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OLYMPIC VISION CENTER



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PREFACE

In today's fiercely competitive environment, simply being a good eye care practitioner does not assure success. Good practitioners must also be good business people. The ultimate goal - to provide the best possible eye care to patients - simply is not enough in today's competitive environment.

We shall therefore be publishing a series of practice management articles in Contact Europe. In this issue you will find a contribution on the 'Patient Recall System'. As every practitioner knows, a well organized patient recall system is a cornerstone of a well run and profitable practice. Other practice management articles will be published in future issues and will include 'Inventory management' and 'Advertising your practice'.

In this issue of Contact Europe we also focus on a new superior high-water lens from Bausch & Lomb: the Medalist 66. The article entitled 'Medalist 66' examines the benefits of this unique high-water lens for a monthly replacement system in detail.

The Olympic Vision Center is a comprehensive vision testing facility introduced at the 1992 Olympic Games for Olympic top-level athletes from around the world. Bausch & Lomb was a corporate sponsor of the Olympic Games in Albertville and Barcelona in 1992. Bausch & Lomb is also a sponsor of the 1994 Winter Games in Lillehammer and the 1996 Summer Games in Atlanta. The 1994 screenings in Lillehammer represent the second phase of a longterm study on the critical relationship between vision and sports performance. Vision evaluations will provide valuable information for athletes and their trainers. This information will contribute to a database for sports vision experts throughout the world. The data generated will also provide a benchmark by which athletes at various levels of competition can be compared.

This issue of Contact Europe contains an article on Sports Vision in general and an article on the Bausch & Lomb Olympic Vision Center in Lillehammer. The latter article presents the results of the Screening Tests which were conducted at the Olympic Vision Center. These results were provided by Vittorio Roncagli.

The section 'Journal Scan' in this issue contains abstracts from the 1994 Abstract Issue from the Association for Research in Vision and Ophthalmology (ARVO).



Rob M. Rosenbrand, F.A.A.O.
 Director Professional Services
 Europe, Middle East and Africa.

Announcement

Due to the unstable political and economic situation in Turkey, the European Symposium on Contact Lenses organised by Bausch & Lomb will be moved from Istanbul to Lisbon, Portugal (October 14-17, 1994). For further information please contact your local Bausch & Lomb subsidiary.

OLYMPIC VISION CENTER

Bausch & Lomb, the world's leading manufacturer of soft and rigid gas permeable (RGP) contact lenses and lens care products and worldwide sponsor of the 1994 Winter Olympic Games and the 1996 Summer Olympic Games, hosted the Olympic Vision Center at the Games in Lillehammer. The Bausch & Lomb Olympic Vision Center will travel to Atlanta in the summer of 1996.

between vision and sports performance. Vision evaluations will not only provide valuable information for athletes and their trainers, but will also contribute to a data base for access by sports vision experts throughout the world. The data generated

by these elite athletes will be used as a benchmark by which athletes at various levels of competition may be compared.

Winter Olympic athletes from all over the world had their visual skills tested at the Bausch & Lomb Olympic Vision Center in Lillehammer, Norway during the XVIIth Winter Olympic Games. An international team of sports vision experts conducted



The reception area of the 1994 Bausch & Lomb Olympic Vision Center in Lillehammer.

Under the direction of Dr. Rob Rosenbrand, FAAO, Director of Professional Services, Bausch & Lomb, Europe, Middle East and Africa, professional eye care practitioners provided visual performance screenings at the Center for Olympic athletes from around the world. Vittorio Roncagli, Ph.D., FAAO of Italy, co-founder of the European Academy of Sports Vision, served as chief consultant to the Bausch & Lomb Olympic Vision Center in Lillehammer. Dr. Michael Pier, Director of Clinical Research, Bausch & Lomb, United States, served as a sports vision consultant. Additional staff consisted of leading sports vision experts from the United States, Canada, Europe and Japan.

The Bausch & Lomb Olympic Vision Center was introduced at the 1992 Olympic Games in Albertville and Barcelona. The 1994 screenings represent the second phase of a long-range study of the critical relationship



The opening ceremony of the Olympic Games in Lillehammer, Norway.



Dr. Vittorio Roncagli, Chief Consultant of the Olympic Vision Center, tested the eye-foot reaction and response speed of one of the Italian Ice Hockey team players.

