

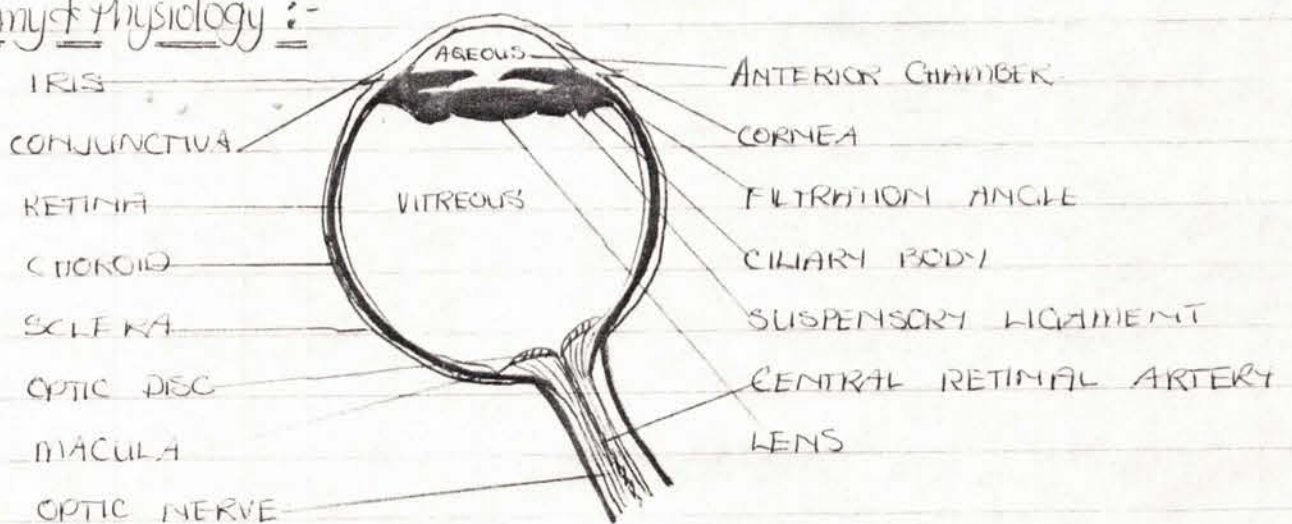
E.N.T + O^HTHALMICS ASSIGNMENT :-

RETINAL DETACHMENT

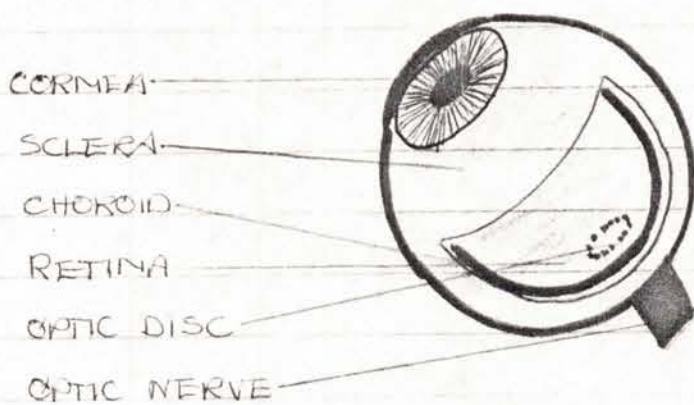
Definition:-

Separation of the light sensitive layer of the retina from its pigmented layer which is attached to the choroid.

