Contents

Preface .............................................................................................................................................................................................. xxi
Using This Book ............................................................................................................................................................................. xxiii

Part 1: Primary Care: Skills and Concepts

1. Primary Care: Introduction ...................................................................................................................................................... 3
   Niloufar Tehrani, MD

2. Talking With Parents ................................................................................................................................................................. 7
   Geeta Grover, MD, FAAP

3. Talking With Children ............................................................................................................................................................ 13
   Geeta Grover, MD, FAAP

4. Talking With Adolescents ....................................................................................................................................................... 17
   Monica Sifuentes, MD

5. Telephone Management and E-medicine .............................................................................................................................. 21
   Emily Borman-Shoap, MD, FAAP, and Iris Wagman Borowsky, MD, PhD, FAAP

6. Informatics .............................................................................................................................................................................. 27
   Alan Tomines, MD

7. Counseling Families About Internet Use ............................................................................................................................... 33
   Alan Tomines, MD

8. Cultural Competency Issues in Pediatrics ............................................................................................................................. 39
   W. Suzanne Eidson-Ton, MD, MS; Hendry Ton, MD, MS; Blanca Solis, MD; and Jesse Joad, MD, MS, FAAP

9. Global Child Health ................................................................................................................................................................. 45
   Suzinne Pak-Gorstein, MD, PhD, MPH, FAAP, and Maneesh Batra, MD, MPH

10. Child Advocacy ........................................................................................................................................................................ 51
    Marni E. Shear, DO, FAAP, and Grant P. Christman, MD, FAAP

Part 2: Principles of Health Care and Pediatric Management

11. Health Systems Science ........................................................................................................................................................... 59
    Stephanie R. Starr, MD, FAAP

12. Population Health for Pediatricians ....................................................................................................................................... 73
    Michael Weiss, DO, FAAP

13. Principles of Pediatric Therapeutics ...................................................................................................................................... 79
    Bonnie R. Rachman, MD

14. Pediatric Pain and Symptom Management ........................................................................................................................... 85
    Kevin Madden, MD, and Richard Goldstein, MD, FAAP

