Pediatric Grand Rounds

**Friday, February 10, 2017**
8:00 a.m. Storm Eye Auditorium
Topic: “Early Brain and Child Development: What do we know? Why does it matter? What can we do?”
Speaker: Pamela C. High, MD
Director, Developmental-Behavioral Pediatrics
Hasbro Children’s/Rhode Island Hospital

**Friday, February 17, 2017**
Topic: “There’s No Place Like Home: Integrated care for survivors of child abuse and neglect in Medical Homes”
Speaker: Michelle Amaya, MD, MPH

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By Ramin Eskandari, MD

MUSC Collaborative Craniofacial Surgery 3D Printing Technology
Craniofacial surgery is a surgical subspecialty that deals with congenital and acquired deformities of the head, skull, and face. Surgical treatment requires a team approach of craniofacial surgeons from different subspecialties. The collaborative efforts of MUSC’s Pediatric Neurosurgery, Pediatric Craniofacial Plastics and the Zucker Institute for Applied Neurosciences (ZIAN) have new and innovative technology to share!

3D Printing at MUSC:
- Pediatric patients’ skulls *printed* in true anatomic form for surgeons
  - Educational
    - Resident Teaching
    - Family/Patient Education
  - Surgical Planning
    - Reduce operating room time and decision making errors
    - Reduce blood loss blood transfusions *(national avg ~80%, MUSC avg <50%)*

<table>
<thead>
<tr>
<th>CT Modality</th>
<th>DLP (mGycm)</th>
<th>CTDI Volume</th>
<th>Effective Dose (mSv)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adult (Brain)</td>
<td>1200-1400</td>
<td>55</td>
<td>2.52-2.94</td>
</tr>
<tr>
<td>Pediatric (Brain)</td>
<td>600</td>
<td>25-30</td>
<td>1.26</td>
</tr>
<tr>
<td><strong>Pediatric (3D Skull)</strong></td>
<td><strong>250-300</strong></td>
<td><strong>20</strong></td>
<td><strong>0.53-.63</strong></td>
</tr>
</tbody>
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The Team

- Mark Semler
  - Chief Engineer
- Ryan Gedney
  - Biomed Engineer
- Chris Hapstack
  - Biomed Engineer
- Emma Vought
  - Biomed Media
- Milad Yazdani
  - Neuroradiologist

- Jason Ulm
  - Plastic Surgeon
- Ramin Eskandari
  - Pediatric Neurosurgeon

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**Conditions Treated:**
Positional Plagiocephaly, Craniosynostosis, Congenital and Acquired Cranial Defects, Fibrous Dysplasia, Aperts Syndrome, Crouzons Syndrome and many more...

**PATIENTS SEEN SAME WEEK!**