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Efficacies of Ultrasound guided steroid injection at different sites for the treatment of Frozen Shoulder

A Prospective Randomised Study

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Faculty Disclosure Information

- *The authors have no relevant financial or non-financial interests to disclose.*
- *The authors have no conflicts of interest to declare*



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Aim of the study!

Primary aim:

To analyze the efficacy of single dose USG guided steroid injection at 4 different sites:

Intra-articular(IA)

Subacromial (SA)

Rotator interval(RI)

Multisite injection(MS)/Combined

Secondary aim:

To assess the safety profile of USG guided steroid injections in FS



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Methodology

- ***RANDOMISED STUDY*** that included patients who were diagnosed with Frozen shoulder (FS) between November 2022 to May 2023
(CTRI Registration number: CTRI/2022/11/047138)
- Randomization was done using computer generated random numbers.

SAMPLE SIZE:

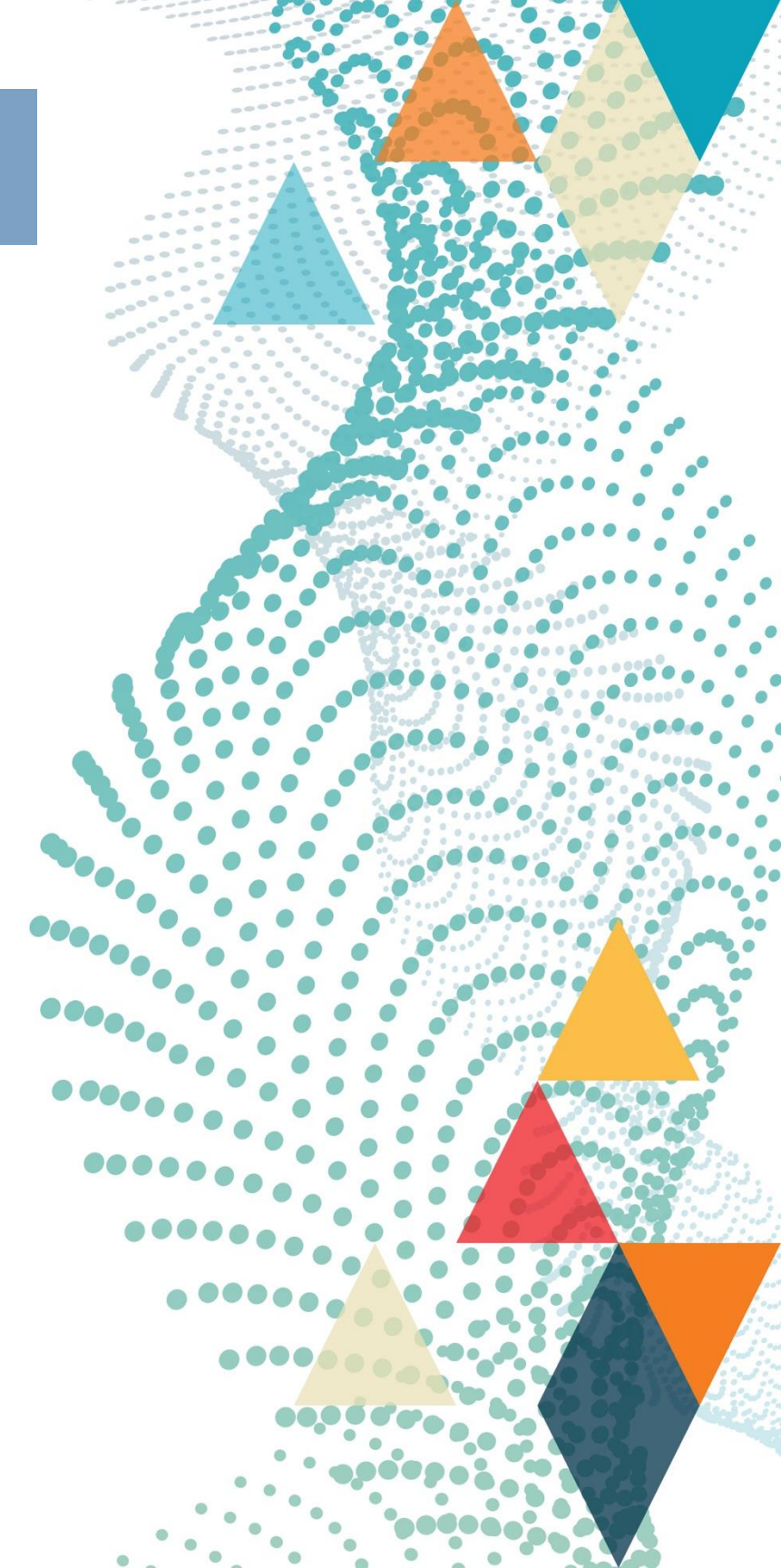
After considering loss to FU, **30 patients** were included in each group with an adequate power of 0.8.



