TOP TEN ARTICLES OF 2019

Rachel Y. Moon, MD
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University of Virginia School of Medicine
DISCLOSURE

The speaker has nothing to disclose
My criteria

• Relevant to practicing pediatricians
• Preference for larger studies, RCTs or case-control studies
• Changes how I might practice or how I might think about certain disease processes
• These are presented in no specific order
• Some honorable mentions at end of slides
Screening for Elevated Blood Lead Levels in Childhood and Pregnancy

Updated Evidence Report and Systematic Review for the US Preventive Services Task Force

Amy G. Cantor, MD, MPH; Rob Hendrickson, MD; Ian Blazina, MPH; Jessica Griffin, MS; Sara Grusing, BA; Marian S. McDonagh, PharmD

JAMA 2019 (Apr 16); 321 (15):1510-1526.
Research Questions (for children)

• What is the accuracy of questionnaires that identify children with elevated lead?
• What is the accuracy of capillary blood testing in children?
• Do counseling and nutritional interventions, residential lead hazard control techniques, or chelation therapy reduce blood levels and improve health outcomes in asymptomatic children with elevated levels?
Methods

• Systematic review of studies
  • Reviewed 233 articles
  • 24 studied included in the review
Results: Accuracy of CDC Questionnaire

If ≥1 question was positive, pooled sensitivity was 48% and pooled specificity was 58%.
## Results: Accuracy of capillary blood testing

<table>
<thead>
<tr>
<th>Blood lead level cutoff of</th>
<th>Sensitivity</th>
<th>Specificity</th>
</tr>
</thead>
<tbody>
<tr>
<td>≥10 ug/dl (3 studies, n=1136)</td>
<td>87-91%</td>
<td>92-99%</td>
</tr>
<tr>
<td>≥15 ug/dl (3 studies, n=1136)</td>
<td>36-83%</td>
<td>95-98%</td>
</tr>
<tr>
<td>≥20 ug/dl (3 studies, n=918)</td>
<td>78-96%</td>
<td>91-100%</td>
</tr>
</tbody>
</table>

One study (n=295) evaluated different cleaning methods. Using soap and water + alcohol had highest specificity (100%) and equal sensitivity (88%).
Results: Current interventions

- Studies limited and poor quality
- **DMSA Chelation**: 1 study found reduced blood lead at 1 wk-1 yr but not long term; others found no effect
- **Nutritional interventions**: No effect of calcium or iron supplements
- **Home lead abatement**: No significant difference
Conclusions

- Using questionnaires to screen for lead exposure has low sensitivity and specificity.
- Capillary blood lead testing has good sensitivity and specificity.
- Data regarding the effectiveness of interventions to reduce blood lead levels are limited and not encouraging.
Parent-Adolescent Agreement About Adolescents’ Suicidal Thoughts
Jason D. Jones, Rhonda C. Boyd, Monica E. Calkins, Annisa Ahmed, Tyler M. Moore, Ran Barzilay, Tami D. Benton and Raquel E. Gur

*Pediatrics* 2019 (February); 143 (2): e20181771
Research Question

- Are parents aware if/when their adolescent has suicidal thoughts?
Methods

• Cohort study in Philadelphia
• 5137 adolescents (11-17 years) and a parent
• Adolescents and parents completed GOASSESS, a computerized, structured clinical interview designed to screen for symptoms of major psychiatric disorders
• Adolescents were asked:
  • Have you ever thought about killing yourself?
  • Have you ever thought a lot about death or dying?
• Parents were asked corresponding questions about their adolescent
## Results

<table>
<thead>
<tr>
<th></th>
<th>Adolescent YES</th>
<th>Parent YES</th>
<th>Adol YES Parent NO</th>
<th>Parent YES Adol NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adolescent has had thoughts of killing self</td>
<td>413 (8.1%)</td>
<td>394 (7.8%)</td>
<td>198 (49.9%)</td>
<td>187 (48.4%)</td>
</tr>
<tr>
<td>Adolescent has had thoughts of death or dying</td>
<td>786 (15.4%)</td>
<td>577 (11.5%)</td>
<td>571 (75.6%)</td>
<td>382 (67.5%)</td>
</tr>
</tbody>
</table>
Confidentiality in the Doctor-Patient Relationship: Perspectives of Youth Ages 14-24 Years

