ISAKOS CONGRESS 2025 | MUNICH GERMANY June 8–11

Medial instability of AC joints, clinically and radiologically: A report on return to professional play in the AFL

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Kenan Burrows FRACS, Melbourne Australia

Faculty Disclosure Information

- My disclosures are;
  - Consultancies; Arthrex,
  - Depuy,
  - Smith and Nephew

  - Fellowship Support; Arthrex,
  - Depuy,
  - Smith and Nephew,
  - Stryker

Background

- Rockwood based on plain film – static image

- Multi-planar clavicular instability may be present
  - Inf – sup
  - Ant – post
  - Med – lat
  - Rotational

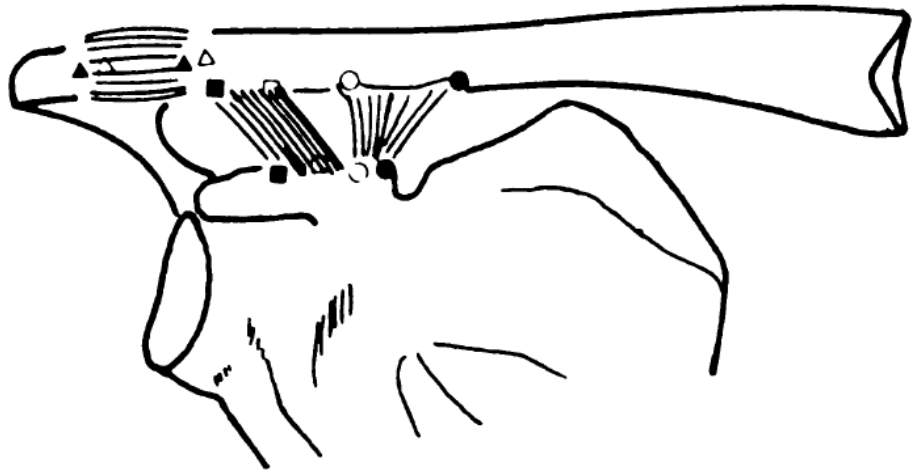
Biomechanical Study of the Ligamentous System of the Acromioclavicular Joint*

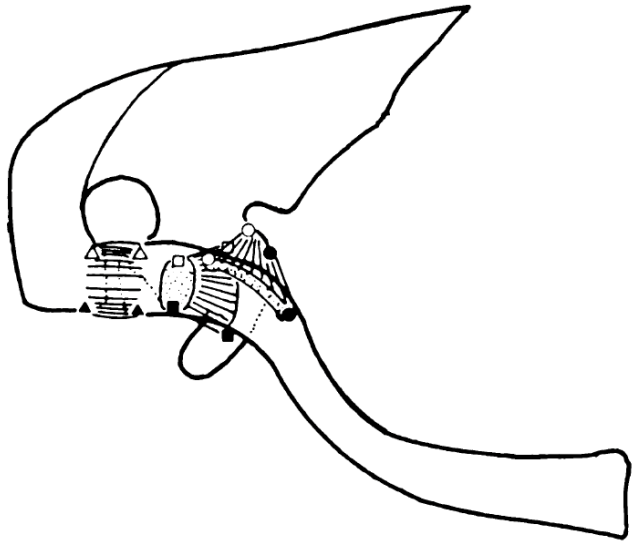
THE JOURNAL OF BONE AND JOINT SURGERY

VOL. 68-A, NO. 3, MARCH 1986

BY KIMITAKA FUKUDA, M.D.†, EDWARD V. CRAIG, M.D.‡, KAI-NAN AN, PH.D.†, ROBERT H. COFIELD, M.D.†, AND EDMUND Y. S. CHAO, PH.D.†, ROCHESTER, MINNESOTA

From the Biomechanics Laboratory, Department of Orthopedics, Mayo Clinic/Mayo Foundation, Rochester