15. Complementary and Integrative Medicine in Pediatric Primary Care ................................................................................ 95
    Miriam T. Stewart, MD, FAAP, and Erica M.S. Sibinga, MD, MHS, FAAP
<table>
<thead>
<tr>
<th>Chapter</th>
<th>Title</th>
<th>Authors</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>16</td>
<td>Principles of Pediatric Surgery</td>
<td>Roxanne L. Massoumi, MD, and Steven L. Lee, MD, MBA, FACS, FAAP</td>
<td>105</td>
</tr>
<tr>
<td>17</td>
<td>Image Gently Approach to Pediatric Imaging</td>
<td>Jane S. Kim, MD; Lindsay S. Baron, MD; and Benjamin H. Taragin, MD</td>
<td>109</td>
</tr>
<tr>
<td>18</td>
<td>Simulation in Pediatric Health Care</td>
<td>Tom Kallay, MD</td>
<td>113</td>
</tr>
<tr>
<td>19</td>
<td>Pediatric Hospital Medicine</td>
<td>Melanie Rudnick, MD, FAAP, and Grant P. Christman, MD, FAAP</td>
<td>121</td>
</tr>
<tr>
<td>20</td>
<td>Pediatric Genomic Medicine</td>
<td>Moin Vera, MD, PhD, and Henry J. Lin, MD</td>
<td>125</td>
</tr>
<tr>
<td>21</td>
<td>Principles of Quality Improvement: Improving Health Care for Pediatric Patients</td>
<td>Bonnie R. Rachman, MD</td>
<td>129</td>
</tr>
<tr>
<td>22</td>
<td>Pediatric Palliative Care: Principles and Practice</td>
<td>Jori Bogetz, MD, FAAP, and Richard Goldstein, MD, FAAP</td>
<td>137</td>
</tr>
<tr>
<td></td>
<td><strong>Part 3: Health Maintenance and Anticipatory Guidance</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>Neonatal Examination and Nursery Visit</td>
<td>Niloufar Tehrani, MD</td>
<td>147</td>
</tr>
<tr>
<td>24</td>
<td>Maternal Perinatal Mood and Anxiety Disorders: The Role of the Pediatrician</td>
<td>Carol D. Berkowitz, MD, FAAP</td>
<td>155</td>
</tr>
<tr>
<td>25</td>
<td>Newborn Screening</td>
<td>Henry J. Lin, MD, and Moin Vera, MD, PhD</td>
<td>161</td>
</tr>
<tr>
<td>26</td>
<td>Caring for Twins and Higher-Order Multiples</td>
<td>Soina Kaur Dargan, MD, FAAP, and Lynne M. Smith, MD, FAAP</td>
<td>167</td>
</tr>
<tr>
<td>27</td>
<td>Male Circumcision</td>
<td>Jung Sook (Stella) Hwang, DO, FAAP, and Lynne M. Smith, MD, FAAP</td>
<td>173</td>
</tr>
<tr>
<td>28</td>
<td>Nutritional Needs</td>
<td>Sara T. Stewart, MD, MPH, FAAP</td>
<td>179</td>
</tr>
<tr>
<td>29</td>
<td>Breastfeeding</td>
<td>Karen C. Bodnar, MD, IBCLC, FABM, FAAP</td>
<td>187</td>
</tr>
<tr>
<td>30</td>
<td>Sleep: Normal Patterns and Common Disorders</td>
<td>Geeta Grover, MD, FAAP, and Thusa Sabapathy, MD</td>
<td>193</td>
</tr>
<tr>
<td>31</td>
<td>Oral Health and Dental Disorders</td>
<td>Charlotte W. Lewis, MD, MPH, FAAP</td>
<td>201</td>
</tr>
<tr>
<td>32</td>
<td>Normal Development and Developmental Surveillance, Screening, and Evaluation</td>
<td>Geeta Grover, MD, FAAP, and Jeanne Anne Carriere, PhD, FAAP</td>
<td>211</td>
</tr>
<tr>
<td>33</td>
<td>Speech and Language Development: Normal Patterns and Common Disorders</td>
<td>Geeta Grover, MD, FAAP, and Michelle L. Wahlquist, CCC-SLP</td>
<td>221</td>
</tr>
<tr>
<td>34</td>
<td>Literacy Promotion in Pediatric Practice</td>
<td>Wendy Miyares, RN, PNP</td>
<td>231</td>
</tr>
<tr>
<td>35</td>
<td>Gifted Children</td>
<td>Calla R. Brown, MD, FAAP, and Iris Wagman Borowsky, MD, PhD, FAAP</td>
<td>235</td>
</tr>
<tr>
<td>36</td>
<td>Children and School: A Primer for the Practitioner</td>
<td>Geeta Grover, MD, FAAP, and Jeanne Anne Carriere, PhD, FAAP</td>
<td>241</td>
</tr>
</tbody>
</table>
CONTENTS

37. Immunizations ........................................................................................................................................................................ 253
   ChrisAnna M. Mink, MD, FAAP

38. Health Maintenance in Older Children and Adolescents .................................................................................................. 259
   Monica Sifuentes, MD

39. Health Care for International Adoptees ............................................................................................................................... 271
   ChrisAnna M. Mink, MD, FAAP

40. Health Care Needs of Children in Foster Care .................................................................................................................... 279
   Kelly Callahan, MD, MPT; ChrisAnna M. Mink, MD, FAAP; and Sara T. Stewart, MD, MPH, FAAP

41. Working With Immigrant Children and Their Families ..................................................................................................... 285
   Ismael Corral, MD, MBA, and Carol D. Berkowitz, MD, FAAP

42. Well-Child Care for Children With Trisomy 21 (Down Syndrome) .................................................................................. 291
   Moin Vera, MD, PhD, and Henry J. Lin, MD

43. Well-Child Care for Preterm Infants .................................................................................................................................... 299
   Soina Kaur Dargan, MD, FAAP, and Lynne M. Smith, MD, FAAP

44. Care of Children With Special Health Care Needs .............................................................................................................. 307
   Clare Kasper, MD

45. Injury Prevention .................................................................................................................................................................. 313
   Sarah J. Atunah-Jay, MD, MPH, FAAP, and Iris Wagman Borowsky, MD, PhD, FAAP

46. Fostering Self-esteem ............................................................................................................................................................ 319
   Richard Goldstein, MD, FAAP