Noah A. Zucker, MD1,*, Christine Schmitt, BS2, Melissa J. DeJonckheere, PhD3, Lauren P. Nichols, MPH3,
Melissa A. Plegue, MA3, and Tammy Chang, MD, MPH, MS3,4

Journal of Pediatrics 2019 (October); 213:196-202
Scientific Premise

- When caring for adolescents, there is often a balance between
  - Patient confidentiality
  - Parents’ right to know
- Adolescents often do not confide in their parents
Research Question

- What are youth experiences with confidentiality with their health care provider?
- How do their perceptions about provider-patient confidentiality impact youth health-seeking behaviors?
Methods

• Qualitative study of 1268 youth aged 14-24 years
• Questions were asked through MyVoice, a national poll conducted through text messages
  • Has any health care provider ever talked to you about confidentiality? What did they say?
  • What do you think should be confidential about your health care? Why?
  • Have you ever had a concern about confidentiality in your health care? Tell us about it!
  • Does concern about confidentiality affect your health care? How?
Results

- 948 youth responded
  - 56% female
  - 70% white
  - 30% qualified for free or reduced-price school lunches
  - Mean age 18.6 years
  - 47% had not yet graduated from high school
Results

• Most (57%) had never had a conversation about confidentiality with their HCP
• 49% said that all aspects of care, including interactions, tests, and diagnoses, should be confidential
• 85% worry that their confidentiality will be compromised
• 39% report lying or withholding information from their HCP
Conclusions

- Parents are often not well aware of their adolescent’s mental health
- It is important for adolescents to have places where they feel safe to discuss mental health and other health issues
- We need to discuss confidentiality with our adolescent and young adult patients in order to build trusting relationships
  - Virginia law allows minors to make their own medical decisions regarding STDs and other reportable disease treatment, pregnancy, delivery and post partum care, birth control except for sexual sterilization, and outpatient substance abuse and psychiatric treatment
  - If VA law allows the minor to consent to treatment, the minor also can decide whether the parent can access the medical records
A Prediction Model to Identify Febrile Infants ≤60 Days at Low Risk of Invasive Bacterial Infection


- *Pediatrics* 2019 (July); 144 (1): e20183604
Scientific Premise

• Young infants are at higher risk for serious bacterial infection
• Many infants younger than 60 days of life who present with a history of fever (even if they are afebrile upon presentation) are hospitalized after a “sepsis workup”
• Who can go home and who needs to be hospitalized?
Research Question

• Is there a way to predict invasive bacterial infection in an infant ≤ 60 days of age with a history of fever?
Methods

- Case-control study of febrile infants ≤60 days of life who were evaluated in 11 US emergency departments
- Cases (infants with invasive bacterial infection [IBI]—defined by growth of a pathogen in blood or CSF) were matched to 2 control patients without IBI
Results

- 181 infants with IBI (155 with bacteremia, 26 with bacterial meningitis) and 362 control infants
- 23 of cases (12.7%) and 138 controls (38.1%) had fever by history only
- 4 predictors of IBI were identified:

<table>
<thead>
<tr>
<th>TABLE 2 Multiple Logistic Regression Model to Predict IBI in Febrile Infants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age, d</td>
</tr>
<tr>
<td>&gt;=21</td>
</tr>
<tr>
<td>&lt;21</td>
</tr>
<tr>
<td>Reference</td>
</tr>
<tr>
<td>Reference</td>
</tr>
<tr>
<td>Highest temperature in the ED, °C</td>
</tr>
<tr>
<td>&lt;38.0</td>
</tr>
<tr>
<td>38.0–38.4</td>
</tr>
<tr>
<td>&gt;=38.5</td>
</tr>
<tr>
<td>Reference</td>
</tr>
<tr>
<td>Reference</td>
</tr>
<tr>
<td>Urinalysis result:</td>
</tr>
<tr>
<td>Normal</td>
</tr>
<tr>
<td>Abnormal</td>
</tr>
<tr>
<td>Reference</td>
</tr>
<tr>
<td>Reference</td>
</tr>
<tr>
<td>ANC, cells per µL</td>
</tr>
<tr>
<td>&lt;5185</td>
</tr>
<tr>
<td>&gt;=5185</td>
</tr>
<tr>
<td>Adjusted Odds of IBI (95% CI)</td>
</tr>
<tr>
<td>Reference</td>
</tr>
</tbody>
</table>

