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Andhra Pradesh Ophthalmic Society



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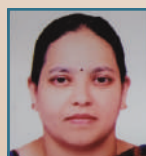
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Secretary to Governor Andhra Pradesh •

Sri. Abdul Nazeer
HON'BLE GOVERNOR OF
ANDHRA PRADESH

The Governor of Andhra Pradesh directed me to convey his best wishes for the success of **9th Andhra Pradesh Ophthalmic Society Annual Conference/Tirupati EYE CON 2024**, is being held at Tirupati on 13th, 14th, 15th September 2024 being jointly organized by Andhra Pradesh Ophthalmic Society and Tirupati Ophthalmology Society.

Sd/-

(Abdul Nazeer)



Sri. Nara Chandrababu Naidu
HON'BLE Chief Minister
Andhra Pradesh

I'm extremely happy to note that Andhra Pradesh Ophthalmic Society Annual Conference/Tirupati EYE CON 2024, is being held at Tirupati on 13th,14th, 15th September 2024. Our doctors have immense talent and skills to scale heights in their careers if they combine innovation and technology. . '

I'm confident that the use of technology in medicine will help us in enhancing medical services to the poor. I aim to improve quality of education and literacy and education lead to greater awareness and new skills.

I believe that the members of Andhra Pradesh Ophthalmic Society will ensure that quality services are accessible to reach people on time. I'm sure that Andhra Pradesh Ophthalmic Society & Tirupathi ophthalmological Society will take part actively in creating awareness of government programs like NTR Aarogyaseva and others. All the medical professionals in our state have a role to play in transforming the sunrise state of Andhra Pradesh into a medical hub.

In this direction, there will be no compromise in the quality of education offered to make our sunrise Andhra Pradesh a "Knowledge Hub".

My best wishes and hearty congratulations to the Faculty of Andhra Pradesh Ophthalmic Society & Tirupati Ophthalmological Society.

Yours

Sd/-
(Sri. Nara Chandrababu Naidu)



Dr. Satya Kumar Yadav
Minister Of Health, Medical
Education & Family Welfare
Govt. of Andhra Pradesh.

Dear Friends,

As you are aware, technologies change from time to time and even very advanced equipment's become obsolete. The urge to be the best helps us evolve with the ever-changing environment, keep areas with improved techniques and equip ourselves with relevant state of the art technology. India is rapidly becoming a destination for international medical tourism due to high quality professional care executed at reasonable and affordable rates.

In this context I would like to say APOS is affiliated to All India Ophthalmological Society (AIOS) & Ophthalmic Associations of South Indian States (OASIS) rendering yeomen service to the public. Mainly the object of the Society is the cultivation and promotion of study and practice of ophthalmic science, research and manpower development with a view to render community service and to promote fellowship among the ophthalmologists.

I believe in high quality patient care. Currently, we have highly skilled professionals to take care of our large patient base. We take pride in letting you know that we match our growing volume of work with improving quality in the ophthalmological sector. As I know in the long run of the society services achieved so many awards for better service to the public.

We are now ready to shift gears to venture in research, specifically clinical and applied currently our efforts are directed towards groundwork. We believe that by collaborating nationally and internationally with institutions that have organized basic research capabilities, we can avoid reinventing the wheel. An interdisciplinary approach is not only the fashion, but a necessity today in the ophthalmological sector. APOS is providing the services in a innovative thought. Our long-term vision is to be recognized as one amongst the best research and academic institutions in the world. Like APOS.

I am positive that this is real is a realistic goal, considering our core team of young energetic and highly skilled in ophthalmology sector.

Thank you once again for giving me this opportunity to deliver my thoughts.

Sincerely

Sd/-

(Dr. Satya Kumar Yadav)



Dr. Gurumurthy
Member of Parliament. (Lok Sabha) Tirupati,
Andhra Pradesh

MESSAGE

I am happy to know that Tirupati Ophthalmological Society & Andhra Pradesh Ophthalmic Society are jointly organizing the **9th Andhra Pradesh Ophthalmic Society Annual Conference / Tirupati EYE CON 2024**, is being held at Tirupati on 13th, 14th, 15th September 2024. I have followed with keen interest the services rendered by the Ophthalmologists.

I am sure that the Ophthalmic fraternity will deliberate all aspects of eye care from basic rural services to modern treatment facilities to all sections of society.

I wish all the delegates a pleasant stay at Tirupati, and I hope this will be a very memorable event in the history of APOS.

Wish you all success.



Arani Srinivasulu
M.L.A.
TIRUPATHI

MESSAGE

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Arani Srinivasulu
M.L.A.
TIRUPATHI

PAST PRESIDENT APOS



DR GR REDDY MS

As the past president of the Andhra Pradesh Ophthalmic Society I am honored to pen this message and extend a warm welcome to all of you at the 9th Andhra Pradesh Ophthalmic Society Annual Conference 2024 held at Tirupati.

I am filled with excitement and privileged to address such a distinguished gathering of professionals dedicated to the advancement of ophthalmology and the betterment of eye care in our communities.

Reflecting on our shared journey in this remarkable field, I am reminded of the incredible strides we have made together. The collaboration and cooperation among ophthalmologists across the state have been instrumental in driving innovations, improving patient outcomes, and enhancing our collective knowledge.

I would like to extend my heartfelt appreciation to the organizing committee for their tireless efforts in bringing this event to fruition. Their dedication and meticulous planning have ensured that we have an enriching program filled with insightful lectures, engaging workshops, and invaluable networking opportunities.

I encourage each of you to take full advantage of these sessions, as they are designed to inspire and equip us with the latest advancements in our field. The relationships we build here will undoubtedly enrich our professional lives and enhance our ability to serve our patients better.

I hope that this conference proves to be not only a platform for learning but also a celebration of our shared passion for eye care. May we leave inspired, invigorated, and ready to implement new ideas and practices in our respective fields.

PRESIDENT APOS



Dear Members of APOS, Warm Greetings from Team APOS

On behalf of APOS Executive committee, my warm Greetings and Best wishes to the Local Organizing Committee for the success of ‘sTIRUPATI EYECON’, 9th Annual Conference of Andhra Pradesh Ophthalmic Society at Tirupathi from 13th to 15th September, 2024.

As the President of APOS, I am honoured to invite you all at the 9th APOS Conference in Tirupati.

We are back again at Tirupati, 10 years after previous APOS conference. We need the Devine Blessings of Lord Balaji for the success of our conference

The presence of a Galaxy of National and International Legends in Ophthalmology in this Conference along with our Local, young & enthusiastic talent, will create interest in advanced technologies and helps in sharing the knowledge.

I would like to express my sincere thanks to all the Executive members of APOS and Advisory board for the cooperation extended to me during my tenure.

Tirupati LOC is always dedicated and famous for their Hospitality and Academic Excellence.

I wish the Local Organizing Committee, Dr. S. Surendra ,Dr T .Indira and Team TOS all the best for making the event a Grand Success.

With Best Wishes

VVL Narasimha Rao
President, APOS

PRESIDENT ELECT MESSAGE



DR C.S.SANDHYA MS

Greetings from Tirupati ophthalmology society. We are pleased to host the 9th Annual meeting of the Andhra Pradesh ophthalmic society in Tirupati from 13th-15th of September 2024. I would like you to take a moment to recognize the significance of the city.

Tirupati, located in the southeastern state of Andhra Pradesh, India, is more than just a town; it is a place of immense cultural, spiritual, and economic importance. It is widely known for being home to the **Tirumala Venkateswara Temple**, one of the most revered and visited pilgrimage sites in the world. This temple draws millions of devotees from across the globe each year. It is considered a powerful center for spiritual enlightenment and devotion, making Tirupati a beacon of faith and spirituality.

Tirupati is not only significant for its religious heritage but it is also a key economic and educational hub. The town has witnessed remarkable development over the years, with a growing infrastructure and various research centers that contribute significantly to education and innovation in the region. The town and its surroundings offer a unique blend of spiritual solace and scenic landscapes, making it a perfect place for both reflection and exploration.

Tirupati also serves as a symbol of harmony, where people from different backgrounds and cultures come together in a spirit of devotion and unity. It is a place where traditions are preserved and celebrated, making it an ideal setting for our conference. I encourage you all to explore this remarkable town, experience its unique culture, and take back with you a piece of its timeless wisdom.

Yours

Dr. C.S. Sandhya



Message from the Secretary's Desk

Dear Friends,

On behalf of the Andhra Pradesh Ophthalmic Society (APOS) and the Local Organising Committee (LOC) of Tirupati Eye Con 2024, it is our pleasure to warmly invite you to our annual conference in the holy city of Tirupati, the abode of Lord Venkateswara. We are delighted to return to Tirupati after nearly a decade, where we began our journey with the first annual conference post the bifurcation of Andhra Pradesh in 2015. Since then, we have conducted many successful conferences across various regions of the state, and it is exciting to be back to seek his blessings once again.

We extend our sincere gratitude to the LOC for their enthusiastic acceptance to host the 9th annual conference. APOS and LOC are working closely to establish standardized systems for the smooth conduct of future conferences while adhering to all statutory requirements. The LOC has embraced this challenge to make the event a grand success in every aspect. We are already seeing tremendous response, with over 500 scientific submissions, a record registration of more than 1,100 delegates, and an overwhelming response for trade stall bookings.

The APOS and LOC, along with all subcommittees, are diligently working to ensure a rich learning experience for all attendees. The APOS Scientific Committee, led by Dr. Madhu Uddaraju and his team, is crafting a unique program with diverse topics designed to cater to both postgraduate students and general practitioners. For the first time, the APOS ARC Committee has been tasked with conducting wet labs and skill transfer sessions, specifically aimed at benefiting postgraduates.

Tirupati offers ample accommodation in various categories, and adequate transport facilities are being arranged to ensure convenient access to the venue. The venue provides ample space and a pleasant ambiance, ensuring a comfortable experience throughout the three days of the conference. The LOC is also planning special programs and local delicacies, particularly for the gala dinner on the 14th night to showcase the region's flavours. Efforts are also underway to secure tickets for Lord Venkateswara's Dharshan, with the hope that many delegates will receive his blessings.

We are deeply grateful for the overwhelming response from trade exhibitors, whose support is essential in making this event a one-stop solution for delegates seeking resources for their routine practice.

APOS and LOC once again welcomes you to the temple city of Tirupati, with the theme of "Knowledge with Purpose and Perspective" and we wish you a memorable and enriching conference.

Warm regards,
Dr. C. V. Gopala Raju
Secretary, APOS

CHAIRMAN
LOCAL ORGANISING COMMITTEE



DR S.SURENDRA MD AIIMS
Chairman
Local organising committee
Tirupati eyecon 2024

Dear Colleagues

Dear members of APOS, Greetings to you. I feel privileged to welcome you all to the 9th Andhra Pradesh Ophthalmological Conference 2024 on 13th, 14th and 15th Sep 2024 being held at temple town of Tirupati, the foothills of the Holy place Lord Sri Venkateswara.

To bring out this conference as a grand splendid victory the Organising Committee worked in Multi faced manner. The conference is organised in such a way as to share and exchange the views and news in the field of modern ophthalmology.

I must appreciate Dr V.V.L. Narasimha Rao, President of APOS and Secretary Dr C.V. Gopala Raju and team who are leaving no stone unturned with their utmost devotion and sincerity to make the conference a memorable one in all aspects. Our efforts will be rewarded only with our active participation to make the conference a glorious and memorable one.

With warm regards

Yours sincerely

Dr S. Surendra

SECRETARY
LOCAL ORGANISING COMMITTEE



Tirupati EyeCon2024

Namasthe / Vanakkam and warm Greetings from TOS.

It gives me immense pleasure to extend a warm welcome from TOS to all the guests and delegates to the 9th Annual conference APOS being held at the abode of lord Venkateswara Tirupati, Spiritual and Cultural HUB from 13th to 15th September 2024.

This conference promises to be a memorable one to interact, meet your old friends, learn, and enrich your academic and practical skills. This will give an opportunity to meet eminent ophthalmologists from all over AP, and abroad.

I sincerely appreciate APOS team Dr. V. V. L. Narasimha Rao Garu Dr. C.V. Gopal Raju Garu and Dr. Madhu Uddharaju Garu and LOC advisors and team for their collective and commendable efforts in making this conference a grand success.

Hence, I request all of you to take part actively in full strength to share your knowledge and ideas for bright and better future.

Share knowledge and care for your future .

Yours sincerely

Dr. T. Indira,
Organising secretary- TOS.

CHAIRMAN SCIENTIFIC COMMITTEE



Tirupathi Eyecon 2024 - The 9th Annual Conference of Andhra Pradesh Ophthalmic Society is great amalgamation of cutting edge science, new knowledge and unmatched hospitality of Rayalaseema.

The scientific program in this conference has 3 Orations and 10 Star lectures by stellar national guest faculty from reputed institutes of India and abroad. We also have several named competitive free papers, posters and video presentations just like every year. This was a well curated and one of the finely structured program by our Founder Scientific Chairman and now Hon Gen Secretary Dr C V Gopala Raju Sir.

We have changed the e poster presentations to Poster podium presentations to give podium presence to new speakers.

This year we have newly added sessions like Teachers of Tomorrow, 2 Minutes to win & Photography Competition apart from the prestigious AIOS National Symposium.

This year we had a record number of abstract submissions crossing the 550 mark and we have strived hard to accept all the submissions in one form or other. We have designed a comprehensive 3-day program that is awaiting 6 CME credits from APMC.

Deferred live surgeries, Ophthalmic premier league and Newer concepts in Ophthalmology sessions will give first hand experience of newer technologies and expertise of handling challenging cases by seasoned surgeons from our fraternity.

Wet lab sessions will also add to the hands on experience of residents in gaining critical clinical and surgical skills.

I thank the executive committee of APOS, my strong team of scientific committee & exemplary Local organizing committee for supporting me every possible way in this educational endeavor.

I wish this Tirupathi Eyecon 2024 a grand success and hope that it will stay as great memory for all of us

Best regards

Madhu Uddaraju

Chairman Scientific Committee

CHAIRMAN ARC APOS



I am honoured to communicate with you as chairman of ARC APOS with interest in recent updates for PG academics. I step into this role from 2023 to bring advances in the field of Ophthalmology to every postgraduate in AP. Our programmes are also useful for professional development of post graduate. We are conducting CMEs in association with district committees and providing sub speciality programmes for students of that area. Quality of Academics is our top priority to buildup interest and enhance student skills and capabilities. We are helping the students by introducing Hands on programme to encourage the students communicate with the faculty.

I thank all the APOS Executive committee members and ARC members for their help and support.

Prof Dr G.Chandrasekhar

Chairman ARC APOS

LOCAL ORGANISING COMMITTEE



TIRUPATI EYECON 2024

9th ANNUAL CONFERENCE OF ANDHRA PRADESH OPHTHALMIC SOCIETY

13th -15 th September 2024

TIRUPATI-517501 , A.P

ORGANISED BY TIRUPATI OPHTHALMOLOGY SOCIETY

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TIRUMALA TEMPLE

Lord Venkateswara Temple is an important Vaishnavite temple situated in the hill town of Tirumala in Tirupati district of Andhra Pradesh, built by a Tamil king Tondaiman and later expanded and renovated under the Chola and Vijayanagara Empire. The Temple is dedicated to Lord Venkateswara, an incarnation of Vishnu, who is believed to have appeared here to save mankind from the trials and troubles of Kali Yuga. It is one of the most celebrated pilgrimage centers in India and it attracts millions of devotees every year.

The temple is situated atop the Tirumala Hills which consists of seven peaks known as Saptagiri at an altitude of 3,200 feet. The seven peaks represent the seven hoods of Adishesha, the serpent on whom lies Lord Vishnu. The temple lies on the seventh peak-Venkatadri and is constructed in South Indian Tamil Architectural Style

The seven Hills of Tirumala are ;

1.Vrushabadri Hill– Hill of Nandi

2.Anjanadri– Hill of Lord Hanuman

3.Neeladri– Hill of Neela Devi

Neela Devi (or Neela Devi) is the third consort of Lord Vishnu, the other two being Sridevi and Bhudevi. In Paramapadam (Sri Vaikuntham) Sri devi is seated to the right of the Lord, and Bhudevi and Neela devi to His left. The first devotee who gave her hair to god is Neeladevi. Lord Srinivasa named this hill by her name as Neeladri.. Giving our hair to god is the symbol of leaving our ego. The word “Talanelalu” also came from her name.

4.Garudadri– Hill of Garuda, the Vahana of Lord Vishnu

5.Seshadri– Hill of Sesha, The dasa of Lord Vishnu

6.Naraynadri– Hill of Narayana (Vishnu)

7.Venkatadri– Hill of Lord Venkateswara

The Garbhagruha (Sanctum Sanctorum) is called Ananda Nilayam. The presiding deity, Lord Venkateswara, is in standing posture and faces east in

Garbha Gruha. There are three dvarams (entrances) which lead to the garbhagriha from outside.

Mahadvaram, also known as padikavali, is the first entrance which is provided through Mahaprakaram (outer compound wall). A 50 feet, five storied Gopuram (Temple tower) is constructed over this Mahadvaram with seven kalasams at its apex.

Vendivakili (Silver Entrance), also known as Nadimipadikavali, is the second entrance and is provided through Sampangi Prakaram (Inner compound wall). A three storied Gopuram is constructed over Vendivakili with seven Kalasams at its apex.

Bangaruvakili (golden entrance) is the third entrance which leads into the garbhagriha. There are two tall copper images of the dvarapalakas Jaya-Vijaya on either side of this door. The thick wooden door is covered with gold gilt plates depicting the Dashavatara of Vishnu.



