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# Surgeon Practices Regarding Infection Prevention for Growth Friendly Spinal Procedures

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# Background

- **Infections are costly**
  - Financial, emotional
  - Patient, health care system

- **Infection rate in EOS may be as high at 25%**

-Campbell R et al. *J Bone Joint Surg Am.* 2004.  
-Sankar WN et al. *Spine* 2010  
-Emans et al. *Spine* 2005

- **Recent survey showed significant variability in approach to infection in AIS and neuromuscular scoliosis**

ORIGINAL ARTICLE

## Surgeon Practices Regarding Infection Prevention for Pediatric Spinal Surgery

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John M. Flynn, MD,§ and On behalf of the POSNA committee on the Quality, Safety,  
Value Initiative (QSVI)

(*J Pediatr Orthop* 2013;33:694–699)

# Hypothesis

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- **There is considerable variability of current practices of surgeons who perform deformity surgery with regard to infection prevention**



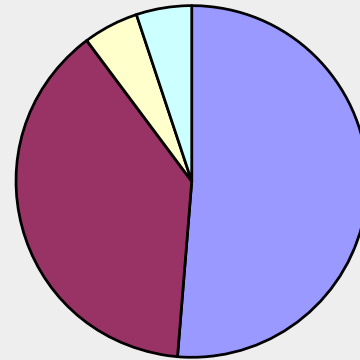
# Methods

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- **19 question survey developed by authors**
  - Survey monkey
  - Tested amongst authors prior to sending to group
- **Sent to 57 GSSG and CWSDSG members**
  - 40 responses (70%)

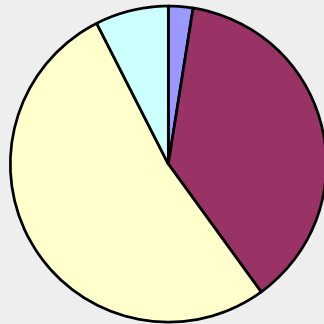
# Results

Do you ask patients to do anything at home preoperatively?



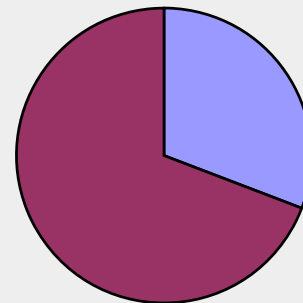
- No
- Yes, chlorhexidine all patients

Do you obtain any preoperative labs to stratify for infection (ie: albumin, prealbumin, TWBC, TLC, serum Transferrin)?



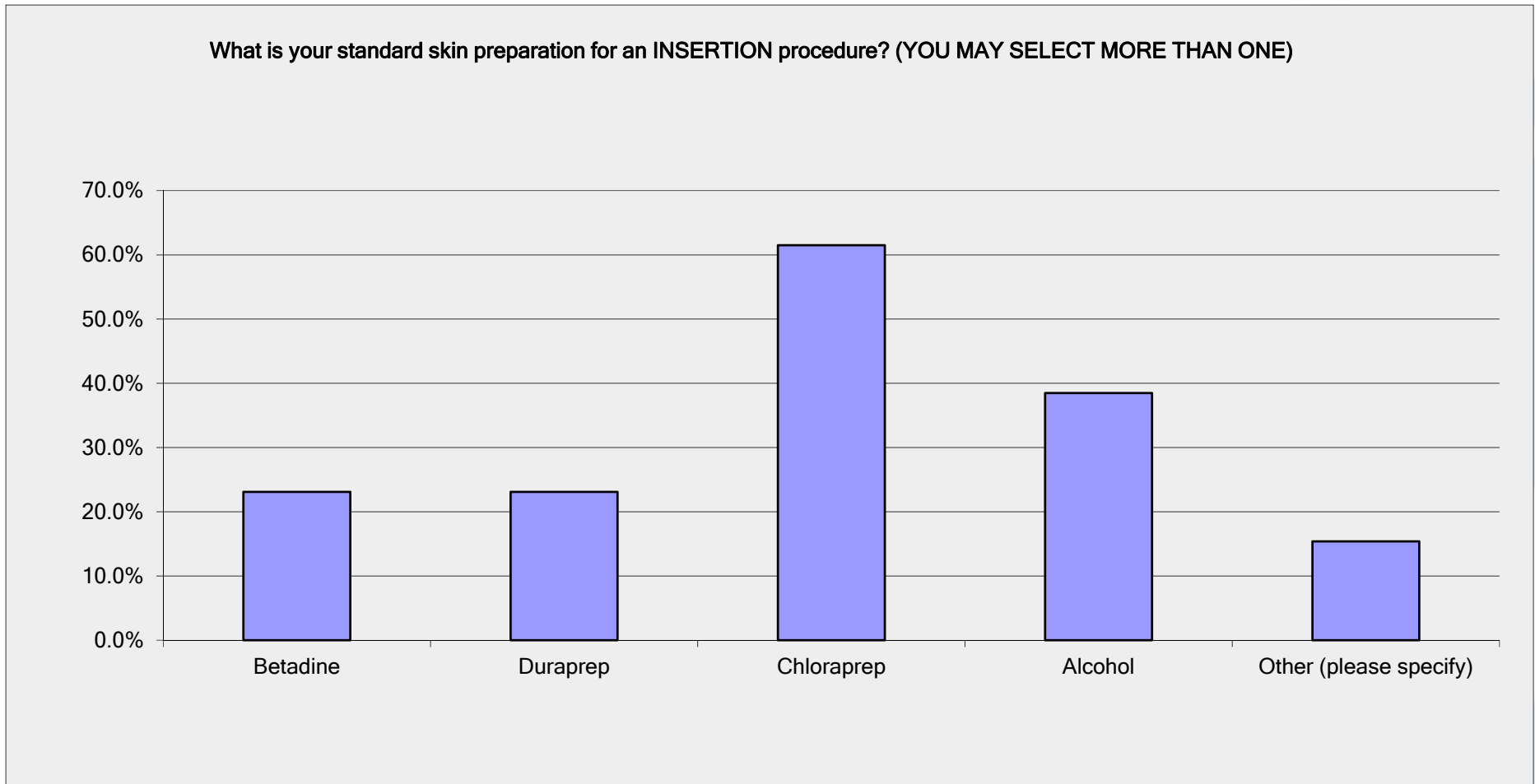
- Yes, all patients
- Yes, INSERTION procedure ONLY
- No
- Other (please specify)