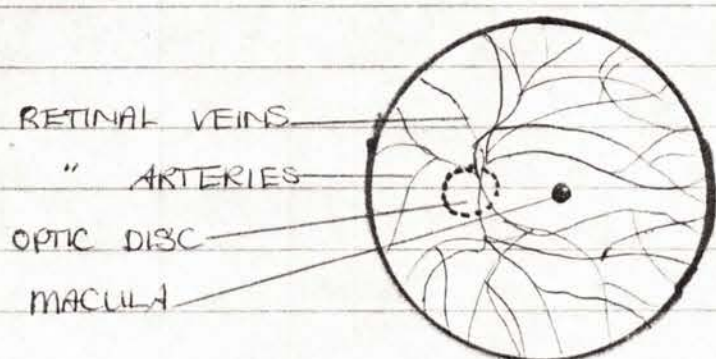
Anatomy & Physiology :-



■ HORIZONTAL SECTION OF LEFT EYEBALL



■ EYEBALL WITH SECTION REMOVED



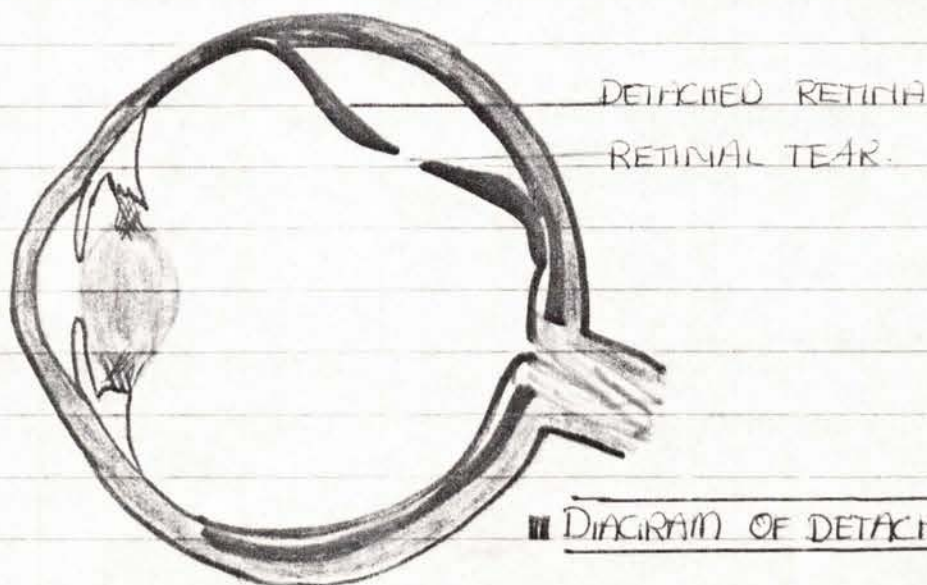
■ FUNDUS - AS SEEN WITH AN OPHTHALMOSCOPE

The Retina:

The Retina is the innermost of the three tunics of the eyeball surrounding the vitreous body & is continuous posteriorly with the optic nerve. The retina is composed of light sensitive neurons arranged in three layers; the first layer is made up of rods & cones & the other two transmit impulses from the rods & cones to the optic nerve. The rods are sensitive in dim light & the cones are sensitive in bright light & are responsible for colour vision.

Detachment of the Retina:

Detachment of the retina is the complete or partial separation of the retina from the choroid (the middle coat of the eyeball).



■ DIAGRAM OF DETACHED RETINA

When this detachment occurs fluid accumulates between the layer of rods & cones & the pigment epithelium of the retina. This can happen because the outer layer of the retina & the inner layer lie in opposition without any form of union except around the optic disc & the ora serrata (the "wavy" edge).

So, primary retinal separation occurs when for any reason such a breach allows fluid from the vitreous to seep into the sub-retinal space. Primary separation of the retina may follow injury to the eye; myopic changes or it may be idiopathic.

In myopic patients retinal separation occurs usually between 30 & 40 years of age and is more common in men than in women.

Those people where myopic changes more commonly occur, for example Jews, have a higher incidence of retinal separation (although the Chinese, who are also often myopic, rarely develop retinal detachment).

Detachment of the retina may also occur as a secondary manifestation, when no tear is present, in many conditions - for example (i) toxæmia of pregnancy

(ii) retinal retinopathy

(iii) a mass in the choroid.

Signs & symptoms:

In primary separation of the retina there is no pain hence the patient may not seek medical help on ^{the} onset of the condition.

