

## Intervention

### *Experimental Group (McKenzie Treatment)*

Component	Details
Frequency	- Repetitive Movements: 10 repetitions every 2-3 hours throughout the day, totaling up to 14 hours of daily exercise for 4 weeks. - Manual Therapy: 6 sessions in 2 weeks, 1-2 times per week.
Intensity	- Repetitive Movements: Movements should be performed with controlled effort, not overexerting the patient. - Manual Therapy: The Physiotherapist applies moderate force during the "on/off" maneuvers for about 5-7 minutes per session.
Time	- Repetitive Movements: 10 repetitions per movement type, each performed for 2-3 minutes per hour (as recommended for 14 hours a day). - Manual Therapy: Each session lasts 5-7 minutes per "on/off" maneuver.
Type	- Repetitive Movements: Flexion and extension in lying or standing, side gliding, and rotation, tailored to the patient's movement preferences. - Manual Therapy: Physiotherapist-administered spinal manipulations and mobilizations for 10-15 repetitions per session.

### *Control Group (Conservatives Treatment)*

Component	Details
1. Posture Correction and Ergonomics Training	Frequency: Every therapy session. Intensity: Light, educational, and corrective exercises. Time: Continuous reinforcement during each session. Type: Postural education and ergonomic recommendations for daily activities (sitting, standing, lifting).
3. Core Stabilization Exercises	Frequency: 3–4 times per week. Intensity: Moderate (focus on endurance and control). Time: 2–3 sets of 10–15 repetitions per exercise, each session lasting about 10–15 minutes. Type: Pelvic tilts, bridges, planks, bird-dog.
4. Manual Therapy (Mobilization/Manipulation)	Frequency: 2–3 times per week in the clinic. Intensity: Light to moderate (based on patient's tolerance). Time: 20–30 minutes per session. Type: Spinal mobilizations and soft tissue mobilization for lumbar paraspinal muscles.
5. Pain Management and Modalities (Heat/Ice, TENS)	Frequency: Heat/ice as needed (2–3 times daily for pain); TENS may be used once or twice per day. Intensity: Light to moderate (adjust based on patient comfort and pain level). Time: Heat/Ice: 15–20 minutes per application; TENS: 20–30 minutes per session. Type: Heat packs, cold therapy, Transcutaneous Electrical Nerve Stimulation (TENS).

