

3<sup>rd</sup> Euro-Global Experts Meeting on

# Medical Case Reports

June 30-July 02, 2016 Valencia, Spain



## Francis Yu-Sing Chan

Tameside Hospital NHS Foundation Trust, United Kingdom

### An exceptional comparative study of different treatment modalities (including ultrasound bone stimulator) of the not uncommon tibia shaft & the rare fibula shaft fractures non-union in the same individual from a sport injury

**Introduction:** While simultaneous tibia & fibula shaft fractures are not uncommon in both routine trauma & sport related trauma (with seventy five per cents of tibia fractures have associated fibula fractures), tibia fractures have long been regarded as the main injury and surgeons attention 'and surgical treatments are as a result focused on the tibia fractures. With the abundant soft tissues attachments to the fibula, the traditional wisdom informs us that fibular non-union is uncommon. Once the tibia fractures have been stabilised, the fibula fracture would commonly united usually prior to the tibia fractures union. In the residual small number of fibula non-union, persistent symptoms from the non-union is even rare. Thus, very little was known or published on symptomatic fibula fractures non-union following the associated tibia fracture union is achieved. In the limited literature available, while there was reported use of surgery or other non-invasive methods in the treatment of symptomatic fibular non-union, there has been no reported use of non-invasive ultrasound bone stimulator. In this study, we reported the use of ultrasound bone stimulator in this rare symptomatic non-union.

**Objective:** 1. To report a rare symptomatic fibula fracture non-union following tibia fracture union in a keen sports woman. 2. The first documented assessment of the effectiveness of Ultrasound Bone Stimulator in the treatment of the rare symptomatic fibula non-union.

**Results:** On completion of the 20 weeks period of ultrasound bone stimulator treatment, the patient's right leg symptoms have completely resolved and she has returned to skiing and water skiing without further symptoms. The fibular fracture was also confirmed to be united radiological.

**Conclusions:** With its abundant soft tissues attachment, it has long been claimed that fibula fracture has the ideal environment for union to occur. Hence, fibula fracture non-union is rare. In previous study of 440 patients who sustained both tibia and fibula fractures, the reported incidence of (symptomatic and asymptomatic) radiological fibula non-union is less than 1% and symptomatic fibula non-union is less than 0.25%. In this study, the symptomatic fibula fracture non-union following the tibia fracture union constitutes a rare clinical situation. Review of the literature has shown treatments with electrical stimulation, and/ or surgical interventions (e.g. resection of distal fragment, internal fixation with/ without bone graft etc.). In this study, we reported the first successful use of ultrasound bone stimulator in its treatment.

### Biography

Francis Yu-Sing Chan is a Consultant Orthopaedic Surgeon in Manchester UK and the Lead Appraiser of the Tameside Hospital NHS Foundation Trust on doctors revalidation. He completed his medical school in Queen's University of Belfast and graduated with MB, BCH, BAO (with distinction) and BSc (with 1st class honours). He completed the basic surgical training in Northern Ireland. He completed the Higher Surgical Training in Trauma & Orthopaedic Surgery in Manchester (Clinical Lecturer of the Manchester University and Specialist Registrar). He completed the world renowned Kurgan Ilizarov Fellowship in 2003 and the AO International Trauma Fellowship in 2005. Between 2009 and 2012, He was the Clinical Director of Department of Orthopaedics at Tameside General Hospital. In addition to a busy clinical practice, He am actively involved in education. He have over 40 presentations in local and international meetings and over 40 publications in journals and book chapter. He is UK MRCS & FRCS(Tr&Orth) examiner. He is the Chairman of the Greater Manchester East Research & Ethics Committee of the UK NHS Health Research Authority. He works as the teaching faculty of the MCh(Orth) Programmes of both the Dundee University and the Edge Hill University. In 2016, He was granted with the Fellowship of the European Federation of Orthopaedics and Traumatology for recognition of my clinical and academic achievement.

[francischanuk@yahoo.co.uk](mailto:francischanuk@yahoo.co.uk)