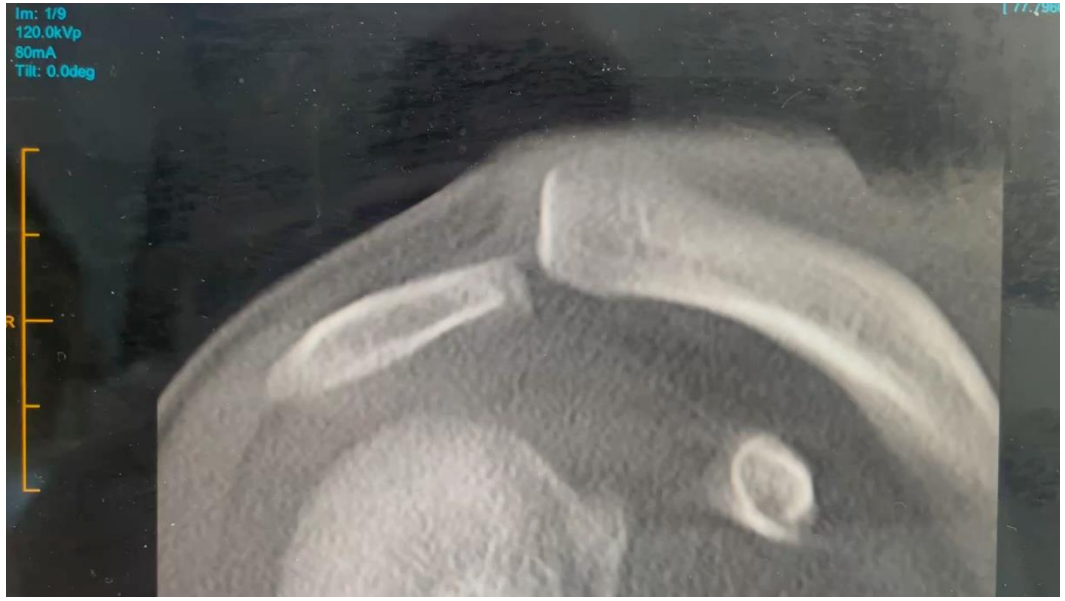


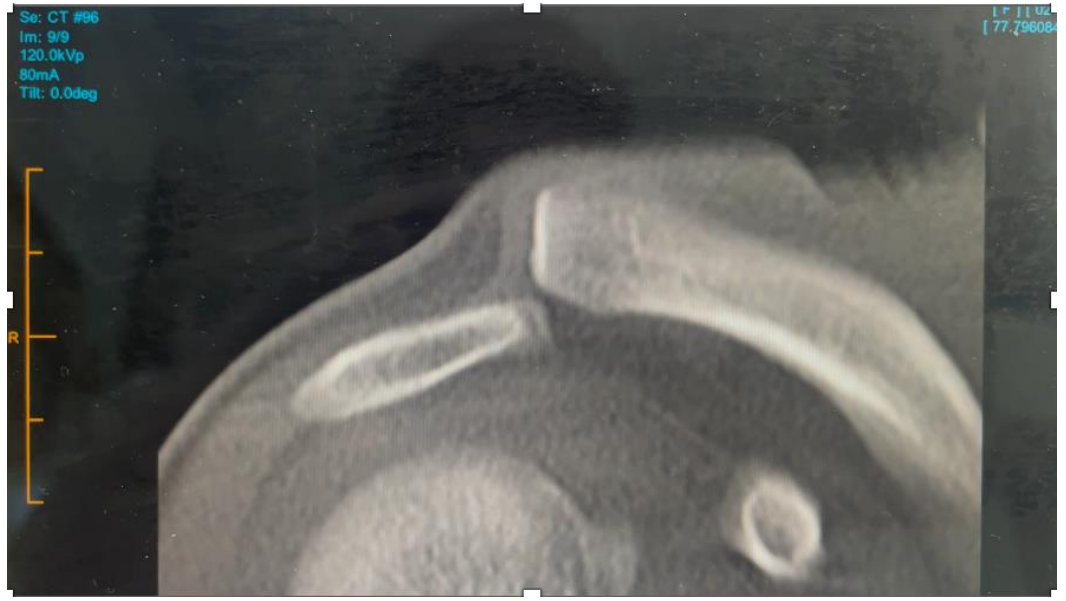


- ACJ capsule – Horizontal > Vertical
- Trapezoid – Axial > Vertical
- Conoid – Vertical > Horizontal
- Deltotrapezial fascia

Clinical testing

- Crossarm adduction test (77% sens)
- O’Briens (95% spec)
- AC resisted external rotation test*



