



**UNIVERSITY OF WEST ATTICA**  
**SCHOOL OF HEALTH AND CARE SCIENCES**  
**DEPARTMENT OF PHYSIOTHERAPY**

## **SUMMARY OF DOCTORAL DISSERTATION**

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## **TITLE:**

Clinical Pilates method vs. exercise in the management of shoulder tendinopathies.

**Keywords:** Tendonitis, pain, exercise, clinical Pilates, physiotherapy

### **1. INTRODUCTION**

The shoulder region constitutes one of the most complex joints of the human body suffering from a variety of pathologies. (Oatis 2012). Most shoulder conditions are related to tendon disorders (inflammatory, degenerative etc.). Historically there has been a vast nomenclature of these pathologies like impingement syndrome or painful subacromial syndrome, frozen shoulder, tendonitis, tendosynovitis. The dominant terminology today is tendinopathy and Rotator Cuff Related Shoulder Pain (RCRSP). These two terms constitute an “umbrella definition” as well as a definition that makes no diagnosis or hypothesis concerning the underlining pathology (Millaretal 2021). The pathophysiology of shoulder tendinopathy includes a change of the normal coloration of the tendon (from yellow-white to grey) tendon stiffness, oedema development, pain and increase of tendon frailty. (Translational Sports Medicine, 2017, Millaretal. 2021)

In order to explain the phenomenon etiology there, seem to be a plethora of both intrinsic and extrinsic risk factors, whereas, as far as the physical therapy treatment is concerned we can divide the available means to electrophysical agents (TENS electrotherapy, shockwave treatment, Laser, electromagnetic field therapy, in regards of “combating” pain, oedema and inflammation) and therapeutic exercise (stretching, range of motion exercises, strengthening exercises and manual therapy exercises).

#### **1.1 Necessity and purpose of study**

Numerous studies demonstrate a definite benefit of therapeutic exercise on shoulder tendinopathies. (Haik et al 2016, Steuri et al 2017, Pieters et al 2020, Haar et al. 2006, Ketola et al 2013). The effectiveness of the clinical Pilates method is established on that basis. Through a specific set of exercises there has already been improvement in a number of musculoskeletal and neurological disorders. Purpose of the study is to prove the effectiveness of clinical Pilates in the treatment of shoulder tendinopathies.

## 2. THEME ANALYSIS AND METHODOLOGY

### 2.1 Sample, inclusion-exclusion criteria

A randomized clinical trial of adult patients with shoulder tendinopathy will be used for the purposes of the study. It will include men and women, aged 18-65 who suffer from shoulder tendinopathy. Patients must present at least two of the basic clinical symptoms (pain, reduced ROM, stiffness) and must be able to execute a therapeutic exercise program. Underage and elderly (over 65 years old) patients will be excluded from the study, as well as patients who suffer from chronic cardiological, neurological, endocrinological, autoimmune diseases and cancer. Finally, patients with disorders that inhibit the ability to exercise will also be excluded.

### 2.2 Methodology, statistical analysis and size of studied sample

The sample will be divided into two groups. Group A (intervention group) will undergo treatment using the clinical Pilates method and team B (control group) that will follow a “conventional” therapeutic exercise program. Statistical analysis of the study will be executed via the IBM SPSS Inc. Statistics for Windows, version 27.0.1. Because of the originality of the main study there is a lack of research data in order to evaluate the sample size of the researched populace. For that purpose, a pilot study with a suitable sample will be conducted in order to ascertain the validity and reliability of the Pilates questionnaire that will be used in the main study.

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