



Children's Hospital
Colorado



Musculoskeletal Research Center
Children's Hospital Colorado

Affiliated with



University of Colorado
Anschutz Medical Campus
School of Medicine

ORTHOPEDICS INSTITUTE

A multicenter retrospective cohort analysis of infection characteristics and rates with VEPTR surgery: 2007 to present

Sumeet Garg, MD; Micaela Cyr, BA; Michael Glotzbecker, MD; Patrick Carry, BA; **John Smith, MD**; Jeffrey Sawyer, MD; Joshua Pahys, MD; Scott Luhmann, MD; Jack Flynn, MD; Ron El-Hawary, MD; Michael Vitale, MD; Tricia St. Hilaire, MPH; The Children's Spine Study Group

Contact: sumeet.garg@childrenscolorado.org

Disclosures

- Garg: Paid Consultant (DePuy)
- Glotzbecker: Research Support (Synthes, via CSSG)
- Smith: Royalties (Synthes), Paid Consultant (Ellipse Technologies, Spineguard, Synthes), Research Support (CSSG), Board/Committee Member (CSSG)
- Sawyer: Publisher Royalties/Financial Support (Mosby; Wolters Kluwer Health – Lippincott Williams & Wilkins), Board/Committee Member (AAOS, POSNA, Campbell Foundation)
- Pahys: Paid Consultant (DePuy)
- Luhmann: Company Royalties (Globus Medical), Speaker/Paid Presentations for Company (Medtronic Sofamor Danek, Stryker), Paid Consultant (DePuy, Medtronic Sofamor Danek, Orthofix Inc, Stryker), Board/Committee Member (POSNA, SRS)
- Flynn: Company Royalties (Biomet), Publisher Royalties/Financial Support (Wolters Kluwer Health – Lippincott Williams & Wilkins), Medical/Orthopaedic Publication Editorial/Governing Board (Orthopedics Today), Board/Committee Member (POSNA, SRS, AAOS)
- El-Hawary: Paid Consultant (DePuy, Halifax Biomedical Inc, Medtronic, Synthes), Research Support (DePuy), Board/Committee Member (CSSG)
- Vitale: Company Royalties (Biomet), Paid Consultant (Biomet, Stryker), Research Support (Biomet, Children's Spine Foundation, OREF), Board/Committee Member (Children's Spine Foundation, IPOS, POSNA)
- CSSG: Research Support (DePuy)

Study Questions

- What is the infection rate for VEPTR surgery?
- Does Classification – C-EOS relate to infection rate?

Methods

- Multicenter retrospective review
 - 8 participating institutions
- Inclusion Criteria:
 - VEPTR implant 2007-present
 - Minimum 4 surgical procedures
 - Return to OR for I&D

