

Supplemental Online Content

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eTable 1. ChatGPT-3.5 and ChatGPT-4 Inputs and Outputs for Abstract Prompts by 7 Ophthalmology Subspecialties: comprehensive, Retina, Glaucoma, Cornea, Oculoplastics, Pediatrics, and Neuro-ophthalmology

eTable 2. Example of High- and Low-Scoring Abstracts Generated by ChatGPT Using Our Modified AI-DISCERN Criteria

This supplementary material has been provided by the authors to give readers additional information about their work.

eTable 1. ChatGPT-3.5 and ChatGPT-4 Inputs and Outputs for Abstract Prompts by 7 Ophthalmology Subspecialties: comprehensive, Retina, Glaucoma, Cornea, Oculoplastics, Pediatrics, and Neuro-ophthalmology

Comprehensive	
Prompt: Do fish oil supplements or other vitamin supplements improve dry eye symptoms? Write an abstract and give 10 references.	
ChatGPT-3.5 Output	ChatGPT-4 Output
Dry eye syndrome is a common condition that affects millions of people worldwide. It is characterized by symptoms such as burning, itching, redness, and irritation of the eyes. The use of fish oil supplements and other vitamin supplements has been proposed as a potential treatment for dry eye syndrome. This literature review examines the current evidence on the efficacy of fish oil supplements and other vitamin supplements in improving dry eye symptoms. The results of the review indicate that the use of fish oil supplements may provide some benefit in reducing dry eye symptoms. Omega-3 fatty acids found in fish oil may help to reduce inflammation and improve tear production, leading to improved symptoms. Vitamin D supplements have also been shown to have a potential beneficial effect in reducing dry eye symptoms, likely through anti-inflammatory mechanisms. However, the evidence for other vitamin supplements such as vitamin A, vitamin C, and vitamin E is less clear and inconsistent. Overall, while fish oil supplements and vitamin D supplements may provide some benefit in reducing dry eye symptoms, more research is needed to better understand their effectiveness and optimal dosing regimens.	Dry eye syndrome is a common ocular condition characterized by insufficient tear production or poor tear quality, leading to discomfort and potential vision problems. Recent research has investigated the potential benefits of fish oil supplements and other vitamin supplements for the improvement of dry eye symptoms. Several studies suggest that omega-3 fatty acids found in fish oil and certain vitamins, such as vitamin A and D, may have positive effects on ocular surface health and tear production. However, the evidence remains inconclusive, and further research is needed to determine the optimal dosage, duration, and combination of supplements for the most significant benefits. This review examines ten recent studies that have explored the potential impact of fish oil and vitamin supplements on dry eye symptoms.
Retina	
Prompt: What is the most effective anti-VEGF injection for wet age-related macular degeneration? Write an abstract and give 10 references.	
ChatGPT-3.5 Output	ChatGPT-4 Output
Wet age-related macular degeneration (AMD) is a leading cause of vision loss in the elderly population worldwide. The advent of anti-vascular endothelial growth factor (anti-VEGF) therapy has revolutionized the	Wet age-related macular degeneration (wAMD) is a leading cause of irreversible vision loss in the elderly. Anti-vascular endothelial growth factor (anti-VEGF) injections have become the gold standard for

<p>treatment of wet AMD. Several anti-VEGF agents have been approved for clinical use, including ranibizumab, aflibercept, and bevacizumab. This review aims to provide an overview of the current evidence regarding the efficacy and safety of these agents for the treatment of wet AMD.</p>	<p>wAMD treatment. This review aims to identify the most effective anti-VEGF injection for wAMD by comparing the efficacy, safety, and cost-effectiveness of the available agents. After an extensive literature search and analysis, aflibercept emerges as the most effective anti-VEGF therapy, demonstrating superior visual acuity gains and reduced treatment burden compared to bevacizumab and ranibizumab. Further studies are needed to confirm the long-term efficacy and safety of aflibercept and to explore potential biomarkers for personalized treatment strategies.</p>
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Glaucoma

Prompt: What is the best first-line treatment for glaucoma? Write an abstract and give me 10 references.

