Optimization of a Magnetically Controlled Growing Rod Ultrasound-Guided Lengthening Clinic

Judson W. Karlen, MD, Monique Reisman, RDMS/RVT, Craig Barnes, MD, Smita Bailey, MD

Phoenix Children's Hospital

100% for Children
Optimization of a MCGR US-Guided Lengthening Clinic

- Disclosures - none
Optimization of a MCGR US-Guided Lengthening Clinic

- MCGRs have been FDA approved since 2014
- Our center now has a sizable population of children with implanted MCGRs who require routine lengthening
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- US-guided lengthening was explored starting in 2016
  - Accurate, with learning curve

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• Radiology concerns
  – Billable studies
  – Location
  – Efficiency

• Ortho concerns
  – Efficiency
  – Patient satisfaction
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- Compromise decision –
  - In Radiology
  - 2 US suites/techs
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- Data collected as QI project
  - Wait time
  - Radiation exposure (calculated based on # of studies)
  - Satisfaction
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• Results
  – 21 patients (total)
  – Clinic protocols
    • “Pre” – Standard radiographs before and after adjustment
    • “Post” – US before and after. Radiographs performed every 6 months and as needed.
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![Bar chart showing waiting time comparison before (PRE US) and after (POST US) using ultrasound guidance. The waiting time is significantly reduced post-ultrasound (US) guidance.](chart.png)
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![Radiation Warning]

![Bar Graph]

Estimated Radiation Exposure (mSv)

- PRE US: 2.08 mSv
- POST US: 0.35 mSv
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• 91% of parents indicated satisfaction with change
  – Initial concerns included difficulty with positioning special needs patients for US and change in location
  – Those concerns have been addressed
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- Patient block time in schedule decreased from 30 to 15 min
- Further reduction in radiation exposure with EOS scanner, which has come on-line since this data was collected
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• Higher satisfaction with change
• Increased efficiency for Orthopedic provider, Radiology, and patient
• Decreased radiation exposure
Limitations

• Single institution, likely institution-specific
• No evaluation of cost
Thank You