Leaving the Clinic: An Evolving Interprofessional Collaboration for Teaching Childhood Behavior and Development

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2nd Annual REACH
Medical Education Day
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Medical Student Perception of Development

<table>
<thead>
<tr>
<th>Age</th>
<th>Gross Motor</th>
<th>Fine Motor</th>
<th>Self-Help</th>
<th>Problem-solving</th>
<th>Social/Emotional</th>
<th>Receptive Language</th>
<th>Expressive Language</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 month</td>
<td>Chin up in prone position</td>
<td>Hands fist near face</td>
<td>Sucks well</td>
<td>Gazes at black-white objects</td>
<td>Follows face</td>
<td>Discriminates mother’s voice</td>
<td>Startles to voice/sound</td>
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<tr>
<td>2 months</td>
<td>Chest up in prone position</td>
<td>Hands unfisted 50%</td>
<td>Retains rattle if placed in hand</td>
<td>Opens mouth at sight of breast or bottle</td>
<td>Visual threat present</td>
<td>Follows large, highly contrasting objects</td>
<td>Reciprocates smiling; responds to adult voice and smile</td>
</tr>
<tr>
<td>3 months</td>
<td>Props on forearms in prone position</td>
<td>Rolls to side</td>
<td>Hands unfisted 50%</td>
<td>Inspects fingers</td>
<td>Brings hands to mouth</td>
<td>Reaches for face</td>
<td>Follows objects in circle (in supine position)</td>
</tr>
<tr>
<td>4 months</td>
<td>Sits with trunk support</td>
<td>No head lag when pulled to sit</td>
<td>Props on wrists</td>
<td>Rolls front to back</td>
<td>Hands held predominately open</td>
<td>Briefly holds onto breast or bottle</td>
<td>Mouths objects</td>
</tr>
<tr>
<td>5 months</td>
<td>Sits with pelvic support</td>
<td>Rolls back to front</td>
<td>Anterior-protective</td>
<td>Sits with arms supporting trunk</td>
<td>Palmar grasps cube</td>
<td>Transfers objects: hand-mouth-hand</td>
<td>Holds hands together</td>
</tr>
<tr>
<td>6 months</td>
<td>Sits momentarily propped on hands</td>
<td>Pivot in prone</td>
<td>In prone position, bears weight on &quot;X&quot; hand</td>
<td>Transfers hand-hand</td>
<td>Takes second cube and holds on to first</td>
<td>Feeds self crackers</td>
<td>Places hands on bottle</td>
</tr>
<tr>
<td>7 months</td>
<td>Bounces when</td>
<td>Radial-palmar</td>
<td>Refuses</td>
<td>Explores</td>
<td>Looks from</td>
<td>Looks toward</td>
<td>Increasing variety</td>
</tr>
</tbody>
</table>
Medical Student Perception of Development
Origins of This Partnership

• 2012-2013 National Board of Medical Examiners Step 2 Clinical Knowledge testing data revealed:
  – BSOM Students performed 0.4 SD below the national average in the area of “Normal Growth and Development”

• Primary care physicians play a key role*,**,
  – Gatekeepers to referral
  – Early intervention is best when initiated “early”
  – Have to have good frame of reference of “typical”
  • Milestones more of a “scaffold”

**Bailey DB. Pediatrics. 2004 Apr;113(4):887-96
Time for a Different Approach?

- Limitations to the milestone approach*
- Broader perspective
- Previous lecturer
  - Used audiovisual supplements
  - Lecture highly rated
- Excellent didactics combined with an interactive experience
- Different setting?

Didactic Experience

What do we need to emphasize?
Emerging developmental framework to address health and outcomes

Extending/expanding shift of evaluative framework for practice

1. Limitations of Biomedical model (normal vs typical) *No Normal Growth and Development* category

2. Developmental framework for developing preventive efforts/measures for health outcomes
   - Early brain development studies
   - Early Intervention services and successes
   - Shift to multi/interdisciplinary professional team approach in medical care
Transition to developmental model on human development and health

- Defining Risk and Protective Factors as individual resources
- Risk factors can occur at multiple levels, including biological, psychological, family, community, and cultural levels.
- Risk factors Can Be Found in Multiple Contexts
- Have Cumulative Effects that affect outcome
Developmental framework leads to:

• Shift to preventive medicine and interventions
  – To develop effective interventions, it is essential to understand both how developmental and contextual factors at younger ages influence outcomes at older ages and how to influence those factors
  – Prevent secondary disabilities & incorporate increase of developmental disabilities/ASD, behavioral disorders, somatic disorders
  – Provide resources and education to families/patients
Future Direction

• Future courses for medical students would include developmental framework for:
  – Early identification and prevention of behavioral disorders (ages 0-5)
  – Early recognition of developmental delays
  – Childhood chronic disorders with a focus on family components/dynamic contributing to disorders and on support for family centered care
Nancy W. Darden Child Development Center

- Model early childhood model training facility
  * open to the public
  * collaborations with:
    Pitt County Schools
    DSS
    DOD
- NC 5-star licensed
- NAEYC Accredited
Philosophy

- Play-based curriculum . . . Child learn and construct their understanding of the world through play
- Emergent curriculum . . . Activities and experiences are based upon the ideas and interests of the children
- Reggio-inspired curriculum . . . Child is seen as strong, capable and resilient; rich with wonder and knowledge.

* Every child brings with them deep curiosity and potential which is a driving force to understand his/her world and his/her place within it
Darden Child Development Center Experience

Observing children in their natural habitats.
Year One

2013-2014

54%

Verbal & written feedback
What you want to say.

What they're interested in.

Relevance
Verbal & written feedback
Verbal & written feedback

Year Three

2013-2014
- Excellent: 54%
- Very Good: 46%
- Average: 33%
- Fair: 10%
- Poor: 1%

2014-2015
- Excellent: 69%
- Very Good: 31%
- Average: 20%
- Fair: 10%
- Poor: 1%

2015-2016
- Excellent: 95%
- Very Good: 4%
- Average: 1%
- Fair: 1%
- Poor: 1%
Challenges and Next Steps

• NBME changed its category system for Step 2 CK starting in 2014-2015
  – No “Normal Growth and Development” category
  – Possible categories of overlap
    • Behavioral Health (+0.5 SD)
    • Applying Foundational Science Concepts (-0.1 SD)

• Further assessment/evaluation

• Extension of partnership to 4th year