

**Sbutega Branko<sup>1</sup>, Sbutega Milošević Gorica<sup>2</sup>**

<sup>1</sup>Institute for Orthopaedics «Banjica», Serbia

<sup>2</sup>Medical University of Belgrade, Institute of Hygiene and Medical Ecology, Serbia

## Table tennis shoulder

### Abstract

*The paper is based upon more than three decade of personnel experience of the author as the medical doctor of table tennis national team.*

*This is quite reliable period to notice that the most of the problem is related to overuse injuries of the shoulder region.*

*Introduction of new materials as well as spin stroke, contributed to development of degenerative condition of the tendon fibres that attach on the bony prominence of the shoulder blade.*

*The tendons involved, are responsible for anchoring the muscles that perform movements of the shoulder girdle.*

*The article explains the common cause of the table tennis shoulder, symptoms, diagnostic procedures, treatment and possible prevention measures.*

**Key words:** *table tennis, shoulder, overuse injuries*

### Introduction

What most people call the shoulder is really several joints that combine with tendons and muscles to allow a wide range of motions to the arm, from scratching your back to perfect spin stroke in game. Most shoulder problems involve the soft tissue, muscles, ligaments and tendon rather than bones and fall into three major categories (1):

- tendinitis/bursitis
- injury
- arthritis

In the case of professional or recreational activities the issue 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. (2) Changes are identified in surgical pathology specimen. This muscle has small origin and does transmit large forces through its tendon during repeated nature of hitting thousands and thousands of balls which lead to tiny tears in the tissue (4).

The most often is seen at the muscular tendinous junction by direct palpation. 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 restriction of motions under such circumstances is a rule. If the player is right handed it has to be pointed out that the symptoms are predominant on the contra lateral left shoulder. Radiographs may show some bone in the muscle origin and on MR images fluid may be seen in tissue defect.

## Discussion

This paper is based on author experience of more than 30 years as the national team medical doctor.

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 of the competitors favour the forehand top spin as the most attacking stroke.

Technically, adequate performance of top spin strike is dependable of knowledge, motor abilities but cannot be executed without proper kinetic chain of the shoulder girdle.

The tendon as a cord connects muscle to bone or other tissue and most tendinitis are result of the wearing process that take place over a period of time.

- acute/subacute tendinitis following some overuse excessive activities
- chronic tendinitis resulting from degenerative disease or repetitive movements
- the splitting and tearing of tendons of rotator cuff,(that is arrangement of muscle and their tendons which provides shoulder motion and stability).(3)

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 levator scapular muscle attachment on the upper medial corner of the scapular blade. Non-inflammatory, chronic degenerative, It means that in case of right handed player impact ball to racket must be eelised only if the left scapular blade is elevated in the upper plane in relation to the right one.

To obtain this kinematic synchronization is responsible *levator scapular muscle* and repetative contractions, keeping repeating microtraumas lead to overused syndrome the tendon attachment. This type of enthesopathy is unique for table tennis and should be regarded as the the separate notion as well as „tennis elbow“.

## Conclusion

According to updated knowledge and experience, soft tissue therapy should be done by decompressing the area around the repetitive stress injury thus enhancing circulation and promoting healing. Biofeedbacks can be used to reduce stress related muscle tension in the region of neck and shoulders.

As the prevention active release techniques are effective in reducing symptoms by releasing the tension of the muscles and nerves of the injured area.

## References

- Rene Cailliet.,Soft Tissue Pain and DisaBility,F.A.Davies Company, Philadelphia, 1980.
- Nahit ES,Pritchard CM,Chery NM,Silman AJ,Macfarlane GJ:The Influence of Work Related Psychosocial Factors and Psychological distress on Regional Musculoskeletal Pain.,J.Rheumatology 28(6)1378-84.,2001.
- Ratzlaff CR.,Gillies MW.,KoeHoorn;Workrelated Repetitive Strain Injury and Leisure -time Physical Activity .,Arthritis & Rheuma. 57(3),495-500,2007.
- Van Tulder M.,Malmivaara A.,Koes B: RepeTitive Strain Injury.,Lancet 369(9575),2007.

***Published in Proceedings of International Science Congress – Table Tennis and the Aging Population (Poreč, June 13<sup>th</sup>–14<sup>th</sup> 2009). ISBN 978-953-6378-99-9 (KF)***