Using Shoulder Pain & Disability Index (SPADI) Scoring System To Monitor Therapeutic Effects Post Radiofrequency Ablation(RFA)

[1]Sahak MA; [2]Krishnan A;
[1]Sports Medicine Unit, Department of Orthopaedics and Traumatology, Sungai Buloh Hospital, Selangor, Malaysia.

INTRODUCTION:

Pain and disability are the two most common complaints from patients with shoulder problems. Both symptoms are subjective and difficult to quantify. The SPADI scoring system (Figure 1) consists of two parts with 5 items for pain and 8 items for disability. It uses a numerical rating scale from 0 (no pain/no difficulty) to 10 (worst pain/difficulty requires help).

REPORT:

We had two patients who were diagnosed with left frozen shoulder and treated at our clinic. Both patients complained of left shoulder pain and difficulty in doing daily physical activities. For both patients, RFA of supra scapular nerve were offered considering non-invasive treatment previously showed only minimal improvement. We asked the patients to fill in the SPADI scoring system pre-procedure and 2 weeks, 6 weeks, and 12 weeks post-procedure. The findings are depicted in Figure2 & 3.

PAIN SCALE	
How severe is your pain:	
1. At its worst.	No pain 0 1 2 3 4 5 6 7 8 9 10 Worst Pain Imaginable
2. When lying on involved side.	No pain 0 1 2 3 4 5 6 7 8 9 10 Worst Pain Imaginable
3. Reaching for something on a high shelf.	No pain 0 1 2 3 4 5 6 7 8 9 10 Worst Pain Imaginable
4. Touching the back of your neck.	No pain 0 1 2 3 4 5 6 7 8 9 10 Worst Pain Imaginable
5. Pushing with the involved arm.	No pain 0 1 2 3 4 5 6 7 8 9 10 Worst Pain Imaginable
DISABILITY SCALE	
How much difficulty did you have:	
1. Washing your hair.	No difficulty 0 1 2 3 4 5 6 7 8 9 10 So difficult required help
2. Washing your back.	No difficulty 0 1 2 3 4 5 6 7 8 9 10 So difficult required help
3. Putting on an undershirt or pullover sweater.	No difficulty 0 1 2 3 4 5 6 7 8 9 10 So difficult required help
4. Putting on a shirt that buttons down the front.	No difficulty 0 1 2 3 4 5 6 7 8 9 10 So difficult required help
5. Putting on your pants.	No difficulty 0 1 2 3 4 5 6 7 8 9 10 So difficult required help
6. Placing an object on a high shelf.	No difficulty 0 1 2 3 4 5 6 7 8 9 10 So difficult required help
7. Carrying a heavy object of 10 pounds.	No difficulty 0 1 2 3 4 5 6 7 8 9 10 So difficult required help
8. Removing something from your back pocket.	No difficulty 0 1 2 3 4 5 6 7 8 9 10 So difficult required help

Figure 1: SPADI

RESULT:

Figure 2 shows progressive improvement across all outcome measures in patient A. However, figure 3 shows short term improvement in pain score as well as SPADI. The pain and difficulty started to recur at around 6 weeks post procedure.

Outcomes Measure		Pre Procedure	Post Procedure 2 weeks	Post Procedure 6 weeks
Pain Score		8/10	2/10	3/10
SPADI	Pain Scale	52%	12%	4%
	Difficulty scale	45%	1.25%	1.25%
ROM		FF: 90 Abd:90 Int Rot: L5	FF: 95 Abd:95 Int Rot: L4-5	FF: 110 Abd:110 Int Rot: L2-3

Figure 2: Outcome Measure (Patient A)

Outcomes Measure		Pre Procedure	Post Procedure 2 weeks	Post Procedure 6 weeks
Pain Score		6/10	2/10	5/10
SPADI	Pain Scale	34%	10%	38%
	Difficulty scale	27.5%	10%	37.5%
ROM		FF: 90 Abd:90 Int Rot: L5	FF: 95 Abd:90 Int Rot: L4	FF: 95 Abd:95 Int Rot: L3

Figure 3: Outcome Measure (Patient B)

CONCLUSION:

SPADI is a good monitoring tool for shoulder pain requiring pain intervention. It has high responsiveness to detect important changes over time within individuals that might reflect therapeutic effects or failure of treatment. In the local setting, healthcare providers may choose M-SPADI which is a Malay translated form of SPADI. It is simple, practical, inexpensive and can be used in outpatient clinics.

REFERENCES:

1. Desai, A. S., Dramis, A., & Hearnden, A. (2010). Critical appraisal of subjective outcome measures used in the assessment of shoulder disability. Annals of the Royal College of Surgeons of England, 92(1), 9–13.
2. Ho, C., Ling, J., & Karim, S. A. (2022). Cross-cultural adaptation and measurement properties of the Malay Shoulder Pain and Disability Index. PLOS ONE, 17(3), e0265198. https://doi.org/10.1371/journal.pone.0265198