47. Sibling Rivalry ....................................................................................................................................................................... 325
   Carol D. Berkowitz, MD, FAAP

48. Toilet Training ....................................................................................................................................................................... 329
   Jung Sook (Stella) Hwang, DO, FAAP, and Lynne M. Smith, MD, FAAP

49. Crying and Colic .................................................................................................................................................................... 335
   Geeta Grover, MD, FAAP

50. Discipline ............................................................................................................................................................................... 339
   Carol D. Berkowitz, MD, FAAP

51. Temper Tantrums .................................................................................................................................................................. 345
   Geeta Grover, MD, FAAP, and Peter Jinwu Chung, MD, FAAP

52. Breath-Holding Spells ........................................................................................................................................................... 351
   Geeta Grover, MD, FAAP, and Peter Jinwu Chung, MD, FAAP

53. Fears, Phobias, and Anxiety ................................................................................................................................................. 355
   Carol D. Berkowitz, MD, FAAP

54. Thumb-sucking and Other Habits ........................................................................................................................................ 361
   Carol D. Berkowitz, MD, FAAP

55. Enuresis .................................................................................................................................................................................. 367
   Carol D. Berkowitz, MD, FAAP

56. Encopresis .............................................................................................................................................................................. 373
   Carol D. Berkowitz, MD, FAAP
## Part 4: Adolescent Health

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>57</td>
<td>Culturally Competent Care for Diverse Populations: Sexual Orientation and Gender Expression</td>
<td>Ilana Sherer, MD, FAAP; Brittany Allen, MD, FAAP; Joseph H. Waters, MD; and Lynn Hunt, MD, FAAP</td>
</tr>
<tr>
<td>58</td>
<td>Reproductive Health</td>
<td>Monica Sifuentes, MD</td>
</tr>
<tr>
<td>59</td>
<td>Vaginitis</td>
<td>Monica Sifuentes, MD</td>
</tr>
<tr>
<td>60</td>
<td>Sexually Transmitted Infections</td>
<td>Monica Sifuentes, MD</td>
</tr>
<tr>
<td>61</td>
<td>Menstrual Disorders</td>
<td>Monica Sifuentes, MD</td>
</tr>
<tr>
<td>62</td>
<td>Disorders of the Breast</td>
<td>Monica Sifuentes, MD</td>
</tr>
<tr>
<td>63</td>
<td>Substance Use/Abuse</td>
<td>Monica Sifuentes, MD</td>
</tr>
<tr>
<td>64</td>
<td>Eating Disorders</td>
<td>Monica Sifuentes, MD</td>
</tr>
<tr>
<td>65</td>
<td>Body Modification: Tattooing and Body Piercing</td>
<td>Monica Sifuentes, MD</td>
</tr>
<tr>
<td>66</td>
<td>Depression and Suicide in Adolescents</td>
<td>Monica Sifuentes, MD, and Robin Steinberg-Epstein, MD</td>
</tr>
</tbody>
</table>

## Part 5: Acute and Emergent Problems

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>67</td>
<td>Fever and Bacteremia</td>
<td>Eric R. Schmitt, MD, MPH, FACEP, FAAP</td>
</tr>
<tr>
<td>68</td>
<td>Emerging Infectious Diseases</td>
<td>Christian B. Ramers, MD, MPH, AAHIVS, and Thomas R. Hawn, MD, PhD</td>
</tr>
<tr>
<td>69</td>
<td>Febrile Seizures</td>
<td>Hanalise V. Huff, MD, MPH, and Kenneth R. Huff, MD</td>
</tr>
<tr>
<td>70</td>
<td>Respiratory Distress</td>
<td>David B. Burbulys, MD</td>
</tr>
<tr>
<td>71</td>
<td>Stridor and Croup</td>
<td>David B. Burbulys, MD</td>
</tr>
<tr>
<td>72</td>
<td>Sudden Unexpected Infant Death and Brief Resolved Unexplained Events</td>
<td>Sarah M. Gustafson, MD, FAAP, and Lynne M. Smith, MD, FAAP</td>
</tr>
<tr>
<td>73</td>
<td>Syncope</td>
<td>David Atkinson, MD, and Michael Nguyen, DO</td>
</tr>
<tr>
<td>74</td>
<td>Shock</td>
<td>Kelly D. Young, MD, MS, FAAP</td>
</tr>
<tr>
<td>75</td>
<td>Approach to the Traumatized Child</td>
<td>David B. Burbulys, MD</td>
</tr>
<tr>
<td>76</td>
<td>Abdominal Trauma</td>
<td>David B. Burbulys, MD</td>
</tr>
</tbody>
</table>
77. Acute Abdomen (Appendicitis) ................................................................. 549
    Roxanne L. Massoumi, MD, and Steven L. Lee, MD, MBA, FACS, FAAP