Tirumala Tirupati Devasthanams (TTD) is the trust board which oversees and manages the operations of Tirumala Venkateswara Temple. It is operated by a board of trustees that has increased in size from five (1951) to eighteen (2015) through the adoption of Acts. The daily operation and management of TTD is the responsibility of an executive officer, who is appointed by

the Government of Andhra Pradesh. The temple attracts approximately 75,000 pilgrims every day

BEST PLACES TO VISIT IN TIRUMALA

LORD VENKATESWARA TEMPLE



SILATHORANAM



SRIVARI PAADALU



AKASAGANGA



PAPAVINASANAM



WILD LIFE SANCTUARY



CHAKRA THEERTHAM



PUSHKARINI



VARAHASWAMY TEMPLE





TTD GARDEN



MUSEUM



LEGENDS IN OPHTHALMOLOGY

Sir Nicholas Harold Lloyd Ridley

1906 -2001

Recognition, honors and awards

Gullstrand Medal

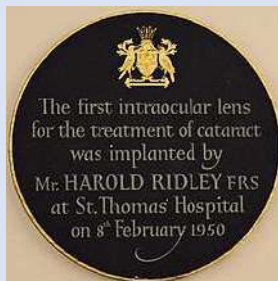
1992

Gonin Medal

1994

**Knight Bachelor for
pioneering services
to cataract surgery**

1999



During World War II, Ridley saw Royal Air Force casualties with eye injuries,. Ridley observed that when splinters of acrylic plastic from aircraft cockpit canopies became lodged in their eyes, this did not trigger inflammatory rejection as did glass splinters. This led him to propose the use of artificial lenses to treat cataract.

On 8 February 1950 he left an artificial lens permanently in place in an eye.



**Professor Sohan Singh Hayreh MD, MS
(Punjab), PhD (London), DSc (London),
FRCS (England & Edinburgh), FRCOphth
(Hon).**

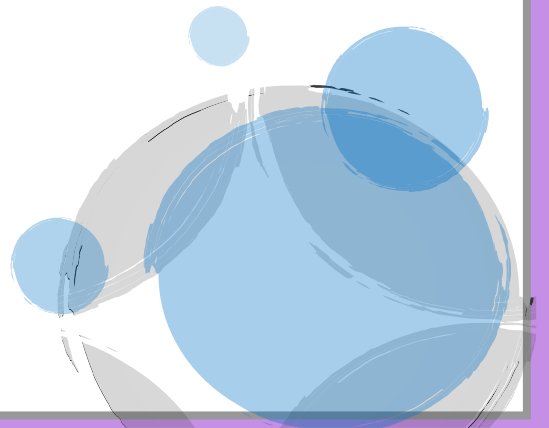
*In 1987, the University of London, in recognition of his research as “original and seminal in nature”, awarded him its highest and most prestigious degree of Doctor of Science in Medicine **(He was the first ophthalmologist to be awarded that).***

In 2009 the Royal College of Ophthalmologists conferred on him their Honorary Fellowship, their highest honor, for his contributions to ophthalmology.

Professor Sohan Singh Hayreh is a clinical scientist, and has made multifaceted, exhaustive ophthalmic research contributions in the most important blinding disorders since 1955.

He was born on November 6, 1927 in a small village in the Punjab.. He was the first Indian to be selected for Beit Memorial Research Fellowship in Medical Sciences, the highly-coveted research fellowship in medical sciences in the United Kingdom. He has made significant, pioneering scientific seminal contributions in ocular vascular occlusive disorders, glaucoma and optic nerve disorders, which collectively constitute the most common cause of visual loss or impairment. His research has changed basic concepts about these diseases and their management.

The story of his life is a shining example for an adventurous young ophthalmologist to try and emulate.



PROFESSOR HARMINDER SINGH DUA CBE FRCS



Professor Harminder Singh Dua CBE FRCS (Punjabi: born in Jalandhar, Punjab, India) is an Indian-British medical doctor and researcher.

He is the chair and professor of ophthalmology at University of Nottingham and is the head of the Division of Ophthalmology and Visual Sciences.

ACHIEVEMENTS:

- Co-editor in chief of the British Journal of Ophthalmology.
- President of EuCornea, the European society of Cornea and Ocular surface disease specialists.
- President of the EVERf (European Association for Vision and Eye Research Foundation)
- He was elected to the chair of Academia Ophthalmologica Internationalis and invited to join as member of the American Ophthalmological Society by thesis.
- In March 2011 he was elected president of the Royal College of Ophthalmologists, UK commencing his duties on 25 May 2011.
- He has over 200 research publications, 20 published letters, and 14 book chapters to his credit.
- Dua was appointed Commander of the Order of the British Empire (CBE) in the 2019 Birthday Honours for services to eye healthcare, health education and ophthalmology.
- In March 2021 he was appointed to the ceremonial post of Sheriff of Nottingham for 2021-22.

DISCOVERY OF DUA'S LAYER:

In a 2013 paper, Dua and others at the University of Nottingham reported discovery of a previously unknown layer of the human cornea measuring just 15 micrometres thick between the corneal stroma and Descemet's membrane.— They refer to the reported layer as Dua's layer.

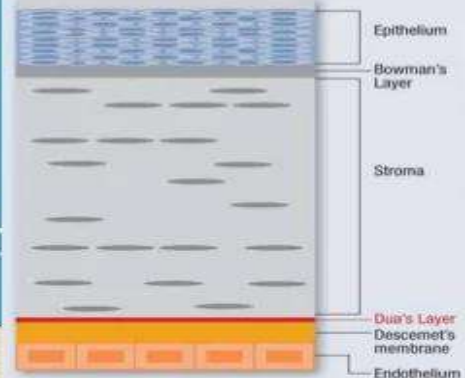
In 2001, he proposed Dua classification for chemical injuries in eye.

Dua's layer

- ❖ 15 μ m thick
- ❖ Between corneal stroma and Descemet's membrane
- ❖ Strong and impervious to air.
- ❖ It doesn't extend to the periphery
- ❖ Primarily type –I collagen.

Six Layers of the Cornea?

A recent paper identifies a sixth corneal layer—Dua's layer—between the posterior stroma and Descemet's membrane.



Pre-Descemet's layer (PDL): Clinical applications and pathology

Descemet's membrane detachment: DM does not split!



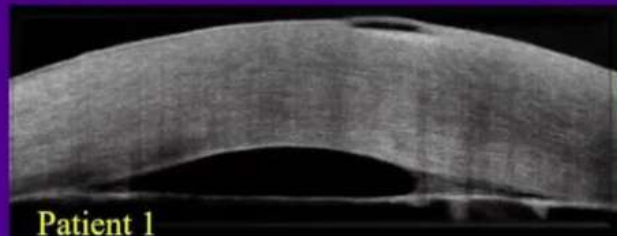
Type 1



Type 2



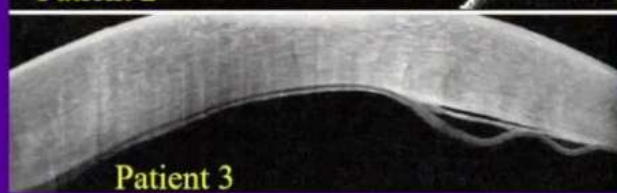
Mixed



Patient 1



Patient 2



Patient 3

Dua HS, Sinha R, D'Souza S, et al. Am J Ophthalmol. 2020 Oct;218:84-98



BEYOND SCREENS

TIPS TO PREVENT MYOPIA PROGRESSION IN CHILDREN



1. Outdoor activities

Active participation of parents. Engaging in outdoor activities with the child encourages the child to spend more time outside.

Explore fresh play grounds once in 15 days adds an element of excitement.

Cultivate sporting interests by challenging them to a game or join a sports activity together.

Encourage outdoor exploration by seeking out new hiking trails.

Set up an encouraging scavenger hunt :It promotes outdoor play and also creates interest in outdoor activities



2. Life style advices

a. Indoor and near work activity

- ☐ Taking regular breaks
- ☐ Appropriate reading distances without head tilt
- ☐ Near-to-distance fixation changes while reading with sufficient outdoor activities.

What causes myopia?

There are two main factors which can mean your child is more at risk of developing myopia:

Genetics

The risk of myopia in children increases when parents are myopic.²
The risk is nearly:

1 in 2

When both parents are myopic.

1 in 3

When one parent is myopic.

1 in 4

When neither parent is myopic.

Lifestyle

Modern lifestyles may influence the development of myopia:

Low levels of outdoor activity.^{1,4}

Prolonged near tasks such as reading and gaming on portable devices.^{1,5}

Poor lighting levels.^{1,7}

Signs to look out for.^{5,6,7}

Distance vision becoming blurry.

Moving closer to the TV.

Reduced performance at school.

Complaints of headaches or tired eyes.

Squinting.

In many cases, there will be no signs at all.

Options for managing myopia.

Regular glasses and contact lenses
These can help your child see clearly and will often need updating frequently as they have little or no effect on slowing down the speed of myopia progression.^{8,9}

Myopia management contact lenses
Introducing MiSight® 1 day, a soft daily disposable contact lens with a special optical design that allows children to see clearly, while slowing down myopia progression by more than half.^{10,11}

b.Screen time :

- ☐ No close-up screen use for children up to 2 years old
- ☐ Maximum 1 h day, for children up to 5 years
- ☐ Maximum of 2 h day for children aged 5–12 years.
- ☐ Avoid close reading distance (20–25 cm) and continuous reading (>45 min)
- ☐ Avoid head tilt
- ☐ Closer nib-to-fingertip distance (which means greater head tilt) have been associated with greater odds of myopia progression.

3.Time spent outdoors and lighting

- Spending time outdoors appears to have a protective effect against myopia onset but not for myopic progression.
- A minimum of 8 to 15 h of outdoor activity per week is recommended for school aged children
- A minimum of 8 to 15 h of outdoor activity per week is recommended for school aged children to achieve clinically meaningful protection from myopiagenic stimuli.
- To maximise indoor lighting use incandescent light bulbs rather than fluorescent or LED lighting.

4.Glasses :

- a.Single vision correction glasses
- b.Myopic defocus lenses
- c.Pressive lenses

Encourage child to wear the glasses regularly.

5.Healthy diet habits

To Trust or Not to Trust: The AI Dilemma in a Brave New World

Vyjayanthi Cheedella

Artificial intelligence (AI) is rapidly transforming various sectors, from healthcare and finance to education and entertainment. Its ability to process vast amounts of data, learn from patterns, and make decisions is revolutionizing how we live and work.

However, with these advancements come both benefits and cautions that are important to understand.

Benefits of AI

Some of the areas in healthcare that are seeing significant advances are:

- medical imaging and diagnostics
- personalized medicine
- drug discovery and development
- virtual health assistants and telemedicine
- robotic surgery
- natural language processing in clinical documentation
- remote monitoring and wearables
- genomics and precision medicine
- mental health
- training of healthcare professionals

AI's ability to enhance efficiency is being demonstrated in manufacturing where AI powered robots can perform tasks faster and with great precision than humans. AI's ability to analyze large datasets helps in identifying patterns which is valuable in finance to predict market trends, assess risks and optimize investment strategies.

AI powered tools like speech recognition, language translation can help people with disabilities interact more easily with the digital world, creating more opportunities for everyone.

In conclusion, AI offers remarkable benefits that can drive progress in many fields, but it also comes with substantial risks that require careful consideration. It is crucial to strike a balance between harnessing its potential and mitigating its dangers. Developing robust ethical frameworks and regulations to ensure that AI serves humanity's best interests is critical.

Where has AI proven ineffective?

IBM's Watson was designed to assist oncologists by recommending cancer treatments but they did not follow clinical guidelines.

Google Health AI was developed to detect diabetic retinopathy. While the results were promising, operational challenges and clinical workflow disruptions are preventing its use.

At Duke University Hospital, AI was used to predict the onset of sepsis. It generated a high number of false positive alerts overwhelming clinicians.

An Electronic Health Record AI for predicting hospital readmissions was developed. The predictions were inaccurate and the AI model was not able to fill-in gaps when the data was incomplete making it unreliable.

What are the cautions in AI use?

One of the prominent concerns of using AI is the risk of bias. If the data used by AI is biased, decisions and predictions can be biased as well leading to unfair treatment in hiring, law enforcement and lending etc.

Privacy is another issue. AI requires vast amounts of data to function effectively, much of which is personal information leading to significant privacy concerns.

Job displacement is another aspect of AI that must be carefully considered. As AI systems become more capable, they may replace human workers in certain roles, leading to unemployment and economic disruption.

AI decision-making. As AI becomes more autonomous, it raises questions about accountability. The lack of clear regulations and ethical guidelines around AI use is a significant concern.

Understanding Digital Eye Strain: A Growing Concern in the Digital Age

Dr P.sreelakshmi MS
Assistant professor of Ophthalmology
S.V.Medical College
Tirupati

Introduction

In today's world, digital devices have become integral to our daily lives, whether for work, education, or entertainment. However, with the increased use of screens comes a growing concern: Digital Eye Strain (DES), also known as Computer Vision Syndrome (CVS).

What is Digital Eye Strain?

American Optometric Association defined - Digital eye strain or Computer vision syndrome (CVS) as a "group of eye and vision-related problems that results from prolonged usage of computers, tablets, e-readers, and cell phones which causes increased stress to near vision in particular". It is a temporary condition, but with the ever-increasing screen time, the symptoms can become persistent and impact overall well-being.

Digital eye strain (DES) affects 90% of people who spend 3hrs or more a day at a computer. COVID-19 pandemic has resulted in an upsurge in the symptoms of digital eye strain amongst most individuals irrespective of age, sex, race, or region, with prevalence ranging from 5 to 65% in pre-COVID-19 studies to 80–94% in the COVID-19 era.

Common Symptoms:

Digital Eye Strain manifests in various ways, with symptoms that may vary in severity. Common symptoms include:

- Eye discomfort or irritation
- Blurred or double vision
- Headaches
- Dry eyes
- Neck and shoulder pain
- Difficulty in concentrating
- *New onset myopia and or even myopia progression especially in children*

Causes of Digital Eye Strain –

Several factors contribute to DES, including:

- **Prolonged Screen Time:** Extended use of digital devices for more than 3 hrs without breaks
- **Poor Lighting Conditions and Suboptimal properties of the digital device:** Inadequate lighting or glare from screens can exacerbate eye strain, making it difficult for the eyes to focus.

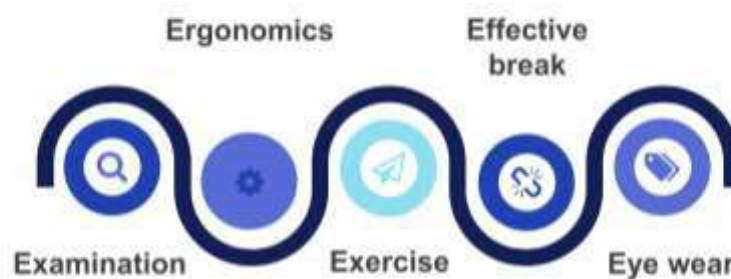
- **Poor position in relation to computer and Improper Viewing Distance:** Sitting too close or too far from the screen can cause the eyes to work harder, leading to discomfort.
- **Uncorrected Refractive errors:** Individuals with undiagnosed and uncorrected refractive errors may experience more severe symptoms.
- **Pre-existent Ocular surface pathologies**

Digital device usage of more than 3h/day, underlying refractive errors, female gender, and prior dry eyes are the most significant risk factors predisposing to DES.

Prevention and Management

Awareness related to effects of excess screen time, ergonomic practices, and preventive measures needs to be spread especially among teachers, youngsters, and professionals exposed to excessive or prolonged screen time.

Management options:



Follow the 20-20-20 Rule: Every 20 minutes, look away from the screen and focus on something 20 feet away for 20 seconds and blink 20 times. This allows the eyes to relax and to return to their natural position and baseline settings. In addition, a 2 hours of outdoor play each day to stimulate the healthy development of the focusing system of children's eyes and ward off nearsightedness.

Adjust Display Settings: Adjust the screen settings to match the brightness of working environment, ensuring a high contrast between the screen background and text. Ideal text size is three times larger than the smallest readable size at a close distance to reduce eye strain. The effectiveness of anti-glare screens, anti-fatigue lenses, and blue-blocking filters is still controversial and needs to be further explored.

Encourage regular eye examinations that include refraction, binocular vision assessment, and tear film evaluation. Evaluating blink rate is also crucial for diagnosing and treating computer vision syndrome (CVS). Additionally, subjective assessments using tools like the Computer Vision Syndrome Questionnaire (CVS-Q) are valuable for comprehensive evaluation.

Promote good posture by following the *Wellness-Wednesday sitting guidelines*, which recommend proper seating and viewing angles. The middle of the computer screen should be about 20 degrees below eye level. Additionally, use the "1, 2, 10" rule for optimal screen distances: keep cell phones and e-books at one foot (30 cm), computers at two feet (60 cm), and televisions at ten feet (3 meters) away to minimize strain.

Limit the screen time by establishing screen-free zones and designated times. According to the American Academy of Paediatrics, screen time recommendations for children are as follows: infants and toddlers should have limited or no screen time; preschoolers (ages 3-5) should have no more than one hour per day; and school-age children should have no more than two hours per day. Further, to limit screen time in educational settings, the PRAGYATA guidelines for digital education, released by the Ministry of Human Resource Development, India (MHRD), provide recommendations for managing screen exposure in schools.

