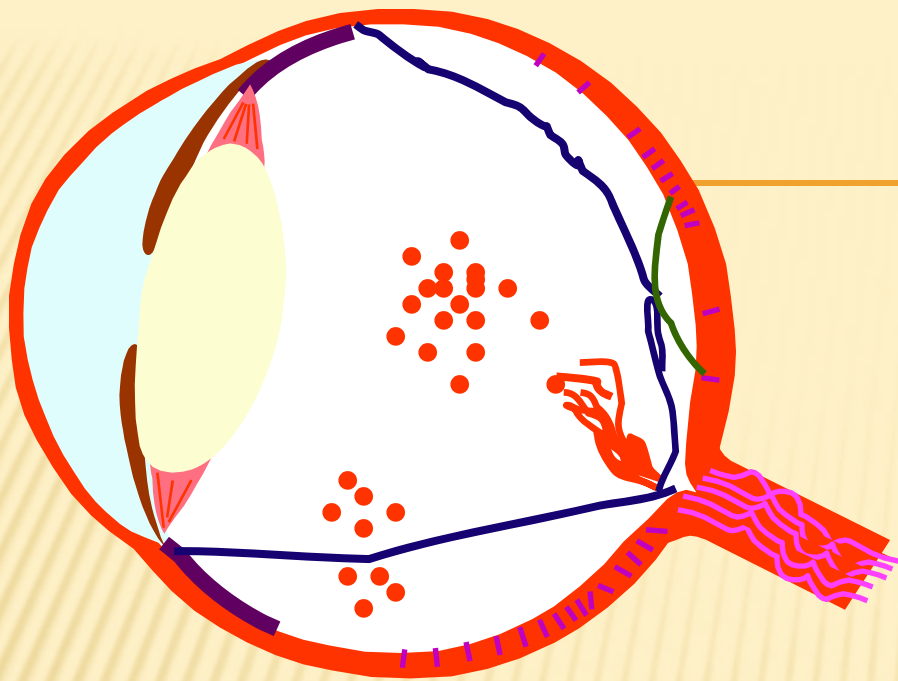
**Retinal
Heamorrhage**

New Vessels

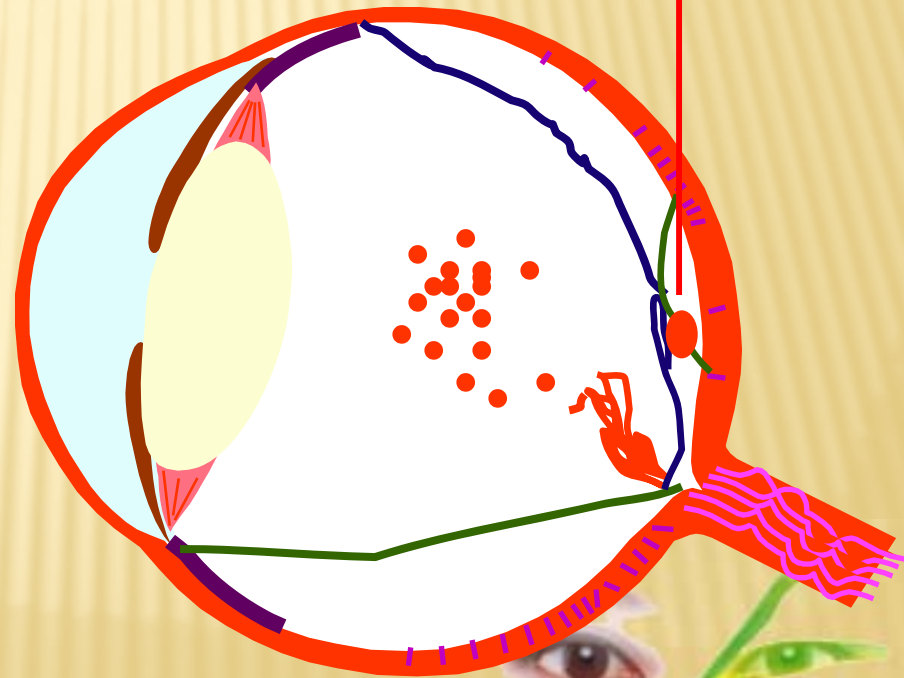


Retinal Detachment





Retinal Hole



PROLIFERATIVE DIABETIC RETINOPATHY (PDR)

- This leads to severe and serious complications like vitreous haemorrhage, retinal detachment, glaucoma.



PROLIFERATIVE DIABETIC RETINOPATHY (PDR)



Pre-operative.



Post-operative.



