

The Table Tennis Shoulder

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Abstract: The paper is based upon more than three decades of personnel experience of the authors as the medical doctors of a table tennis national team. This was a quite reliable period to notice that the most of the problems are related to overuse injuries of the shoulder region. Introduction of new materials as well as spin stroke contributed to the development of degenerative condition of the tendon fibers that attach to the bony prominence of the shoulder blade. The tendons involved are responsible for anchoring the muscle that perform movement of the shoulder girdle. The article explains the common cause of the table tennis shoulder, symptoms and diagnostic procedures, treatment and possible prevention measures

Keywords: table tennis, shoulder, overuse injuries .

1. INTRODUCTION

What most people call the shoulder is really several joints that combine with tendons and muscles to allow a wide range of motion to the arm, from scratching your back to perfect spin stroke in table tennis.

Most shoulder problems involve the soft tissues, muscles, ligaments, and the tendon rather than bones and fall into three major categories;

tendinitis/bursitis
injury
arthritis

In the case of professional or recreational activities the tissue is related to repetitive strain injury also called cumulative trauma disorder, overuse syndrome or enthesopathy. As with many other hand and arm conditions, very limited scientific support has been observed. The tendon as a cord connects a muscle to a bone or other tissue and most tendinitis are the result of the wearing process that takes place over a period of time.

-acute/subacute tendinitis following some overuse excessive activities chronic

- tendinitis resulting from degenerative diseases or repetitive movements

- the splitting and tearing of the tendons of the rotator cuff, (that is an arrangement of muscles and their tendons that provides the shoulder motion and stability).

2. ETIOLOGY

The aim of the paper is to explain the most common cause of *table tennis shoulder*, symptoms and diagnostic procedures as well as possible measures. The pathophysiology of enthesopathy is related to the levator scapular muscle attachment on the upper medial corner of the scapular blade. Non-inflammatory, chronic degenerative changes are identified in surgical pathology specimens. This muscle has small origin and does not transmit large forces through its tendon during repetitive nature of hitting thousands and thousands of balls which leads to tiny tears in the tissue. This most

often is seen at the muscular tendinous junction by direct palpation.

3. SYMPTOMS

The most often complain is severe, burning pain of the upper medial aspect of the scapular blade and neck which gradually worsens over the time. The motion contracture under such circumstances is a rule. If the player is right handed it has to be pointed out that the symptoms are predominant on contralateral left shoulder. X-rays may show some bone in the muscle origin and on MR images fluid may be seen in tissue defect.

4. DISCUSSION

This paper is based on the authors' experience of more than 30 years as the national team medical doctors. During these decades, development of the game was in feed-back relation to big innovations in blade, rubber and glue manufacture. In modern table tennis most competitors favor the forehand top spine as the most attacking stroke.

Technically, adequate performance of top spin strike is dependable of knowledge, motor abilities but can not be executed without a proper kinetic chain of the shoulder girdle. It means that in case of the right handed player, impact of the ball to the racket can be realised only if the left scapular blade is elevated in the upper plane in relation to the right one.

The levator scapular muscle is responsible for obtaining this kinematic synchronization and repetitive contractions, keeping repeating microtrauma lead to overuse syndrome on the tendon attachment. This type of enthesopathy is unique for the table tennis and should be regarded as a separate notion as well as tennis elbow.

5. CONCLUSION

According to the updated knowledge and experience, soft tissue therapy should be conducted by

decompressing the area around the repetitive stress injury thus enhancing circulation and promotion of healing. Biofeedbacks can be used to reduce stress related muscle tension in the muscles of the neck and shoulders. As the prevention active release techniques are effective in reducing symptoms by realising the tension of the muscles and nerves of the injured area.

REFERENCES

- [1] Rene Caillet, "Soft Tissue Pain and Disability," F.A.Davies Company, 1980.
- [2] Nahit ES,Pritchard CM,Cherry NM, Silman AJ,Macfarlane GJ, "The Influence of Work Related Psychosocial Factors and Psychological Distress on Regional Musculoskeletal Pain," J.Rhe. 28(6)1378-84.,(2001)
- [3] Ratzlaff,CR.,Gillies,MW.,Koehoor," Work -related Repetitive Strain Injury and Leisure-Time Physical Activity," Arthritis& Rheumatism 57(3),495-500, 2007.
- [4] Van Tulder M.,Malmivaara A.,Koes B ; "Repetitive Strain Injury", .Lancet 369(9575),,2007