Blink Regularly: The normal blink rate is 16-20 per minute. Blink rate decreases to as slow as 6-8 blinks/minute focusing on the computer screen. Make a conscious effort to blink while working on screens. Blinking keeps the front surface of the eye moist. Lubricating eye drops help in soothing the eyes and relieving irritation, redness and eye strain,

Computer glasses: Reading glasses are not best solution for computer. *Reading glasses are prescribed to read at a distance of 16"-18", but computer glasses are usually designed to work at 18"-28"*. Computer eyeglasses, often referred to as computer or blue light glasses, are designed to reduce eye strain and improve comfort during prolonged screen use. These glasses typically have lenses that filter out blue light emitted by screens, which can help reduce digital eye strain and improve sleep quality by minimizing exposure to blue light, especially in the evening. Some also feature anti-reflective coatings to reduce glare from digital screens..

Innovations in this field include high-resolution screens, inbuilt antireflective coating, matte finished glass, edge-to-edge displays, and image smoothening graphic effects.

Further explorations should focus on recommendations for digital screen optimization, novel spectacle lens technologies (*Occupational Progressive Lenses, OPL*), and inbuilt filters to optimize visual comfort.

Conclusion

Digital Eye Strain (DES) is a growing concern in our increasingly digital world, affecting people of all ages and backgrounds. As we continue to rely on screens for work, education, and leisure, it is essential to understand the causes and symptoms of DES to mitigate its impact on our eye health. By adopting preventive measures such as regular eye exams, proper ergonomics, the 20-20-20 rule, and appropriate screen settings, we can significantly reduce the risk of developing DES. Staying informed about the latest developments in eye care, including the use of specialized eyewear and new technologies, will help us maintain healthy vision and enhance our overall well-being in a digital age.

Assessment of refractive error

Cycloplegic refraction is a rule in children due to the presence of strong accommodation.

Assessment of visual acuity

Less than 2.5 years: Fixation and following movements, preferential looking charts (Cardiff cards), objection to cover.

2.5 years to 4 years: Symbol / Alphabet matching cards (e.g., Allens, HOTV, Lea symbols)

Above 4 years: Snellen's / LogMAR chart

Complete eye examination

- ☐ Cover test
- ☐ Extraocular movements
- ☐ Convergence
- ☐ Anterior segment
- ☐ Fundus examination
- ☐ Complete squint examination is done if strabismus is detected.

PRESCRIPTION OF GLASSES IN CHILDREN

Refractive error is the most common cause of reduced vision in children, affecting 2 to 11% of the population below 16 years of age. Prescribing glasses for children is always a challenge due to limited cooperation, low reliability in vision assessment, and risk of amblyopia.

Factors to consider prior to prescription of glasses

The refractive status of a child is constantly changing with age.

Neonates are normally hypermetropic, with minimal astigmatism. This hypermetropia is usually symmetrical, which is usually less than 4 D. The astigmatism is also less than 2 D.

Both the hypermetropia and astigmatism reduce with age. This emmetropization has to be taken into account with regard to age and refractive error.

Taking into account the visual

needs of a child, hypermetropia is corrected earlier than myopia

Also, risk of amblyopia is dependent on the magnitude of the refractive error, type of refractive error

(lesser risk in myopes, as near vision is clear), as well as age of the child.





The cycloplegic agents most commonly used are as follows:

Atropine (1%) eye ointment is the strongest cycloplegic agent, which is instilled twice a day for three days prior to refraction in children. Atropine eye drops have a higher chance of being absorbed systemically via the nasolacrimal passage and so ointment is preferred in children

Alternative drops :

cyclopentolate (1%) eye drops instilled twice followed by tropicamide (0.8%) with phenylephrine (5%) eye drops, once, at 5 minute intervals. Retinoscopy should be performed about 45 minutes after the first drop is instilled.

RULES OF PRESCRIPTION

Hypermetropia :

Children have a strong accommodation, which can overcome minimal amounts of hypermetropia with ease.

The amount of hypermetropia that needs to be corrected depends on the age although a power of around 5 D needs to be corrected due to the risks of amblyopia.

Hypermetropia with esotropia

Even smaller amounts (> 1.5 D) of hypermetropia should be corrected by prescribing the full cycloplegic correction.

Refractive accommodative esotropia commonly occurs in the age range of two to four years. Esotropia is often intermittent to begin with and can then progress to a constant strabismus over time

REFER TO THE AMERICAN ASSOCIATION FOR PEDIATRIC OPHTHALMOLOGY AND STRABISMUS (AAPOS) GUIDELINES FOR GLASSES PRESCRIPTION IN CHILDREN(1998)

Astigmatism

Astigmatism cannot be overcome by accommodation, and thus, any cylindrical power above 1.5 to 2 D can be amblyogenic. Cylindrical powers beyond this range should be prescribed, again based on the age of the child. As opposed to adults the total cylindrical power is prescribed in children with the aim of correcting both the meridians entirely, thus preventing any chance of amblyopia. Children accept high cylindrical powers far more easily than adults and no attempt to undercorrect should be made, at least in the younger children.

As long as there is no esotropia, a mild undercorrection (reduce by 0.75D) can be prescribed, to allow for some accommodation to occur.

Undercorrection should always be equally done in both eyes, as accommodation is a binocular phenomenon. It is thus extremely

important to perform a cover test in all children with hypermetropia, to rule out the presence of esotropia. If the accommodation is weak, then a full cycloplegic correction is considered

Anisometropia

Hypermetropic anisometropia is more amblyogenic than myopic anisometropia. A difference of > 1.5 D of hypermetropia is considered amblyogenic and should be prescribed early.

Myopia on the other hand can be overcome by accommodation and a myopic Anisometropia of up to 3 D can be considered as a very low risk of amblyopia. Thus, any difference beyond 3 D should be prescribed early.

Astigmatism of 1.5 D is also amblyogenic and should be prescribed early.

Myopia

3-5 D: Does not pose a high risk of amblyopia, as near vision is almost always unaffected except in the high myopes. **The prescription of glasses in low myopes is best done at a pre school age of three to four years, as this is the age the children start having significant hours of distant viewing.**

Prescription of glasses should be considered earlier if the power is beyond the range of 3 to 5 D. The aim is to prescribe the lowest minus power needed for best visual acuity and over-correction should definitely be avoided.



ATROPINE DROPS FOR CONTROL OF MYOPIA

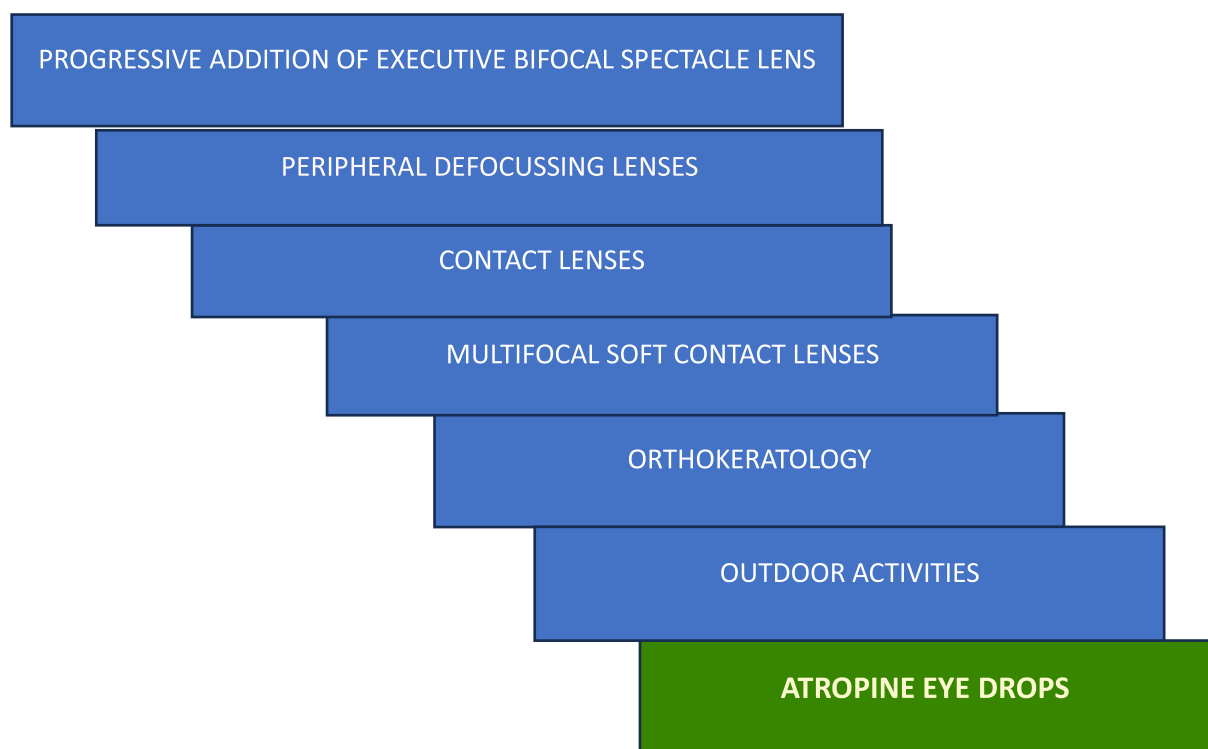
Dr C.jagannath MS;DO

INTRODUCTION

Myopia is recognized as a significant global public health issue, expected to affect an increasing number of people in the next decades. The prevalence of myopia is increasing extensively worldwide and it has become an emerging public health challenge.

Recent estimate projects that by 2050, almost 5 billion (50%) individuals of the world population will suffer from myopia.

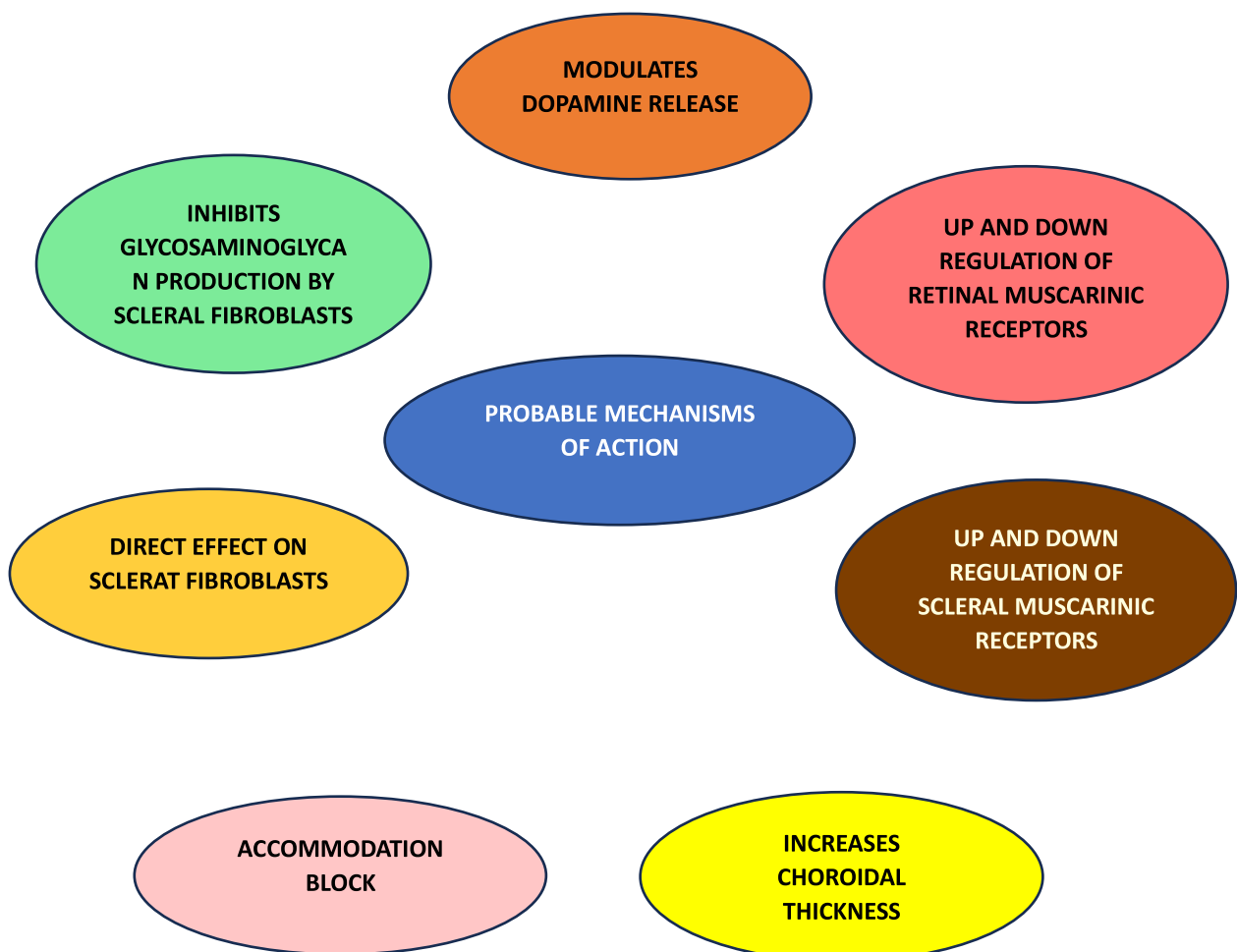
OPTIONS FOR RETARDING MYOPIA PROGRESSION



Atropine is the most effective medication that has been demonstrated to be consistently effective in slowing myopia progression . Atropine is a natural alkaloid occurring in plants of the Solanaceae family and is mostly extracted from *Atropa belladonna*.It acts by blocking the muscarinic receptors(M receptors)

from stimulation by the neurotransmitter acetylcholine, as a competitive antagonist. It does not interfere with the release of acetylcholine in the nerve endings. The action takes place at nerve endings without blocking the transmission of impulses along the nerve fibers .It acts in myopes by slowing down axial length progression.

MECHANISM OF ACTION



CLINICAL STUDIES

ATOM I STUDY

Atropine for the Treatment of Childhood Myopia” (ATOM 1) study
conducted by Chua et al. in 2006 using 1% drops once daily.

ATOM 2 STUDY

In 2012, the ATOM2 study evaluated the optimal concentration of atropine eye drops required to arrest progression of myopia

ATOM 2 -PHASE 3 STUDY

In the last phase of ATOM2 (phase 3), all children with myopia progression of 0.50 D or more in the washout year were restarted on atropine 0.01% for a further 24 months

LAMP 1

Low concentration of Atropine for Myopia Progression. The LAMP study provides the strongest evidence in favor of low concentration of atropine to halt myopia progression.

LAMP (PHASE 2)

To evaluate the efficacy and safety of 0.05%, 0.025%, and 0.01% atropine eye drops over 2 years to determine which is the optimal concentration for longer-term myopia control.

CHAMP

CHAMP phase 3 study show that atropine 0.01% “meaningfully slowed” myopia progression in paediatric patients with myopia over a 36-month period,

GTAM

“Group of Atropine Treatment for Myopia Control (GTAM)” - multicentric pediatric Spanish cohort Study. The study concluded that atropine 0.01% is effective and safe for myopia progression .

DOSAGE :

For children aged 6-10 years with myopia of at least 1D and myopia progression of at least 0.50D per year, the WHO recommends atropine as a potential first line treatment for myopia.

TREAT CHILDREN WITH ATROPINE 0.01% FOR 2 YEARS

Good response : Almost no myopic progression (<0.5D over 2 nd year)	Moderate response: Myopic progression of 0.5-1.0D over the 2 nd year	Poor response : Myopic progression of >1D over 2 nd year.
Taper and stop Atropine	Continue Atropine for further 2 years. Then taper and stop Atropine	May be a non responder. Consider taper and stop atropine.

Follow subject for 1 year post stopping Atropine.

Recommend Atropine if significant rebound and continue review.

Table from the WHO "The Impact of Myopia and High Myopia". Modified from the ATOM2 study.

SIDE EFFECTS:

1. Dilated pupil
2. Dreadful visual hallucinations
3. Photophobia
4. Accommodation paralysis and allergic response.

EYES WIDE OPEN

Hari Kota

Your eyes are not just the windows to your soul but also to the world around you. In today's digital age, where screens dominate much of our daily lives, eye care has become more crucial than ever. Fortunately, by incorporating the right foods, exercises, and lifestyle habits, you can maintain healthy eyes and protect your vision.

This article will explore how to care for your eyes holistically and share examples of individuals who have successfully improved their eye health.

Nutrition for Eye Health

One of the critical aspects of eye care is ensuring that your eyes receive the proper nutrients. A balanced diet rich in specific vitamins and minerals can play a vital role in preventing eye diseases and maintaining good vision:

Vitamin A: Essential for good vision, particularly in low light, vitamin A helps maintain a healthy cornea and can prevent night blindness. Foods rich in vitamin A include carrots, sweet potatoes, and leafy greens like spinach and kale. An example of vitamin A's impact is Dr. Chris Knobbe, an ophthalmologist who has extensively researched the role of diet in eye health. He advocates for a diet rich in vitamin A and other nutrients to combat age-related macular degeneration (AMD).

Vitamin C and E: These antioxidants protect the eyes from damage caused by free radicals, unstable molecules that can damage cells. A diet rich in oranges, strawberries, bell peppers, nuts, and seeds can provide these essential vitamins. A study conducted by the Age-Related Eye Disease Study (AREDS) found that high doses of vitamins C and E, along with zinc and beta-carotene, could significantly reduce the risk of developing advanced AMD.

Omega-3 Fatty Acids: Omega-3s, found in fish like salmon, flaxseeds, and walnuts, are crucial for maintaining the health of the retina and can reduce the risk of dry eyes. A well-known case is that of Dr. Michael Lange, an optometrist and certified nutrition specialist who has emphasized the importance of omega-3s in eye health. His research and personal practice highlight the role of these fatty acids in reducing the risk of dry eye syndrome and promoting overall eye health.

