Pediatric Brain Imaging

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• None

Overview

• Brain (CNS) development

• Pediatric brain challenges

• MRI evaluation of:
  • hydrocephalus
  • developmental delay
  • seizures
  • trauma
  • tumor/post-radiation

• Techniques to improve quality

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CNS Development (Stages)
1. Dorsal Induction: 18-26 days
2. Ventral Induction: 4-10 weeks
3. Proliferation: 2-4 months and 5-12 months
4. Migration: 6/8 weeks-8 months
5. Organization: 6 months-well after birth
6. Myelination: 6 months-adulthood

Pediatric Imaging Challenges
- ALARA
  - CT scans
- Cooperation
  - GA or Non-GA
- Size
  - FOV, SLT
- Tissue
  - Immature

Ultra-Fast Brain Protocol
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Ultra-Fast Screening

MRI Indications

- Hydrocephalus
- Developmental Delay
- Seizures
- Trauma
- Tumor/Post-Radiation

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### Hydrocephalus

- Congenital
- Compensated
- Acquired
- Normal Pressure

### Developmental Delay

- Developmental milestones
  - Physical
  - Cognitive
  - Communication
  - Social
  - Emotional
Quality Improvement

- Attitude
- Assessment
- Communication
- Prioritize
- Pride
- Gratitude

“Quality is pride of workmanship”
W. Edwards Deming

ARE YOU SMARTER THAN THE RADIOLOGIST?

Questions