Do you obtain preoperative surveillance cultures (ie MRSA swabs) to guide preoperative antibiotic choice?



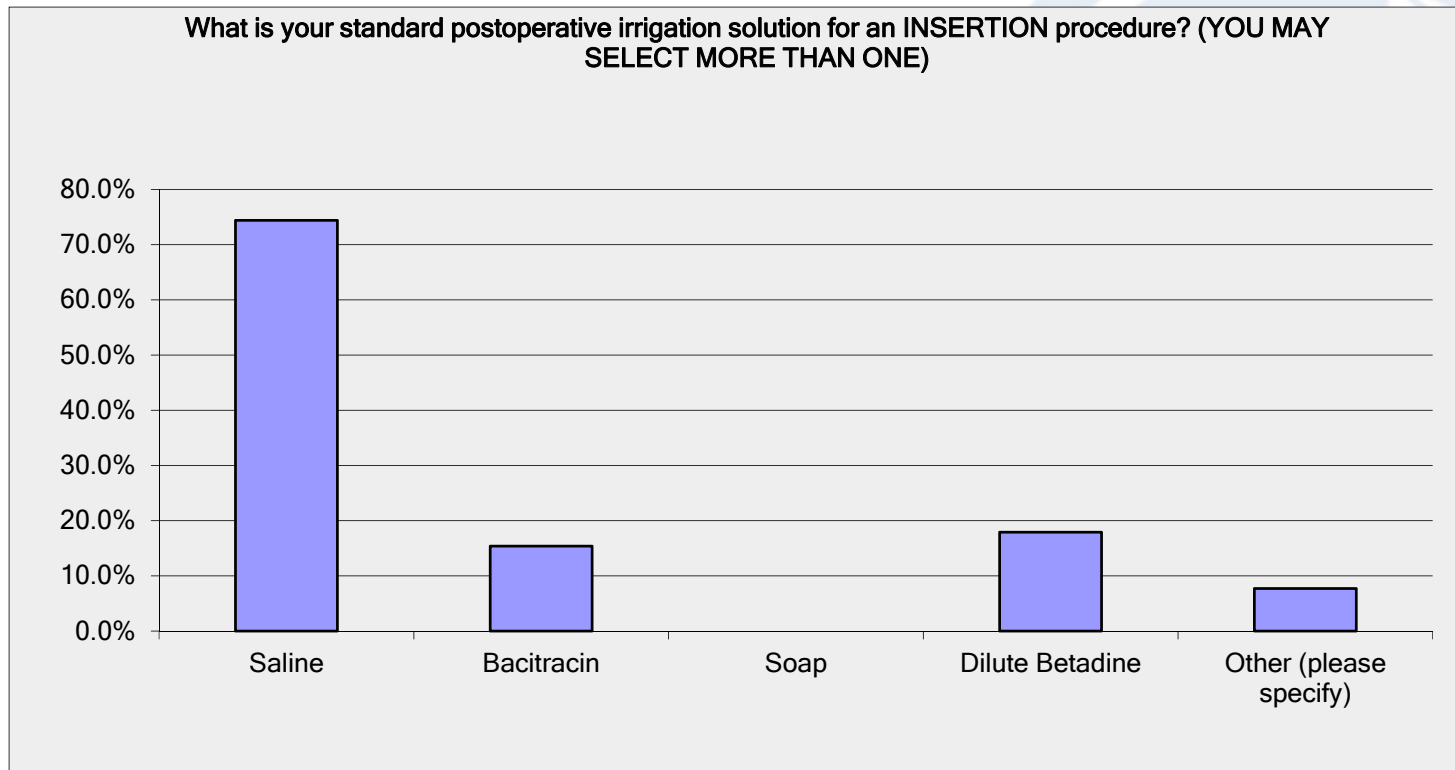
- Yes
- No

# Results



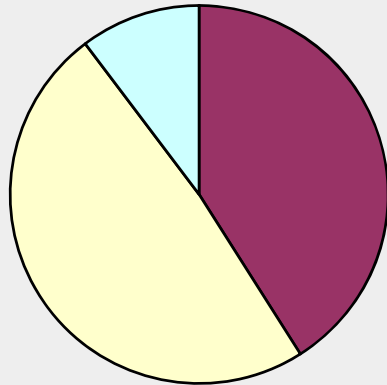
Similar for lengthening

# Results



# Results

Do you use Antibiotics in your bone graft or in the wound for an INSERTION procedure?

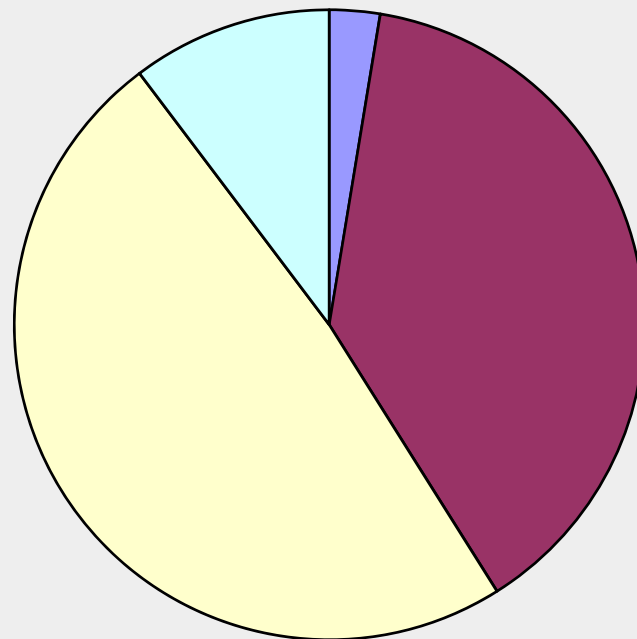


- Yes-Gentamycin
- Yes-Vancomycin
- No
- Other (please specify)



# Results

Do you use drains?



- Yes, all patients
- Yes, INSERTION only
- No
- Variable (please specify)

# Conclusions: Lots of Equipoise

- Areas for study?
- Does it matter?

**Table 1:**  
Surveyed questions with relative equipoise or wide variability

Intervention	Responses	
Preoperative MRSA screening	30.8% yes	69.2% no
Preoperative <u>chlorhexidine</u> baths	46.1% yes	51.3% no
Postoperative antibiotic duration after insertion	64.1% 24 hours or less	33.3% greater than 24 hours
Use of topical antibiotics ( <u>vancomycin</u> )	41% yes	49% no
Use of drains for insertion procedures	41.1% yes	48.7% no
Use of IV gram negative coverage	12.8% routinely	10.2% in incontinent patients
