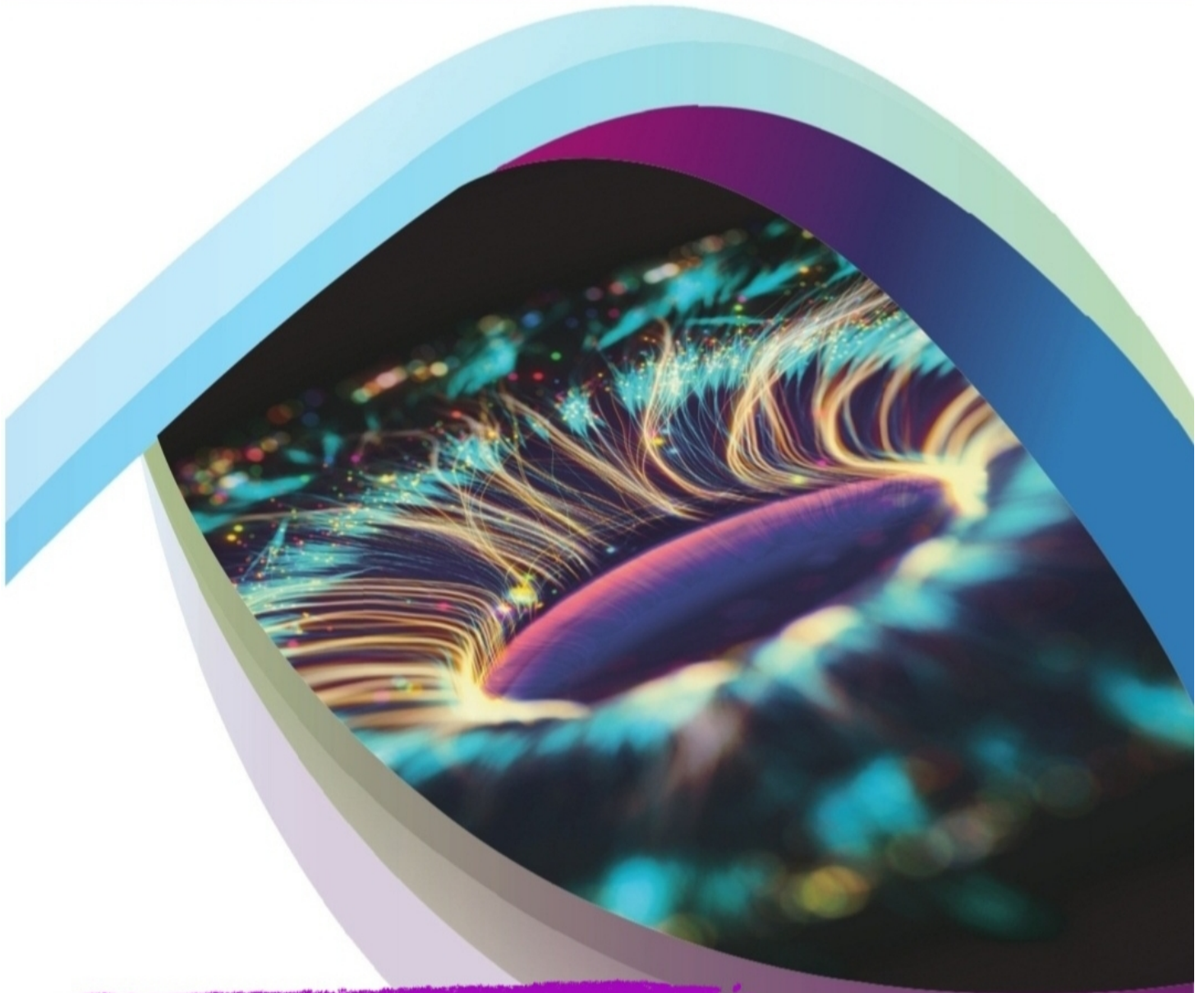




THE ULTIMATE OPHTHALMOLOGY SURVIVAL GUIDE

*A PRACTICAL APPROACH TO OSPE, OSCE AND
TOACS EXAMINATION IN OPHTHALMOLOGY*



Ophthalmology Pearls

EDITOR: SOUFIA FARRUKH | AUTHOR: IMRAN SALEEM CHANNAR

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1ST EDITION

**SOUFIA FARRUKH
IMRAN SALEEM CHANNAR**

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OPHTHALMOLOGY*

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بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

