



ROLE OF COUNSELLING IN EYE CARE SERVICES - A PRACTICAL GUIDE



OATS

Ophthalmic Assistant Training Series



A R A V I N D E Y E C A R E S Y S T E M



The Training in Ophthalmic Assisting Series and Training in Eye Care Support Services Series were born from the vision and inspiration of one very special man, Dr. G. Venkataswamy, founder of Aravind Eye Hospitals and guiding light in the world of eye care and community ophthalmology.

We dedicate this effort to him.

Intelligence and capability are not enough. There must also be the joy of doing something beautiful. Being of service to God and humanity means going well beyond the sophistication of the best technology, to the humble demonstration of courtesy and compassion to each patient.

- Dr. G. Venkataswamy

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Ophthalmic Assistant Training Series (OATS)

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Foreword

The discipline of eye care requires a number of appropriately trained personnel working as a team to deliver comprehensive eye care. The services that are delivered must include the promotion of eye health, the preservation of sight and the prevention of vision loss, restoration of sight when it is lost, the enhancement of vision and functional vision, where feasible and facilitation of rehabilitation through vision substitution. Various cadres of trained personnel, with complementary skills contribute to the work of the team.

In an ideal world, with infinite resources there would be a temptation to use the most highly trained personnel to carry out these tasks. This is neither appropriate nor cost effective, given that human resources for health care comprise the most expensive component of the recurring health budget.

It has been possible to select, train and deploy different cadres of human resources, to carry out tasks in a safe and effective manner to help achieve the goal of eliminating avoidable blindness. One of such cadres is variously referred to as Ophthalmic Assistants, mid level personnel or by their primary functions, such as Nurses, Refractionists etc. Where they exist and function in a stipulated manner, it is acknowledged that they constitute an effective backbone for eye care services. However a critical element to their success lies in the adequacy and appropriateness of the training imparted to them.

There have been several training programmes put in place around the world to train such mid-level personnel depending on the one hand, on the human resource needs for eye care in the country, and the local human resource policies, rules and regulations, on the other.

The Aravind Eye Care System, over the years has developed a cadre of Ophthalmic Assistants who have specific job descriptions. To enable them to perform effectively as part of the eye care team, their training has been task oriented with defined requisite knowledge, skills, competencies and attitudes, to carry out the tasks.

This manual sets out in several sections a step by step method for imparting such task oriented training through didactic, hands on and practical training in real life situations. The sections relate to tasks required of such personnel in different settings in the eye care delivery system such as the out-patient department (general and specialist clinics), wards, operating rooms, optical departments etc. Considerable emphasis has been paid to diagnostic technology, which is increasingly a part of the armamentarium in eye care practice.

Finally the manuals include sections for self assessment as well as for continuing monitoring of the achievements of task oriented objectives. The manual lends itself to translation into local languages where required proficiency in English may not exist. The Human resource Development team at Aravind Eye Care System need to be complimented on their efforts to share there wide and successful experience in this field with others who are already involved in or are planning to venture into such training programmes, particularly in the context of VISION 2020: the Right to Sight.

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Past President, IAPB, Co Chair,
Human Resource Programme Committee, IAPB.

Preface

In recent years there have been significant advances in eye care, both in technology and in the increasing resolution to address the scourge of needless blindness. Achievements in medical technology have vastly improved diagnosis, treatment and surgery in all aspects of eye care, and efforts like the global initiative "VISION 2020: The Right to Sight" -- which calls for the elimination of avoidable blindness by the year 2020 -- have galvanized support for those working to improve the quality of eye care at the grassroots level around the world.

It has become increasingly evident that trained personnel is one of the most important elements in achieving this goal, and that the effective practice of eye care is a team effort that must combine the talents of ophthalmologists, ophthalmic assistants, ophthalmic technicians, orthoptists, counsellors, medical record technicians, maintenance technicians, and others.

Currently the focus in human resource development continues to be on the training of ophthalmologists. But in many successful eye hospitals it has been shown that four or five trained ophthalmic assistants are engaged to supplement and support the work of an ophthalmologist. When such assistants are used effectively by eye care centres, doctors can treat more patients in less time while still ensuring a high standard of care. It is therefore vital that more attention be paid to the structured training of other ophthalmic personnel.

Over the past three decades, Aravind Eye Hospital has developed and refined a system of structured training programmes for ophthalmic assistants and support services personnel. These series were created to bring together the lessons we have learned over the years, and to share our insights with other eye care programmes and the community at large.

Dr. G. Natchiar

Vice-Chairman, Aravind Eye Care System

Blindness Prevalence

World wide it is estimated that at least 38 million people are blind and that an additional 110 million have severely impaired vision. In all, about 150 million people are visually disabled in the world today, and the number is steadily increasing because of population growth and aging. Overall, the data shows that more than 90% of all blind people live in developing countries and that more than two-thirds of all blindness is avoidable (either preventable or curable). Unfortunately, little information is available on the incidence of blindness around the world; it seems probable, however, that there are some 7 million new cases of blindness each year and that despite every intervention, blindness in the world is still increasing by 1 to 2 million cases a year. Thus, trend assessment points to a doubling of world blindness by the year 2020 unless more aggressive intervention is undertaken.

A major cause of preventable blindness is cataract. Presently, an estimated 7 million cataracts are operated on each year. There is a backlog of 16 million cases that have not yet been operated on. If this backlog is to be eliminated in the next two decades... a staggering 32 million cataract operations must be performed annually by the year 2020.

In addition, there must be an improvement in technology because more than 50% of cataract surgeries in the least developed countries today are still performed without intraocular lens implantation. Thus, most of the developing countries need more surgery facilities, supplies and equipment, and an increased number of trained surgeons. Furthermore, particularly in sub-Saharan Africa, India, China and other parts of Asia, the volume of cataract surgeries must increase greatly. Although considerable progress is being made in some of these countries, the provision of good quality, affordable cataract surgery to all those in need will nevertheless remain the main challenge for ophthalmology world wide for many years to come.

An important aspect of combating cataract blindness is human resource development. To increase the efficiency of ophthalmologists in clinical work, further training of support staff such as paramedical ophthalmic assistants, ophthalmic nurses and refractionists is essential.

Introduction

In the past three decades, a number of auxiliary professionals such as ophthalmic assistants, opticians, certified orthoptists, research assistants and ultrasonographers have come to be identified as allied health personnel in ophthalmology. Although each of these groups provides a specific meaningful role in the ophthalmic field, it is the ophthalmic assistant (OA) who carries out or helps with certain tasks that were traditionally and uniformly performed by the ophthalmologist.

These tasks involve collecting data and recording measurements on patients, preparing patients for surgery, assisting with surgery, offering postoperative care, and counseling patients. However, these tasks do not involve any judgments or conclusions such as diagnosis, disposition of treatment, or prescription. Ophthalmic assistants do not (and can not) supplant the physician but rather supplement the ophthalmologist by rendering support services. Their broad areas of work include outpatient and refraction departments, operation theatre, wards, and patient counseling.

The ophthalmic assistants in all these areas make vital contributions to the achievement of high quality, high volume, and financially sustaining eye care in large volume settings.

Ophthalmic Assistant Training

Objective

To provide eye care programmes/hospitals/practitioners in developing areas with lessons learned regarding the work of trained ophthalmic assistants and their critical contributions to high quality, large volume, sustainable eye care.

To describe the valuable role of trained OAs and patient counselors in outpatient and refraction departments, operating theatres, wards and patient counseling. To illustrate ways for existing programmes to increase their volume, quality and sustainability through the development and utilization of paramedical personnel.

To provide curriculum and materials for training the OAs in all areas. To elicit feedback from users regarding the strengths and weaknesses of this first edition.

Definitions

The ophthalmic assistant (OA) is a skilled person whose academic and clinical training qualifies to carry out ophthalmic procedures. These are done under the direction or supervision of an ophthalmologist or a physician licensed to practice medicine and surgery and qualified in ophthalmology.

At Aravind, based on their skills and performance, an ophthalmic assistant with at least five years of experience is upgraded to an ophthalmic technician. At Aravind the term nurse usually refers to registered nurse (RN) fully trained elsewhere in all aspects of nursing care. However, the term is some times used at Aravind in traditional operating theatre terminology, as in scrub nurse, running nurse, etc.

Ophthalmic assistant training

Recognizing the importance of ophthalmic assistants in eye care service delivery, Aravind established its in-house training program to meet its own need for trained Ophthalmic Assistant staff. Yearly two batches of 17 to 19 year old candidates (35-40 students in each batch) who have cleared their high school examinations (plus two) are selected based on the eligibility criteria deemed appropriate by the institution.

Structure of the OA training programme at Aravind

Basic training: Four months observation and classroom learning

Specialisation: Eight months demonstration training and practice

Probationary Period: One year on the job training under constant supervision

The basic training portion includes studies and practice in

- Basic general anatomy and physiology
- Ocular anatomy, eye diseases and emergency management
- Skills such as
 - Visual acuity testing
 - Tonometry
 - Lacrimal duct patency
 - Blood pressure management
 - Bed making
 - Human relations, communication skills and compassion

On completing the four-month basic training, students take one of the specialization courses:

- Out-patient care (OPD)
- Operation theatre assistance
- In-patient care (Wards)
- Refraction

The next eight months are spent training in the specialty with lectures in the morning and supervised practical work in the afternoon. For the final 12 months, candidates work under close supervision.

The Aravind model of Ophthalmic Assistant staffing

The role of trained Ophthalmic Assistant staff in facilitating high quality, large volume sustainable eye care is central to Aravind's successful large volume eye services. The principle of division of labor helps to maximize the skills of the ophthalmologist by developing a team approach with auxiliary personnel. Efficient eye care service delivery depends on optimum utilization of all categories of resources – human resources, equipment, instruments, beds and financial.

At Aravind, the concept of human resource development evolved in response to increasing need for OAs and to provide adequate clinical experience to develop their professional competence.

Human resource development is one of the important components of large volume eye care. The history of Aravind's Ophthalmic Assistant training can be traced back to 1970-1972 when its founder, Dr. G. Venkataswamy, was Professor and Head, Department of Ophthalmology, Madurai Medical College.

Trained and skilled human resources are critical and therefore must be utilized optimally. Typically, an ophthalmologist's repertoire of work involves administrative tasks, skilled but repetitive tasks, and judgement-based tasks. An ophthalmologist's unique competence lies in judgement-based tasks such as interpreting investigative findings and decision-making tasks such as delineating the line of treatment or surgery.

Administrative and repetitive tasks can often be done (and better also) by a non-ophthalmologist who has been adequately trained.

In large volume eye care programs, efficient and knowledgeable Ophthalmic Assistants play a vital supportive role in many areas of ophthalmic care.

About the Ophthalmic Assistant Training Series (OATS)

The Ophthalmic Assistant Training Series responds to the desire of many organisations and institutions around the world to provide high quality and high volume eye care.

The contribution of the ophthalmic assistants to this work is fundamental.

The Ophthalmic Assistant Training Series is a set of manuals explaining the principles and techniques for increasing high quality and high volume eye care through the use of paramedical staff.

Each module is based on the practices of Aravind Eye Hospitals in South India.

The intent of this series is to provide a format for Ophthalmic Assistant Training based on Aravind Eye Hospitals' "best practices", based on over 30 years of growing, changing, and learning from mistakes.

The five modules of OATS

1. Introduction to Basics of Ophthalmic Assisting : This is the foundation of the entire Ophthalmic Assistant Training. All the trainees are given general knowledge and training for the fundamentals necessary for their duties, as well as specific information about all activities required in their work.

2. Handbook for Clinical Ophthalmic Assistants, Principles & Techniques of Clinical Ophthalmic Procedures: Out-patient Department (OPD): This includes theory and practice of initial patient evaluations. An introduction to refraction is presented as well as steps for assisting the doctor.

Ward: This contains all the information necessary for the smooth running of a Ward. Pre and post operative procedures and patient instructions, as well as management of emergency and post operative complications are discussed. Ward set-up and management and laboratory functions are covered.

3. Handbook for Surgical Ophthalmic Assistants (Operation Room Services): Contains background and practical steps to the smooth running of a sterile theatre. Personnel requirements, roles and duties of theatre personnel including management of emergencies and medications, and assisting in specific procedures are detailed.

4. A text book on Optics and Refraction: All aspects of refractions are covered, including step- by step instruction for subjective and objective refraction, room set up, and equipment required. All types of refractive errors are described as well as the methods of assessing them. The theories and practice of visual fields, ultrasonography, contact lens fitting, low vision aids and optical dispensing are included.

5. Role of Counselling in Eye Care Services - A practical guide : Helping patients help themselves. The importance and types of patient interaction are discussed in detail. Basics of communication and specific examples are presented.

About Training in Eye Care Support Services Series (TECSSS)

The Training in Eye Care Support Services Series (TECSSS) responds to the desire of many organisations and institutions around the world to train support services personnel to provide high quality and high volume eye care.

The Training in Eye Care Support Series is a set of manuals explaining the principles and techniques for the effective procedures to be followed by the support services personnel.

Each module is based on the practices of Aravind Eye Hospitals in South India.

The intent of this series is to provide a format for Training in Eye Care Support Services based on Aravind Eye Hospital's "best practices", based on over 30 years of growing, changing, and learning from mistakes.

The three modules of TECSSS

- 1. Housekeeping in Eye Care Services - A practical guide** : The invisible "bottomline" for patient safety and satisfaction. Cleanliness, appearance, maintenance, attitude are all essential for the entire hospital and OPD. Duties, responsibilities and specific tasks are covered.
- 2. Medical Records Management in Eye Care Services - A practical guide** : A complete guide to establishing and running an efficient medical records department: information retrieval, generating statistics, personnel requirements, importance of accuracy.
- 3. Optical Sales and Dispensing - A practical guide** : This gives clear guidance about the various spectacle lenses and frames, how to fit the lens into frame, the technical measurement and sales procedure.

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- A PRACTICAL GUIDE

Ophthalmic Assistant Training Series

Acknowledgements

We take great pleasure in presenting the Handbook for Clinical Ophthalmic Assistants (Principles & Techniques of Clinical Ophthalmic Procedures) which is the consummation of many years of experience and tireless efforts by Aravind's ophthalmic assistant training department.

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Finally we sincerely thank the senior leadership team of Aravind Eye Care System particularly our Vice - Chairman Dr. Natchiar for the constant support and encouragement.

The Ophthalmic Assistants team

Aravind Eye Care System

ROLE OF COUNSELLING IN EYE CARE SERVICES

- A PRACTICAL GUIDE

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CHAPTER 1 INTRODUCTION TO PATIENT COUNSELLING

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What is counselling
Aravind model in counselling
Qualities of a good patient counsellor
Art of counselling
Barriers of communication
Use of Analogies in counselling
Setting up of a counselling room

GOALS

To impart knowledge about patient counselling and it's importance in eye hospital

OBJECTIVES

The counsellor will be able to learn

- Different types of counselling
- Qualities of counsellor
- The importance of counselling
- Use of analogies in counselling
- Setting up a counselling room conducive for effective counselling

CHAPTER 1

Introduction to Patient Counselling

In health care institutions, department of counselling did not exist in the past as a separate entity and its work was mainly done by the doctors and nurses who attend on the patients.

Aravind Eye Hospital is the only ophthalmic hospital in India, perhaps in the whole world, which has a counselling department for the benefit of patients who are old and visually handicapped. It helps the patients by providing verbal information, explanations about their disease and guides them in making decisions with regard to various treatment options available. It allays the undue fears of patients and gives comfort and companionship there by increasing overall patient satisfaction.

What is counselling?

Patient - counselling can be defined as follows

Patient - counselling is a specialised non - clinical activity that involves giving information, explanation, guidance and also providing of comfort to the patients during their stay in the hospital premises.

The genesis of patient counselling

Before starting the counselling department, Aravind Eye Hospital during its outreach camps found large number of patients who were not in a position to accept medical treatment or surgery. They had many barriers like family circumstances and personal reasons.

Because of the volume, the camp doctors and MLOPs had no time to address these barriers and convince the patients of the need for immediate treatment or surgery. As a result many of the patients returned home refusing the offer of free treatment and surgery.

This led to wastage of a lot of human resource, time and money. With a view to address these barriers

and improve patients' compliance, Aravind management decided to employ non-clinical persons who have a basic ophthalmic knowledge and know the art of counselling.

A similar situation was present in the base hospital also both in paying and free sections. To explain clearly the condition of their eye problem, the need for special investigations, accepting the right treatment both medical and surgical and lastly the importance of followup, the importance of having a counselling department was felt.

Generally a patient needs to know what type of ocular problem he/she is having, its causes and management. Every thing should be explained to the patients in their own language in a simple way. In addition, Aravind felt the need for grief – counselling, especially when they were looking for donor eyes for the purpose of corneal transplantation. Considering all these needs, Aravind decided to create a separate cadre of staff and named them as patient – counsellors.

In 1992 the counselling department was started in Aravind – Madurai with 7 counsellors whose number had swelled to 150 as on June, 2007 across all Aravind Eye Hospitals. This includes the managed hospitals also. Now the counselling department has become an indispensable component of Aravind Eye Hospitals.

Objectives of patient counselling

The main objectives of patient – counselling are

1. Reducing the work load of the doctors and Mid Level Ophthalmic Personnel (MLOPs) to enable them to spend their time more efficiently in clinical activities.
2. Ensuring patient satisfaction and thereby
3. Increasing patient volume

Aravind model in counselling

When Aravind Eye Care System decided to appoint patient - counsellors, the question of their academic qualification came up. It was initially thought that graduate and post graduate girls with social science will be suitable for the job. A few girl candidates with social studies from the city were taken. But their higher education and upbringing made them keep a distance from the patients who were mostly from villages. They were unable to appreciate the real barriers of these rural poor patients. So the program was not successful.

This led to a realisation that moderately educated girls from rural areas will be the best suited candidates. It would be preferable if they belong to big families having aged people like grand fathers and grand mothers. They have respect and affection for old people and are also accustomed to an economic and simple way of life. Most of them are educated up to not more than the high school or higher secondary school level. They could converse with the patients who are mostly rural people in their own language. Inherently they are kind and compassionate towards aged people.

Hence aravind decided to recruit plus -2 passed girls and train them in counselling. Accordingly a two year training course was developed which consists of two segments. The first segment is for a duration of three months in which basic knowledge in physiology and anatomy of human body, anatomy and physiology of eye and common eye diseases is given. Subsequently during the rest of the 9 months, they are exposed to various departments in eye care and also the community outreach activities. In addition, they are trained to develop communication skills, decision making skills, negotiating skills and also the art of counselling, which includes body language and voice modulation.

In the second segment, during the next year, they do counselling work under supervision. At the end of the second year they have to write theory and practical examinations. Candidates who successfully complete the training course are appointed as counsellors in various centers of Aravind.

This has become the Aravind Model of counselling system and counsellors recruitment.

Various roles of a patient counsellor

In an eye care hospital patient - counsellors have various roles to play as given below.

Guide and companion

The counsellor has to guide patients from the time they enter the hospital till they leave the hospital after treatment. Once a patient's registration is completed he/she is taken by the counsellor to the concerned unit either for examination by a doctor or a refractionist. Patients requiring bio-chemical or microbiological tests are guided by the counsellor to the concerned laboratories.

Information giver

After a patient is guided to the counselling department from the doctor's room, the counsellor receives them with a smile and starts counselling by means of friendly conversation. The first aspect in counselling is giving information on the patient's eye disease, its present condition, the recommended medical treatment or surgery and various options of surgical procedures and types of rooms available and the cost involved.

The counsellor also creates awareness on the causes and effects of the eye disease the patient is afflicted with and the consequences that may arise if the disease is left untreated. Care should be taken that no fear is created in the patient's mind. By this process, the patient is made to have a clear idea about his condition so that he can accept the treatment suggested by the doctor.

The counsellors may help the patients in understanding the usage of drugs and the importance of coming to the hospital for follow up. They may also inform the patients about what should be done and should not be done after going home in their daily life. The counsellors may remind a patient over phone or letter if he/she fails to come for a follow up.

Facilitator

The counsellor is to act as a facilitator for enabling patients to undergo the surgery whenever it is recommended by the doctor. A patient may have psychological or family-related obstacles to undergo surgery. These barriers should be addressed by the counsellor according to the situation and the patient should be convinced of the benefits that would result from the surgery. This will facilitate patients' acceptance.

Help in decision - making

One of the important roles of a counsellor is to help the patient in making decisions on choosing a particular surgical option or medical treatment or selecting the type of room to stay.

Negotiator

In eye hospitals, patients with retinal detachment, glaucoma and other acute eye diseases come for treatment. Some patients may like to postpone treatment or surgery for family reasons or for want of adequate money.

In such situations, the counsellors talk to the patients explaining the seriousness of their eye condition. They should make the patients understand that if treatment is not taken immediately the possibility of losing sight can not be ruled out and sight is more important than family-related reasons.

If a patient does not have adequate money, but wants to undergo treatment, the counsellor should attempt to help the patient by negotiating with the management for making concessions in treatment fees.

This kind of negotiation will enable patients to undergo the required treatment or surgery.

Supporter

Not all patients who come to hospital for treatment are accompanied by a relative or friend. Such patients, especially eye patients need someone to support them, during their stay in the hospital. Lack of persons to accompany them often prevents many patients from

coming to hospital. This is more so in the case of village patients who come to the free eye camps.

The counsellor could play the role of a relative or friend to such patients by taking them to places in hospital where they want to go or have to go.

Recently a camp patient needed someone to accompany her to the base hospital for cataract surgery. She was about to return home without getting treated for want of a relative.

A counsellor came forward to help the patient during her stay in the hospital. Subsequently the patient who was also suffering from Asthma was brought to Aravind Eye Hospital and operated upon for cataract. During her stay in the hospital, the counsellor acted as her constant attendant.

Such humanitarian help attracts patients to the hospital and serve to enhance its image.

Comforter

Some times, a patient's eye may have to be removed when cancer is suspected or the eye has become very painful and blind. In such cases the counsellors should empathise with these patients. They should speak to them sympathetically and explain the state of their eye condition. The counsellor should make it clear that no amount of treatment could solve their eye problem or set right their eye condition, and that such a removal is essential for them.

During the course of the conversation, the counsellors should try to comfort and console the patients and assuage their feelings. It should be pointed out to the patients without hurting them that there are persons without eyes or eye sight who are leading a useful life in the world. There are rehabilitation centers which would train them in handicrafts or other avocations to earn money. They need not be a burden either for the family or society. Such soothing and encouraging words may help to comfort the patients.

Link between doctor and patient

The patients may like to know some more details from the doctor who had examined them. In such a

situation the counsellor should act as a link between the doctor and the patient. Whatever question or clarification the patient may like to ask the doctor will be asked by the counsellor on behalf of the patient. The information given by the doctor will be conveyed to the patient by the counsellors.

Link between the patient and family

In the case of patients who are left alone in the ward and who want to communicate with their family immediately, the counsellor can act as a link between them. They could contact their family members who are somewhere in the hospital premises or elsewhere and convey the patient's message to get a reply.

This manual deals with these and related aspects of counselling elaborately which will be of use to candidates all over the globe.

Qualities of a good patient counsellor

- a) A patient counsellor must have a bright and pleasant look. This will have a positive impact on the patients and their attendants. It will also influence them to talk to the counsellors about their doubts.
- b) The counsellors should have willingness to serve old and visually handicapped patients. They should have no inhibition in speaking to or moving with such patients or guiding them to different departments in the hospital.
- c) Clarity of thought is another quality essential of a counsellor. He/she should have a clear idea of what he/she has to tell the patients. The counsellor should have no doubt or confusion about the information to be conveyed to the patients and their relatives.
- d) Simple and clear communication of information is an essential skill that a counsellor should possess. Since the counsellors have to communicate to the patients matters related to diseases and treatment methodologies, they should have ability to explain them in a simple and easy to understand language.
- e) Another quality desirable of a counsellor is compassion and kindness. Besides a high quality medical treatment, a patient also needs humane treatment from the hospital staff and employees. Kind and compassionate approach will help the patients to get relief from their mental agonies. The counsellor has an important role to play in this respect.
- f) The counsellors should possess the quality of sympathy towards patients. They should listen to a patient's problems sympathetically and do their best to help and guide them to get proper treatment in the hospital.
- g) Basic knowledge in ophthalmology is a must for counsellors. Only those who have this knowledge can clearly explain to a patient about the causes, symptoms and present nature of the eye disease that he/she is afflicted with.
- h) The counsellor should have the ability to understand the patient's problems and act accordingly. This quality is required to understand the eye problems as well as the personal and family problems of the patients for helping them to make informed decisions in opting for a treatment procedure or selecting a room to stay.

Types of counselling

There are 3 types of counselling in an eye hospital. They are:

- a) Individual counselling
- b) Group counselling
- c) Family counselling

Individual counselling

Individual counselling is done for a single patient in the presence of the patient's family member or attendant. Usually this type of counselling is followed in the base hospital (Fig. 1.1).

Advantages

- Personal attention can be provided to each patient in individual counselling.



Fig. 1.1 - Individual counselling

- The patient feels free to talk with the counsellor and ask for clarifications without any hesitation.
- It enables the counsellor to ask sensitive questions to a patient regarding his health or eye conditions.
- Frank conversation between the patient and counsellor is possible.
- Patient acceptance level (to undergo surgical or medical treatment) is high.
- As a result, patient's satisfaction level is also very high compared to group counselling.
- A small space is sufficient for individual counselling.

Group counselling

Group counselling system is generally followed in community outreach programmes. As large number of patients visit the eye camps, it is not possible to provide individual counselling to each patient with the limited time and space available.