INVESTIGATIONS

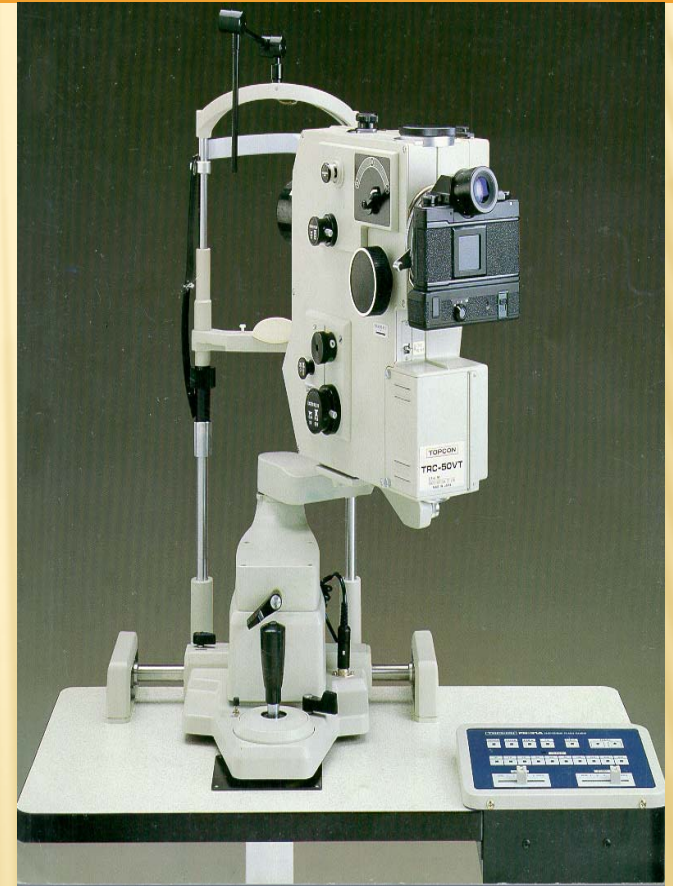
- From the eye point of view, fundus fluorescein angiography (ffa) is most important. In some cases it needs to be repeated at intervals

Oct is another important investigation



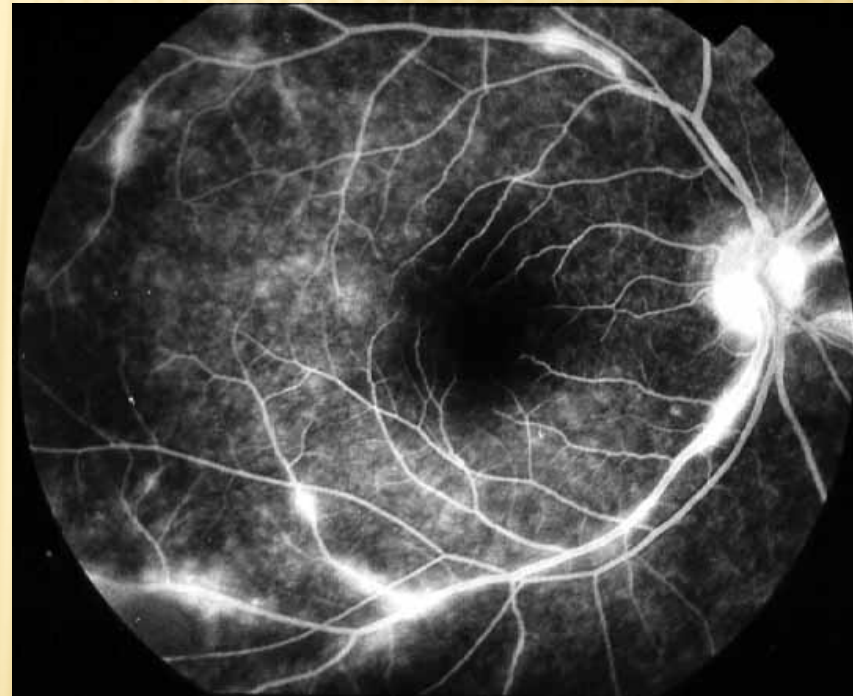
WHAT IS FFA

- In this a special dye (fluorescein) is injected in the arm and sequential photographs of the retina are taken with the help of a specialised equipment called as the ‘Fundus camera’



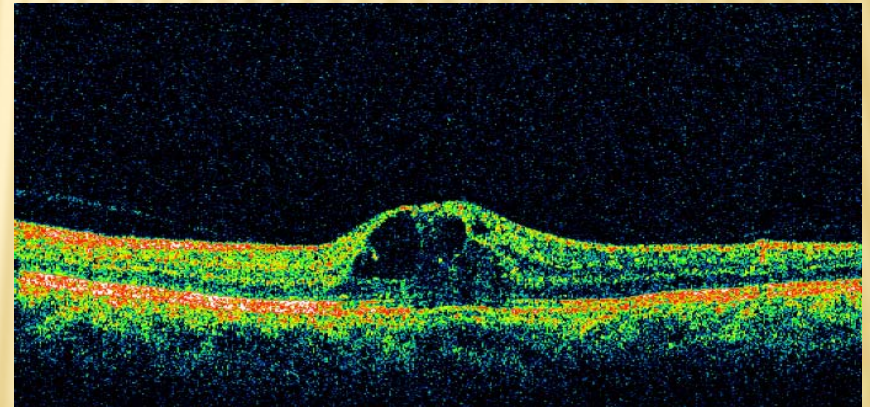
WHAT IS FFA

- This dye circulates in the blood and special filters in the camera highlight it, thereby the type and severity of the Diabetic Retinopathy can be documented



