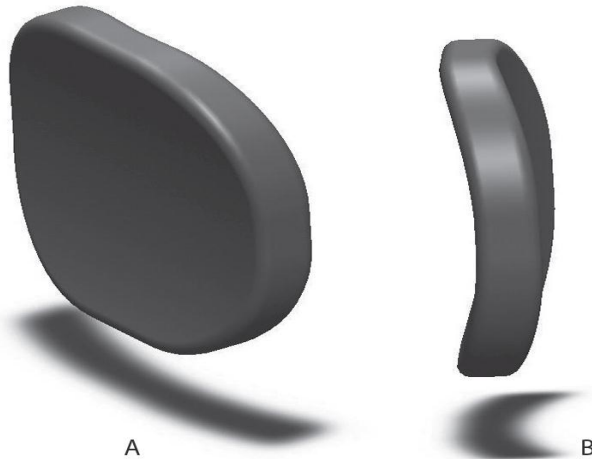




# Partial trapeziectomy and interposition with the Tornier Pyrocardan TMC joint implant: short term follow-up

Antoniou N, Mathias J, Crock J, Loh I,  
Wright, W





# 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)**

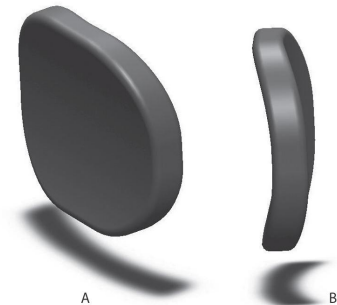
Artelon



PyroDisk



Pyrocardan





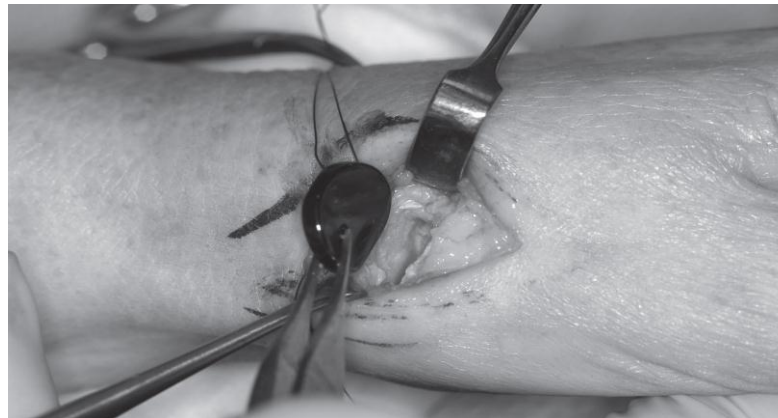
# Pyrocardan TMC Interposition Implant

## 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*

P. Bellemère\*, E. Gaisne, T. Loubersac, L. Ardouin, S. Collon, C. Maes

*Nantes Assistance Main, Clinique Jeanne d'Arc, 21 rue des Martyrs, 44100 Nantes, France*

- 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)

	<b>Victorian</b>	<b>Bellemere et al</b>
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**