* Adjusted for age, highest temperature recorded in the ED, urinalysis, and ANC, with study site as a fixed effect.
* Urine dipstick with positive leukocyte esterase or positive nitrates or urine microscopy with >5 WBCs per high-power field or >5 WBCs per mm² on enhanced urinalysis.
IBI Score

- IBI Score ≥ 2 had 98.8% sensitivity and 31.3% specificity
Conclusions

• Infants ≤ 60 days of age with fever by history only, a normal urinalysis result, and ANC <5185 have a low probability of IBI.
Impact of a Baby-Friendly–Aligned Pacifier Policy on Pacifier Use at 1 Month of Age

Maheswari Ekambaram, MD; Matilde M. Irigoyen, MD; Andrew Paoletti, MS; Iqra Siddiqui

Academic Pediatrics 2019 (September-October); 19 (7): 808-814
Scientific Premise

• Pacifier use is associated with a decreased risk of SIDS
• There are concerns that early pacifier use may interfere with breastfeeding initiation and duration
• Many hospitals are now Baby-Friendly and thus have banned/restricted pacifier use
Research Question

- Does a Baby-Friendly aligned pacifier policy impact subsequent pacifier use and breastfeeding at 1 month of age?
Methods

• Prospective cohort study of newborns at a Philadelphia birth hospital

• 2 cohorts
  • Pre-implementation of a Baby-Friendly pacifier policy:
    • Pacifier was routinely placed in the bassinet of every baby
  • Post-implementation of a Baby-Friendly pacifier policy:
    • No pacifiers were routinely distributed.
    • Pacifiers were provided if parents still wanted them after Baby-Friendly pacifier education
    • Pacifier use allowed during painful procedures and then removed after procedure completion
    • Parents allowed to bring pacifiers into birth hospital

• Data were collected during the birth hospitalization
• Mothers completed a 10-minute telephone survey when the infant was 1 month old
# Results

<table>
<thead>
<tr>
<th></th>
<th>Pre-Intervention Group (n = 190)</th>
<th>Post-Intervention Group (n = 152)</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maternal age (y), mean ± SD</td>
<td>26.83 ± 6.15</td>
<td>27.01 ± 6.2</td>
<td>0.08</td>
</tr>
<tr>
<td>Maternal ethnicity, n (%)</td>
<td></td>
<td></td>
<td>.24</td>
</tr>
<tr>
<td>African American</td>
<td>116 (61.1)</td>
<td>97 (63.8)</td>
<td></td>
</tr>
<tr>
<td>Hispanic</td>
<td>42 (22.1)</td>
<td>33 (21.7)</td>
<td></td>
</tr>
<tr>
<td>Caucasian</td>
<td>24 (12.6)</td>
<td>21 (13.8)</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>8 (4.2)</td>
<td>1 (0.7)</td>
<td></td>
</tr>
<tr>
<td>Mother on public insurance, n (%)</td>
<td>159 (83.7)</td>
<td>117 (77)</td>
<td>.13</td>
</tr>
<tr>
<td>Primiparity, n (%)</td>
<td>62 (32.6)</td>
<td>43 (28.5)</td>
<td>.48</td>
</tr>
<tr>
<td>Infant on WIC, n (%)</td>
<td>161 (84.7)</td>
<td>124 (81.6)</td>
<td>.48</td>
</tr>
<tr>
<td>C-section, n (%)</td>
<td>65 (34.2)</td>
<td>47.6 (31.3)</td>
<td>.64</td>
</tr>
<tr>
<td>Gestational age (wk), mean ± SD</td>
<td>38.9 ± 1.2</td>
<td>39.1 ± 1.2</td>
<td>.24</td>
</tr>
<tr>
<td>Birth weight (g), mean ± SD</td>
<td>3305 ± 453</td>
<td>3247 ± 448</td>
<td>.23</td>
</tr>
<tr>
<td>Screening for hypoglycemia, n (%)</td>
<td>44 (23.2)</td>
<td>27 (17.8)</td>
<td>.23</td>
</tr>
<tr>
<td>Male sex, n (%)</td>
<td>112 (58.9)</td>
<td>78 (51.3)</td>
<td>.19</td>
</tr>
</tbody>
</table>

