

SIGNIFICANT VARIABILITY EXISTS IN TREATMENT OF PEDIATRIC LATERAL ANKLE INJURIES

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INTRODUCTION

Pediatric lateral ankle injuries are extremely common injuries with limited evidence-based recommendations to guide medical diagnosis, treatment, and return to activities.¹ Variability in treatment is suspected amongst pediatric orthopaedic surgeons.^{2,3}

PURPOSE

To investigate patterns of treatment variability of both pediatric ankle sprains (AS) and Salter Harris I distal fibula fractures (SH) amongst members of the Pediatric Orthopaedic Society of North American (POSNA) thru a unique survey to the membership.

METHODS

A unique anonymous survey was distributed to POSNA membership (approximately 1400 members) via email with a voluntary direct link. Survey questions specific to both grade I/II AS and non- or minimally displaced SH injuries in a skeletally immature patient included initial evaluation, immobilization, and return to sports. All answers were multi-select allowing for participants to choose more than one option for the described injury. Data analysis focused on treatment variability based on years in practice, gender of respondent, region, institution, and fracture care volume.

REFERENCES

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Table 1: Collective responses to POSNA survey regarding preferred treatment of a first-time injury to the lateral ankle in a skeletally immature patient.

	Grade I/II Ankle Sprain (n=229)	Salter Harris I Distal Fibula Fracture (n=229)
Preferred Primary Treatment		
Immobilization	78.60%	95.20%
Crutches	35.37%	3.93%
Therapy (Outpatient or Home Program)	31.44%	32.31%
Early Range of Motion	2.62%	6.11%
Nothing	1.31%	0.00%
Preferred Weight Bearing Status		
Non-weight Bearing	1.31%	4.37%
Toe-Touch weight bearing	0.44%	4.37%
Weight bearing as tolerated	98.25%	91.27%

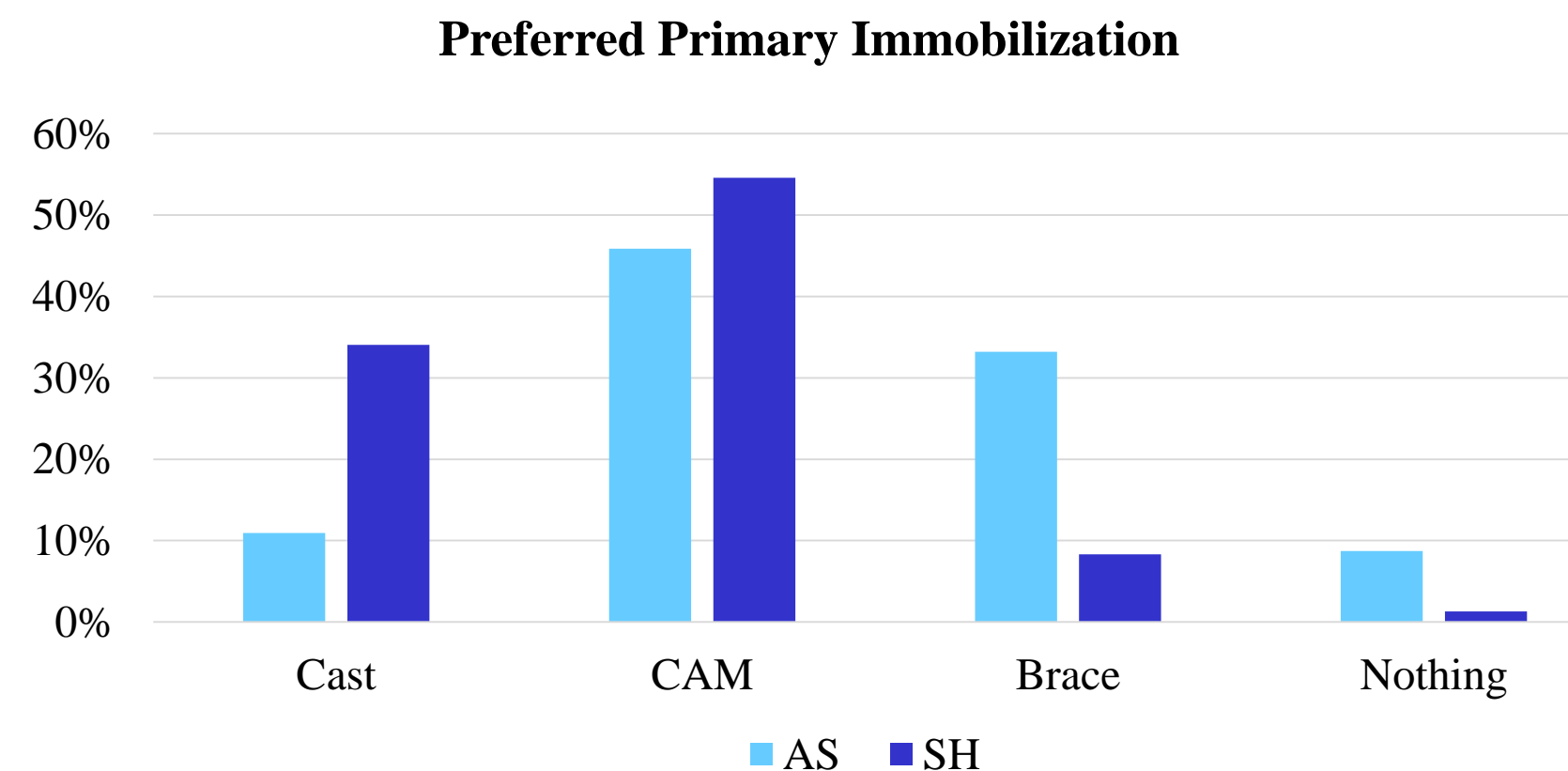


Figure 1. Comparison of Preferred Primary Immobilization for Ankle Sprains (AS) and Salter Harris I distal fibula fractures (SH).

RESULTS

- Response rate of 16.4% (229 surveys)
- Physical Exam
 - 27.5% use exam only to distinguish between AS and SH
 - 27.1% perform serial radiographs
- Treatment (Table 1)
 - Primary treatment = immobilization
 - SH = 95.20%
 - AS = 78.60%
 - CAM/Walking boot was the most common form of immobilization (Figure 1)
 - SH = 54.59%
 - AS = 45.85%
 - Approximately 1/3 of all respondents recommending either outpatient or home physical therapy
- Older respondents (and those in practice > 30 years) were more likely to
 - use stirrups for treatment of AS (p=0.006).
 - recommended cast immobilization for SH injuries (p=0.02)
- Lower volume respondents (< 10 lateral ankle injuries per year) were
 - more likely to use a CAM walker as primary treatment (p=0.01)
- Respondents > 50 years old recommended 6-8 weeks RTP while those younger than 50 years old recommended 4-6 weeks (p=0.01).

CONCLUSIONS

Significant variability exists in primary treatment and immobilization of pediatric ankle sprain and Salter Harris I fractures of the distal fibula. Further variation is noted amongst different generations of pediatric orthopaedic surgeons as well as those that treat high versus low volume lateral ankle injuries. QSVI research is needed to establish standardized treatment protocols for these injuries in order to improve patient care.