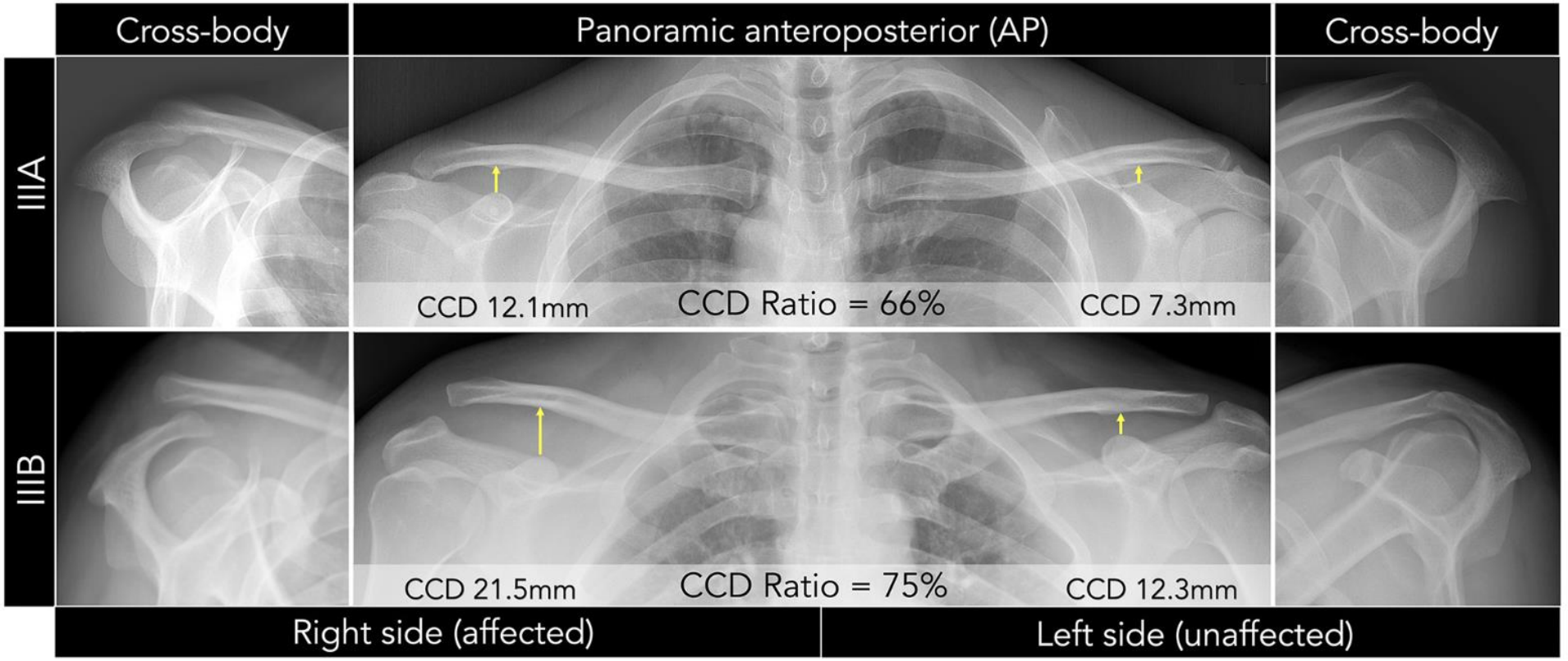


Plain film

Reliability of the ISAKOS Modification to Subclassify Rockwood Type III Acromioclavicular Joint Injuries

Ausberto Velasquez Garcia,*†‡ MD and Glen Abdo,‡§ MD, MPH
Investigation performed at Clinica Universidad de los Andes, Santiago, Chile

The Orthopaedic Journal of Sports Medicine, 10(12), 23259671221133379
DOI: 10.1177/23259671221133379



Imaging

Journal of Medical Imaging and Radiation Oncology **59** (2015) 326–330

MEDICAL IMAGING—TECHNICAL ARTICLE

Wide field of view CT and acromioclavicular joint instability: A technical innovation

David R Dyer,[1] John M Troupis[2] and Afshin Kamali Moaveni[3]

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2 Department of Diagnostic Imaging, Monash Medical Centre, Melbourne, Victoria, Australia
3 Department of Orthopaedic Surgery, The Alfred Hospital, Melbourne, Victoria, Australia

Primary Stability of an Acromioclavicular Joint Repair Is Affected by the Type of Additional Reconstruction of the Acromioclavicular Capsule

Felix Dyrna,*† MD, Florian B. Imhoff,*† MD, B. Haller,†‡ MS, Sepp Braun,† MD, Elifho Obopilwe,* MS, John M. Apostolakos,* MD, MPH, Daichi Morikawa,†§ MD, PhD, Andreas B. Imhoff,* MD, Augustus D. Mazzocca,† MS, MD, and Knut Beitzel,†‖ MA, MD