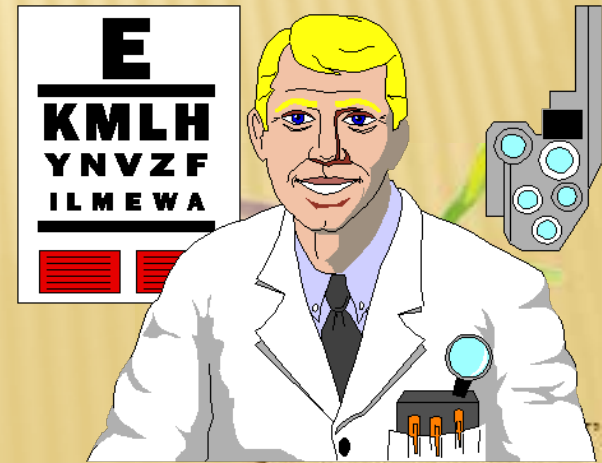
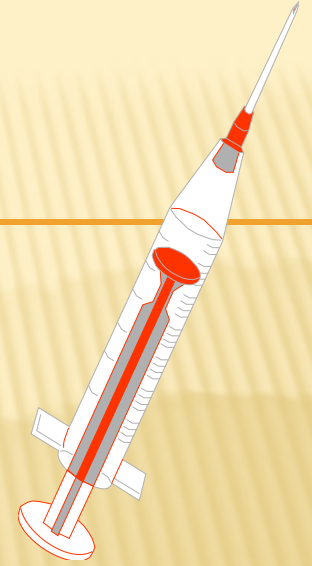
OPTICAL COHERENCE TOMOGRAPHY

- ✘ OCT is a non invasive procedure.
- ✘ It helps in evaluating the structure of Retina especially macula and its relation to vitreous



MANAGEMENT

- Every person above the age of 40 should get his blood sugar checked every year
- All diabetics have their retinal evaluation by an ophthalmologist every 6 months