In the Name of Allāh, the Most Gracious, the Most Merciful

The Ultimate Ophthalmology Survival Guide

by

Muhammad Imran Saleem Channar

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FOREWORD

As a practicing ophthalmologist, I have seen firsthand the importance of a thorough understanding of ophthalmology in providing effective patient care. The Objectively Structured Practical/Clinical Exam (OSPE/OSCE) and Task Oriented Assessment of Clinical Skills (TOACS) are essential components of the undergraduate and postgraduate curriculum and test student's ability to apply their theoretical knowledge to practical situations.

I am delighted to write the foreword for this book on OSPE/OSCE/TOACS preparation for the under/postgraduate students in ophthalmology. This book provides a comprehensive and practical guide to help students prepare for the ophthalmology OSPE/OSCE/TOACS, a challenging exam that requires a great deal of preparation and understanding of the fundamental concepts of ophthalmology.

What sets this book apart is its focus on providing practical tips, tricks, and techniques for success in the aforementioned exams. The case scenarios and questions are designed to simulate real-life clinical scenarios, enabling students to consolidate their knowledge and understand how to apply it in practical exams.

The authors have done an excellent job of creating a valuable resource for medical students and postgraduate trainees preparing for the ophthalmology exams. Their clinical experiences and teaching experiences have informed the content of the book, and their insights into the exam will undoubtedly be of great help to the students.

I recommend this book to all the medical students and trainees in ophthalmology who are preparing for the ophthalmology OSPE/OSCE/TOACS. With its engaging approach and comprehensive coverage of the essential topics in ophthalmology, this book will be an invaluable resource to students as they work toward achieving success in the exam.

I commend the editor and author for their efforts in producing this wonderful book and wish all its readers the best of luck in their academic endeavors.

PROF. DR. EJAZ LATIF

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WHY OSPE/OSCE/TOACS IN OPHTHALMOLOGY?

The objectively structured clinical examination (OSCE), objectively structured practical examination (OSPE) and task oriented assessment of clinical skills (TOACS) are commonly used to evaluate the clinical and practical skills of students. This book focuses specifically on these exams in ophthalmology.

The foremost and primary objective of OSPE/OSCE/TOACS in ophthalmology is to evaluate the students' clinical skills, including their ability to take a proper ophthalmological history, perform a comprehensive ophthalmic examination, diagnose various ocular diseases, and recommend appropriate management strategies. It also assesses students' communication skills, professionalism, and ethical standards while interacting with patients.

OSPE/OSCE/TOACS in ophthalmology typically comprises several stations, with each station designed to evaluate a specific clinical skill or competency. Each station may consist of a task or a scenario, such as taking a patient's history, performing an exam, or interpreting imaging studies. Each station is usually time-limited, and the students have to complete the tasks within the given time. The examiners at each station assess the students' performance using standardized checklists or rubrics. Such exams offer several benefits over traditional assessment methods, such as written exams or clinical rotations. First, it provides a standardized and objective evaluation of students' clinical skills, reducing inter-rater variability and subjective biases. Second, it allows for the assessment of multiple competencies in a single exam, making it a more efficient assessment method. Third, it provides students with valuable feedback on their performance, highlighting areas of strength and areas that need improvement. Finally, it encourages active learning and self-reflection, motivating students to improve their clinical skills and competencies.

Ophthalmology Pearls

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PAKISTAN.

PREFACE

Welcome to the world of ophthalmology! The OSPE/OSCE and TOACS have gained immense popularity in medical education due to their ability to assess a candidate's competency in a structured and standardized manner. It simulates real-life clinical scenarios, allowing examiners to evaluate a wide range of skills, from history taking and examination techniques to decision-making and communication.

The book in your hands is a comprehensive guide designed to aid under and postgraduate medicos in mastering the Objective Structured Practical/Clinical Examination (OSPE/OSCE/TOACS) in ophthalmology. Our aim is to provide a valuable resource that not only enhances your theoretical knowledge but also hones your practical skills. In this book, we have compiled a diverse range of clinical cases specifically tailored to the field of ophthalmology.