Since most of the camp patients have the same eye problems like cataract and diabetic retinopathy, the information and advices that should be conveyed to these patients is the same. Small groups of patients are formed. The counsellor speaks to each group and explains the need for surgery, how they will be taken to the base hospital for surgery, the facilities made for them in base hospital and how they will be sent back home after treatment.

After the camp patients are transported to the base hospital, the counsellor conducts pre-operative and post-operative counselling for each group of patients.



Fig. 1.2 - Group counselling

In addition to outreach programmes, group counselling is done in free section of Aravind Eye Hospital, where individual counselling is not possible because of large crowd (Fig 1.2).

Advantages

- In group counselling even a shy patient is motivated to interact. Patients who are worried about their own eye problems would have a wide exposure on meeting people with the same problem.
- As groups are formed of patients with the same gender and socio-economic background, the patients identify themselves with the group.
- Patients' fear psychosis is reduced considerably.
- When a patient in a group makes a query, even a silent patient gets encouraged and asks questions.
- After the counsellor has left, a member of a group who has not understood what the counsellor had said, can have his doubt clarified by another member of the same group.
- The patient groups serve as an effective media to propagate to the community the eye care services available in the hospital and thus help reduce needless blindness in the country.

Family counselling

Family counselling has two components.

- Genetic counselling
- Grief counselling

There are patients, most often children, affected with congenital eye diseases or hereditary eye diseases.

Genetic counselling

Marriage among close relatives (consanguinity) is the main cause of such diseases. While treating these patients or when they are brought to the hospital for treatment, the counsellor has to counsel the parents of the patients or the elders of the family.

It should be explained to them that such diseases are caused by genetic disorders resulting from consanguineous marriage. It should be emphasised that in the future, grooms and brides should not be chosen from among close relatives.

Grief counselling

There are patients who are affected with acute and incurable eye diseases that would necessitate removal of an eye. In such cases grief counselling is given to the families of the patients.

Parents or elders of the patient's family are invited to the counsellors' room. The counsellor in an empathetic voice should inform them that the patient's eye condition is very bad and painful. No amount of treatment will cure the disease. And the only way to relieve the patient from the unbearable pain is removing the eye. If the patient has retinoblastoma, the family should be told that unless the eye is removed, the cancer would spread to other parts of the patient's body endangering his life.

In the course of grief counselling, the counsellor should completely identify himself/herself with the patient's family members and share with their mental agonies.

Art of counselling

Different aspects

1. Body language
2. Listening
3. Voice modulation

Body language

In a verbal conversation the words uttered by the two persons involved in the conversation are heard and

their meaning understood. In the course of conversation, the speaking person's body also speaks spontaneously. This natural phenomenon is termed as body language.

The body language conveys a lot more than the verbal language of the speaker to the listener. It is a visual expression of one's feelings towards the other. Since the face is the most expressive part of the body, the counsellor should be careful about her/his facial expression.

For example, if a counsellor keeps an uncaring or serious face, the patient may think that the counsellor is disinterested or worried about the outcome of the diagnostic procedures. Unless the situation warrants, the counsellor should remain frequently smiling. The counsellor's smile is one of the strongest tools in communication. It will make a patient feel relaxed and comfortable and influence him to think that the counsellor is open, warm and friendly.

Sometimes, due to big crowd in the waiting area or the irrelevant and persistent questions from a patient, the counsellor may get tensed or irritated. But a good counsellor should always remain cool and calm without giving expression to her/his feeling and keep a smiling face. The counsellors should always bear in mind that the patients are sensitive to facial expressions of the medical and non-medical staff of a hospital.

Next to smiling, eye contact is the most important aspect of body language. If a counsellor, in the course of counselling, maintains a good eye contact with the patient, the patient will repose confidence in the counsellor. Making very little eye contact can be misunderstood by the patient, who may think that the counsellor is not interested in his/her problems. If the patient finds the counsellor not looking at him while they are speaking, they will feel uneasy.

Hand movement of the counsellor also forms an important aspect of body language. Friendly gestures tend to make the counsellor appear open and honest. By pointing out finger or moving hands

closer, the counsellor can emphasise what he/she is saying. Hand gestures would reveal the counsellor's interest and commitment to guide and help the patient. However, too many gestures will make the counsellor look nervous and emotional. Wringing one's hands or making knots with the saree, touching the face etc., can make the counsellor appear tense and sometimes dishonest.

Postures also form an important aspect of body language. The manner of sitting or orienting one's body towards the patients are the tellers of the counsellor's interest, openness and attentiveness. By leaning back or remaining away from the patients, the counsellor would create an impression that she/he lacks interest in the patient's case. The counsellors should not hunch their shoulders or keep their heads down, since these gestures will be misunderstood by the patient that the counsellor is not sure of what he/she is saying. A relaxed body posture will give an appearance of feeling confident.

Head posture is a good indicator of one's attitude. The counsellors should keep head straight when they want to show that they are reliable and serious about what they are saying. By tilting their heads slightly upwards and downwards, the counsellors can reassure the patients that they are friendly and listening to what the patients are saying.

The counsellor should make the patient feel comfortable and avoid being too close or too far away. Staying within two feet may be a comfortable range. Being too close will make the patient uncomfortable and being too far away will make the patient feel rejected. Another important aspect of body language is avoiding unwanted sounds like "ush", "uh", "tchu", "um" and repetitions of words. These will distract patients.

One's face, hands and postures express what is going on inside their mind. They give clues to others as to whether the words the counsellors say are consistent with what they really feel. Awareness of body language can help to send a consistent message to the patients and create comfort and confidence in them. Hence, it is important for the counsellors to improve their body language.

Listening

Listening is the most important skill required of a counsellor. It is the art of hearing and understanding. The counsellors should first listen to what the patients have to say and should not interfere when they are speaking. Only after the patients complete their speech, the counsellor can ask questions. Interference or interruptions may break the flow of the patients' thoughts and they may miss mentioning an important point related to their problem, or the patients may miss asking an important information from the counsellor.

The counsellor should have the skill to understand and keep in mind whatever the patient says. After the patient finishes what he/she wanted to say, the counsellor may put forward short questions to the patient in a concerned voice to get a point clarified.

Listening has two basic aspects

1. Hearing: Catching and keeping in mind what the patient says.
2. Understanding: Understanding the problems and needs of the patient from what he/she has said.

Characteristics of a good listener

- The counsellor, after hearing and understanding the needs and options of the patients, carries out their appropriate needs and wishes.
- Gives clear indications in body language that he/she is listening to the patients.
- Expresses words of sympathy towards the patients.
- Shows respect and interest.

The counsellor should have all the above mentioned traits so that the counselling will be effective.

Many people lack listening skill that needs to be improved. The benefits of good listening are numerous. Skilful listening will enable a counsellor to meet and counsel more number of patients in a short time.

Voice modulation

This will vary depending upon the situations. When a counsellor is talking to the patient regarding the nature of the disease and course of treatment, the counsellor should explain the whole thing in a soft and slow pace. There should be no stiffness in the counsellor's voice. The manner of uttering words and the tone in which the words are uttered should be changed according to the nature of information that should be conveyed to the patient. When the counsellor wants to communicate the seriousness of a patient's disease, there should be appropriate voice modulation. Depending on the situation, the counsellor should modulate her/his voice with appropriate body language.

Examples

1. In the course of enquiring about the family of the patient, the counsellor's voice should be as normal and cordial as that of a close friend.
Ex: Hello/Vanakkam/Vanga etc.,
2. In the course of giving information about the nature of a particular eye disease, the counsellor should modulate her/his voice as that of a sincere teacher who would do his best to explain the subject to the students.
Ex: You should be careful with drug application.
3. When the counsellor wants to convey an important matter that the patient should always keep in mind, her/his voice should be modulated as that of a mother cautioning her children not to do this or that.
Ex: Never leave the pills outside, within the reach of children.
4. When something serious is to be communicated either to the patients or their attendants, the counsellor's voice should be modulated as that of a close relative who would convey unpleasant information slowly and gently without upsetting the listeners.

Barriers of communication

There are some aspects which affect proper communication of a message or information from one person to another. These aspects are called communication barriers which are dealt with below:

Matter in a right way avoid chances of misinterpretation

Informing and explaining matters form the core aspect of counselling. Sometimes there is a misinterpretation of what is told to the patient by a counsellor. This is because, people's perceptions and understanding are not alike. They differ from one person to the other.

This aspect should be borne in mind by the counsellors. For example, a patient in a glaucoma clinic comes to the counsellor after undergoing a follow up examination by a doctor. The doctor would have noted in the case sheet, that the patient's condition continues as the same without any deterioration.

While explaining to the patient his/her present condition, the counsellor may tell the patient, "your eye condition continues to be the same without any change". Although the counsellor stated the fact, it may convey an incorrect message to the patient who may think that his condition has not improved despite the medicines he is applying in his eyes since a long time. In order to avoid such miscommunication the counsellor may tell the patient, "your eye condition is responding to treatment. The medicines have prevented worsening of your glaucoma. As a result of the treatment your condition has not been deteriorated and it remains as the same as it was a few months back."

This will infuse confidence in the patient and will encourage him to continue the treatment. In the event of the patient leaving the hospital with the wrong message, he may get disinterested in continuing the treatment. This will adversely affect the prognosis of treatment and may lead him to blindness.

Generally, common people are not properly informed about laser procedure. The very mention of the word "laser" may convey an alarming message to uninformed patients. They could have a wrong notion that laser is a dangerous thing and laser procedure would be a laborious one. So, the counsellor while informing a patient that he needs laser treatment should explain that it is a short and simple procedure that would benefit him.

The eye is precious to any person. It is but natural for any person to think twice before making a decision for undergoing surgery. Hence, it is the duty of the counsellor to explain to the patients that the surgical procedures for cataract, glaucoma, Diabetic Retinopathy will not do harm, but improve or retain their vision.

Conveying important points and avoiding unnecessary details

In the course of counselling, the counsellor should inform the patients all relevant points and avoid unnecessary details or information. If the advice or information given by the counsellor is loaded with too many points, the patient may miss some important points or fail to keep them in memory. This often happens in group counselling. Some patients may not receive full information. They may ask other patients who may leave out part of the information. Sometimes intermediaries like attendants and relatives may fail to convey full information to the patients, if the message is too lengthy.

To avoid such filtering of information, the counsellor should condense the message and make a brief statement that could be fully understood and absorbed by the patients.

Counselling should be done on the basis of each patient's educational status, his present condition and needs. The counsellor is expected to inform the patient about the causes, symptoms, types, nature of his eye disease and the treatment options available. However, aged patients, particularly uneducated persons may not be much interested in all these details. Their only worry will be as to what medicine we are going to give, how long the medicine should be used and how long it will take to cure his ailment. Hence, such information should be given only to those patients who can understand them and who need them.

Language problem

The counsellor should always talk in the patient's own language or a language that can be understood by them. The choice of words should be specific and

accurate. Only the words that can be understood by the patients should be used.

The style of language should not be high. It should be as simple and direct as to enable the patients to understand the treatment procedure and the manner of applying medicines. At no point, the counsellor should express her/his opinion about the efficacy of a particular surgical procedure or suggest to opt for a particular treatment procedure.

Making the patient to listen

Generally patients who are in physical pain and in a state of worry cannot be expected to listen all that the counsellor says. While listening to the counsellor, a patient's mind may be wandering somewhere. The counsellor has to tackle the patient's poor listening attitude and try to overcome this problem.

In the course of counselling, the counsellor should frequently stop talking and ask the patient to tell what he/she has understood from the information so far given by the counsellor. Such questions will keep the patient alert and make them listen attentively. The counsellor can request the patients politely to listen carefully what she/he is saying.

In the midst of the counsellor's speech, some patients may interrupt to ask questions. Then the counsellor should tell the patient just to wait till she/he finishes her speech.

Other barriers

In addition to the above mentioned barriers in communication, there are other barriers like age, education, gender, social status, economic condition, religious and cultural backgrounds etc., These barriers may come in the way of effective communication between the counsellor and patient.

For example an aged patient may hesitate to ask questions or clarifications from the counsellor and an young lady counsellor may feel uncomfortable to converse with a patient who looks like a rich man. The counsellor has the responsibility to see that none of these barriers come in the way of communication in counselling.

The counsellor must also avoid assumptions that the patient already knows the details. All relevant information should be conveyed to the patients clearly.

Distractions

Distracting factors in the counselling room also serve as barriers in communication. Too many people talking at the same time, frequent phone calls, interruptions by colleagues are some of these factors that should be avoided.

Overcoming the barriers

Most of the people who suffer from eye problems like cataract that could be solved by a simple one-time surgery reside in rural areas. They are not prepared to avail of the eye care services mainly for fear of surgery, unaffordable treatment costs, ability to manage with existing poor vision and difficulty in leaving day-to-day responsibilities.

The counsellors have a special responsibility to overcome these personal barriers of the patients by their communicative skill. They should convince the patients and make them undergo without delay the surgical or medical treatment that has been recommended by the doctors.

What to inform

Patients and their family members are to be given information on various matters. They are:

1. Details about the causes, symptoms and nature of the eye disease or disorder the patient suffers from.
2. Results of diagnostic procedures
3. Details about the surgical or medical treatment procedure recommended by the doctor
4. The various surgical options available in the hospital
5. The estimated cost of surgical or medical treatment procedures
6. Information about the types of rooms available and their rent
7. Post-operative guidelines
8. Need for follow up visits etc.,

The information is provided to increase patient awareness, to facilitate informed decision-making as well as to motivate the patient to accept treatment immediately.

Information can also be provided to moderate patient's expectations on outcome of treatment. Providing right information will increase patient's compliance with treatment procedures which the patient must follow. For example, the counsellor should explain about the need of regularly applying eye drops to a patient who has undergone cataract surgery. A diabetic retinopathy or glaucoma patient should be told about the importance of regular follow up check ups to ensure the success of treatment.

Use of analogies in counselling

How to share all this information with the patients in the manner they understand them is the real challenge before the counsellors. It is in this context, the role of analogies assumes importance.

A patient who is to undergo cataract surgery will have to make a choice between different surgical procedures and also to opt for an IOL type that would suit him. Information on the technical aspects involved in the operation and its pros and cons will not be understood by the common people. Moreover this will consume much of the counsellor's time. Hence, this information could be effectively communicated by using analogies that could easily be understood by the patients and their relatives.

Analogy is using a familiar matter to explain a new one. The familiar situation is drawn from an understanding of the background of the patient, namely his social status, education, culture, living style etc., Eye related conditions and treatment methodologies could be described in a simple way by using appropriate analogies.

Aravind's experience in using analogies

Aravind Eye Hospitals have tried the application of analogies and found it useful in explaining complex technologies, treatment options and even in motivating the patients to undergo cataract operation immediately.

Yolk of a raw egg analogy

Here are few analogies being employed at Aravind. To explain the effect of cataract in the eye, the analogy of the yolk of a raw egg is used in Aravind Eye Hospitals. As the yolk of raw egg is transparent like a glass, one can see through it clearly. But when the egg is boiled, the yolk becomes opaque through which clear vision is not possible. Similarly the lens in a normal eye remains clear. Due to ageing process and some other reasons, the lens becomes non-transparent through which no clear vision is possible. This is called cataract. Just as transparency could not be restored to the boiled yolk, the cataractuous lens also could not regain transparency. This analogy is clearly understood by the patients.

Ripe cotton analogy

To explain to the patients the immediate need of surgery for a mature cataract, the analogy of ripe cotton is used. If cotton is not picked at the right time when it matures, it will burst and become useless. Similarly, if the cataractuous lens is not removed in time by surgery and allowed to get matured or ripen, it may burst resulting in vision loss.

This analogy could be used in the case of glaucoma patients also. Since this disease is caused by increase in intra-ocular pressure, immediate and continued treatment is needed. Otherwise, the eye pressure will get much increased and cause permanent loss of vision.

Digging of wells analogy

To explain the difference between ECCE-IOL surgery and Phaco-IOL surgery, the difference between digging an ordinary well and bore-well is cited. Digging a conventional well would require a number of workers and the diameter of the well will be much bigger than a bore-well. But for digging a bore-well a machine with a few persons are enough. Its diameter will also be lesser than the ordinary well. Though the bore-well will be much deeper and the cost will be much higher, work will finish quicker than digging a ordinary well. And people know that a bore-well is better than the ordinary well and for that reason many people opt for it. Similarly a phaco surgery involves

the use of a machine for removing the cataractuous lens for which a very small opening is to made in the eye. And the whole operation will take less time compared to regular IOL surgery. Since the opening is smaller, the healing time will also be shorter. This analogy is well appreciated by the patients who opt for phaco surgery.

Travel by train and flight analogy

To drive home the point the advantage of having foldable IOL instead of a single piece IOL in PHACO-IOL surgery, the advantage of travel by flight as against the train is explained to the patients. Though the train and plane reach the same destination, passengers on board the plane will reach much earlier than the train passengers. Similarly, a patient who opts for foldable IOL will recover faster and will be able to return to his work much earlier than the patient who opts for single piece IOL.

Walking stick analogy

To explain the need of injecting silicon oil in the eye of a patient who is to undergo scleral buckling surgery, walking stick analogy is used. A person who has undergone leg surgery is provided with a walking stick for support. Similarly, silicon oil is injected in the eye of the patient to give support to his retina. Just like the use of walking stick is discontinued after the leg becomes normal, the silicon oil will be removed as and when the retina gets attached.

Canal blockage analogy

Water flow will get blocked if there is an obstruction in a canal. As the blockage will produce pressure and cause damage, another passage is made to divert the water flow. Similarly to reduce the eye pressure caused by the accumulation of aqueous humor, a new passage is created by surgery for its uninterrupted flow.

Old and new doll analogy

To explain Amblyopia, the choice of a new doll instead of an old one by a child is cited. Just like the child selects a new doll that looks bright, our brain accepts the visual images sent from the eye that has better vision.

Travel in different classes of a train

To explain that irrespective of the type of room a patient may opt, the quality of surgery he receive will be the same, the analogy of train travel is given. Though passengers go in different classes in the train, all of them reach the same destination.

A particular analogy will not work for all groups of people. Different analogies have to be used by the counsellors to suit the particular patient who is being counselled. When properly used, analogy will serve as a powerful tool in effective communication.

Tips for good counselling

- Be relaxed and attentive.
- Always lean forward while talking to the patients to show your interest towards them.
- Keep your facial expressions relaxed and friendly.
- When standing, maintain a balance to your stance.
- Keep your hands above your waist and use both hands to make positive gestures.
- Smile when appropriate; look pleasant and genuine. This will show your warmth and openness.
- Always face the patients.
- Avoid gestures like crossing your legs, swinging your foot and tapping your fingers. These will show that the counsellor is impatient and disinterested.
- Avoid shifting your eyes and turning your head quickly when the patients ask a question.
- Avoid hair twirling and other nervous gestures.
- Avoid placing your hands over your mouth or rub your arm or leg. This will make you appear anxious.
- Avoid looking down or frown when you are talking with the patient. This will make you appear that you are defensive and untrustworthy.
- Avoid cleaning your spectacles, biting your nails and rubbing your eyes or nose.
- Avoid looking downwards or at the sides while talking to the patients.

Setting up of a counselling room

After the ophthalmologist examines the patient and gives the diagnosis, the patient is conducted to the counselling room. Since counselling has a crucial role to play in giving information and making the patient to accept surgical or medical treatment in the hospital, there should be a separate room for this purpose.

The counselling room should have a quite and peaceful atmosphere. The set up should be comfortable to facilitate giving and receiving information calmly and engage in confidential conversation. (Fig 1.3)



Fig. 1.3 - Seating arrangement

Chairs should be provided for the counsellor and the patient and the attendant of the patient. As sufficient distance is to be maintained between the counsellor and patient, a table should be provided between them.

The counselling room has to be set up nearer to the ophthalmologist's clinic and patients waiting for counselling should be accommodated outside the counselling room. The room should be adequately spacious to keep the materials and aids needed for counselling.

Counselling aids

The counsellor should use the following counselling aids to explain about the eye parts and eye diseases to the patients (Fig 1.4).

1. Model of a human eye

2. Models or photographs showing the nature and various stages of eye diseases like cataract, corneal ulcers, glaucoma etc
3. Different types of intraocular lenses (IOL)
4. Posters on various eye diseases
5. Videos on common eye diseases



Fig. 1.4 - Counselling aids

Supporting facilities

The counsellor's room should have supporting facilities like telephone and computer. The telephone should be used for giving appointments to the patients, reserving rooms, clarifying doubts, communicating with other departments and reminding the patients about their appointments.

Computer is to be used for coding of counselled case sheets, sending emails, showing CD's of surgeries to the patients etc.

Key points to remember

- Role of counselling is to reduce the work load of the ophthalmologists and the OA, ensuring patient satisfaction and increasing the patient volume.
- The roles of a counsellor include guide and companion, information giver, facilitator in decision making negotiator, supporter, comforter, link between the patient and family.

- Qualities of a good counsellor include a bright and pleasant look, willingness to serve old and visually handicapped patients, clarity in thinking, simple and clear communication of information, compassionate and sympathy towards patients.
- Types of counselling include individual counselling, group counselling, family counselling, genetic counselling and grief counselling.
- The objective of the art of counselling is to make understand the need for following appropriate body language, listening properly, modulating their voice while talking and overcoming communication barriers.
- To avoid barriers of communication in counselling, counsellor has to say the matters in a straight way, conveying important points and avoiding unnecessary details, use of local language, and making the patient to listen.
- Analogies are to share all the information with the patient in the manner they understand them.
- Since counselling has a crucial role to play in giving information and making the patient to accept surgical or medical treatment in the hospital, there should be a separate room for this purpose.

Student exercise

I. Write short answers

1. What is counselling?
2. What are the objectives of counselling?
3. Mention the types of counselling in an eye hospital?
4. What is art of counselling? Why it is important?
5. What is the use of analogies in counselling?
6. What are the aids used in counselling?

II. Write brief notes on

1. The various roles of counsellors in an eye hospital.
2. The qualities of a good counsellor.
3. The barriers of communication.

CHAPTER 2 BASIC ANATOMY & PHYSIOLOGY OF THE EYE

CONTENTS

Basic anatomy of eye
Function of eye
Systemic diseases and the eye

GOALS

To make the counsellor understand and utilise knowledge of the structure of the eye with reference to its function.

OBJECTIVES

The counsellor will be able to

- Identify the different parts of the eye and its structures
- Analyse the various functions of different parts of the eye
- Understand systemic disease and the eye

CHAPTER 2

Basic Anatomy & Physiology of the Eye

In this chapter the basic anatomical structure of the eye with relevant clinical aspects are discussed.

The eye serves like a camera, capturing the scenes before it. The eyes are placed safe in a socket in the skull and are protected by the eyelids. Our eyes are more efficient than a film in a camera, capturing the scenes and sending it to the brain.

The eye is spherical in shape. There are 6 extraocular muscles present outside of the eye which help in the movement of eyes in various directions. The extraocular muscles are supplied by nerves from the brain. The eyeball is connected to the brain through a nerve called optic nerve (Fig. 2.1).

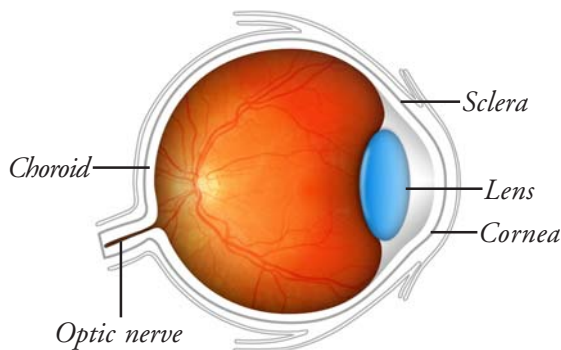


Fig. 2.1 - Cross section of human eye

Basic anatomy of eye

Eyelids

There are two eyelids, the upper eyelid, and lower eyelid which is made of skin and soft tissues. The tarsal plate helps in giving the structure to the eyelid. The eyelids protect the eyes from external environmental pollution.

There are muscles connected to the eye which are called extra ocular muscles, and are present outside the eye. They are the superior rectus, medial rectus,

the lateral rectus, the inferior rectus, the superior oblique and inferior oblique.

Conjunctiva

This is a thin white membrane with blood vessels covering the eye ball.

Cornea

The cornea is a transparent watch glass like structure, spherical in shape present in front of the eye. It is like a window to the eye. Cornea measures about 11.5mm in horizontal length. There are five layers in cornea.

Anterior chamber

The space between the cornea and iris is called the anterior chamber filled with aqueous humour, which is secreted by a structure called ciliary body. The depth of anterior chamber is 2.5mm. When the aqueous pressure in the eye increases the condition is called glaucoma.

Iris & pupil

Behind the cornea there is a brown circular diaphragm like structure called the iris. It consists of 2 types of muscles, the circular muscles and radial muscles. The central opening of the iris is called the pupil. Normal size of pupil 2-3mm. Depending on the intensity of light, the size of the pupil decreases or increases in size.

Lens

Behind the iris is situated, a transparent, structure called the lens. The nutrition to the lens is supplied by the aqueous humour. The shape of the lens is altered to see object at near and distance. Light rays passes through the lens and falls on the retina. When the lens loses its transparency it becomes an opaque

structure, through which light cannot pass. This condition is called as cataract.

Vitreous gel

There is a colorless, transparent gel like substance behind the lens. The vitreous gel is like the white of an egg, giving shape to the eye.

The coats of the eye

There are 3 coats of the eye.

Sclera

The outer coat is the sclera, which is covered by conjunctiva, a thin white membranous tissue.

The extraocular muscles are inserted to the sclera.