MANAGEMENT

■ **MOST IMPORTANT IS ABSOLUTE CONTROL OF DIABETES, FOR LIFE.**



MANAGEMENT

Maculopathy

In some cases **Laser** can Improve/ Stabilise vision

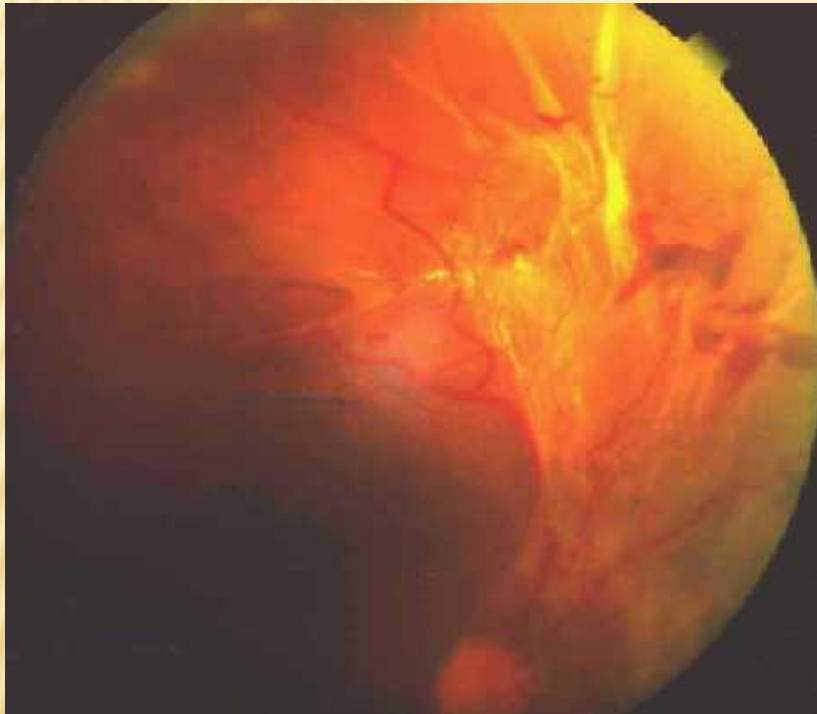


MANAGEMENT

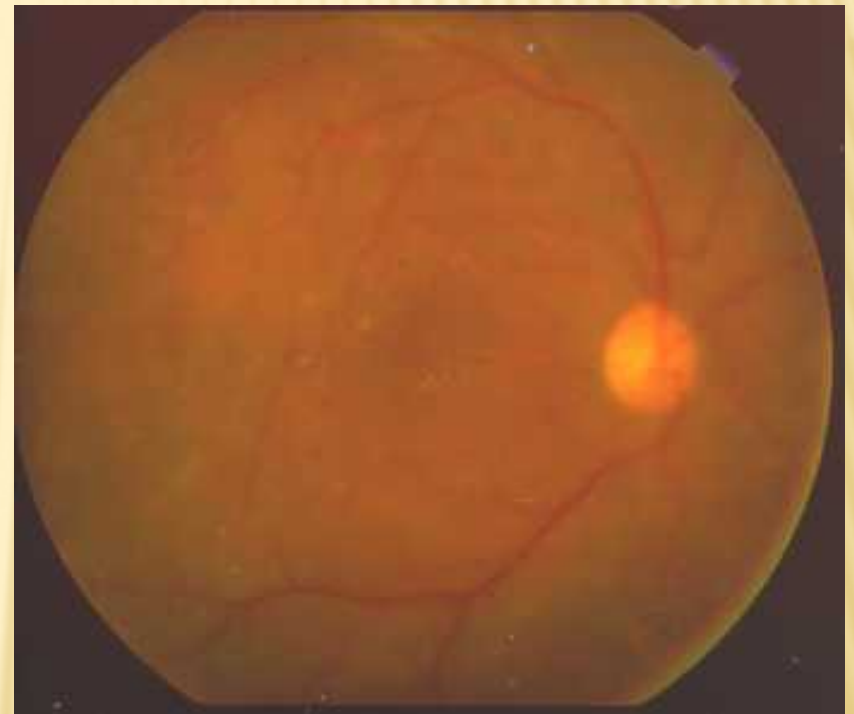
PROLIFERATIVE DIABETIC RETINOPATHY

- Laser and/or
Surgery





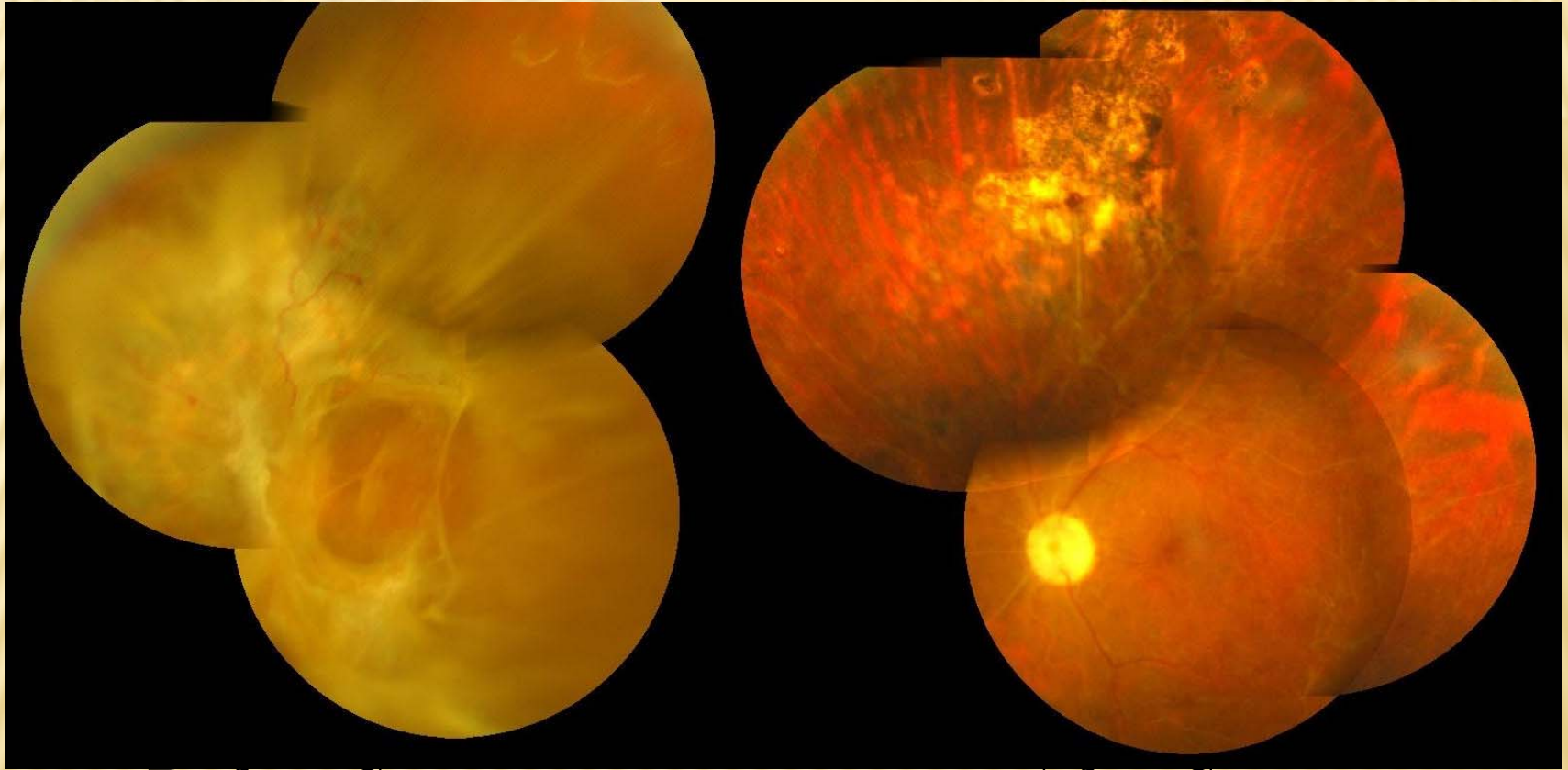
Before Surgery



After Surgery



ADVANCED PDR



Before Surgery

After Surgery



Advanced PDR

Please visit Surgery Videos page on our website to watch Video Clip of Advanced PDR.