Each case has been meticulously crafted to reflect the challenges and intricacies encountered in exams. The cases cover a broad spectrum of ophthalmic conditions, ensuring that you develop a comprehensive and concise understanding of the subject matter. To facilitate effective learning, we have structured the book into different sections, each section focusing on a specific aspect of ophthalmology. By delving into each area, you will not only strengthen your knowledge but also build the confidence needed to excel in your OSPE/OSCE/TOACS exam in ophthalmology.

Different sections of this book consist of relevant history, examination findings, diagnostic tests, and management options, ensuring that you develop a systematic and evidence-based approach to each case. Additionally, we have included detailed answers and explanations to aid in your understanding of the underlying principles. We sincerely hope that this book proves to be an indispensable tool in your journey to mastering the OSPE format in ophthalmology. We encourage you to approach each case with enthusiasm, curiosity, and a commitment to learning.

Wishing you success in your academic endeavors!

PROF. DR. SOUFIA FARRUKH

DR.M.IMRAN SALEEM CHANNAR

ACKNOWLEDGEMENTS

I stand in awe and gratitude as I reflect on the journey of authoring this book, and I am filled with an overwhelming sense of thankfulness to God for His Divine guidance and grace throughout the process. With every word penned and every idea formed, I recognize that it is through His boundless Knowledge, Wisdom and unwavering Presence that this endeavor has come to fruition.

I extend my heartfelt thanks to my mentor, teacher, and the editor of this book, Professor Dr. Soufia Farrukh for her invaluable guidance throughout the development of this project. As the head of the Ophthalmology department, and the Principal of Quaid-e-Azam Medical College, Bahawalpur, she has unconditionally supported me at all levels during the authorship of this book. Her insightful feedback and invaluable suggestions regarding the content and structure of this book were indispensable for me.

I would also like to thank the medical students at Quaid-e-Azam Medical College, Bahawalpur, who served as test-takers and provided me with valuable feedback regarding the OSPE/OSCE questions.

Finally, I would like to express my sincere gratitude to my family members for their patience, unwavering support and encouragement that has always helped me pursue my objectives endlessly.

DR.M.IMRAN SALEEM CHANNAR

DEDICATION

THIS BOOK IS DEDICATED TO MY TEACHERS AND MENTORS, WHOSE GUIDANCE AND SUPPORT HAVE BEEN INSTRUMENTAL IN MY DEVELOPMENT AS AN OPHTHALMOLOGIST. TO MY FAMILY, WHOSE UNWAVERING LOVE AND SUPPORT HAS BEEN THE DRIVING FORCE BEHIND MY PASSION FOR OPHTHALMOLOGY, AND THE POSTGRADUATE RESIDENTS AND MEDICAL STUDENTS, WHOSE ENTHUSIASM AND COMMITMENT TO LEARNING CONTINUES TO INSPIRE ME TO STRIVE FOR DISSEMINATION OF KNOWLEDGE OF OPHTHALMOLOGY.

IMRAN SALEEM CHANNAR

ABOUT THIS BOOK

In this book, I have focused on the Objectively Structured Practical/Clinical (OSPE/OSCE) and the TOACS Exam in Ophthalmology, which is an essential component of the undergraduate/postgraduate medical curriculum.

OSPE and related postgraduate exams in Ophthalmology assess the student's ability to apply theoretical knowledge to practical situations. It is a challenging exam that requires essential components of a good deal of explicit knowledge, thorough understanding of the fundamental concepts of ophthalmology and their practical implications. This book aims to help students succeed in all these aspects for the preparation of ophthalmology OSPE/OSCE and TOACS.

All the contents of this book are essentially a reflection of my own knowledge of Ophthalmology I gained as undergraduate/postgraduate student during my college and residency years. The book is structured to cover all the essential topics in ophthalmology. Each section of the book is divided into multiple stations followed by standardized questions that may be asked in OSPE/OSCE and TOACS. Answers and explanations to each station are provided at the end of the section.

I hope this book proves to be a valuable learning resource for undergraduate medical students as well as postgraduate trainees, equipping them with the confidence to approach the OSPE & TOACS with expertise. Mindful preparation through understanding of key concepts presented in this book is imperative for success in the ophthalmology OSPE/OSCE and TOACS.

I wish outstanding success for all the students.