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Selection Criteria

Inclusion criteria:

- *Symptom duration at least for 1 month*
- *Limitation of passive movement more than 30 degrees for at least two of these three movements:
Forward flexion(FF), Abduction(ABD) or External rotation(ER)*

Exclusion criteria:

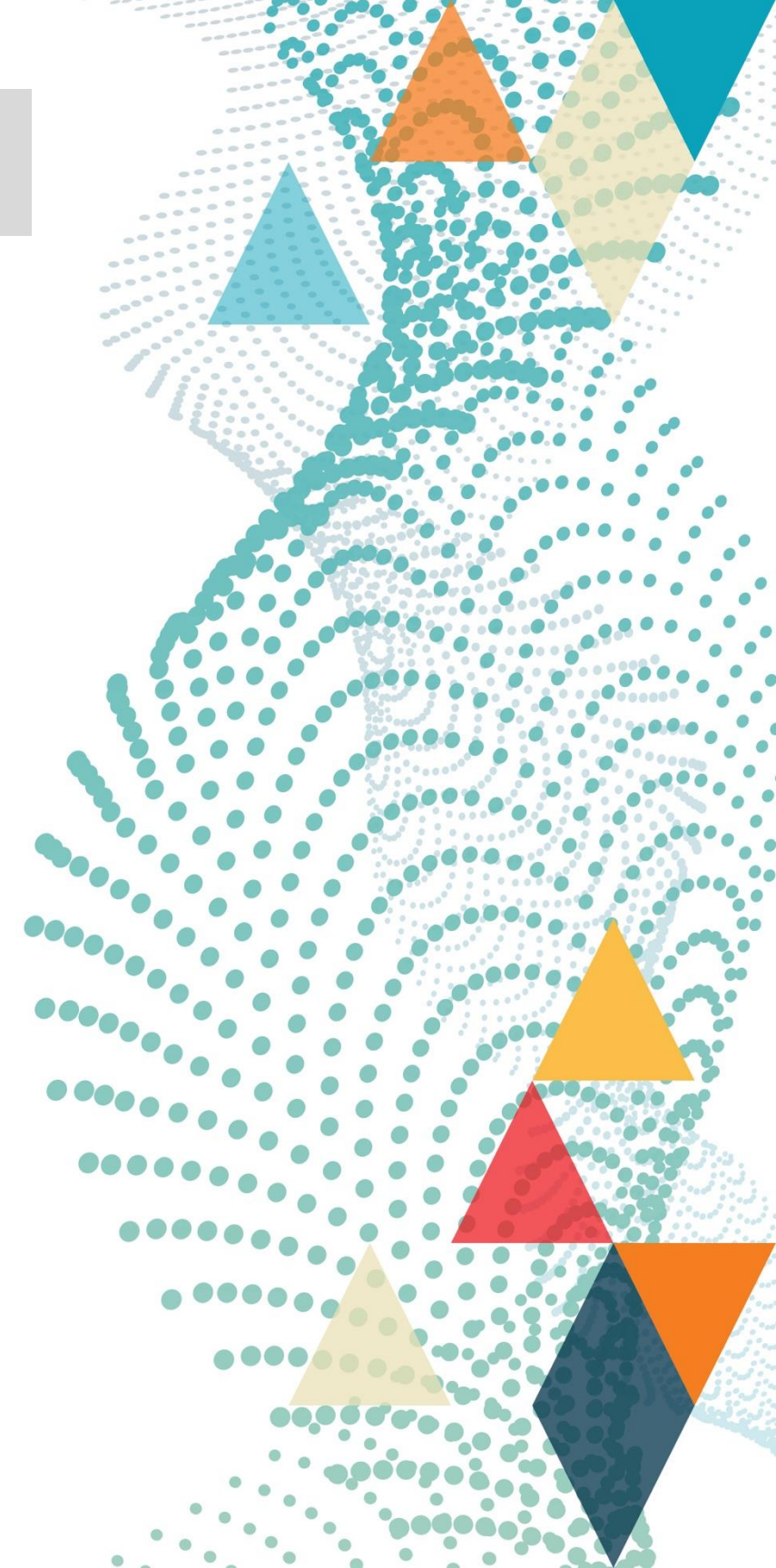
*Symptom duration > 6months,
Full thickness cuff tears, RBS >200mg/dl and or Hba1c >8,
Glenohumeral arthritis*



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Outcome Measures

- Pain (VAS scores),
- Range of movements,
- Functional outcomes(SPADI & Constant)
- PROM: Patient satisfaction score

