

## Pressure Point Release As An Adjunctive Technique In The Management of Sacroiliac Joint Dysfunction

Ronald Prabhakar (MPT)<sup>\*</sup>, Dr. Subhash Khatri (PhD, PT)<sup>\*\*</sup>

<sup>\*</sup>Assistant Professor, <sup>\*\*</sup> Professor & Principal; College of Physiotherapy,

**Address for Correspondence :** Pravara Institute of Medical Sciences, Loni

### Abstract

A single case study with ABC design was done to investigate the effects of pressure point release technique on the pain caused by Sacroiliac joint dysfunction. A 44 year old male subject with complaints of pain in right Sacroiliac region and diagnosis of SI joint dysfunction was included in study. The technique involved application of pressure point release along with active movements. The subject received one treatment session by the therapist and six sessions as part of self administered treatment at home. Improvement in pain, pain pressure threshold and disability related to back pain was measured using numerical pain rating scale, pain algometry modified Oswestry back disability index respectively. At follow-up there was 50% reduction in pain and disability was reduced to 20%. The pressure point threshold level increased by about 13 pounds at follow-up. It was concluded that pressure point release technique could be used as an adjunctive method of treatment along with conventional physiotherapy for the treatment of sacroiliac joint dysfunction.

**Key Words:** Sacroiliac joint dysfunction (SIJD), Pressure point release technique (PPRT), Numerical pain rating scale (NPRS) and Modified Oswestry Back Disability index (MODQ)

**Introduction :** Sacroiliac joint dysfunction (SIJD) is a state of altered mechanics, either an increase or decrease from the expected normal or the presence of an aberrant motion<sup>[1]</sup>. When there is SI joint dysfunction, the compensation by the surrounding muscles, ligaments and fascia may affect the patient's condition for the worse<sup>[2,3]</sup>. Interventions specifically for SIJD that appear in peer reviewed literature include SIJ manipulation, muscle energy techniques, SIJ belt, patient education regarding the pain cycle, moist heat, soft tissue massage, electrical stimulation and therapeutic exercise<sup>[4]</sup>. Pressure point release is valuable for the management of chronic pain

syndromes and for post trauma recovery and rehabilitation<sup>[5]</sup>. Pressure point release therapy (PPRT) is technique used in physical therapy, where blockage of blood supply in an area of the body is deliberately made, so that a resurgence of local blood flow will occur upon release<sup>[6]</sup>. Thomas Nowak (2012) in a randomized trial concluded that pressure point release therapy had more clinical benefit in terms of subjective pain readings for the Oswestry back disability questionnaire & NPRS as compared to integrated neuromuscular inhibitory technique<sup>[7]</sup>. Thus the need of this case study was to find out whether the PPRT technique would be effective in alleviating the symptoms of SIJD.

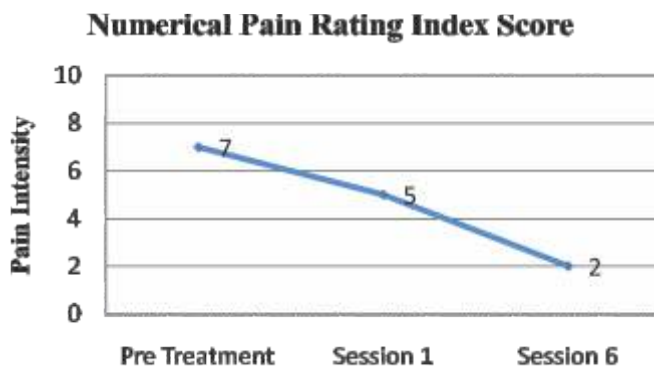
**Subject :** A 44 year old male subject presented with complaints of pain in lower lumbar region with end range restriction of forward flexion, side flexion and rotations to either sides since past 4 weeks. Subject was sedentary individual involved in an academic job. There was a previous history of myofascial pain syndrome. No history of previous surgery over the lumbar region. On examination tenderness was present over left posterior superior iliac spine, spasm was noted in paraspinal muscles bilaterally. Faber's test<sup>[8]</sup> was positive for left sacroiliac joint dysfunction. Pain intensity was assessed using Numerical pain rating scale (NPRS)<sup>[9]</sup> and pressure point threshold over the posterior superior iliac spine using an Algometer<sup>[10]</sup> (Figure 1). Functional impairment was recorded using the modified Oswestry back disability index (MODQ)<sup>[11]</sup>. Based on the above findings, physiotherapeutic diagnosis was left Sacroiliac joint dysfunction. Subject had previously undergone physiotherapy treatment procedure viz. phonophoresis and SI joint mobilization.