DR.M.IMRAN SALEEM CHANNAR

HOW TO USE THIS BOOK

THIS BOOK IS DESIGNED TO HELP STUDENTS PREPARE FOR OPHTHALMOLOGY OSPE/OSCE/TOACS BY PROVIDING A DETAILED REVIEW OF ALL THE ESSENTIAL TOPICS. AT THE SAME TIME, THE BOOK IS EXPECTED TO BE EQUALLY HELPFUL IN PREPARING FOR THEORY/WRITTEN EXAMS AS WELL. HOWEVER, THIS BOOK IS NOT INTENDED TO REPLACE THE STANDARD TEXTS OF OPHTHALMOLOGY. STUDENTS ARE ENCOURAGED TO USE THIS BOOK TO REINFORCE/REVISE THEIR FIRSTHAND KNOWLEDGE AND UNDERSTANDING OF OPHTHALMOLOGY GAINED THROUGH STUDY OF TEXTBOOKS.

I HOPE THIS BOOK TO BE PIVOTAL FOR UNDERSTANDING THE KEY OPHTHALMIC CONCEPTS.

IMRAN SALEEM CHANNAR

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SECTION-I

BASIC ANATOMICAL CONSIDERATIONS

“EVERYTHING THAT IS MADE BEAUTIFUL, FAIR AND
LOVELY; IS MADE FOR THE EYE OF ONE WHO
SEES.”

~ *RUMI*

THE LACRIMAL APPARATUS

The lacrimal apparatus consists of the LACRIMAL GLAND and the LACRIMAL PASSAGES.

LACRIMAL GLAND:

The lacrimal gland in each eye has a superior or ORBITAL PART, the inferior or PALPEBRAL PART, and the ACCESSORY LACRIMAL GLANDS OR KRAUSE GLANDS.

The accessory/Krause glands are situated beneath the conjunctiva between the fornix and the tarsus. They are about 42 in the upper and 6–8 in the lower fornix.

THE LACRIMAL PASSAGES:

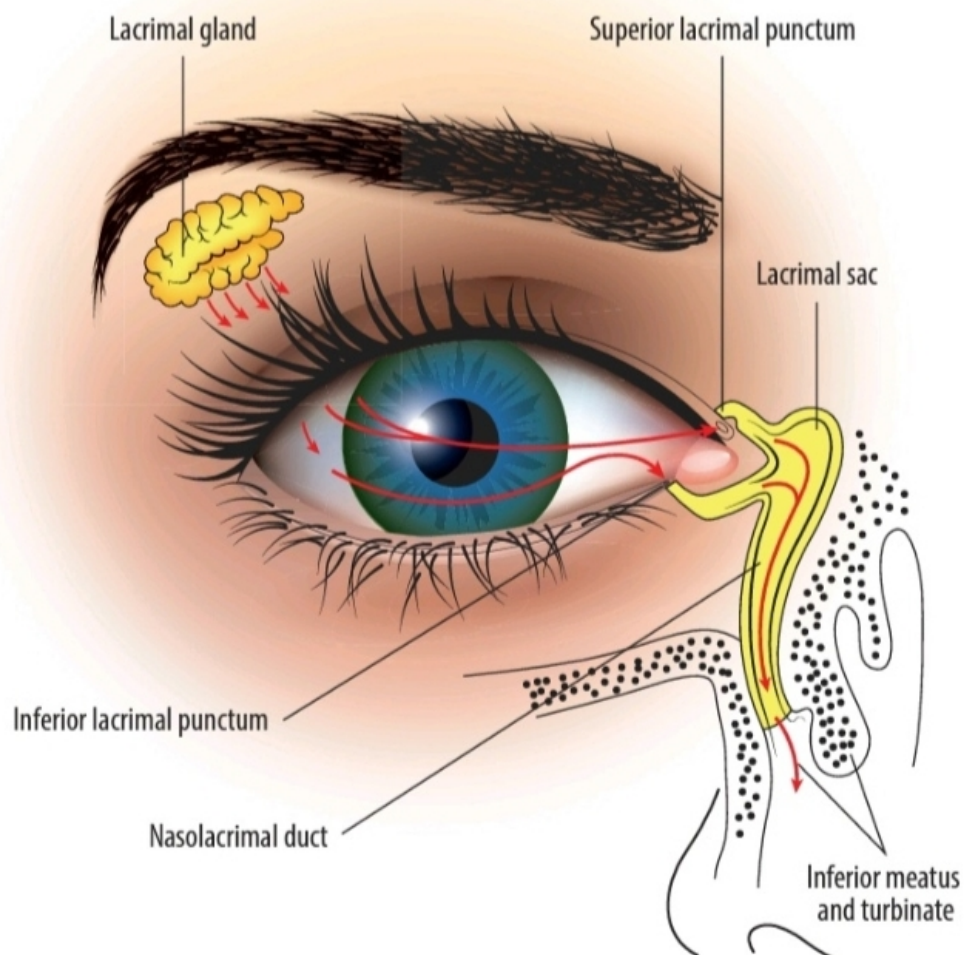
LACRIMAL PASSAGES consist of the lacrimal PUNCTA, the CANALICULI, the LACRIMAL SAC and the NASOLACRIMAL DUCT.

