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Title:

Outcome of Modified Mini-Open Brostrom Gould Ankle Surgery on Chronic Ankle Instability

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Disclosures:

- I have the following potential conflicts of interest to report:
 - Receipt of grants/research support
 - Receipt of honoraria and travel support
 - Participation in a company-sponsored speaker bureau
 - Employment in industry
 - Shareholder in a healthcare company
 - Owner of a healthcare company
- I do not have any potential conflict of interest



Background

- Ankle sprains amount up to 75% of ankle injuries involving the lateral ligamentous complex which predisposes to chronic ankle instability.
- Up to 70% of ankle osteoarthritis cases may be associated with previous ankle injury.
- In most cases, the first line treatment includes conservative methods, such as functional rehabilitation therapy, pharmacological anti-inflammatories and physiotherapy.
- Surgery is usually indicated if initial conservative treatment is refractory for 3 to 6 months or if there are signs and symptoms suggestive of chronic ankle instability.



Methodology

- Inclusion Criteria
 - Patients diagnosed with Chronic Ankle Instability status post Modified Mini-Open Brostrom Gould Repair.
- Study Design
 - Post-operatively, the patients were asked to fill up the Patient Reported Outcome Measures (PROMs) which were scored through the Karlsson, FAOS and VAS pain scores.
- Surgical Technique
 - Compared to traditional Open Brostrom Gould's extensile incision, a J-shaped curvilinear incision of 1 to 2 cm allows for a smaller incision while still ensuring access to both the anterior talofibular ligament (ATFL) and calcaneofibular ligament (CFL).