SD indicates standard deviation; WIC, Special Supplemental Nutrition Program for Women, Infants, and Children; C-section, caesarean section.
## Results

**Table 2. Baby-Friendly Pacifier Policy: Pre- and Post-Intervention and Outcomes**

<table>
<thead>
<tr>
<th>Intervention: investigator observed</th>
<th>Pre-Intervention Group (n = 190)</th>
<th>Post-Intervention Group (n = 152)</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pacifier in basinet, n (%)</td>
<td>147 (77.4)</td>
<td>42 (27.6)</td>
<td>&lt;.01</td>
</tr>
<tr>
<td>Pacifiers brought from home, n (%)</td>
<td>17/147 (11.6)</td>
<td>11/42 (26.2)</td>
<td>.02</td>
</tr>
<tr>
<td>Intervention: maternal recall (1-month survey)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pacifier offered at hospital, n (%)</td>
<td>155 (81.6)</td>
<td>44 (28.9)</td>
<td>&lt;.01</td>
</tr>
<tr>
<td>Doctor/nurse at hospital advised pacifier avoidance, n (%)</td>
<td>22 (11.6)</td>
<td>43 (28.3)</td>
<td>&lt;.01</td>
</tr>
<tr>
<td>Outcomes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pacifier use at 1 month, n (%)</td>
<td>150 (78.9)</td>
<td>118 (77.6)</td>
<td>.79</td>
</tr>
<tr>
<td>Any breastfeeding at 1 month, n (%)</td>
<td>101 (53.2)</td>
<td>81 (53.3)</td>
<td>1.00</td>
</tr>
<tr>
<td>Exclusive breastfeeding at 1 month, n (%)</td>
<td>45 (23.7)</td>
<td>37 (24.3)</td>
<td>.89</td>
</tr>
</tbody>
</table>
Delayed pacifier use after Baby-Friendly policy
Conclusions

• A Baby-Friendly-aligned pacifier policy delayed pacifier adoption but did not impact overall pacifier use or breastfeeding rates at 1 month of age
• Delaying pacifier use does not necessarily promote increased breastfeeding in the long term
Measles Antibody Levels in Young Infants
Michelle Science, Rachel Savage, Alberto Severini, Elizabeth McLachlan, Stephanie L. Hughes, Callum Arnold, Susan Richardson, Natasha Crowcroft, Shelley Deeks, Scott Halperin, Kevin Brown, Todd Hatchette, Jonathan Gubbay, Tony Mazzulli and Shelly Bolotin

Pediatrics 2019 (December); 144 (6): e20190630

Clinical Practices for Measles-Mumps-Rubella Vaccination Among US Pediatric International Travelers
Emily P. Hyle, MD, MSc; Sovmya R. Rao, PhD; Audrey C. Bangs, BA; Paul Gastafford, MD, MPH; Amy Parker Flebinkorn, MSN, MPH; Stefan H.F. Hagmann, MD, MSc; Allison Taylor Walker, PhD, MPH; Rochelle P. Walensky, MD, MPH; Edward T. Ryan, MD; Regina C. LaRocque, MD, MPH

Research Question: Science study

- How long does maternally conferred immunity to measles last for infants who are born in non-endemic measles areas?
Methods

• Sera that were collected for clinical testing at The Hospital for Sick Children in Toronto were used.
• Sera were collected from infants <12 months of age who were at least 37 weeks EGA.
  • Exclusion criteria: suspected or confirmed immunodeficiency, condition associated with antibody loss, receipt of immune globulin, blood transfusions, or history of measles or measles vaccination.
• Categorized sera by month of age.
Results

