

Sports & Eyewear Safety for Your Pediatric Patients

ABO Level II - 1 hour



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Financial Disclosure Statement

Andrew Bruce . . .

- Has received honorariums from:
 - VSP Optics
 - Mitsui Chemicals
 - Kaiser Permanente Vision Essentials
- Is on the CLSA Board of Directors and serves as technical education advisor
- He has served on the Dispensing Optician Examination Committee for the Washington State Department of Health
- All relevant relationships have been mitigated
- Has NO financial interest in any product presented in this course

Outline/Objectives

1. Review sports related eye injuries and statistics
2. Discuss ASTM standards for sport protective eyewear
3. Discuss the importance of patient/parent education
4. Discuss ways to present sport protective eyewear.

They Just Broke!



Statistics



- 35% of sports related eye injuries occur in children, and leading cause of blindness in children
- 68% of sport related eye injuries occur before age 24
- what does this mean?
- Sports related eye injuries account for 100,000 ER physician visits per year in U.S. at a cost of >\$175M
- 1 in 12 patients will seek legal counsel for severe, sports related, eye injuries.

Study Findings



- 21% of children, ages 6-17, play a sport, 55% of high school students
- 14M children play a sport involving a racquet or stick
- 77% of teens favor martial arts over other sports
- Basketball, baseball, and soccer are listed in top 5 U.S. team sports in 2021, yet basketball and soccer have no mandatory requirement for eye protection.

Top 15 Sport-Related Eye Injuries in U.S.

Activity	Est. Injuries	Ages 0-14	Ages 15+
Basketball	4,597	965	3,682
Pool & Water Sports	4,565	2,367	2,198
Non-Powder Guns, Darts, Arrows, Slingshots	3,612	1,632	1,980
Exercise, Weight-Lifting	2,385	222	2,164
Bicycles & Accessories	2,495	668	1,827
Baseball / Softball	2,109	1,121	988
Soccer	1,618	404	1,214
Playground Equipment	1,195	1,067	127
Football	959	483	476
Other Sports & Recreational Activities	845	365	480
Racquet Sports	775	41	734
Golf	765	104	660
Ball Sports, Unspecified/Other	736	314	421
Boxing, Martial Arts, Wrestling	683	84	600
Trampolines	677	677	0
Totals	28,016	10,514	17,551

Prevent Blindness America (PBA) Publication (2019)

Sports Risk Categories

Very High-Risk	High-Risk Involve body contact and the use of a racquet, stick, bat, puck or ball, or a combination	Low Risk
Martial arts	Football, Baseball, Basketball, and Soccer	Track & field
Wrestling	Tennis, Table Tennis, and other racquet sports	Gymnastics
Boxing	Water Polo and Fencing	Cycling
	Lacrosse and Hockey	Swimming

Value of Sport Protective Eyewear



- Median age for eye injuries \approx 8 years
- Age of myopia onset and starting sports
- Perhaps a correlation?
- Recommend parents invest in child's eye safety
- Sport-protective eyewear may reduce eye injuries by 90%.

Organization Support

Sport-protective eyewear strongly recommended by many organizations:

- American Academy of Pediatrics
- American Public Health Association
- American Optometric Association
- American Academy of Ophthalmology.



Action Steps



- Educate parent & patient to increase awareness about eye safety and task-appropriate eyewear
- Share statistics with parents and patients old enough to understand
- Discuss use of “dress frames” vs. “sports frames”
- Recommend frame and lens options that will provide your patients with great vision and eyewear protection.

Frame Categories



- ANSI Z80 committee standards
- Dress frames Z80.5
- Occupational / industrial safety frames Z87.2
- Sports protective eyewear ASTM F803-19.

ASTM F803-19 Standards



- American Society for Testing and Materials established F803-19 standards for sports protective eyewear
- Must withstand impact forces from projectiles sized between 40 and 65.1mm, fired at speeds up to 90mph
- Manufacturer compliance is voluntary, NOT mandatory
- ECPs professional responsibility and liability
- Sports covered under ASTM F803-19 . . .
 - Baseball and Softball
 - Basketball
 - Soccer.

