International Journal of Sports, Exercise and Physical Education

**ISSN Print:** 2664-7281
**ISSN Online:** 2664-729X
**Impact Factor:** RJIF 8.15
IJSEPE 2025; 7(2): 405-407
https://www.sportsjournals.net
Received: 14-07-2025
Accepted: 15-08-2025

**Deevika**
Department of Physiotherapy, College of Physiotherapy, Sri Ramakrishna Institute of Paramedical Science, Coimbatore, Tamil Nadu, India

**Anand Chellapa**
Department of Physiotherapy (Orthopaedics), College of Physiotherapy, Sri Ramakrishna Institute of Paramedical Science, Coimbatore, Tamil Nadu, India

**Atchaya**
Department of Physiotherapy, College of Physiotherapy, Sri Ramakrishna Institute of Paramedical Science, Coimbatore, Tamil Nadu, India

**Vidhyananth**
Department of Physiotherapy, College of Physiotherapy, Sri Ramakrishna Institute of Paramedical Science, Coimbatore, Tamil Nadu, India

**Corresponding Author:**
**Deevika**
Department of Physiotherapy, College of Physiotherapy, Sri Ramakrishna Institute of Paramedical Science, Coimbatore, Tamil Nadu, India

# Evaluating the effectiveness of combined active release technique with static stretching in reducing iliotibial band tightness among office workers

**Deevika, Anand Chellapa, Atchaya and Vidhyananth**

**DOI:** https://www.doi.org/10.33545/26647281.2025.v7.i2f.254

**Abstract**
This study aimed to evaluate the effectiveness of combined Active Release Technique (ART) with Static Stretching in reducing iliotibial band (ITB) tightness among office workers. An experimental study design was implemented involving 30 subjects (aged 23–60 years) who met the selection criteria. Participants were selected using simple random sampling and allocated into a single experimental group (n=30). The intervention consisted of ART combined with static stretching, administered three times per week for four weeks, with each session lasting 25–30 minutes. Iliotibial band tightness and functional range were assessed pre- and post-intervention using a universal goniometer. The post-test values demonstrated significant improvements compared to pre-test values ($t = 5.821$, $p < 0.05$), indicating a reduction in ITB tightness and enhanced functional range. The results suggest that integrating ART with static stretching is effective in reducing iliotibial band tightness and improving function in office workers.

**Keywords:** Iliotibial Band, Active Release Technique, Static Stretching, Range of Motion

## Introduction

## INTRODUCTION

The Iliotibial Band (ITB), also known as the Iliotibial Tract, is a lateral thickening of the tensor fascia lata in the thigh. It originates from the tubercle of the iliac crest, runs distally down the lateral side of the thigh, and inserts into the lateral patellar retinaculum, tubercle of tibia, and proximal fibular head. The ITB stabilizes the knee during extension and semi-flexion, and assists in hip abduction and internal rotation [1].

Iliotibial Band Tightness can be unilateral or bilateral, though unilateral involvement is more common. It may act as a primary or secondary cause of various lower extremity complaints. Prolonged sitting, as observed in office workers, is a significant contributor to ITB tightness, leading to painful areas such as the lower back, lateral hip, knee, and patella [2]. The tightness of the ITB is also associated with patellofemoral pain syndrome and Iliotibial Band Syndrome (ITBS). ITBS is the second most common overuse injury, particularly prevalent among runners, cyclists, competitive rowers, and athletes in soccer, basketball, and field hockey. Clinical evaluation involves a positive Ober's test for ITB tightness and Noble's test for ITBS [3]. Mechanically, ITB tightness increases frictional forces over the lateral femoral condyle during repetitive knee flexion and extension, predisposing to inflammation, pain, and altered lower limb biomechanics. Such alterations can affect gait, load distribution, and overall musculoskeletal function [4]. Several treatment methods are available for ITB tightness, with rehabilitation programs primarily focusing on increasing flexibility and reducing impingement over the lateral femoral condyle. Two commonly applied interventions are:

**Static Stretching:** The subject extends and adducts the affected leg across the other leg in standing position. While exhaling, the trunk is flexed laterally to the opposite side, with hands clasped overhead and the arm on the side of the stretched leg drawn in the same direction [5].

**Active Release Technique (ART):** A patented manual therapy developed by Dr. P. Michael Leahy. It is used to treat soft tissue pain and dysfunction in muscles, joints, and connective tissue. ART involves palpation to identify adhesions or tension, followed by moving the tissue from a shortened to a lengthened position while maintaining manual tension along the fibres. It has shown effectiveness in improving flexibility, reducing soft tissue restrictions, and when combined with stretching, provides greater relief from ITB tightness [6]. The prevalence of iliotibial band tightness is notably high in office workers and is reported to be greater in males compared to females [7].

## Materials and Methodology

### Study Design
The study is an experimental study.

### Study Setting
The study was conducted at Sri Ramakrishna Institute of Paramedical sciences "department of Physiotherapy".

### Study Duration
This study is proposed to be carried out for 6 months.

### Sampling Method
The subjectsassigned for this study werepurposive sampling.

### Sampling Size
The study consists of 30 office workers with IT band tightness.

### Treatment Duration
The treatment was carried out for a period 4 weeks. Three sessions per weeks and treatment duration was about30 minutes per sessions.

### Criteria for selection
### Inclusion Criteria
- Subjects with Iliotibial band tightness were chosen.
- Age 30 to 40 years.
- Office workers who used to sit for 6-8 hours in a day.
- Both genders with positive Ober's test.
- Subjects with less than 10 degree hip adduction.