Use of perioperative IV <u>vancomycin</u>	5.1% routinely	17.9% used based on MRSA culture
Skin preparation	<u>Betadine</u> (23.1%) <u>duraprep®</u> (23.1%) <u>chloraprep®</u> (61.5%) <u>alcohol</u> (38.5%)	

# Conclusions

- **Lots of variability:**
  - Not surprised
  - Variability is probably bad
- **Reducing variability:**
  - Improve health care efficiency
  - Improve patient outcomes
- **Limitation:**
  - Homogeneous population surveyed

Lucas FL, Sirovich BE, Gallagher PM, Siewers AE, Wennberg DE. Variation in cardiologists' propensity to test and treat: is it associated with regional variation in utilization? *Circulation. Cardiovascular quality and outcomes*. 2010; 3(3): 253-60.  
Birkmeyer JD, Sharp SM, Finlayson SR, Fisher ES, Wennberg JE. Variation profiles of common surgical procedures. *Surgery*. 1998; 124(5): 917-23.  
Newman K, Ponsky T, Kittle K, Dyk L, Throop C, Giesecker K, Sills M, Gilbert J. Appendicitis 2000: variability in practice, outcomes, and resource utilization at thirty pediatric hospitals. *Journal of pediatric surgery*. 2003; 38(3): 372-9; discussion 372-9.

# Thanks

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