Choroid

The choroid layer is middle coat situated between sclera and retina. The choroids tissue is dark brown in colour due to vascularity. It supplies nutrition to the retina, vitreous and other sensitive structures of the eye. It also prevents the scattering of light.

Retina

The retina is the inner most structure of the eye. The rays coming from objects fall on the retina. The retina is made of ten layers of neuronal tissues. Retina is basically transparent, cellophane - like tissue. The optic disc is the head of the optic nerve entering the eye. Arteries and veins course through the retina. Macula is the most visually scientific part of retina. It is pink in colour with a central depression called the optic disc cup. In diseases like glaucoma where the pressure in the eye is raised this cup is enlarged.

Function of eye

The ability to see is an amazing process, made possible by the parts of the eye working in conjunction with one another and with the brain. Light enters the eye through the transparent cornea, gets refracted and then passes through the pupil to reach the lens.

The pupil acts like the shutter of a camera. In bright light, it becomes smaller, thus restricting the

amount of light entering the eye. In less bright illumination and in darkness, the pupil becomes larger, thus allowing adequate light to enter the eye.

After light enters the pupil, it passes through the crystalline lens, where it undergoes a second phase of refraction. The refracted light then passes through the vitreous humor to reach the retina. Here the light impulses are converted to electrical impulses and then fed into the optic nerve, which carries them to the visual centre in the brain, through a complex bundle of interconnected nerve channels. The brain processes these impulses to create the visual image we perceive.

Colour vision, the power to discriminate between different colours, is the result of light from objects being processed in certain special receptors in the retina and the brain. Any colour can be broken down into the three primary colours-red, green and blue and perceived as a combination of the three. Retina contains 3 corresponding types of cells (cones) which respond to these three colours. A defect in colour vision is called colour blindness; this can be partial or total.

When we look at a particular object, a lot of other objects surrounding it are also perceived. Hence our vision is not a small circle that we focus on but a field in which we see multiple objects. The visual field has two parts: the central visual field which is the area immediate to the object we are looking at and a peripheral visual field which includes the rest of the area surrounding the central field.

The eyeballs are constantly in motion-up and down, and either side. This is facilitated by a group of six muscles, whose movements are synchronized by interconnections in the brain to produce conjugate movement. For example, when we look to the right side, the right eyeball moves outward whereas the left eyeball moves inward. An imbalance in this harmony results in a disfigurement called squint or cross-eye.

Systemic diseases and the eye

The eyes are part of the body and diseases which affect the body may affect the eye also. The common systemic disorders affecting the eyes are hypertension, diabetes, neurological disorders, endocrine disorders, Connective tissue disorders etc.

Hence ophthalmologist plays an important role in helping the physician, Endocrinologist and Neurologist in examining fundus of these patients whenever they are referred.

Key points to remember

- *The eyeball is made of three coats, the outer protective scleral, middle vascular choroid, inner neuronal retina.*
- *The cornea is a transparent watch glass like structure. It is like a window to the eye.*

- *The retina is made of neuronal tissues. The most visually sensitive part of the retina is macula.*
- *Lens is important for the focusing mechanism of eye. The shape of the lens alters to see objects at near and distance.*
- *The common systemic disorders affecting the eyes are hypertension, diabetes, neurological disorders, endocrine disorders, connective tissue disorders etc.*

Student exercise

Write short answers

1. *What are the important systemic diseases affecting the eye?*
2. *Which part of the eye secretes the aqueous humor?*
3. *What is the function of retina?*
4. *Which is the most sensitive part of the retina?*
5. *What is the normal size of pupil?*

CHAPTER 3 IMPORTANCE OF COUNSELLING IN COMMUNITY OUTREACH PROGRAMME

CONTENTS

Role of a patient counsellor in outreach programmes
Responsibilities of a patient - counsellor in eye screening camps
Responsibilities of a patient - counsellor in base hospital
Role of counsellor in school screening camps
Counselling in work related screening eye camps
Counselling in diabetic retinopathy screening camp

GOALS

To explain the importance of counselling in community outreach programmes and to clarify the roles and responsibilities of a counsellor.

OBJECTIVES

The counsellor should be able to

- Create awareness among the public regarding common eye diseases
- Understand the nature of eye problem and clear patients' doubts and educate them
- Explain about the importance of post operative follow-up
- Understand and identify the refractive error of the children in paediatric screening camps and convince the parents of the necessity for their children to wear glasses

CHAPTER 3

Importance of Counselling in Community Outreach Programme

Outreach plays a vital role in reaching out the un-reached poor blind people in rural areas. The main objective of the camp is to create awareness among the people which paves the way for intervention to clear the backlog of avoidable blindness.

Every patient has hundreds of questions to ask while they undergo screening for eye problems and later treatment. Counselling helps the patients tremendously to take a decision on accepting surgical or medical treatment.

A doctor or paramedical staff can not spend more time with the patient to explain the nature of the eye problems, clear their doubts and educate them to follow up the required medication. It is a psychological process that patient wants the doctor to spend more time whether it is a base hospital or a rural eye screening camp to attend their problems, clarify the doubts and fulfill their needs. Hence, it is the responsibility of counsellors to communicate to the patient the need and importance of eye care etc. We should provide personal attention and adequate time to each patient in addition to the clinical services which are definitely helping us to increase the patient satisfaction.

The concept of introducing patient - counselling has the following major aspects.

- Health education in eye care
- Increase the level of patient satisfaction
- Optimum utilisation of resources

Role of a patient - counsellor in outreach programs

In a screening eye camp, the patients undergo various clinical examinations and finally the ophthalmologist advises for (Fig. 3.1).



Fig. 3.1 - Counsellor in outreach programme

- Cataract surgery
- A pair of spectacles
- Medicines
- Specialty treatment in base hospital

The medical team attending the screening eye camp should have a place for counselling and a counsellor is a part of the medical team. The patient counsellors have a very high degree of accountability in terms of:

- Patients' satisfaction
- Surgery acceptance rate
- Spectacles acceptance rate
- Specialty referral acceptance rate
- Surgery follow up acceptance rate

The productivity of the camp in terms of number of admissions, acceptance of spectacles and specialty referrals highly depends upon the counsellor's communication skills.

Responsibilities of a patient - counsellor in eye screening camps

In the camp, at the final stage of examination, the patients are guided to counselling area for persuading them to follow doctor's advice. The counsellor who attends the camp has the following responsibilities.

- Collect the patients after final examination to counselling area with the help of a volunteer
- Refer to the details of diagnosis made and what the doctor has advised to improve vision
- Interact with patients and build up a trust on counselling
- Explain the nature of eye problems and what kind of action should be taken
- Clarify the doubts regarding treatment
- Explain the need for spectacles to correct the refractive errors
- Educate the patients about cataract, duration and method of surgery, benefit of intraocular lens and future benefits
- Get the consent from the patients or relative for surgery
- Ensure that the patients with cataract are admitted for surgery
- Enquire about history of any systemic illness such as hypertension, cardiac problems, diabetes in patients admitted for surgery. To motivate such patients to obtain fitness certificate from a physician for surgery. To ensure that an attendant accompanies them
- Counsel the patients to come to base hospital if they require any specialty treatment
- Explain the likely consequences of not undergoing treatment in the base hospital for specialty problems
- Follow up the referred patients for specialty treatment

In-depth counselling at the campsite focuses on

- The details of diagnosis
- Cause of blindness
- Curative method
- Need for surgery in case of cataract
- Details of treatment or surgery at the base hospital
- Pre-operative and post-operative instructions
- Health education on primary eye care

Responsibilities of a patient - counsellor in base hospital

Counsellor is to continue the counselling in the base hospital also in different stages of in-patients services. More importantly, they should talk to the group of admitted patients just prior to surgery regarding the duration and type of surgery in order to reduce their fear and anxiety.

Counselling should be continued even after surgery in the ward regarding the post operative medication during their stay in the hospital. They should also talk to them how to maintain the hygiene to prevent any kind of infections after they go back to their villages. The counsellors have to be aware of the discharge details and follow up details. Usually follow up is done after 4 weeks of surgery.

The counsellors should make a point on the date and venue of follow up in the discharge summary for all the patients. During post operative stay, they should explain the importance of follow up which will help to attain a high level of follow up acceptance rate. The details which are collected at the time of follow up will help to ensure the quality of service and to provide necessary treatment on complications.

A day before discharge or at the time of discharge, all the operated patients should be grouped together and follow up counselling should be done. They should also insist on regular application of medications and emphasis on precautionary measures to prevent from infection.

Counsellor should also ensure that all the admitted patients are operated upon. If any one is not operated upon, the counsellor has to collect the valid reasons and record the information. Surgery drop out is one of the important factors which influence the cost of surgery.

The counsellor should be able to collect and submit the particular to outreach department after each camp. The medical records or case sheets are the main source of information. On the arrival at the base hospital, the counsellor should refer all the case sheets and categorise the information for report generation.



Fig. 3.2 - Counselling in base hospital

The following information should be collected for each camp to evaluate the quality and productivity of the camp. This also helps to match with pre-set performance indicators.

1. The number of patients screened on the camp day (includes defective and normal patients who attend the camp as out-patients)
2. Age and gender break up of outpatients
3. Diagnosis details (disease wise category of outpatients)
4. The number of patients advised for cataract surgery (the cataract condition may be early immature or mature stage. It is good to have immature and mature cataract patients noted separately)
5. Cataract surgery acceptance rate (number of patients advised for cataract vs number of patients admitted for surgery)
6. The reasons of patients for not accepting surgery
7. The number of patients advised for spectacles and spectacles acceptance rate
8. Patients diagnosed with specialty problems like glaucoma, retina, childhood blindness etc.
9. The number of patients attended the camp with eye defects (cataract, refractive errors and specialty problems together)
10. The number of patients required and advised for further medical intervention in the base hospital
11. The number of patients who agreed to come to the base hospital for specialty treatment

12. Details of patients operated on and discharged
13. The number of operated patients who attend the follow up camp and follow up acceptance rate (it should be furnished after the follow up camp is conducted)

All the above information is interpreted to monitor the performance of outreach activity in a very scientific manner. This significant role of counsellor helps to improve the total quality management of outreach eye care services.

Role of counsellor in school screening camps

This camp is fundamental to take up the school eye health scheme as one of the major outreach programmes. The active participation of trained teachers is encouraged for better results and follow-up. According to the number of school children (1 teacher for 100 children) the teachers are trained for 1 day to measure the visual acuity and to identify common eye problems.

This camp helps to identify refractive errors, squint problems, bitot spots and other minor eye ailments in school going children. The success behind the program is involvement of school management, teachers and parents. Teachers can continue the screening process in future also. Other than refractive errors, the problems which need base hospital intervention can be referred to paediatric clinic.

This is the place where all the school children are examined for any refractive errors or any other visual problems.

No. of school children screened: 100

Percentage of refractive error children: 4 – 6 %

The teachers can also play a role as counsellors. The objective of counselling in these camps is to convince the children to wear glasses when the glasses are prescribed for their distant vision. The counsellor should explain the importance of glasses and counsel them for annual check up by an ophthalmologist. Counsellor should talk to the parents of these children especially when the children are prescribed

for glasses. Unless the parents get involved in this process, the children might not wear the glasses.

Any other eye problems in children other than refractive error are also examined in this school screening camp. The counsellor should be able to talk to the parents and the teachers regarding further management of such problems.

Counselling in work related screening eye camps

This is mainly to detect refractive errors among working population especially in weaving community, tailoring units and other areas where near vision is needed for their work.

When these outreach camps are held, both employee and the employer gets benefited. The quality of the work is tremendously improved because of the proper correction of the refractive error. Also the employee is happy because he is able to do his work without much eye strain.

The role of counsellor in these camps is to convince the patients to wear their corrective glasses and the type of glasses will vary according to their job of requirements. Counsellors can also counsel them for protective glasses especially in welding job, stone cutting work etc.

Counselling in diabetic retinopathy screening camp

New diabetic patients

In new diabetic patients the counsellor should create awareness of the systemic and ocular complications of diabetes to newly diagnosed patients with special emphasis on the prospects of diabetic retinopathy. She should counsel them regarding

- Strict control of diabetes
- Regular annual check up by the eye doctor
- Periodical check up by their own physician

The aim of counselling in these patients is to prevent onset of visual damage due to diabetic retinopathy.

Longstanding diabetic patients

In longstanding diabetic patients when there is an evidence of diabetic retinopathy, depending upon the stage and doctors advise, the counsellors should explain the patient very clearly about their visual condition and convince the patient for taking treatment like lasers etc. The prognosis of visual recovery should be discussed in detail with the patient in a positive way.

In conclusion the counsellors should motivate all the new diabetics to prevent the onset of diabetic retinopathy and in longstanding diabetes she should take the responsibility of making all these patients to accept treatment for retaining their residual vision through out their life.

Key points to remember

- *This is the best place for the counsellors to raise awareness of the common eye diseases in the community.*
- *The art of counselling will be different in outreach camp activities. The language should be simple and the counsellors should be able to talk to them in their own simple language.*
- *Because of the crowd and lack of time the counsellor can use group counselling method.*
- *When the patients are not convinced for surgery they may end up with many barriers such as fear of losing of existing vision. The counsellor can help patient in decision making for surgery. He/she can also use patients who have been already operated to convince others about undergoing surgery.*
- *In paediatric eye screening camp, the counsellor should encourage 100% students to get enrolled in the camps. He/She should convince these students to wear glasses if they have refractive error and motivate the parents on this necessity.*
- *In work related eye screening camp, the counsellor should be able to convince to wear glasses especially for near vision.*
- *In diabetic retinopathy camp, the counsellor should give a clear picture regarding prevention of diabetic*

retinopathy by periodical follow up of these patients both by the physician and also by the ophthalmologist.

- *For any specialty cases like glaucoma, cornea, retina cases, the counsellor should counsel them very clearly to get them to the base hospital for further investigations and specialty opinion.*
- *The counsellor must be responsible for communicating to the patients about the exact date of the one month follow up. She should be accountable for atleast 90% of patients to come for follow up after one month.*

Student exercise

Write short answers

1. *What is the role of counsellor in outreach programme?*
2. *Write the main responsibilities of counsellor in eye camp?*
3. *Write the main responsibilities of counsellor in base hospital?*
4. *Write a brief note on counsellor in school screening camp?*
5. *What is the role of counsellor in diabetic retinopathy?*

CHAPTER 4 CATARACT

CONTENTS

What is cataract
Types of cataract
Symptoms of cataract
Treatment options in cataract surgery
Role of counsellor in cataract clinic

GOALS

To impart knowledge about the basic definition, types, manifestations and management of cataract and enable to answer some common patient questions about the condition.

OBJECTIVES

- The counsellor should be able to
- Explain about cataract, its definition and disease status
 - Know about various ways in which cataract can develop
 - Understand the complaints the cataract patients will have
 - Explain the surgical treatment options available
 - Explain the advantages of each procedure

CHAPTER 4

Cataract

What is cataract?

The lens is normally clear and transparent. It allows light rays to pass through easily. The lens of the eye is essential for good vision. When a cataract develops, this lens becomes cloudy and opaque. Its ability to transmit light decreases with a gradual decrease in vision.

Types of cataract

- Age related (Senile) cataract is the most common type, comprising 80 percent of total cataracts. It usually occurs in patients above the age of 50.
- Congenital cataracts are rare. They can be caused by an infection of the mother that is transmitted to the fetus during pregnancy, or they may be hereditary.
- Traumatic cataracts are caused by injury to the eye. A hard blow, puncture, cut, intense heat or a chemical burn can damage the lens and lead to cataract formation.
- Secondary cataract: Eye diseases, such as glaucoma, iritis, eye tumors and diabetes may lead to cataracts.
- Drug – induced cataract: prolonged treatment with steroid drugs can sometimes cause cataract.

Symptoms of cataract

- Blurring or dimness of vision
- Feeling of a film over the eyes
- Sensitivity to light and glare
- Double vision
- Change in colour of pupil (Fig. 4.1)

Treatment options in cataract surgery

Removal of the clouded lens by surgery is the only treatment. Neither medication nor a change of glasses will improve vision.



Fig. 4.1 - Symptoms of cataract

A cataract operation is performed under local anesthesia or topical anesthesia. The clouded lens is removed and replaced by an intraocular lens (IOL).

In topical anesthesia, eye drops are put in to the eye and there is no need of an injection.

Before IOL surgery came into existence, glasses with high power (Aphakic Spectacles) were prescribed after cataract extractions.

It had a lot of disadvantages

- These glasses are heavy
- Images seen with these glasses appear larger than they normally are
- The field of vision is restricted

The implantation of an intraocular lens during cataract surgery averts the problems that would be created by wearing this type of glasses.

Types of surgeries

There are two types of surgeries

1. IOL implantation with sutures for closing the wound.

Local anesthesia is given and a 10mm incision is made in the eye. The clouded lens is removed and replaced by an IOL. The incision is then

closed with sutures. The entire procedure takes only about 15 minutes.

Sutureless phacoemulsification surgery

In phaco with IOL surgery the cataract is broken in to small pieces with high energy sound waves and extracted from the eye through a 3 to 5mm incision. The wound seals itself and does not require sutures.

Small incision sutureless cataract surgery (SISCS)

SISCS with IOL, is an economical alternative to phaco, where a self-sealing tunnel, is made to do surgery. It has the same benefits in phaco with IOL, and is very suitable for developing countries (Fig.4.2).

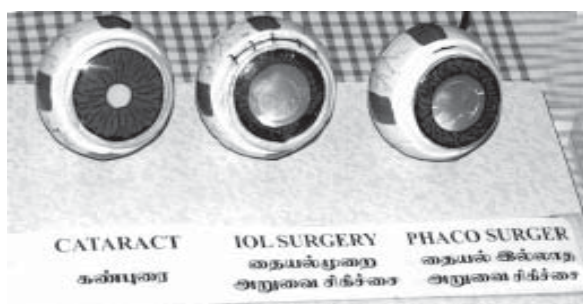


Fig. 4.2 - Types of surgeries

Intra ocular lens implantation

An IOL is a tiny, transparent, convex lens made of polymethyl methacrylate (a harmless plastic material) which is inserted in the eye during surgery. Unlike contact lenses, an intraocular lens remains in the eye permanently and does not cause any irritation (Fig. 4.3)

Advantages of IOL

- Since the lens is placed inside the eye, the patient need not wear glasses for distant vision, but they have to wear glasses for reading
- Images are clear
- Full vision is obtained soon after surgery

Advantages of phaco

- Surgery can be done at early stage of cataract and the patient need not wait for the cataract to mature
- Small incision



Fig. 4.3 - Surgery intraocular lens implementation

- No sutures
- No irritation
- No watering
- No need for suture removal



Fig. 4.4 - Intraocular lens

- Early return to work
- No need for hospital stay
- Better quality of vision and early recovery of good vision

Types of IOL

- Rigid IOL
- Foldable IOL

A rigid IOL requires more than a 5mm sized incision to place the IOL

A foldable IOL can be folded to half its size and inserted through a very small incision of about 2.8mm. The lens unfolds to its original size and shape after implantation into the eye (Fig. 4.4).

Advantages of foldable lens

- It can be implanted through a very small incision
- The incision heals faster with early visual recovery

- Induces less side effects like astigmatism, giving much better quality of vision

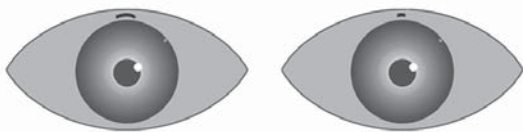


Fig. 4.5 - Size of incision

Posterior capsular opacity (PCO)

A few months or years after cataract surgery, a thin membrane may grow behind the IOL, on the posterior capsule, causing fall in vision. This is called PCO.

This membrane can easily be removed with a LASER treatment and good vision can be regained.

Role of counsellor in cataract

1. To explain the disease condition and make the patient understand the need for surgery. In immature cataract, surgery is not an emergency and can be operated on at the patients' convenience. But the patient should be told that phaco with IOL is possible only in the early stages of cataract. In the case of a mature or hypermature cataract, surgery has to be done at the earliest. Otherwise, the patient may have complications due to the cataract, with pain and redness, and making surgery very difficult.

The counsellor makes the patient realize the value of timely surgery.

2. The counsellor should understand the socioeconomic status and requirements of the patient and advice suitable surgery. For eg; a young driver - patient with immature cataract must be counselled for a phaco surgery with foldable lens. Similarly, if the doctor advises against phaco for a patient, she should make the patient understand that though phaco is not possible, a different surgery can be done with good visual results.

3. The counsellor should patiently explain the importance of correctly applying post operative medication. She should stress on the importance of hygiene and washing hands before applying drops in the eye.
4. The counsellor should ensure that the post operative followup schedule is strictly followed by the patient. Convenient follow up date for the patient can be fixed and the patient shall be encouraged to come earlier if he/she has pain, or defective vision.

Do's and don't's for patients after cataract surgery

Do's

- a) Apply eyedrops at correct time properly
- b) Wash hands thoroughly before handling the drops
- c) Give adequate time between applying two medicines
- d) Maintain lid and personal hygiene
- e) Maintain a strict control of diabetes and hypertension
- f) Eat a regular, healthy diet

Don't's

- a) Do not rub the eye
- b) Do not drive
- c) Avoid dusty environment and smoke
- d) Do not use the medicines beyond the time the doctor has instructed you to use.
- e) Do not lift heavy weights

Frequently asked questions

1. Can cataract be treated with medicines or glasses? Why do I need surgery?

Removal of the clouded lens by surgery is the only treatment. Neither medication nor a change of glasses will improve vision.

2. Why do I need glasses after surgery?

The IOL is designed for distance vision. It cannot accommodate like a natural lens. Hence after surgery, glasses are needed for reading and near vision. Sometimes, glasses may be needed for distance vision also to correct any astigmatism after surgery.

3. Do I have to remove and clean the lens every day?

The IOL is implanted inside the eye. It can not be and need not be removed and cleaned every day like a contact lens.

4. How long is the life of the IOL? How many years guarantee does it have? Does the lens have to be changed after some times?

The IOL will stay in the eye life long. It need not be changed at all.

5. How soon can I resume normal work?

Though it depends on individual work requirements, generally after phaco with IOL surgery one can resume normal work after a week to two of rest.

6. Do I have to come for checkup after surgery? Why?

After surgery the eye surgeon will examine the eye for normal wound healing and possible post operative complications. The vision will be tested 1 month after surgery and the retina will be examined. Therefore, a check up after surgery is a must on the follow up date given.

7. Will the cataract grow again after surgery?

The cataract will not grow again, but a membrane may grow behind the IOL (PCO – posterior capsular opacification) after some time, which may decrease the vision.

8. Will I need surgery again for this membrane?

No, the membrane can be easily removed with a laser (ND: YAG capsulotomy) and does not require another surgery.

9. Is there a special intra ocular lens for cataract in diabetic patients?

Some types of IOLs (Silicon lens) should be avoided in diabetics. The preferred IOL in diabetics is a foldable IOL.

10. Is the surgery painful? Can be done without an injection?

Phaco with IOL surgery can be performed painlessly if done in early stages of cataract by applying only anesthetic drops. However if the cataract is mature, an injection will be put near the eye and the entire surgery done painlessly.

11. Is phaco with IOL a laser surgery?

Phaco with IOL surgery uses technique of Phacoemulsification in which high energy (ultrasound) sound waves are used to remove the cataract. It is not a laser.

12. Will I get 100% vision after cataract surgery?

Vision after cataract surgery also depends upon the functioning of the healthy retina and optic nerve. If every thing is normal, complete recovery of vision is possible after surgery. But in the presence of co-existing diseases like diabetic retinopathy or Age related macular diseases visual recovery may not be 100%.

Key points to remember

- *Cataract is clouding of the normally clear lens causing decreased vision.*
- *There are different types of cataract while senile cataract is the most common.*
- *Surgery is the only treatment.*
- *Different types of surgeries are possible each of which involve removing the cataractuous and implanting an intraocular lens.*
- *The counsellor explains the need for surgery and the type of surgeries and IOLs, to the patient and helps him make a decision.*

Student exercise

Write short answers

1. *How will you counsel the patient about the cataract surgery?*
2. *What are the different types of cataract surgeries available?*
3. *Mention the benefits of phaco with IOL surgery?*
4. *How will you counsel the patient about the benefits of foldable lens?*
5. *What is the counsellor's role in giving cataract post operative instruction?*

CHAPTER 5 COUNSELLING IN RETINA CLINIC

CONTENTS

Diabetic retinopathy
Retinal detachment
Age related macular degeneration
Retinitis pigmentosa

GOALS

To impart adequate knowledge regarding the various retinal disorders, so that she can explain to the patient the nature of the disease and the magnitude of the current problem and convince the patient for investigations and treatment.

OBJECTIVES

The counsellor will be able to

- Explain the basics of the various retinal diseases
- Convince the diabetic patients to come for regular follow up
- Explain the importance of immediate surgery in retinal detachment
- Convey the prognosis in age related macular degeneration and retinitis pigmentosa

CHAPTER 5

Counselling in Retina Clinic

Anatomy of retina

It is the innermost layer of the eye. The light impulses that fall on the retina are transmitted to the brain, which interprets the image. The central part of the retina is called macula which is essential for good central vision (Fig. 5.1).