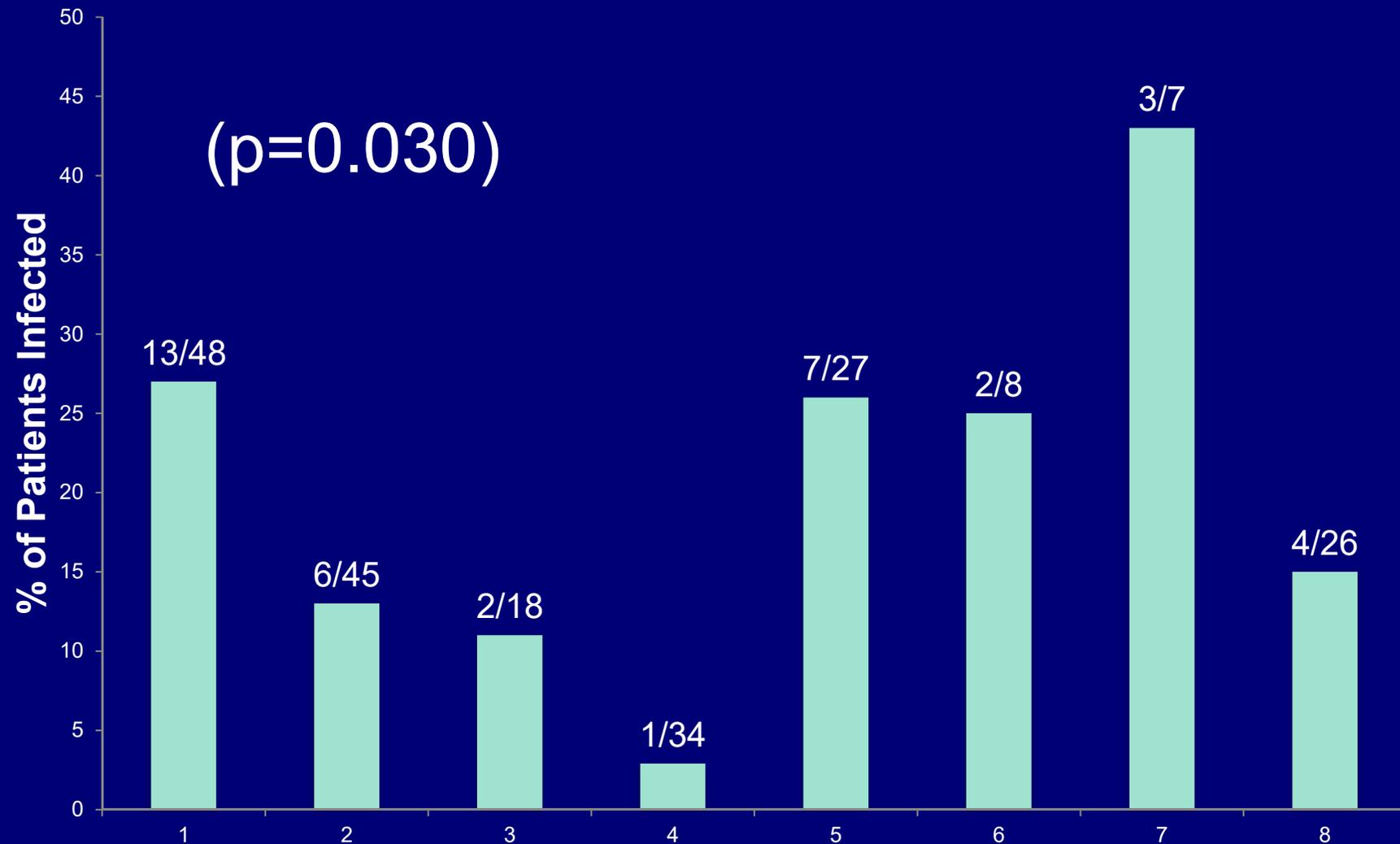
Results

- Overall Infection Rate:
18% (38 of 213)
- 55 total infection events (1497 total procedures)

Results

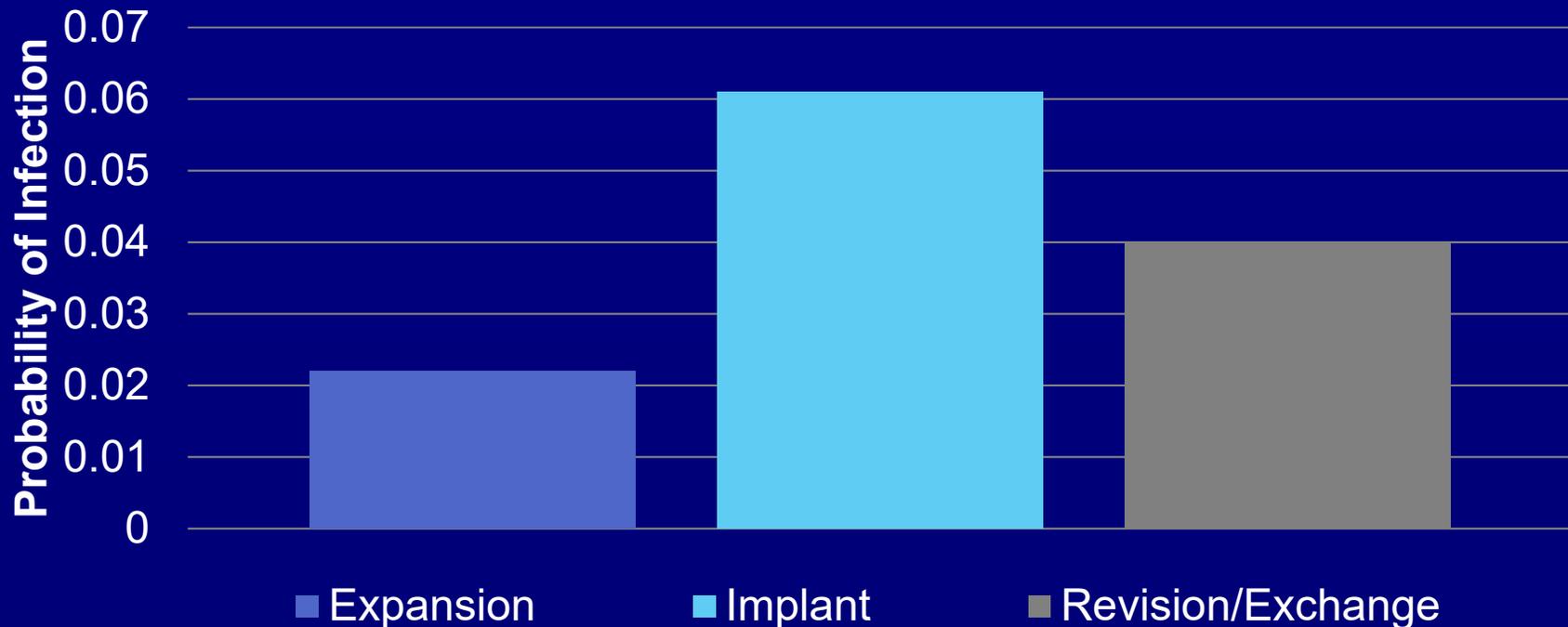
- Average follow up: 4.1 years
 - Range 1.7-6.3
- Average 1.5 infections per patient
 - range 1-5
- Average time to infection from infecting procedure was 69.7 days
 - Range 8-236 days