- Sera collected from 196 infants
- In first month, 20% had antibodies below protective threshold
- By 3 months, 92% had antibodies below protective threshold
- By 6 months, 100% had antibodies below protective threshold
Conclusions

• By 3 months, the vast majority of children are not protected from measles
Research Question – Hyde study

• What proportion of pediatric travelers receive MMR vaccination?
Methods

- Cross-sectional study of pediatric patients (ages 6 months-18 years) seen for pretravel consultation at one of 29 CDC-supported travel clinics
Results

- Of 14,602 pediatric pretravel consultations, 2864 were eligible to receive MMR vaccination:
  - 365/398 infants aged 6-12 months (91.7%)
  - 2161/3623 preschool age (59.6%)
  - 338/10,581 school age (3.2%)
- Of those eligible, only 41.3% received the MMR vaccine
- Clinicians were more likely to not give MMR if patient had had 1 MMR.
- Guardians were more likely to refuse if child was school-aged, travel to Africa, itinerary of >14 days, or the child had not had prior MMR.
Conclusions

- Remember to immunize your patients who are traveling internationally
  - Especially those who are 6-12 months of age
- Guardians may not recognize measles as a serious illness
Prednisolone Versus Dexamethasone for Croup: a Randomized Controlled Trial
Colin M. Parker and Matthew N. Cooper

- Pediatrics 2019 (September); 144 (3): e20183772
Research Question

• When treating patients with croup, which corticosteroid is more effective? And at what dose?
Methods

• Prospective, randomized controlled trial in Perth, Australia
• 1252 patients >6 months of age with the diagnosis of croup were randomized to receive:
  • Dexamethasone 0.6 mg/kg
  • Low-dose dexamethasone 0.15 mg/kg
  • Prednisolone 1 mg/kg
Results

**Figure 2**
Westley Group Score by time and treatment group. Westley Group Score, mean and 95% confidence interval by assessment and treatment group; circle and solid line represents dexamethasone, triangle and dashed line represents low-dose dexamethasone, and square and dotted line represents prednisolone.
## Results

### Table 3: Re-attendance, Secondary Outcomes, and Adverse Events, by Treatment Group

<table>
<thead>
<tr>
<th>Variable</th>
<th>Dexamethasone (Standard Treatment)</th>
<th>Low-Dose Dexamethasone</th>
<th>Prednisolone</th>
<th>P</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Follow-up status</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phone call</td>
<td>286 (69.8%)</td>
<td>286 (69.8%)</td>
<td>282 (68.6%)</td>
<td>1.00</td>
<td>.78</td>
</tr>
<tr>
<td>ED records</td>
<td>124 (30.2%)</td>
<td>124 (30.2%)</td>
<td>129 (31.4%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Re-attendance to medical care</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No further treatment sought</td>
<td>337</td>
<td>330</td>
<td>322</td>
<td>.25</td>
<td>.37</td>
</tr>
<tr>
<td>Attended GP</td>
<td>49</td>
<td>44</td>
<td>58</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Re-attended ED</td>
<td>24</td>
<td>36</td>
<td>31</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Secondary outcomes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nebulized epinephrine</td>
<td>9 (2.2%)</td>
<td>12 (3.0%)</td>
<td>10 (2.5%)</td>
<td>.65</td>
<td>.99</td>
</tr>
<tr>
<td>Endotracheal intubation</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Admission to intensive care</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Additional steroid dose(s)</td>
<td>32 (11.5%)</td>
<td>42 (15.1%)</td>
<td>53 (18.9%)</td>
<td>.22</td>
<td>.02</td>
</tr>
<tr>
<td>Total length of stay, min</td>
<td>125</td>
<td>120</td>
<td>128</td>
<td>.36</td>
<td>.78</td>
</tr>
<tr>
<td>Length of stay &gt;4 h</td>
<td>36 (8.8%)</td>
<td>29 (7.1%)</td>
<td>35 (8.5%)</td>
<td>.44</td>
<td>.99</td>
</tr>
<tr>
<td>Adverse events</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vomiting</td>
<td>16 (4.0%)</td>
<td>13 (3.3%)</td>
<td>13 (3.3%)</td>
<td>.75</td>
<td>.74</td>
</tr>
<tr>
<td>Other</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Data are presented as count (%), median, or count, as appropriate. P values were calculated by using the $\chi^2$ test or, for total length of stay, by using a Kruskal-Wallis test. —, not applicable.

