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## Proprioceptive exercises workout: New dimension of sports training

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### Abstract

The main objective of the article is to spread the importance of proprioceptive exercises as a training component. In this article research scholar try to express the importance of proprioceptive training in the field of sports. The famous quote 'prevention is better than cure' is a main concept behind that. At present the proprioceptive training is widely used in the area of physiotherapy. The research scholar felt that if this training would be used in the sports field, it may show usefulness toward sports by improving player's proprioception. For that purpose research scholar describes some terminologies and situations in sports (eg. Motor control, consciousness, unconsciousness etc.).

**Keywords:** proprioceptive training, proprioception, motor control, consciousness, unconsciousness

### Introduction

Proprioception is the sense of body motion-the capability to experience the body movement in space. Despite centuries of scientific interest, the part of proprioception in the organization and execution of movement remains speculative. In 1906, neurophysiologist Charles Sherrington creates the term proprioception from the Latin word 'proprius', means 'one's own', for sensory information received from neural receptors situated in joints, muscles and tendons. (Sherrington C., 1906) These particular sensory nerve endings are stimulated by body motion and position, providing the body with an awareness of itself with its location in space.

Today, proprioception exercises widely used by physiotherapist for rehabilitation treatment, but as per the quote 'Prevention is better than Cure' it may helpful as a part of training. This article focused on the use of proprioceptive exercises as a new dimension of sports training.

### Significance of the article

1. Proprioceptive training plays a major role in conditioning the sensory receptors to be more responsive to length and tension in the muscles and tendons.
2. It also helps the skin, palms of the hands, soles of the feet and other senses to communicate with the brain about muscle tension, weights shifts, load and range of motion.
3. This type of exercise involves integration of the mind and body, combining balance, strength and quickness.
4. This exercises control the unconscious movement of the player.
5. This exercise helps coaches to influence the player's cognitive sense for decision making process and skill coordination.

### Importance of proprioceptive training

Proprioception took a balanced approach towards sports. When it comes to sport performance, power, strength and endurance can only take you so far. Whether a footballer dribbling the ball or a gymnast on the bars or a rugby player diving for the line while fending off tackles, balance is critical for performance. Balance in sport includes a complex interplay between various factors. A number of these are conscious - such as deciding to move a limb to prevent you falling as well as performing a skill at same time e.g. a basketball shoots. The unconscious element involves the use of in-built sensory mechanisms. This is known as proprioception. Proprioception has been entitled as the sixth sense and is a mechanism that keeps track and

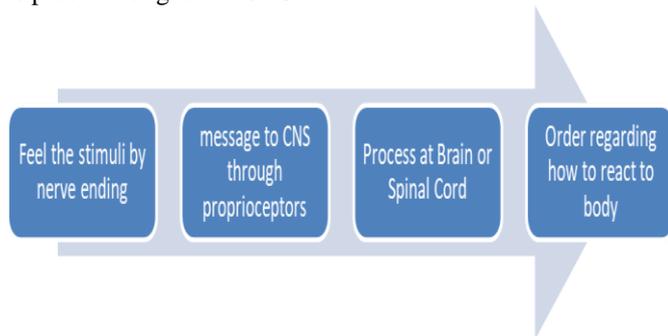
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control of muscle tensions and movement in the body.

### The proprioception process

The Central Nervous System, is a broadcasting headquarter of all sensory stimuli received from outside. As soon as joints, muscles and ligaments attain an external impulse, the message is sent through the CNS, which transmits this to the rest of the body, giving it 'order' on how to react. The brain as well as spinal cord receives some of these messages and acts on these messages unconsciously. This is how proprioception is achieved.

The nerve endings that are found in muscles, joints and ligaments are called proprioceptors. Reacting to force, tension and stretch, these endings react as key points in 'stretch/reflex'. Stretch/reflex is a general term used in sports. The body sends a message through the proprioceptors, which is passed along to the CNS.



### Proprioception in sports

Soccer goalies guarding the net, basketball forwards evading offense, gymnasts on the double bars. These athletes make use of a fair amount of skill, energy and stamina to stay on the top of their game by performance. The brute forces involved in athletics are necessary, but so is maintaining balance while playing a sport. John Shepard (sports and specialist health writer) investigates the role that balance plays in optimizing athletic skill. Balance is a difficult and many-faceted element that governs our everyday work. It is especially necessary for athletes whose exceptional sense of balance and equilibrium allows them to shine in their respective sports.

Muscles, ligaments and joints have their own 'thought processes' called 'motor memory'. Conscious movement made by a body or by external forces, without delay them to react according to information they receive from nerve endings.

### Conclusion

This article is concluding with the proprioceptive exercises are helpful for sports field because some research studies shows significant difference. The famous quote 'prevention is better than cure' is a main concept behind that. At present the proprioceptive training is widely used in the area of physiotherapy. The research scholar felt that if this training would be used in the sports field regularly, it may show usefulness toward sports by improving player's proprioception. For that purpose research scholar describes some terminologies and situations in sports (eg. Motor control, consciousness, unconsciousness etc.).

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