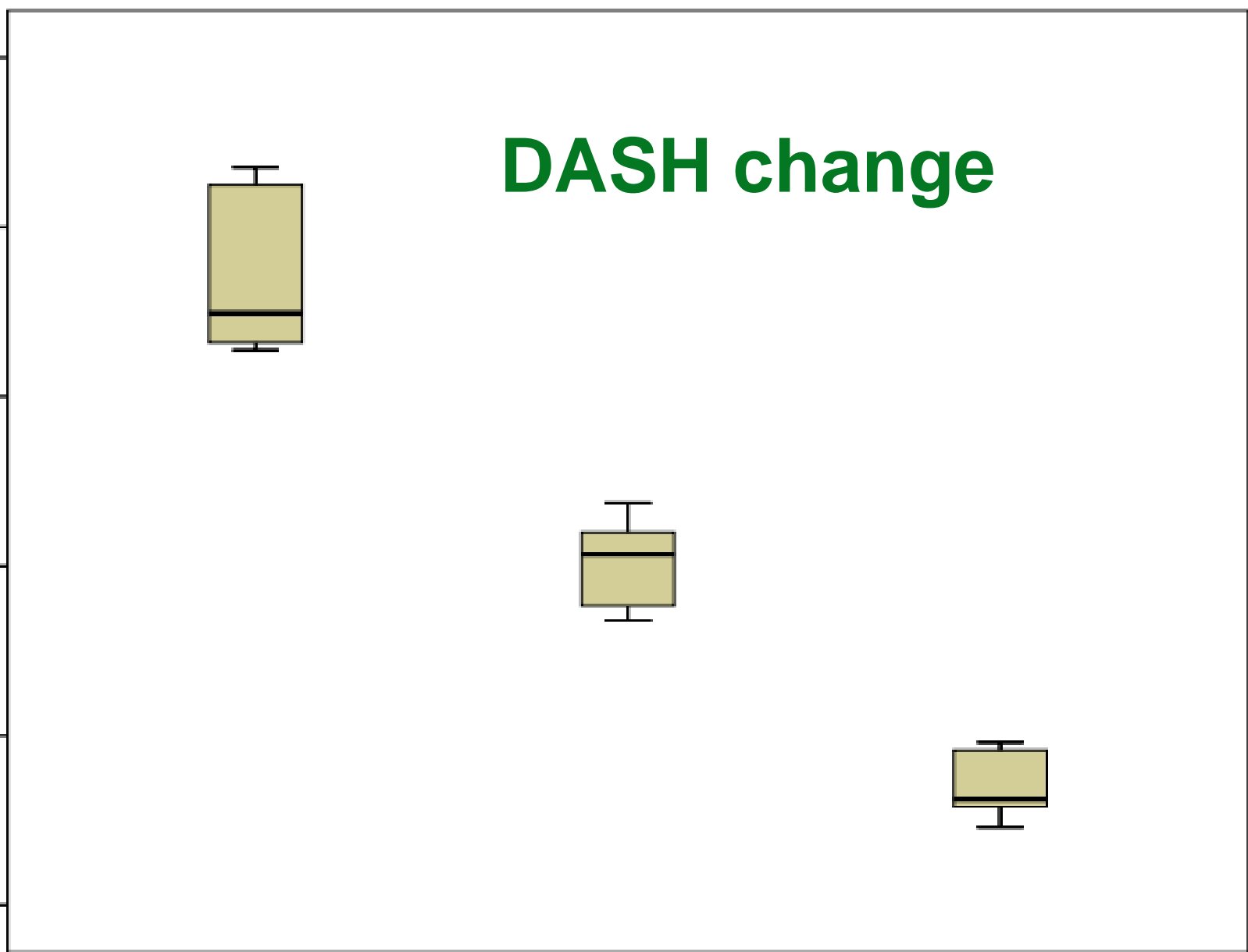
**DASH change**

100  
80  
60  
40  
20  
0

Baseline

Post surgery

final f/up





# Results - Pain

## PRWHE

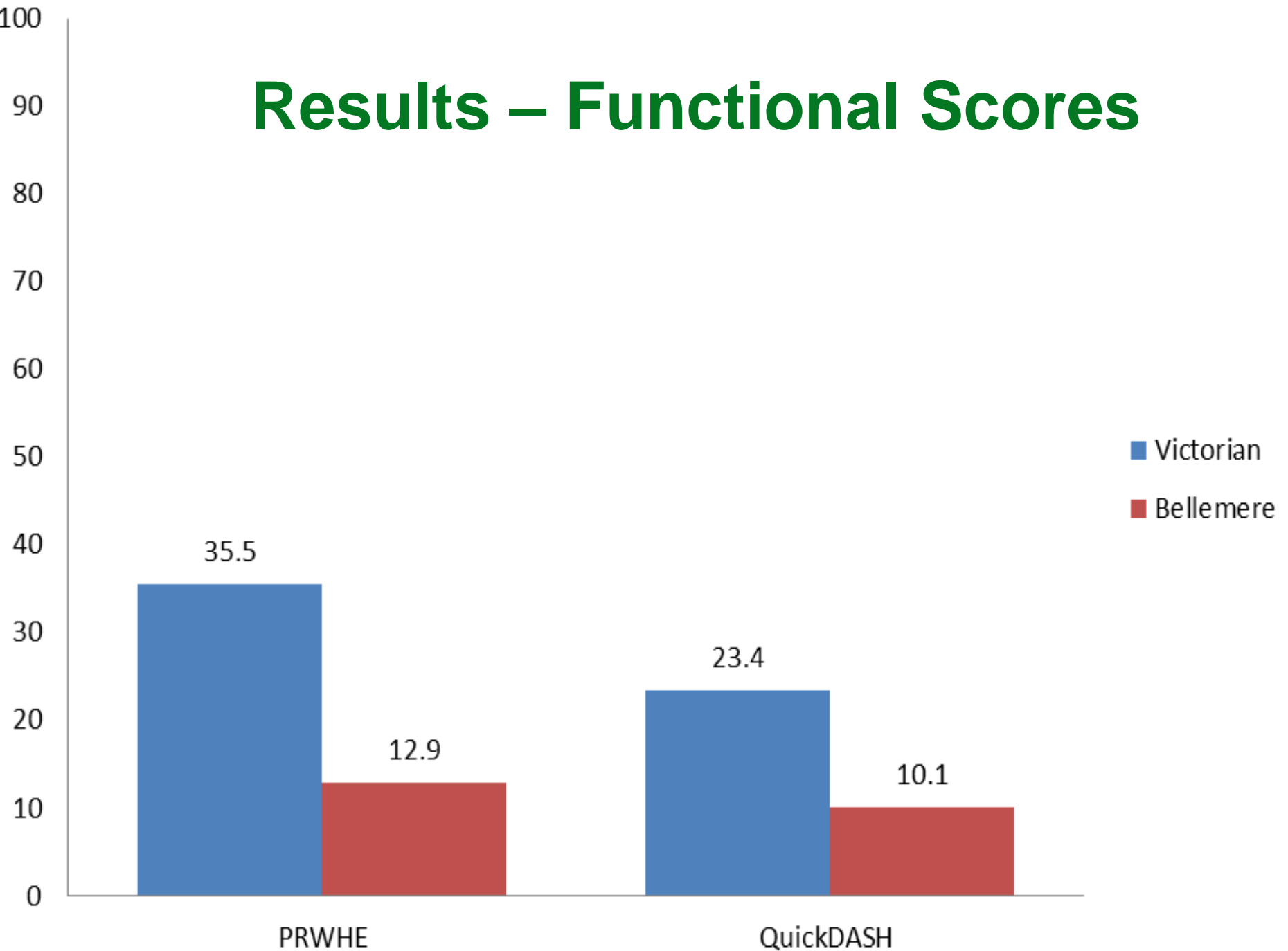
RATE YOUR PAIN:	None										Worst
At rest	0	1	2	3	4	5	6	7	8	9	10
When doing a task with a repeated wrist/hand movement	0	1	2	3	4	5	6	7	8	9	10
When lifting a heavy object	0	1	2	3	4	5	6	7	8	9	10
When it is at its worst	0	1	2	3	4	5	6	7	8	9	10

