THE RECRUITMENT OF THE TRANSVERSUS ABDOMINIS ON A PATIENT SUBMITTED TO AN ABDOMINAL SURGERY - AN ULTRASOUND ANALYSIS

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INTRODUCTION: It has been shown that the onset of the transversus abdominis muscle (TrA) muscle on a patient with low back pain (LBP) is delayed (Hodges and Richardson, 1996). To date there is no studies assessing the impact on the TrA recruitment after an abdominal surgery. The study is investigating a possible back pain after a hernia surgery, which can be necessary to any athlete. Surgery and back pain are issues that should be considered to any activity, specially sports. The aim of this study is to indirectly assess the recruitment of the TrA on a patient submitted to abdominal surgery.

METHOD: The study is being carried out on a 53 year old patient who is going to be submitted to an inguinal hernia surgery in April. Real time ultra-sound imaging is being used to indirectly assess the recruitment of TrA. The patient was assessed before and will be assessed after the surgery. Pre-surgery baseline data were taken twice a week during 4 weeks, and post-surgery data will be taken once a week during twelve weeks, being the first eight weeks after the surgery considered the *early post-surgery period*, and the last four weeks *late post-surgery period*. The pain intensity visual analogue scale (VAS) will be used to assess pain at the surgical incision after the surgery. Two assessors are participating on the measurements. The ultra sound assessor will be blinded for levels of pain avoiding possible bias. The other assessor will be responsible for the pain VAS assessments. During all ultrasound measurements, the patient is being positioned in a frame that allows a completely relaxed position. Ultrasound images are being taken at two specific low intensity tasks, i.e. isometric knee flexion and isometric knee extension at 7.5% of maximal voluntary contraction. The relative increase in thickness was calculated by the difference in thickness at rest and during the task, divided by the values at rest (Ferreira et al, 2004). This procedure has already tested yielding acceptable results for validity (Ferreira et al, 2004) and reliability (McMeeken et al,.2004 and Bunce et al, 2002) The results of this study will be available by June of 2007, and will be presented at the congress.

CONCLUSION: This will be the first study to investigate the effects of an abdominal surgery on the deep abdominal muscles. The results will help the understanding about the consequences of the TrA recruitment after an abdominal surgery.

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