

2010 NSCAA Convention Clinic Outline Book

Gail Stephenson, Manchester United Medical Staff

Visual Training to Improve Future Potential

Success for any sportsman is based upon skilled decision-making. As the majority of the information necessary to make such a decision will be obtained from the visual system, it is clear that a detailed assessment of the visual system will provide useful indicators of performance for most sports. The sum of the ability of the visual system to respond to a visual stimulus can be described as Visual Function.

The visual system can be divided into three parts; the part responsible for receiving the information from the visual world (cornea, lens, retina); the part responsible for conducting the stimulus to the brain (retina, optic nerve, visual cortex); and the part which interprets the electrical stimulus into perceptions of objects (visual cortex). In addition there are six eye muscles which produce movements of the eye. In the same way as the ability to run is the result of a number of physiological processes, 'vision' is a term often used to describe a range of physiological visual functions – each one very specific but in some cases interacting with other visual functions and within activities such as sport interacting with other physiological processes.

Within soccer, a vision scientist with knowledge of visual physiology can make a valid contribution in terms of undertaking detailed visual assessments of players, with emphasis being placed on the elements of vision most relevant to soccer and by maximizing visual potential. To date, my role has been developed to encompass the development of visual training for players to improve future potential; to provide baseline measurements as part of overall medical records; and to evaluate and manage players following head trauma, episodes of migraine or any other visual symptoms.

Skilled sportsmen on the whole use their visual system to a higher level than the average non-sports playing individual but, in many instances, specific visual exercises will improve visual ability especially if each function is assessed and improved where necessary. Improving either the quality of the information entering the visual system or the speed with which it is processed will have an effect on performance.

'Keep your eye on the ball' was a frequently quoted coaching war-cry. With the development of more sensitive visual assessment tools and the possibility of improving the assimilation of visual information, Sports Vision as a part of Sport Science can be a useful support tool for coaches involved in player development.