



Partial trapeziectomy and interposition with the Tornier Pyrocardan TMC joint implant: short term follow-up

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TMCJ Procedures...

- Ligament Reconstruction (LR)
- MC osteotomy
- TMCJ arthrodesis
- Denervation
- TMCJ replacement
- Trapeziectomy +/- LR or TI or LRTI
- Trapeziectomy (complete/partial) + interpositional arthroplasty



Interposition Materials

Biological (Autograft / Allograft)

- FCR / PL
- Costochondral interposition graft
- Fascia Lata / Graftjacket (acellular dermis)

Prosthetic Material

- Silicone rubber button
- Gelfoam
- Gortex
- Polypropylene (Marlex)
- Polyurethane Urea (Artelon)
- Pyrocarbon (Ascension PyroDisk)
- **Pyrocarbon (Tornier Pyrocardan)**

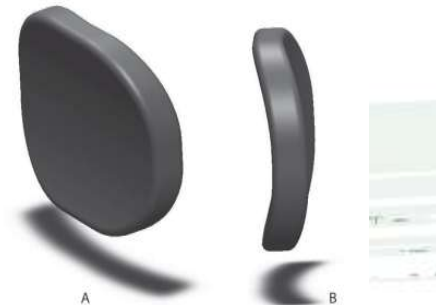
Artelon



PyroDisk



Pyrocardan





Pyrocardan TMC Interposition Implant

Indications

- Stage 1,2 and early 3 TMCJ OA (Dell/Eaton Classification)

Benefits

- Minimally invasive and short recovery period
- Trapezium preserving, offers greater salvage opportunities





Study Criteria

Inclusion criteria

- Tornier Pyrocardan TMCJ implant
- Victorian based
- Minimum 3 months post-op
- Included concurrent pathology (MCPJ OA)
- Included concomitant procedures (STT arthrodesis / ST implant)





Bellemere et al (2011)



Elsevier Masson France
EM|consulte
www.em-consulte.com

Chirurgie de la main 30 (2011) S28-S35

CHIRURGIE
DE LA **main**

Pyrocardan implant: free pyrocarbon interposition
for resurfacing trapeziometacarpal joint

*L'implant Pyrocardan : interposition libre en pyrocarbone
pour resurfaçage de l'articulation trapézo-métacarpienne*

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- Pain (VAS mean, resting Yes/No)
- PRWHE (/100) & DASH (QuickDASH) (/100)
- Satisfaction (4 point ordinal scale)
- Grip Strength & lateral pinch kgs)
- Adverse Effects (Yes / No)



Methods

- Ethics approval (Southern Health)
- Obtained all patients in Victoria (Tornier)
 - N= 15 by 4 Hand Surgeons
- One-off clinical assessment / interview
- Review of case notes



Results - Demographic

86.7% of population included (13/15)

	Victorian	Bellemere et al
N	13	27
Age	57 (48 – 69)	58 (40 – 71)
Sex	M 30.8%, F 61.5%	
W / C	30.8%	-
Dominant	61.5%	48%
F/up (months)	6.9 (3 – 15.3)	16.6 (12 – 27)
Stage (I-IV)	Stage 2 (61.5%) Stage 3 (15.4%) Stage 4 (23.1%)	Stage 2 (100%)