Lutein and Zeaxanthin: These carotenoids are found in high concentrations in the retina and protect against harmful blue light emitted by screens. They are abundant in green leafy vegetables, eggs, and corn. Dr. Johanna Seddon, an ophthalmologist known for her work in the field of nutrition and eye health, has conducted significant research demonstrating the protective effects of lutein and zeaxanthin against macular degeneration.

Zinc: Zinc is essential for transporting vitamin A from the liver to the retina, where it is converted into melanin, a protective pigment. Foods like oysters, beef, and pumpkin seeds are excellent sources of zinc. The AREDS study also highlighted the importance of zinc in reducing the risk of AMD, further supporting the need for a diet rich in this mineral.

Exercise and Yoga for Healthy Eyes

Just as the body benefits from physical exercise, so do the eyes. Regular eye exercises can improve focus, alleviate eye strain, and promote better eye health overall:

Palming: This simple exercise involves rubbing your hands together to generate warmth and then gently placing them over your closed eyes without pressing. It relaxes the eye muscles and relieves strain, especially after long hours of screen time. Palming has been popularized by various vision improvement programs, such as the Bates Method, which emphasizes relaxation techniques for better vision.

Blinking: Blinking is often overlooked, yet it plays a crucial role in maintaining moisture in the eyes and preventing dryness. Practicing frequent blinking, especially during prolonged screen use, can keep your eyes lubricated. Tim Ferriss, the author of "The 4-Hour Workweek," has mentioned incorporating frequent blinking into his routine to combat digital eye strain, which is increasingly common in our screen-driven world.

Eye Rolling: This exercise improves circulation and strengthens the eye muscles. Start by rolling your eyes in a circular motion, first clockwise, then counterclockwise. Eye rolling is a fundamental part of many vision therapy programs designed to improve eye muscle coordination and reduce strain.

Focus Shifting: Holding a pencil at arm's length, focus on it, then slowly bring it closer to your nose while maintaining focus. This exercise enhances your eyes' focusing ability and can help prevent presbyopia, a condition where the eye gradually loses the ability to focus on nearby objects. Dr. Jacob Liberman, an optometrist and author of "Take Off Your Glasses and See," advocates for focus-shifting exercises as part of his natural vision improvement approach.

To conclude, taking care of your eyes is a lifelong commitment that involves a balanced diet, regular exercise, and healthy lifestyle choices. By incorporating these practices into your daily routine, you can ensure that your eyes remain healthy, vibrant, and clear, allowing you to fully appreciate the world around you. With the right approach, you can protect and improve your vision, ensuring that your eyes serve you well for a lifetime.



Yoga for Eyes: Incorporating specific yoga poses into your routine can also benefit your eyes. The **Shavasana (Corpse Pose)** helps relax the entire body, including the eyes, and is essential for stress reduction, which directly impacts eye health. The **Bhramari Pranayama (Bee Breathing)** can reduce stress and improve vision by enhancing blood circulation to the eyes. Renowned yoga practitioner B.K.S. Iyengar included eye exercises in his teachings, emphasizing the connection between relaxation and improved vision.

Palming: This simple exercise involves rubbing your hands together to generate warmth and then gently placing them over your closed eyes without pressing. It relaxes the eye muscles and relieves strain, especially after long hours of screen time. Palming has been popularized by various vision improvement programs, such as the Bates Method, which emphasizes relaxation techniques for better vision.

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Hari Kota is a retired Chemical and Environmental Engineer based in the US with a passion for learning new technologies especially using AI and share knowledge with family and friends.

MEIBOGRAPHY

A stable tear film is essential to a healthy ocular surface. Tears are composed of three distinct layers:

- The superficial lipid layer prevents tear evaporation and is produced by the meibomian glands in the eyelid;
- The intermediate aqueous layer hydrates the ocular surface and is produced by the lacrimal (and accessory) gland in the superolateral orbit;
- Deep mucinous layer promotes adhesion of tears to the ocular surface and is produced by goblet cells embedded in the conjunctiva.

Meibomian glands play a significant role in tear production by contributing lipids to the superficial tear film. **Dysfunction of the meibomian glands destabilizes tears resulting in evaporative dry eye.**

DESCRIPTION OF THE MEIBOMIAN GLANDS

The posterior lamella of the eyelid hosts a fleet of meibomian glands situated between the palpebral conjunctiva and tarsal plate. A normal meibomian gland is approximately linear and 3–4 mm in length, traversing the posterior eyelid perpendicularly from the lid margin to the opposite edge of the tarsus.

DEFINITION OF MEIBOMIAN GLAND DYSFUNCTION

The International Workshop on Meibomian Gland Dysfunction formally defined it as a chronic, diffuse abnormality of the meibomian glands, commonly characterized by terminal duct obstruction and/or qualitative/quantitative changes in the glandular secretion. An optimum level of meibum expression is required for tear stability which allows for the division of MGD into two types:

1.Low delivery or obstructive-type MGD: Absence or hyposecretion of meibum results in a lipid-deficient tear film and evaporative dry eye.

2.High delivery or seborrheic-type MGD: Hypersecretion of meibum into the tear film incites an inflammatory reaction at the ocular surface resulting in symptoms of eye irritation. This form of MGD is less common .

LIST OF THE ANATOMICAL CHANGES THAT CAN OCCUR TO BOTH THE EYELID MARGINS AND THE MG ORIFICES IN PATIENTS WITH MGD

Eye lid margin changes	Change to the MG orifices
Thickening	Pouting or plugging
Rounding	Narrowing
Notching	Loss of cuffing definition
Telangiectasia	Opaque/scarred
Lash loss	Vascular invasion
Malposition	Retroplacement
Anterior blepharitis	
Changes to the mucocutaneous junction	

GRADING SCHEME TO EVALUATE THE MEIBUM AND GLAND OBSTRUCTION IN PATIENTS WITH MGD

Grading scheme

Description

0 All glands patent. Clear fluid is expressed.

- | | |
|---|--|
| 1 | One or two glands partially obstructed.
Clear to cloudy fluid is expelled on mild digital pressure. |
| 2 | Three or more partially obstructed glands.
Cloudy or opaque fluid is expelled on digital pressure. |
| 3 | One or two blocked glands with many partially obstructed glands.
Tear film foaming is noted along the lid margins. Inspissation noted; toothpaste-like expression with moderate to hard digital pressure. |
| 4 | Three or more blocked glands with the remaining glands partially obstructed.
Meibum difficult to express, even with hard digital pressure. |

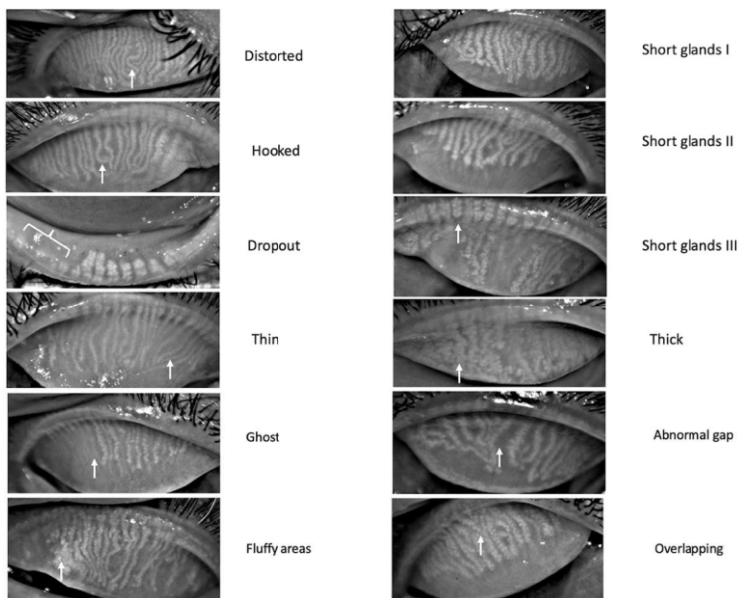
NORMATIVE AND ABNORMAL VALUES FOR THE DIAGNOSTIC TESTING PERFORMED IN THE EVALUATION OF PATIENTS WITH MGD

OBJECTIVE TEST	NORMATIVE VALUE
Expressibility of meibomian glands	All glands patent with clear fluid easily expressed
Anatomic changes to lid margin	Vascular engorgement, irregularity of lid margin, pouting and/or plugging of orifices, keratinization, displacement of mucocutaneous junction
Tear volume	Tear meniscus >10 μ m
Meibometry	>300 μ g in lower lid reservoir
Tear break up time	Normal, 15–45 seconds; borderline, 10–15 seconds; abnormal, <10 seconds
Ocular surface staining	Conjunctiva and cornea clear to NaFl and/or lissamine green/rose bengal, no displacement of Marx's line, no lid wiper epitheliopathy
Schirmer score (I/II)	Normal, .15 mm; borderline, 5–10 mm, abnormal, <5 mm after 5 minutes
Meibography	No gland loss, gland shortening, or irregularities (quantified using various scoring systems)

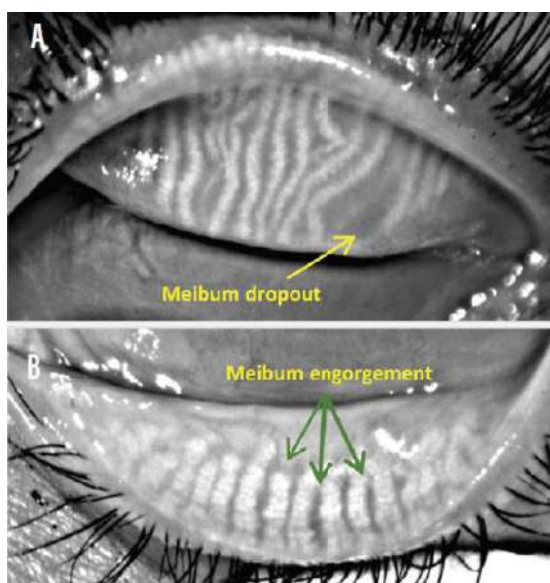
Abbreviation: MGD, meibomian gland dysfunction.

MEIBOGRAPHY

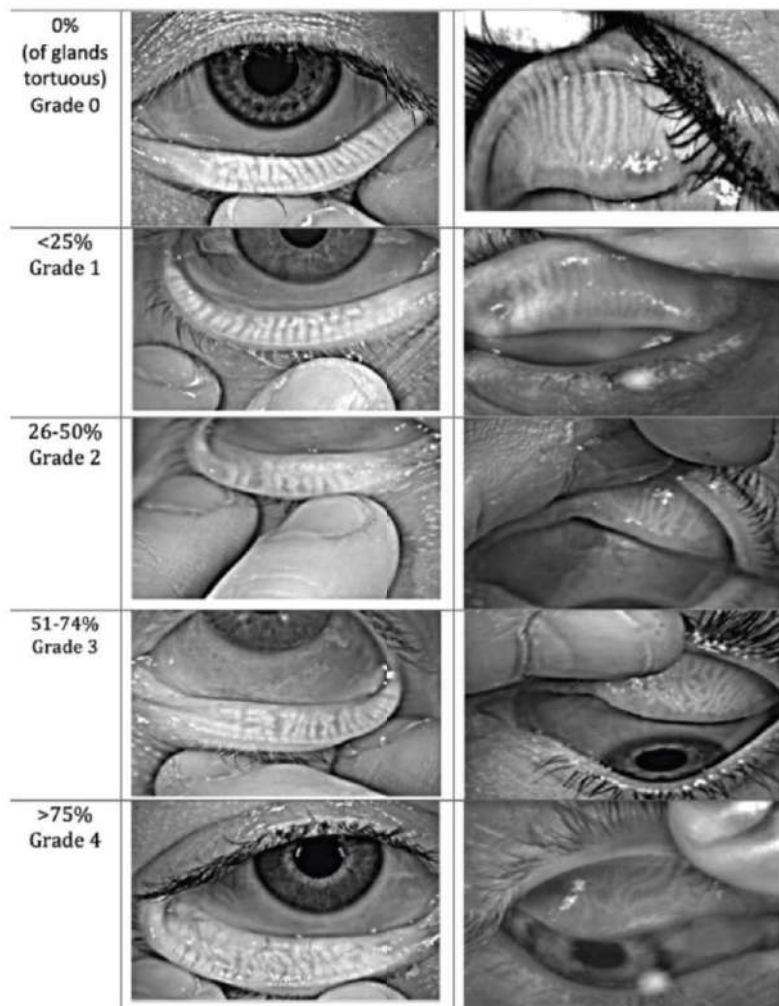
Meibography is a specialized imaging study developed exclusively for the purpose of directly visualizing the morphology of meibomian glands *in vivo*).



Different Meibomian gland morphologies detected on meibography. White arrows represent the glands involved with the respective morphologic changes.



GDADING OF MEIBOMIAN GLAND DYSFUNCTION



There are standardized grading scales by which to evaluate gland atrophy, gland tortuosity, and gland segmentation. Meibomian gland grading remains an inconsistent process and there are interobserver differences among experts in the field that highlight the need for a standardized approach and learning to accurately grade meibography images.

WHO AM I?

Dr. C.S. Sandhya

*To be yourself in a world that is constantly trying to make you something else is the greatest accomplishment ...***Ralph Waldo Emerson**

*Your life is a reflection of your thoughts. If you change your thinking, you change your life ...***Brian Tracy**

*To find yourself, think for yourself ...***Socrates**

The question "**Who am I?**" serves as a profound inquiry into personal identity and self-awareness. For healthcare professionals, understanding one's identity is crucial not only for personal growth but also for enhancing patient care and professional interactions. This reflective essay will explore the various dimensions of identity, including personal experiences, professional roles, and aspirations.

Personal identity encompasses the unique combination of experiences, beliefs, and values that shape who we are. Each healthcare professional brings a distinct background to their practice, influenced by factors such as culture, education, and life experiences. For instance, my journey into medicine began with a fascination for biology and a desire to help others. This intrinsic motivation has guided my career choices and shaped my interactions with patients. Understanding my motivations helps me connect with patients on a deeper level, fostering empathy and trust.

Aspirations and goals are critical components of our identities. As healthcare professionals, we often set ambitious objectives to improve our skills, expand our knowledge, and enhance patient care. For instance, I aspire to specialize further in my field and contribute to research that addresses pressing health issues. This goal not only reflects my commitment to professional growth but also aligns with my desire to make a meaningful impact on patient outcomes.

Engaging in reflective practice is essential for understanding our identities. By taking the time to reflect on our experiences, values, and aspirations, we can gain insights that inform our professional development. Reflective exercises can facilitate discussions about identity among participants. Sharing personal stories and professional journeys can foster connections and promote a sense of community among healthcare providers. These collective reflections can lead to enhanced collaboration and improved patient care.

To sum it up, the question "Who am I?" is a vital exploration for healthcare professionals and it is a continuous journey of self-discovery. Our identities are shaped by personal experiences, professional roles, relationships, and aspirations. Engaging in educational activities provides opportunities for reflection and growth, reinforcing our commitment to lifelong learning and high-quality patient care. Through this reflective process, I recognize that my identity is not static; it is a dynamic tapestry woven from the threads of my past, present, and future.

RINGS AND LINES IN OPHTHALMOLOGY

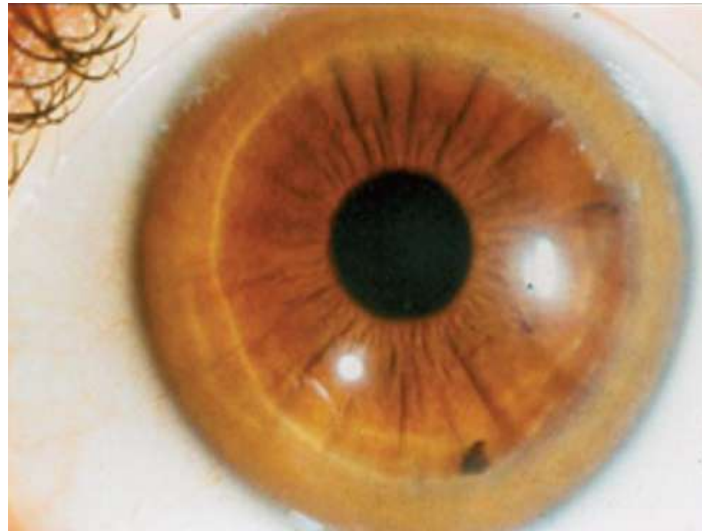
Dr Asma

Asst professor of ophthalmology

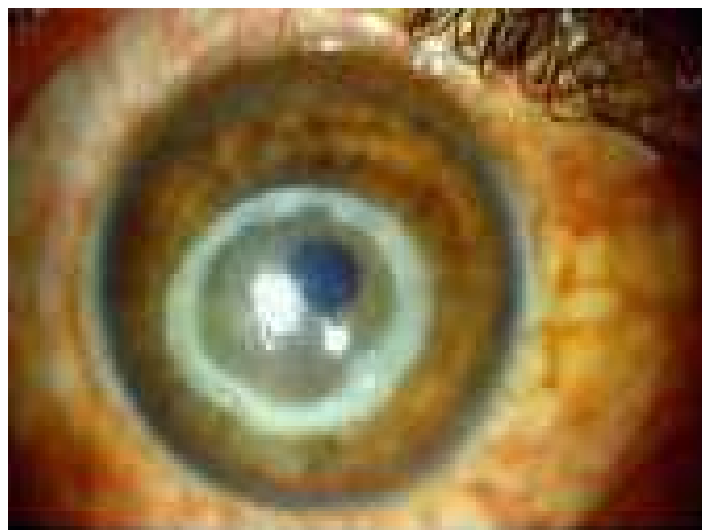
RIMS ,Kadapa

CORNEA

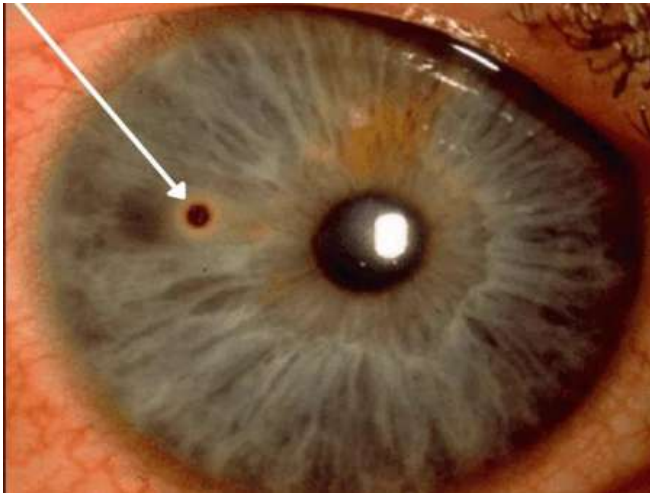
KEYSER -FLEISCHER RING SEEN IN
WILSONS DISEASE DUE TO DEPOSITION OF
COPPER IN DESCEMETS MEMBRANE



