

## **Radial Shockwave Therapy (RSWT) for the treatment of ankle ligament injuries**

N.G. Malliaropoulos MD, MSc in Sports Medicine, PhD.  
Thessaloniki Sports Injuries Clinic

### **INTRODUCTION**

Extracorporeal shockwave therapy (ESWT) has been applied for insertion tendopathies since 10 years. Since 2000 a new ballistic principle of ESWT, the so called Radial Shockwave Therapy (RSWT) has been introduced. The aim of the study is to evaluate the efficacy of ballistic ESWT in the treatment of ankle ligament injuries.

### **MATERIAL AND METHODS**

During the period September 2003-June 2004, 14 athletes suffering from ankle ligament injuries, without mechanical instability, were treated in our sports injury clinic. From those, 10 athletes had a lateral ankle ligament injury II degree prior to three months, and their main complain was pain during training activities, without mechanical instability, while the other 4 athletes presented with medial ankle ligament injury II degree prior to three months, with pain during training activities, also without mechanical instability. Evaluation was performed through History, clinical examination to exclude mechanical instability, range of motion measurement of the injured compared to the healthy side and the ability to resisted movement (dorsi flexion, plantar flexion, eversion,inversion) and their complains of pain during training activities, which was the major reason for visiting us and seeking for treatment. The Radial Shock Wave Therapy (RSWT) was applied as a treatment, and all the injuries were treated with three sessions with an energy flux density corresponding from 1,5-2 bars working pressure, working frequency 6Hz and 2000 impulses each, one session per week, using the Swiss DolorClast® (EMS Kostanz,Germany). While the injuries that were in a chronic stage, were treated with 3 sessions.

### **RESULTS**

All the athletes continue their training. All of them returned to their pre-injury training level without pain. Pain is usual complication after ankle ligament injuries without mechanical instability in the subacute or chronic stage. Radial Shock Wave therapy is a safe, non invasive and effective therapy compared to other alternative therapies such as NSAIDS, local injections and physiotherapy. Many different treatments have been proposed such as NSAIDS, injections, physiotherapy, massage. Our encouraging preliminary results of this prospective pilot study on Radial Shock wave therapy for subacute and chronic muscle injuries, seems to be a safe , non invasive and effective therapy, compared to other therapies. Further follow up of these patients is needed, and further research using controlled and randomized studies.

### **REFERENCES**

- Ref. 1: XXVII FIMS World Congress of Sports Medicine, 2002: "Acute lateral Ankle injuries -A new classification", Malliaropoulos N.,Papacostas E., Papalada A.
- Ref. 2: XXVII FIMS World Congress of Sports Medicine, 2004:"Acute Ankle ligament Injuries-Clinical therapeutic applications and recovery accelerations", Malliaropoulos n., Papalexandris S., Akritudou A.
- Ref. 3: XXVII FIMS World Congress of Sports Medicine, 2004 :  
1<sup>st</sup> FIMS Sports Rehabilitation Course: "Ankle Injuries Rehabilitation" N.G.Malliaropoulos.