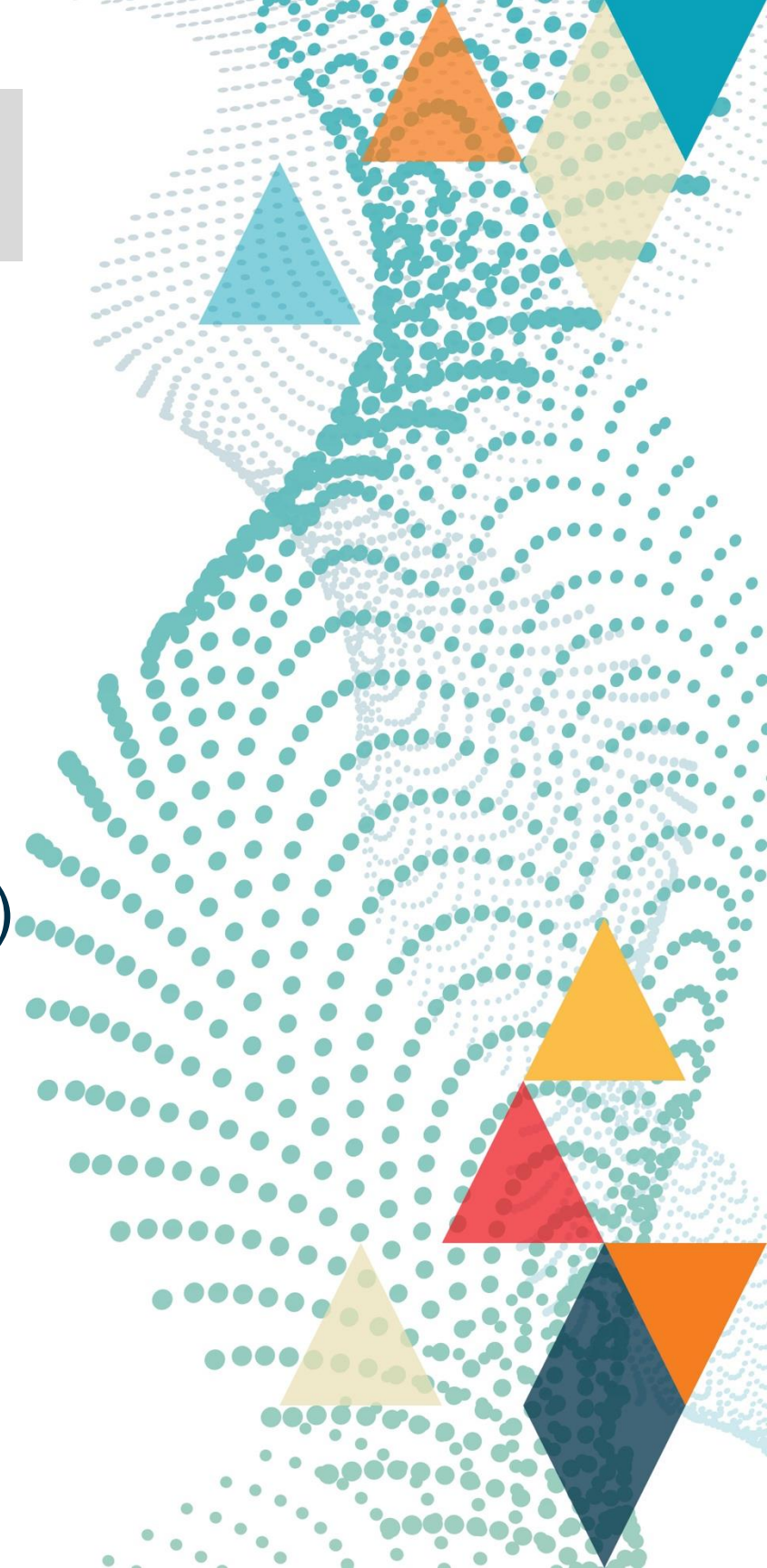
TWO INDEPENDENT OBSERVERS(surgeon & physiotherapist)