* The denominator was reduced because of missing data.
Conclusions

• Dexamethasone, low-dose dexamethasone, and prednisolone all seem to be effective in treating croup
• If using prednisolone, you may need to give additional doses
Provider Experience Recommending HPV Vaccination Before Age 11 Years

Dea L. Biancarelli, MS¹, Mari-Lynn Drainoni, PhD¹,²,³,⁴, and Rebecca B. Perkins, MD, MSc⁵

J Pediatr 2020 (February); 217 (2): 92-97
Research Question

- What happens when providers recommend HPV vaccine before age 11 years?
Methods

• Qualitative interviews of 26 health care providers who participated in an intervention to improve HPV vaccination.
• All providers worked in sites that decided to recommend HPV vaccination at age 9 or 10 years as a strategy to improve HPV vaccination
Theme: Providers were initially skeptical

- Parents will be more hesitant, particularly because of the perceived association with sex: “If they don’t want it at 11, then I assure you they don’t want it at 9 years of age”
- Bundling the vaccine with other 11 year old vaccines is better
  - Don’t draw unnecessary attention to HPV vaccine
Theme: High parental acceptance of HPV

• No providers described negative reactions from parents when HPV offered at 9 or 10 years old
• Parents are less concerned about their child would perceive that they were implicitly condoning sexual activity
  • “It made it easier because nobody’s 9 year old is sexually active. So it completely disassociated it from the sexual activity part of it, and that was the tricky part.”
• Parents accepted the rationale of increased vaccine immunogenicity at younger ages
• Parents and nursing staff liked that there were fewer shots/visit and fewer shots overall
Theme: Earlier vaccination increases opportunities

- Increases opportunities to vaccinate without adding work to clinical staff
  - Older adolescents miss more appointments
  - No capacity for reminder/recall systems for adolescent vaccines – difficult to track them down and low yield of recalling them

Start Talking Early
Ages 9-10
2 doses
Conclusions

• Providers reported positive experiences when they offered HPV vaccine at age 9 or 10 years of age
  • Total de-coupling of HPV and sex by administering it before puberty
  • Fewer shots/visit
  • Parents are more accepting of HPV at earlier ages
Research Question

- Are electronic books and print books equivalent when parents and toddlers read them together?
Methods

• Videotaped study of 37 parent-toddler dyads reading
  • Enhanced electronic books (sound effects and/or animation)
  • Basic electronic books
  • Print books

• Videotapes were coded for:
  • Parent and child verbalizations
  • Nonverbal aspects of parent-toddler social reciprocity
    • Body position (e.g., child in posture that keeps parent from book)
    • Control behaviors (e.g., child closing book or grabbing book from parent)
    • Intrusive behaviors (e.g., child or parent pushing other’s hand away)
Results: Verbalizations

**FIGURE 3**
Adjusted means for the presence of parent verbalizations occurring with enhanced electronic, basic electronic, and print books. * $P < .05$; ** $P < .01$; *** $P < .001$.

**FIGURE 4**
Adjusted means for the presence of toddler verbalizations occurring with enhanced electronic, basic electronic, and print books. * $P < .05$; ** $P < .01$; *** $P < .001$. 
Results: Collaborative behaviors

FIGURE 5
Adjusted means (5 = high) for dyad social-emotional outcomes occurring with enhanced electronic, basic electronic, and print books. * P < .05; ** P < .01.
Results: Nonverbal behaviors

Figure 2. Results of Child and Parent Discrete Behaviors

Book conditions include enhanced tablet-based, basic tablet-based, and print. Data are expressed as mean (SD, denoted with error bars).