12 specialized tests on athletes, including eye-foot and eye-hand reaction and response time, eye-hand coordination, peripheral vision, contrast sensitivity, depth perception, visual acuity, and dynamic visual acuity. The results will help athletes assess and improve critical attributes such as the ability to judge distance; to efficiently change focus when looking between objects at different distances; and to clearly see a moving object. The testing process took about 20 minutes. Coaches and medical supervisors were provided with test results following the Olympic Games. Where applicable, performance evaluations and recommendations for improvement were also provided.

'No doubt the Vision Center will help build awareness of the important relationship between vision and athletic performance for Olympic and other athletes alike', noted Rosenbrand.

Visual Performance: the Testing Process

The following list highlights tests that were used to measure the visual skills of Olympic athletes from around the world. Bausch & Lomb conducted a sports vision screening at the 1994 Winter Olympic Games in Lillehammer, Norway. Vision evaluations provided valuable information for athletes and their trainers and contributed to a data base for access by sports vision experts worldwide. The data generated by these elite athletes provided a benchmark to compare athletes at various levels of competition.

- Accommodative-Vergence Facility

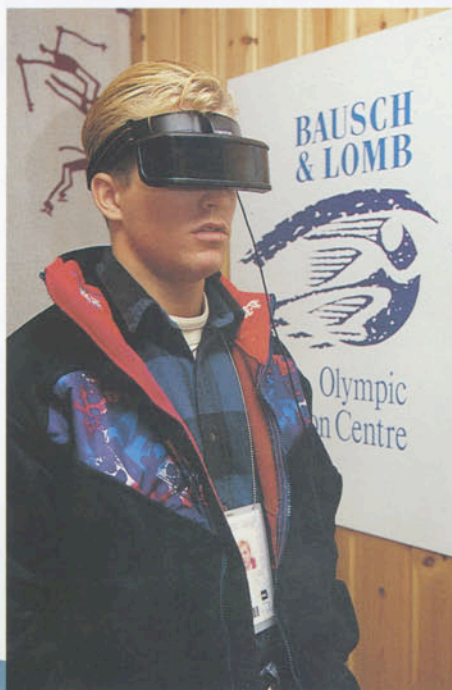
Determines the athlete's ability to change eye focus and aim when looking between objects at different distances.

- Contrast Sensitivity

Determines the athlete's visual sensitivity to a variety of environmental conditions during competition, e.g. glare.

- Distance Fixation Disparity

Determines stability and accuracy of eye teaming (both eyes fixing on the same point). Important in most sports. The slalom skier must judge the relative location of the gates.



The binocular B-VAT testing system of Mentor was used to test fixation disparity and stereo acuity.

- Distance Stereopsis

Indicates how well an athlete is able to judge depth.

- Dynamic Visual Acuity

Tests how clearly an athlete sees a moving object. Also tests how he sees a static object while he is moving.

- Eye-Foot Reaction and Response Speed

Measures visual reaction time and motor reaction time with the feet.

- Eye-Hand Coordination

A test to determine how well the eyes and hands work together.

- Eye-Hand Reaction and Response Speed

Measures visual reaction time and motor reaction time with the hands.

- Objective Refraction

Measures the need for vision correction.

- Static Visual Acuity

Evaluates how clearly the athlete sees while standing still.

- Peripheral Awareness Test

Determines how quick the eyes receive the action going on around you, while maintaining central attention.

Olympic Vision Center Lillehammer 1994 Findings

During the 1994 Olympic Games in Lillehammer, Norway, Bausch & Lomb tested the visual skills of 342 athletes (92 females and 250 males) representing 46 countries and 12 sports groups. Athletes tested ranged in age from 16 to 41 (average age 25). The following provides data collected from visual performance history questionnaires and specific tests, as reported by Vittorio Roncagli, Ph.D., FAAO, co-founder of the European Academy of Sports Vision and chief consultant to the OVC.

Previous Eye Examination

- * More than 50% of the athletes have never received a complete visual examination. This finding is consistent with OVC data collected during the 1992 Olympic Games.
- * None of the athletes tested in Lillehammer from Bulgaria, Greece, Hungary and Romania, had previously ever received a complete vision examination.

- * 58.3% of those who rated the importance of vision a '3' (with '5' being the most important) never had a complete visual examination.