THE CANALICULI pass from the punctum to the lacrimal sac;

THE LACRIMAL SAC lies in the lacrimal fossa formed by the

posterior MUCUS layer formed by the conjunctival goblet cells is closely attached to the corneal epithelium and helps the tear film to spread evenly and adhere to the ocular surface. The AQUEOUS layer, the largest, middle layer is secreted by the lacrimal gland. This washes away any particles or irritants on the ocular surface. The superficial LIPID layer is secreted by the meibomian glands. It smoothens the tear surface and prevents evaporation.

The tears have some bacteriostatic properties owing to the presence of an enzyme, LYSOZYME.



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SECTION-II

OCULAR SYMPTOMATOLOGY

"I SHUT MY EYES AND THE ENTIRE WORLD DROPS DEAD; I LIFT MY EYES AND ALL IS BORN AGAIN."

~SYLVIA PLATH-THE BELL JAR

DIMINISHED FIELD OF VISION (SCOTOMA)

Loss of field is called SCOTOMA. It could be central or peripheral.

CAUSES OF CENTRAL SCOTOMA

1. OPTIC NEURITIS
- 2.
- 3.

CAUSES OF PERIPHERAL SCOTOMA

1. ADVANCED GLAUCOMA
- 2.
3. CHOROIDAL DYSTROPHY
- 4.
5. ACUTE ISCHEMIC OPTIC NEUROPATHY
- 6.
7. POST PAPILLEDEMA OPTIC ATROPHY
- 8.
9. OPTIC TRACT AND OPTIC RADIATION

DIPLOPIA (SEEING DOUBLE)

SECTION-III

THE AMETROPIC EYE

“THE WAYS IN WHICH PEOPLE STRAIN TO SEE ARE INFINITE AND THE METHODS USED TO RELIEVE THE STRAIN MUST BE ALMOST EQUALLY VARIED. WHATEVER THE METHOD THAT BRINGS MOST RELIEF, HOWEVER, THE END IS ALWAYS THE SAME, NAMELY RELAXATION.”

~ **WILLIAM H BATES, M.D.**

STATION 11



1- WHICH OPTICAL DEVICE IS SHOWN HERE?