DASH

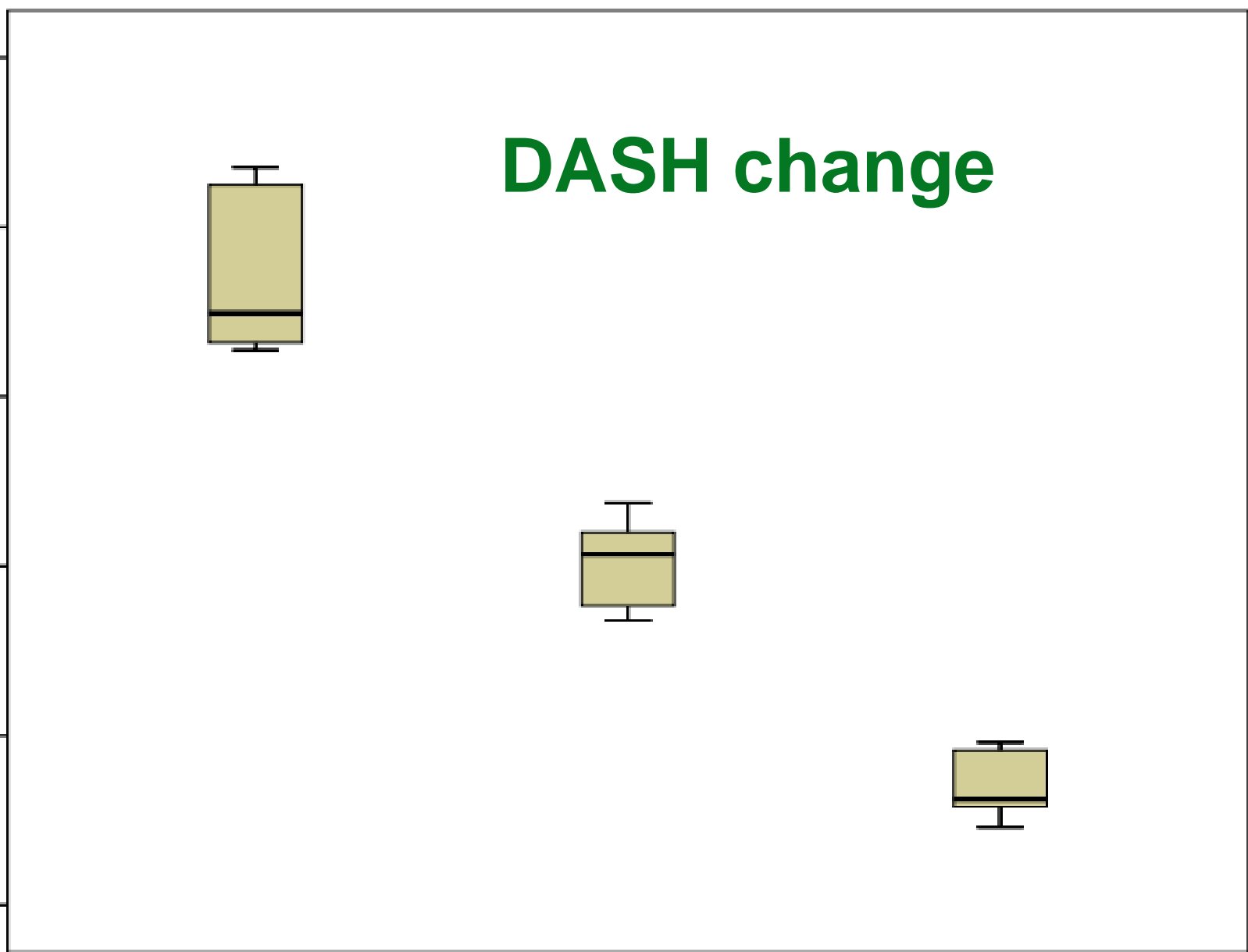
DASH change

100
80
60
40
20
0

Baseline

Post surgery

final f/up





Results - Pain

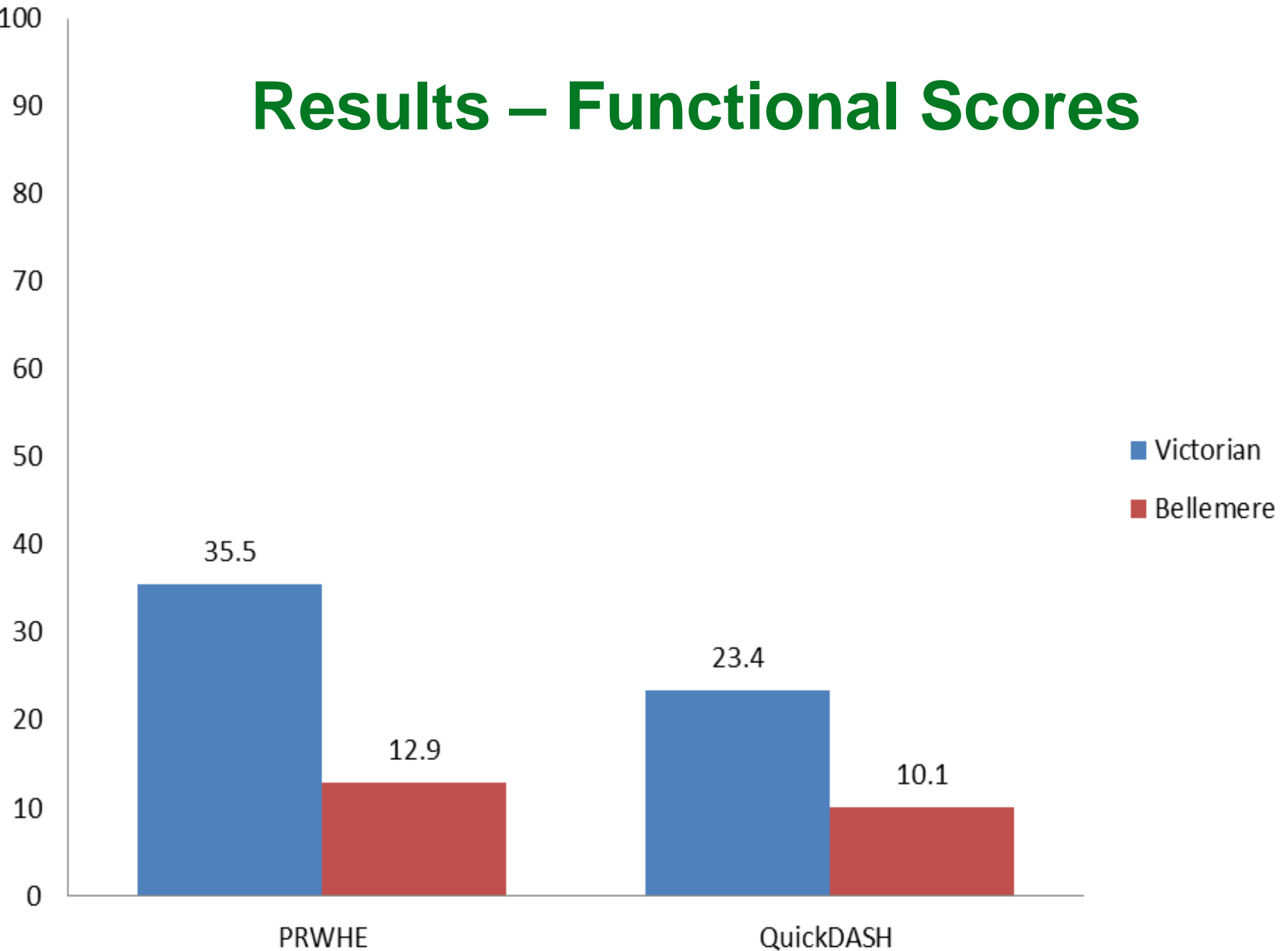
PRWHE

RATE YOUR PAIN:	None											Worst
At rest	0	1	2	3	4	5	6	7	8	9	10	
When doing a task with a repeated wrist/hand movement	0	1	2	3	4	5	6	7	8	9	10	
When lifting a heavy object	0	1	2	3	4	5	6	7	8	9	10	
When it is at its worst	0	1	2	3	4	5	6	7	8	9	10	