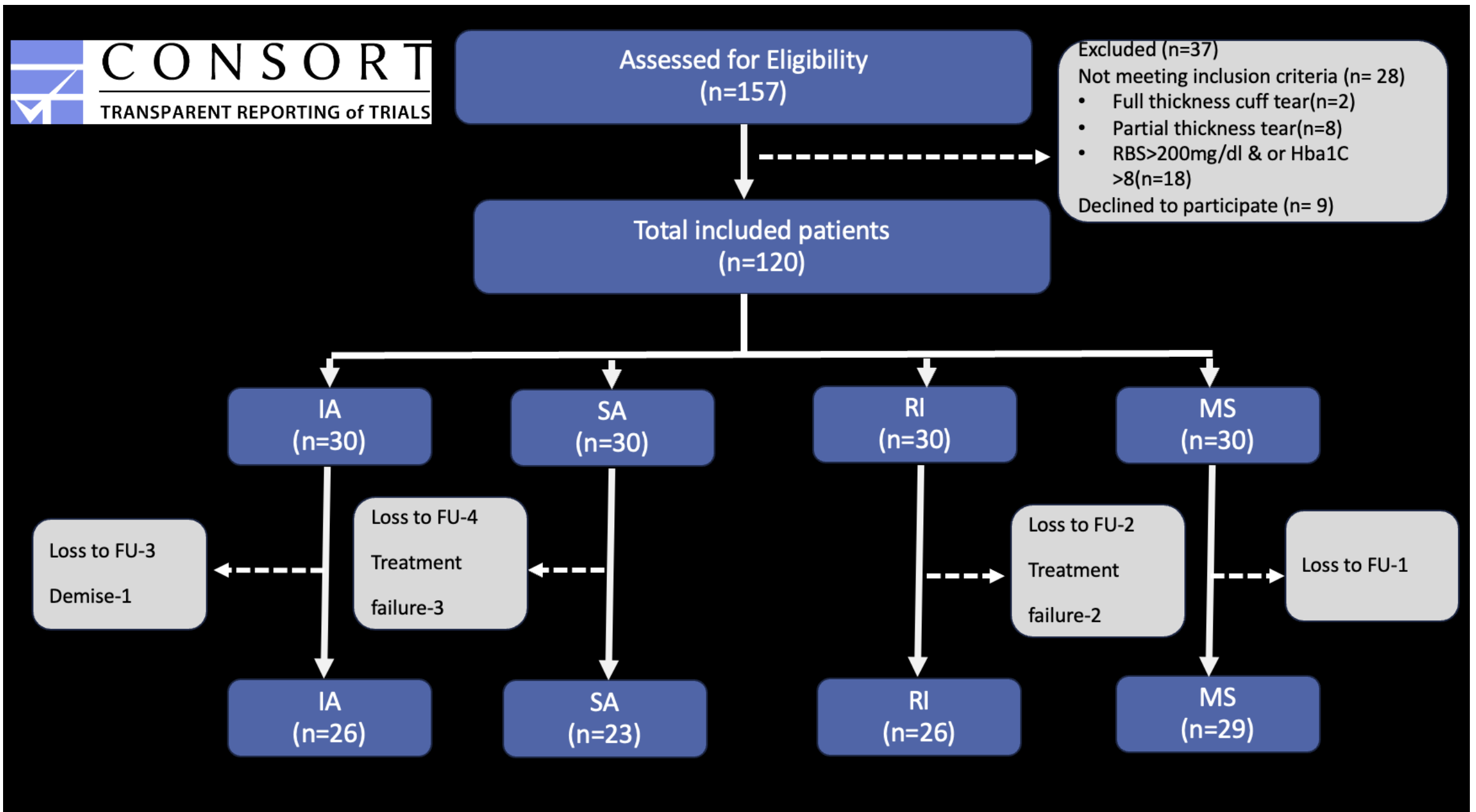


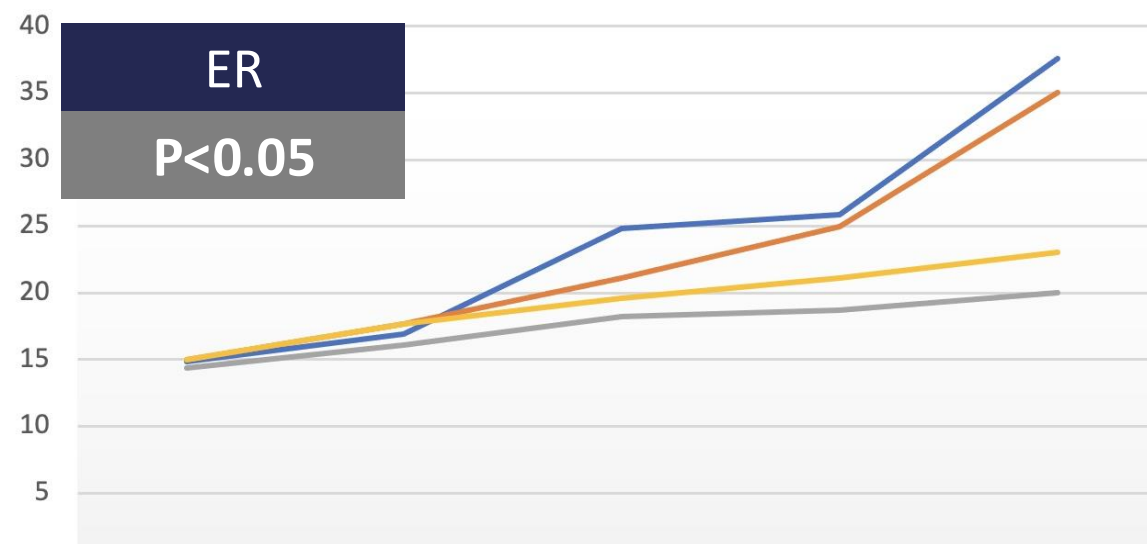
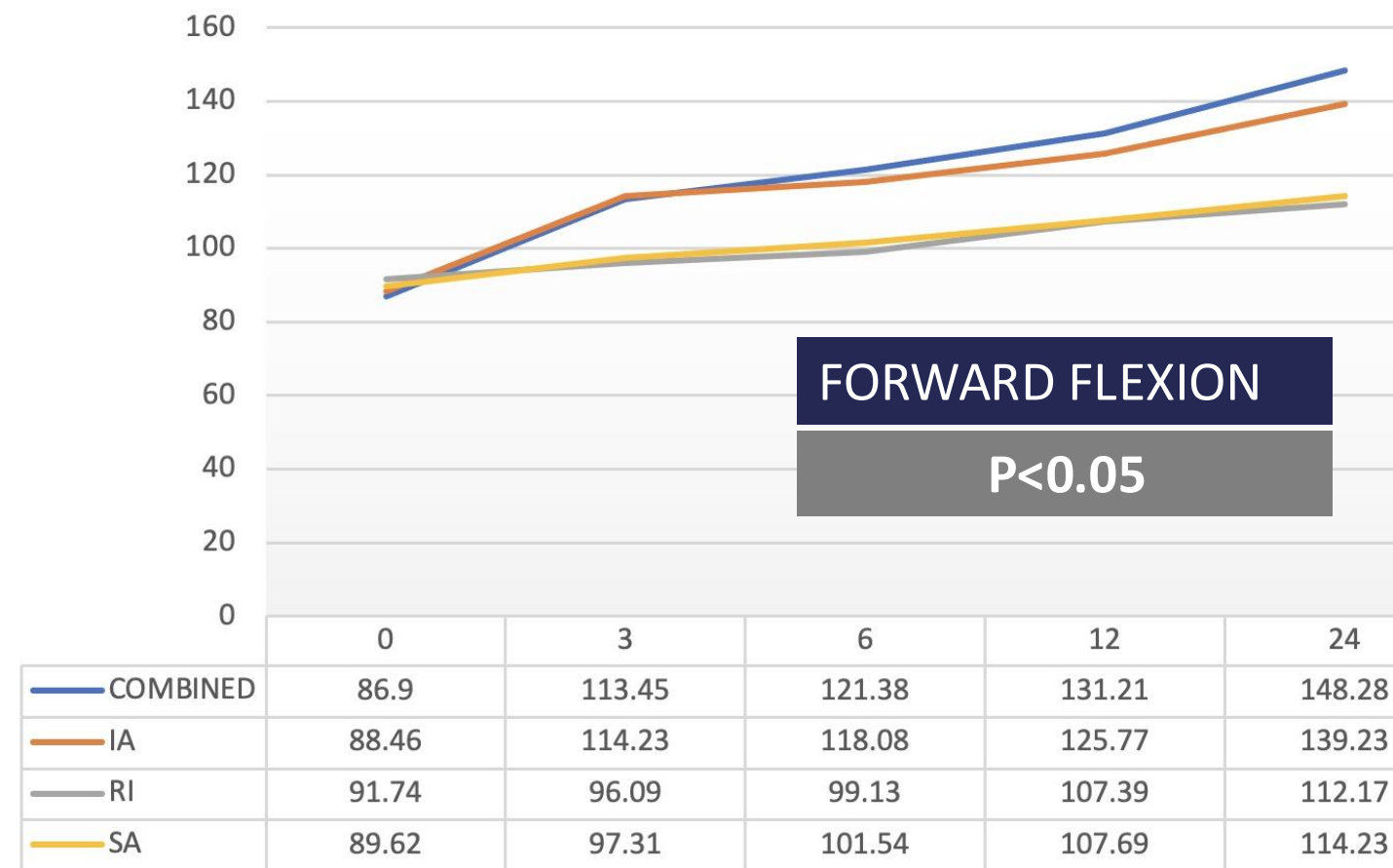
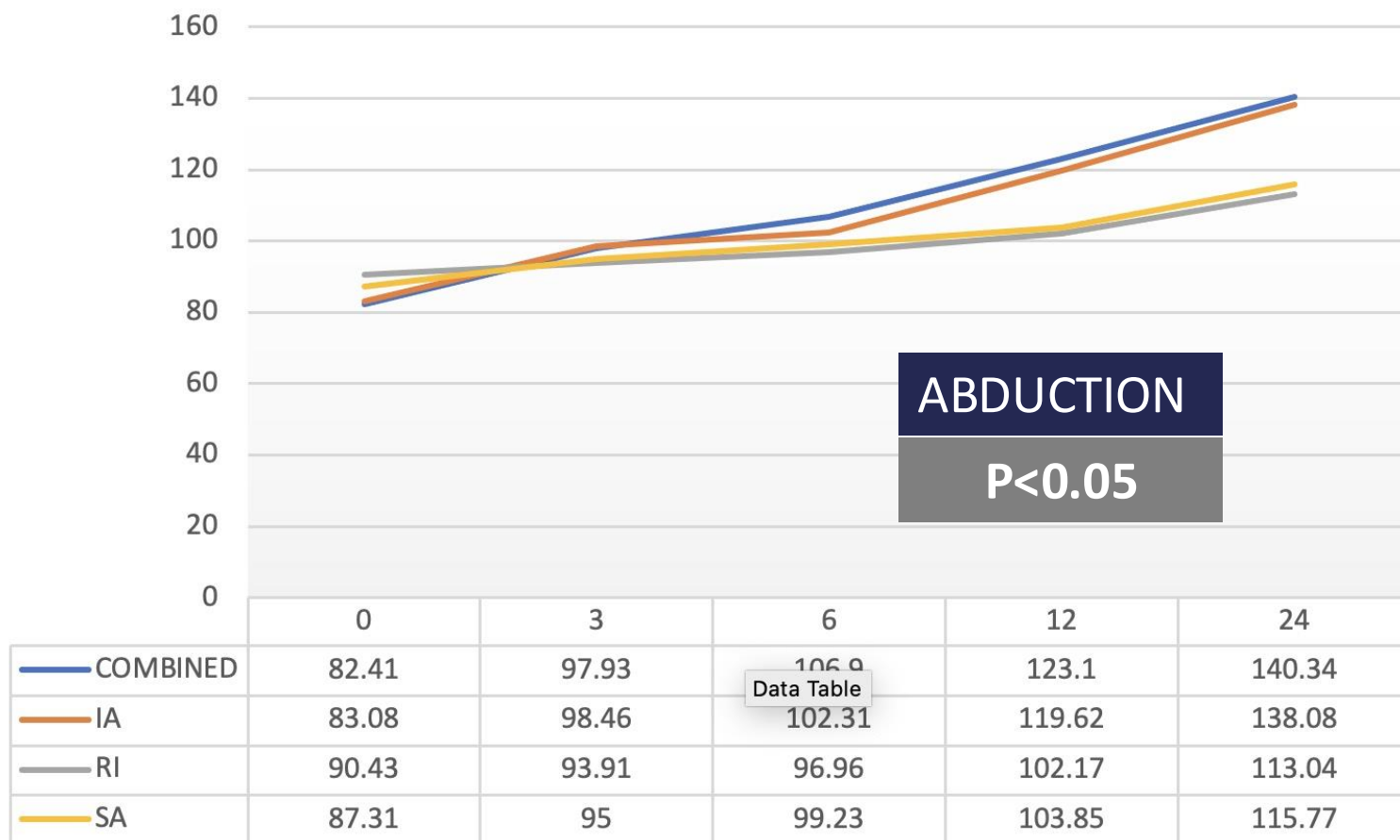
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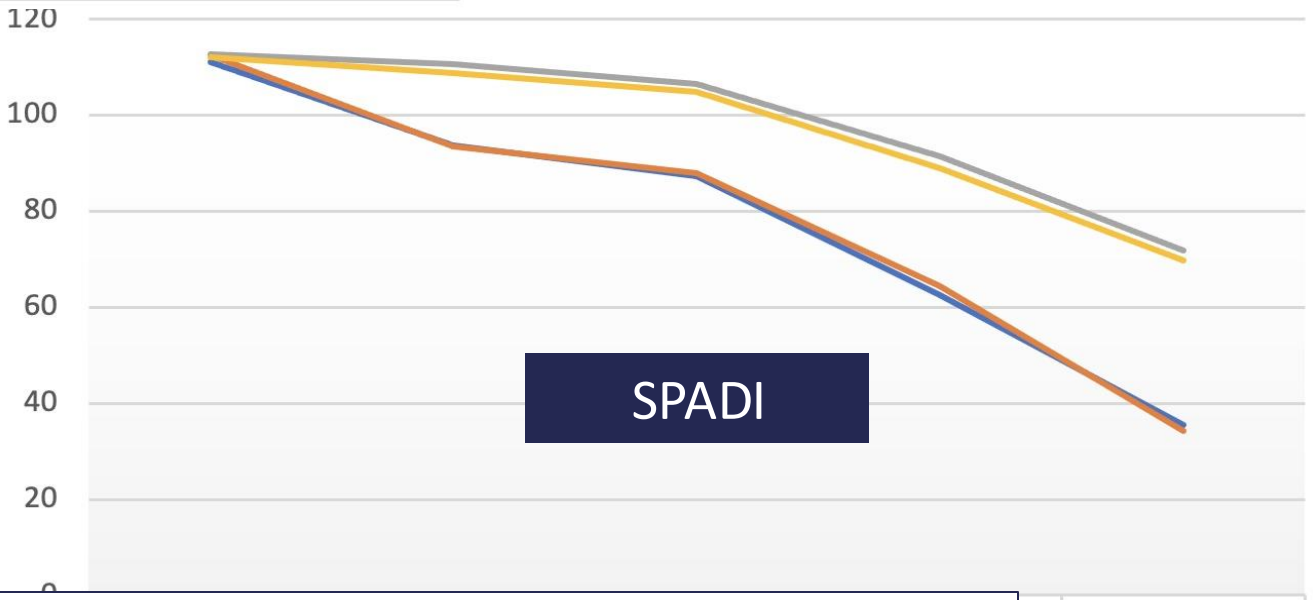
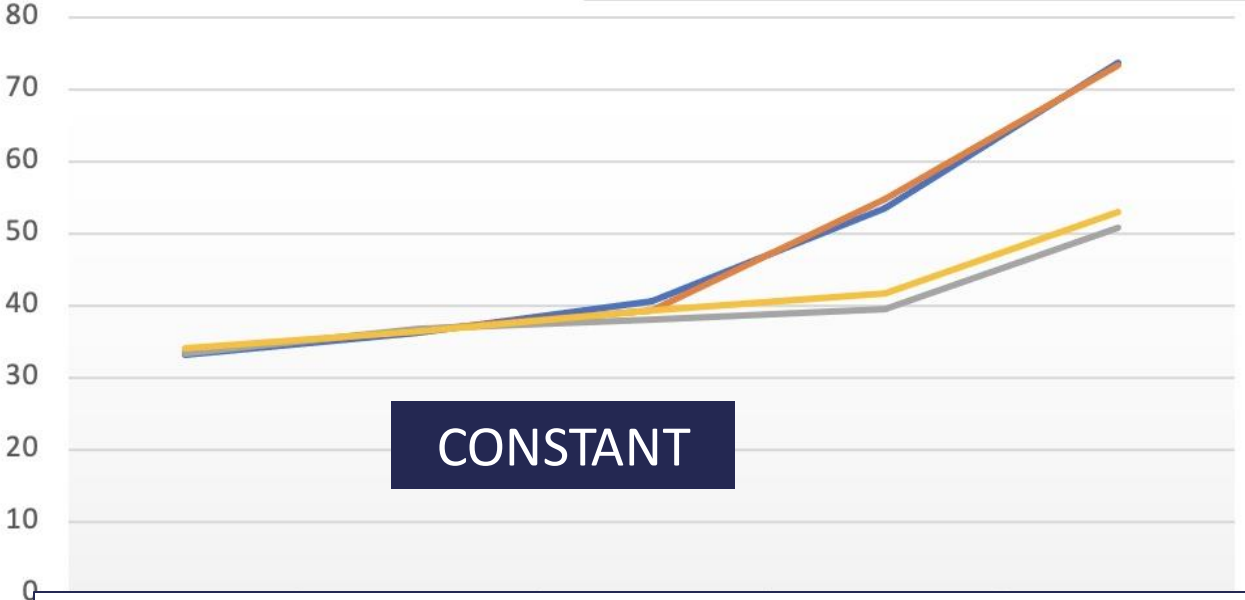
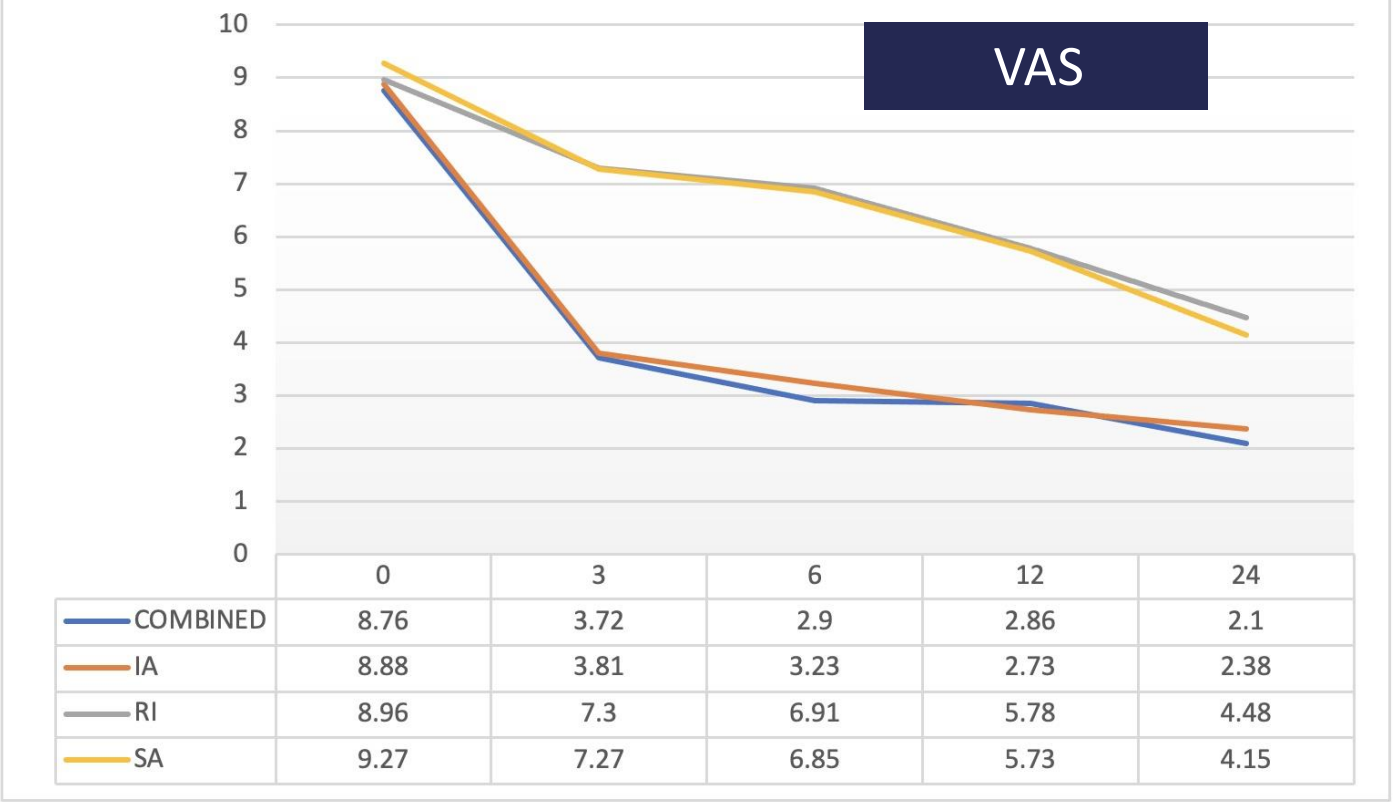