2-

3-

ANSWERS AND EXPLANATIONS

Answers and Explanations for the 2019-2020 USMLE Step 1 Exam

STATION 11

- 1- STENOPEIC SLIT.
- 2-
- 3-

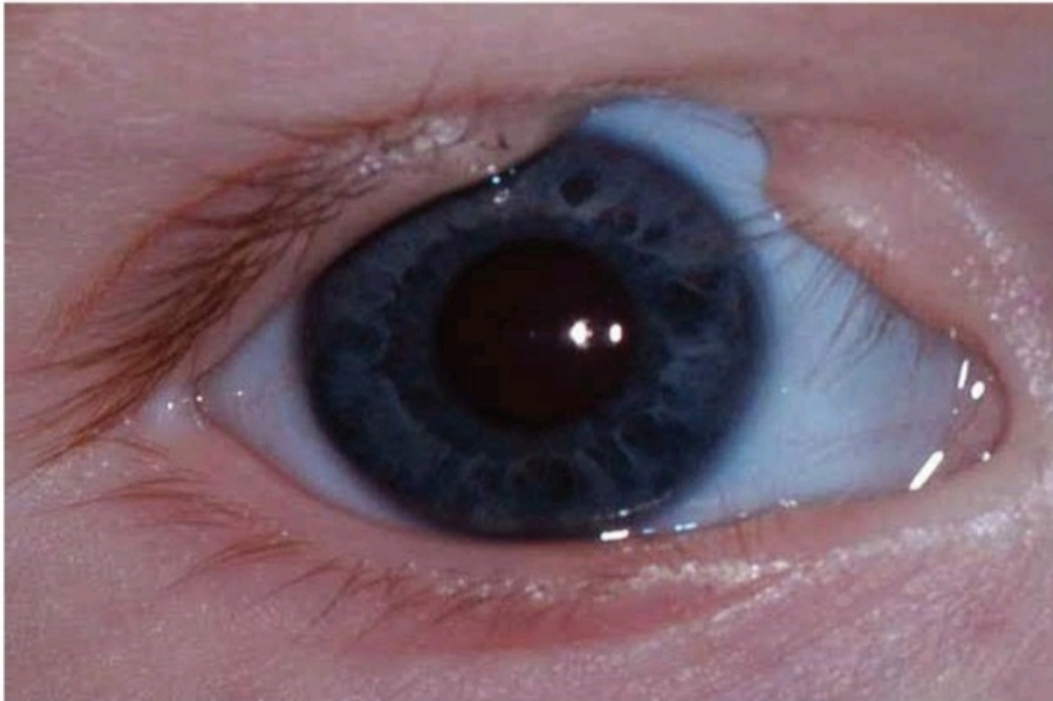
SECTION-IV

THE OCULAR ADNEXA

*"READ FROM SOME HUMBLER POET, WHO'S
SONGS GUSHED FROM HIS HEART, AS
SHOWERS FROM THE CLOUDS OF SUMMER,
OR TEARS FROM THE EYELIDS START."*

~ HENRY WORDSWORTH

STATION 1



1-

2- WHAT IS THE PATHOGENESIS OF THIS DEFECT?

3-

ANSWERS AND EXPLANATIONS

STATION 1

1-

2- AN EYELID COLOBOMA IS USUALLY DUE TO INCOMPLETE CLOSURE OF THE EMBRYONIC FACIAL CLEFT, SOME CASES ARE DUE TO THE PRESSURE OF AMNIOTIC BANDS. (COLOBOMAS OF THE UVEA AND OPTIC DISC ARE FREQUENTLY DUE TO INCOMPLETE CLOSURE OF THE OPTIC FISSURE DURING EMBRYONIC DEVELOPMENT).

3-

SECTION-V

THE CORNEA AND SCLERA

"EYES LIE IF YOU EVER LOOK INTO THEM FOR THE CHARACTER OF THE PERSON."

~Stevie Wonder

STATION 9



1- DEFINE THE CONDITION SHOWN IN PHOTOGRAPH.

2-

3

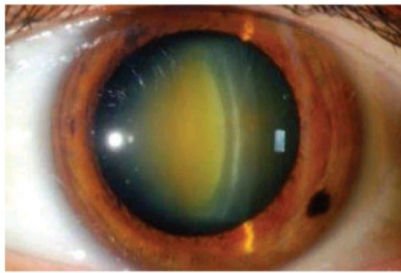
ANSWERS AND EXPLANATIONS

STATION 9

1- STAPHYLOMA (ABNORMAL BULGING OF CORNEA/
SCLERA CONTAINING ADHERENT UVEAL TISSUE).

2-

STATION 10



- 1-
- 2- WHAT IS LENS OPACITY CLASSIFICATION (LOCS) SYSTEM?
- 3-
- 4-
- 5-
- 6-

ANSWERS AND EXPLANATIONS

STATION 10

- 1-
 - 2- LENS OPACITY CLASSIFICATION SYSTEM (LOCS-I, II and III) IS A CATARACT GRADING SYSTEM BY ASSESSING THE NUCLEUS COLOR AND DEGREE OF HARDNESS BY COMPARING PATIENT'S CATARACT WITH THE STANDARD CONTROL PHOTOGRAPHS.
-

SECTION-XIX

TIPS & TRICKS FOR PREPARING OSPE/TOACS EXAMINATION

*“CREATIVITY IS ALLOWING ONESELF TO MAKE
MISTAKES. ART IS TO KNOW WHICH ONES TO KEEP.”*

~Scott Adams

In this section of the book, I would like to LIST some key points to remember before embarking on a specific exam.