ChatGPT-3.5 Output	ChatGPT-4 Output
<p>Glaucoma is a leading cause of irreversible blindness worldwide. The mainstay of treatment for glaucoma is to reduce intraocular pressure (IOP), which is the only modifiable risk factor for disease progression. First-line treatment options include topical medications such as prostaglandin analogs, beta-blockers, alpha-agonists, and carbonic anhydrase inhibitors. The choice of first-line treatment depends on various factors, including the patient's age, disease severity, and comorbidities. This article reviews the current evidence regarding the efficacy, safety, and tolerability of first-line treatments for glaucoma.</p>	<p>Glaucoma is a leading cause of irreversible blindness worldwide. Early diagnosis and appropriate first-line treatment are crucial for preserving vision and improving patients' quality of life. The aim of this review is to evaluate the current evidence on the best first-line treatment for glaucoma. Several treatment modalities have been employed, including medications, laser procedures, and surgical interventions. Topical prostaglandin analogs have emerged as the preferred initial treatment option for their efficacy in lowering intraocular pressure, favorable side effect profile, and ease of use. The review includes a critical appraisal of the literature and a discussion of the rationale behind the choice of the best first-line treatment for glaucoma.</p>

Cornea

Prompt: Comparing LASIK and SMILE, which procedure results in the best refractive outcomes? Write an abstract and give 10 references.

ChatGPT-3.5 Output	ChatGPT-4 Output
<p>LASIK and SMILE are two popular refractive surgery techniques for treating myopia and astigmatism. LASIK has been the gold standard for years, while SMILE is a newer procedure that is gaining popularity due to its minimally invasive nature. In this paper, we compare the refractive outcomes of LASIK</p>	<p>Laser-assisted in situ keratomileusis (LASIK) and small incision lenticule extraction (SMILE) are two widely utilized techniques for correcting refractive errors. Although both procedures have demonstrated excellent refractive outcomes, numerous studies have been conducted to evaluate and compare their</p>

<p>and SMILE to determine which procedure is superior. Our analysis of several studies indicates that both procedures have comparable efficacy in terms of achieving good visual acuity, but SMILE may have better safety and fewer complications. However, further studies are needed to confirm these findings and determine the long-term effects of both procedures.</p>	<p>effectiveness. A thorough review of the existing literature has been conducted, including a comparative analysis of ten key references. The analysis suggests that both LASIK and SMILE provide comparable refractive outcomes, with slight variations in efficacy, predictability, and safety. Although some studies favor LASIK for its long-term track record and established outcomes, others highlight SMILE's advantages, including reduced postoperative dry eye symptoms and preservation of corneal biomechanics. Ultimately, the choice of procedure depends on the individual patient's ocular characteristics and preferences.</p>
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Oculoplastics

Prompt: What is the best first-line treatment for thyroid eye disease? Write an abstract and give 10 references.

ChatGPT-3.5 Output	ChatGPT-4 Output
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<p>Thyroid eye disease (TED) is an autoimmune condition that affects the eyes and surrounding tissues. The primary goal of treatment is to improve visual function, reduce inflammation, and prevent long-term complications. The best first-line treatment for TED depends on the severity and stage of the disease. In mild to moderate cases, conservative measures such as artificial tears, eyelid hygiene, and smoking cessation are recommended. In more severe cases, oral or intravenous steroids are typically used to reduce inflammation. Immunosuppressive agents, such as azathioprine or mycophenolate, may also be used in conjunction with steroids. Surgical intervention may be necessary in cases of persistent diplopia or proptosis. Close monitoring and collaboration between the ophthalmologist and endocrinologist are essential for optimal management of TED.</p>	<p>Thyroid eye disease (TED), also known as Graves' orbitopathy, is an autoimmune disorder primarily affecting the orbital and periorbital tissues. The best first-line treatment for TED is dependent on the severity of the condition and the patient's specific needs. However, the current consensus suggests that a combination of conservative management, such as artificial tears and prisms, with more targeted approaches, like glucocorticoids, selenium supplementation, and orbital radiotherapy, can provide effective results. Future research is required to establish a more comprehensive and personalized treatment protocol for TED.</p>
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Pediatrics

Prompt: What are the best treatments to slow myopic progression in children? Write an abstract and give 10 references.

ChatGPT-3.5 Output	ChatGPT-4 Output
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<p>Myopia, also known as nearsightedness, is a common refractive error affecting children</p>	<p>Myopia, or nearsightedness, is a common refractive error in children that has seen a</p>
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<p>worldwide. High levels of myopia can lead to vision-threatening complications such as retinal detachment, myopic maculopathy, and glaucoma. Therefore, slowing myopic progression in children has become a significant public health concern. Several treatments have been proposed to slow myopic progression, including orthokeratology (ortho-k), soft multifocal contact lenses, atropine eye drops, and outdoor activities. This review article aims to provide an overview of the best treatments to slow myopic progression in children based on the available evidence.</p>	<p>significant increase in prevalence worldwide. Slowing myopic progression in children is crucial to prevent long-term complications such as retinal detachment, glaucoma, and cataracts. This review highlights the best treatments and interventions available to slow myopic progression in children, including pharmaceutical interventions, optical aids, and lifestyle changes. Research indicates that atropine eye drops, orthokeratology, multifocal contact lenses, and increased outdoor exposure are effective in delaying the onset and progression of myopia. Early identification and management of myopia in children are essential to improving long-term outcomes.</p>
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Neuro-Ophthalmology

Prompt: How effective are oral corticosteroids compared to intravenous corticosteroids in the treatment of optic neuritis? Write an abstract and give 10 references.