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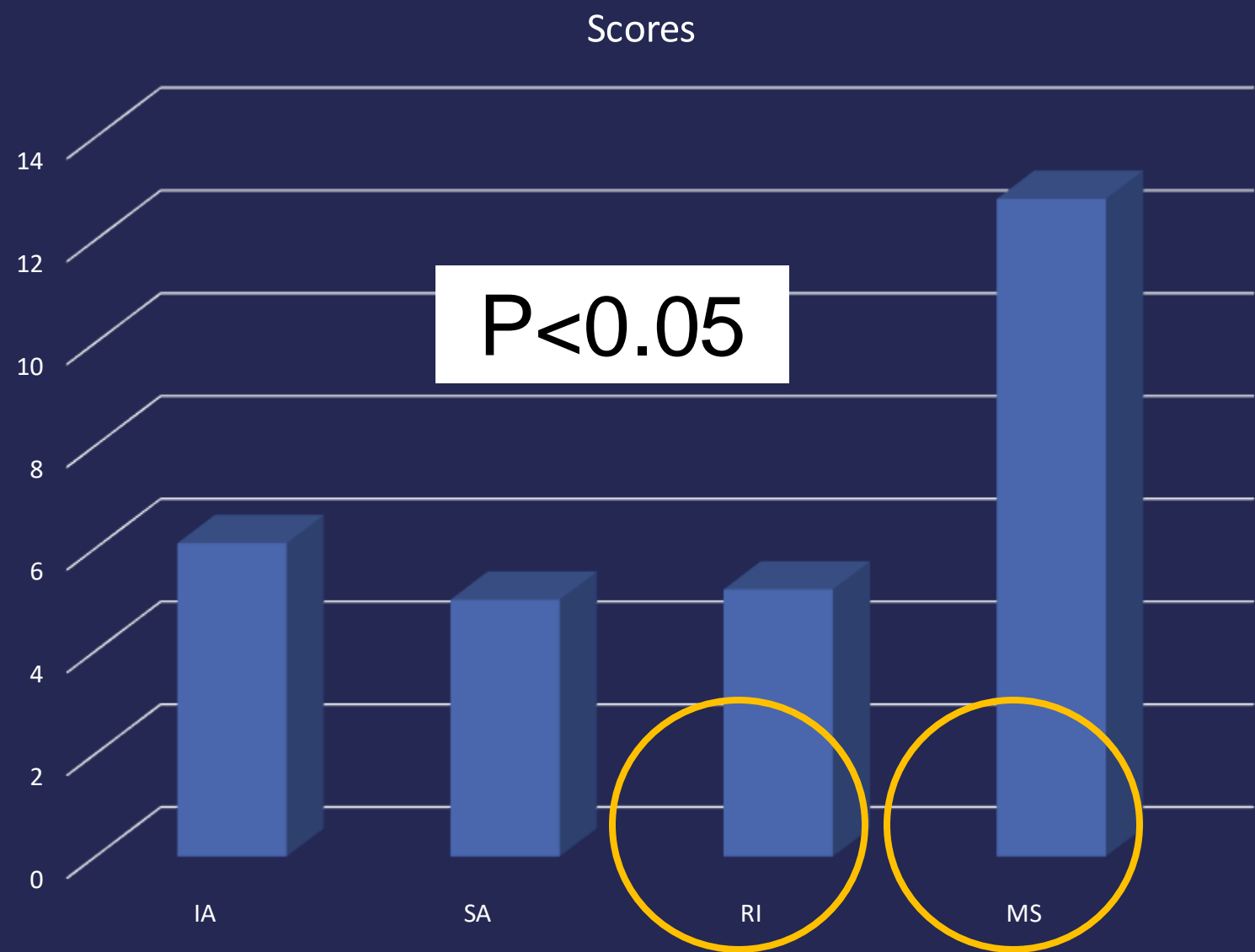
MULTISITE APPROACH PROVIDED THE BEST IMPROVEMENT IN ABD, FF AND ER



***VAS SCORES, CONSTANT AND SPADI SCORES
MULTISITE>IINTRA-ARTICULAR***

	24
	35.52
	34.35
	71.91
	69.85

PROM's: Patient Satisfaction score



Questionnaire	Grading
How satisfied are you with the results of your procedure?	Grade 1-5
Knowing what you know now, how likely is it that you would still choose to have procedure for your initial problem?	
How likely is it that you would recommend a family member or close friend that they undergo the procedure that you had for a similar problem?	

Most important findings:

- MS approach provides maximum improvement
Pain, ROM, Functional outcome and patient satisfaction closely followed by IA approach
- RI approach provides least improvement in all these clinical parameters
- Steroid injections are safe without major adverse effects in patients with adequate glycaemic control.

Conclusion:

- Multisite approach can be recommended as the preferred approach for Steroid injection in patients with FS
- USG guided steroid injections are safe with no adverse effects in patients with adequate glycaemic control at a short term follow-up.

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