Clinical Picture

Description



Clinical Photo 1:
Marking for
incision of mini-
open Brostrom
Gould repair



Clinical Photo 2:
Incision over the
distal fibular



Clinical Photo 3:
Exposed
retinaculum

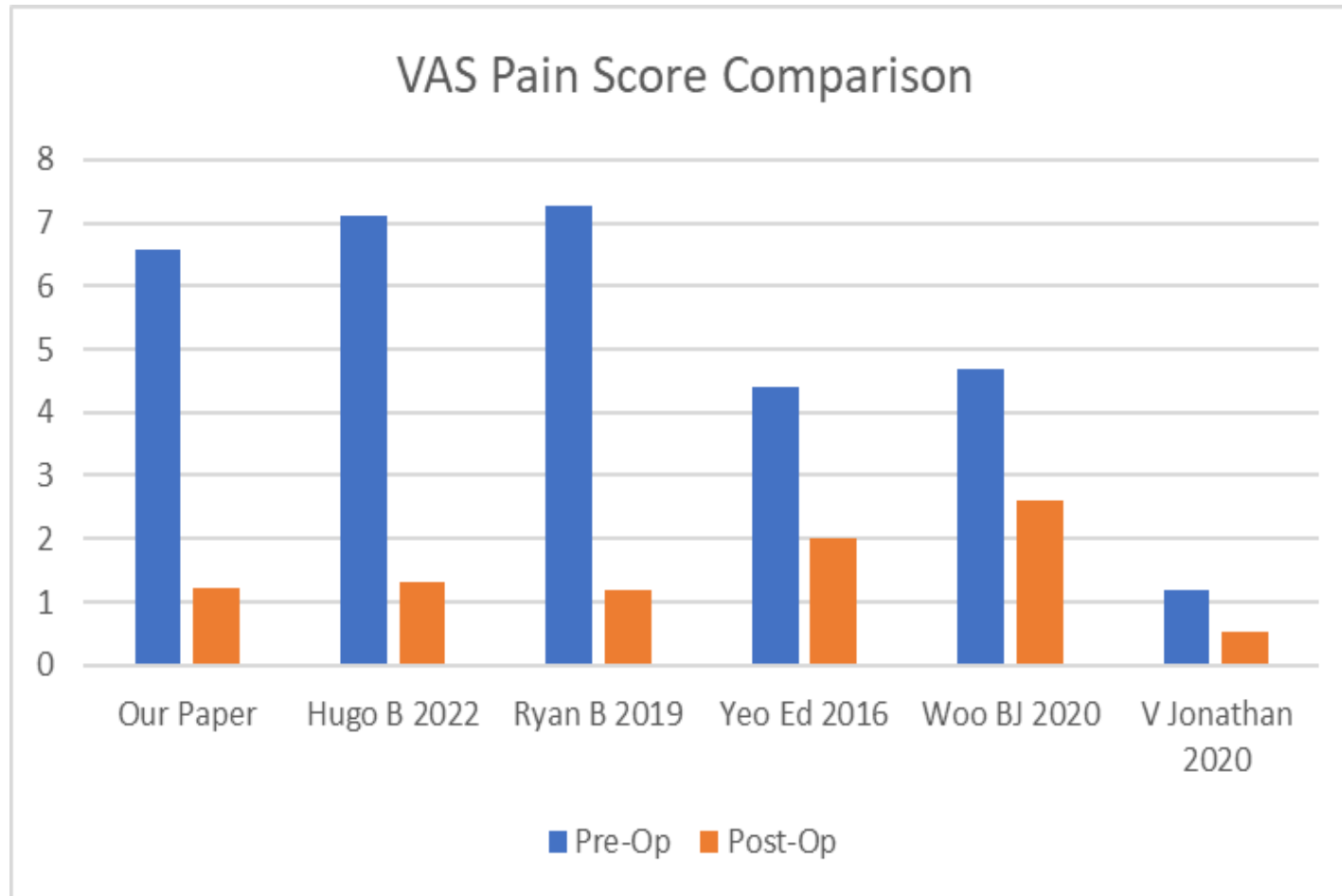


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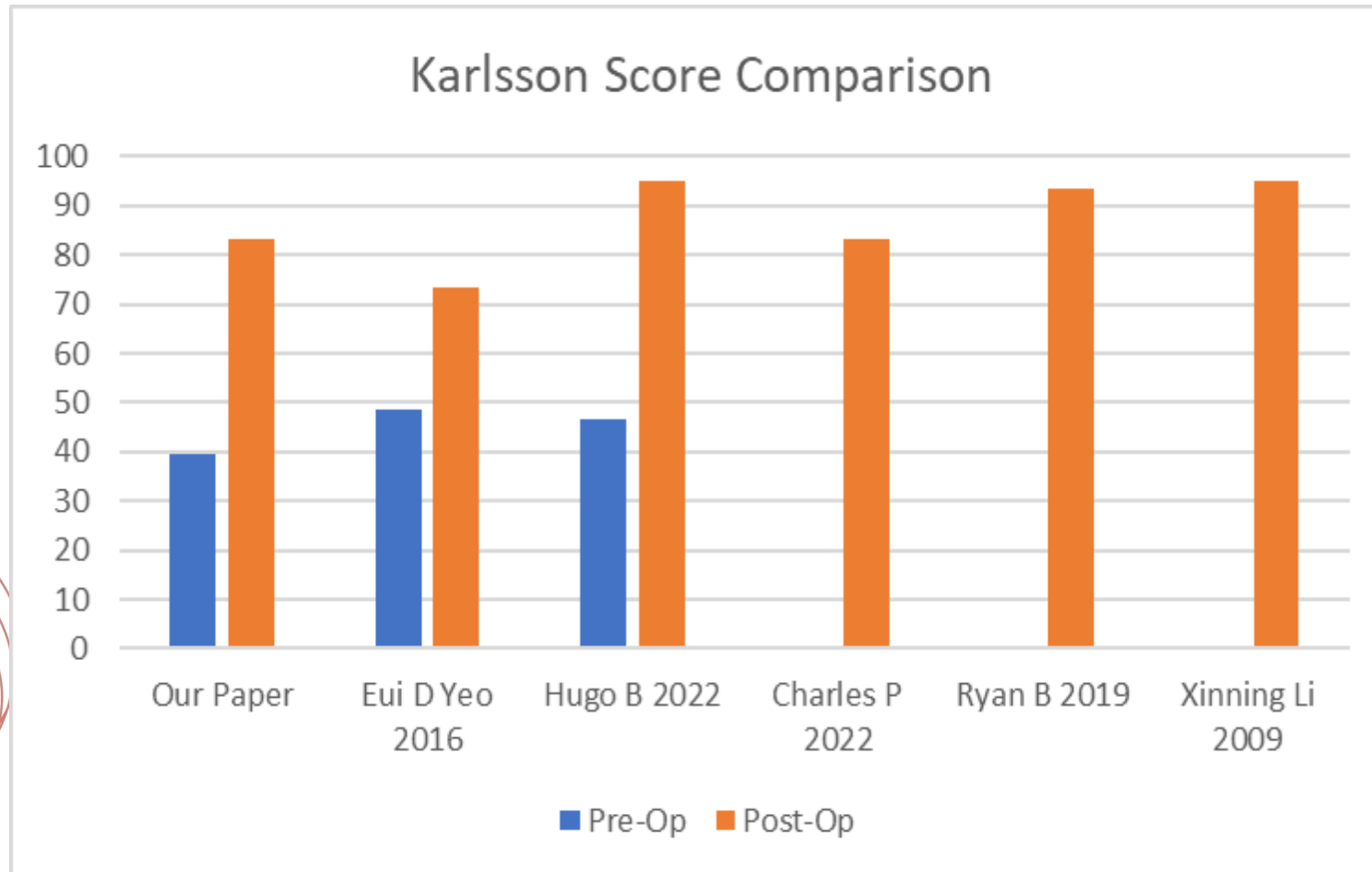
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Results