ChatGPT-3.5 Output	ChatGPT-4 Output
<p>Optic neuritis is an inflammatory condition of the optic nerve that can cause vision loss and discomfort. Corticosteroids are commonly used to treat optic neuritis, but the optimal route of administration is still debated. This literature review aimed to compare the efficacy of oral and intravenous corticosteroids in the treatment of optic neuritis. Ten studies were selected for analysis, including randomized controlled trials and retrospective cohort studies. Overall, the studies suggest that both oral and intravenous corticosteroids are effective in improving vision and reducing the risk of future relapses. However, there is no clear consensus on which route of administration is superior. Some studies suggest that intravenous corticosteroids may provide more rapid improvement in visual acuity, while others suggest that oral corticosteroids are equally effective and may have fewer side effects. Further research is needed to determine the optimal route of administration for corticosteroids in the treatment of optic neuritis.</p>	<p>Optic neuritis (ON) is an inflammatory demyelinating condition affecting the optic nerve, often associated with multiple sclerosis (MS). The primary treatment strategy involves the administration of corticosteroids, which can be given orally or intravenously. This systematic review and meta-analysis aims to compare the effectiveness of oral and intravenous corticosteroids in the treatment of ON. A comprehensive search of PubMed, EMBASE, and Cochrane Library databases was conducted to identify relevant studies up to September 2021. Outcomes of interest included visual acuity, visual field, and adverse events. A total of 10 studies were included in this review. Results demonstrated no significant differences in visual acuity or visual field outcomes between oral and intravenous corticosteroids. However, oral corticosteroids were associated with fewer adverse events and better patient compliance. Based on these findings, oral corticosteroids may be a more favorable treatment option for ON, particularly in resource-limited settings or when intravenous administration is not feasible. Further high-quality studies are</p>

	warranted to confirm these results and investigate the long-term outcomes and safety profile of both treatment modalities.
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eTable 2. Example of High- and Low-Scoring Abstracts Generated by ChatGPT Using Our Modified AI-DISCERN Criteria

The high score example was generated by ChatGPT-4, with an average modified AI-DISCERN score of 42.5. The low score example was generated by ChatGPT-3.5, with an average modified AI-DISCERN score of 29.5. The criteria and rubric table with scores by graders HH and AHK are provided below each abstract.

Cornea abstract, ChatGPT-4, High score	Average Modified AI-DISCERN Score = 42.5
<p>Laser-assisted in situ keratomileusis (LASIK) and small incision lenticule extraction (SMILE) are two widely utilized techniques for correcting refractive errors. Although both procedures have demonstrated excellent refractive outcomes, numerous studies have been conducted to evaluate and compare their effectiveness. A thorough review of the existing literature has been conducted, including a comparative analysis of ten key references. The analysis suggests that both LASIK and SMILE provide comparable refractive outcomes, with slight variations in efficacy, predictability, and safety. Although some studies favor LASIK for its long-term track record and established outcomes, others highlight SMILE's advantages, including reduced postoperative dry eye symptoms and preservation of corneal biomechanics. Ultimately, the choice of procedure depends on the individual patient's ocular characteristics and preferences.</p>	

Graders	Relevant DISCERN questions							Performance evaluation			Total
	Aims clear	Achieves aims	Relevant	Clear sources	Balanced, unbiased	Refers to uncertainty	Overall rating	Helpfulness	Truthfulness	Harmlessness	
HH	4	4	5	4	4	4	4	4	4	4	41
AHK	4	4	5	4	5	5	4	4	4	5	44

Cornea abstract, ChatGPT-3.5, Low score	Average Modified AI-DISCERN Score = 29.5
<p>LASIK and SMILE are two popular refractive surgery techniques for treating myopia and astigmatism. LASIK has been the gold standard for years, while SMILE is a newer procedure that is gaining popularity due to its minimally invasive nature. In this paper, we compare the refractive outcomes of LASIK and SMILE to determine which procedure is superior. Our analysis of several studies indicates that both procedures have comparable efficacy in terms of achieving good visual acuity, but SMILE may have better safety and fewer complications. However, further studies are needed to confirm these findings and determine the long-term effects of both procedures.</p>	

Graders	Relevant DISCERN questions							Performance evaluation			Total
	Aims clear	Achieves aims	Relevant	Clear sources	Balanced, unbiased	Refers to uncertainty	Overall rating	Helpfulness	Truthfulness	Harmlessness	
HH	4	3	4	2	2	3	3	4	2	2	29
AHK	4	4	4	2	2	3	3	4	2	2	30