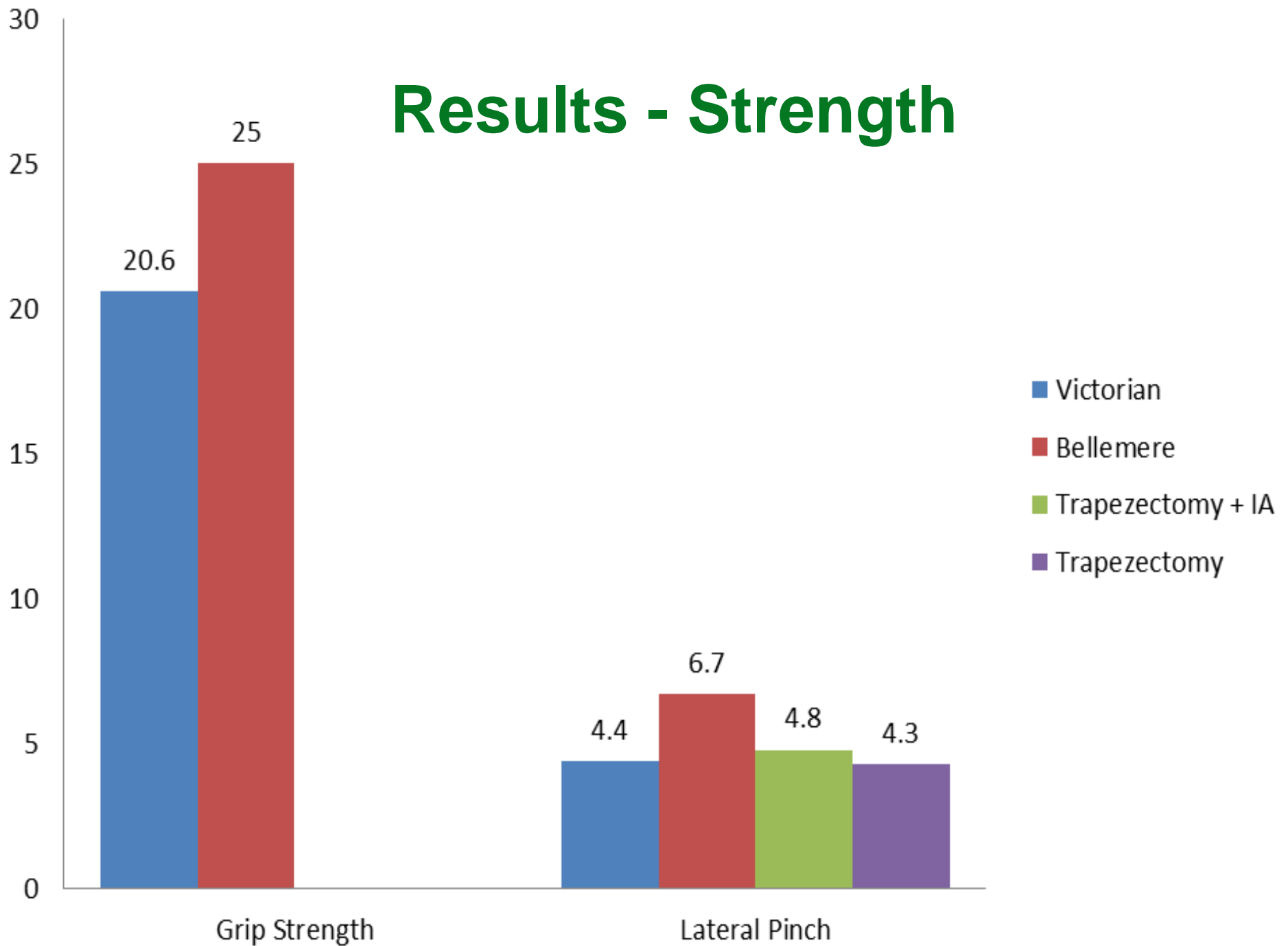
How often do you have pain?	0	1	2	3	4	5	6	7	8	9	10
	Never										Always

- 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

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

Fisher's Exact,  $p=0.03$



**7 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
- Good overall satisfaction with procedure
- Pinch strength comparable to traditional procedures
- Limitations
  - short follow up
  - limited baseline data / change scores



# Acknowledgements

- John Crock
- Anthony Berger
- Warwick Wright
  
- Dan Purtell