1- **REVIEW THE EXAM FORMAT AND CONTENT:**

Familiarize yourself with the exam format and content, including the number of stations, types of tasks, and the specific ophthalmic conditions that will be covered.

2-

3- **REVIEW STANDARD OPHTHALMOLOGY TEXTBOOKS:**

To refresh your knowledge of ocular anatomy, physiology, and pathology. Make sure you understand the key concepts and terminology from standard textbooks.

4-

5- **STUDY WITH A PARTNER:**

Practice with a study partner who can provide feedback on your performance and help you identify areas for improvement. Consider simulating OSPE scenarios with your partner to practice your clinical skills.

6-

SECTION-XX

SUGGESTIONS FOR FURTHER READING

*“THE TWO, WHO ARE NEVER SATISFIED: THE LOVER OF
THE WORLD AND THE LOVER OF THE KNOWLEDGE.”*

~ RUMI

For a thorough and comprehensive study of Ophthalmology, following texts are recommended:

FOR UNDERGRADUATE MEDICAL STUDENTS:

- 1-
- 2- **VAUGHAN & ASBURY'S GENERAL OPHTHALMOLOGY.**
(Daniel Vaughan and Taylor Asbury)
- 3-
- 4-

FOR POSTGRADUATE TRAINEES:

- 1- **KANSKI'S CLINICAL OPHTHALMOLOGY.**
- 2- **THE WILLS EYE MANUAL.**
- 3-
- 4-
- 5- **AMERICAN ACADEMY OF OPHTHALMOLOGY BCSC.**
- 6- /

SECTION-XXI

FEEDBACK, COMMENTS AND SUGGESTIONS

*“CRITICISM, LIKE RAIN, SHOULD BE GENTLE
ENOUGH TO NOURISH A MAN’S GROWTH WITHOUT
DESTROYING HIS ROOTS.”*

~ ANONYMOUS

Your feedback is invaluable to me to ensure that this book remains relevant and up-to-date with the latest developments in ophthalmology and OSPE exams in the future.

Please do not hesitate to contact me with any comments, or suggestions you may have on this book, as I strive to continuously improve and evolve the contents of this book to meet the needs of its readers.

You can send your feedback, comments, queries and suggestions through following platforms:

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THE ULTIMATE OPHTHALMOLOGY SURVIVAL GUIDE

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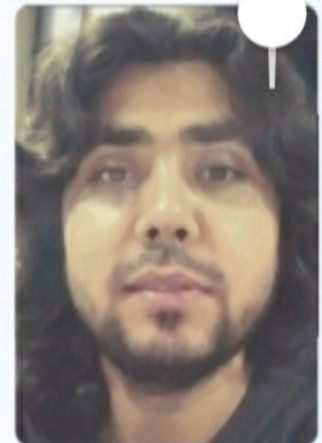
WITH A PROFOUND CAREER SPANNING OVER A PERIOD OF 20 YEARS YEARS, DR. SOUFIA FARRUKH IS A LUMINARY IN OPHTHALMOLOGY. SERVING AS PRINCIPAL OF THE INSTITUTE AND PROFESSOR/HEAD OF THE DEPARTMENT OF OPHTHALMOLOGY AT QUAID-E-AZAM MEDICAL COLLEGE, BAHAWALPUR, PAKISTAN, SHE ENCAPSULATES THE PINNACLE O ACADEMIC AND CLINICAL EXCELLENCE. HER RESEARCH CONTRIBUTIONS, MENTORSHIP, AND ENGAGEMENTS AS A SPEAKER HAVE SHAPED MODERN OPHTHALMOLOGY.

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DR. IMRAN IS A SEASONED OPHTHALMOLOGIST WITH A REMARKABLE FOCUS ON THE BASIC CONCEPTS AND INNOVATION IN THE FIELD OF OPHTHALMOLOGY. AS AN OPHTHALMOLOGIST, HE HAS ACHIEVED EXPERTISE THAT INFORMS HIS PRACTICE AND TEACHINGS. HIS DEDICATION TO ADVANCING THE OPHTHALMIC KNOWLEDGE IS EVIDENT IN THIS BOOK AS WELL AS IN HIS RESEARCH PUBLICATIONS. WITH A COMMITMENT TO HOLISTIC EYE CARE, HE EPITOMIZES THE SYNERGY OF MEDICAL PROFICIENCY AND COMPASSIONATE SERVICE.



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