Infection Rate By Site



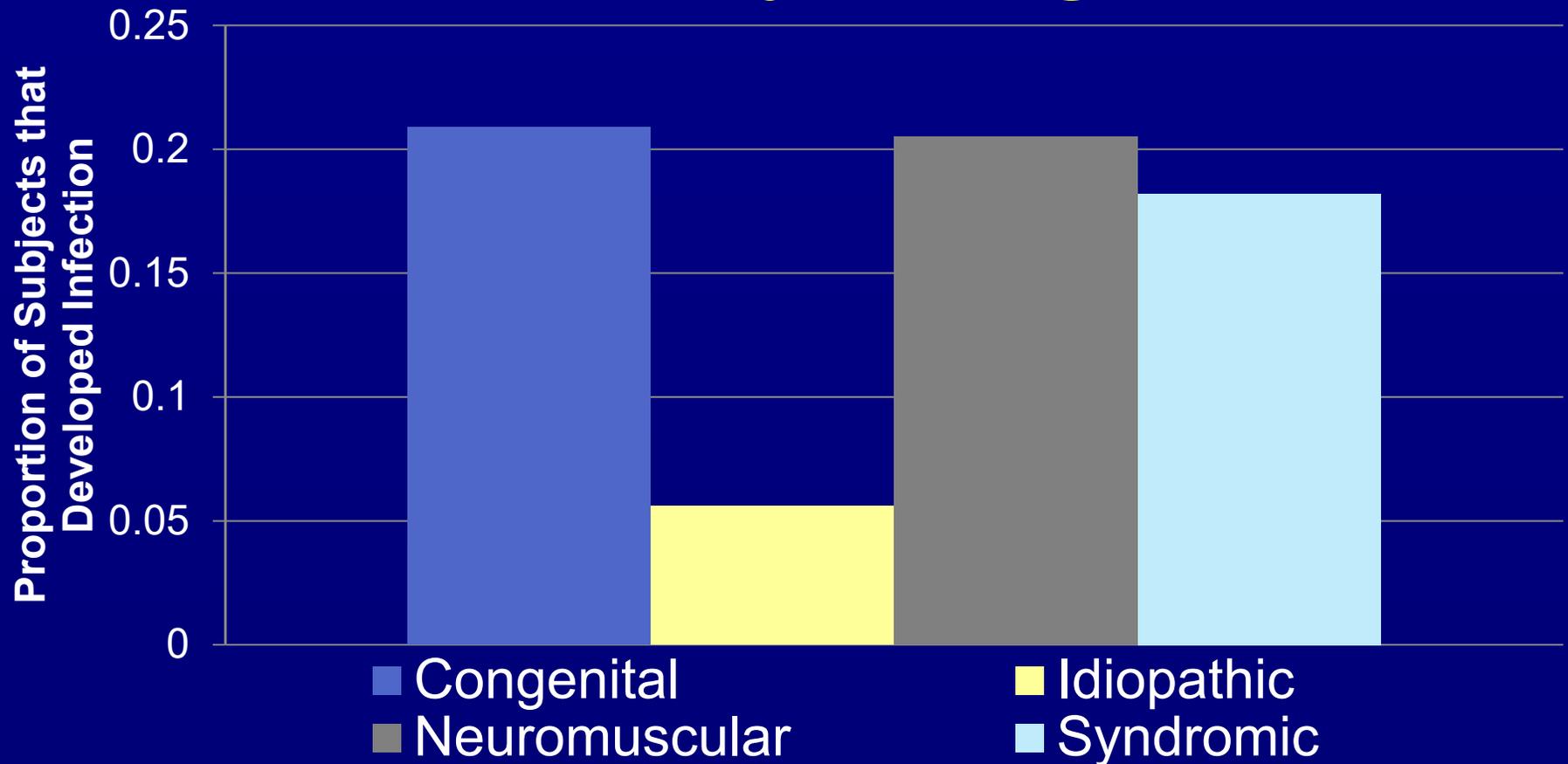
Infection Rate by Procedure

Probability of Infection following a Single Procedure



The odds of an infection following an implant procedure was 2.8 times the odds of infection following an expansion ($p=0.0011$)

Infection by Diagnosis



No difference by diagnosis ($p=0.245$) or
ASA status ($p=0.529$)

Conclusions

- 18% of patients developed infection requiring return to OR
- No significant difference in infection rate based on C-EOS diagnosis
- There was significant variability in infection rates between sites

Significance

- Standardization of best practice guidelines needed for infection prevention in VEPTR surgery

Thank you