The American Journal of Sports Medicine
1–9
DOI: 10.1177/0363546518807908

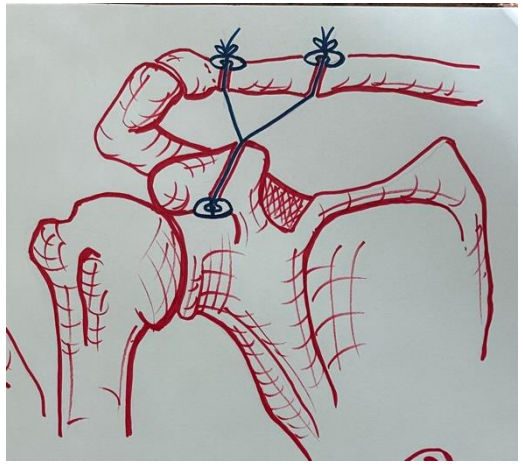
Return to Play After Surgical Treatment of High-Grade Acromioclavicular Joint Injuries in the Australian Football League

Paul Borbas,* MD, Sarah Warby,*†‡§ BPhysio(Hon), PhD, Matthew Yalizis,‖ BPharm, MBBS, FRACS(Orth), Mitchell Smith,* MBBS, BMedSci, FRACS, and Gregory Hoy,*¶ MBBS, FRACS, FAOrthA, FACSP

The Orthopaedic Journal of Sports Medicine, 10(4), 23259671221085602
DOI: 10.1177/23259671221085602

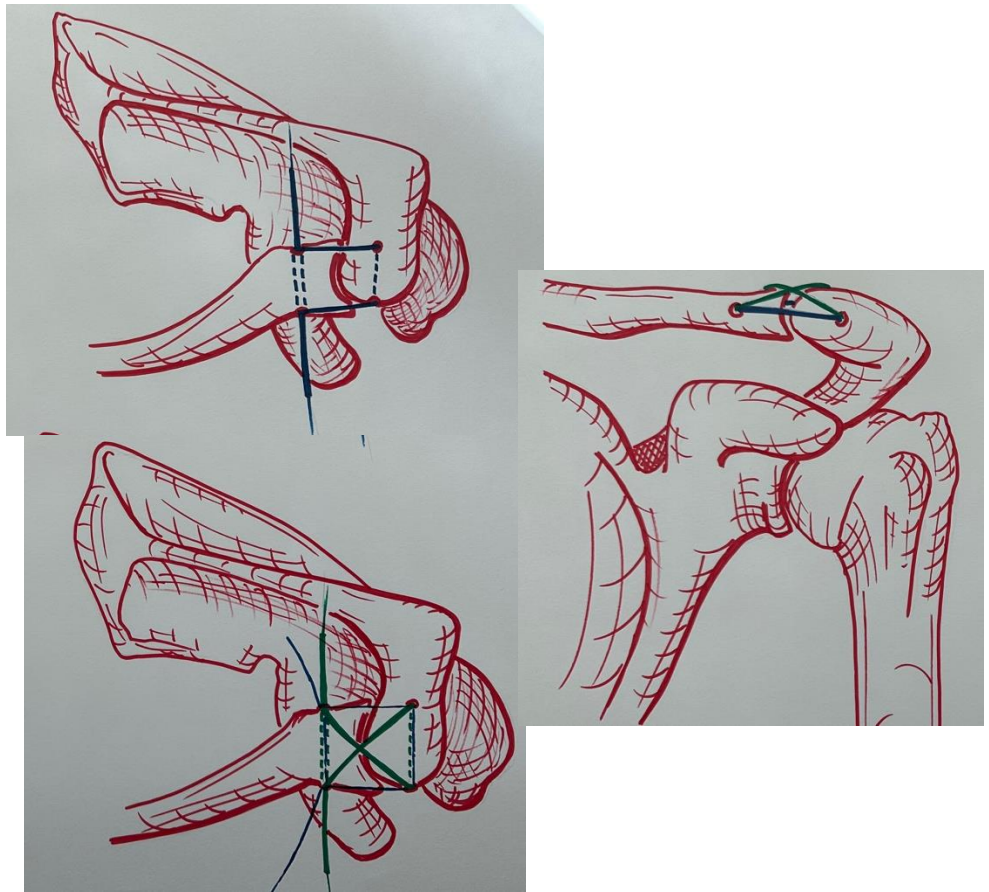
Double Dogbone:

Pre 2017

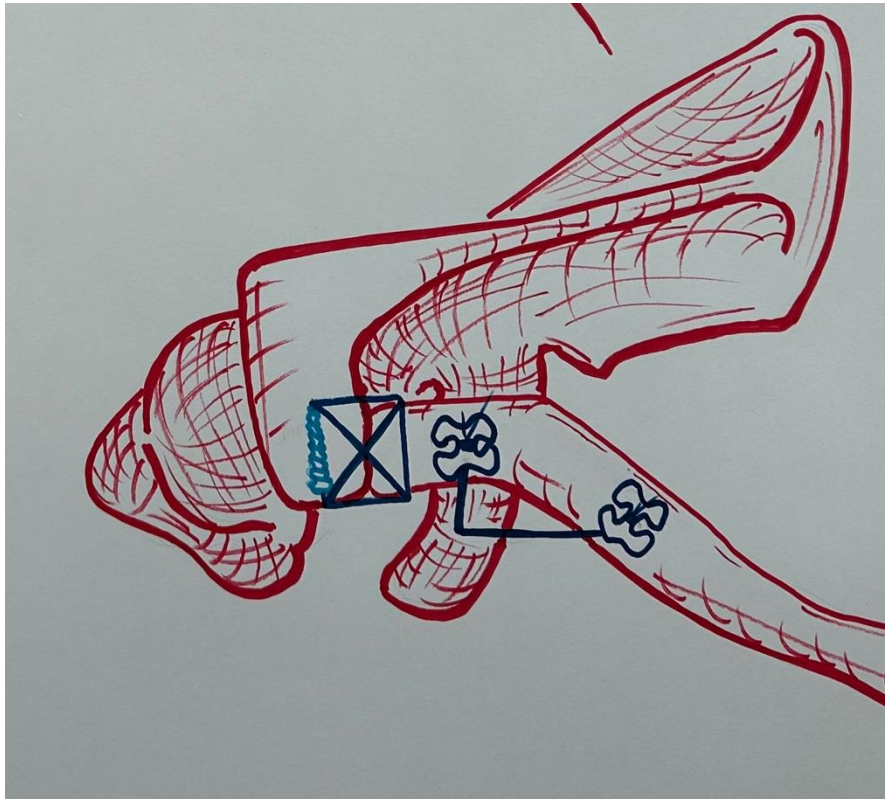


Internal Brace:

Post 2017



Double Dogbone + Internal Brace



Artwork: Chad Everard

Methodology

Comparison of DDB vs DDB + IB

Cohort

- AFL; AFLW; VFL; VFLW players
- Acute Grade 3+ ACJ injuries

Timeframe

- 2014 – 2024

Outcomes

1. Time to Return to profession play (In-Season)
2. PROMs

- Game appearances were noted from open source resources:

- https://afltables.com/

- https://www.footywire.com/

REHAB:

1st week; No sweating; active and pendular movt.

2nd week; Full ROM

3rd week: Resistance activities

4th Week; Ball Handling

%th week; Full training as tolerated

Outcome measures

- Oxford Shoulder Score
- Nottingham Clavicle Score
- Specific AC Score

The Specific AC Score (SACS): a new and validated method of assessment of isolated acromioclavicular joint pathology

Shane A. Barwood, FRACS (Ortho)[a], Jacqui A. French, B.Physio[a,*], Lyn A. Watson, PhD[a], Simon M. Balster, B.Physio (Honors)[a], Greg A. Hoy, FRACS (Ortho)[a], Tania Pizzari, PhD[b]