78. Head Trauma .......................................................................................... 555
    Joseph Ravera, MD

79. Increased Intracranial Pressure ............................................................... 563
    Hanalise V. Huff, MD, MPH, and Kenneth R. Huff, MD

80. Management of Dehydration in Children: Fluid and Electrolyte Therapy ................................................................. 571
    Gangadarshni Chandramohan, MD, MSc, FASN, FAAP

81. Acute Kidney Injury .................................................................................. 583
    Gangadarshni Chandramohan, MD, MSc, FASN, FAAP

82. Ingestions: Diagnosis and Management ................................................ 591
    Kelly D. Young, MD, MS, FAAP

83. Disaster Preparedness ............................................................................... 599
    Ireal Johnson Fusco, MD, FAAP, and Katherine E. Remick, MD, FACEP, FAEMS, FAAP

Part 6: Head, Neck, and Respiratory System

84. Approach to the Child With Dysmorphism ............................................. 607
    Henry J. Lin, MD, and Moin Vera, MD, PhD

85. Craniofacial Anomalies ............................................................................ 613
    Carol D. Berkowitz, MD, FAAP

86. Common Oral Lesions ............................................................................. 621
    Charlotte W. Lewis, MD, MPH, FAAP

87. Otitis Media ............................................................................................. 627
    Nasser Redjal, MD

88. Hearing Impairments ................................................................................ 635
    Patricia Padlipsky, MD, FAAP

89. Sore Throat ............................................................................................. 645
    Casey Buitenhuys, MD, FACEP, and Stanley H. Inkelis, MD, FAAP

90. Nosebleeds .............................................................................................. 655
    Anna K. Schlechter, MD; Katherine E. Remick, MD, FACEP, FAEMS, FAAP; and Stanley H. Inkelis, MD, FAAP

91. Strabismus .............................................................................................. 661
    Teresa O. Rosales, MD

92. Infections of the Eye ................................................................................ 667
    Teresa O. Rosales, MD

93. Excessive Tearing .................................................................................... 673
    Teresa O. Rosales, MD

94. Neck Masses ........................................................................................... 677
    Casey Buitenhuys, MD, FACEP, and Stanley H. Inkelis, MD, FAAP

95. Allergic Disease ....................................................................................... 687
    Nasser Redjal, MD, and Niloufar Tehrani, MD

96. Wheezing and Asthma ........................................................................... 699
    Kenny Y.C. Kwong, MD, and Nasser Redjal, MD

97. Cough ...................................................................................................... 713
    Nasser Redjal, MD, and Charles H. Song, MD
Part 7: Hematologic Disorders

98. Anemia ................................................................................................................................................................................... 723  
   Joseph L. Lasky III, MD, FAAP; Moran Gotesman, MD; and Eduard H. Panosyan, MD

99. Bleeding Disorders ................................................................................................................................................................ 733  
   Joseph L. Lasky III, MD, FAAP; Moran Gotesman, MD; and Eduard H. Panosyan, MD

100. Lymphadenopathy ............................................................................................................................................................ 743  
      Eduard H. Panosyan, MD; Moran Gotesman, MD; and Joseph L. Lasky III, MD, FAAP

Part 8: Cardiovascular System

101. Heart Murmurs ..................................................................................................................................................................... 751  
      Robin Winkler Doroshow, MD, MMS, MEd, FAAP

102. Palpitations ........................................................................................................................................................................ 755  
      Robin Winkler Doroshow, MD, MMS, MEd, FAAP, and Nefthi Sandeep, MD