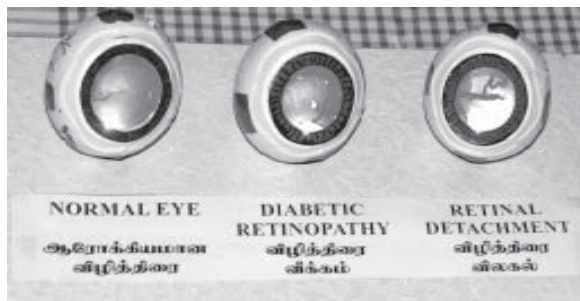


Fig. 5.1 - Retinal diseases

Common diseases of retina

1. Diabetic retinopathy
2. Retinal detachment
3. Age related macular degeneration
4. Retinitis pigmentosa

Diabetic retinopathy

Diabetic mellitus

Diabetes mellitus is a systemic disease in which there is a high blood glucose level. There are two types:

1. Types I – Insulin dependent diabetic mellitus
2. Types II – Non insulin dependent diabetic mellitus

Type II DM is the most common disease

The contributing factors are

1. Inappropriate diet – high fatty diet
2. Lack of exercise
3. Obesity
4. Heredity

Diabetic retinopathy introduction

Regardless of the type of diabetes, many diabetics develop retinal disease called diabetic retinopathy. The tiny, delicate retinal blood vessels become weak and start leaking. This causes structural changes in the retina and leads to loss of vision

Diabetic retinopathy is symptomless in the early stages. It is gradual in onset and is related to the duration of diabetes. Uncontrolled blood glucose levels, high blood pressure and high cholesterol levels influence the progression of diabetic retinopathy. Since only an ophthalmologist can detect early signs of diabetic retinopathy, all diabetics should have their eyes examined at least once every year.

There are two main stages of diabetic retinopathy.

Non proliferative diabetic retinopathy

In this stage there are no new vessels in the retina. The blood vessels may leak causing swelling of macula thereby reducing vision.

Proliferative diabetic retinopathy

When new and weak blood vessels grow, they bleed into the vitreous causing vitreous haemorrhage. This can result in sudden and severe visual loss. In advanced stages, the vitreous may form a band and pull the retina off its place causing retinal detachment.

Investigation

Fundus Fluorescein Angiography

Role of counsellor in FFA

- The counsellor makes the patient aware of the need for investigation and its features:
- This investigation is done to find the location of involvement and the severity of the disease.

- The test is done with a dye called fluorescein which is injected into the vein and the retina is photographed with a special camera when the dye passes through the blood vessels in the retina.
- The test has to be done on an empty stomach or at least 3 hours after the last meal.
- FFA is only an investigation. It does not cure the disease. The doctor will decide on treatment after seeing the FFA report.
- The counsellor also makes sure the patient does not have any systemic problems like asthma, kidney problems or cardiac illness which may require physician's opinion prior to the test.
- The counsellor tells the patients that if they experience any discomfort (including nausea or difficulty in breathing) during or after the procedure, they should report it to the doctor or nurse. Immediate treatment for allergy to the drug may be needed rarely.
- She should be able to make the patient comfortable about the procedure by telling its features:
 - The laser is an intense beam of light which will be used to treat the disease. It is not harmful to the eye and is the only mode of treatment for the current problem
 - It is a completely painless procedure which can be done with topical anesthesia
 - It may have to be repeated in another sitting or after some months depending upon the response of the disease to treatment
- The counsellor also makes it clear that the laser will only prevent further loss of vision and will not improve vision

Treatment

Medical treatment

Strict control of diabetes is a must to stop the progression of diabetic retinopathy. High blood pressure and cholesterol should also be controlled. Periodic check up with physician and ophthalmologist is mandatory.

Laser treatment

Lasers are formed by an intense and highly energetic beam of light. They can slow down or stop the progression of diabetic retinopathy and stabilise vision.

Laser treatment is usually performed as an outpatient procedure. The patient is given topical anaesthesia to prevent any discomfort.

Role of counsellor

- The counsellor explains the nature of the disease and the need for laser treatment

Surgical treatment

In some patients with advance stage of diabetic retinopathy (like vitreous haemorrhage or retinal detachment) surgery may be needed to treat the disease.

Role of counsellor in explaining surgery

- The counsellor should tell the patient that the disease is at an advanced stage and will require surgery.
- She should tell the patient that if surgery is done at this stage then there may still be further progression of the disease and loss of vision. At the end visual recovery may not be possible.

Role of counsellor in diabetic retinopathy

- The counsellor should tell the diabetic patient the characteristics of the disease:
 - Diabetes is a chronic disease which can affect various parts of the body including the eye.
 - The duration of diabetes is more important than the level of blood sugar in causing retinopathy
 - Even if you are in regular control of your blood sugar, diabetes will still affect your eye. But strict control of blood sugar postpones

the onset of diabetic retinopathy and controls its progression.

- Diabetic retinopathy can affect your eyes without any symptoms and can only be detected by a careful dilated fundus examination by an ophthalmologist.
- The vision lost due to diabetic retinopathy cannot be regained. Any treatment done is only to prevent further loss of vision.
- The counsellor must convince the patient about the importance of regular follow up and treatment in each of the following situations:

CASE I

A recently diagnosed, young diabetic patient who has not yet developed diabetic retinopathy.

The counsellor

- Must explain to the patient that duration of diabetes influences the development of diabetic retinopathy and hence forth the patient should have regular eye check up (atleast once in a year)
- Must emphasise the need for strict diabetic control, because poor glucose control and long duration of diabetes will lead to early development and faster progression of diabetic retinopathy
- Should also advise the patient to have regular check up with the physician so that he/she may not develop kidney problems. Other additional problems like high blood pressure, high cholesterol should be diagnosed and treated adequately.

CASE II

40 years old patient with history of diabetes for the past 6 years, diagnosed to have diabetic retinopathy

The counsellor in this case

- Must emphasise the need for strict control of diabetes
- Must tell the patient about the other problems like high blood pressure, cholesterol, anemia

which can cause further retinal damage and hence emphasise the need for regular check up with the physician.

- Should counsel the patient regarding the various investigation and treatment modalities like FFA, laser treatment and how it would help in preventing further progression.
- Must be able to eliminate the patients fears about laser treatment and make the patient accept treatment and the follow up.

CASE III

An elderly patient with advanced diabetic retinopathy.

The counsellor

- Should be able to explain the various treatment modalities like laser, surgery
- Should convey the need for saving the residual vision and preventing blindness
- Must explain the need for maintaining strict blood sugar control, normal BP, normal cholesterol levels, so that further retinal damage can be prevented
- Must convince the patient about the need for frequent follow ups with the physician and the ophthalmologist
- The patient should feel comfortable and develop a positive attitude towards the treatment. This would ensure the patients' compliance with the treatment.

The counsellor must be able to convince the patient regarding

- Regular and repeated follow up with the ophthalmologist at intervals determined by the doctor
- Regular follow up with the physician to control diabetes and associated systemic problems
- Self monitoring of blood sugar levels and maintaining strict diabetic control

Retinal detachment

Introduction

It is a condition in which the retina gets separated from its place. It can cause sudden and painless drastic loss of vision. It can be of different types and due to various causes (Fig. 5.2).

Symptoms of Retinal Detachment: (RD)

1. Flashes of light

Patient can see flashes of light especially during eye movement, blinking, this is due to pull on the detached retina.

2. Floaters

Small black spots, cobweb-like or large black rings may be seen by the patient.

3. Visual field defect

It is perceived by the patient as a black curtain before his eye.

4. Sudden loss of vision

This can be due to retinal detachment involving the macula.

The prognosis is very poor if the macula is involved.

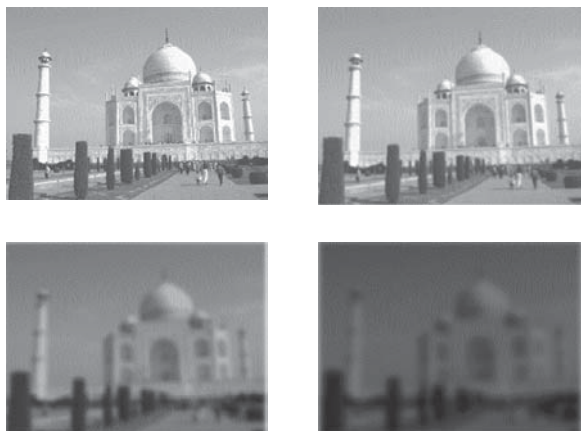


Fig. 5.2 - Symptoms of retinal detachment

Treatment

Treatment of RD is essentially surgical and should be done immediately once diagnosed.

Surgery

Surgery for retinal detachment involves three major steps.

Scleral buckling

A band or sponge made of silicone material is sutured firmly to the sclera to close the hole in the retina.

Vitrectomy

Removal of the vitreous humour is done to relieve bands which may pull the retina and to enable the surgeon to repair the retina.

Silicone oil injection or C3F8 gas injection

After vitrectomy the empty vitreous cavity has to be filled with silicone oil or with C3F8 gas. Patient must undergo another surgery for removal of silicon oil after 3-4 months. Only after silicone oil removal patient can see better.

If the silicone oil is not removed within 3-4 months, patient can develop cataract, and or glaucoma and may occasionally experience double vision.

In case of C3F8, there is no need for removal as it is a gas, hence a second surgery is not needed. The gas gets absorbed over 1½ months. During this period, patient might experience floaters, seeing bubble etc, which will gradually resolve. The patient must be explained to avoid air travel.

Role of counsellor in advising surgery

- The counsellor should emphasize the need for early treatment because the visual prognosis following retinal detachment surgery is very good if the surgery is done immediately and if the macula is not involved.
- A guarded prognosis should always be given in RD surgery as the outcome may be unpredictable.
- The need to maintain bed rest and correct sleeping position after surgery needs to be emphasised to the patient.

- The counsellor should inform the patient of poor prognosis if there is delay in surgery or the outcome if surgery is not done.
- The patient should be told that they will require a second surgery to remove silicone oil if it is injected in the eye. Silicone oil itself may cause cataract which will require surgery for cataract extraction and IOL implantation.
- He/she should alert the patient regarding the early symptoms of retinal detachment and the possibility that it may occur in the other eye.

Age Related Macular Degeneration (ARMD)

ARMD is a condition in which there is progressive loss or decrease in the quality of central vision. It usually affects elderly people.

There are two types of ARMD

1. Dry ARMD

This is the most common type. There is progressive and gradual decline in vision. There is no ideal treatment for ARMD.

2. Wet ARMD

This is less common but causes more severe loss of vision than dry ARMD. New vessels form beneath the retina called choroidal neovascular membrane (CNVM) and may bleed causing vision loss.

Symptoms

1. Loss of central vision
2. Seeing black spot in the centre of their visual field
3. Distortion of images

Treatment

Dry ARMD: As of now, there is no treatment for dry ARMD but regular follow-up is needed to see if the disease becomes worse or converts to the wet type.

Wet ARMD : Laser treatment can be done to prevent further damage to the retina and progression of vision

loss. There are also many new treatment modalities which are being tried to treat the disease.

Role of counsellor

1. The counsellor should explain the poor prognosis and progressive nature of the disease. The patient should realise that though there is no treatment at present for dry ARMD he needs regular follow-up to see the progression of the disease.
2. Cases of wet ARMD which can be treated should be counseled to undergo treatment to prevent further loss of vision. The patient should understand that the vision lost due to the disease cannot be recovered by laser.
3. For patients who are blinded by ARMD, the counsellor should advise visual rehabilitation (ref. low vision counselling)

Retinitis pigmentosa

Retinitis pigmentosa is a hereditary disease, characterized by night blindness and constricted visual fields.

Symptoms

1. Difficulty in seeing in dim light
2. Constriction of visual fields i.e., Loss of peripheral field of vision and eventually tubular vision

Treatment

There is no treatment for RP as of now. The patient can be explained about low vision aids and life style modifications.

Role of counsellor

- The counsellor should sympathise with the patient about the lack of any treatment for this disease
 - Should advice about visual rehabilitation like low vision aids
- E.g : Use of bright torch while going outdoors in the evening. Working in good illumination

- Should also advise the patient some life style modification e.g. avoiding driving and choosing an occupation which they can perform with the prevailing vision.
- Genetic counselling
 - The counsellor must also inform the patient about the hereditary nature of the disease, and possibility of a similar problem in his/her siblings and children.
 - The counsellor must convey to the patient about the increased chance of his/her children developing the disease, if he/she has a consanguineous marriage.

Frequently asked questions

1. I am 35 years old, the doctor told me that I have diabetes and mild retinal changes due to diabetes, can I completely cure myself?

Adequate control will help in preventing further damage to the retina. It may not completely reverse the existing damage. The retinal damage is directly related to the duration of diabetes therefore regular follow up and strict blood sugar control, is very important.

2. I am 77 year old. I have diabetes for the past 3 months. Will it affect my eyes?

Strict blood sugar control is a must. The patient should have regular follow up with the physician and ophthalmologist.

3. How should I prevent diabetic retinopathy?

Diabetic retinopathy is preventable with strict control of diabetes. Other systemic conditions like hypertension (high blood pressure) and high blood cholesterol must also be adequately controlled. Hence, regular check up with physician and ophthalmologist is mandatory.

4. If I undergo fundus fluorescein angiography (FFA) will I be able to see better or will I be cured of diabetic retinopathy?

FFA is an investigation. It helps to identify and confirm the retinal damage that has already occurred. It is not a treatment procedure.

5. Will I be able to regain complete vision after undergoing laser treatment?

Laser treatment for diabetic retinopathy helps in preventing the progression of diabetic retinal damage. Sometimes the vision may also improve to a slightly better level. If treatment is not done, there is a high chance of losing the existing vision.

6. Do I have to undergo laser treatment repeatedly?

Depending on the response to the first laser treatment the doctor will decide about repeating the laser treatment. Secondly, if this retinal problem recurs again, repeat laser may be required.

7. Are there any side effects of laser treatment?

No. Laser treatment is a very safe procedure. It can be done in the outpatient department itself.

8. Will I experience pain during laser treatment?

No. Laser treatment is done under topical anesthesia. Occasionally, few patients may experience mild pain which lasts for 3-4 hours. This can be relieved with eye drops to decrease the pain.

9. Can I bathe, and go for work, following laser treatment?

Yes. You can perform all day to day activities.

10. My spectacle power is -8D. The doctor told me that there is retinal hole and I have to undergo laser treatment? It is necessary?

Yes. Laser treatment helps in closing the hole. It prevents the formation of Retinal Detachment.

11. Do I have to come for check up regularly if I undergo laser treatment?

Yes. The patient should have regular check up at least once in a year to detect formation of any hole/tear/thinning/retinal detachment and undergo treatment.

12. I have advised to have an injection inside my eye. Where will they inject? Will I have any problem because of that?

Intra-vitreous injections are given inside the eye through the white of the eye. It is done under local topical anesthesia; the patient will not

experience pain and will be comfortable during the procedure.

13. Will my vision improve after intra vitreal injection?

1. Intra-vitreous injection is done mainly to prevent any further damage to the retina.
2. Sometimes, it also helps in improving the present vision.

14. Following RD surgery, Will I regain my vision fully?

If the retinal detachment was present for long duration or if the centre of retina has been involved, complete visual recovery cannot be guaranteed. But, there is a chance of improvement of vision gradually.

15. Will I have any adverse effect because of silicone oil in my eye?

In the presence of silicone oil, few patients might experience double vision. The vision improves after silicone oil removal after 3-4 months.

16. What will happen if silicone oil is left as such in the eye?

There is high chance of cataract formation. The eye pressure can increase leading to nerve damage and pain.

17. Can I have gas injection only? I do not want silicone oil injection because, I have to undergo resurgery to remove it?

The decision to use silicone oil or gas injection is made by the surgeon during the surgery based on the retinal status.

18. If I do not undergo surgery, will I have any problem?

Yes. The retinal detachment will progress. You may lose your vision completely, because of the retinal detachment. You can also develop cataract.

You may also experience pain due to uveitis or glaucoma. Eventually the eye might shrink (Phthisis bulbi)

Key points to remember

- *Diabetic retinopathy is caused by chronic diabetes and manifests as diabetic retinopathy. Minor changes will not be symptomatic so it is essential to come for yearly review in order to prevent blindness due to diabetic retinopathy.*
- *Retinal detachment is separation of retina from its place and treatment is surgical.*
- *Retinitis Pigmentosa is a genetic condition, patient will benefit with low vision aids, and genetic counselling is required.*
- *ARMD is a progressive degenerative condition occurring in elderly associated with poor visual prognosis. It is of two types dry & wet – former requires no treatment, but needs regular follow-up to judge its progression, and latter require laser treatment to prevent further loss of vision.*

Student exercise

I. Write short answers

1. *List out the risk factors of diabetic retinopathy.*
2. *What is the difference between counselling a patient aged 40 years and 60 years diagnosed with diabetic retinopathy and their vision recorded 6/6?*
3. *Write down the importance of follow-up of diabetic retinopathy patient.*
4. *How to counsel the patient with ARMD?*
5. *What is the role of counsellor in counselling a RP patient?*
6. *The patient with diabetic retinopathy had undergone three sittings of laser treatment, how will you encourage the patient to come for next sitting for laser by counselling?*

CHAPTER 6 GLAUCOMA

CONTENTS

Types of glaucoma
Symptoms
Investigations
Treatment
Role of counsellor
Frequently asked questions

GOALS

To impart adequate knowledge regarding glaucoma for enabling to explain to the patient the nature of disease, types of disease, symptoms, investigations and treatment

OBJECTIVES

- The counsellor should be able to
- Explain about glaucoma definitions and the natural course of the disease
 - Hereditary nature of the disease
 - Types of glaucoma
 - Laser procedures
 - Medications
 - Understand social and financial implications of low vision and prolonged treatment with expensive drugs
 - Emphasise the need for compliance
 - Explain the surgical options available

CHAPTER 6

Glaucoma

The human eye can be compared to a camera. The retina of the eye is analogous to the film inside the camera which captures a picture. The picture so captured is carried to the brain by the optic nerve. Glaucoma is a disease of the optic nerve caused by an increase in the intra-ocular pressure (Pressure inside the eye). This is characterised by a gradual progressive loss of neurons causing a progressive constriction of visual fields.

Types of glaucoma

Open angle glaucoma (POAG)

There is no functional block to the flow of fluid inside the eye (aqueous humour)

Angle closure glaucoma (PACG)

There is a block in the flow of fluid (aqueous humour) in the eye at the level of the pupil

Developmental glaucoma

Occurs from birth and is hereditary. Visual prognosis is guarded. These patients usually need multiple medications & surgery

Secondary glaucoma

Can be due to

- Trauma
- Following surgeries of the anterior or posterior segment
- Following chronic inflammation
- Prolonged use of steroids
- Long standing diabetes, retinal vessel occlusions

Symptoms

Patient with glaucoma may not have any symptoms. Hence the difficulty in explaining the importance of compliance to medications in these patients.



Fig. 6.1 - Symptoms of glaucoma blurred vision

Some patients may complain of

- Frequent change of glasses
- Loss of field of vision (Fig.6.1)

Patient with angle closure glaucoma may complain of recurrent attacks of

- Redness
- Pain
- Blurred vision
- Coloured haloes
- Headache, vomiting

Parents of children with congenital glaucoma complain of

- Child avoiding light
- Increase in the size of the eyes
- Squinting of eye
- Increase tearing from the eye

Investigations

These are important for early diagnosis of the disease and also in follow up to prevent out progression of the disease.

- Visual field testing

This analyses the field of vision of the patient. Ideally should be repeated every year or once in a month to rule out progression of the disease. The patient has to understand and cooperate with the test for it to be useful.

- **Central corneal thickness**

The intra-ocular pressure measured by applanation can vary with any change in the thickness of the cornea. So CCT is measured in all patients with glaucoma.

- **OCT**

This is to diagnose early glaucoma at a stage when it cannot be diagnosed by routine field tests and involves scanning of the nerve fibre layer around the optic disc.

- **SWAP**

This is a modified field test which uses coloured stimulus. Also helps in diagnosing early glaucoma.

- **UBM**

A technique to scan the anterior part of the eye to rule out structural abnormalities.

Role of the counsellor

To explain to the patient why specific investigations are essential and why they have to be repeated to rule out progression of the disease.

Treatment

Medication

The main concern in glaucoma counselling is ensuring compliance to medications.

Counsellor's role: The counsellor should be able to communicate importance of using medications to bring down the IOP and that medications only preserve his vision from not deteriorating further. They are unlikely to improve it from the present stage.

She should try to ensure the support of the family in prolonged treatment.

It helps to allot specific times for the medications to be instilled.

Most of the medications have no serious side effects. However, they may cause worsening of asthma, allergy, redness of eyes etc.

The counsellor can also demonstrate the correct method for instillation of medications.

Method of instillation of medications

Wash your hands before handling the bottle. Pull down the lower lid of the eye to create a pouch. Put a single drop of medicine and close the lids for 3 minutes without squeezing the eyes to reduce systemic absorption and enhance ocular penetration of the medicine. When using more than one medicine leave a gap of at least 10 minutes between them.

Expensive medications can preferably be instilled by an attendant to avoid wastage.

Some drugs may need to be kept in the fridge.

Lasers

Yag peripheral iridotomy

A small opening is made in the iris to bypass the block at the level of the pupil.

In-patients who have already developed angle closure glaucoma this relieves pain and brings down IOP. In primary angle closure glaucoma suspects this is done as a preventive measure to prevent future rise in IOP and allow dilated fundus examination. The procedure does not need hospital admission. The patient has to use topical drops for an hour. The laser procedure itself takes less than 10 minutes. Patients can continue all normal activities post laser.

Counsellors' role

To make patients in pain comfortable and reduce the waiting period for treatment when possible. Explain the nature of the disease and necessity of PI in patients advised prophylactic laser PI. Patient should be informed that a repeat sitting may be necessary in some cases and it causes no harm to the eye.

Laser suturelysis

At the time of glaucoma surgery 1 to 3 sutures are placed in the eye. On follow up if necessary one or more of these sutures are lysed using yag laser. In the first 2 to 3 months period following glaucoma surgery, patients might need frequent followup to decide on suture lysis.

Counsellors' role

To explain to the patient that though cataract surgery may be sutureless, glaucoma surgery involves 1-3 sutures. Removal of this suture is done by a laser beam and is painless. This helps to further bring down intraocular pressure.

Laser trabeculoplasty

Helps to further bring down the IOP.

Diode CPC

A minor laser procedure done under local anaesthesia. It does not improve the vision of the eye. It brings down IOP by partially destroying the structures that produce the fluid inside the eye. It is done in eyes with poor visual prognosis and when all other measures have failed.

Counsellors' role

To communicate to the patient that the procedure will help to provide pain relief. It cannot give back lost vision.

Surgery**1.Trabeculectomy**

A minor surgery, done under local anesthesia to bring down the intraocular pressure and thereby protect the optic nerve from further damage.

Counsellors' role

To communicate to the patient that trabeculectomy does not improve the vision of the patient, but maintains it as it is. In very few patients there is even a chance for a mild decrease in vision. Following the surgery there might be a small scar in the white of the eye superior to the cornea.

Cataract surgery

The clouded lens in the eye is removed and replaced with an IOL. Can be done under local or topical anaesthesia.

Counsellors' role

Explain the wide variety of IOLs and surgical options available for the patient.

Combined surgeries

If a patient who needs glaucoma surgery also has operable cataract, the surgeries can be combined.

Though cataract surgery may be sutureless glaucoma surgery involves 3 sutures and more frequent follow up.

Surgery under guarded visual prognosis

Patients with advanced glaucoma and high intraocular pressures may have poor visual prognosis

- Due to the already damaged state of the optic nerve
- Due to the higher rate of complications due to raised IOP

Counsellor should be able to thoroughly communicate this to the patient so that he has realistic expectations regarding the surgery.

Role of counsellor**Chronic glaucoma**

1. Primary open angle glaucoma (POAG)
 2. Secondary glaucoma
 3. Glaucoma suspect
- The counsellor explains the nature of the disease, the slow nature of visual loss and symptomless silent damage that it involves.
 - The counsellor stresses the importance of regular follow-up and use of medication known to the patient
 - The counsellor explains the unique characteristics of glaucoma
 - Drops are the first line of treatment that should be continued life long
 - The disease may progress despite regular use of medications

- Medicines only slow down the progress of the disease
- Certain types of glaucoma are familial and hence close relatives also need to be examined for the same
- Surgery may be required at some point of the disease and has to be decided by the doctor
- Loss of vision or visual field in glaucoma cannot be recovered. It is permanent

Acute glaucoma

1. Primary Angle Closure Glaucoma (PACG)
 2. Neovascular Glaucoma (NVG)
 3. Absolute glaucoma, Malignant Glaucoma
- The counsellor may have to talk to a patient in pain, in certain stages of acute glaucoma. She can explain that the condition is treatable and everything is being done (ie. Drops, laser etc.) to relieve their symptoms.
 - She must explain that the condition is recurrent, and that preventive measures like a laser may have to be done in both eyes to stop future attacks.
 - Surgery may have to be done at later stage and will be decided by the doctor.

Congenital glaucoma

- The role of the counsellor is in making the parents understand that their child is suffering from a serious eye condition that is present from birth or developing early in life. The child may require surgery even when very young.
- The parents are made to realise that despite surgery and drops the child may have poor vision, but that the treatment is essential to prevent further damage.
- The need for repeated follow up and long term treatment, needs to be emphasised to the parents.

Frequently asked questions

1. Is the disease hereditary?

Yes, (Except for secondary glaucoma). It is important to screen family members to rule out glaucoma (siblings, children, parents)

2. How long should I use medications?

To preserve the present status of vision, medications have to be continued life long.

3. Will I have to continue medications even after glaucoma surgery?

The need for expensive medications comes down after glaucoma surgery. One medication though might have to be continued in some patients.

4. What is absolute glaucoma? Can't I have a lens placed in the eye to regain my vision?

Absolute glaucoma is the end stage of glaucoma where the optic nerve has undergone total atrophy due to the raised IOP. Patient does not even perceive light. Since the optic nerve is totally destroyed placing an IOL in the eye does not improve the vision. Treatment at this stage is only for pain relief.