**Methods :** The successful treatment protocol relied on identifying trigger points, resolving them and elongating the structures affected along their natural range of motion and length. Informed and written consent was obtained from the subject before beginning the procedure. The choice of treatment procedure for this subject was PPRT along with cryotherapy. Ice application was done in the form silicone gel bag cooled to 4 degree Celsius. The gel bag was applied over the left sacroiliac joint in prone lying position. The subject was made to stand in stride standing position. The procedure was demonstrated to the subject before the application. The PPRT was performed over left SI joint using digital pressure of thumb of therapist applied for 90 seconds combined with rotation of the pelvis and lumbar spine (Figure 2).

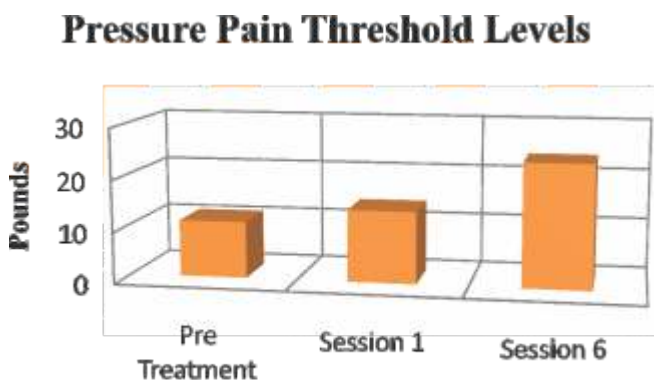
Subject was then asked to repeat the procedure by applying digital pressure with his thumb (Figure 3). Procedure was repeated three consecutive times with a period of re-assessment in between consecutive sessions. Subject was asked to perform the procedure once in a day as home exercise programme and was called for follow-up after 6 days.

**Results :** Pre, post treatment and follow-up data was recorded and has been demonstrated using various graphs.

A) Numerical pain rating index score: There was steady decline in pain intensity with 7/10 as baseline score on NPRS. After the first therapy session the subject rated his pain at 5/10 on NPRS and at follow-up the rating was 2/10 after six session of self-administered treatment (Graph I).

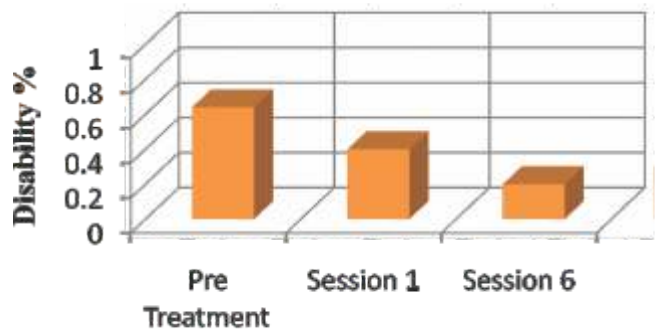


**Graph : B)** Pressure pain threshold levels: Increase in pressure pain threshold level was observed using pain algometry. The pain threshold level increased by about 3 pounds after first session. At follow-up there was an increment of 13 pounds as compared to baseline level (Graph II).



**Graph : C)** Modified Oswestry back disability index scores: There was considerable improvement in functional outcome, as the disability due to back pain reduced from 64% at baseline to 40% after the first treatment session. It was reduced to 20 % after intervention of six sessions at follow-up (Graph III).

### Modified Oswestry Back Disability Index



#### Graph

**Discussion :** This study has demonstrated the beneficial effects of PPRT technique on pain and impairments associated with SIJD. The subject reported pain intensity on NPRS showed a reduction of about 30% in the first session and at follow-up there was 80% reduction in the pain intensity as compared to the baseline scores. The improvement in pressure pain threshold was 25% after first session of application of PPRT and 45% at follow-up as compared to baseline scores. Similar results were obtained in a study done by Thomas Nowak (2012) in the study titled “The effects of ischaemic compression vs integrated neuromuscular inhibition technique (INIT) on the gluteus medius muscle in the treatment of sacroiliac joint syndrome” in which Group 1 subjects received ischemic compression to the gluteus medius trigger points followed by an adjustment to the restricted SI joint during visit one to seven. Group 2 subjects received INIT to the gluteus medius trigger points followed by an adjustment during visits one to seven. The NPRS score showed an improvement of 37% in mean pain levels for Group 1 from visit one to seven. The author had also documented an improvement of 13.2 lbs on pressure algometry i.e. around 35% change in the Group 1 subjects from visit one to seven<sup>[7]</sup>. In the present study there was reduction in terms of disability measured on MODQ related to sacroiliac pain, which was 44% after first session. At follow-up disability was

reduced by 20%. Thus the results of this study indicate that PPRT reduces pain & disability which is in accordance with studies illustrating the benefits of such techniques for sacroiliac pain.

#### Conclusion

It was concluded that pressure point release technique could be used as an adjunctive method of treatment along with conventional physiotherapy for the management of pain and impairment of sacroiliac joint dysfunction

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