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### Objective

This retrospective study was designed to illustrate the general outcome after radiofrequency neurotomy of lumbar medial branches and rami posterior of the SI Joint in patients with low back pain 1, 6 and 12 months after treatment. Outcomes were stratified by BMI, gender and age to determine their effect on the reduction of opioids and NSAIDS.

**Study Design.** The records of 164 patients with chronic low back pain who underwent treatment with RF medial branch Neurotomy (parallel needle technique) and/or cooled RF LBN in case of SI Joint mediated low back pain were identified. Subjects were selected for treatment based on physical examination and positive response (>50% pain relief) to an lumbar medial branch block/Ramus dorsalis L5 block or intraarticular SIJ block. Lumbar medial branches L3 and L4 and the ramus dorsalis L5 were lesioned in „ISIS“ parallel needle technique (N=36), Cooled RF LBN involved lesioning the L5 dorsal ramus and lateral to the S1, S2, and S3 posterior sacral foraminal apertures (N=87). Visual analog scale (VAS) pain scores, quality of life, BMI, medication usage, and satisfaction were asked before the procedure, at 1 month postprocedure (N = 164), and again after 6 (N= 75) and 12 months (N=89) postprocedure.

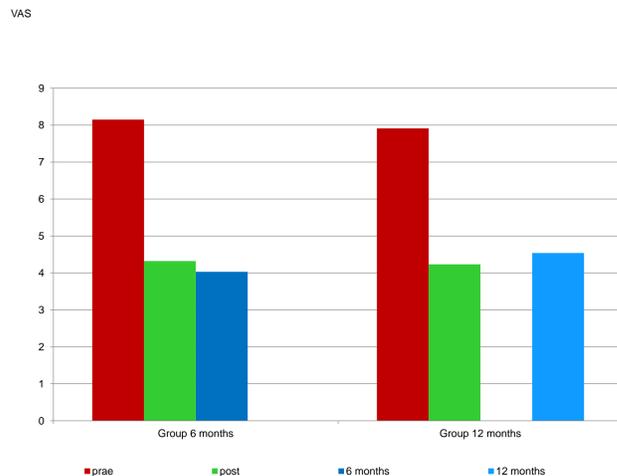


Fig. 1.: Total group, pre, after 6 and 12 months

### Results

A VAS decrease in the total group was seen from 8 to 4 after 6 months and 4.5 after 12 months, and lower medication usage (opioids decreased 40%, NSAIDS decreased 60%). Pain decrease can be shown in this study for 12 months. Our data illustrate a significant better outcome for patients with a BMI lower than 30. There is no difference in VAS decrease between male and female. There were no severe or moderate complications during or after all procedures.

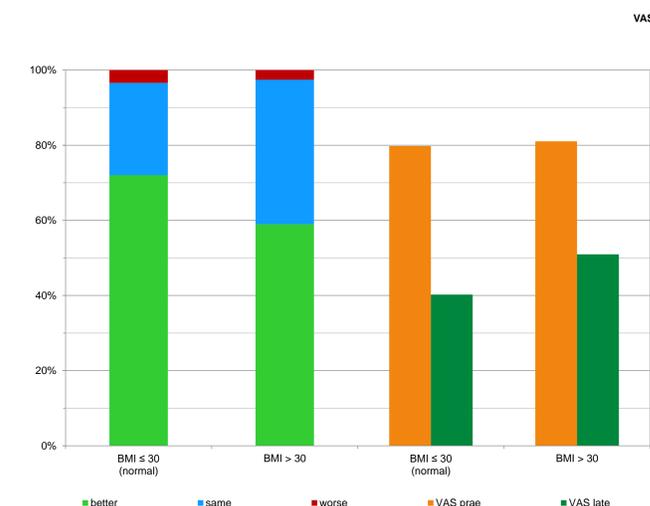


Fig.2.:BMI Dependence

		LWS					
		6			12		
Group		prae	mts	yr	prae	mts	yr
VAS							
N		11	11	11	24	24	24
Mean		7,7	4,8	3,0	7,9	4,2	4,8
SD		1,7	1,9	2,8	1,3	2,1	2,3
Min		4,5	2,0	1,0	5,0	1,0	1,0
Max		10,0	8,0	8,0	10,0	8,0	8,0
Percentiles							
	25.	7,0	3,0	1,0	7,0	3,0	2,6
	50.	8,0	5,0	1,5	8,0	3,5	5,0
	75.	9,0	5,0	5,0	8,0	5,9	7,0

		ISG					
		6			12		
Group		prae	mts	yr	prae	mts	yr
VAS							
N		35	34	35	52	51	52
Mean		8,2	4,1	4,6	8,0	4,1	4,5
SD		1,4	2,1	2,5	1,5	2,2	2,7
Min		6,0	1,0	1,0	5,0	1,0	1,0
Max		10,0	8,0	10,0	10,0	9,0	10,0
Percentiles							
	25.	7,0	3,0	2,0	7,0	2,0	2,0
	50.	8,0	3,3	4,5	8,0	3,0	5,0
	75.	9,5	5,3	6,5	9,0	6,0	6,8

Tbl. 1 Results Medial branches FJ/ R.posteriore SIJ

### Conclusions / Discussion

The durability of pain relief reported in this study is consistent with other studies of RF neurotomy for SIJ- mediated low back pain and lumbar facet joint mediated low back pain[1],[2],[3],[4],[5] The decreases in chronic pain and medication usage may suggest the use of RF treatment in case of low back pain as a proper treatment option as well as the probability of 95% to have a VAS decrease of 3-4 points on the NAS (0-10) scale. Pain decrease can be shown for at least 12 months.

In case of BMI > 30 the datas suggest a lower decrease of VAS as well as improvement of quality of life.

An interesting point seems the discrepancy of the female/male sorted results in the Austrian population. Further gender specific studies should be done to be able to predict the outcome of our treatments.

The results of lumbar medial branch neurotomy with the parallel needle technique seem to be as good as the results of treating the SI Joint mediated low back pain with the cooled RF-Probe (Kimberly Clark, Halyard)

Public insurance should be encouraged to provide reimbursement for this safe and reliable method of treating low back pain.

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