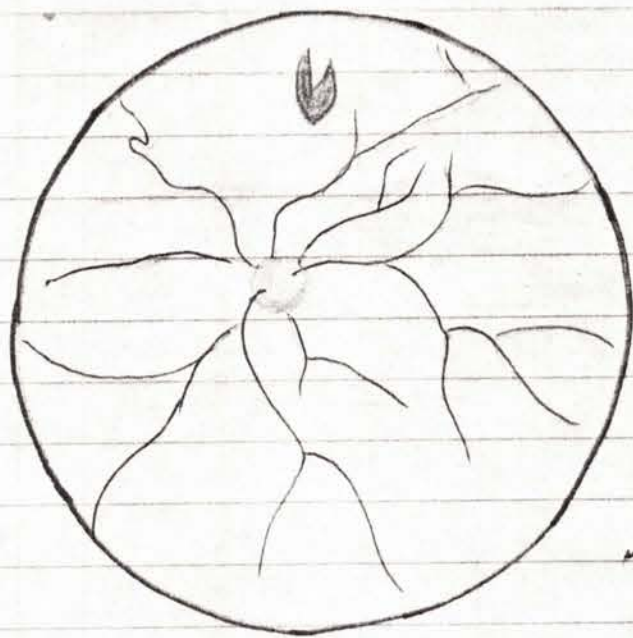
When they do present, some patients complain of "flashes of light" which is the result of stimulation of the loose retina as the eye is moved; other patients may complain of a shadow starting somewhere at the side of the field of vision & increasing in size.

The separation of the retina is a gradual condition, starting often at the periphery where the retina is thinnest.

is extending gradually until the affected eye is totally blind. This process may take only days, or may take weeks or even months.

EXAMINATION BY OPHTHALMOSCOPE IN RETINAL DETACHMENT

On examination with the ophthalmoscope the retina will be a dull grey colour & may be in folds. Holes and breaks may be visible; these may be in the form of a 'U' shaped tear, round holes or the retina may be torn away at the ora serrata (the "wavy" edge of the macula).



■ RETINAL DETACHMENT IN ASSOCIATION WITH A 'U' SHAPED TEAR.

THE PATIENT ON ADMISSION:

Once a diagnosis of retinal detachment has been made the patient should be admitted to the hospital ward.

Naturally enough this may be a shock to the patient as they are usually in quite good health otherwise. They will be anxious & concerned about their sudden loss of sight & also about the prospect of a week or two in hospital.

The nurse must be aware of these feelings & be prepared for the patient's reaction which may be anything ranging from anxiety, disbelief or even hostility. The nurse

Fair.

must be sympathetic & understanding, but constructively - just saying everything will be alright is not enough. The patient will appreciate an explanation of his condition that he can fully understand if the doctor or other staff have not met this need.

The patient may require a further admission as surgery cannot be fully guaranteed, & the importance of the admission must be explained. It will help the patient, also, if the general regime concerning the correction of retinal detachment is explained to him in terms he can understand, & why different procedures & nursing ^{measures} are done.

PREF-OPERATIVE CARE:

Patients admitted to hospital for surgery following retinal detachment are usually encouraged to rest in bed for a day or two prior to surgery.

The position of the patient in bed will depend on where the retina has in fact detached: For example: if the upper & outer area of the right eye were separated the patient should lie on his right side with the foot of the bed raised. This allows the retina to settle, prevents further separation & encourages the absorption of fluid which will have seeped beneath the retina.

This position is not very comfortable but if the reasons & benefits of the position are explained to the patient cooperation should be gained.

Complete bed rest may be necessary, in which case the patient will need to be bathed, fed etc by the nurse. However, the patient may be able to get up for toilet purposes & meals, quietly, & return to bed afterwards. On the other hand, a patient who has detachment of the lower half of the retina will be positioned upright with pillows for support.

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The patient does not usually have both eyes padded ^{postoperatively} but the unaffected eye may ^{also} be padded to discourage movement of the eyes. Alternatively, occluded glasses may be worn for the same purpose.

The instillation of mydriatic drops eg ATROPINE 1% or HOMATROPINE 2%

to both eyes paralyses the muscles of accommodation & provides a widely dilated pupil for the viewing of the retina through the ophthalmoscope.

During the period of immobility & waiting for surgical treatment, a mild sedative may be necessary to relieve anxiety & to control restlessness eg Valium 2mg T.O.S.

At night sedation may also be necessary & eg mackton 1/2 - 1 tablets nocte.

The time spent between admission & surgical intervention may vary, but during this time the surgeon will draw a diagram of the retina showing the position of detachment & breaks as viewed through the ophthalmoscope & will refer to this diagram during surgery.

The usual pre-op investigations will be carried out eg urinalysis, observations as a base line, allergies and a full medical examination. The pre-operative medication will be ordered eg PETHIDINE 100mg i.m.

STEMETIL 12.5mg i.m.

The social & psychological needs of the patient must be taken into consideration by staff also. Friends will be able to bring in outside news & such activities as listening to the radio & conversing with ambulant patients should be encouraged. There may be a need of a social worker in some instances & this should be arranged in such cases.