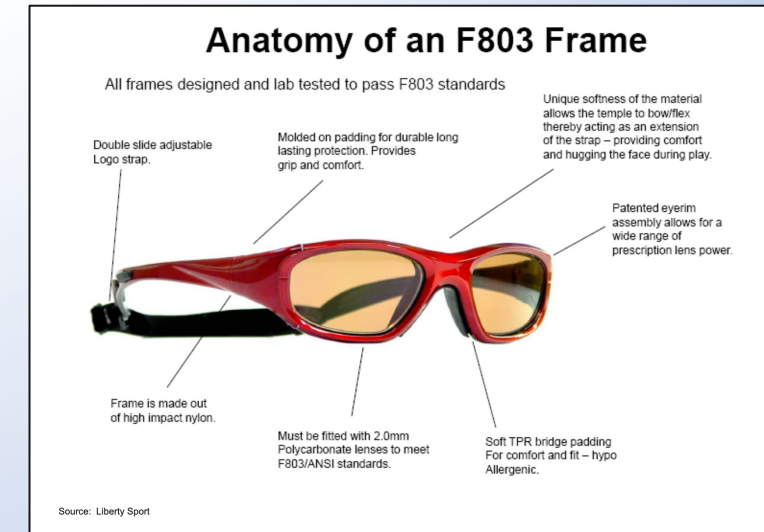
ASTM F803-19 Frames

Approved frames must include . . .

- Manufacturer's identity
- Frame model identity

Label or tag must be attached to, or accompany frame at time of sale that indicates . . .

- Month and year of manufacture
- Clear, permanent markings providing sizing guidance - gender, age, size
- Clear statement defining the sport or sports for which the eyewear is designed.

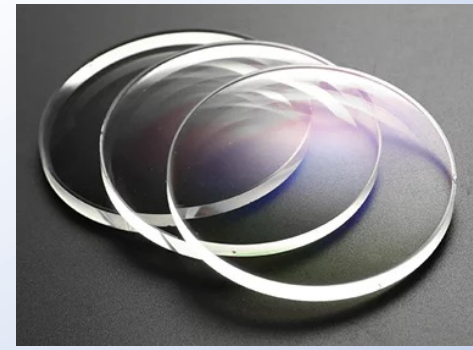


Additional ASTM Standards for Sports Eyewear

- Women's lacrosse: ASTM F3077-17
- Field hockey: ASTM F2713-18
- Racket sports: ASTM F3164-19.



Lens Materials for Sports Protective Eyewear



- ANSI / ASTM stipulations - NONE!
- ECPs responsibility to recommend for patient's best interest - great vision and eye safety
- Recommend polycarbonate for ALL sports protective eyewear
- Why poly and not Trivex?



Sports Eyewear Presence in Your Dispensary

- Be a serious player
- Have a dedicated section & adequate selection to accommodate all sports
- Have "cool" colors, especially for children.





Leading Players

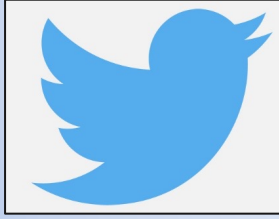
- Bolle
- Leader (Hilco)
- Liberty Sport (Rec Specs)
- Wiley X (Youth Force)
- ProGear.



Marketing and Spreading The Word

- Research local school team colors
- Meet with local sports coaches
- Incentivize fitting the entire team
- Volunteer to speak at local sports events
- Write an article for the local newspaper
- Contact local radio and tv stations.





Power of Your Website/Social Media



- Share information and statistics
- Target Specific Times
 - “Back to School” season
 - Beginning of each sport season
 - April (*35% of eye injuries in May, June, & July*).

Effective Communication



- Incorporate a patient lifestyle questionnaire
- Ask open-ended questions during the exchange . . .
 - What are their daily visual demands?
 - What are their interests/hobbies/sports activities?
 - What visual demands do they struggle with most?
- Get the doctors onboard
- Take every opportunity to educate and share the benefits of sports protective eyewear.



Importance of Staff Training

- ALL staff members should be capable of answering questions about eye safety
- Take advantage of free vendor training videos
- Invite vendor reps to provide training
- Have staff provide training to other staff members.