Please go to “Advanced PDR” video on

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PROGNOSIS

- BDR: good
- Maculopathy: good to fair
- Proliferative: good to fair



ADVANCED PDR

- The aim of the treatment is to control or slow the progression of the disease
- It is not possible to reverse the damage in all cases in spite of best care



STORY OF MR. RAJU

If you see insect like things
in front of your eye please go
through this story.



MR. RAJU SEES MOSQUITOES



Mr. Raju a young man, 30 year old used to see some insects moving in front of his Left Eye since 2 days.

He did not bother. He thought it was bad weather.



LOSS OF PARTIAL VISION



Suddenly he realised he could not see **upper portion** with his left eye.

He still did not bother he thought his numbers in left eye must have changed.



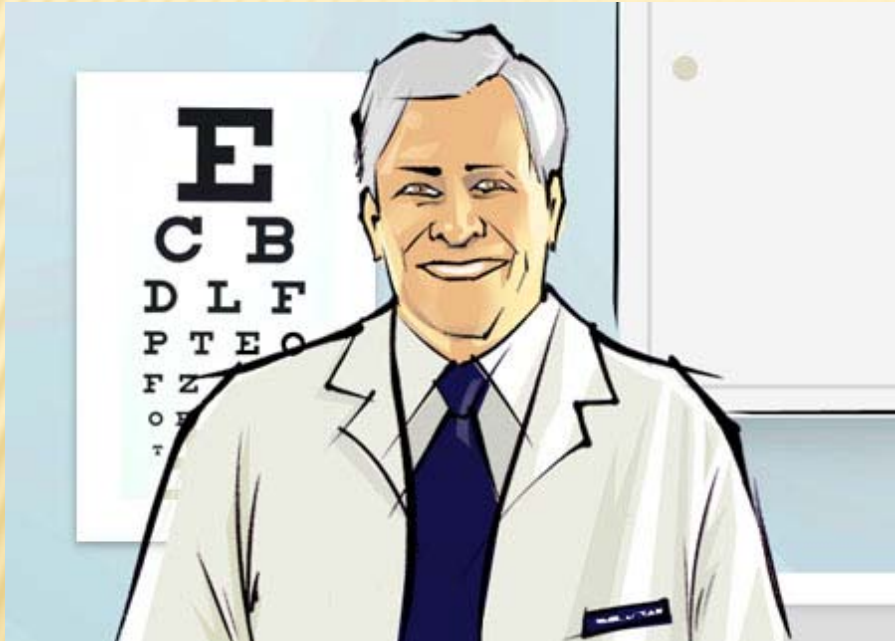
VISION LOST



After 10 days he suddenly realised that he could not see with his left eye.



VISION LOST



He now panicked
and rushed to
an eye doctor



DETAILED EXAMINATION



Here doctor dilated his pupils and examined him to find that he had detachment of Retina in his left eye.

It was a total detachment and also involved the macula hence he had lost complete vision.



DOCTORS ADVISE



He was made to understand the gravity of the disease and was advised **immediate surgery**.

But he wasted another week taking opinions from other ophthalmologists.



SURGERY



Finally he underwent surgery. After a week he recovered about 70% vision. Doctor was happy but patient was unhappy because he did not recover 100% vision.



WHAT IS THE OUTCOME



Alas! He could have come at the right time for treatment!

Had he come in the initial stage when he had floaters & only retinal tear; he could have been cured by laser alone; surgery could have been avoided.



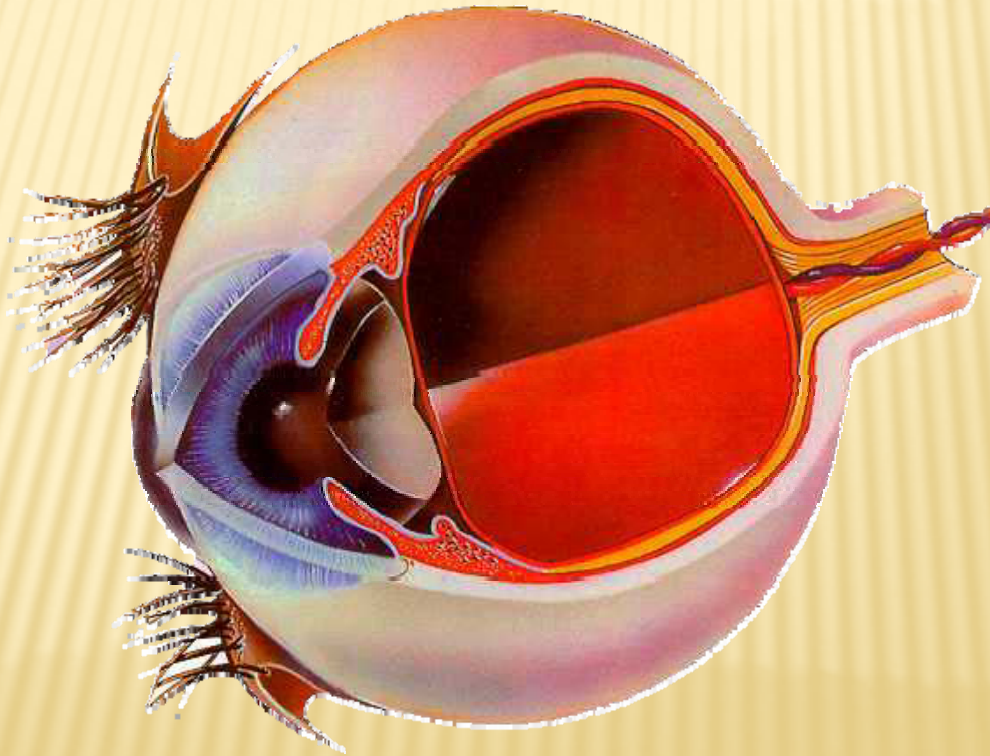
Putting 'EYE before 'I'