SURGICAL INTERVENTION:

The aims of surgery are

- (a) to release the sub-retinal fluid
- (b) to seal the holes or tears
- (c) to create an internal ridge to which the retina will adhere (shortening of the eyeball)

a) the sub-retinal fluid is removed by making a small hole through the sclera, (the tough, white outer layer of the eye):

b) To seal the holes surface diathermy is applied to the sclera overlying the area of the tear. The diathermy causes a reaction of union of the choroid & retina in the area of the diathermy so that the hole is obliterated.

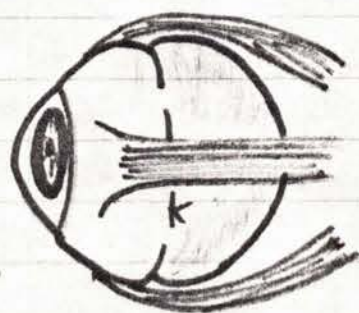
Alternatively, another method to seal the holes is by the application of intense cold using a cryotherapy retinal probe at a temperature of -80°C . There is an advantage using this method & that is that post-operative adhesions are less likely to occur.

As well as these two methods, a light coagulator (photo-coagulation) may be used as a third method. This method is more direct, & what actually happens is that a very strong beam of light is directed ^{through} the pupil which "welds" the retina on to the choroid. The only disadvantage of this method is that for it to be successful the retina must be in close opposition to the choroid with no sub-retinal fluid present.

Fourthly, laser beam may be used, this provides a reaction similar to the photo coagulator, but with greater accuracy.

c) Shortening the eyeball may be achieved by various methods, the most common one being to encircle

the eye around the midportion of the eye (equator) with a silicone rod or strap. This method is particularly useful in patients with myopia or an aphakic detachment where there is shrinking of the vitreous. Small local plombs of silicone may be buried under the sclera to cause a local indentation.



■ DIAGRAM SHOWING HOW THE BAND IS PLACED ROUND THE EQUATOR OF THE EYE UNDER THE RECTI MUSCLE & CONJUNCTIVA IN THE ARRUCH STRICK OPERATION (SHORTENING OF THE EYEBALL) IN RETINAL DETACHMENT.

POST OPERATIVELY:

When the patient returns to the ward he is nursed in the position he was initially in, allowing for modification if the patient is still unconscious, in which case the patient is nursed as all other unconscious patients.

The patient may not have eye pads on both eyes, but the affected eye will be covered, providing a degree of immobilization. The dressing is usually changed on the second or third day & then daily (unless there is special indication for more frequent treatment) (It may be helpful to have curtains & for blinds partly drawn as the eyes are sensitive, especially if both have initially been covered).

Conjunctival sutures may be removed on the fourth day, but are often left longer if not causing any discomfort. Patients may then wear protective glasses.

When the patient is allowed to ambulate (this time varies)

he/she is warned of his/her limited field of vision so as he/she will not bump into articles.

During the post operative period eg PARACETAMOL - orally may be given for discomfort. Also, initially, the patient may be given eg STEMETIL 12.5 mg i.m. for nausea as vomiting is undesirable as the pressure on vomiting could disturb the work done on the eye.

Sneezing & coughing are discouraged also & for the same reason, & a linctus may be given to control the cough.

The patient remains in hospital, avoiding activities of exertion until told otherwise, for a period of up to 3-4 weeks, depending on the results of treatment.

The patient is given information on discharge as to when to return to his surgeon for a check of treatment & progress. Checks by the ophthalmologist will be advised at increasing intervals until every year or two is sufficient.

The patient is also advised to avoid heavy manual work & home help services may need to be arranged in some instances.

Any "at home" drug therapy should be explained clearly.

COMPLICATIONS:

Further detachment may occur at a later stage, & this should be treated promptly in the same way. ✓

9 min - AA

CASE HISTORY:

age 25

On ~~the~~ 12th November at 4:40 pm Robert Reynolds was brought into the casualty department of the Adelaide hospital after sustaining a blow to the head during a football game that afternoon.

He had been ushered from the field after complaining of "flashes of light" in the Right eye approximately half an hour after the incident occurred.

Robert was shown into a cubicle at casualty & asked to lie down until a doctor could see him. A nurse brought in an eye examination tray in preparation.