103. Cyanosis in the Newborn .................................................................................................................................................... 763  
      Robin Winkler Doroshow, MD, MMS, MEd, FAAP

104. Congestive Heart Failure .................................................................................................................................................... 769  
      Robin Winkler Doroshow, MD, MMS, MEd, FAAP, and Deepa Mokshagundam, MD, FAAP

105. Chest Pain .......................................................................................................................................................................... 775  
      Robin Winkler Doroshow, MD, MMS, MEd, FAAP

106. Hypertension ......................................................................................................................................................................... 783  
      Gangadarshni Chandramohan, MD, MSc, FASN, FAAP, and Michael Nguyen, DO

Part 9: Genitourinary Disorders

107. Disorders of Sexual Differentiation ...................................................................................................................................... 803  
      Jennifer K. Yee, MD, and Catherine S. Mao, MD

108. Inguinal Lumps and Bumps .................................................................................................................................................... 809  
      Sara T. Stewart, MD, MPH, FAAP

109. Hematuria ........................................................................................................................................................................... 815  
      Elaine S. Kamil, MD

110. Proteinuria ............................................................................................................................................................................ 823  
      Elaine S. Kamil, MD

111. Nephrotic Syndrome ......................................................................................................................................................... 829  
      Elaine S. Kamil, MD

112. Urinary Tract Infections ...................................................................................................................................................... 839  
      Gangadarshni Chandramohan, MD, MSc, FASN, FAAP

Part 10: Orthopedic Disorders

113. Developmental Dysplasia of the Hip .................................................................................................................................... 849  
      Kier Maddox Blevins, MD, and Andrew K. Battenberg, MD

114. In-toeing and Out-toeing: Rotational Problems of the Lower Extremity .......................................................................... 855  
      Kier Maddox Blevins, MD, and Andrew K. Battenberg, MD

115. Angular Deformities of the Lower Extremity: Bowlegs and Knock-Knees ........................................................................ 863  
      Kier Maddox Blevins, MD; Andrew K. Battenberg, MD; and Carol D. Berkowitz, MD, FAAP
<table>
<thead>
<tr>
<th>Chapter</th>
<th>Title</th>
<th>Author(s)</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>116</td>
<td>Orthopedic Injuries and Growing Pains</td>
<td>Sara T. Stewart, MD, MPH, FAAP</td>
<td>869</td>
</tr>
<tr>
<td>117</td>
<td>Sports-Related Acute Injuries</td>
<td>Monica Sifuentes, MD; Kier Maddox Blevins, MD; and Andrew K. Battenberg, MD</td>
<td>875</td>
</tr>
<tr>
<td>118</td>
<td>Evaluation of Limp</td>
<td>Andrea Fang, MD</td>
<td>881</td>
</tr>
<tr>
<td>119</td>
<td>Musculoskeletal Disorders of the Neck and Back</td>
<td>Aaron W. Beck, MD, MMS; Kier Maddox Blevins, MD; Andrew K. Battenberg, MD; and Carol D. Berkowitz, MD</td>
<td>889</td>
</tr>
<tr>
<td></td>
<td><strong>Part 11: Gastrointestinal Disorders</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>120</td>
<td>Vomiting</td>
<td>George Gershman, MD</td>
<td>899</td>
</tr>
<tr>
<td>121</td>
<td>Gastroesophageal Reflux</td>
<td>George Gershman, MD</td>
<td>905</td>
</tr>
<tr>
<td>122</td>
<td>Gastrointestinal Bleeding</td>
<td>George Gershman, MD</td>
<td>911</td>
</tr>
<tr>
<td>123</td>
<td>Diarrhea</td>
<td>George Gershman, MD</td>
<td>919</td>
</tr>
<tr>
<td>124</td>
<td>Constipation</td>
<td>Doron D. Kahana, MD, CPNS, and Khalid M. Khan, MD</td>
<td>925</td>
</tr>
<tr>
<td>125</td>
<td>Abdominal Pain</td>
<td>George Gershman, MD</td>
<td>933</td>
</tr>
<tr>
<td>126</td>
<td>Jaundice</td>
<td>Doron D. Kahana, MD, CPNS, and Khalid M. Khan, MD</td>
<td>939</td>
</tr>
<tr>
<td>127</td>
<td>Viral Hepatitis</td>
<td>ChrisAnna M. Mink, MD</td>
<td>947</td>
</tr>
<tr>
<td></td>
<td><strong>Part 12: Neuropsychiatric Disorders</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>128</td>
<td>Hypotonia</td>
<td>Hanalise V. Huff, MD, MPH, and Kenneth R. Huff, MD</td>
<td>957</td>
</tr>
<tr>
<td>129</td>
<td>Headaches</td>
<td>Hanalise V. Huff, MD, MPH, and Kenneth R. Huff, MD</td>
<td>965</td>
</tr>
<tr>
<td>130</td>
<td>Tics</td>
<td>Hanalise V. Huff, MD, MPH, and Kenneth R. Huff, MD</td>
<td>973</td>
</tr>
<tr>
<td>131</td>
<td>Seizures and Epilepsy</td>
<td>Hanalise V. Huff, MD, MPH, and Kenneth R. Huff, MD</td>
<td>979</td>
</tr>
<tr>
<td>132</td>
<td>Autism Spectrum Disorder</td>
<td>Robin Steinberg-Epstein, MD</td>
<td>989</td>
</tr>
<tr>
<td>133</td>
<td>Attention-Deficit/Hyperactivity Disorder</td>
<td>Andrew J. Barnes, MD, MPH, FAAP, and Iris Wagman Borowsky, MD, PhD, FAAP</td>
<td>997</td>
</tr>
<tr>
<td>134</td>
<td>Psychopharmacology in Children</td>
<td>Robin Steinberg-Epstein, MD, and Nisha Warikoo, MD</td>
<td>1005</td>
</tr>
</tbody>
</table>
## Part 13: Dermatologic Disorders

