

## BACKGROUND

- Scaphoid pathologies are one of the most common referrals for a hand and wrist surgeon
- Acute scaphoid fractures represent the most common carpal bone fracture<sup>1</sup>
- Of these scaphoid fractures 5-15% will go on to develop a non-union<sup>2</sup>
- Scapholunate dissociation (SLD) represents the most common ligamentous injury in the wrist<sup>3</sup>
- Despite each injuries relative frequency, treatment of these injuries remain varied. A broad array of options ranging from conservative management to salvage procedures depending of the pathology
- Numerous studies have examined the outcomes of these varieties of treatments with mixed results

## OBJECTIVE

- To determine Canadian hand and wrist surgeons management strategies for acute scaphoid fractures, scaphoid non-unions, and scapholunate dissociation

## METHODS

- Survey was constructed consisting of 4 demographic and 11 clinical questions using an online survey generator (Survey Monkey)
- Clinical questions were developed by the authors and represented clinical cases where the respondent would chose a management for each case
- Prospective respondents were identified through membership with Manus Canada and members of the Canadian Society of Plastic Surgery that have identified themselves as hand surgeons
- A link to the survey was emailed to all prospective respondents. A reminder email was sent out at 4 weeks after initial email to increase response rate
- Responses were collected. Descriptive statistics and a multinomial regression analysis were used to analyze the data. All data analysis was completed using SPSS 22

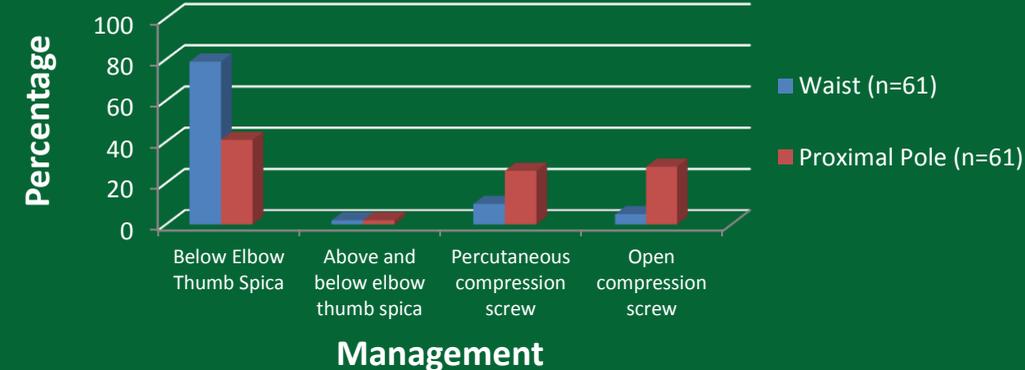
## RESULTS

- 389 surgeons were invited to take part in the survey with seventy-six responses for a response rate of 20%
- Most respondents were plastic surgery trained (60%) who trained in Canada (53%) and completed >20 wrist cases a year (68%)
- Average time in practice was 15.2 years
- Multinomial regression analysis did not show any significant relationships between demographic questions and management questions