WHAT IS THE OUTCOME

Alas Raju known that these complaints cannot be taken lightly.



Retinal Detachment



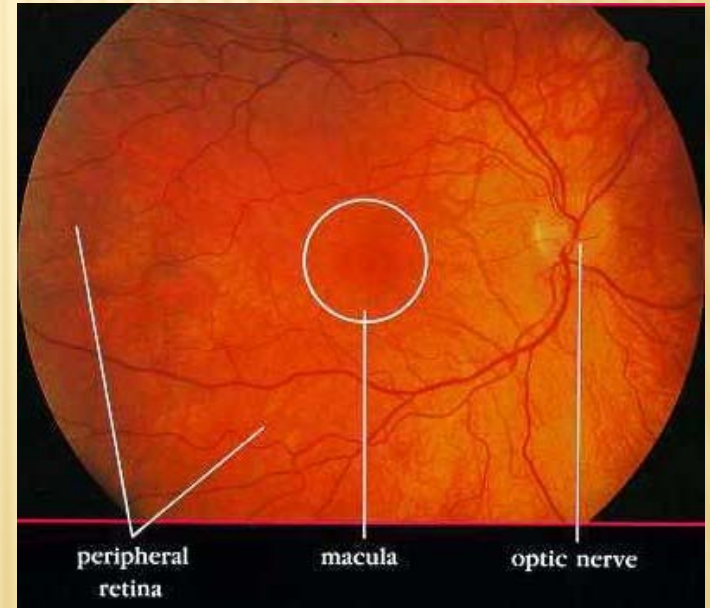
WHAT IS RETINA?

RETINA IS THE INNERMOST AND THE MOST IMPORTANT LAYER OF THE EYE.

IT IS SIMILAR TO THE FILM OF A CAMERA.

IT CONVERTS LIGHT INTO IMAGES FOR THE BRAIN TO SEE.

IT IS LOOSELY GLUED TO THE WALL OF THE EYE.



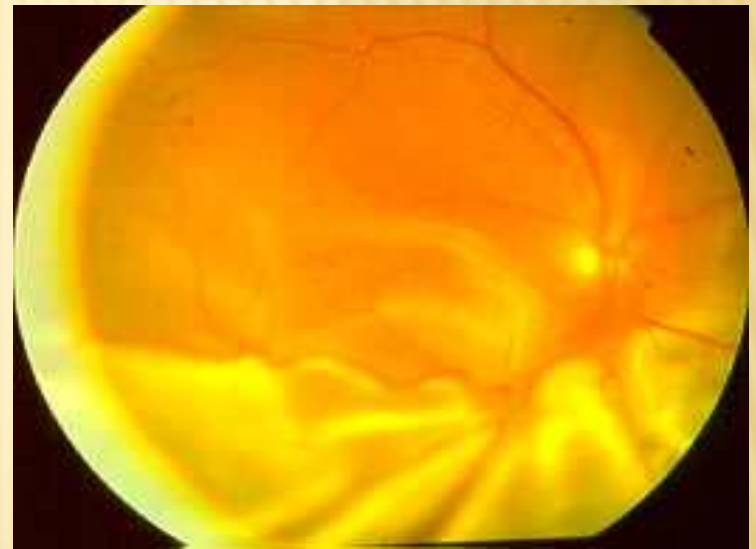
WHAT IS RETINAL DETACHMENT ?