135. Acne ...................................................................................................................................................................................... 1015  
   *Samantha Snider, MD*

136. Disorders of the Hair and Scalp.......................................................................................................................................... 1023  
   *Janice Ma, MD; Delphine J. Lee, MD, PhD, FAAD; and Ki-Young Yoo, MD*

137. Diaper Dermatitis................................................................................................................................................................ 1031  
   *Houmin Li, MD, PhD; Delphine J. Lee, MD, PhD, FAAD; and Ki-Young Yoo, MD*

138. Papulosquamous Eruptions................................................................................................................................................ 1037  
   *Janice Ma, MD; Delphine J. Lee, MD, PhD, FAAD; and Ki-Young Yoo, MD*

139. Morbilliform Rashes ........................................................................................................................................................... 1045  
   *Houmin Li, MD, PhD; Delphine J. Lee, MD, PhD, FAAD; and Ki-Young Yoo, MD*

140. Vesicular Exanthems........................................................................................................................................................... 1051  
   *Caleb Jeon, MD; Meiling L. Fang Yuen, MD; and Ki-Young Yoo, MD*

## Part 14: Social Determinants of Health

141. Social Determinants of Health: Principles ......................................................................................................................... 1061  
   *Victor Cueto, MD, MS; Baraka D. Floyd, MD, MSc, FAAP; and Fernando S. Mendoza, MD, MPH, FAAP*

142. Adverse Childhood Experiences: Trauma-Informed Care ............................................................................................... 1069  
   *Suzanne Roberts, MD, FAAP, and Geeta Grover, MD, FAAP*

143. Commercially Exploited Children and Human Trafficking ............................................................................................. 1077  
   *Jordan Greenbaum, MD*

144. Physical Abuse ..................................................................................................................................................................... 1085  
   *Melissa K. Egge, MD, FAAP, and Melissa D. Siccama, MD*

145. Sexual Abuse ........................................................................................................................................................................ 1091  
   *Sara T. Stewart, MD, MPH, FAAP*

146. Failure to Thrive ................................................................................................................................................................... 1097  
   *Carol D. Berkowitz, MD, FAAP*

147. Fetal Alcohol Syndrome ...................................................................................................................................................... 1105  
   *Melissa K. Egge, MD, FAAP*

148. Infants of Substance-Using Mothers .................................................................................................................................. 1111  
   *Sara T. Stewart, MD, MPH, FAAP*

149. Divorce ................................................................................................................................................................................. 1117  
   *Carol D. Berkowitz, MD, FAAP*

