How to Perform a Sports Vision Evaluation

A. Test yourself before you test an athlete

1. Understand Sport
   a) Is it a dynamic or static sport
   b) Does it require peripheral or central vision or both
   c) Does it involve multiple targets or single targets
   d) Is acute acuity needed

2. All sports and positions in sport should be taken into account when targeting the evaluation points.
   a) Avoid shotgun approach to testing
   b) Understand the science and research
   c) Test with science behind you

B. Listen to your athlete and their parents/coaches who are with them

1. Is there concern or a search for enhancement

2. What variables might you be able to use to gauge improvement post intervention
C. Test Using the Established Pyramid Approach

D. Pyramid Level 1  Acuity and Contrast

1. Assessment Level 1
2. Optimize visual acuity
   a) Look for small refractive errors
      (1) Small amounts of astigmatism
      (2) Anisometropia
      (3) Is the patient correctable to better than 20/20
      (4) If possible use higher resolution digital charts

3. Evaluate Contrast Sensitivity
   a) Use Contrast Sensitivity Chart or Contrast feature on digital charts

4. Interventions Level 1
   a) Prescribe for limiting refractive error
   b) Educate patients on proper frame selection for sport
      (1) Rimless vs full frame
      (2) Protection vs function
E. Pyramid Level 2 Binocular Vision and Eye Movements

1. Assessment level 2
2. Don’t think 40sec arc at near, think optimization of the binocular system
   a) Stereo at distance
   b) Look for small central suppression
   c) Measure distance and near phorias
      (1) Near convergence is a commonly discussed post concussion sign
      (2) Need to have a baseline to assess if pre-existing phoria
   d) Different sports have different requirements
      (1) ie. Hitting a baseball at 60 feet vs stealing a basketball at 3 feet

3. Pursuit/Saccade Evaluation
   a) King Devick or other

4. Interventions Level 2
   a) Binocular Vision therapy
      (1) Home based computer therapy programs vs in office therapy
      (2) May be combination of both
      (a) Both options can be successful, can be validated with studies and offer viable financial models.
   b) Use of prism in glasses
F. Pyramid Level 3 Visual Processing

1. How is the brain processing the visual information it received
   a) Go-NoGo decisions, pull the trigger decisions
   b) Speed of processing
   c) Best guess theory
      (1) Ex. Tachistoscope, Neurotracker core session

2. Interventions Level 3
   a) Visual processing enhancement
      (1) Stobe Training
      (2) Neurotracker
      (3) Lumosity

G. Pyramid Level 4 Motor output evaluation

1. Think how to optimize the brain to send signals to the skeletal muscles to perform the necessary movement for sport
   a) Eye-hand, Eye-Foot coordination
      (1) Wayne Saccadic Fixator
      (2) DynaVision D2
      (3) SVT

2. Interventions Level 4
   a) Free space visual training involving a sport specific task under visually demanding conditions
      (1) Ex. Catching balls under strobe conditions on a balance beam
Summarize results

A. Explain the deficiencies found and their possible impact on the sport and position in question.

B. Explain means of remediation of deficits as well as means to enhance performance in non-deficient areas