





as a good additional conservative modality of treatment for degenerative lumbar spine pathologies.

The reason for improvement in test group is due to the biologic effects that the nerve stimulation generates in the form of conduction across the neuro-muscular junction and axoplasmic flow across the nerve membrane.

Many other studies have demonstrated an increased blood flow, for example Currier et al.<sup>[8]</sup> (1986). Using 10 to 30% of maximum voluntary contraction these author quantified a 20%

Mean duration of improvement in both the groups.

Mean	Group	Mean	SD	p-value
Duration for Improvement	Control	15.52	4.4	< 0.01
	Test	8.28	4.31	

Mean duration of improvement in control was approximately 15 days while that in test group was 8 days, which is statistically significant with a p value of < 0.01. This manifests that not only PNS helps in recovery as already discussed above it also helps in hastening the recovery as compared with the control groups.

Improvement	Group		Total
	Control	Test	
No	15	8	21
	60.00%	32.00%	42.00%
Yes	10	17	23
	40.00%	68.00%	46.00%
Total	25	19	44
	100.00%	76.00%	88.00%
p- value - 0.047			

## 6. Conclusions

We have here studied the role of Periheral Nerve Stimulation in degenerative lumbar spine pathologies with early neurological deficit, in which the patients were divided into test and control groups of 25 each.

Patients in the test group were treated with bed rest in the form of lumbar traction and medications while in the test group were treated with above as well as with PNS in addition to it.

Number of patients showing improvement i.e gaining back of power of MRC grade 5 was higher in test group as compared to control group which was also statistically significant with p value of <0.047.

Not only number of patients showing improvement was higher but also the duration of treatment required was less in test group with an average of approximately 8 days as compared to controls with an average duration of approximately 15 days, which was also statistically significant with p value of <0.01.

Thus, Peripheral nerve stimulation not only helps in improvement but also hastens the improvement in cases of degenerative lumbar spine pathologies, with early neurological deficit, thereby differing the decision of surgery in many of those cases which otherwise might have

gone for operative management citing early neurological deficit as a cause.

Although ours was a kind of pilot study in demonstrating the role of Peripheral nerve stimulation in degenerative lumbar spine pathologies with early neurodeficit, it has still definitely showed its worth and can go on a long way in establishing it as a standard modality in conservative line of management in degenerative lumbar spine pathologies. Being a short duration study with a small sample size, it should be further revalidated with larger, randomized & multi-SScentric study with a larger sample size for a longer duration for further proving its efficacy.

## References

- [1] Macnab's Backache : Textbook, 4<sup>th</sup> ed.
- [2] Campbells textbook of orthopaedics. 12<sup>th</sup> ed vol 2, pg1939
- [3] Lower back pain and disorders of intervertebral discs Raymond J. Gardocki • ashley l. Park. Chapter 42;
- [4] Campbell's Textbook of Operative Orthopaedics.
- [5] Electrotherapy explained, principles & practice 3<sup>rd</sup> edition (2000); low & Ann Reed
- [6] Cederwall E, Olsen MF, Hanner P, Fogdestam I (2006) Evaluation of a physiotherapeutic treatment intervention in "Bell's" facial palsy. Physiotherapy Theory Pract 22:43 – 52. [PubMed](#)
- [7] Claytons electrotherapy, 9<sup>th</sup> edition (2005) theory & practice.. Angelaforster& Nigel palastanga
- [8] Farragher electrical stimulation for Bell's palsy. Clin Rehabil 1987;1:265 - 71
- [9] Currier DP, Petrilli, ; Effect of graded electrical stimulation on blood flow to healthy muscle. Phys Ther, 1986, Jun;66(6):937-43.