RING ABSCESS SEEN IN ACANTHAMOEBA
KERATITIS



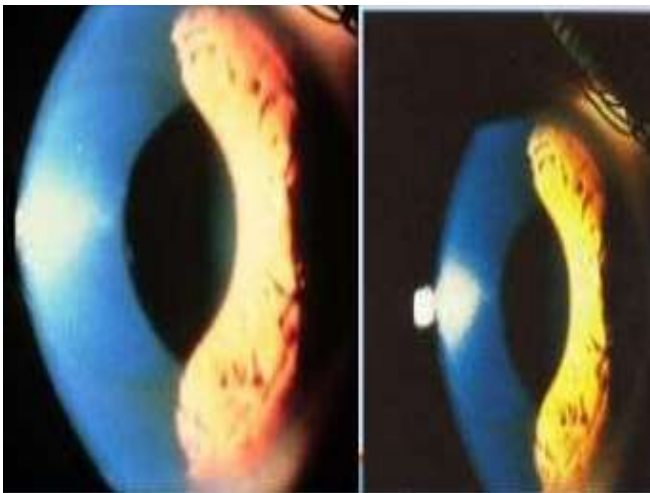
CORNEAL RUST RING SEEN SOMETIMES
AFTER REMOVAL OF IRON FOREIGN BODY



COAT'S WHITE RING : ASSOCIATED WITH
PREVIOUS CORNEAL FOREIGN BODY
REMOVAL



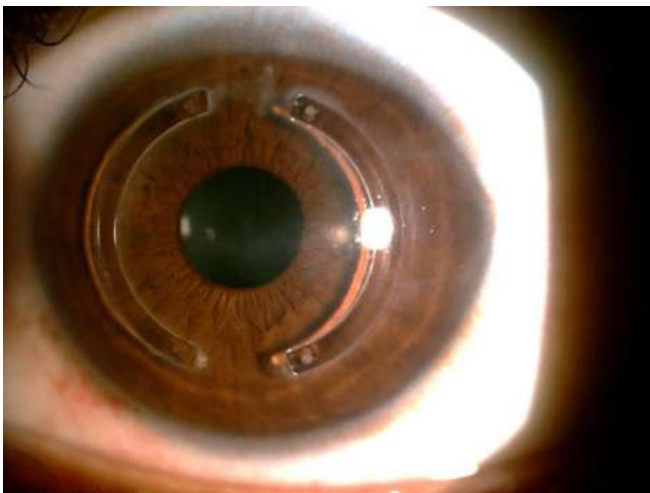
FLEISCHER'S RING SEEN IN KERATOCONUS
DUE TO DEPOSITION OF IRON IN BOWMANS
MEMBRANE



WISSELEY'S IMMUNE RING SEEN IN
CORNEAL STROMA IN FUNGAL KERATITIS

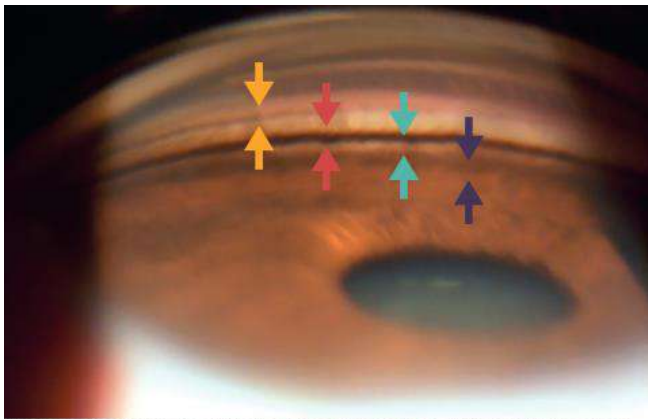


- KERA RINGS : INTRACORNEAL RING
SEGMENTS USED TO FLATTEN CORNEA
IN KERATOCONUS



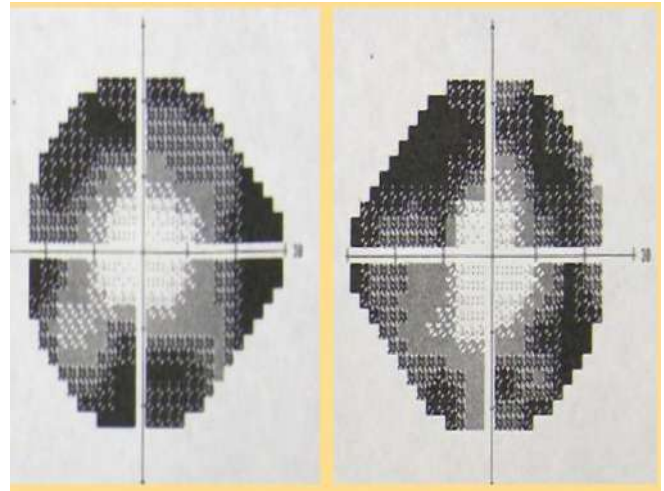
PSEUDO FLEISHERS RING DUE TO
DEPOSITION OF BILIRUBIN IN
POSTERIOR CORNEAL STROMA IN
PATIENTS WITH HIGH BILIRUBIN LEVELS

SCHWALBE'S RING : SCHWALBE'S LINE
SOMETIMES IS CALLED SCHWALBE'S RING
INDICATES TERMINATION OF DESCMET'S
MEMBRANE



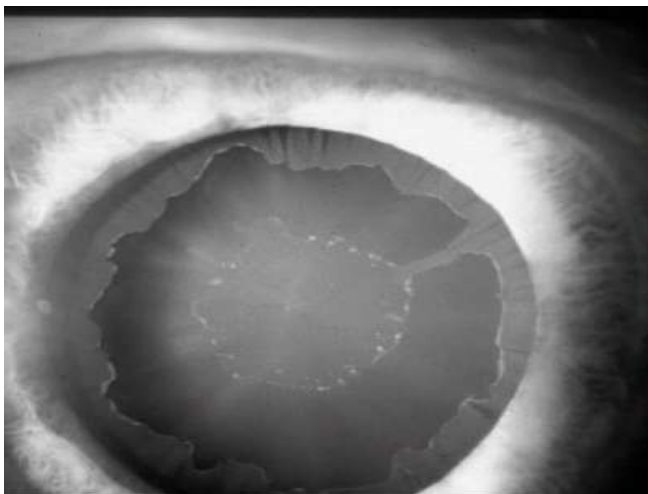
An open angle showing the ciliary body band (between the purple arrows), the scleral spur (between the blue arrows), the functional trabecular meshwork (between the red arrows) and Schwalbe's line (between the yellow arrows).

RING SCOTOMA : (ANNULAR SCOTOMA)
VISUAL FIELD DEFECT SEEN IN ADVANCED
GLAUCOMA AND RETINITIS PIGMENTOSA

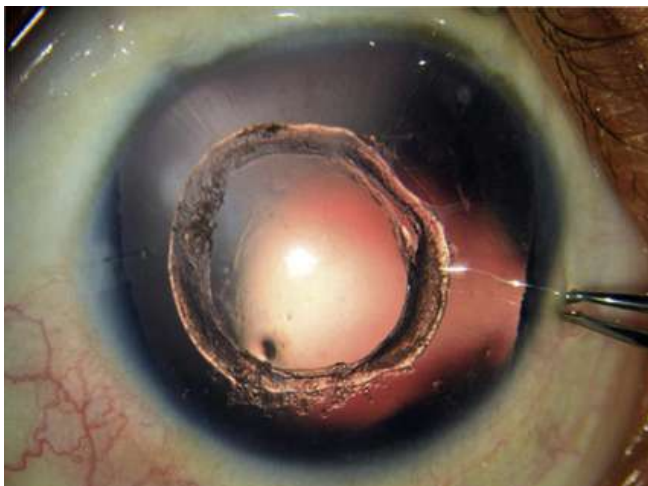


LENS

HOARFROST RING IS PXF DEPOSITS ON
THE ANTERIOR LENS CAPSULE.



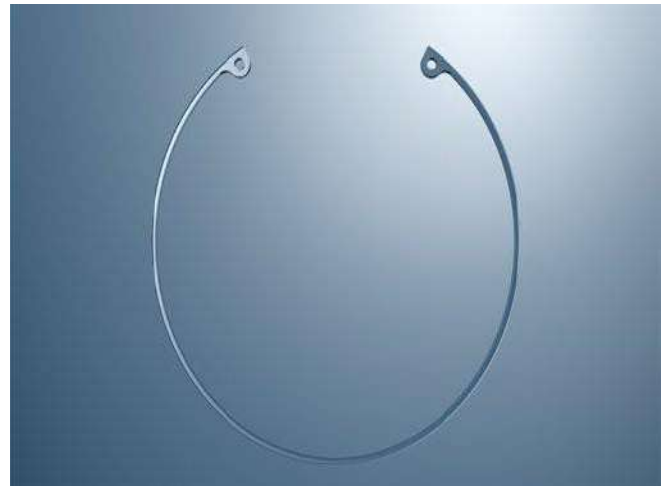
RING OF SOMMERRING FORMED BY
PROLIFERATION OF RETAINED
EQUATORIAL EPITHELIAL CELLS



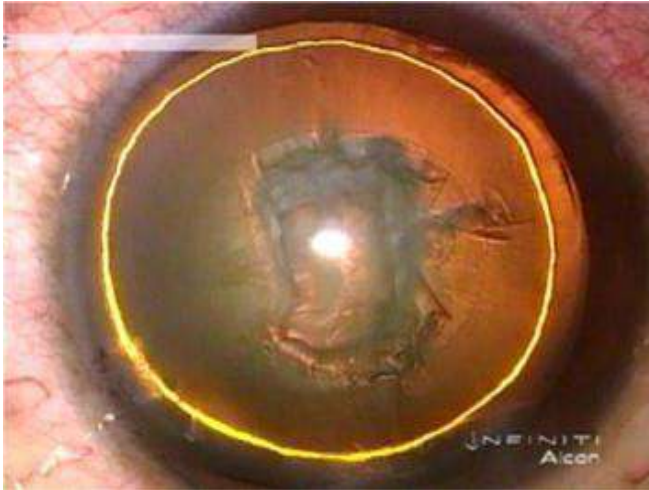
- **VOSSIUS RING** SEEN ON THE ANTERIOR
LENS SURFACE IN BLUNT TRAUMA DUE TO
DEPOSITION OF IRIS PIGMENT



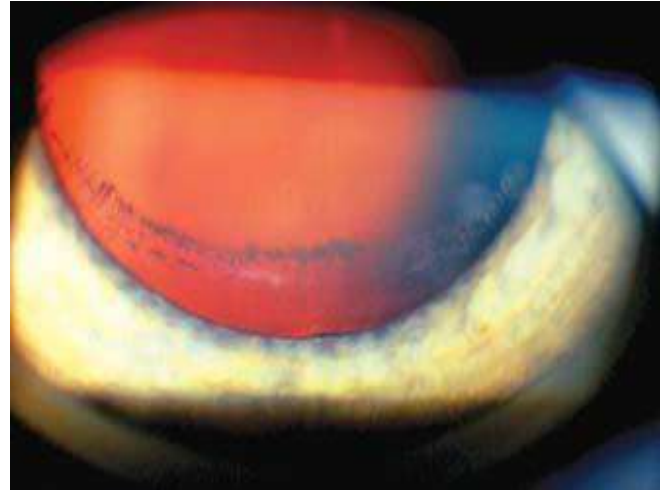
CAPSULAR TENSION RING :ARTIFICIAL
DEVICE USED TO SUPPORT CAPSULAR
BAG IN ZONULAR DIALYSIS



GOLDEN RING SIGN IN
HYDRODELINEATION

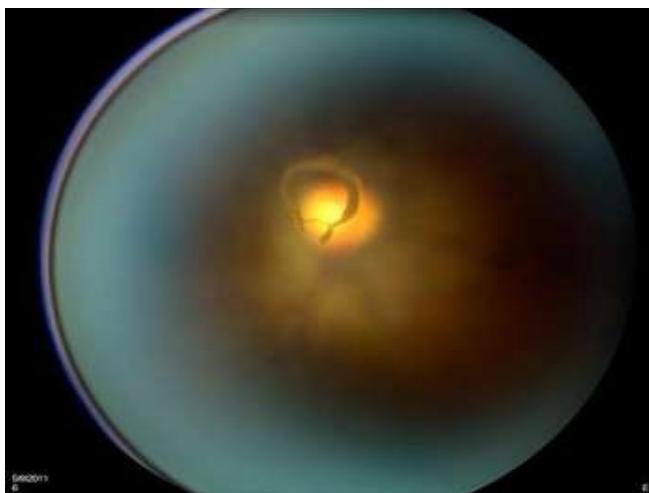


ZENTMAYER'S RING :PIGMENT ON
POSTERIOR LENS SURFACE
PATHOGNOMONIC OF PIGMENT
DISPERSION SYNDROME

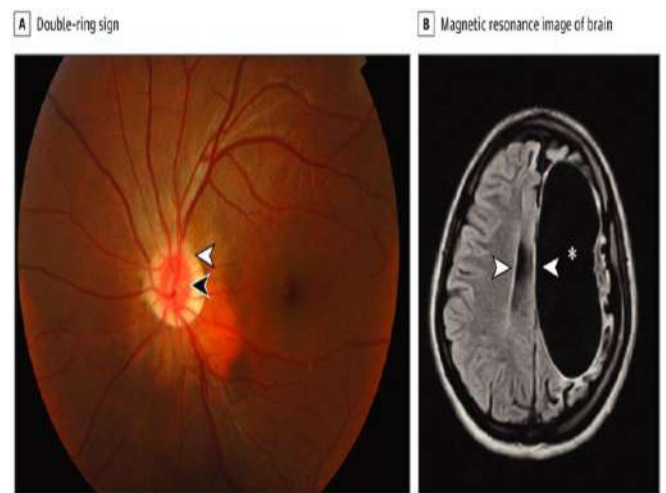


RETINA

WEISS RING: LARGE CIRCULAR FLOATER
INDICATING PVD



DOUBLE RING SIGN SEEN IN OPTIC
NERVE HYPOPLASIA

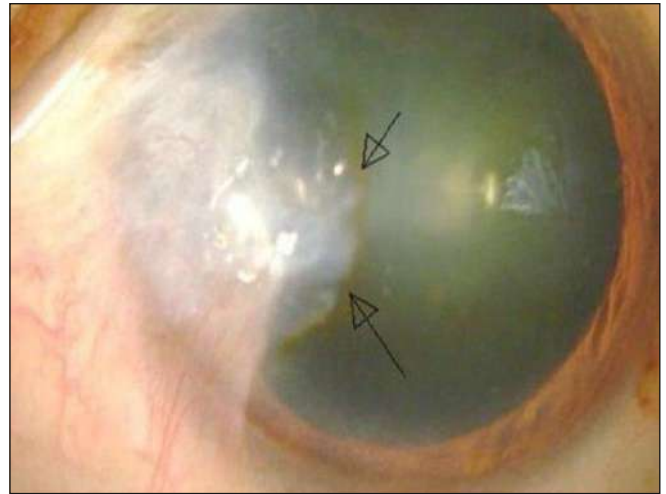


LINES IN OPHTHALMOLOGY

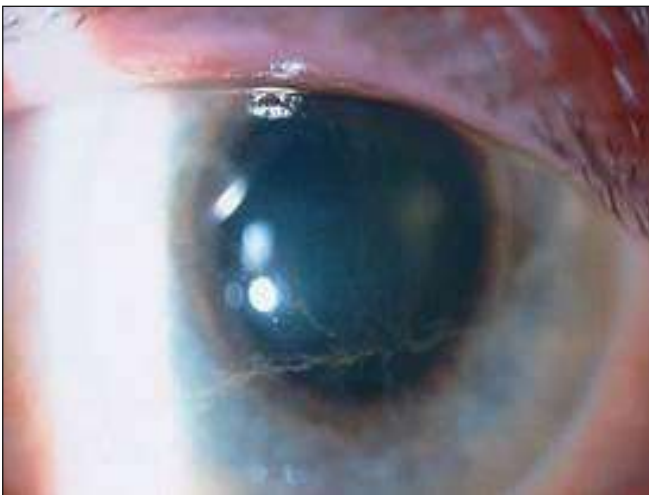
ARLT'S LINE :CONJUNCTIVAL SCAR SEEN IN TRACHOMA.



STOCKER LINE: : CORNEAL EPITHELIAL IRON LINE SEEN AT THE EDGE OF PTERYGIUM.



