Lecture Outline Submission: Vision Expo 2025/2026

PRESENTERS
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60 minutes

COPE Category: General Optometry

Course Title: Dry Eyes & Myopia Management - When Kids Win and Lose

Course Description (35 words or less):
Dry eye and myopia aren't just adult concerns—they're rapidly growing issues in children and teens. This course takes a fresh look at how environment, screen use, and lifestyle intertwine to shape ocular health. We'll connect the dots between dryness and myopia progression, and explore cutting-edge management strategies—from contact lenses to pharmaceutical therapies—that can make a lasting impact on young patients' lives.

Course Objectives:

1. Describe the pathophysiology of myopia and dry eye in children, including recent advances in research that underline their interrelationship.
2. Analyze evidence-based myopia control methods and their implications for children with concurrent dry eye conditions.
3. Evaluate the impact of environmental and lifestyle factors on myopia progression and dry eye symptoms in children, ensuring alignment with current clinical guidelines and research.
4. Discuss how to concurrently manage both myopia and dry eyes for our young patients.

Lecture Outline:

I. Introduction

1. Brief overview of myopia and dry eye as prevalent pediatric conditions.
2. Importance of addressing both conditions simultaneously to improve quality of life and vision health.
3. Introduction to the goals of the presentation and relevance to current clinical practices.

II. Understanding Myopia in Children

1. Definition and Prevalence of Myopia
    a. Current statistics on global prevalence; emphasis on rising trends in children.
    b. Discussion of myopia classifications (e.g., simple vs. pathological myopia).
2. Risk Factors Contributing to Myopia
    a. Genetic predisposition: Studies demonstrating heritability of myopia.
    b. Environmental influences:
        i. Increased screen time and indoor activities.
        ii. Lack of outdoor exposure and its correlation with myopia incidence.
3. Pathophysiology of Myopia
    a. Mechanisms leading to axial elongation and structural changes in the eye.
    b. Role of visual feedback and light exposure in eye development.

III. Dry Eye Disease in Pediatrics

1. Definition and Prevalence of Dry Eye in young children
    a. Overview of dry eye disease: Symptoms, classifications, and impact on daily life.
    b. Statistics related to pediatric dry eye prevalence, particularly in screen-heavy environments.
2. Risk Factors Contributing to Dry Eye in young children
    a. Digital device usage: Blue light exposure and blink rate reduction.
    b. The impact of ealy digital device use
        i. Impact on myopia progression
        ii. Impact on meibomian gland structures
        iii. Impact on blink reflexes
    c. Allergens, pollutants, and environmental factors.
3. Pathophysiology of Dry Eye in young children
    a. Tear film components: Importance of lipid, aqueous, and mucin layers.
    b. Inflammatory responses and their role in dry eye progression.
4. Introduction to Interconnectedness of Myopia and Dry Eye
    a. As children become more myopic, they are also at risk for developing dry eye symptoms
    b. Importance of identifying strategies to manage both conditions through compliant device and product use, balanced visual habits and ergonomic interventions.

IV. Interplay Between Myopia and Dry Eye

1. Influence of Specific Myopia Control Strategies on Dry Eye
    a. Atropine
        i. Impact on myopia progression
        ii. Impact on dryness
            1. Preservatives and ocular surface inflammation
    b. Glasses
        i. Impact on myopia progression
        ii. Impact on dryness
            1. Essentially none
            2. May protect from wind

c. Soft Contact Lenses
    i. Impact on myopia progression
    ii. Impact on dryness
        1. We all know SCLs cause dryness
        2. How the lenses impact the tear film, ocular surface, and lid structure
            a. Potential for irritation and inflammation on the ocular surface
        3. Why we still use contact lenses in eye care
d. Orthokeratology
    i. Impact on myopia progression
    ii. Impact on dryness
        1. Meibomian gland loss
        2. Corneal staining - kids with dry eye more prone to 'sticky' lenses
        3. Lid inflammation/GPC despite sleeping in lenses, with no blinking

V. Approaches for Managing Dry Eye: Prophylactic versus Reactive

1. Prevention is always better than reaction
    a. Need for baseline dry eye testing in the myopia clinic
    b. Careful case history
    c. Appropriate follow-up schedule
2. Home-therapy treatments for children and youth
    a. Heat masks and relaxation
        i. Lid massage
    b. Blinking exercises as part of routine
    c. Use of anti-inflammatory medications
    d. increase use of artificial tears on a daily basis
    e. Combination of myopia management strategies with dry eye treatments
3. Lid Margin and Eyelid Health Considerations for Contact Lens Wearers
    a. Importance of eyelid hygiene for maintaining ocular health
        i. Dispelling myths we were taught as kids
        ii. Empower kids through teaching 'the why'
    b. Common conditions such as blepharitis that may complicate lens wear; addressing these first is crucial.
    c. Recommended practices
        i. Lid scrubs, lid wipes, and hypochlorous acid spray to manage eyelid health.
        ii. Address allergies that may affect the palpebral conjunctiva (e.g., AKC/VKC, particularly in young boys).
        iii. For youth and teens address appropriate makeup removal
4. Contact Lens Hygiene and Maintenance
    a. Emphasize proper lens care:
        i. Deep cleaning of lenses to remove protein deposits.
        ii. Importance of frequently replacing lens cases to prevent contamination.

5. Contact Lenses or Atropine + Drops
    a. Difference Between Artificial Tears and Rewetting Drops
    b. Common re-wetters
    c. Common artificial tears
    d. Choosing the right drop
    e. Glasses and drops
    f. Soft contact lenses and drops
    g. Atropine and drops
        i. Every ocular medication add artificial tears prophylactically
6. Advanced In-office Therapies for youth
    a. Use of intense pulsed light (IPL) for inflammatory conditions
    b. Radiofrequency (RF) treatments for stimulating meibomian gland function

VI. Patient Education and Communication

1. Teach about symptoms, causes, and risks of BOTH dry eye and myopia
2. Use clear language
3. Leave time for questions from patient and/or caregiver
4. Provide summary of care
    a. Staff to reiterate care at check-out
    b. Written
    c. Digital
    d. Website & video links
5. Explain importance of follow-up appointments

VII. Conclusion: Management of Myopia and Dry Eye - Together is BETTER

1. Effective management of dry eye and myopia is crucial for the overall eye health of patients, particularly children and youth.
2. By providing clear education and fostering open communication, healthcare providers can empower patients to adopt proactive strategies that enhance quality of life and mitigate long-term complications.
3. Ongoing support and follow-up are essential to ensure optimal outcomes and continuous engagement in eye care.
4. Q&A

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