Presenting The Second Pair

- Approach from an eye safety perspective
- Be informative and knowledgeable of the facts
- Connect product benefits to patient needs
- Offer multiple pair discounts
- Planting the seed now, can lead to return visit.

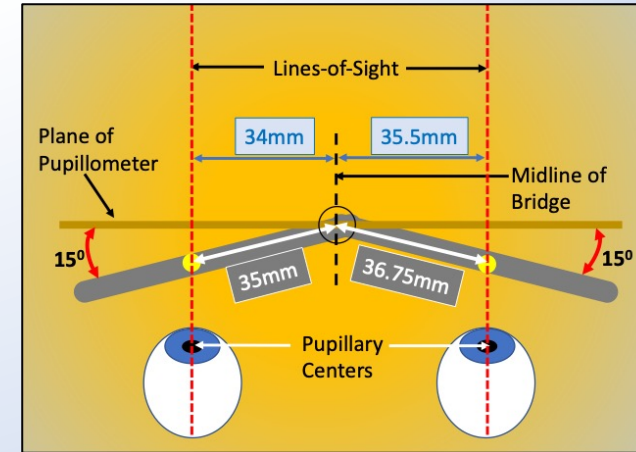


Working With Wrapped Frames



- Changes in lens position will change what the patient “sees”
- Use technology to your advantage - freeform lens designs that offer POW precision
- Certain lens designs are intended for frames requiring steep base curves.

PD and Prism Compensations



- Wrap shifts horizontal OC, induces BO prism OU
- With a freeform lens, lab compensates for induced power changes and prismatic effects, but not OC displacement
- PD modification is the optician's responsibility.

Wrap / Face form	PD Modification	Prism Modification
Up to 6°	None	None
16°	Add 1mm OU	Apply 0.25BI OU
26°	Add 2mm OU	Apply 0.50BI OU

What About Photochromics?



- Perfect choice for sports that take place both indoors and outdoors
- Great choice for pediatric patients
- Provide variable light transmission
- Return quickly to clear after removal of UV stimulus
- Provide 100% UV-A and UV-B protection
- Provides selective filtration of blue light.

Tinted Lenses

- How can you improve the standard design of sport-specific lenses? Recommend sport-specific tints
- Warm tints enhance contrast
- Neutral tones are more general purpose
- Such recommendations increase the value of receiving in-person eye care services.



Sports-Specific Lens Colors



ACTIVITY	RECOMMENDED LENS COLORS
Racquetball	Yellow / Orange / Clear
Tennis	Yellow / Orange / Clear
Baseball	Grey / Green
Handball	Yellow / Orange / Clear
Basketball	Yellow / Orange / Clear with AR
Golf	Green / Brown
Lacrosse	Grey / Green
Field Hockey	Grey / Green
Cycling	Browns / Green
Skiing	Yellow / Orange / Rose / Brown
Swimming	Clear / Light blue / Light yellow
Hunting/Shooting	Yellow / Orange / Red / Brown
Fishing/Water Sports	Brown / Amber / Grey



Does Sports Eyewear Need an AR Coating?



- Why wouldn't it?
- Improves clarity and precision
- Premium AR coatings also provide premium scratch protection for improved durability, and hydrophobic and oleophobic layers to help repel water and oil deposits
- Premium AR coatings generally have great warranties.

To Take Away . . .

1. Every step should be taken to educate patients, and their parents, about the eye safety issues related to sports activities
2. Ask every patient, “Do you play a sport?”
3. Emphasize the role of dress frames vs. that of sports-protective eyewear
4. Discuss the value of the parent’s additional investment, in terms of their child’s long-term eye safety, not the welfare of the frame
5. Make it known that compliance to ASTM standards is voluntary, and that not all sports eyewear is the same
6. Discuss the added reassurance of enhanced eye safety that comes with ASTM compliant frames that you’re recommending
7. Let your patients and their parents know what to look for to make sure they’re getting the highest-quality in sports protective eyewear
8. And make a difference at improving the statistics, one child at a time.



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Thank You!

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