HUDSON-STÄHLI LINE:DEPOSITION OF IRON IN THE CORNEAL EPITHELIUM



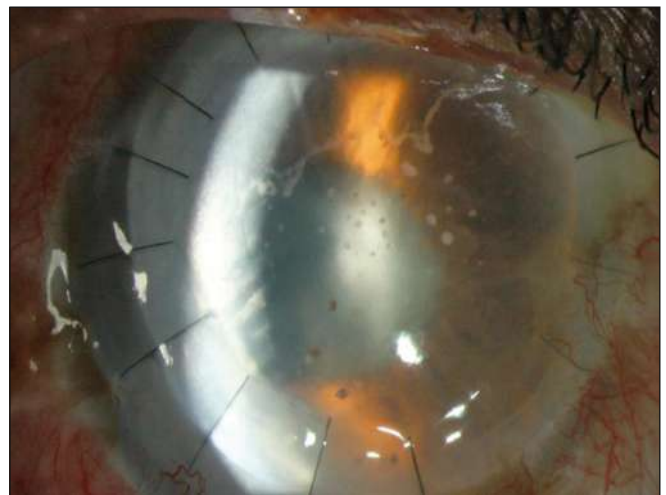
FERRY LINE : IRON LINE INFRONT OF FILTERING BLEB



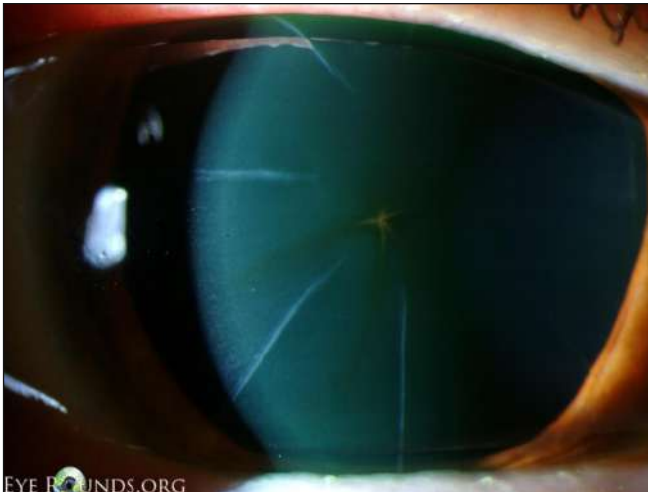
- **FLEISHER LINE SEEN AT THE BASE OF CONE IN KERATOCONUS**



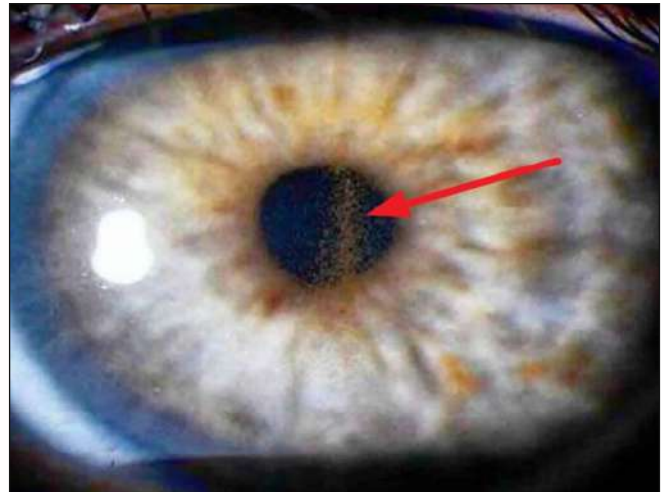
K LINE (KHODADAUST'S LINE): CORNEAL GRAFT ENDOTHELIAL REJECTION LINE COMPOSED OF INFLAMMATORY CELLS



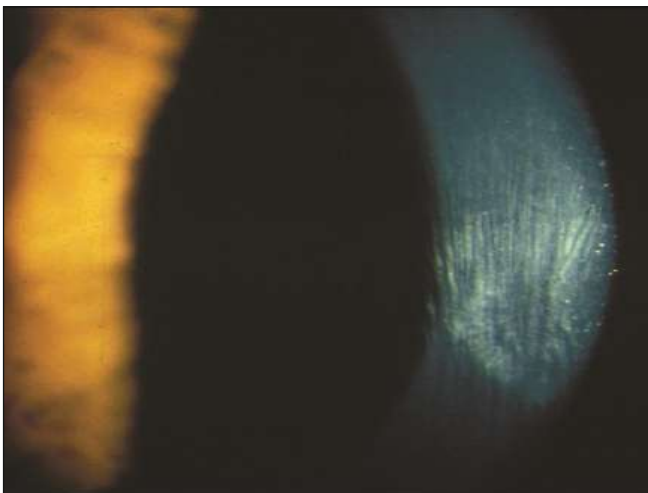
WARING LINE: STELLATE CORNEAL
EPITHELIAL IRON DEPOSITION IN RK
EYES



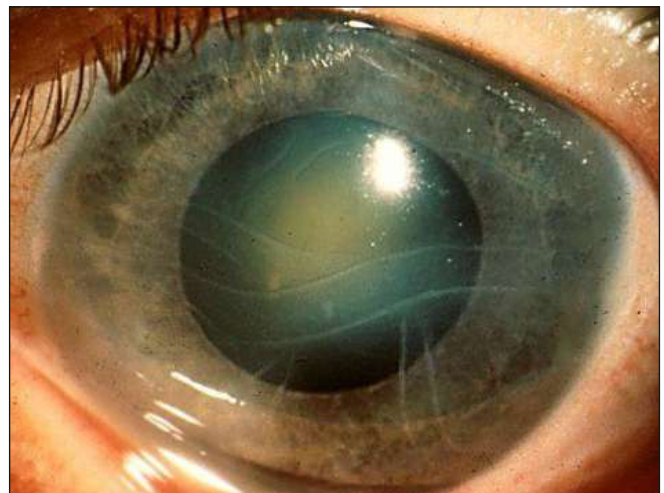
EHRlich –TURK LINE : VERTICAL
LINEAR DEPOSITION OF KPS ON
CORNEAL ENDOTHELIUM IN UVEITIS



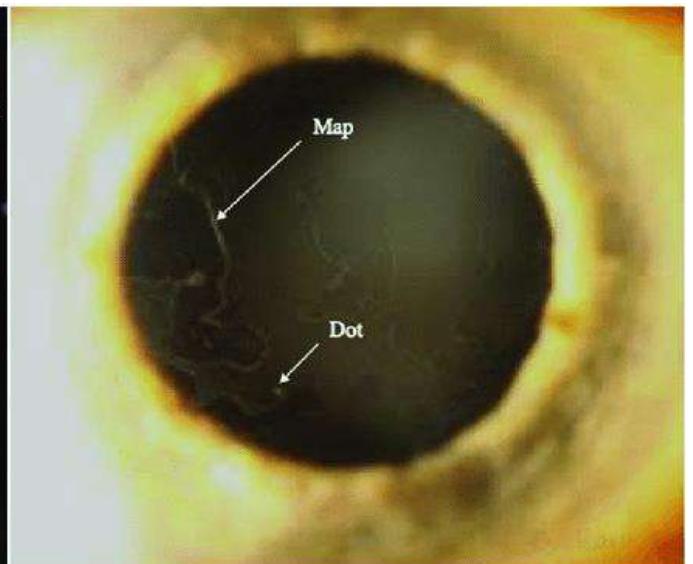
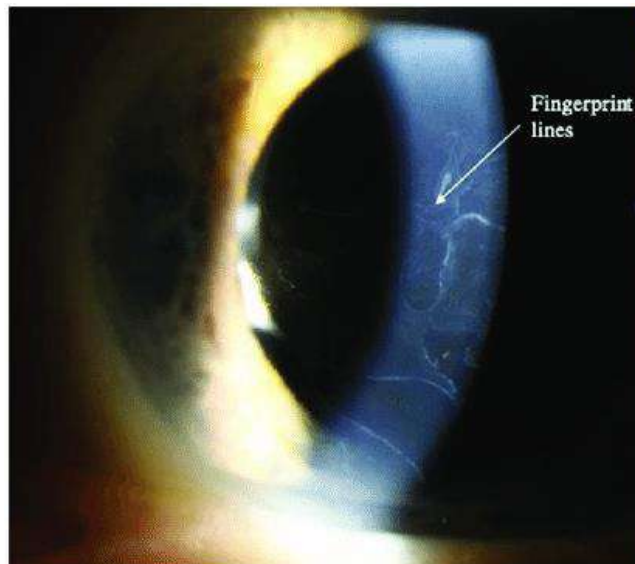
VOGT STRIAE: TEARS IN DESCMET'S
MEMBRANE SEEN IN KERATOCONUS



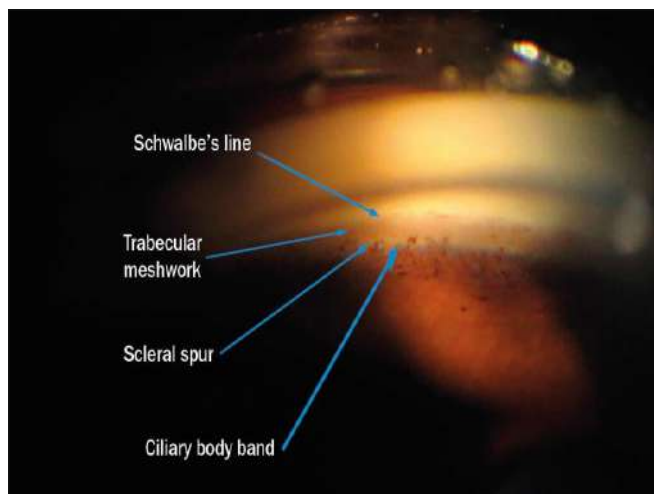
- HAAB STRIAE: HAAB'S STRIAE
HORIZONTAL BREAKS IN THE
DESCMET MEMBRANE ASSOCIATED
WITH CONGENITAL GLAUCOMA



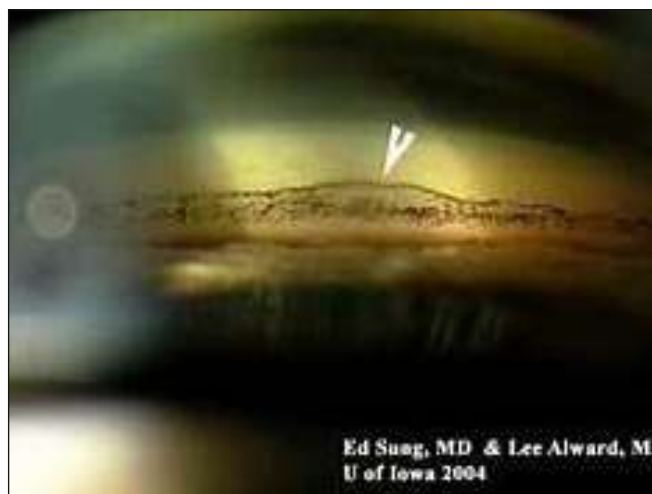
FINGER PRINT LINES: SEEN IN MAP DOT
FINGER PRINT DYSTROPHY



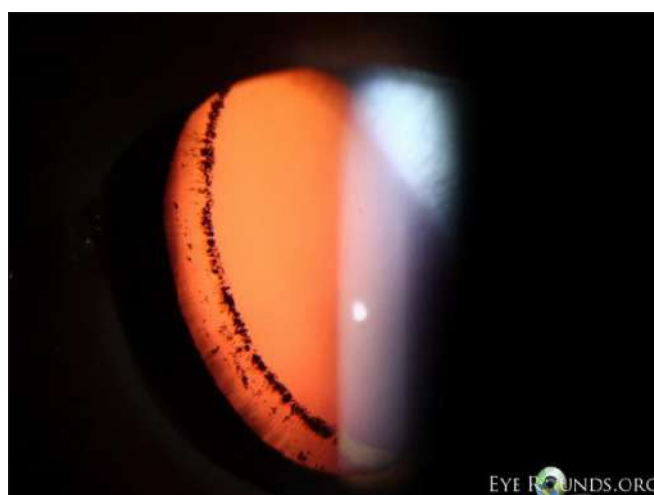
SCHWALBE'S LINE: SEEN GONIOSCOPICALLY AND INDICATES TERMINATION OF DESCMET'S MEMBRANE



- SAMPAOLESI'S LINE: PIGMENT DEPOSITION ALONG SCHWALBE'S LINE



SCHEIE'S LINE : PIGMENT LINE ON POSTERIOR LENS SURFACE SEEN IN PIGMENT DISPERSION SYNDROME .



PATON'S LINE: CIRCUMFERENTIAL LINES TEMPORAL TO THE OPTIC DISC SEEN IN EARLY PAPPALAEDEMA



- WHITE LINES OF VOGT: SHEATHED OR SCLEROTIC VESSELS IN LATTICE DEGENERATION



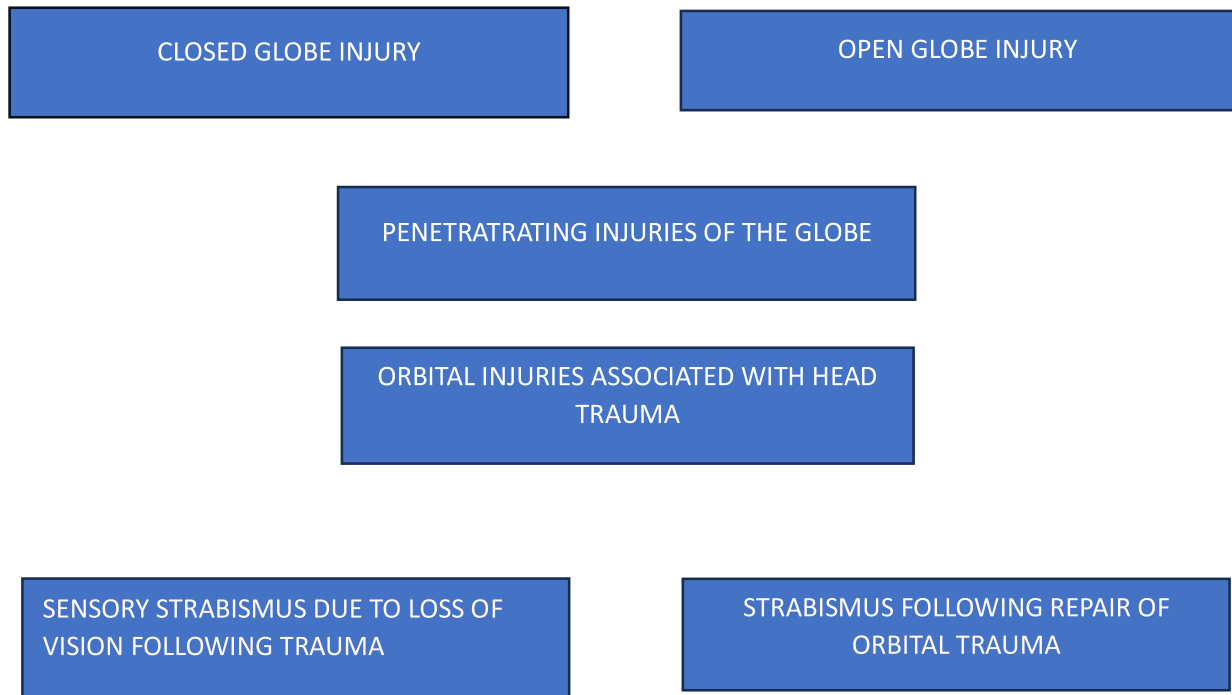
SCHLAGEL LINES: MULTIPLE YELLOW LESIONS ARRANGED IN CLUMPS OR LINEAR STREAKS IN MULTIFOCAL CHOROIDITIS



STRABISMUS IN ORBITAL TRAUMA

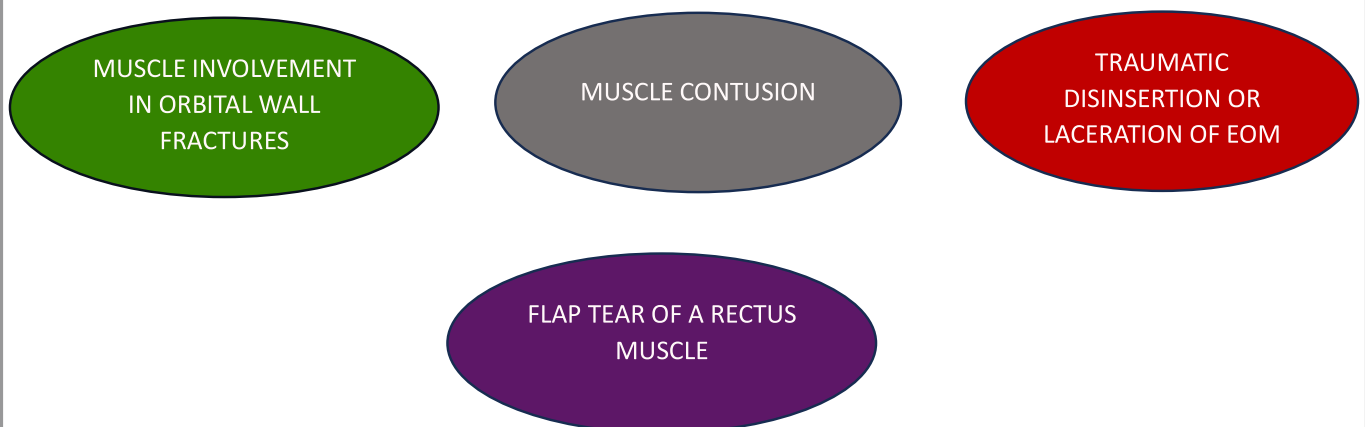
Dr V.V.Praveen kumar
Asst professor of Ophthalmology
ACSR Govt Medical College, Nellore

CAUSES OF MUSCLE INVOLVEMENT



TYPES OF EXTRAOCULAR MUSCLE TRAUMA

There are 4 basic mechanisms that can affect the extraocular muscles in the event of trauma and produce strabismus:



The muscles more commonly affected are the inferior rectus, the inferior oblique, the medial rectus, and the superior oblique. Superior rectus and lateral rectus are very infrequently injured by orbital wall fractures.