Injuries

- * 18.42% of athletes examined said they had eye or head injury or trauma, or infection or surgery
- * The highest percentage of self-determined traumas was recorded for athletes of:
 - Freestyle (30% of athletes examined for this sport)
 - Ice Hockey (28% of athletes examined for this sport)

Contact Lenses

- * 15.5% said they wear contact lenses
- * 90.5% of lens wearers are using soft lenses
- * 94.3% of contact lens wearers use them for sports
- * 69.8% of lens wearers use them every day

Glasses

- * 19.59% said they wear spectacles
- * Only 3.2% said they use glasses for sports

Vision Training

- * Only 4.6% said they followed a vision training program

Vision Difficulties

- * 18.1% of the athletes examined said they were currently experiencing visual difficulties
- * The highest percentage of visual difficulties were recorded for athletes of:
 - Nordic Combined (44% of athletes examined for this sport)
 - Alpine Ski (35% of athletes examined for this sport)

Static Visual Acuity

- * 4.6% of athletes had Binocular Visual Acuity below 20/20
- * 12.5% had Visual Acuity below 20/20 in one eye

Visualization

- * 36.8% of athletes examined said they use visualization/imagery techniques
- * The highest percentage of athletes using visualization were recorded for athletes of:
 - Short Track (67% of athletes examined for this sport)
 - Freestyle (63% of athletes examined for this sport)

Importance of Vision During Sports

- * On a scale from 1 to 5 (with 5 being extremely important), 62.5% responded with '5'
- * The average rating for this question was 4.39
- * The highest rate was recorded for athletes of:
 - Ice Hockey (4.73)
 - Alpine Ski (4.71)
 - Biathlon (4.69)
- * 90.5% of those using contact lenses rated the importance of vision with '4' or more

Near Stereopsis (18')

- * Only 44.4% of athletes were able to discriminate all the stereoscopic targets at near

Distance Stereopsis

- * 5.2% of athletes had no measurable stereopsis at 6 meters
- * Only 36.8% of athletes were able to discriminate all the stereoscopic targets at 6 meters

Fixation Disparity

- * 2.9% of athletes had suppression of one eye during Fixation Disparity and Stereopsis tests
- * 19.2% of athletes showed Unstable Fixation Disparity

NOTE Since this behavior affects Stereopsis, we may speculate that these athletes need specific vision care (either adjusted vision correction and/or vision training)

Accommodation/Vergence Flexibility

- * 2 athletes (0.5%) were able to reach the amazing performance of 30 cycles in 30 seconds on the 20/80 target test. This test measures how quickly one can shift focus from near to far and back again
- * 4 athletes (1.1%) were not able to reach at least 10 cycles in 30 seconds

Contrast Sensitivity

- * Only 4 athletes (1.1%) could

discriminate all 8 targets (100 percent of targets)

- * 5.8% of athletes significantly failed the test, not being able to discriminate an average of at least 4 targets (50 percent of targets)

Peripheral Awareness Time

- * 24.8% of athletes tested had a significantly low average peripheral awareness time (time slower than 0.40 seconds), as compared to other elite athlete scores
- * 20.4% of athletes tested had a time better than 0.30 seconds
- * 4 athletes showed excellent performance (time better than 0.25 seconds)

Eye-Hand Reaction/Response Speed

- * 15.4% of athletes tested performed very well (time below 0.20 seconds)
- * On average, better performances were recorded for athletes in Ski jump and Short Track

Eye-Foot Reaction/Response Speed

- * 6.7% of athletes tested performed very well (time below 0.21 seconds)
- * Better performances were recorded for athletes in Alpine Ski and Ski Jump

Athletes see twice as fast as non-athletes

Strong dynamic visual acuity (DVA) - the ability to clearly recognize moving objects and details - is critical for athletes involved in fast-moving sports.

DVA is one of the many visual skills evaluated at the Bausch & Lomb Olympic Vision Center in Lillehammer.

Dynamic Visual Acuity - Test Procedure

A small letter 'c', one centimeter in size, is projected on a screen and rotates at a distance of three meters from the athlete.

He/she must identify the position of the letter while it is in motion.

On average, professional and Olympic athletes respond twice as fast as non-athletes.



The eye-hand coordination speed of Ice Hockey players was on average 10 percent faster than all other Winter Olympians who participated in the Bausch & Lomb Olympic vision screening program.

Results of DVA Test from Albertville - 1992 Olympics

- Five athletes, among hundreds, showed superior dynamic visual abilities. In fact, they were able to discriminate the target at a speed of more than 100 rpm. The athletes came from the following countries:
 - two from Russia
 - one from Great Britain
 - one from Italy
 - one from Australia
- One athlete used eye exercises in his training program to improve his visual skills, including dynamic visual acuity.

During the 1994 Winter Olympics, hundreds of athletes tried to beat the DVA record - a Russian Alpine skier was recorded at 115 rpm - while being tested at the Bausch & Lomb Olympic Vision Center.