WHEN THIS GLUE WEAKENS, THE RETINA SEPARATES FROM THE WALL OF THE EYE

THE RETINA, NOW DOES NOT WORK AND THE VISION FALLS

IT IS A VERY SERIOUS PROBLEM THAT ALMOST ALWAYS CAUSES BLINDNESS IF UNTREATED

EARLY TREATMENT HAS BETTER OUTCOME



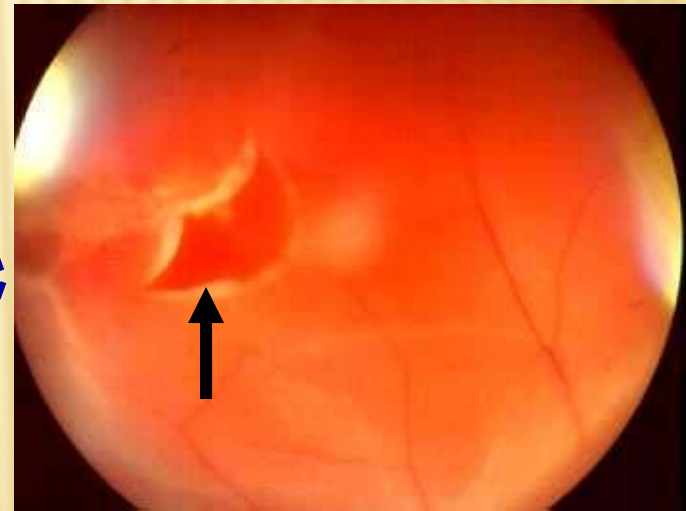
HOW DOES IT OCCUR ?

MOST OCCUR DUE TO HOLES, TEARS, BREAKS OR DEGENERATIONS IN THE RETINA, BUT ALL DO NOT LEAD TO DETACHMENT

SOME OCCUR DUE TO INFLAMMATIONS, DIABETES, TUMOURS OR OTHER DISEASES

VITREOUS GEL WHICH FILLS THE INNER PART OF THE EYE THEN SEEPS THROUGH THESE HOLES AND LIFTS THE RETINA

THIS IS CALLED AS RETINAL DETACHMENT



WHO ARE AT HIGHER RISK?

MYOPIA (NEARSIGHTEDNESS)(MINUS SPECTACLES)

PREVIOUS CATARACT SURGERY

PREVIOUS RETINAL DETACHMENT IN OTHER EYE

FAMILY HISTORY OF RETINAL DETACHMENT



CONTINUED.....

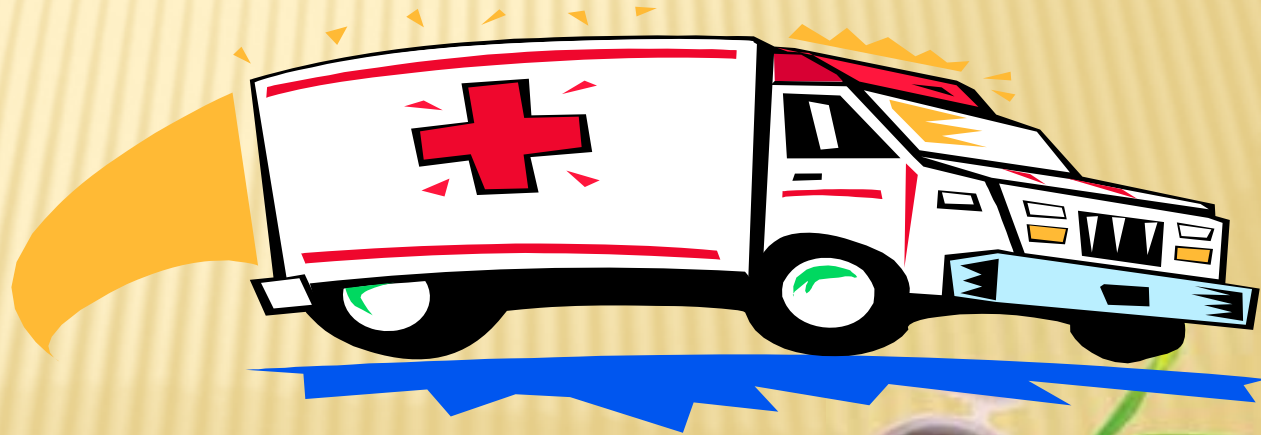
WHO ARE AT HIGHER RISK?

SEVERE INJURY

WEAK AREAS IN THE RETINA

GLAUCOMA

1 IN 10,000 PEOPLE ARE LIKELY TO GET IT



WHAT ARE THE SYMPTOMS ?