EVALUATION OF A PATIENT WITH SUSPECTED EXTRAOCULAR MUSCLE INJURY

1. Evaluation of ocular motility

- a. Ocular ductions and versions : should be carefully evaluated to determine the presence of restrictions or motility deficits.
- b. Cover test : in these patients, it is very important to occlude each eye in turn, long enough to allow the patient to pick up fixation.
- c. Evaluation of saccadic velocities: Paretic eyes will move with subnormal velocity (“floating saccades”) and increased latency.
- d. Forced duction test : will provide valuable information about mechanical limitations to full ocular rotation of the globe.
- e. The force generation test : will inform the examiner about the active forces available to move the globe.
- f. Orbital imaging :CT scan or an MRI scan. The gold standard imaging workup for suspected orbital wall fractures, consists of high resolution CT scans (facial or orbital thin slices of 1-2 mm), since it provides the best image of the relation between the muscle and the fracture site. The MRI provides a better image of the structural situation of the muscle and soft tissues. Multi-positional MRI and MRI of the orbits with fat suppression provides further details as it focuses on the muscles.

Coronal cuts will usually give the most useful information when studying the relationship between the muscle and the fracture site in cases of floor fractures, but sagittal and axial cuts can also provide useful information about the structural situation of the rectus muscles.

Dynamic magnetic resonance imaging with surface coil will provide the best image of a traumatized orbit that includes extraocular muscle damage

2. Establishing a diagnosis of extraocular muscle trauma

It is very important to determine the condition of the compromised muscle in order to plan for the best strategy in managing the case.

The preoperative evaluation should include an assessment of the degree of restriction, muscle function and the condition of the surrounding tissues.

MANAGEMENT OF STRABISMUS SECONDARY TO EYE MUSCLE TRAUMA

Treating traumatic strabismus is challenging, because both the muscle and the surrounding tissues are involved.

CONTUSION

Resolves completely

Observation

Anti inflammatory drugs

FLAP TEAR

a. Flap is dissected and sutured back to the muscle.

b. Advancing the flap to the muscle insertion and placing a free tenon's graft.

c. Ocular exercises to avoid new adhesions

ENTRAPMENT OF MUSCLE

Needs surgical repair

a. Surgery is based on radiological and clinical signs.

b. Vasovagal symptoms warrant immediate surgery for release of entrapped muscle.

c. In the presence of swelling wait for a week or till the oedema subsides and reevaluate.

Entrapment of an inferior rectus or inferior oblique in a floor fracture are less likely to resolve spontaneously than entrapment of a medial rectus or superior oblique. The edema and ecchymosis around the trochlear complex likely prevents the movement of the superior oblique as well, causing the traumatic Brown's syndrome. As the inflammation and edema subsides, the superior oblique starts to slide through the complex and Brown's syndrome resolves. If there is no obvious muscle incarceration in an orbital wall fracture, or the fracture is not big enough to produce significant orbital prolapse, observation of the patient is the treatment of choice.

- a. Muscle localized and reattached to the original insertion
- b. Small resection is done if the muscle is weak.



MUSCLE LACERATION

- a. Most challenging to resolve
- b. Partially lacerated muscle repaired by attaching both ends
- c. In complete laceration, both ends of the muscle are retrieved and sutured.
- d. Muscle transposition or tethering can be tried if the damaged proximal stump is lost

CONCLUSION

- Trauma to an extraocular muscle without globe or eyelid involvement is rare but can occur.
- Meticulous examination of the globe should always be done to rule out associated injury to the globe.
- Determining the condition of the compromised muscle is very important to plan for the best strategy in managing the case.
- Crucial information for the management of the patient can be obtained through detailed orbital imaging via CT scan or MRI.

TOP COMMUNICATION SKILLS

Active listening
Friendliness
Confidence
Sharing feedback
Empathy
Respect
Responsiveness

**GREAT COMMUNICATION
BEGINS WITH
CONNECTION.**

Learning and practicing communication skills can help you have more efficient and productive conversations in all areas of your life including work, relationships, and more

THE ART OF EFFECTIVE COMMUNICATION SKILLS

1. Clarity and Conciseness

- **Be Clear:** Use straightforward language and avoid jargon to ensure your message is easily understood..
- **Be Concise:** Deliver your message in as few words as possible while still conveying the necessary information.

2. Active Listening

- **Engage Fully:** A two-way dialogue makes the speaker feel valued.
- **Seek Clarification:** If something is unclear, ask questions to ensure you fully understand the message being conveyed.

3. Nonverbal Communication

- **Body Language:** Positive body language, such as open palms and an upright posture, can enhance your communication effectiveness.
- **Tone of Voice:** A friendly and confident tone can help convey your message more effectively.

4. Empathy and Respect

- **Understand Perspectives:** Acknowledge the feelings and viewpoints of others. This builds trust and fosters a supportive work environment.
- **Be Courteous:** Use polite language and show appreciation for others' contributions. This encourages open communication and collaboration.

5. Feedback and Adaptation

- **Encourage Feedback:** Create an environment where team members feel comfortable sharing their thoughts and feedback.
- **Adapt Your Style:** Different situations and individuals may require different communication styles. Be flexible and willing to adjust your approach based on the audience and context.

SKILLS

WHEN PEOPLE TALK, LISTEN COMPLETELY. MOST PEOPLE NEVER LISTEN."

Patient safety
Improved decision making
Improved job satisfaction
Improved patient satisfaction
Quality health care delivery



IMPORTANCE OF COMMUNICATION SKILLS IN MEDICAL PROFESSION

Communication in medicine is considered as a fundamental clinical skill to establish a relationship with the patient, paving a way to successful diagnosis and treatment.

Communication skills training is internationally accepted as an essential component of medical education.

Since communication skills can be learned and mastered by practice, experiential learning is important, and individualized and interactive format of teaching should be applied adhering to the principles of evidence-based and person- centered medicine.

Human relationship is what matters most!

SOLVE THE ANAGRAMS

Change the words in CAPITAL to an ANAGRAM with the given clues

- 1.Change AGREE into a word for keen.
- 2.Which part of the body is hidden in FRINGE?
- 3.Name the job a CHEATER is hiding!
- 4.What polite word do you use when you are ASLEEP ?
- 5.Change DISEASE into a place you go on a holiday !!
- 6.Which part of a day is hidden in THING ?
- 7.Convert RECALL to a place in the house .
- 8.How do you convert RANGE into a feeling ?
- 9.Be SILENT and pay attention.
- 10.Chage DIRECT into a word frequently used in a bank.
- 11.Find the adjective hidden in DECEIVER.
- 12.One of the ways to recollect MEMORIES.
- 13.How do you preserve anything with CONVERSE ?
- 14.Which height is hidden in LATITUDE ?
- 15.How is WOODLAND connected to a computer ?
- 16.How is INSTANCE related to historical people or culture?

Answers in next page

ANSWERS

1.EAGER

2.FINGER

3.TEACHER

4.PLEASE

5.SEASIDE

6.NIGHT

7.CELLAR

8.ANGER

9.LISTEN

10.CREDIT

11.RECEIVED

12.MEMORISE

13.CONSERVE

14.ALTITUDE

15.DOWNLOAD

16.ANCIENTS

DO YOU KNOW ?

TALLEST STATUE IN THE WORLD



The **Statue of Unity** is the world's tallest statue, with a height of 182 metres (597 feet), located near Kevadia in the state of Gujarat, India. It depicts Indian statesman and independence activist Vallabhbhai Patel (1875–1950), who was the first deputy prime minister and home minister of independent India .

TALLEST ANIMAL

Giraffes are the tallest mammals on Earth. Their legs alone are taller than many humans—about 6 feet. Over short distances, giraffes can run at speeds up to 35 MPH



SOME STRANGE FACTS ABOUT ANTS

There are 20 quadrillion ants on Earth, which is about 2.5 million ants for every person.

The bullet ant inflicts one of the most painful insect stings in the world. The pain is described as being similar to a gunshot wound (hence the name) and lasts for up to 12 hours. Around 1 inch (2.54 cm) long, they are mainly found in Central and



South America. An ant can carry 50 times its own bodyweight, which is akin to a human carrying a car.

People who research ants are called myrmecologists.

The smallest ant in the world is the pharaoh ant, which is between 1.5 mm and 2 mm in length

FACTS ABOUT BUTTERFLIES

Butterfly collection and study, known as lepidopterology, is a popular hobby and field of scientific research. The **Queen Alexandra's birdwing** is the largest butterfly in the world, with females boasting a wingspan of up to 1 foot.



SMALLEST ANIMAL IN THE WORLD

The cutest tiny animal , the pygmy marmoset is officially the world's smallest monkey.



MYSTERIOUS ROCK

Al Naslaa is a rock formation in Saudi Arabia's northwestern desert consisting of two huge, symmetrical stone blocks that are separated by a mysterious gap and sit on small pedestals. It is roughly 20 feet (6 meters) tall and 30 feet (9 m) wide.



LARGEST MARINE REPTILE

Giant, 82-foot lizard fish discovered on UK beach could be largest marine reptile ever found. Newly discovered ichthyosaur that lived 200 million years ago in the Triassic sea is potentially the biggest to ever live, scientists say.



THE LARGEST PLANET

In our solar system by far is Jupiter, which beats out all the other planets in both mass and volume. Jupiter's mass is more than 300 times that of Earth, and its diameter, at 140,000 km, is about 11 times Earth's diameter.



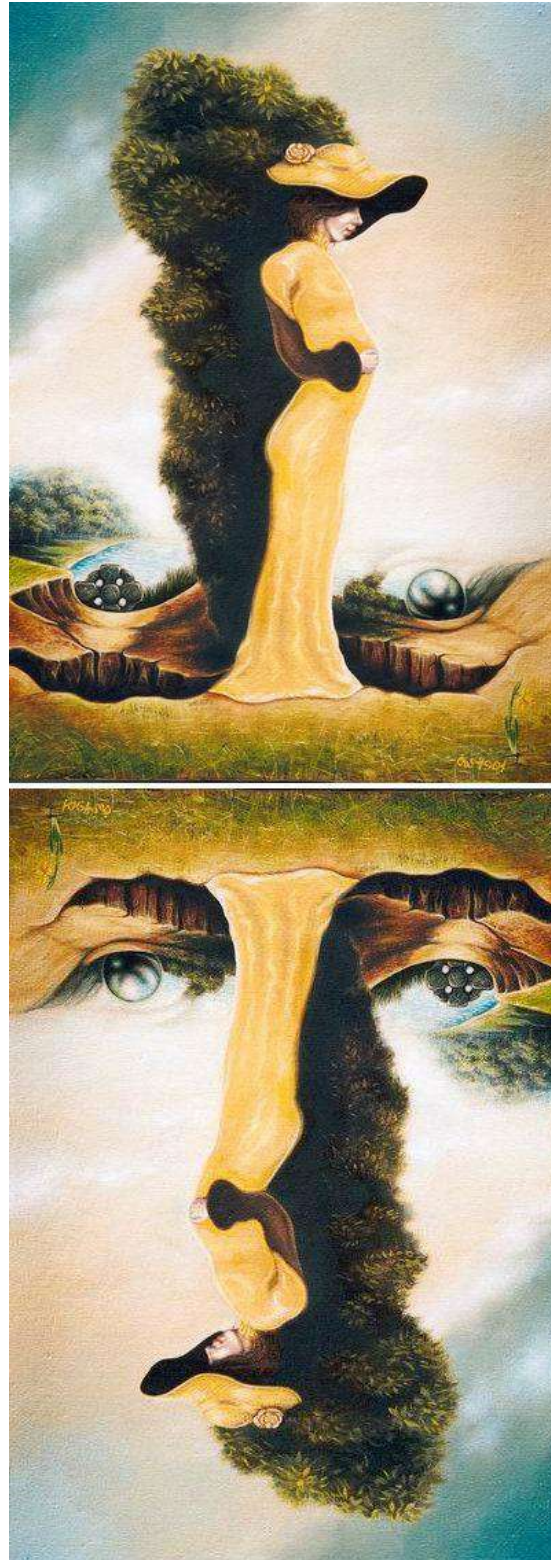
COUNTRY WITH HIGHEST NUMBER OF RIVERS

Bangladesh has the highest number of rivers (about 700) and is known as the 'land of rivers'. Some major Rivers of Bangladesh are: Brahmaputra, Ganges, Suma, Atrai, Raidak, Mahananda, Teesta, Karnaphuli, Meghna and Bangshi among others.

11.WHY IS SKY BLUE IN COLOR

Sunlight reaches Earth's atmosphere and is scattered in all directions by all the gases and particles in the air. Blue light is scattered more than the other colors because it travels as shorter, smaller waves. This is why we see a blue sky most of the time.

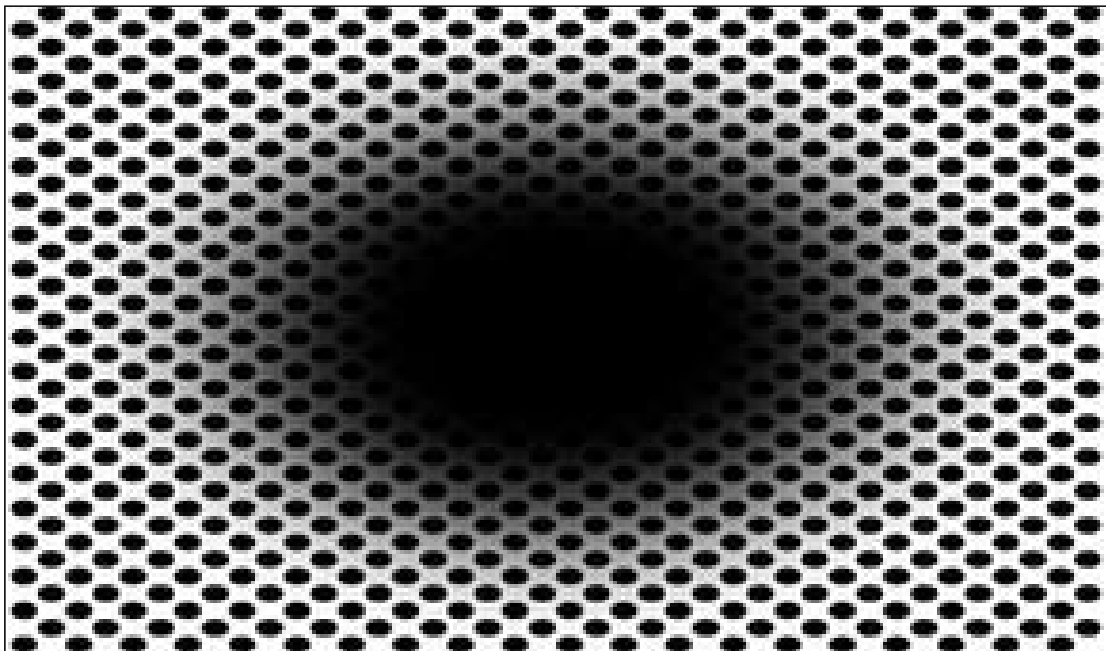
OPTICAL ILLUSIONS



Find the second deer



The expanding black hole optical illusion



In this subway, this guy spray painted the wall to appear as an illusion of the stairs coming out of the wall



Is this window on the right or left of this building?



A very neat optical illusion elevator floor.

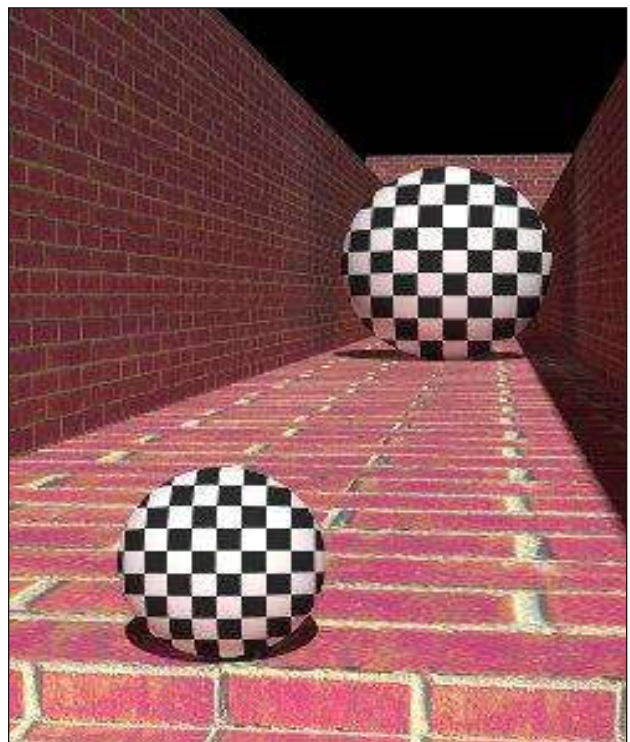
So clever you would think twice before stepping into this elevator.



A visual illusion of two spheres.

Does one appear to be larger than the other?

Both of the spheres are the same size.



Take a very close look at this image! What do you see? Do you see a face?