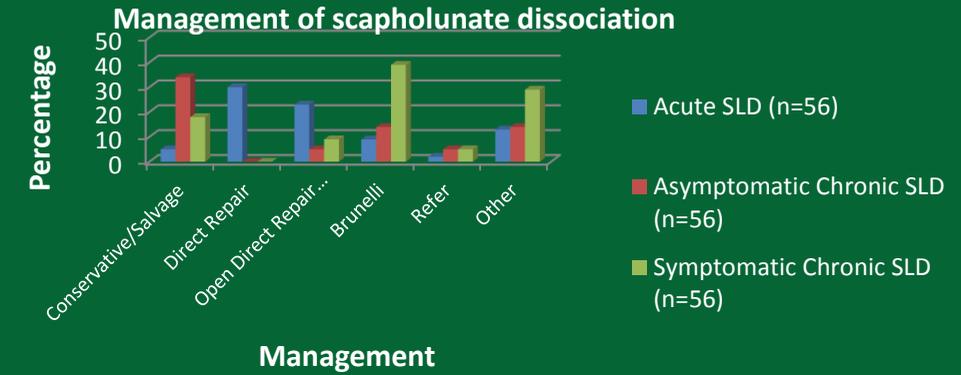
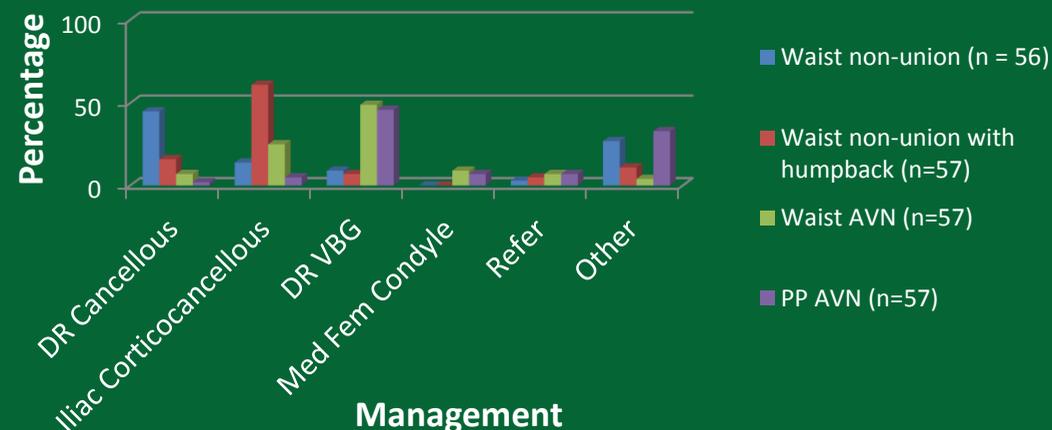
## Demographics

Training Type (n=75)	Plastics	Orthopedics	General Surgery	
	45 (60%)	29 (39%)	1 (1%)	
Training Location (n=75)	Canada	US	Europe	Australia
	40 (53%)	25 (33%)	6 (8%)	4 (5%)
Case Load (n=74)	< 5	5-10	10-20	>20
	13 (18%)	7 (9%)	4 (5%)	50 (68%)

## Management of non-displaced scaphoid waist and proximal pole fractures



## Management of scaphoid non-union and AVN



## DISCUSSION

- Treatment of scaphoid fractures, scaphoid non-unions, and SLD remain varied
- Non-displaced scaphoid waist fractures are treated conservatively. A conservative strategy was used for non-displaced proximal pole fractures was most commonly chosen as well. However, when the percutaneous and open compression screws where combined an operative strategy was most frequently used
- The presence of a humpback deformity and avascular necrosis greatly shifted the choice of treatment. Cancellous bone was most often used for a scaphoid non-union, while corticocancellous bone was used if a humpback deformity was present and vascularized bone if avascular necrosis was present.
- Direct repair with capsulodesis of acute SLD was the most frequent management strategy. A Brunelli repair was most frequently used for symptomatic chronic SLD. Interestingly, this represents a change from a 2004 study by Zarkardas *et al.*
- Limitations of this study include a likely over inflated denominator of potential participants as every surgeon with a listed interest in hand and wrist surgery was contacted. By default this would include almost every plastic surgeon trained in Canada and was not necessarily inclusive of only hand and wrist surgeons – this resulted in a presumptively artificially low response rate

## CONCLUSIONS

- Management of scaphoid pathologies remains heterogeneous
- Management strategies did not correlate with training type, training location and case load

## DISCLOSURES AND ACKNOWLEDGEMENTS

- The authors have nothing to disclose
- We would like to thank Manus Canada and the Canadian Society for Plastic Surgeons for their assistance with recruitment