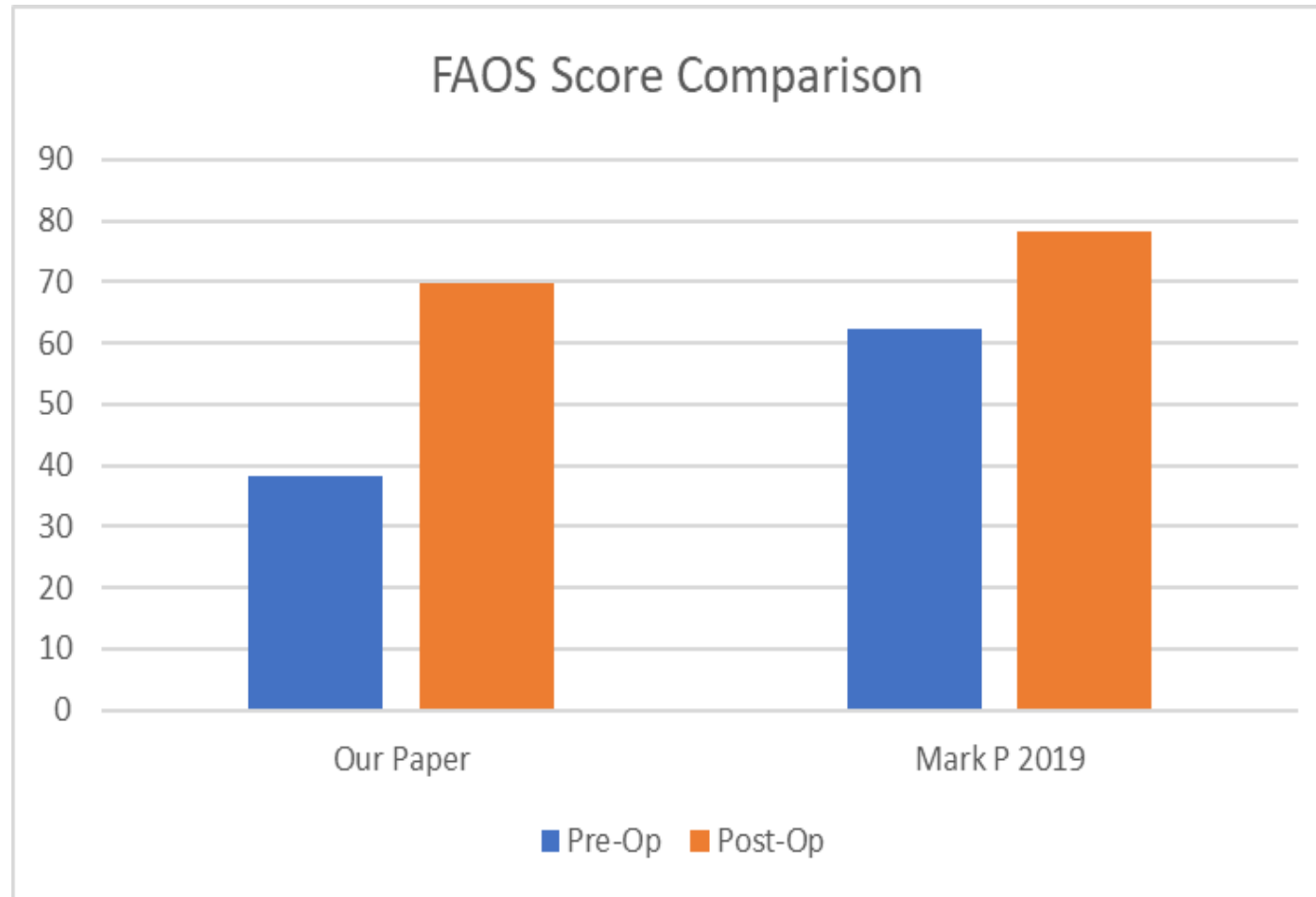
VAS Scale	Preoperative VAS Scale	Postoperative VAS Scale	P Value
Pain	6.6	1.3	<0.001

Results



Karlsson Ankle Function Score	Preoperative Karlsson Score	Postoperative Karlsson Score	P Value
Swelling	4.6	9.8	<0.001
Instability	4.8	14.2	<0.001
Stiffness	2.3	3.7	<0.001
Stair Climbing	5.5	9.3	<0.001
Running	5.0	9.3	<0.001
Work Activities	7.6	14.3	<0.001
Support	1.8	4.5	<0.001

Results



FAOS Score	Preoperative FAOS Score	Postoperative FAOS Score	P Value
Symptoms	15.9	7.7	<0.001
Pain	21.5	10.6	<0.001
Function, Daily Living	34.6	15.3	<0.001
Function, Sports & Recreational Activities	15.7	8.3	<0.001
Quality of Life	10.0	4.9	<0.001

Discussion

- The Modified Mini-Open Brostrom Gould procedure is associated with overall improvement in **PAIN** levels, as well as grading of symptoms, inclusive of instability, swelling and gait abnormalities.
- This study shows that the **STABILITY** achieved by the Modified Brostrom Gould surgery is comparable to traditional open and arthroscopic Brostrom Gould surgeries.
- This study suggests that **FUNCTION** in daily activities as well as sports and recreational activity improved significantly postoperatively.



Discussion

- Significance of study:
 - Arthroscopic approach may not be suitable for every patient and open surgery would be indicated instead.
 - Our modified approach makes use of smaller 1.5cm incision as opposed to the conventional 6-7cm incision.
 - This allows for better cosmesis, greater access than an arthroscopic approach, better wound healing, and comparable outcomes to traditional Open Brostrom Gould repair.



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