- $P < .01$ compared with print book condition.
- $P < .001$ compared with print book condition.
- $P < .05$ compared with enhanced tablet-based book condition.
Conclusions

• When parents and toddlers read electronic books (enhanced or basic):
  • There is less verbalization by both parents and toddlers
  • There is less collaboration between parent and toddler
  • Parents and toddlers both have more social control behaviors
  • Parents and toddlers have less social reciprocity

• Print books are better!
Epidemiological Characteristics of 2143 Pediatric Patients

With 2019 Coronavirus Disease in China

Yuanyuan Dong, Xi Mo, Yabin Hu, Xin Qi, Fang Jiang, Zhongyi Jiang, Shilu Tong

DOI: 10.1542/peds.2020-0702
Journal: Pediatrics

Pediatrics 2020 Early Release March 17, 2020
Research Question

- How does COVID-19 infection present in children?
Methods

• Retrospective analysis of 2143 pediatric patients with suspected or lab-confirmed COVID-19 infection that were reported to China’s Center for Disease Control and Prevention

• Suspected cases: child had COVID-19 exposure, or lived in community with COVID-19 cases and negative flu and respiratory virus testing, + 2 of the following:
  • Fever or respiratory symptoms or GI symptoms (vomiting, nausea, and diarrhea) or fatigue
  • Lab findings: WBC normal or decreased or with lymphocytosis or elevated C-reactive protein
  • Abnormal CXR
Results

- 731 (34.1%) lab-confirmed cases
- 1412 (65.9%) suspected cases
- Median age 7 years
- 56.6% male
Severity of pediatric illness:

• **4.4% were Asymptomatic**: +2019-n-CoV nucleic acid test, no clinical symptoms or signs; CXR neg

• **50.9% were Mild**: URI symptoms (including fever, fatigue, myalgia, sore throat) or GI symptoms (V/D, nausea, abdominal pain) and normal lung findings on PE.

• **38.8% Moderate**: pneumonia, frequent fever and cough (usually dry, followed by productive cough), wheezing. No hypoxemia or shortness of breath.

• **5.2% Severe**: Hypoxia – pO2 <92%

• **0.6% Critical**: ARDS, respiratory failure, shock, encephalopathy

• 94.1% were classified as asymptomatic, mild, or moderate

• 1 death: 14 yo boy in Hubei province; no other details provided
<table>
<thead>
<tr>
<th>Age group*</th>
<th>Asymptomatic</th>
<th>Mild</th>
<th>Moderate</th>
<th>Severe</th>
<th>Critical</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;1</td>
<td>7(7.4)</td>
<td>205(18.8)</td>
<td>127(15.3)</td>
<td>33(29.5)</td>
<td>7(53.8)</td>
<td>379(17.7)</td>
</tr>
<tr>
<td>1-5</td>
<td>15(16.0)</td>
<td>245(22.5)</td>
<td>197(23.7)</td>
<td>34(30.4)</td>
<td>2(15.4)</td>
<td>493(23.0)</td>
</tr>
<tr>
<td>6-10</td>
<td>30(31.9)</td>
<td>278(25.5)</td>
<td>191(23.0)</td>
<td>22(19.6)</td>
<td>0(0)</td>
<td>521(24.3)</td>
</tr>
<tr>
<td>11-15</td>
<td>27(28.7)</td>
<td>199(18.2)</td>
<td>170(20.5)</td>
<td>14(12.5)</td>
<td>3(23.1)</td>
<td>413(19.3)</td>
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<tr>
<td>&gt;15</td>
<td>15(16.0)</td>
<td>164(15.0)</td>
<td>146(17.5)</td>
<td>9(8.0)</td>
<td>1(7.7)</td>
<td>335(15.7)</td>
</tr>
<tr>
<td>Total</td>
<td>94</td>
<td>1091</td>
<td>831</td>
<td>112</td>
<td>13</td>
<td>2141</td>
</tr>
</tbody>
</table>

Data were presented with number and percent (%); *Two cases had missing values.
Conclusions

• While children are relatively spared compared to adults, they still can get COVID-19 infection
• >90% will not require hospitalization
• Young children, particularly infants, are most likely to get severe or critical disease
Honorable mentions