5. Can't you replace my eye?

An eye in totality can not be replaced. Only the cornea of the eye can be replaced. Since the disease is at the level of the optic nerve this does not help in glaucoma.

6. Even if I don't use medicines for 2 – 3 weeks, I am fine. Why should I continue medications?

Glaucoma is a very slow disease affecting the optic nerve. Our aim is to prevent visual loss over the years to come which is possible only by strict adherence to medications.

7. Will YAG PI harm my eye? Can I have head bath?

Usually it causes no problem to the eye. You might experience mild headache or photophobia for 2-3 days.

Yes you can have bath since it is a non-invasive procedure.

8. Even after successful combined surgery, my side vision is poor why?

Surgery is to bring down the IOP and to replace the cataractous lens. The optic nerve damage that has already occurred cannot be corrected by this procedure. Hence, we should not expect any improvement on the side vision.

9. Even after using expensive medications for many years my vision has not improved, why?

Vision lost due to optic nerve damage cannot be regained. We can only aim to preserve the residual vision by preventing further damage.

Key points to remember

- *Glaucoma is the term used to indicate changes in optic nerve head and visual field changes associated with normal or increased intraocular pressure.*
- *Broadly classified into primary and secondary glaucomas.*
- *Primary glaucoma based on the anatomy of the anterior chamber angle, is further divided into open angle and angle closure forms.*
- *Secondary can be due to associated uveitis disorders of lens, trauma etc.*
- *Basic principle of management is surgery/laser for angle closure forms and medical treatment for open angle glaucoma.*

- *Counsellor should know about the main pathology in two forms of glaucomas and name of different groups of drugs that are commonly prescribed and their cost and important side effects.*
- *They should know about the basics of filtering surgery and counsel the patient regarding the need for surgery.*

Student exercise**I. Write short answers**

1. *Mention the symptoms of glaucoma.*
2. *How will you counsel a glaucoma patient about the importance of medication?*
3. *Write down the importance of follow up of glaucoma patient.*
4. *What is the role of a counsellor in counselling a YAG PI laser patient?*
5. *Who are all prone to get glaucoma?*

CHAPTER 7 COUNSELLING IN A PAEDIATRIC OPHTHALMOLOGY AND STRABISMUS CLINIC

CONTENTS

Types of diseases
Refractive errors causes, symptoms & treatment
Amblyopia causes, symptoms & treatment
Cataract & IOL causes, symptoms & treatment
Retinoblastoma causes, symptoms & treatment
Strabismus causes, symptoms & treatment
Retinopathy of prematurity cause, risk factors & treatment
Congenital anomalies of the eye
General anaesthesia counselling

GOALS

To create an understanding of the common and important eye diseases in children, and improving her/his counselling abilities and skills according to the problem.

OBJECTIVES

- The counsellor should be able to
- Give correct information to the parents about eye diseases that the child has and raise the awareness
 - Counsel the patients according to the doctor's instruction and make them accept the doctor's advice
 - To answer common questions and queries of the parents regarding the diseases
 - Explain the treatment options available and their importance
 - Motivate the child and parents to comply with the treatment regimen and follow-up

CHAPTER 7

Counselling in a Paediatric Ophthalmology and Strabismus Clinic

It is a branch of ophthalmology concerned with eye diseases and vision care in children from birth until 15 years of age.

Types of diseases

Refractive errors – causes, symptoms & treatment

It is a common eye problem. It is the second most common cause of preventable blindness. The symptoms may be missed as children are unaware of their problem. It is generally reported by the school teacher by observing the child's behavior in the classroom (Fig 7.1).

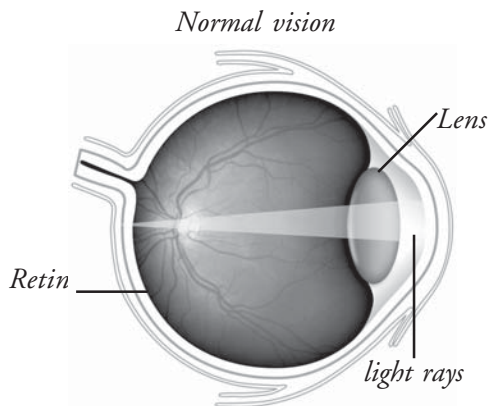


Fig. 7.1 - Image focussed on the retina

4-5% of all children have some refractive error. Many children fail to have an ophthalmic consultation as parents may be ignorant of the problem or hesitant out of fear that glasses, if worn at a young age may become permanent.

Myopia

Definition

Normally, light entering the eye gets focused on the retina. When the light gets focused in front of the

retina, it is called myopia. It is also called near sightedness (Fig 7.2).

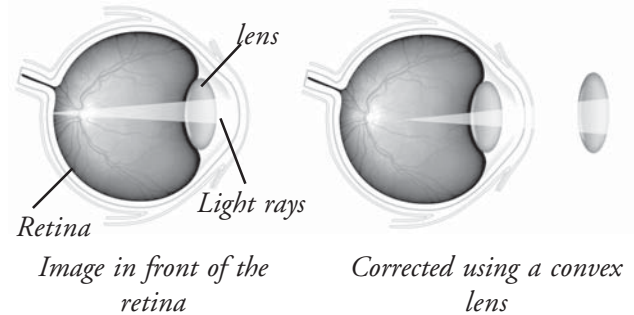


Fig. 7.2 - Myopic eye

Symptoms

1. Child is unable to see letters on the blackboard
2. Child keeps books very close to eyes while reading
3. Child sits too close to the television
4. Child squeezes eyes while trying to see distant objects

Treatment

1. Use of spectacles (minus lenses)- to provide clear vision, thus enabling the child to see distant objects clearly
2. Contact lens, can be used after the age of 15-16 years.

Hypermetropia

Definition

It is a condition where light entering the eyes come to a focus behind the retina. It is also known as far sightedness and is less common than myopia (Fig 7.3).

Symptoms

- Child has difficulty in reading, both at distance and near

- Eyestrain and headache while trying to read
- Squint

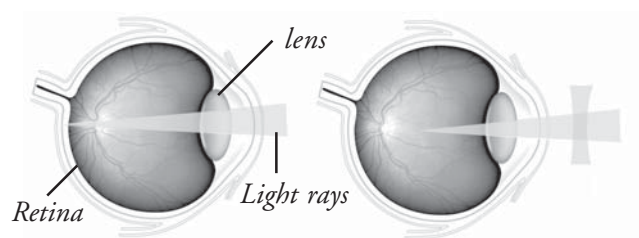


Image behind retina Corrected using a concave lens

Fig. 7.3 - Hyperopia (long sight)

Treatment

- Use of spectacle (plus lenses) - to provide clear vision
- Contact lens- could be tried in some cases after the age of 15-16 years.

Astigmatism

Definition

It is an eye condition where the light entering the eye does not come to a point focus on retina. Some light rays get focused behind and some in front. Hence the person cannot see a sharp and clear image.

Symptoms

1. Blurred vision for distance and / or near
2. Squeezing of eyes while trying to see fine objects or letters
3. Frequent headache

Treatment

1. Use of glasses
2. Contact lens

Role of counsellor

1. Explain the parents about the visual defect (Myopia/ Hypermetropia/ Astigmatism in detail using an eye model.
2. Encourage child to wear glasses regularly
3. Explain that wearing glasses will improve child's vision, and hence child's concentration and academic performance too.

4. Advise yearly checkup
5. Advise maintenance of glasses (Cleaning & handling)
6. Advise examination of family members (Specially in myopia)
7. To report immediately if child has complaints of floaters, flashes or sudden diminution of vision
8. Explain that refractive error will keep on changing, hence regular follow-up is necessary
9. Explain that any kind of diet and medicines will not change the refractive error
10. To request school teacher to ensure that child uses glasses regularly
11. Encourage and motivate child and parents and tell them not to get discouraged by other's comments.

The counsellor should spend adequate time with the child and family to emphasise and reinforce the importance of wearing glasses. She should modify her style of counselling, using visual aids and analogues to convince both the child and the parents.

Frequently Asked Questions

1. Should my child wear glasses all the time?

Yes, it is very important that your child wears glasses all the time, for constant clear vision except while sleeping or during sports like swimming. Contact lenses can be worn if child is old enough and interested in outdoor sports.

2. Will the power keep on increasing? Is it likely to decrease later on? What can be done to keep the power stable?

It is difficult to say exactly about the change of the glass power in the future. Due to constant growth of the eyeball, the power tends to change (usually increase), till about 18-20 years of age. Hence it is important that you come for a regular annual checkup. Nothing can be done to keep your glass power stable.

3. Did my child get refractive error because she sat too close to the T.V?

Watching TV does not affect the eye power. Infact, as distant vision was blurred your child had to sit close to the TV to see better.

4. Is there any eye exercise /diet that can cure this problem?

Good nutrition will definitely keep the eyes healthy, but there is no relation of diet to refractive error. People say that eye exercises improve vision but there is no scientific proof. It may help in doing away with low refractive errors.

5. How long should glasses be worn?

Generally glasses have to be worn life long.

6. Is there any surgical cure for this?

After the age of 20, when the glass power becomes stable a laser treatment called LASIK may be done, so that your child need not wear glasses.

7. How frequently should I come for a checkup?

An annual checkup is sufficient for most cases of refractive error.

8. Is this condition hereditary? Did the child get it because one of the parents wears spectacles?

Sometimes it can be hereditary. It is more likely to occur if one or both parents use high power glasses.

Amblyopia – causes, symptoms & treatment

Definition

It is a condition where the vision in one or both eye is reduced in the absence of any structural abnormality or diseases. It is also called “Lazy eye”.

Causes

1. Squint
2. Difference in the refractive error between the 2 eyes
3. Any problem in the cornea and lens which prevent light from reaching the retina
4. Complete ptosis (drooping of the upper eye lid)
5. Very high refractive error (power) in both eyes

Treatment

Making the child use the amblyopic eye to improve the vision

This can be achieved by

1. Use of spectacles if the child has a refractive error
2. Removal of opacity in the visual axis (cornea, lens)
3. Patching /occlusion therapy – patch the normal eye, thus forcing the child to use the lazy eye. (Fig 7.4 and 7.4a)

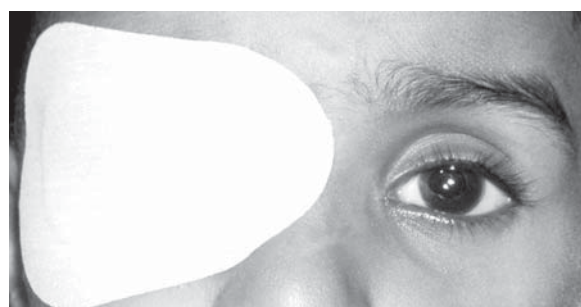


Fig. 7.4 - Patching the good eye



Fig. 7.4a - Different types of occluders

Role of the counsellor

- Explain to the parents the cause of amblyopia in their child
- Tell the parents the importance and proper method of patching
- Patching can be cumbersome and irritating for both the child and the parents. Hence the counsellor should emphasize the need for regular patching.

- She should explain to the parents that improvement in vision is a slow and gradual process, hence the need for long term occlusion therapy with good compliance and regular follow up.
- Explain the importance of regular follow up
 - To see the response to patching
 - To check the power change
- Ask the parents to inform the teacher or send a letter to the school teacher about the need for the child to patch the good eye.
- Tell the teacher to report the child's performance
- Enquire performance of child during follow up and encourage the child to continue patching and using glasses during each follow up visit.
- Contact patients (by letter/telephone) who do not come for follow up.
- Some parents require to be cautioned against patching for a duration longer than prescribed as this may lead to conversion of the good eye into a 'lazy eye'

Frequently asked questions

1. Why has my child developed amblyopia though the eye seems to look normal?

Your child has a refractive error/ deviation of one eye. Hence she/he has only been using the good eye to see things. Therefore this eye has become lazy.

2. How long should I patch the eye?

The duration of patching would depend on her/his level of vision

- As the vision is very less (worse than 6/36) the good eye should be patched atleast 6 hours/day
- As the vision is slightly less (better than 6/36) the good eye must be patched 4 hrs/day. The child should do some near work like reading books, drawing or using coloured toys when the good eye is patched.

3. Child is not cooperative with patching .What can be done?

Patching is a very unpleasant thing, hence it is natural that the child would be uncooperative initially. But it is very essential that the good eye is patched as advised. It can be started by patching for a short time first and then gradually increasing the duration of patching. It needs to be emphasised to the parent that the vision in the poor eye is likely to improve only with the patching. The parent can be told that this is akin to exercising the bad eye and it is entirely the parent's responsibility to ensure that this is done.

4. How frequently should the child be reviewed?

It should be according to the doctor's advice: Babies should be reviewed more frequently (than older children). If patching is done for alternating squint then the follow-up is every 2 months, otherwise it is every 3-4 months. Older children can be reviewed once every 6 months. At every follow-up the vision is checked to see for any improvement. The duration can be gradually increased as the vision improves.

5. Till what time and age should patching be continued?

The critical period for development of amblyopia is first 8 years of life. Hence it will be more successful if started at a younger age. Patching is continued as long as vision is improving. Once the vision improves to the maximum possible level, patching is tapered gradually and then stopped. Patching is discontinued if vision does not improve in two to three 6 monthly visits. Patching is never stopped abruptly but always tapered. A patching trial can be given in older children, under a guarded prognosis, as the chances for visual improvement are less.

6. How should the eye be patched?

Readymade patches are available. Sticker like patches can be stuck over the eye directly. Patches made of cloth have to be stuck by a sticking tape. If the child is wearing glasses, the patch should be stuck over the eye and not over the glasses.

Cataract – causes, symptoms and treatment

Definition

Cataract is a condition where the lens of the eye becomes opaque and reduces the amount of light entering inside the eye, thus blurring vision. Normally the lens is transparent like a piece of glass. Generally it is a disease of old age but it can also occur at birth or in first few years of life. Incidence is 3 in 10,000 live births. It can involve one or both eyes (Fig 7.5 and Fig. 7.5a)

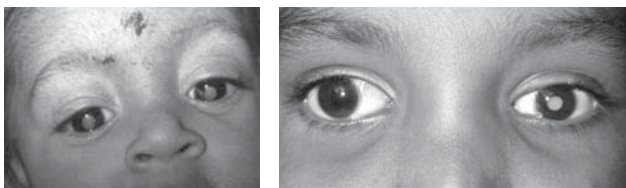


Fig. 7.5 - cataract in both eyes Fig. 7.5a - Cataract in one eye

Causes

- Intrauterine infections
- Chromosomal disorders - there is abnormality of eyes and other body parts due to a problem in the genes
- Hereditary - If parents also had a cataract in childhood
- Metabolic disorder - due to absence of or abnormal presence of enzymes or chemicals which control different functions of the body. These are associated with disorder of other systems too.
- Trauma/injury to the eye.
- Idiopathic (causes not known)

Symptoms

Parents/grandparents may notice

- White spot in one or both eyes of the child
- Child does not look at toys/light
- Older children may complain of defective vision

Treatment

Early surgery is indicated to prevent amblyopia

- Removal of lens matter is done if cataract is present in both eyes and child is less than 2 years of age

- Removal of the natural lens and placement of an IOL if cataract is unilateral (in one eye only) and if child is older than 2 year

Role of counsellor

The counsellor should explain

1. What a cataract is and how it affects vision using eye model?
2. Encourage early surgery
3. Convince the parents that surgery is a safe procedure and the only treatment for cataract
4. The importance of early cataract surgery
 - To improve vision
 - To prevent the development of lazy eye
5. How the surgery will be done under general anaesthesia, convince the parents that the child will be unconscious and will have no pain during the surgery?
6. If surgery will be done with or without IOL
7. The different types of IOL and their advantages
8. What drops or ointment should be used following surgery. Also demonstrate the proper method of instilling drops as well as the precautions to be taken like washing hands.
9. Genetic counselling – if child has bilateral cataract
10. Need for follow up
 - To see if the eye is doing well
 - To detect PCO (which may again cause amblyopia)
 - To check vision and change in glass power
11. The need to use glasses after surgery.

Frequently asked questions

1. Will the vision improve to 100% after doing the cataract surgery?

This will depend on the density/severity of the cataract and the age of child. If the cataract is not much and the child has been operated at an early age chances of improvement of vision are more provided the rest of the eye is normal.

2. Will the vision improve immediately after surgery?

This would depend on the cause of cataract, its density and age of the child at the time of surgery. Vision may not improve immediately. The child might have to use glasses and then patch the good eye to force him/her to use the operated eye. The child will have to be checked frequently as the power of eye, and thus the power of glasses keeps changing.

3. Is it safe to undergo surgery for cataract at a very young age or it is better to wait?

Cataract surgery can be done as early as 6 weeks. It is safe provided the health of the child is good. It is done under general anesthesia where the patient is unconscious. There will of course be some risks associated with general anaesthesia just like any other surgery.

4. Why can't an IOL be used in my child like the others?

There are certain situations where an IOL cannot be put in the eye like

- If the eye is too small
- There is cataract in both eyes and child is less than 2 years
- The eye has inflammation (uveitis) for a long time
- In children less than 2 years with bilateral cataract, cataract removal alone is done in the first sitting. This is so because the eye is small at birth and undergoes rapid increase in size during the first two years of life. Hence it is difficult to calculate the IOL power accurately. An IOL can be implanted at a later date once the growth of the eye stabilises.
- The eye is inflamed (uveitis) for a long time- If there is inflammation inside the eye for a very long time; putting an IOL may further worsen the inflammation, as an IOL is a foreign body after all. This might cause further problems like increase of the pressure inside the eye and reduction in vision, which is difficult to control.

5. Is it necessary to use glasses after surgery?

All children have to use glasses after surgery. Following cataract surgery, if an IOL is not placed, the child will have to wear thick glasses. If an IOL is placed in the eye the child may still need to use glasses for near vision.

6. What should be done after the surgery?

Eye drops and eye ointment must be used for a minimum of one month as advised by the doctor. Child should not go to school or to play. The child should come back for a followup

Retinoblastoma – causes, symptoms & treatment

Definition

Retinoblastoma is a tumor /cancer of the retina. It occurs in children, generally less than 3 years of age. It is the commonest eye tumor in children.

Incidence is 1 in 20,000.



Fig. 7.6 - A child with retinoblastoma

Cause

The tumor is caused due to changes in a gene. This gene alteration (mutation) may develop in a child whose family has never had eye cancer, but sometimes several family members may have this gene change. It can affect one or both eyes. If not treated it spreads behind the eye to the nerve of the eye, brain and other body parts.

Symptoms

- Symptoms are generally detected by parents
- Vast majority present to the doctor by 2 years of age
- Children with bilateral tumor present earlier (by 1 age). However children can present upto 6 years of age

- White reflex of the pupil - this is the commonest symptom with which a child presents to an eye doctor
- Squint - the affected eye may be deviated in or out
- Redness - the eye may be red due to inflammation like condition within the eye
- Large eye - due to increase in the pressure of eye.

Investigations / Test

- Detailed ocular examination after dilating the pupil, and using special equipment. This may have to be done under a short general anaesthesia, to know the location and size of the cancer
- Ultrasonography – Done to assess the tumor size and to see other specific features of the tumor (calcium deposits in the tumor.)
- CT scan / MRI– to see if the tumor has involved the nerve of the eye, areas outside the eye and the brain.
- Bone marrow aspiration and lumbar puncture- these tests are done to know if the tumor has spread to the rest of the body

Treatment

Depends on the size and location of tumor and to what extent it has spread beyond the eye.

- Photocoagulation – A laser is used to destroy the tumor
- Cryotherapy - Low temperatures are used to kill the cancer cells
- Chemotherapy – Various drugs are injected through a vein, given orally, or injected into the fluid surrounding the brain and spinal cord to slow down the growth or kill the cancer cells.
- Radiation therapy – X rays are used to kill the abnormal cells

Role of counsellor

- The counsellor should explain about the nature of the tumor in the child's eye.
- Should explain that the tumor will increase in size and spread beyond the eye if not treated at

the proper time. Should warn that it may appear in other eye.

- Should inform the parents at what stage the tumor is when the patient presents to the doctor
- Counsellor should empathize with the family
- Should explain the need of enucleation (if advised by the doctor)
- Tell the importance and need of Radiotherapy and chemotherapy in cases where the tumor has spread beyond the eye
- Genetic counselling is very important as the disease can be hereditary
- Counsellor should explain to the parents about the probability of other siblings having the same problem
- Stress on the need for regular follow-up

Frequently asked questions

1. Is it necessary to remove the entire eye having the tumor?

At this stage, the tumor is confined to the eye and has not spread beyond it. The affected eye also does not have any vision, so functionally it is not useful. It is not possible to remove only the tumor and preserve the globe. Hence it is essential to remove the eye to prevent the tumor from spreading outside.

2. How will the child look after removing the eye?

We can implant an artificial eye in place of the real eye, so that cosmetically it looks better. However, this prosthetic eye will not move as freely as the normal eye. Also there will be no vision in the prosthetic eye.

3. Will the tumor/ Cancer be completely cured after enucleation?

After enucleation the removed eye and its nerve will be examined by experts to see if the tumor has spread beyond the eyeball. If the tumor is confined to the eye, the chances of complete cure are high. However, you must come for repeated and regular examination for few years. If the tumor has spread beyond the eye then additional

treatment in the form of radiotherapy or chemotherapy would be needed. The other eye can also be affected.

4. Until what age can a child develop retinoblastoma?

Most retinoblastoma are diagnosed before the age of 3 years. A child is not likely to develop the tumor after 7 years of age.

5. Will my 2nd child also develop similar tumor?

Since retinoblastoma could be hereditary an eye examination of the parents, history of an eye tumor and blood tests of the family members (for seeing the presence of the abnormal gene) is done. If a parent is determined to have the abnormal gene then the chances of 2nd child having retinoblastoma is 50%. If neither parent has the mutation, the chances come down to 3-5%.

Strabismus – causes, symptoms & treatment

Definition

Strabismus is defined as misalignment of eyes. It is caused by a lack of coordination between the two eyes. Hence the eyes look in different directions and do not focus on the same object (Fig 7.7).



Fig. 7.7 - Strabismus eye

Causes

- Hereditary
- Problems with the muscle or nerves that control eye movements
- Due to poor vision – Eg., Refractive error, cataract
- Injuries

Symptoms

- Eye are misaligned; one eye is turned out or in
- The misalignment may be constant or intermittent
- The eye may be turned in, out, up or down
- There may be associated shaky or wobbly movements of eyes
- The eyes may not move together
- Occasionally the child may complaint of double vision, if the squint occurs suddenly. Adults may complain of double vision if squint develops late in life.

Consequence of squint

- The vision in the deviated eye decreases. This is called amblyopia or lazy eye. It occurs because the brain ignores the image/information sent to it by the deviated eye.
- Since both eyes are not used together at the same time, the child loses the sense of depth perception

Treatment

Depends on the cause

- Use of correct spectacles - if the vision is low and child has a refractive error. Glasses alone may align the eyes in certain cases
- Treatment of the lazy eye - by using glasses and patching the good eye
- Cataract removal - if cataract is the cause
- Surgery - the eye muscle are weakened or strengthened to realign the eye
- A weak muscle is made stronger and a strong muscle is weakened. Some cases require shifting of the muscle to a new position,

Role of counsellor

The counsellor should explain

- The cause of squint in the child
- How squint affects the vision, appearance and academic performance of the child
- The importance of patching and using glasses to improve vision, if there is amblyopia

- Tell the parents not to get discouraged by hearing other's comments.
- Counsel about surgery
- Moderate the parents' expectations
- Surgery will only make the eyes straight but will not improve or decrease the vision.
- Compliance with followup visits is essential
 - To check vision
 - To detect change in glass power
 - To dignose recurrence of squint

Frequently asked questions

1. Will the vision in the eye improve after surgery?

No, the surgery only realigns the eye. It does not affect the vision at all. Hence vision neither improves nor degrades after a squint surgery

2. Will there be need for a 2nd surgery? Will the eyes be perfectly aligned after the first surgery?

Our goal is always to obtain an excellent alignment of eyes. However the results would depend on the amount or extent of the deviation. Generally 80-90% cases have a satisfactory alignment. However there are chances that there may be some residual squint. There may also be some overcorrection. If the squint is very large or if it recurs after few years, a 2nd surgery may be required.

3. Can the squint surgery be done at a young age or should one wait till the child grows up?

It is better to do the surgery at an early age so that the eyes become straight and both eyes can be used together. The optimal time of surgery varies from patient to patient. In some children the surgery is done later when correct measurements of squint can be obtained and after the vision in the lazy eye has improved by patching therapy.

4. Will the child need to wear glasses after surgery?

Surgery does not change the vision power of the child. If the vision of the child is low and he/she has been using glasses, these have to be continued

after surgery. Failure to do so may cause recurrence of the squint.

5. Will one or both eyes need surgery?

This varies with the type of squint and the amount of deviation of the eye. Some cases require surgery in one eye only, others may require in both the eyes for better results. If the 1st surgery is done only in one eye, and there is a residual squint, 2nd surgery may have to be done on the other eye at a later date.

Retinopathy of prematurity – cause, risk factors & treatment

Definition: ROP is a disease of retina in premature children with a low birth weight and a history of prolonged oxygen therapy. The disease is characterized by abnormal growth of blood vessels on the retina which may lead to blindness.

