

Timing of physical therapy after epidural steroid injection for low back pain

Submission date 10/12/2025	Recruitment status No longer recruiting	☐ Prospectively registered ☐ Protocol
Registration date 12/12/2025	Overall study status Completed	☐ Statistical analysis plan ☐ Results
Last Edited 12/12/2025	Condition category Musculoskeletal Diseases	☐ Individual participant data ☒ Record updated in last year

Plain English summary of protocol

Background and study aims

Low back pain and leg pain (sciatica) are very common health problems. Treatments often include medicines, physical therapy, and spinal injections (epidural steroid injections) to reduce inflammation and pain. However, it is not currently known what the best time is to start physical therapy after receiving a spinal injection. This study aims to find the optimal timing for physical therapy after a steroid injection. The goal is to determine if delaying physical therapy for 30 days allows the injection to work better and provides longer-lasting relief compared to starting it earlier or using medication alone.

Who can participate?

Adult patients (aged 18 years and over) with pain duration of at least 30 days, insufficient response to conventional medical treatments (NSAIDs, muscle relaxants) and/or prior physical therapy, and diagnoses of lumbar disc herniation (LDH), lumbar radiculopathy (LR), or axial discogenic low back pain confirmed by lumbar MRI.

What does the study involve?

The study involves three groups of patients:

- A group receiving only standard medical treatment (painkillers and muscle relaxants).
- A group receiving a spinal steroid injection and starting physical therapy 15 days later.
- A group receiving a spinal steroid injection and starting physical therapy 30 days later.

The researchers assess the patients' pain levels and ability to perform daily activities over a 3-month period.

What are the possible benefits and risks of participating?

- Possible benefits: Participants may experience significant relief from low back and radicular leg pain, along with improved functional capacity in daily activities. The study also helps determine the optimal timing for starting physical therapy to ensure the longest-lasting pain relief.
- Possible risks: The injection procedure (TETSI) is minimally invasive. Potential minor side effects include temporary dizziness (vasovagal reaction), facial flushing, or temporary leg weakness (transient monoplegia), which typically resolve quickly without permanent issues. Serious complications are very rare.

Where is the study run from?
Kayseri State Hospital, Turkey.

When is the study starting and how long is it expected to run for?
October 2021 to March 2025

Who is funding the study?
Abdulkerim Gökoğlu Healthcare Ltd. Co., Turkey.

Who is the main contact?
Dr Abdulkerim Gökoğlu, akerimg@hotmail.com.

Contact information

Type(s)

Principal investigator

Contact name

Dr Abdulkerim Gökoğlu

ORCID ID

<https://orcid.org/0000-0001-8071-4078>

Contact details

İstiklal, Adana Çevre Yolu Cd. No:135/1
Konya
Türkiye
42020
+905326445608
akerimg@hotmail.com

Type(s)

Public, Scientific

Contact name

Dr Hüseyin Yiğit

ORCID ID

<https://orcid.org/0000-0002-7739-9844>

Contact details

Kavaklionu mah. Ali Baran Numanoglu cad. Urgup
Nevşehir
Türkiye
50400
+905313741235
huseyin.yigit@kapadokya.edu.tr

Additional identifiers

Study information

Scientific Title

Assessment of clinical efficacy of therapeutic epidural transforaminal steroid injection and timing of physical therapy applications

Acronym

TETSI-PTRA-Timing

Study objectives

The primary objective of this study is to evaluate the clinical efficacy of Therapeutic Epidural Transforaminal Steroid Injection (TETSI) in the management of low back pain and radicular pain. Specifically, the study aims to investigate the optimal timing for initiating Physical Therapy and Rehabilitation (PTRA) following the injection. It compares the therapeutic outcomes (pain reduction and functional improvement) between patients initiating PTRA on day 15 versus day 30 post-injection, against a control group receiving medical treatment alone.

Ethics approval required

Ethics approval required

Ethics approval(s)

Approved 16/09/2021, Kayseri State Hospital Clinical Studies Ethics Committee (Kayseri State Hospital, Kayseri, 38010, Türkiye; +90352 336 88 84; gokogluak@erciyes.edu.tr), ref: 11535-703.01

Primary study design

Interventional

Allocation

Randomized controlled trial

Masking

Blinded (masking used)

Control

Active

Assignment

Parallel

Purpose

Treatment

Study type(s)

Health condition(s) or problem(s) studied

Low back pain, Lumbar radiculopathy, Lumbar disc herniation

Interventions

The method of randomization used in this study is a computer-generated randomization list to ensure allocation concealment.

Group 1 (Medical Treatment): Received oral pharmacological agents (NSAIDs, analgesics, muscle relaxants) based on clinical condition.

Group 2 (Early PTR): Underwent Therapeutic Epidural Transforaminal Steroid Injection (TETS) followed by Physical Therapy and Rehabilitation (PTR) starting on day 15 post-injection.

Group 3 (Delayed PTR): Underwent TETS followed by PTR starting on day 30 post-injection.

Intervention Details: TETS used 40 mg/ml Methylprednisolone and 0.25% Levobupivacaine.

PTR consisted of a 2-week daily program including Hot Pack (20 min), Ultrasound (10 min), and TENS (20 min)

Intervention Type

Mixed

Primary outcome(s)

1. Pain intensity assessed measured using the Visual Analogue Scale (VAS), Numerical Rating Scale (NRS), Verbal Pain Intensity Scale (VPIS) and Faces Pain Scale (FPS) scores recorded by a blinded physician at baseline, day 15, and months 1 and 3

Key secondary outcome(s)

Completion date

30/03/2023

Eligibility

Key inclusion criteria

1. Pain duration of at least 30 days.
2. Insufficient response to conventional medical treatments (NSAIDs, muscle relaxants) and/or prior physical therapy.
3. Diagnoses of Lumbar Disc Herniation (LDH), Lumbar Radiculopathy (LR), or axial discogenic low back pain confirmed by lumbar MRI.
4. Patients without surgical indications or failed previous surgical interventions.

Healthy volunteers allowed

No

Age group

Mixed

Lower age limit

18 Years

Upper age limit

90 Years

Sex

All

Total final enrolment

210

Key exclusion criteria

1. Diabetic and neuropathic pain.
2. Vascular atherosclerotic disease.
3. Rheumatism or inflammatory bowel disease.
4. Central nervous system disorders with a history of infarction.
5. Vitamin/mineral deficiencies, lymphedema, or history of thyroid/parathyroid iatrogenic hypocalcemia.
6. Missed appointments or irregular participation in the program.

Date of first enrolment

01/10/2021

Date of final enrolment

30/12/2022

Locations

Countries of recruitment

Türkiye

Sponsor information

Organisation

Kayseri Eğitim ve Araştırma Hastanesi

ROR

<https://ror.org/02ysppy04>

Funder(s)

Funder type

Funder Name

Abdulkerim Gökoğlu Healthcare Ltd. Co.

Results and Publications

Individual participant data (IPD) sharing plan

IPD sharing plan summary

Data sharing statement to be made available at a later date