J Shoulder Elbow Surg (2018) 27, 2214–2223

ELSEVIER

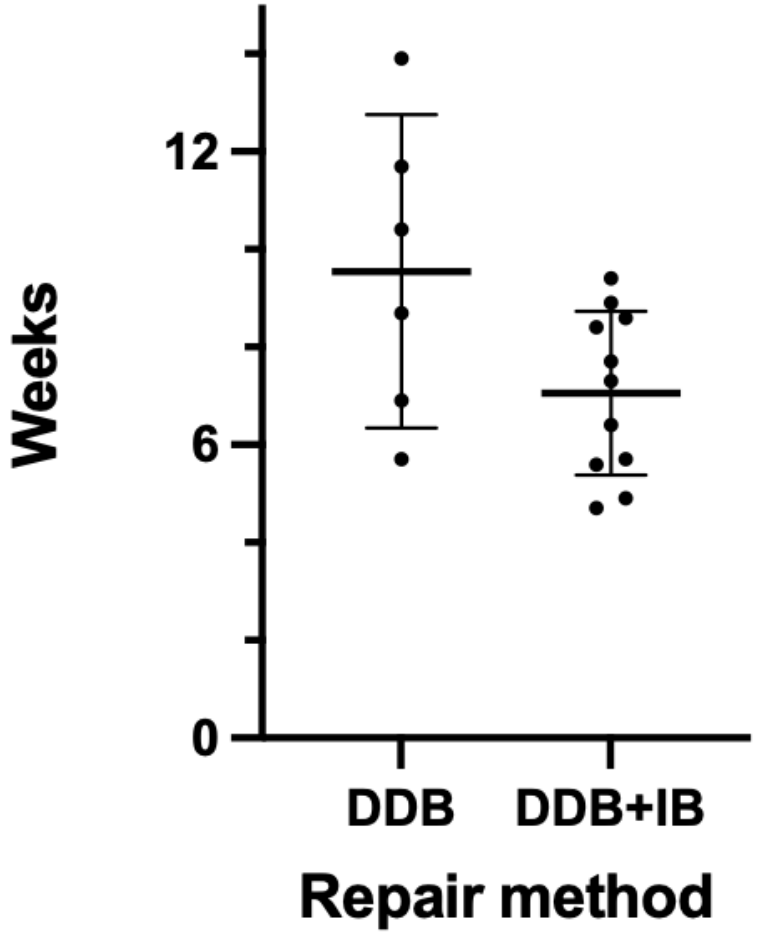
Journal of Shoulder and Elbow Surgery

www.elsevier.com/locate/ymse

Results

	Total (n=29)	**DDB** (n=10)	**DDB+IB** (n=19)	**p-value**
[α]Age (Mean; SD)	24.5 ± 3.3	22.1 ± 2.2	25.6 ± 3.1	0.004*
[β]Male gender (%)	28 (96.5)	10 (100)	18 (94.7)	>0.999
[β]RHD (%)	26 (89.7)	9 (90.0)	17 (89.5)	>0.999
[β]Right side injured (%)	17 (58.6)	6 (60.0)	11 (64.7)	>0.999
[β]AFL/W League (%)	21 (72.4)	6 (60.0)	15 (79.0)	>0.999
[β]RTPP	27 (96.4)	9 (100)	18 (94.7)	>0.999
[β]RTPP in lower league	4 (14.8)	1 (11.1)	3 (16.7)	>0.999
[γ]Mean In-season RTPP time (weeks; SD)	7.9 ±2.5	9.6 ± 3.1	7.1 ± 1.7	0.02*

Table 1
Demonstrates cohort demographics and time to return to professional play (RTPP) for the Double Dogbone group (DDB) compared to the Double Dogbone with acromioclavicular joint Internal Brace group (DDB+IB).
[α] two-tailed t-test; [β] Fisher exact test; [γ] One-tailed t-test; * statistically significant difference.



Results

	DDB (n=10)	**DDB+IB** (n=19)	**p-value**
Follow-up duration $^{\alpha}$ (months)	26.2 ± 12.9	39.1 ± 25.0	0.17
Follow up success $^{\beta}$ [No. (%)]	10 (100)	9 (47.4)	0.01*
Outcome measure			
NCS $^{\alpha}$ %	90.8 ± 7.4	86.2 ± 9.5	0.25
OSS $^{\gamma}$	46.7 ± 2.7	46.3 ± 1.87	0.17
SACs $^{\alpha}$ %	8.9 ± 5.1	13.8 ± 8.5	0.14

Table 2: Demonstrates differences in patient reported outcome measures between the Double Dogbone group (DDB) and the Double Dogbone with Acromioclavicular joint Internal Brace (DDB+IB). The following scores were used: the "Nottingham Clavicle score" (NCS) from 0% (worst) to 100% (best), the "Oxford Shoulder Score" (OSS) from 0 (worst) to 48 (best), and the "Specific AC score" (SACs) expressed from 0% (best) to 100% (worst).

Data expressed as Mean ± Standard devation unless otherwise stated.

$^{\alpha}$ two-tailed t-test; $^{\beta}$ Fisher exact test; $^{\gamma}$ Mann-Whitney U test; * signifies statistically significant difference

Limitations

- Small numbers
- Population not generalizable
- Limited follow-up of PROMs

Complications

- 1 Fracture through implant site (re-injury)
- 1 Removal of prominent knot
- 1 Superficial Wound Infection (No Washout)