At 4:50 pm Robert was seen by Dr. Saunders and he answered questions concerning the incident & symptoms that ~~he~~^{he} had. Robert explained there was no actual pain in the eye only flashes as mentioned above.

Robert's eye was examined by ophthalmoscope after mydriatic drops - Atropine 1% - 1 drop locally - had been instilled.

Dr. Saunders felt that, due to the appearance of the retina when examined, he would ask an ophthalmologist at the hospital to give a second opinion on his diagnosis. His diagnosis had been Retinal Detachment.

Meanwhile he asked a nurse to cover the affected eye with a disposable eye patch to rest the eye.

At 5:00 pm Dr. Prescott examined Robert's eye again via ophthalmoscope & asked Robert questions of the same nature as those asked by Dr. Saunders.

It was felt by Dr. Prescott that the diagnosis of Retinal Detachment was correct & decided he would take over the case ?? Not entirely ethical!

Correction of the condition would mean surgical inter-

9 mm - A4

mention & he explained this to Robert.

Robert was told that without treatment he would most probably go blind within quite a short period of time. However, with rest & treatment there was almost a 100% chance that any sight impairment would be nil. He did not omit to mention that occasionally the operation would in fact leave the patient blind, but added this was rare. What exactly was wrong with Robert's eye was explained to him & after explaining this Dr. Prescott added that as the centre of his retina was not affected chances of a very successful operation were high, with his cooperation.

Dr. Prescott also explained that he would be positioned lying on his right side with the foot of the bed elevated for a few days because of the area of damage to the retina of his eye. Robert was to limit his movements & allow the nurses to do most things for him.

When Dr. Prescott felt Robert was sufficiently reassured & informed he proceeded to organise a room for Robert in the men's surgical ward & organised time in theatre the next day for the operation to take place.

To allay any anxiety Robert felt Valium 2mg orally was ordered as a Stat. dose.

At 5.40 pm Robert was transported by trolley to a private room & in the men's surgical ward of the hospital where he was positioned appropriately in bed. An admissions officer arrived five minutes later & took the necessary details to admit Robert.

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Nurses took Robert's observations and recorded them as a base line.

Allergies were determined of which Penicillin was the only one.

A urinalysis was done & no abnormalities were detected. Reassurance was given & Robert was told that any questions were to be asked without hesitation. He asked that his parents be notified of the admission, & this was done.

At 6:25 pm Dr. Prescott returned to the ward & wrote down his orders.

Robert was to go to theatre the next day & the operation was to take place at 10:30 am.

He was to have his eyelashes & brows of the right eye clipped prior.

A premed of - Pethidine 100 mg intramuscularly

Stemetil 12.5mg " "

& Atropine 1% eye drops locally in the affected eye.

was to be given at 9:30 am.

He added that Robert was to rest until further orders were given. Also Robert was to fast from 12 midnight.

The operation ^{to be done} was "cryotherapy & application of Amuga string" & Robert signed the appropriate forms to consent to this operation.

After a light meal & wash Robert was seen by the anaesthetist who was to be present at the operation. Robert's age & good medical history meant he was a good candidate for anaesthetic.

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The anaesthetist explained to Robert the importance of deep breathing exercises & suggested he do them before the operation & get into the habit of doing them so they would be second nature post operatively. He also explained that the nursing staff would help him with exercising his legs & arms — exercises that required exertion were out, he was told, as these may have undesirable effects on the repaired retina. The reasons for such exercises were explained & Robert was happy to cooperate once the benefits were explained.

At 8:30 pm the resident doctor working with Dr. Prescott took a medical history from Robert. He had had no previous need of hospitalization & had only had the usual childhood diseases — measles & chickenpox from which no complications arose.

At 9:05 pm Robert was settled down for the night feeling relatively at ease about the days ahead, as everyone concerned had explained to him what those days had in store, in terms he could understand.

At 7:00 am on ~~the~~ 13th of November Robert was woken & a nurse proceeded to assist him with a sponge in bed & attended to his general hygiene.

He was then asked to remove all jewellery & this was placed in an envelope & put in a locked drawer.

Robert's eyelashes & eyebrows were trimmed as per orders. He was then allowed to rest until 9 am when he was helped to put on regulation theatre clothes. Robert appeared to be reasonably at ease and had no problems he wanted to discuss.