FLASHES OF LIGHT

FLOATERS (BLACK SPOTS) IN FRONT OF EYES

SHADOW MOVING ACROSS THE EYE



SUDDEN DROP OR CROOKED VISION

THESE SYMPTOMS ARE NEVER PAINFUL

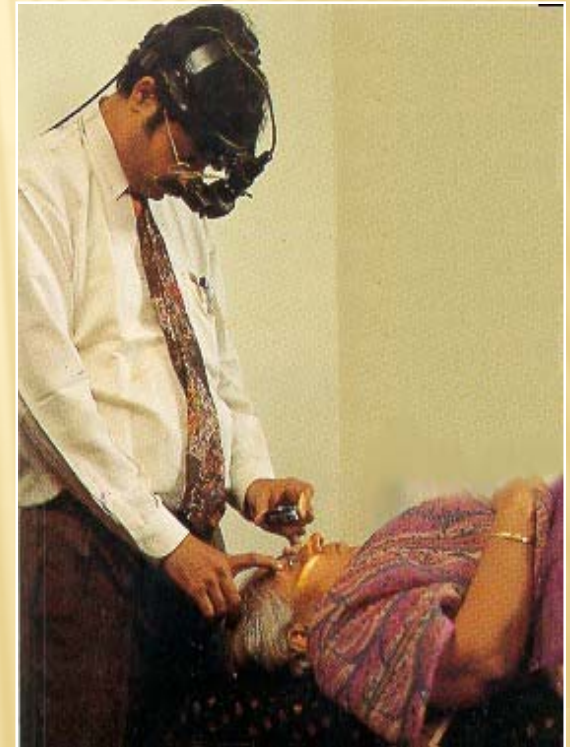


HOW IS IT DIAGNOSED ?

A DETAILED EXAMINATION OF THE RETINA WITH DILATED PUPILS IS DONE BY YOUR OPHTHALMOLOGIST.

SOME ARE DIAGNOSED ON ROUTINE EXAMINATION

RARELY, AN ULTRASONOGRAPHY OF THE EYE MAY BE NECESSARY



WHAT IS THE TREATMENT ?

TREATMENT FOR RETINAL HOLES, BREAKS

LASER OR COLD (CRYO) APPLICATION TO THE AFFECTED RETINA

IT IS AN OPD PROCEDURE NEEDING ONLY FEW MINUTES AND CAUSES LITTLE OR NO DISCOMFORT

IN SOME CASES NO TREATMENT IS DONE BUT REGULAR FOLLOW UP IS NECESSARY

THIS TREATMENT USUALLY PREVENTS DETACHMENT



WHAT IS THE TREATMENT ?

TREATMENT OF RETINAL DETACHMENT

SURGERY IS NEEDED IN MOST CASES

IN SIMPLE DETACHMENTS, SCLERAL BUCKLING SURGERY IS DONE, IN WHICH A SILICON BUCKLE (BELT) AND CRYO IS USED WHICH WORKS WELL IN 90-95 % OF CASES

IN COMPLICATED DETACHMENTS OR REDETACHMENTS ADVANCED TECHNIQUES LIKE VITRECTOMY, SPECIALISED GASES, LASER, SILICON OIL ETC. MAY BE NEEDED.



RETINAL DETACHMENT SURGERY

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Please go to “Retinal Detachment Surgery” video on

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RETINAL DETACHMENT SURGERY

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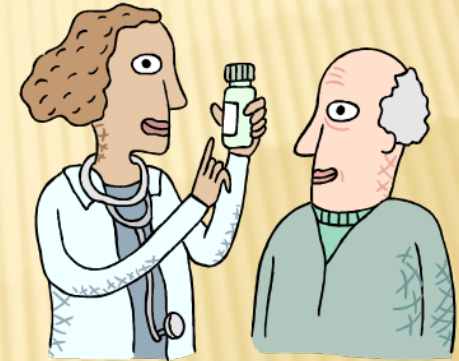
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AFTER THE OPERATION

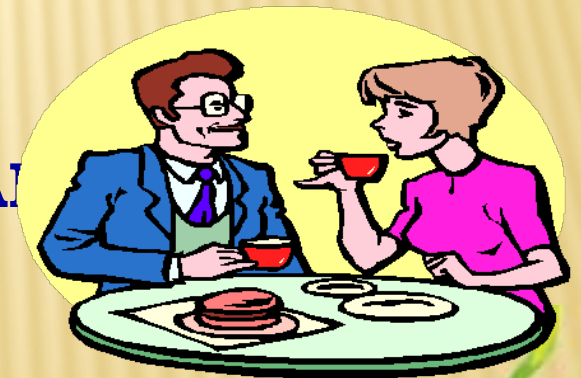
YOU WILL HAVE LITTLE PAIN & DISCOMFORT FOR A FEW DAYS

YOU WILL NEED TO TAKE ORAL TABLETS & EYE DROPS FOR A FEW DAYS



YOU WILL NEED TO TAKE REST UPTO TWO WEEKS THOUGH ROUTINE ACTIVITIES & WATCHING TV IS ALLOWED

YOU CAN ALSO EAT YOUR USUAL DIET



RESULTS/RECOVERY

DEPENDS ON THE DURATION, TYPE, SITE ETC. OF DETACHMENT. EARLIER THE BETTER

IF THE SURGERY IS SUCCESSFUL, THE EYE WILL RETAIN SOME DEGREE OF SIGHT AND BLINDNESS WILL HAVE BEEN PREVENTED. HOWEVER THIS RECOVERY TAKES UPTO SIX MONTHS.



RESULTS/RECOVERY

APPROX. 40 % OF SUCCESSFUL CASES HAVE EXCELLENT VISION. THE REMAINING ATTAIN VARYING AMT. OF READING/ TRAVELLING VISION

UNFORTUNATELY, DUE TO FIBROSIS OR VITREOUS SHRINKAGE NOT ALL RETINAS CAN BE ATTACHED EVEN AFTER REPEATED SURGERIES