Cause and risk factors

Premature babies born before 28-30 weeks of gestation and birth weight of less than 1250 gms are at risk of ROP. High O₂ concentration contributes to the development of ROP. In premature babies, some parts of the retina are devoid of blood vessels, hence they suffer from lack of oxygen. Certain chemicals are released that promote growth of blood vessels in an irregular manner. Large amounts of O₂ required for a baby's survival is believed to be toxic to the blood vessels. These abnormal blood vessels cause bleeding, scar formation and later separation of the retina from its wall (retinal detachment) and decrease in vision. The disease is divided into several stages depending on the severity.

Treatment

This depends on the stage/severity of the disease

- Laser treatment: the aim is to destroy the immature retina and to slow down or stop the growth of the abnormal vessels.
- Cryotherapy The immature retina is destroyed using very low temperature
- Scleral Buckling: A silicon band is tied around the eye. This is done in later stages if the baby

has developed a retinal detachment (Retina has separated from its wall)

- Vitrectomy: In this surgery the vitreous which is a gel like substance in the eye, is removed. The scar tissue pulling the retina, along with any blood in the gel, is removed. This helps the retina to go back and lie flat on the inner surface of the wall of eye.

Role of counsellor

- Should give clear information to the parents about the nature and progression of disease
- Explain how the treatment will work and prevent further damage to the eye
- Explain the visual prognosis if child has come at an advance stage
- Explain about the chances of myopia in the future
- Explain the need for follow up as instructed by the doctor

Frequently asked questions

1. Who should be screened for ROP?

Premature babies born before 32 weeks and weighing less than 1500gm should be screened

2. When should the baby be screened?

The first examination is done between 31 and 33 weeks of gestation or 2-3 weeks after birth. Then depending on the stage of the disease, follow up examination are done after every 1 week or 2 weeks.

3. What can be the complications of the ROP?

Retinal detachment – separation of retina from the eye wall leading to loss of vision, Bleeding within the eye, amblyopia – lazy eye, cataract, shrinkage of the eye, myopia or near sightedness, increase in pressure of the eye and squint – due to loss of vision or difference in refractive state of the 2 eyes.

4. What happens if ROP is not treated?

In 90% of case the disease heals on its own especially those of the early stage. But in 10% of cases the disease worsens and the child develops

vision threatening problems. These cases have to be treated.

5. Does laser treatment cure the disease completely?

In most cases laser treatment is successful if done at the proper time. The baby is re-examined after 2-3 week to ensure that the laser treatment has worked. If so a regular follow up is required every 4 weeks and then several months later to see that no further change has occurred. If the laser treatment fails then a further laser treatment or a surgery, may be required.

Congenital anomalies of the eye

Congenital anomalies of the eye like anophthalmos, microphthalmos, corneal opacities, aniridia, albinism, coloboma and hypoplasia of disc and macula are associated with poor vision that cannot be corrected completely.

Role of counsellor

- The counsellor must offer emotional support
- He/she must encourage the parents and child to make best use of the residual vision
- He/she must encourage to do visual stimulation exercises and use low vision aids as required.

Frequently asked questions on general anaesthesia

1. What is anaesthesia? Will my child feel the pain? Will she/he be awake during the procedure?

Your child will be operated under general anaesthesia. It is a procedure in which your child will be made unconscious and will have absolutely no pain during the surgery.

2. Is my child fit for general anaesthesia?

The anaesthetist will examine your child before the day of the surgery to ensure fitness for the surgery. It is very essential that your child be healthy, and free from problems like fever, cold, wheezing or systemic problems like heart diseases. Giving anaesthesia is risky in children with such

problems. Certain additional tests will have to be done before surgery, like blood tests, X-ray of the chest, etc. A paediatrician's opinion may be required in some cases.

3. What can I give him for food tonight or today?

Any food can be given, however, the child should neither eat nor drink anything 6 hrs prior to the surgery. Antibiotic drops have to be put 4-6 times the previous day. Dilating drops (for cataract surgery) will be put by the nurse before the surgery.

4. How long will the procedure take?

The whole procedure will take 1-2 hrs depending on the type of surgery. After the operation the child will be kept in the recovery room for 1 hour or more. One of the parents can stay along with the patient in the recovery room. Later the child will be shifted to the ward.

5. Will anaesthesia produce any side effects?

The child may vomit a few times. The child may be dizzy for few hours after the surgery. Food or drinks can be given to the child only when advised by the doctor. If there is any problem it should be reported to the ward doctor or nurse.

Key points to remember

- *Refractive errors - wearing glasses is the only treatment for refractive error in childhood. Glasses should be worn continuously and regular follow up is essential to see for change in glass power.*
- *Amblyopia can be due to various causes like refractive error, squint, cataract, severe ptosis. Treatment is by removal of opacity in the visual axis, use of glasses and patching the good eye. Patching has to be done for a long duration as visual improvement is a slow process.*
- *Congenital cataract has to be treated by surgical removal of the cataractous lens. Cataract removal may be with or without IOL implantation. Surgery should be as early as possible.*
- *Squint is misalignment of eyes and is treated by strengthening, weakening or changing the position*

of muscles of the eye. It is always done after correction of amblyopia. Some squint can be managed with glasses alone. Squint surgery does not affect the vision.

- *Retinoblastoma is the most common tumor of the eye in childhood. Child generally presents to the doctor by 2 – 3 years of age. Parents may notice a white reflex in the eye. It may or may not be hereditary. It is necessary to check the eyes of siblings as well as parents depending on the stage of tumor. It is treated by photocoagulation, cryotherapy, enucleation, chemotherapy or radiotherapy.*
- *ROP premature babies born before 28 – 30 weeks and weight less than 1500 gms are at high risk of developing retinopathy of prematurity. High oxygen concentration increases the risk. All such babies should be screened and treated by laser therapy at the optimal time. If left untreated, complications like vitreous hemorrhage and retinal detachment may occur and lead to blindness.*

Student exercise

I. Write short answers

1. *What is refractive error?*
2. *A patient diagnosed with refractive error comes to you, as a counsellor what is your role?*
3. *How do you counsel the parents to make the child wear patching and glasses?*
4. *Why do amblyopia cases need regular follow up? If they do not come for review what problem will arise?*
5. *What is cataract? How does it affect the vision in a child?*
6. *What is squint? What are the causes for squint?*
7. *What are the points you explain to the patient in squint surgery counselling?*
8. *What treatment is given to ROP children?*

CHAPTER 8 COUNSELLING IN CORNEA CLINIC

CONTENTS

Diseases of cornea
Lasik procedure
Grief counselling (Eye donation) and genetic counselling

GOALS

To enhance the basic understanding of common corneal diseases and there by facilitate effective patient counselling

OBJECTIVES

The counsellor should be able to

- Define common corneal diseases
- Discuss and interact with the patients and their attendants regarding the various corneal diseases and outline in brief their management
- To explain the cost involved for the advised procedures and treatments
- To explain the doctors advice and thus facilitate and be a link between the doctors and the patients and vice versa
- Have competent knowledge to clear the doubts of the patients and give instructions for follow up and review as advised and explain the surgical or medical of treatment

CHAPTER 8

Counselling in Cornea Clinic

It is a transparent watch - glass like membranous tissue which forms the front 1/6 the of the eye ball.

It lacks blood vessels (avascular) and thus is transparent i.e. allows light rays to pass through unhindered for good vision. Hence it can be transplanted with out fear of rejection.

Diseases of cornea

- Corneal ulcers
- Pterygium
- Corneal opacity
- Injuries
- Conjunctivitis (Red eye)
- Dystrophies
- Corneal shape disorders – keratonconus, cornea plana

Common corneal diseases

Corneal ulcer

- It is an infective or sterile breach in the corneal surface
- It is caused by injury and infection by microorganisms (bacteria, fungi, viruses)
- Exposure to dust and even contact lenses see to be common sources of infection
- It causes pain, defective vision, redness and discomfort to the patients. Needs urgent treatment by the ophthalmologist.
- Can be easily cured if seen and treated earlier by medications only. However in late stages and severe cases, it may require surgery.
- Scarring following the healing can cause white opacity on the cornea and defective vision especially following late stages of ulcer healing. (Fig. 8.1)

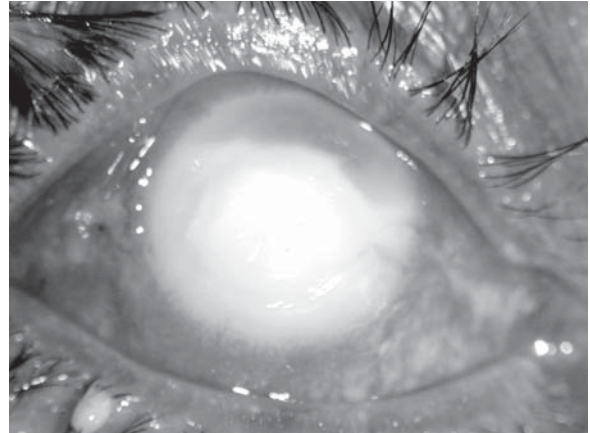


Fig. 8.1 - Corneal ulcer

Role of the counsellor

- To reassure a patient and stress on the need for proper compliance with medications and appropriate review as advised by the doctor
- The do's and don'ts like wearing sun glasses for glare (photophobia) and not taking a head shower etc. should also be stressed

Frequently asked questions

1. When will the pain decrease?

Once the ulcer starts healing with medication the pain will decrease. Pain killer tablets would also temporarily reduce the pain.

2. When will I get back my vision?

After the ulcer heals, you might require glasses or surgery at a later date, to get better vision

3. When will the ulcer heal and how long will I have to apply the medicines?

Depending on the size of the ulcer; larger ulcers take longer to heal. Some ulcers like fungal ulcer take longer to heal. But it is important to keep diabetes under control and apply eye drops as advised.

4. When should I come back for review?

As advised by the doctor

5. When can I take head bath?

Once the ulcer heals almost completely and as advised by the doctor

6. Can any surgery be done and will I get full vision if done?

Surgery is the last resort when the ulcer is active. Once it heals for gaining vision we might have to do surgery or if the ulcer does not heal with medicines we might have to do corneal transplantation.

7. My eye has become shrunk will it become normal?

Yes, once the ulcer heals it will be alright

Pterygium

- This is a fleshy growth on the white of the eye (conjunctiva) on either side of the cornea which occurs in people exposed to excess wind, heat sun and dust and can grow over the cornea (black of the eye), when it causes loss of vision.
- In addition to being cosmetically disfiguring. It can cause pain redness and discomfort (Fig. 8.2).

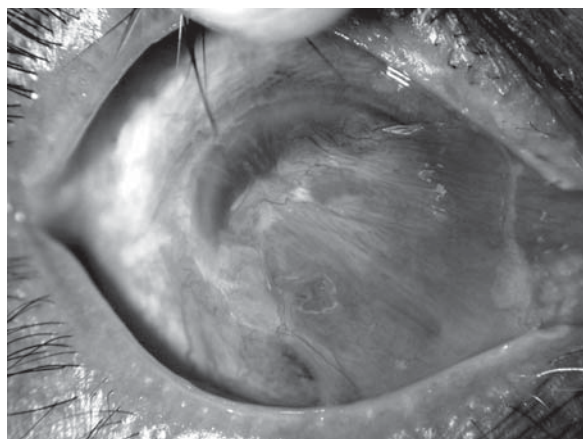


Fig. 8.2 - Pterygium

Role of the counsellor

- It should be stressed that permanent vision loss may occur if it grows very large over the cornea even if surgery is done at this stage.
- The only permanent treatment is surgery, ideally with an autograft from the same eye.

- Topical medication only can temporarily allay the symptoms.
- Wearing sun glasses would help mitigate the growth in the eye if the growth is very small.
- However the patient would require regular follow up to assess the extent of the growth.

Frequently asked question**1. Why do we get pterygium?**

Due to excess exposure to dust, wind and heat (UV radiation)

2. Can we correct the problem by medication?

No, surgery is the only option for permanent cure

3. How many days do I have to stay in the hospital after the surgery?

1 day only

4. Will the eye get a recurrent growth after the surgery?

No, we do a specialized surgery with conjunctival autograft

5. How many days do I have to apply the medication?

For 3 weeks

6. When do I have to come for review?

After 3 weeks

7. Will I get the full vision after the surgery?

The surgery is not for improving vision but only to prevent the loss of vision. Would require glasses to get full vision.

Corneal opacity

- The clear cornea becomes white following scarring. The causes can be congenital (from birth) or acquired from a healed ulcer. It can result in visual loss and can be cosmetically disfiguring.
- Penetrating keratoplasty is a surgery where the opaque cornea of the patient is transplanted with the clear cornea from the eye of the deceased individual (donor) to provide vision for the patient. It can be done if the scar is not very long standing (Fig. 8.3).

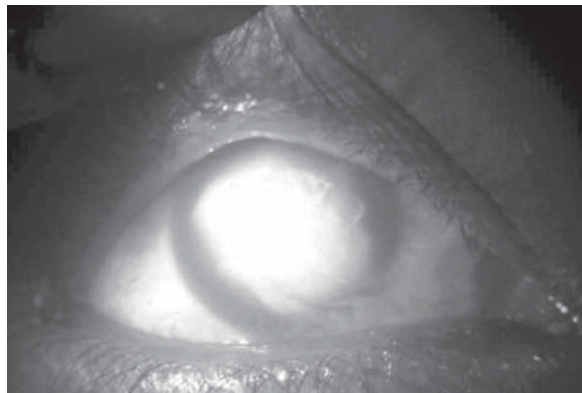
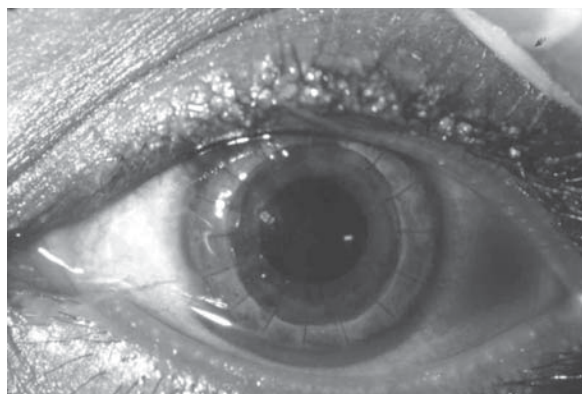


Fig. 8.3 - Corneal opacity



PKP

Role of the counsellor

- Should explain the advice of the doctor whether it is tattooing, cosmetic contact lenses or penetrating keratoplasty (PKP)
- The need for regular follow-up and proper compliance with treatment for a long duration especially after PKP also has to be stressed
- The chances for graft rejection after PKP and the necessity for glasses for good vision after surgery also should be explained

Frequently asked questions

1. Why should the cornea be transplanted?

Because there is a corneal opacity due to which you have lost vision, which should be replaced by a clear cornea from a donor.

2. After the surgery, will I have pain, irritation and how long it will take to become alright?

You will have only minimal pain for a couple of days after the surgery which will be taken care of by pain killers. There will not be any irritation.

3. How many days do I have to stay in the hospital?

For 1 week

4. After how many days of the surgery, will I get back full vision?

After 3 months of the surgery if required with the glasses you will get back good vision.

5. How many months do I have to use the medications?

For at least 6 months after the surgery and thereafter on the doctor's advice.

6. When do I have to come for a review?

You will have to come at 1, 3 and 6 months for a routine follow up. In between if the doctor advises and if there is any irritation for suture removal.

7. When can I take head bath after the surgery?

Usually after 1 month if the wound has healed.

Injuries

- There are ocular emergencies which can vary in severity from mild damage to potentially blinding conditions
- The causes can be chemical or mechanical.
- They affect any age group especially children and working adults
- They can have severe pain, glare and loss of vision.

Role of the counsellor

- Stressing the necessity for urgent treatment
- Reassuring and insisting the need for proper follow up and compliance with medication. The possibility of scarring and its management will also have to be explained
- Counselling on protective measures and care to prevent such recurrent episodes

Frequently asked questions

1. When will my pain decrease?

Once the injury wound heals

2. If I undergo surgery, will I get full vision?

We cannot give any guarantee in an injured eye but definitely the vision will be better and we can save the eye

3. When will the sutures be removed?

Atleast 3 months or as per doctor's advice only if required

Conjunctivitis (red eye)

- Contagious, infective condition of the conjunctiva (white of the eye)
- The patient has redness, discharge and discomfort
- Usually there is no visual loss and it is treated with eye drops
- Rarely the cornea can be involved in viral conjunctivitis (Madras eye) and (EKC - Epidemic kerato conjunctivitis) and causes defective vision
- Allergic type: Allergy to dust, contact lens or pollen, animal dander and is a non – contagious type of conjunctivitis, but causes lot of itching and discomfort (Fig. 8.4).

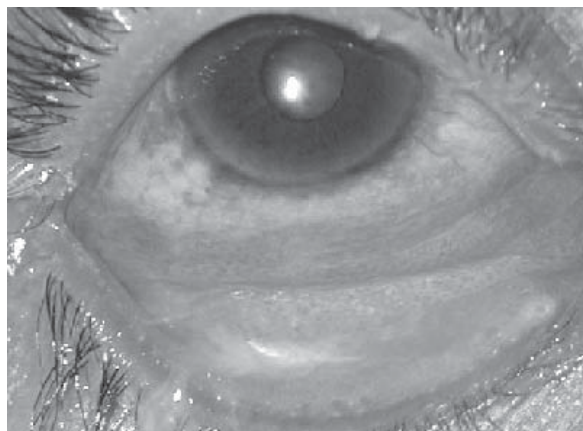


Fig. 8.4 - Conjunctivitis

Role of the counsellor

- Have to explain that symptoms can be relieved by eye drops but the condition tends to be recurrent and needs prolonged treatment
- Stress should be laid on misuse or over use of steroid eye drops which can result in visual loss due to cataract or glaucoma

- Should stress personal hygiene like frequent washing of hands and not touching the eyes and keeping their face towels, cosmetics, soaps etc., separately

Frequently asked questions

1. How many days will the redness remain?

For about a week

2. Is it contagious?

Yes, good hygiene & frequent hand washing is a must to prevent spread to others

3. When do I have to come for review?

If required as per the doctor advice

4. Why do I get it frequently? (Allergic conjunctivitis)

If it is a allergic conjunctivitis due to repeated exposure to the causative factor one can get it repeatedly

Corneal dystrophies

- Hereditary, affecting the cornea from within, without any external source of affliction.
- Cause defective vision in some which may require keratoplasty (corneal transplant)
E.g.: Fuchs and CHED (congenital hereditary endothelial dystrophies) Macular, granular and lattice – stromal dystrophies

Symptoms

Progressive loss of vision and pain.

Investigations

- Detailed anterior segment (including pupils of both eyes] and posterior segment evaluation.
- Urine sugar, blood pressure and relevant investigations for general anesthesia if surgery is planned

Treatment

- Glasses or contact lenses at the initial stages, with relevant eye drops for example hyperosmotics and lubricants
- Surgery (PKP, Lamellar, keratoplasty)

Role of counsellor

- To explain the hereditary nature of the disease and get the siblings examined for the same.
- To stress that it can be transmitted to future generations

Corneal shape disorders (Keratoconus, cornea plana)

- These conditions cause defective vision due to abnormal shape of the cornea

Keratoconus

- The cornea bulges forward due to an integral weakness in its structure
- Causes could be eye rubbing, hereditary causes, systemic diseases or unknown causes
- Results in defective vision, which can be corrected by glasses, contact lens or in severe cases, may require corneal transplantation (Fig. 8.5).



Fig. 8.5 - Keratoconus

Role of counselling

- To explain the chance of progression and to avoid eye rubbing
- To stress on the necessity of periodical review to rule out progression and to assess the present condition and give the appropriate management

Cornea plana

- It is a hereditary condition where the cornea is flat and causes defective vision

Symptoms

Defective vision

Investigations

Corneal topography for example orb scan orbscan

Treatment

- Glasses, contact lens or in severe cases may require corneal transplantation

Lasik – procedure**Definition**

LASIK (Laser assisted in-situ keratomileusis) is the high tech outpatient surgical technique for permanent corrections of refractive errors - myopia, astigmatism and hypermetropia.

Procedure

Utilising the accuracy and precision of the computer controlled excimer laser, LASIK changes the shape of the cornea and corrects refractive errors.

The counsellor should be able

- To explain how LASIK gives normal high quality vision with a fast recovery time.
- To educate the willing people who come for refractive treatment through transparent counselling.
- To identify the deserving persons, who seek advanced technology for treatment by social marketing.
- To clear confusions and contradictory messages in the minds of the patients.
- To help people to have realistic expectations and not get carried away by exaggerated advertisements done elsewhere.

Advantages of lasik

- Improves the cosmetics.
- Freedom from the time-consuming, day-to-day hassle of glasses or contact lens.

- Freedom to play sports without the inconvenience of glasses or contact lens.
- Some institutions stipulate “minimum vision requirements” like police services, navy, drivers, railways etc., Some studies require good eye sight like engineering, computer science, microbiology etc., Those opting for these services can benefit from Lasik.

Who can benefit from Lasik?

- The ideal candidate for LASIK is anybody between 20 to below 40 years of age without any other eye disease. In addition to having a healthy cornea, patients must not have had a significant change in their glass prescription in the last 12 months and they should have realistic expectation.

Who cannot benefit from LASIK?

People with certain eye conditions like steep cornea, opaque cornea, diabetic retinopathy, glaucoma, cataract and systemic conditions like pregnancy, and hypertension, those who are in contact sports and military, where the flap can lift up even years after Lasik on sustaining an injury. These people may not be good candidates for Lasik.

Role of counsellors

1. To educate the patient about the surgery, its benefits, side- effects and the types.
2. To clear the doubts and misconceptions of the patient about the procedure
3. To give a realistic picture of the postoperative vision, so that he if not carried away by the aggressive marketing.
4. To explain unsuitable patients, the reasons why they are not suitable for lasik.

Pre-operative counselling instruction

- Discontinue wearing soft contact lenses one week prior to the laser procedure. Do not wear rigid gas permeable or hard contact lenses once you have scheduled your laser surgery.

- Wear your eyeglasses on the day of your surgery.
- Wear loose, comfortable clothing on the day of your laser vision correction procedure. You will be going home in protective shields; Wear something with zippers or buttons, nothing that is pulled over the head.
- Eat a light meal prior to your appointment and do not wear any make-up or scented facial lotion on the day of your laser vision correction procedure. Make certain all make-up, including mascara, is removed from your eyes and eyelashes. Do not wear earrings or facial jewelry.
- The Excimer Laser is extremely sensitive to odors of all kinds.
- Do not wear any perfumes, cologne, scented body lotion, hairspray on the day of LASIK procedure.
- Arrange for a friend or relative to drive you home on the day of your procedure and your first postoperative visit.
- Be at the LASIK centre sufficiently before the scheduled time. Duration of the procedure is approximately 60-90 minutes.

Preoperative evaluations before doing lasik

- Refraction: A detailed subjective refraction is performed to determine the precise refractive error (Tests that you usually undergo when glasses are being prescribed).
- Keratometry: it is a test performed to measure the corneal curvature and is especially useful for patients with astigmatism.
- Pachymetry: it is a test used to measure thickness of the cornea, which is performed to ascertain whether the cornea is thick enough to withstand laser treatment.
- A complete eye examination is performed. If the retina is found to be having any degenerative changes, the same is treated first using a barrage laser and after a month, lasik laser is performed.

Frequently asked question's (pre -operative)

1. Are my eyes suitable for the procedure?

After a detailed evaluation by the ophthalmologist and specialised tests including an orbscan and retina evaluation, we can decide whether lasik is suitable for you.

2. I am using contact lens; I want to go for laser treatment, when can I have it?

First you have to discontinue your contact lens atleast for 2 weeks. After the pre-operative evaluation, if you are found fit you can go for the laser treatment.

3. When can I go back to my routine work?

It depends on the work – usually 1 week rest is sufficient.

4. Is there a 100% guarantee for 6/6 vision?

No, but you can avoid your dependency on glasses .You may have some minimal residual power like 0.5 or so.

5. What will be the long term side effects?

Dry eyes, glare, haloes, ghost images, decrease in contrast etc., are possible temporary side- effects, which may last 6 months.

6. How much residual power will I have after surgery?

Based on the existing refraction and availability of your corneal thickness very minimal residual power is possible but it is unlikely.

7. After surgery can I donate my eyes?

Yes – but they will be used for research purposes only.

8. Why do I get presbyopia after LASIK?

Presbyopia is nothing to do with cornea. It is related to the inner lens whose accommodating capability gets decreased due to normal aging phenomenon after 40 years of age and it is not a disease. Similarly one can get cataract also due to aging.

9. If I am a diabetic or hypertensive patient or if I am pregnant, can I have LASIK?

LASIK is not advisable.

10. What is the usual age limit for LASIK?

Minimum age 20 years and upper age limit is 40 years.

11. Can you explain the surgical procedure?

Using Excimer laser, we reshape the cornea.

12. Whether the LASIK procedure is painful?

No, we numb the eyes with anaesthetic eye drops.

13. What are the two types of laser treatment?

LASIK and Zyoptix

14. What is the difference between these two types of treatment?

Zyoptix is a customised procedure for an individuals' eyes to correct all the aberrations on the corneas and give supposedly super vision i.e. aberrations free vision

15. Will my eyes become entirely normal after Lasik? And should I come for regular follow up after the surgery?

Your eyes will still be myopic even after the surgery since we only reshape the cornea. The rest of the eye example the retina, would definitely be myopic and hence require regular follow up

Surgical procedure

The procedure is generally painless. Anaesthetic eye drops are instilled half an hour prior to surgery. There are essentially, three steps to LASIK surgery.