9 mm — A4

At 9:30 am Robert was given intramuscular injections of Pethidine 100 mg & Stemetil 12.5 mg as ordered by Dr. Prescott. Atropine 1% drop were instilled in the right eye. The nurse explained to Robert he would feel a little drowsy & that this was normal & desired.

At 10:15 am Robert Reynolds was taken to theatre for the operation of Cryotherapy & application of Amuga Sling at 10:30 am.

At 2:45 pm Robert was returned to ward after regaining consciousness in recovery room.

Both eyes were padded. There had been no complications. Dr. Prescott visited Robert shortly after. His orders were:

- Position - on right side, foot of bed elevated
- 15 hourly observations for four hours & then four hourly observations.

- He was to have analgesia (Paracetamol 500 mg tabs) 4 hourly as required for discomfort. An antiemetic was also ^{ordered Stemetil 12.5 mg} given.

- Exercises were to be encouraged & he was to be assisted with these.

- He was to have the eye pad removed from his eye the following day.

- The pad over the right eye was to be changed twice daily & removed on the third day.

- He was to wear tinted glasses on the third day & assisted to begin ambulating - doing nothing that required exertion.

- He was to have dull light in the room until the 5th day.

- An aperient was to be given every second

9 mm - A4

night for easy evacuation of the bowel.

A light diet could be commenced as soon as bowel sounds were present & if this was tolerated a normal diet could be taken the following day.

Robert would be discharged after Dr. Prescott was satisfied healing had taken place - no date was set at this point.

On return to the ward Roberts observations were
Pulse: 76 Respirations 19 Temperature 36.4 Blood pressure
was 130/70. His observations remained satisfactory
for the following 4 hours, when he was commenced
on routine 4 hourly observations.

Robert had no nausea therefore required no anti-emetics.

A post operative sponge was given at 8.30 pm & Robert correctly positioned again.

Each hour exercises were encouraged / preventing complications from occurring.

A light evening meal was ordered & by 8.30 pm bowel sounds were present & Robert was assisted with his meal.

Robert felt he may require slight sedation and so the order for megradon $\frac{1}{2}$ - $\frac{1}{2}$ was obtained by telephone by Dr. Prescott.

Robert had a good nights sleep.

On the 14th of November Robert was woken for a sponge once again. He spent the day resting in bed in the ordered position. His left eye pad was removed at 4.15 pm. He was tolerating a normal diet.

An opineant was given that night. Robert had experienced

9 mm - A4

no nausea during the day.

He had been visited by Dr. Prescott who had no further orders. Robert required no sedation.

The 15th of November was a relatively uneventful day, except for Robert having opened his bowels without need of straining. No sedation was required that night.

The 16th of November was a little more eventful as the other eye pad was removed. Apart from the initial brightness there were no ill effects from doing this. Robert was given tinted glasses & assisted to begin ambulation, which he did without any problems. Dr. Prescott agreed when visiting him that he could sit out of bed for meals & return to his specified position in bed in between meals.

He was not at this stage allowed to carry out any activities ^{of exertion} such as cleaning his teeth etc, but he was allowed to wash his hands & button up his pyjama coat. Apartments were given that night & the result was passed without strain.

Robert progressed extremely well, each day being able to do a little more for himself. Dr. Prescott viewed his right eye via ophthalmoscope on the 7th, 8th, 9th & 10th days post-operatively & Robert was discharged from the Adelaide hospital on the 11th post-operative day.

He was given instructions to return to the out-patients department of the hospital at specified intervals & was given a certificate off work for 10 days.

Robert went for his "check ups" & required no further treatment.

LIST OF BOOKS USED AS REFERENCES:

1. "Nursing care in eye, ear, nose & throat disorders"
By HAVENER / SAUNDERS / KEITH / PRESLOTT
2. "OPHTHALMIC NURSING,
By Vera DARLING & Margaret THORPE.
3. "OPHTHALMIC NURSING,
By P. GARLAND
4. LECTURE NOTES ON OPHTHALMOLOGY
By PATRICK D. TREVOR-ROPER.
5. ENCYCLOPEDIA AND DICTIONARY OF MEDICINE AND NURSING,
By MILLER / KEANE.
6. BASIC ANATOMY & PHYSIOLOGY
By CHAFFEE & AREISHFIMER.

(A) V. good job - obviously a lot
of work has gone into this
assignment.