### Exclusion Criteria
- Fracture over the lower limb.
- Athletes
- Subjects with Iliotibial band injury in past 6 months.
- Subjects with patellofemoral syndrome or IT band syndrome

### Variables
### Dependent Variable
- Range of motion measurement

### Independent Variables
- Static stretching
- Active release technique

### Assessment Tools
Universal Goniometer was used to assess the range of motion.

### Materials Used
- Universal goniometer
- Note
- Pen
- Couch

## Results
The data gathered from 30 subjects with Iliotibial band tightness was tabulated, analyzed and interpreted to understand the effectiveness of Active Release Technique with static stretching. The pre and post – test value of the group was obtained at the start and end (after four weeks) of study duration respectively. Mean value was used to find out whether there is any significant difference between pre-test and post-tests values in the group.

### Comparison of Results

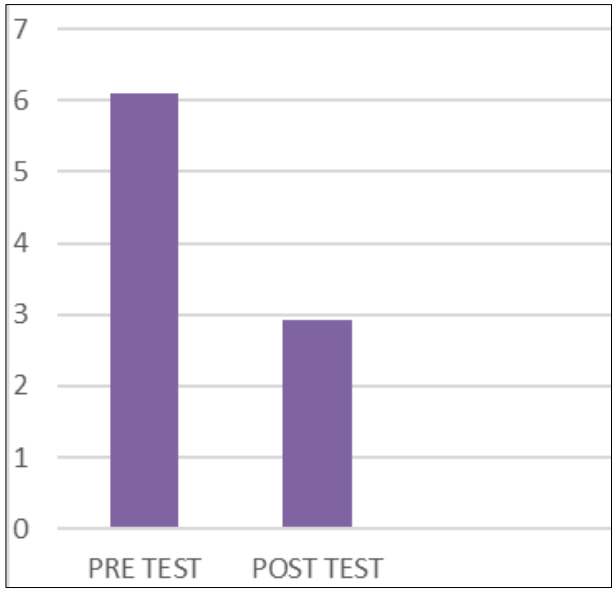


**Fig 1:** Mean Range of Motion

## Conclusion
Based on statistical analysis and results the study concluded that the Active Release Technique with Static Stretching showed significant increase in the hip adduction range of motion among office workers. Hence, the study suggested that, this technique can be effectively used to train Iliotibial Band Tightness.

## References
1. Arumugam M, *et al*. Self stretching in standing position to improve flexibility of iliotibial band tightness. Int J Phys Educ Sports. 2018;3.
2. Bushal S, *et al*. Comparative study between the effectiveness of active release technique and dynamic soft tissue mobilization in increasing hamstring flexibility. 2013.
3. Murugod A, Patil VR, *et al*. Immediate effect of static stretching versus myofascial release technique in iliotibial band tightness in long distance runners. 2014;2.
4. Beals C, Flanigan D, *et al*. A review of treatment for iliotibial band syndrome in the athletic population. 2013.

5. Opera M, Kozinc Z, *et al*. Stretching and releasing of iliotibial band complex in patients with iliotibial band syndrome. 2023.
6. Kothawale S, Rao K, *et al*. Effectiveness of positional release technique versus active release technique on hamstring tightness. 2018.
7. Sarangan KK, Ezhumalai G, *et al*. Effect of hold relax technique and active release technique in post immobilisation shoulder stiffness in coastal patients. 2023.
8. Zainab N, Asghar S, *et al*. Prevalence of iliotibial band tightness in cyclists. 2023.
9. Abubakar A, Anwar M, *et al*. Prevalence and association of iliotibial band tightness with daily sitting hours and types of sitting surface among tailors of Sahiwal, Pakistan. J Health Rehabil Res. 2020;4(3).
10. Kane K, Wishwas K, Mhatre B, *et al*. Effect of iliotibial band stretching on pain and functional activities in patients with knee osteoarthritis. 2013;7.
11. Tak S, Lee Y, *et al*. Effect of active release technique on the gluteus medius for pain relief in persons with chronic low back pain. 2018.
12. Saikia S, *et al*. Etiology, treatment and prevention of iliotibial band syndrome: a review. Res. 2012.
13. Heyer K, *et al*. Effect of instrument assisted soft tissue mobilization on iliotibial band tightness. 2011.
14. Martinez JM, *et al*. Physical medicine and rehabilitation for iliotibial band syndrome. Medscape. 2012;307850.
15. Burke ER, Newsom M. Medical and scientific aspects of cycling. Champaign (IL): Human Kinetics; 1998. 266 p. ISBN: 0-87322-126-5.
16. Maughan RJ. Basic and applied sciences for sports medicine. Oxford: Butterworth-Heinemann; 1999. p. 110–11. ISBN: 0-7506-3466-9.
17. Hawker GA, Mian S, *et al*. Measures of adult pain. Arthritis Care Res. 2011;11:240–52.
18. Dubin J. Evidence based treatment for iliotibial band friction syndrome. Sports Ther. 2006.
19. Gose JC, *et al*. Iliotibial band tightness: stretching and strengthening exercises as treatment. 2006.
20. Gangat AK. Effectiveness of iliotibial band stretching versus strengthening. Res. 2005.
21. Fredericson M, White JJ, *et al*. Effectiveness of iliotibial band stretches. Arch Phys Med Rehabil. 2002;83:589–92.
22. Afshari E, Kajbafvala M, *et al*. Comparison of the immediate effect of active release technique and self myofascial release on flexibility of the iliotibial band and functional activities in semi-elite athletes. 2023.
23. Joshi S, Srinivastava N, *et al*. Comparison of active release technique and conventional physical therapy in management of upper cross syndrome. 2018.