- A thin layer of the cornea of uniform thickness is created using a special device called microkeratome. This corneal flap is then raised to expose the inner layers of the cornea.
- The excimer laser is then used to reshape the bed of the cornea, with exact precision sculpting, to make the required correction.
- After sculpting, the corneal flap is repositioned with out any suturing.
- The whole procedure requires only fifteen minutes. No bandage is applied. The patient need not be hospitalised. Thus, LASIK surgery is performed on both the eyes in same sitting.

Postoperative care

It is best to keep both eyes closed and at rest as much as possible for the remainder of the day following the surgery. Sleep will speed up your recovery.

1. Read and watch TV in moderation for the first few days.
2. Shower and baths are fine, but try to keep your eyes closed and avoid getting water directly in the eye for two weeks. When drying off, never directly rub or wipe your eye.
3. No swimming, hot tubs for at least 2 weeks.
4. The majority of our patients feel safe to drive the next day, however discuss the matter with your ophthalmologist.
5. Most of our patients resume work the next day.
6. Do not wear eye makeup, lotions or aftershave for 1 week.
7. Due to light sensitivity, wear sunglasses for comfort as needed. We recommend that all individuals should wear sunglasses for a month.
8. Avoid dirty and dusty environment for 2 weeks.
9. Most patients can return to their normal exercise routine after 1 to 2 weeks. Avoid for 1 month contact sports that could result in eye injury. Protective goggles or eyewear is recommended once contact sports are resumed.
10. Do not vigorously rub eye for 3 months after the surgery. Do not wear a contact lens in the eye which is operated on, unless instructed by your doctor.

Frequently asked questions (post operative)

1. **For how many days do I have to take rest?**
Avoid watching T.V, reading books, working with computers and heavy work for a week.
2. **For how long do I have to use glasses?**
Sun glasses are for protection from dust, for at least a month.
3. **When can I take a shower bath?**
After a week, use shampoo and avoid taking oil bath.

4. What shall I do if I get irritation or itching?

Don't use any drops without doctor's knowledge. You can call or come in person to meet the doctor.

5. When shall I take bath in the river, sea or waterfalls?

Avoid taking bath in the river, sea or waterfalls for at least a year and avoid swimming too.

6. When can I go to the gym or do strenuous exercise?

Avoid strenuous exercise at least for 6 months.

Medications

1. Antibiotics with steroid combination eye drops 4 times per day for 10 days.
2. Analgesic tablets to alleviate pain.

Follow up

1. First post operative day
2. After one month follow up from the date of surgery
3. After one year follow up from the date of surgery. (for especially retina evaluation)
4. Grief counselling (Eye donation)and Genetic counselling
 - Support family and share their sorrow
 - Slowly talk to them about the gift of sight that they can give to others
 - Usually done in a place where a death has occurred

Methodology (two methods)

1. Post death counselling

- In all cases the pre-death counselling is not possible. Most of the time/95% of the cases) it will happen that counselling the relative has to be done only after the death of a patient

2. Pre-death counselling

- Enquiring doctors and nurses about the patients condition in the particular ICU.
- Collect all information and details about the patients family background

- Try to identify the decision maker of the family
- Try to give an idea about the eye donation. Counsellor only passes on the information about eye donation and is very cautious that the feelings of relatives should not be hurt.
- Try to get a good rapport with the family members

Approach

1. Identify the decision maker of the family
2. Talk only to limited number of family members, when there are in a relaxed mental state and not hurry up things
3. Provide comfort and moral support & sympathy to the family members while attempting to motivate them.
4. Respect their feelings and try not to compel or force them
5. Should address their queries and fears patiently and assure them
6. Express gratitude to the family on acceptance and get a written consent.

Genetic counselling

- Corneal dystrophies and keratoconus occur in some families
- So other family members and siblings should be screened for the disease and appropriate genetic history obtained
- Explain the risk of transmission to subsequent generations in future
- Blood samples may be required to confirm the problem and its chances of transmission

Key points to remember

- *Cornea is clear front portion of the eye.*
- *Corneal diseases are common causes of defective vision and discomfort to patient.*

- *Corneal ulcers require early diagnosis and appropriate treatment for good visual come.*
- *Corneal injuries are ocular emergencies which require urgent treatment.*
- *Conjunctivitis is contagious but easy to treat.*
- *Corneal transplantation (PKP) gives hope to those with loss of vision due to opacity or ulcers.*
- *Corneal dystrophies are untreated and need genetic counselling.*
- *Pterygium needs symptomatic treatment but the only definite treatment is surgery.*
- *The counsellor should have a basic understanding of the above diseases and should be able to counsel patients and attenders regarding the same.*
- *LASIK counsellor should not be a marketing strategy but should give a clear picture about the surgery with realistic expectation on the part of the patient.*
- *Grief counselling is a must to improve the eye donation.*
- *Genetic counselling goes a long way in predicting the future generations getting the disease.*

Student exercise

Write short answers

1. *What is the role of a counsellor in counselling a corneal ulcer patient?*
2. *List out the benefits of LASIK surgery.*
3. *How will you counsel a conjunctivitis patient?*
4. *Write about the counsellor's role in counselling a penetrating keratoplasty patient.*
5. *Explain: Grief counselling in eye donation.*

CHAPTER 9 COUNSELLING IN ORBIT CLINIC

CONTENTS

Types of diseases
Lacrimal drainage disorders
Lid mal positions
Orbital tumors
Ocular prosthetics

GOALS

To enable the counsellor acquire a basic knowledge of the disease processes affecting the orbit and to answer the patient's queries regarding the same.

OBJECTIVES

The counsellor should be able

- To explain the disease/condition to the patient & his/her family members
- To correlate the symptoms of the patient with his condition
- To explain about treatment options with their advantages/disadvantages/
side effects
- To clear any other doubts that the patient may have

CHAPTER 9

Counselling in Orbit Clinic

Orbit, Oculoplasty and Oncology includes disorders and diseases of all the structures surrounding the eye. The disorders are varied and so are the manifestations. These disorders may be infective, inflammatory, traumatic, developmental, neoplastic or age related.

Types of diseases

Lacrimal drainage disorders

Lacrimal drainage disorders include conditions like obstruction of the tear drainage passage, which may occur in children or adults, and inflammation of the lacrimal sac, which includes acute and chronic dacryocystitis (Fig. 9.1).



Fig: 9.1 - Chronic dacryocystitis

Symptoms

The main symptom of obstruction anywhere along the lacrimal passage is watering from the eye. There may be associated infection and discharge (mucous or pus) as in chronic dacryocystitis. Acute infections (acute dacryocystitis) are accompanied by severe pain and swelling in the lacrimal sac area (Fig. 9.2).



Fig: 9.2 - Acute dacryocystitis

Investigations

- Syringing
- Complete hemogram including blood grouping and typing, bleeding time and clotting time
- Blood pressure
- Blood sugar
- HIV testing

Treatment

The treatment depends on the condition

- Acute dacryocystitis: Systemic painkillers and anti-inflammatory drugs with systemic and local antibiotics are given to control the pain and infection.

If lacrimal abscess forms, the pus may have to be surgically cleaned out (incision and drainage).

After the pain and swelling resolves, the patient usually requires surgery like DCR or DCT.

- Chronic dacryocystitis: The treatment consists of sac surgery, namely, Dacryocystorhinostomy (DCR) or Dacryocystectomy (DCT).

DCR

The sac is incised and passage for tear flow into the nose is created by removing a part of the bone. In adults it is usually done under local anaesthesia. DCR may be done from the outside (between the eye and the side of the nose) or from within the nasal cavity.

Role of the counsellor in adults requiring sac surgeries

The counsellor should explain to the patient that the lacrimal sac is infected and needs to be treated surgically. In most patients, DCR is done, and a new passage for flow of tears is created. In old and unfit patients, or if there is a corneal ulcer or a mature cataract, the sac is simply removed (DCT). The patient usually does not have any watering after DCR but in some cases it may persist after DCT as the infected sac is removed and no alternative passage is created for tear flow.

Congenital naso-lacrimal duct obstruction

The initial treatment consists of Crigglers lacrimal massage supplemented with antibiotic eye-drops. In most children, the passage opens up with proper Crigglers massage. If it does not, probing is done. If the first probing fails, it may be repeated once after observing (with massage and antibiotics) for a few months (usually 6 months). If the second probing also fails, surgery (DCR) is done, usually after the child is 3 – 4 years old.

Probing

Probing is a very safe and simple procedure wherein a thin metal rod is used to try and open up the lacrimal passage by removing the obstruction. This is done under general anaesthesia with full aseptic precautions, after the baby is at least 6 – 9 months old. In most children the obstruction is caused by soft tissue which can be opened up with the probe. However, it may also be caused by bone, in which case the probe will not be able to push through it and surgery will be required later.

Role of the counsellor in congenital naso lacrimal duct obstruction

The counsellor should explain to the child's parents that obstruction of the naso-lacrimal duct is not a major problem. It does not harm the child's vision at all, and in most cases it resolves with Crigglers lacrimal massage by the end of the 1st year. The proper method of massage should be patiently demonstrated.

If probing has been advised, the counsellor should explain that it is not a surgery but a very simple procedure in which the doctor uses a fine rod to open the tear-flow passage. It is done under general anaesthesia. If the obstruction is minor or soft it can be easily opened up. If it does not open up, the procedure can be repeated after 6 months. Meanwhile massage over the lacrimal sac area should be continued.

Frequently asked questions

1. What is the cause for the watering and discharge?

Watering is caused by flow of tears being obstructed somewhere along the passage. The discharge is because of infection in the sac.

2. How can it be treated?

The only way to treat it is by surgically opening up the sac.

3. Is surgery necessary?

Yes, surgery is essential and will have to be done sooner or later. However, if any other intraocular surgery like cataract or retina surgery is planned, the sac surgery has to be done first as soon as possible.

4. What happens if we don't treat it?

If left untreated, watering and discharge will persist. Also, it can precipitate infections and there is a chance of repeated episodes of pain and swelling near the eye.

5. Which is better: external or laser DCR?

Both have their advantages and disadvantages. External DCR takes longer time and involves sutures and a visible scar. Also, a pack is placed

inside the nose for a day or so, which might cause some discomfort. In laser DCR the surgery time is only a few minutes and there is no scar or sutures or external wound, and no pack is left in the nose. It is done under topical anaesthesia, whereas an injection or GA is required for external DCR. However, laser DCR is a relatively new method and the results are not really very good, therefore, there is a chance that resurgery may be required. The results of external DCR are very good.

6. Does the tube placed during DCR cause any side effects?

The tube is made of safe material and does not cause irritation or any other side effects.

7. When should the sutures/tube be removed?

The sutures are removed after a week or 10 days, and the tube is left in place for a few months as advised by the doctor. Normally, it is removed after 3 to 6 months.

8. Will there be a scar?

Yes, external DCR does result in a small scar by the side of the nose. However, this usually fades with time and is not very noticeable after the wound has healed.

9. Is probing a surgery or a procedure?

Probing is not an operation but a small procedure wherein the doctor passes a thin rod into the lacrimal passage and tries to open it up. It only takes a few minutes and the child can go back home the same day. But GA has to be given.

10. Is there any risk to the child during GA?

Although some degree of risk is always there for every procedure, probing requires only short GA and the anesthetist will be present with the child throughout the procedure. The child will be well looked after and there is no cause for concern.

11. Probing was already done once. Why is it being repeated?

As probing is only an attempt to open up the passage which is congenitally blocked there is no

guarantee that it will succeed in the first try. If the block is a soft tissue, it can be easily opened up, but sometimes the passage is blocked by hard tissue or even bone. In such cases the blocking tissue can be loosened or softened with one probing and then it may be removed with the second attempt. In case the block is caused by bone it can only be opened up by surgery later (DCR).

Lid malpositions

‘Lid malpositions’ means abnormal position of the eyelid which include ptosis, entropion and ectropion.

Ptosis means drooping of the upper lid. It may be congenital (present at birth) or acquired (develops later). Surgery is the only treatment for this condition. When the lid margin turns inwards, it is known as entropion, and when it turns outwards it is known as ectropion.

Role of counsellor

Parents of young children with drooping lids which are covering the pupil should be informed that if surgery is not done soon, vision in the affected eye may decrease. The lid can be lifted up surgically but this by itself does not restore any vision which may have been lost due to amblyopia. The operated eye will more or less look like the normal eye but may not be a perfect match.

Frequently asked questions

1. What is the cause of ptosis?

The exact cause of ptosis in children is not known. It is some developmental abnormality which occurs before the child is born.

In old people it may be caused by loosening of the skin and tissues around the eyes. At any age it may be caused by some injury to the eye.

2. What is the treatment of ptosis?

Ptosis can only be cured by surgery.

3. Is surgery urgently required?

In small children if the central black part of the eye is covered by the eyelid, surgery should be

done as soon as possible to avoid risk of amblyopia. In other patients, it can be done whenever the patient wants. In case the patient also has cataract which requires surgery, ptosis surgery is done after cataract surgery.

4. Will the operated lid absolutely match the other lid following surgery?

The operated eye will more or less match the other eye in appearance, but may not be an exact copy. Initially the movements of the operated eyelid will not match the other one, but this will improve with time.

5. Is it a major or minor procedure?

Ptosis surgery is a minor procedure wherein the drooping lid is lifted up. The eye is not touched during the operation.

6. Can both eyes be operated at the same time?
Yes.

7. Post operatively – the child's eye remains partially open especially at night. Will it cause damage to the eye? Is it permanent? What is the cause?

Because the lid has to be shortened to lift it up, the eye remains open at night especially just after the surgery. Damage to the eye can be prevented by using the prescribed ointment at night. It gradually improves with time.

8. Can the lid droop again following surgery?

Yes, sometimes the shortened tissue may become loose again in which case it can simply be tightened again in a small procedure.

9. How soon after surgery can the patient resume normal activities?

As soon as the swelling subsides the patient can start normal activities like reading and watching TV. However it is better not to send the child to school till the sutures are removed, which may take about 2 weeks.

10. Can the patient read/watch TV after surgery?

Yes, there is no harm in that, but the patient should not strain the eyes or rub the eyes.

Orbital tumours

Orbit is a pyramidal bony cavity in the skull about 2 inches deep that provides protection to the entire eyeball except the front surface. It houses the eyeball, its muscles, blood supply, nerve supply, and fat.

An abnormal, uncontrolled growth of cells in any body tissue results in a mass of cells, this is called a tumour. Tumours when present in the orbit are called orbital tumours. They may develop from the orbital structures or may also invade the orbit from the sinuses, brain, or nasal cavity which surrounds the orbit. It may also spread (metastasize) from other areas of the body. Orbital tumors can affect adults and children. Tumours may be benign or malignant. Fortunately, most are benign.

Benign Tumour: A tumour made of normally functioning cells which maintain tissue boundaries is called benign. Their treatment is simple and usually curative (Fig. 9.3).



Fig. 9.3 - Sebaceous cyst

Malignant tumour: A malignant tumour or cancer is one which is made of cells that have the potential to invade & destroy surrounding structures. Cancer cells can spread to other body parts and start new tumours there. Their treatment is dependent on the size and stage of proliferation and is generally multi dimensional and may not be curative (Fig. 9.4).



Fig. 9.4 - Fronto / ethmoidal mucseck

Symptoms

The common presenting symptoms of an orbital tumour include

- Protrusion of the eyeball (proptosis)
- Pain
- Loss of vision
- Double vision
- Redness
- Swelling of the eyelids
- An obvious mass

If tumour spreads from surrounding structures then there may be headache, nose discharge, breathing difficulty, swelling in the surrounding tissues before involvement of the eye.

In children, parents may first notice a droopy eyelid or slight protrusion of the eye.

Investigations

Orbital tumours are most frequently diagnosed with an ultrasound, a CT scan or MRI. If one or more of these tests look suspicious, a biopsy may be performed before removal of the tumour in toto. Supplementary blood tests and other invasive tests like lumbar puncture and bone marrow testing may also be required.

Biopsy is the procedure of removing a part of the tumour and testing it to know whether it is benign or cancerous. Such tests require a few days' time because the sample has to be processed and stained,

sometimes with various special stains to reach at a final diagnosis before planning for further treatment.

Treatment

Treatment of orbital tumors varies depending on the size, location, and type. Some orbital tumors require no treatment, while others are best treated medically or with the use of radiation therapy, or chemotherapy. Still others may need to be totally removed by either an orbital surgeon or a neurosurgeon, depending on the particular case. After removal, additional treatment such as radiation or chemotherapy may be required.

Enucleation: It is the surgical removal of the diseased or damaged eyeball. In this procedure the muscles outside the eyeball and the other orbital structures are left intact.

Exenteration: It is the surgical removal of the diseased eyeball along with the orbital structures. It is performed for tumours of the eyeball which have spread outside the eye or for recurrent tumours (eyes that had undergone prior surgical removal).

Chemotherapy: It is a part of cancer management. Medicines which are active against the cancer cells are called chemotherapeutic agents or anti-cancer drugs.

Side effects of chemotherapy

As anti-cancer drugs are effective against all rapidly dividing cells, they also kill normal body cells which are rapidly dividing such as, hair follicle, lining cells of the bowel, immune cells etc. Therefore, they result in hair loss, bowel disturbances, frequent infections due to low resistance of the body to infective microbes.

These drugs are given in a cyclic fashion, repeated once in three weeks to allow time for the normal cells to regenerate.

Radiotherapy (RT)

It is a part of the armamentarium used to fight against cancer cells. Here high-energy rays such as X-rays, rays,

neutrons, and other sources are used to kill cancer cells and reduce the tumour. Such radiation may come from an outside source (External beam RT) or the source may be placed close to the tumour (Brachytherapy).

It is usually given over a period of time divided into equal doses, to reduce the side effects and damage to the normal tissues.

Side effects of radiotherapy

They are similar to chemotherapy, but radiotherapy mainly has local side effects. It causes skin changes, conjunctivitis, and dry eyes due to reduced tear secretion, cataract formation, and damage to retina or optic nerve (nerve of the eye).

Role of counsellor

The counsellor's job, as far as a patient with a tumour is concerned, is very delicate, much more so in case of tumours in children. Her approach should combine compassion and firmness. She should convince the patient in a sympathetic manner that the treatment which has been advised by the doctor is absolutely necessary. In case of tumours / suspected malignancy, the patient cannot afford to waste any time. However, she should understand that if destructive surgery has been advised, the family would probably be in shock and would need some time to accept this. It should be patiently explained that this is the only option available and is being done to prevent further harm to the patient. Removal of the eye means vision in that eye will not be restored by any other method. However, an artificial eye can be placed later which will at least provide the appearance of a normal eye. In case of tumours with familial occurrence (like retinoblastoma), the patients should be clearly instructed to bring the sibling for examination & genetic counselling should be done.

Frequently asked questions

1. Is removal of the eye necessary?

Removal of the eye is only advised by the doctor when there is no way of saving it, or when the

tumour in the eye poses a danger to the life of the patient. Therefore, if removal of the eye has been advised, it is better to do so as early as possible.

2. Will surgical removal be the final treatment or will something further be required?

If the tumour has not spread much, removing the eye is enough. However, if the tumour has extended beyond 1 eye then further treatment like injections (chemotherapy) or application of high-energy rays (radiotherapy) will be required. The doctor will be able to tell definitely only after removing and examining the eye.

3. Is there any way of restoring vision after removal of the eye?

There is no way of restoring vision once the eye has been removed. However, we can fit an artificial eye later which will give the appearance of a normal eye.

4. When can the artificial eye be fitted?

It is usually fitted once the wound heals and the swelling subsides. This takes about 6 weeks.

5. Will removing one eye affect the other eye?

Removing one eye will not affect the other eye as such, but it will have to be carefully examined periodically to rule out the presence of a similar tumour. As the patient will have only one eye, it is better to come for a check up at least once a year, or soon if there is any symptom like discomfort or visual disturbance.

6. Can it recur after treatment?

Yes, there is a chance for recurrence of a tumour even after complete treatment. Because of this, the patient must come for regular follow-up as advised by the doctor.

7. Is there any danger to the other family members?

Especially in tumours of childhood (like retinoblastoma), all the siblings and even the parents should be examined.

8. What does radiotherapy and chemotherapy involve?

In radiotherapy, high-energy rays are applied to specific areas to destroy the tumour cells.

In chemotherapy, specific medicines which target the tumour cells are injected intravenously. The patient will have to stay in the hospital for two to three days and then report as advised by the doctor. Several doses of radiotherapy/chemotherapy may be required. They also have several side effects like nausea and vomiting, loss of weight and severe hair loss, so much so that the patient may become totally bald. These periods of physical and mental stress should be supplemented by good moral support from the family members, as well as a healthy and nutritious diet. The family members should always present a cheerful face and a positive attitude to the patient, who may become very prone to dejection and depression during this time.

9. Why has the tumour occurred even though the parents are not even remotely related by blood?

- A. Even though 90% of such tumours are caused by consanguinity or relation by blood, the cause of the other 10% is not clearly known. This tumour, unfortunately, may belong to that 10 %.

10. Our other child has two good eyes. How will this child accept to become one-eyed?

Children adapt very fast, especially if the adults around them behave as if everything is normal. Please understand that this diseased eye has to be removed before it causes harm to the child's life. Do not ever let the child see you depressed about his being one-eyed, and do not speak of him as being less than normal. Once this tumour is taken care of, there is no reason why he should not lead a full, healthy life.

11. How frequently do we have to bring him for check-up here?

He will need checkup every 3 months till the age of 3 years, and every 6 months till the age of 6

years. Yearly checkup will suffice thereafter, till about the age of 15 years. The dates for follow up will be given to you at each visit; please ensure that you bring the child for follow up as advised.

12. Now that this child has this tumour, can we have another child? What are the chances of the other child also getting this same tumour?

We will have to ask the doctor. If you want, we can discuss this with him / her now. They might need to do some tests also like charting family tree and taking blood samples for genetic testing.

Ocular prosthesis

Following removal of the eyeball (Fig. 9.5), (after enucleation or evisceration) or following shrinkage of a blind eye (phthisis bulbi) vision cannot be restored to that eye by any means. However, acceptable cosmesis can be restored by fitting an artificial eye (Fig. 9.5a).



Fig. 9.5 - Contracted anophthalmic socket

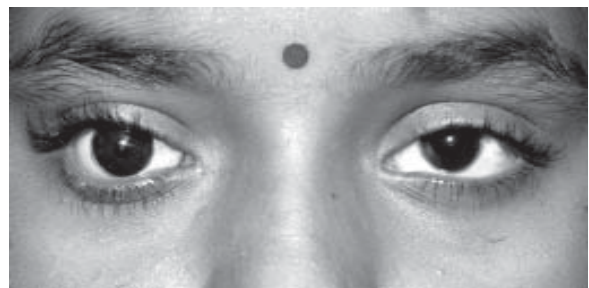


Fig. 9.5a - Anophthalmic socket post dermisfat craft

Types of prosthesis

There are basically two types of prosthesis

- Stock eye or ready-made eye
- Custom-made prosthesis

Stock eye: This is the commonly available 'plastic eye'. It costs less, is available in different sizes and colours, and provides a rough match for the normal eye..

Custom-made prosthesis: This is made to exactly match the normal eye in colour, shape and size. Scratches and mild damage can be repaired by polishing about once a year. The prosthesis lasts for about 10 years..

Role of counsellor

The counsellor should explain that the ocular prosthesis will only improve the person's appearance but will not provide vision. The custom made prosthesis will match the other eye almost exactly. Some degree of movements will be there.

Frequently asked questions

1. How soon surgeries after surgery can the prosthesis can be fitted?

Prosthesis is usually fitted once the wound heals and the swelling subsides. This takes about 6 weeks.

2. Will it match the other eye?

The stock eye, which is ready-made, provides only a rough match for the other eye. But if the patient can stay for 2 days in the hospital we can prepare a custom-made prosthesis which will exactly match the other eye in appearance and shape. This also does not need to be replaced for a long time. However, it costs more than the stock eye.

3. Will it move like the other eye?

Although the plastic eye does not move exactly like the normal eye, some degree of movement will be there, especially with the custom - made eye.

4. Does it have to be removed while sleeping?

No, it does not have to be removed while sleeping.

5. Does it have to be cleaned?

Yes. The stock eye should be cleaned once in a week and the custom - made eye should be

cleaned once in a month. Normal tap water can be used for cleaning both.

6. Does it have to be changed?

The stock eye needs to be replaced every year and the custom - made eye lasts for 10 years or even longer. It can be polished once a year to remove any scratches.

Key points to remember

Lacrimal drainage disorders

- Obstruction of lacrimal drainage system produces watering
- In adults, this obstruction is relieved by surgery (DCR/DCT)
- In DCR, the sac is removed and an alternative passage for tear flow is created
- In DCT, the infected sac is removed
- Most cases of CNLDO resolve with lacrimal massage. If massage does not relieve the obstruction, probing is done. If 2 probing fails, DCR is done

Ptosis

- Ptosis may affect one or both eyes and may be congenital or acquired
- If the pupil is covered by the lid, the vision may get damaged
- Ptosis surgery does not restore vision loss due to amblyopia (except in very young children)
- The treatment of ptosis is surgery

Tumour

- Any suspicious lesion should be investigated without delay
- In tumours with familiar occurrence, the importance of examining the siblings should be explained, even if their (the siblings) eyes are apparently normal
- The counsellor should stress on the importance of coming for follow-up as advised

- The side effects of chemotherapy/Radiotherapy should be clearly explained
- The approach to the patient should be compassionate

Ocular prosthesis

- There are basically two types of prosthesis: Stock eye and customised prosthesis
- Customised prosthesis provides better cosmesis, lasts longer and requires less maintenance than the stock eye.
- Stock eye needs to be changed every year. The custom-made prosthesis needs to be polished once in a year and lasts for about 10years

Student exercise

I. Write short answers

1. *How will you counsel a patient who has been advised DCR?*
2. *What will you tell the parents of a child with severe ptosis in one eye?*
3. *How will you convince the parents of patient with retinoblastoma to let the child undergo enucleation?*
4. *How will you explain to the parents of a child why probing failed? How will you justify repeat probing?*
5. *What will you explain to a patient who has been advised chemotherapy?*

CHAPTER 10 DISEASES OF UVEAL TRACT

CONTENTS

The types of uveitis
Causes and treatment of uveitis
Symptoms of uveitis
Investigations

GOALS

To impart adequate knowledge about various uveal disorders, so that the counsellor can counsel the patient about the importance of disease and importance of regular treatment and follow up

OBJECTIVES

- Counsellor should be able to
- Explain the patient about different disorders of uvea
 - Counsel the patient about importance of drug compliance
 - Convince the patient about regular follow up
 - Explain clearly about side effects of the drugs

CHAPTER 10

Diseases of Uveal Tract

Eyeball has 3 layers in which the outer layer is called sclera, the middle layer is called as uvea and the innermost layer is called retina. The function of uvea is to nourish all the layers of eyeball

Uvea consists of three structures

Iris, ciliary body, choroid

What is uveitis?