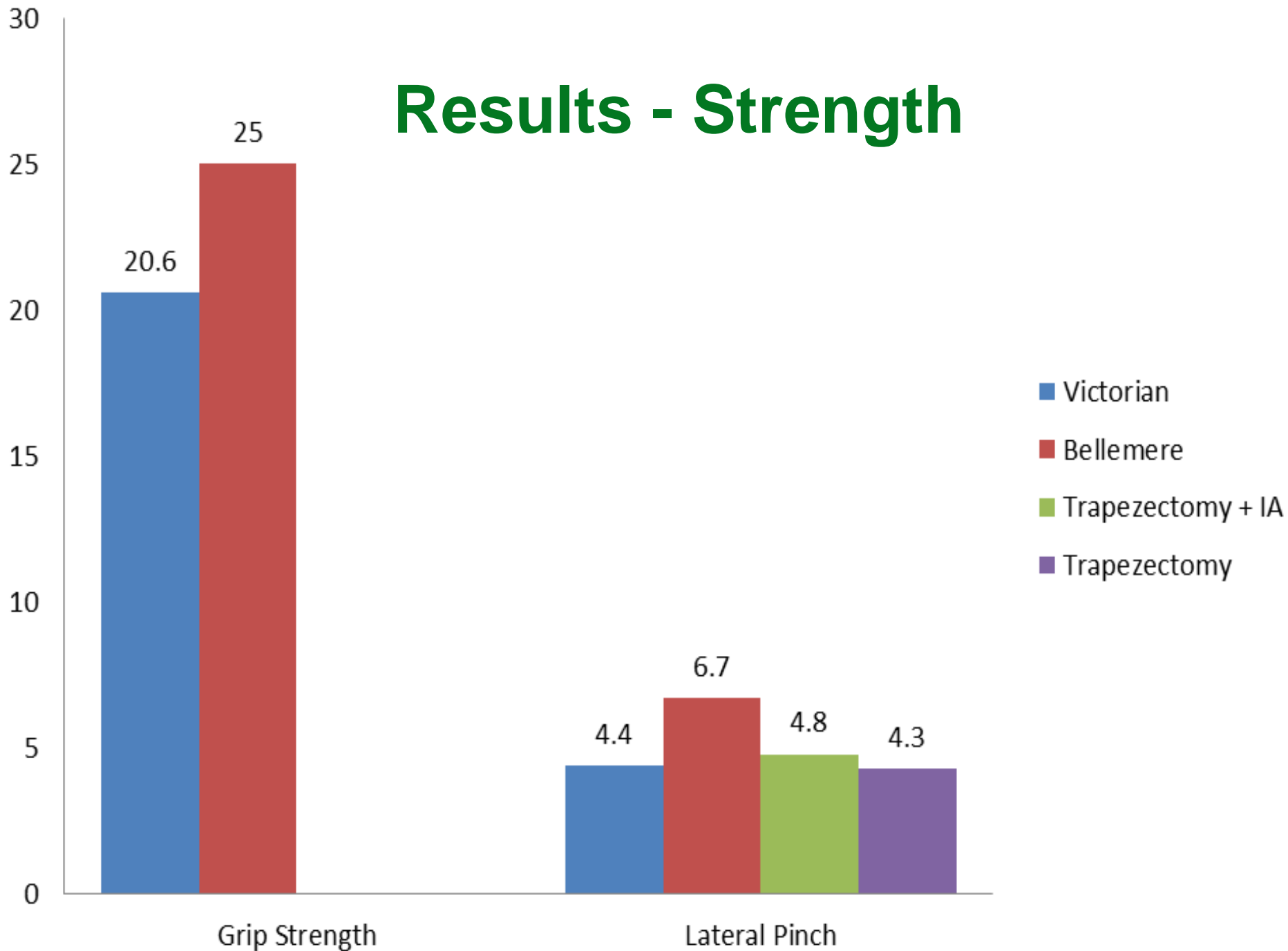
How often do you have pain?	0	1	2	3	4	5	6	7	8	9	10
	Never										Always

- Mean pain VAS (0-10)
 - Victorian = 4.1 at 6.9 months
 - Bellemere = 1.6 at 16.6 months

Results – Functional Scores



Results - Strength





Results - Satisfaction

	Very Satisfied and Satisfied	Quite Satisfied (Neutral)	Dissatisfied
Victorian	10 (77%)	3 (23%)	0 (0%)
Bellemere	27 (100%)	0 (0%)	0 (0%)

Fisher's Exact, $p=0.03$



6 months post-op





Proportion with continued pain

- Victorian = 23.1% (6.9m f/up)
- Bellemere = ?
- Trapeziectomy & IA = 10.2% (12m f/up)
- Trapeziectomy = 9.7% (12m f/up)



Adverse effects

- Victorian
 - 1/13=7% dislocation
 - Nil CRPS, infection or other complication
- Bellemere
 - None
 - Selection bias?



Discussion

- Pain/function score improved
- Pinch strength comparable to traditional procedures
- Limitations
 - short follow up
 - no baseline data / change scores



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