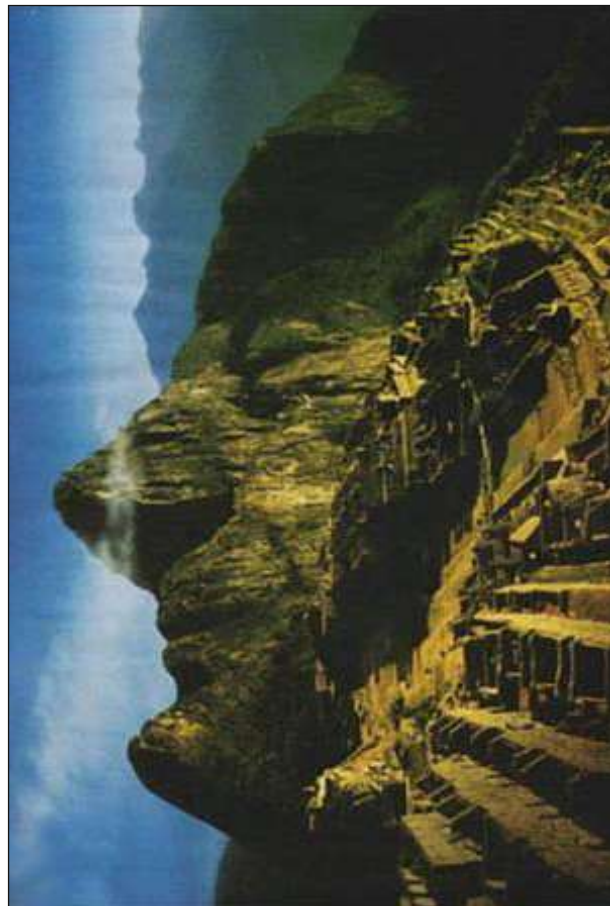


Or do you see THE FACE or the word LIAR



DO YOU SEE A TERRACE OR LAWN

FACE ON EARTH : CAN YOU SEE THE FACE ON EARTH
HOW ABOUT NOW !!!!! AMAZING ISNT IT



CHILD ART



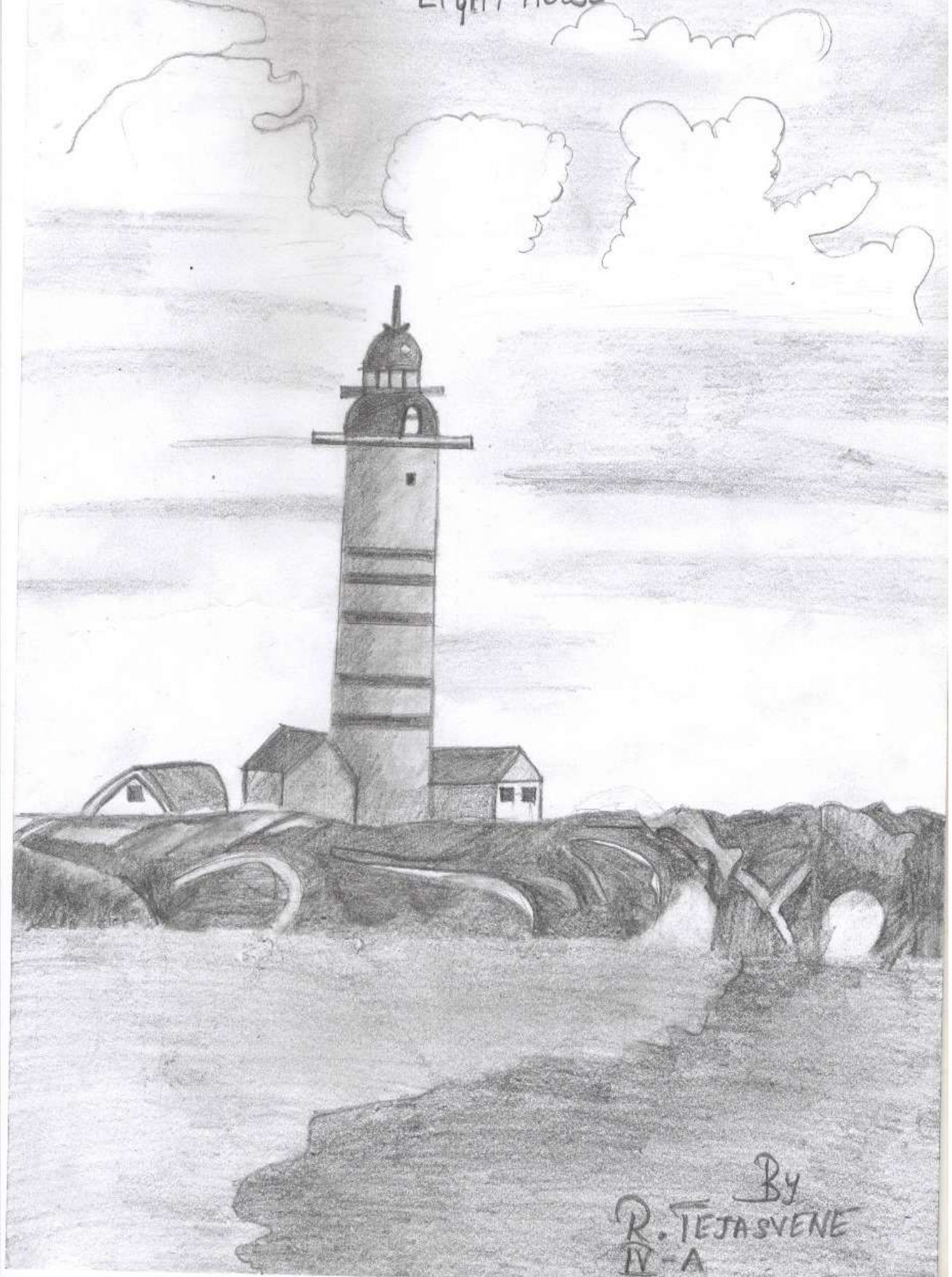
Mokshith



Dritika

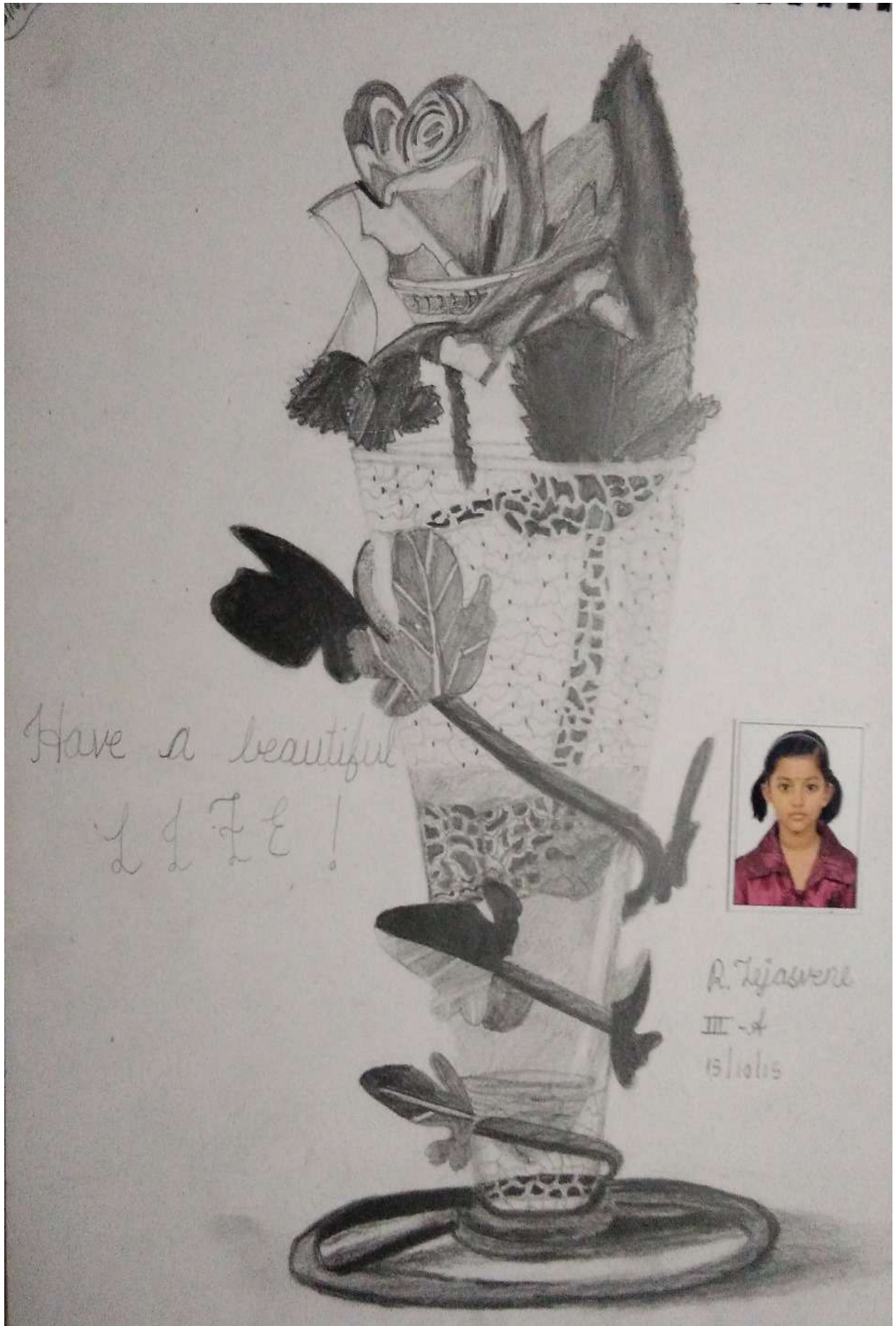


A VIEW OF THE BEACH WITH A
LIGHT HOUSE





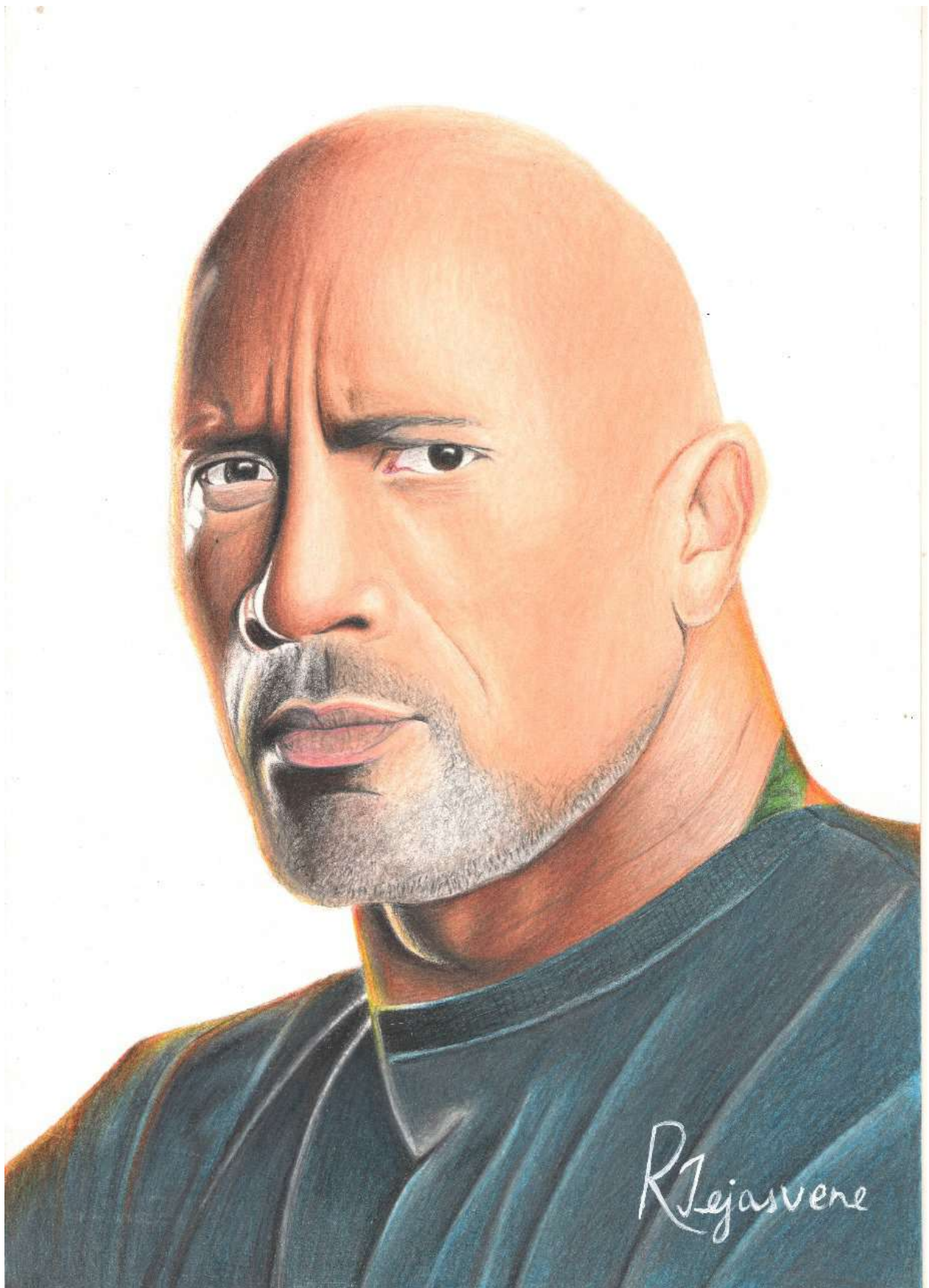




Have a beautiful
L L L E !



R. Tejaswini
III - A
15/10/15



BEYOND THE WHITE COAT
WHERE HEALING MEETS CREATIVITY.

ART TO CHERISH

LOVE WHAT U DO, DO WHAT U LOVE



FISH POND



RESIN ART
A NEW WAY OF BRINGING
IMAGINATION TO
TRANSPARENT
FORM



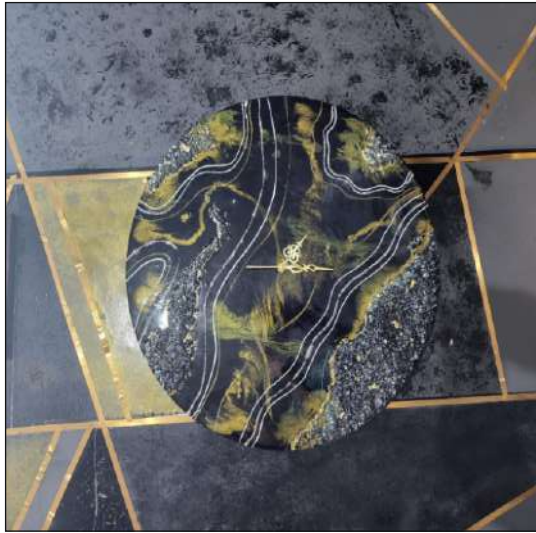
EXPLORE NEWS WAYS
OF EXPRESSING
THE PASSION
IN U



BY
DR. SONALI V H

“Discover the artistic side of medicine through my lens, where every brushstroke tells a story of compassion and care.”





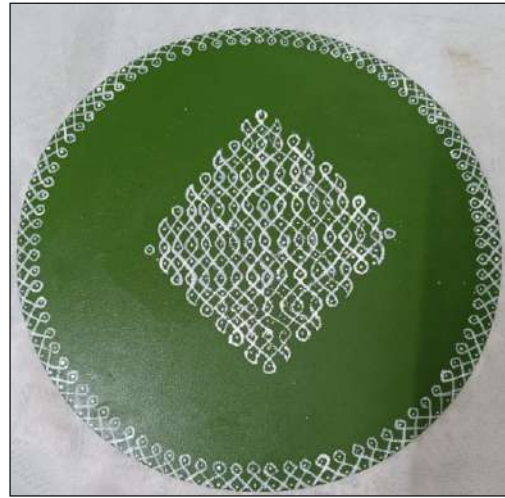
RESIN ART



DR ANURADHA (Retd Prof Of Pathology)









Dr. Hima Bindu
Asst. Prof of Ophthalmology
S.V.Medical College
Tirupati



GO GREEN



VISAKHA EYE HOSPITAL

(Managed by Visakha Nethra Jyothi Pvt. Ltd.)

Post Graduate Institute of Ophthalmology



Key Facilities

1. Post Graduate Programs (DNB, Ophthalmology)

As the hospital is accredited by NBEMS it is also an institute for training & examinations for medical studies

2. Fellowship Programs

- a. Short Term Fellowship in Medical Retina (4 Months)
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డా॥ అనిల్ తేజ రెడ్డి
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సినిమా డైరెక్టర్



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Ex. Resident,
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Ex. Consultant,
Vasan Eye Care, Nellore.
Consultant - SHAR Hospital, Srikakota

డా॥ ప్రవీణ్ కుమార్ కె.వి

MS, DNB, FAICO, FMRF

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Ex. Senior Resident, JIPMER, Puducherry
Fellow Post Ophthalmology & Squint
Sankara Netralaya, Chennai
Ex. Asst. Professor, Narayana Medical College, Nellore

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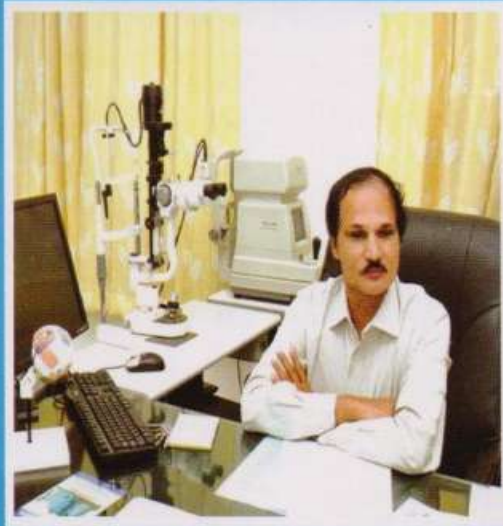


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