Uveitis is an allergic disease that affects middle layer of the eye which could be iris, ciliary body or choroid.

The types of uveitis

There are four types of uveitis

- Anterior uveitis – affected part is near the front part of the eye
- Intermediate uveitis – affected part is in the middle of the eye
- Posterior uveitis – affected part is in the back part of the eye
- Pan uveitis – when it affects all 3 layers it is called pan uveitis

Causes & treatment of uveitis

What are the causes of uveitis?

Causes can be classified as

1. Infection

- Bacteria (TB, Leprosy)
- Virus (Herpes)
- Fungus (Histoplasmosis)
- Parasite (Toxoplasmosis)

2. **Autoimmune** - When body's immune system wrongly recognises a part of its own body as foreign and starts attacking it.

3. **Traumatic** - When it follows some injury.
4. **Idiopathic** – When cause is not known.

Tuberculosis uveitis

Tuberculosis can affect any organ, of which eye is one of the important organs to get involved

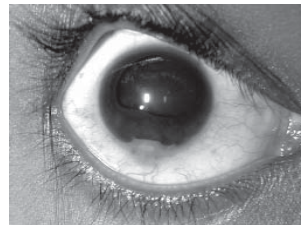
- Tuberculosis bacteria can affect eyes in the form of uveitis which can be recurrent and can present with or without cough and fever.
- Raised ESR, Mantoux +ve, Chest X- ray shows systemic involvement of tuberculosis in addition to uveitis (Fig. 10.1).



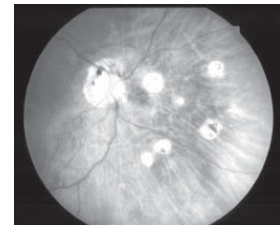
Positive Mantoux



Lymphnode



AC granuloma



Choroidal Granuloma

10.1

- Usually treated with anti-tuberculosis drugs (ATT) or in combination of ATT and steroids.

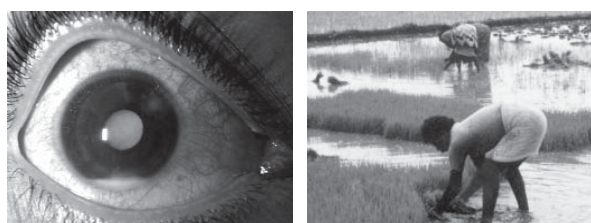
Role of counsellor in tuberculosis uveitis

- Topical steroids and dilating drops should be used as advised
- Take the tablets regularly for 6 months
- Tell the patients to take tablets in empty stomach

- Since systemic involvement is there regular check up by physician and ophthalmologist is essential
- We should warn the patients about orange coloured urine because of drugs.

Leptospiral uveitis

Leptospirosis is also a bacterial infection that affects uvea. It is waterborne disease which spreads from animals to man through animal excreta. The bacteria enter humans through open wound in skin or mucosa (Fig. 10.2).



Leptospiral uveitis

Field work

Fig.10.2

- This disease is seen in farmers working in fields without foot wear.
- Also by taking bath in ponds with contaminated water where there is close contact with cattle.

Role of counsellor in leptospirosis

Patient should be counselled on regular local and systemic treatment as advised by ophthalmologist

Counselling to the family members and community on prevention

- Patients should avoid bath in ponds which is contaminated by cattle excreta.
- Cattle should be kept away from the home.
- They should go to farms with foot wear.
- Home surroundings should be clean.
- They should boil the water before drinking.

Syphilitic uveitis

- Eye can be affected in syphilis, which is a sexually transmitted disease.
- This disease can cause damage to nerves of the eye in addition to uveal structures.

Treatment

- Response to steroids alone is poor, needs systemic penicillin treatment, intramuscular or intravenous
- Erythromycin can be given if patient is allergic to penicillin.

Role of counsellor

Since it is sexually transmitted disease counsellor should adapt complete confidentiality and should make all efforts to make the patient trust him or her.

She should emphasise the use of topical eye drops as advised by ophthalmologist.

Viral uveitis

- Mostly due to herpes simplex or herpes zoster viruses
- It affects uvea in addition to cornea and retina.

Treatment

- Topical steroids
- Cycloplegics
- Topical acyclovir, oral or intravenous acyclovir may be needed.

Role of the counsellor

In this condition, because of visual threat due to retinal involvement, counsellor should stress the importance of regular ophthalmic check up following an attack of viral uveitis.

AIDS and uveitis

This entity is becoming common and is a multi systemic disease.

Treatment

Team management by the ophthalmologist and venerologist or physician.

Role of the counsellor

Since it needs a long term treatment patient should be handled compassionately and confidentially.

Autoimmune uveitis

It is recurrent uveitis of shorter duration. Which frequently affects both eyes.

It includes Behcet's disease, sympathetic ophthalmic and Vogt Koyanagi Haradas disease (Fig. 10.3).

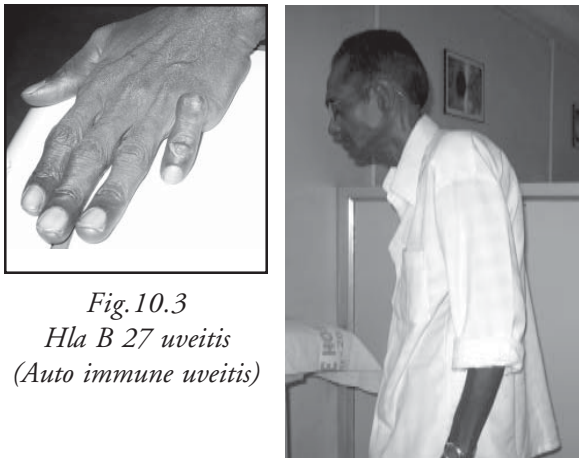


Fig.10.3
Hla B 27 uveitis
(Auto immune uveitis)

Treatment

- High dose oral steroids
- Intravenous steroids

Role of counsellor

- Counsellor should make the patient aware of steroid complications like moon face and weight gain.
- Inform the patient that sudden withdrawal of steroid treatment will harm the patient. And counsel the patient that both systemic and topical steroids should be tapered gradually as advised.

Traumatic uveitis

- It is caused by blunt trauma to the eye.
- Pain and redness occurs immediately after the injury.
- Treatment is with topical steroids and cycloplegics as advised.

Role of counsellor

Late complications of blunt trauma can occur so patient should be counselled for regular follow up.

Uveitis associated with joint pains

- It is usually severe, recurrent and of short duration.
- Usually affects one eye at a time.
- 1st episode is most severe, subsequent ones are often milder.
- Patient may have low back pain & neck pain.
- It is seen in young adults.
- Treatment is with topical steroids.

Role of the counsellor

- Need for frequent use of eye drops should be stressed.
- Since it is recurrent follow up visits to be stressed.

Symptoms of uveitis

Symptoms of anterior uveitis are

- Pain and redness of the eye
- Glare on seeing bright light
- Blurred vision

Symptoms of intermediate and posterior uveitis are

- Blurred vision
- Floaters

Investigations

What investigations do we need to diagnose the cause of uveitis?

They can be ordered as

Routine investigations

1. Total blood count
2. Differential blood count
3. Erythrocyte sedimentation rate
4. Mantoux test
5. Chest X-ray

Specific investigations commonly done in uveitis

1. Serum angiotensin converting enzyme (Sarcoidosis)
2. Antinuclear antibodies (SLE)

3. Rheumatoid factor (Rheumatoid arthritis)
4. Venereal disease research laboratory test (Syphilis)
5. Xray spine, CT, MRI (Ankylosing spondylitis)
6. Fundus fluorescein angiography
7. Ultrasonography
8. Tissue biopsy

Role of counsellor in uvea diseases

Patient has to be informed that,

1. Uveitis is a disease of long duration and can be recurrent.
2. Steroids are main mode of treatment and side effects of steroid have to be clearly mentioned.
3. When doctors advise immunosuppressant or steroids, counsellor must make sure that patient is not pregnant.
4. Immunosuppressive drugs are very powerful and potent drugs. Dosage should be strictly followed. If patient has any questions, they should approach the doctor/ counsellors either directly or by phone.
5. Follow up visits should be regular. Missing the treatment may lead to worsening of symptoms.
6. Patient should be counselled regarding cataract and glaucoma due to long term use of steroids.

Frequently asked questions

1. **What is the cause of pain in uveitis?**
It is because of irritation of ciliary nerves that occurs in uveitis.
2. **After using steroids I noticed sudden blurring of vision.**
Long-term use of steroids can produce cataract or glaucoma so you should have regular follow up.
3. **After using eye drops I am not able to read.**
It is because of dilation of pupil due to the drugs and the effect is temporary.
4. **What are the side effects of steroids?**
There are some side effects, but they don't always occur, many patients are taking these tablets daily

and there are not many serious complaints. Some of the side effects are as follows:

Short term side effects

Pain in the abdomen, raised blood sugar, raised pressure in eyes, acne (pimples), weight gain.

Long term side effects

Cataract, glaucoma, muscle weakness, retarded growth in children, puffiness of face, weakness of the bones

Sudden withdrawal may produce recurrence of original disease and we may have to start with higher dose of IV steroids. Hence, to be stopped only as per doctor's advice.

5. I have got many pimples on my face after taking these tablets, what to do?

These are harmless and will resolve when we lower the dose or stop the treatment. No treatment is required for pimples.

6. I have become fat after using these tablets, what should I do?

Gain in body weight is a known side effect of steroids and it will return back once we stop treatment.

7. My blood sugar has increased after taking these steroid tablets; should I stop the treatment?

No, this is a common harmless problem and you should not stop the treatment but we will reduce the dose. You need not worry about it. You should check your blood sugar regularly.

8. My neighbor doctor told me that these immunosuppressive are for cancer, why I am using them? Do I have a cancer in eyes?

- These drugs are used for cancers also
- But because of excessive side effects of steroids we are using these drugs
- You don't have any cancer in eyes or body
- The dose we use is much less than what is used for cancer

Key points to remember

- *Uvea is the middle layer among the three layers of eye ball.*
- *Inflammation of uvea is called uveitis.*
- *Causes of uveitis can be infective or noninfective.*
- *Noninfective uveitis is treated with cycloplegics and topical steroids with or without oral steroids and immunosuppressant.*
- *Infective uveitis needs cycloplegics, topical steroids and specific antibiotics.*
- *Counsellor should have an idea regarding causes of uveitis and the basic principles of treatment.*
- *Patient should be informed about the possible side effects of steroids and immunosuppressant.*

Student exercise**Write short answer**

1. *What is the role of counsellor in autoimmune uveitis?*
2. *What are the side effects of oral and topical steroids to be explained to patient?*
3. *What is the role of counsellor in TB uveitis?*
4. *Explain the role of counsellor when immunosuppressants are prescribed for treating patient with uveitis*
5. *What all investigations to be advised for a patient of uveitis?*

CHAPTER 11 LOW VISION COUNSELLING

CONTENTS

Investigations
Management / treatment
Rehabilitation

GOALS

To enable the counsellor attain knowledge regarding the rehabilitation services and management of patients with visual impairment.

OBJECTIVES

- The counsellor should be able to
- Explain about low vision and rehabilitation services
 - Explanation various techniques to overcome the practical difficulties in day to day life
 - Give details about low vision devices (methods of use, advantages and its disadvantages)

CHAPTER 11

Low Vision Counselling

Low vision is a condition, where refractive correction or medical or surgical intervention will not further help to improve vision. A revised WHO definition of low vision states that patients with vision less than 6/18 to perception of light in the good eye will be included in low vision category.

Investigations

Vision rehabilitation is a comprehensive set of services, including optometric, counselling and rehabilitation programmes that help people with low vision regain a sense of independence, and perform activities to the best of their ability, despite the handicap.

Low vision optometrists help those with vision loss to see better, even when surgery, medications, and conventional glasses no longer improve sight, by prescribing optical aids to help the person read, write, watch television and manage daily living activities.

The vision loss is permanent but the ability to perform daily living tasks with impaired vision is learned or relearned through our rehabilitation program.

Low vision examination

A low vision exam focuses on prescribing specialized glasses and low vision devices to enhance remaining vision. A low vision exam, sometimes called a functional vision assessment, evaluates vision functioning and the effect it has on daily living activities, such as reading the newspaper or cooking.

After an interview helps to determine the person's visual goals, a low vision specialist performs a detailed visual analysis. Distant vision is evaluated using telescopic aids. High-powered spectacle lenses, hand

or stand magnifiers may be used to evaluate near vision skills, like reading. Special eye charts are used and lighting levels are evaluated. Instruction in the proper use of devices can take ½ hour and may be repeated before aids are prescribed by the counsellor.

Management / treatment

The patient is treated with the low vision devices. The low vision devices comprise of optical and non optical devices. Optical devices include high add bifocals, prism glasses, aspheric glasses, hand magnifiers, stand magnifiers and telescopes. Non optical devices include reading stand, writing guide, typoscope, notex and cane. Based on the patients need and the visual acuity the low vision device is prescribed by the doctors.

Rehabilitation

- Children rehabilitation
- Educational rehabilitation
- Vocational rehabilitation
- Social rehabilitation

Children rehabilitation

Vision stimulation

Encouraging the use of vision is vital for children with low vision as it enhances their development, education and experiences. Use of vision in children having minimal amount of vision needs stimulation. Vision stimulation is the use of strong visual stimuli like colorful lights and toys to make an infant or child aware of the vision. These children usually have very limited visual capabilities and no visually guided functions.

Vision stimulation activities can help children use their remaining vision more effectively. The theory is that by performing these activities, the visual areas of the brain are stimulated to maximize the development of vision. They are not exercises that strengthen eye muscles, or cure eye disease or abnormalities in the brain.

Parental counselling

Parenting has no tried and tested formulas. Every child is unique, and so is every parent. What can help in the difficult task of parenting a child with visual impairments is sharing of experiences and applying them to your very own unique situation. Parents have a big role to play in helping their child gain the organisational skills necessary for success, both at school and in later life. Parenthood is all about nurturing and looking after your offspring. It is never too early to start helping your child toward eventual independent decision making, be it grooming, self-care or self-image.

Educational rehabilitation

Finding appropriate educational opportunities for visually impaired children can be quite a challenging task. Should the child be enrolled in a normal school, special school, or an integrated education? The counsellor plays an important role to find out the appropriate educational mode for the children with visual impairment.

Educational care for children with low vision includes training children directly in the effective use of their best vision. This can involve their learning to write at closer distance, to use magnifying devices, or to use creative strategies to determine what is written on a blackboard (such as asking a child seated nearby to read aloud while the teacher writes). This training is important, as it enables children to attend normal schools.

Integrated education

The integrated education programme creates an appropriate learning and teaching environment for

blind and low vision students. Specially trained teachers visit to 'regular' schools and provide useful guidance to blind students, their teachers, principals and staff in conducting educational and co-curricular activities. They also provide Braille, large print, magnifiers and audio books to these students.

Special education

Special education is a form of education provided for those who are not achieving or are not likely to achieve through ordinary educational provisions, the level of educational, social and other attainments appropriate to their age, and which has the aim of furthering their progress towards these levels.

Vocational rehabilitation

It is carrying out vocational training, establishment of special workstations, vocational adaptation and playing in a job. People who are blind and visually impaired work with a rehabilitation team to develop an employment goal and achieve success in employment. This team might include a rehabilitation counsellor, a rehabilitation teacher and/or mobility specialist. Blindness does not have to be a barrier to successful employment.

Vocational Rehabilitation (VR) services assist persons who are blind in preparing for obtaining and retaining employment. Applicants are made eligible based upon their visual disability, their need for VR services, and their eagerness to work.

Social rehabilitation

Social rehabilitation is a process the aim of which is to attain functioning ability. This ability means the capacity of a person to function in various social situations towards the satisfaction of his or her needs and the right to achieve maximum richness in his or her participation in society. In low vision counselling, the counsellor will give guidelines for the visually impaired person to carry out daily living activities and orientation and mobility.

Daily living activities

Activities of daily living comprise everything entailed in human life and relationships. These are the basic activities necessary during an ordinary day. Sighted person normally learn to perform these activities by themselves by observation and imitation. But the visually impaired person cannot learn the same on his own. The counsellor will guide the visually impaired persons and make them do all the activities independently and safely with the least possible external assistance.

Orientation and mobility

Movement is a building block for learning. As a child explores his world and has physical contact with it, learning takes place. Children with visual impairments typically need encouragement to explore their surroundings. To them the world may be a startling and unpredictable place, or it may not be very motivating.

Orientation and mobility training (O & M) helps a blind or visually impaired child to know where he is in space and where he would like to go (orientation). It also helps him to carry out a plan to get there (mobility). Orientation and mobility skills development should begin in infancy starting with basic body awareness and movement, and continuing on into adulthood as the individual learns skills that allow him to navigate his world efficiently, effectively would like and safely.

Support services

The counsellor will guide blind persons to attain various concessions (bus pass, railway concessions, disability pension, scholarships) from the district rehabilitation office.

Role of counsellor in low vision

- The counsellor has to empathise with the patients problem and help him/her come to terms with the fact that their vision loss is permanent and beyond repair.
- Though visual loss is permanent, the patient with low vision can still function with the remaining vision to continue his profession and daily activities, within certain limits. The counsellor encourage the patent to understand this.
- The counsellor can cite various examples of people with low vision/blindness who have achieved so much, despite their handicap and gently try to inspire the patient.
- The counsellor also puts forward the various options available to the low vision patients, in terms of low vision aids and profession and help them select whatever is suitable to their needs.
- The counsellor can guide the persons to get various concessions, scholarships etc. available for them.
- When it comes to parents of children with low vision/blindness the counsellor has to assume the role of a caring friend who helps the family come to terms with their children's disability. She also encourages them to be positive and assist the child's development, through various rehabilitation programmes available.

Counselling a permanently blind person

In the case of a person who had good vision but has lost vision due to disease, the counsellor gently but persistently assists him/her to accept reality and start rehabilitation. The counsellor may have to work with the family of the patient to make the patient achieve

the maximum possible independence. The social surrounding of the patient also has to be involved, to assist the patient, so that they can resume some mobility, daily activities, and some income generating work.

Rehabilitating a blind person is a team work which should involve the patient, the counsellor, the patients family and the community.

Frequently asked question

1. Does the low vision device is harmful to my eyes?

No, it doesn't harm your eye. These are the devices which will help you to work independently.

2. Does my vision will deteriorate in future days?

Based on the diagnosis the doctor will explain to the patient regarding the prognosis.

3. Does it affect my future generation?

The counsellor will get the information about blood relationship between the father and the mother (if it is consanguineous or non consanguineous marriage) and the he/she will counsel the patients weather it will affect their future generation or not.

4. How far the vision stimulation is going to help my child?

Through the vision stimulation we are not going to improve the child's vision. By performing these activities, the visual areas of the brain are stimulated to maximise the development of vision. It will help the child to use their vision more effectively.

5. Is the low vision device is helpful in my vocation?

To some extent it will help in your work. Based on the visual acuity the counsellor will refer the patient to the NGO to get the vocational training.

Key points to remember

- *Low vision is a condition, where medical or surgical intervention will not further help to improve vision. A revised WHO definition of low vision states that patients with vision less than 6/18 to perception of light in the good eye will be included in low vision category.*
- *The low vision patients are treated with the low vision devices which consist of optical and non optical devices.*
- *The vision rehabilitation includes children rehabilitation, educational rehabilitation, vocational rehabilitation & social rehabilitation.*
- *Parental counselling is much more important in children rehabilitation.*
- *The selection of educational mode is based on the child's visual acuity, previous academic performance and the parent's literacy level.*
- *It is the counsellor's responsibility to assist the person with visual impairment in obtaining and regaining appropriate vocation.*

- *The aim of social rehabilitation is to make the visually impaired person to attain self independence and functioning ability.*
- *Vision rehabilitation is a multi disciplinary team approach which should involve the patient, the family members and other professionals.*

Student exercise**Write short answer**

1. *How do you counsel the parents of 8 month old baby who doesn't have light fixation?*
2. *Explain: educational rehabilitation*
3. *Briefly explain the role of counsellor in counselling the person who lost his vision in between their life time. (acquired visual loss)*

CHAPTER 12 EFFECTIVENESS OF COUNSELLING IN EYE CARE SERVICES

CONTENTS

Effects of counselling on eye care services

GOALS

To enable the counsellor attain knowledge regarding the rehabilitation services and management of patients with visual impairment.

OBJECTIVES

The counsellor should be able to

- Explain about low vision and rehabilitation services
- Explanation various techniques to overcome the practical difficulties in day to day life
- Give details about low vision devices (methods of use, advantages and its disadvantages)

CHAPTER 12

Effectiveness of Counselling in Eye Care Services

The effect of patient counselling on the society is enormous. It benefits the eye care service provider, the patients and the community at large. Counselling plays a catalytic role of influencing the people to undergo surgical or medical treatment for their blinding eye problems, thus helping to reduce and ultimately eliminate needless blindness among human beings.

Before patient-counselling system was introduced in Aravind Eye Hospital, many of the patients who came with eye diseases returned home immediately after they were examined by ophthalmologists. They did not accept the advice of the doctor to undergo surgical treatment for fear of operation.

These patients who were mostly not well educated preferred medicines like eye drops to surgery for curing their ailment. Even the patients who had no fear for operation had a wrong notion that the outcome of surgery may not be good. They thought that the cost of operation will be unbearable for them, and so on.

Such psychological barriers turned away many patients from eye hospital. After the counselling department was started, there was a significant change in the situation. Patients who have no belief in surgery, who are afraid of surgical procedures, who are hesitant to undergo surgery and who have misconceptions about operations are now counselled and influenced to accept surgical treatment.

People who are hesitant about wearing spectacles for refractive error corrections are counselled to use spectacles. Parents who have a wrong belief that squint (Strabismus) is a sign of fortune are counselled to get their child immediately treated in the paediatric ophthalmology clinic to save the child from vision loss.

These counselling activities have produced and continue to produce multifarious beneficial effects on the society, namely:

1. Firstly, the patient counselling system has improved awareness of common eye diseases. By giving information on the causes, effects and nature of eye diseases to the patients who will in turn pass on the information to their relatives and neighbours, the counsellors are escalating awareness in the community.
2. Quality of service in hospital has improved as a result of counselling. By guiding and helping the patients from the time a patient enters the hospital till he/she leaves it, the counsellors have improved the quality of service.
3. As a result of counselling, the number of patients accepting surgical or medical treatment has increased, resulting in the increase of total patient volume of outpatients and inpatients.
4. Another effect of counselling is the increase of patients' follow-up visits to the hospital. Counsellor's advice to the patients to come without fail for follow-up examinations and their emphasis on the importance of follow-up examinations and sending of reminders have a good impact.
5. Compliance to treatment procedures has also improved as a result of the counsellors clearly explaining the method of applying eye drops and cleaning the operated eye. This has considerably reduced post-operative complications and infections.
6. The counselling staff's services and guidance greatly impress the patients who ultimately become satisfied customers of the hospital. This results in the increase of patient satisfaction rate.

7. Availing of eye care services by the community has also increased. This is the effect of the counsellor's request to the patients to tell their friends and others about their recovery from eye problem. A satisfied customer is equivalent to many new customers, as the customer induces many of his fellowmen to get treated in the hospital.

8. A good counselling in proper time helps to prevent needless blindness caused by cataract, glaucoma, diabetic retinopathy etc.

In short, patient counselling department is an important part of any health care hospital and in the case of an eye hospital it is an indispensable component. It serves both the hospital and the patients. It keeps in mind the interests of both the seller and buyer of health or eye care services.

- The counsellors take the role of marketing executives when they emphasise to the patients the need for undergoing medical or surgical treatment immediately. Their services have a direct impact on the quality of the "product", namely medical service. Like a responsible marketing executive who never exaggerates the performance of his company's product, the

patient counsellors also do not boast of their medical services but moderate the expectations of the patients about the outcome of treatment.

- They take the role of social service workers when they educate the patients and their relatives on the proper method of applying medicines in prescribed dosages at the fixed times. This ensures patient compliance which is very important for a successful treatment outcome.

- They function as community health volunteers when they create among patients awareness on eye diseases and the need for getting treatment without delay.

- The counsellors act as Public Relations Officers of a business organisation when they inform the patients about the services and facilities available in the hospital and also helping them to avail of these facilities.

The candidates undergoing training in counselling should bear all these points in mind and do their best to become a good patient - counsellor. A good patient - counsellor is not only an asset of a health care system but also an important tool in preventing and eradicating needless blindness in the society.

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