150. School-Related Violence and Bullying ............................................................................................................................... 1123  
   *Tracey Samko, MD, FAAP, and Catherine A. DeRidder, MD, FAAP*

151. Intimate Partner Violence ................................................................................................................................................... 1129  
   *Sara T. Stewart, MD, MPH, FAAP*

## Part 15: Chronic Diseases of Childhood and Adolescence

152. Cancer in Children .............................................................................................................................................................. 1137  
   *Eduard H. Panosyan, MD; Moran Gotesman, MD; and Joseph L. Lasky III, MD, FAAP*

153. Chronic Kidney Disease ...................................................................................................................................................... 1147  
   *Mark Hanudel, MD, MS; Marciana Laster, MD, MS; and Isidro B. Salusky, MD*
154. Diabetes Mellitus................................................................................................................................................................. 1159
    Jennifer K. Yee, MD, and Catherine S. Mao, MD

155. Childhood Obesity .............................................................................................................................................................. 1165
    H. Mollie Greves Grow, MD, MPH, FAAP

156. Juvenile Idiopathic Arthritis and Benign Joint Pains of Childhood ................................................................. 1173
    Miriam F. Parsa, MD, MPH, FAAP, and Deborah McCurdy, MD, FAAP

157. Autoimmune Connective Tissue Diseases......................................................................................................................... 1181
    Deborah McCurdy, MD, FAAP; Amy C. Gaultney, MD, MTS; and Miriam F. Parsa, MD, MPH, FAAP

Index .................................................................................................................................................................................... 1195
Autism spectrum disorder (ASD) is characterized by impairments in social communication as well as restrictive, repetitive, and stereotypic behaviors or interests. According to the Diagnostic and Statistical Manual of Mental Disorders, 5th Edition (DSM-5), a person with ASD must display persistent communication, interaction, and behavioral challenges across multiple contexts. These disturbances must be present early on but may not be apparent until social demand exceeds the limitation. These characteristics must cause significant impairment and cannot be caused by cognitive impairment (Box 132.1). Cognitive impairment is often a comorbidity, however.

This new term, ASD, includes the previous terminology of autistic disorder, Asperger syndrome, and pervasive developmental disorder—not otherwise specified; the term ASD no longer includes Rett syndrome. Although criteria differ somewhat, all these disorders had in common an impairment in social communication and repetitive or unusual interests of varying degrees. These disorders require similar management and treatment, and assessing the level of impairment is somewhat subjective. Therefore, a single term—ASD—best incorporates all those individuals who are significantly affected by its symptomatology.

**Epidemiology**

As recently as 1999, the prevalence of ASD was thought to be 1 in 2,500. More recent numbers from the Centers for Disease Control and Prevention published in 2014 cite a prevalence of 1 in 59 children in the United States. The prevalence in Europe, Asia, and North America averages between 1% and 2% of the overall population. Boys are affected approximately 4 times as often as girls, which equates to 1 in every 38 boys. Affected girls are often more impaired than boys, however. Autism is considered the fastest-growing developmental disability. This increase is, in part, the result of an understanding of a broader phenotype.

**Clinical Presentation**

Autism spectrum disorder is truly a spectrum of social communication deficits. Although a certain set of behaviors defines the disorder, any child may have any combination of the symptoms that result in the same outcome—severe and incapacitating social deficits. Furthermore, the challenges experienced by this population are more than just developmental delays; the behaviors of these individuals are aberrant and odd.
Many children with an ASD have difficulty with eye contact and body posture. Even those who have some eye contact often do not use their eyes to convey a social message. They may look out of the corner of their eyes, focus only on the lips of the speaker, or look only infrequently. In other words, they may make eye contact but at the wrong time. They may talk to others with their bodies facing away from them. They may not gesture to help clarify intention.

Whereas some children have limited communication, some offer too much information. They may be quick to talk to others about things they are interested in but be unable to talk to their conversational partner about that person’s own interests. They seem socially insensitive. As younger children, they are often entertained by their own interests for long periods. Some have limited need for relationships, but others desire interaction but do not understand how to initiate or maintain interactions. Although some of these children are nonverbal, some repeat or echo what they hear from movies, television, or nearby conversation. Others seem able to converse but have trouble with social banter. It is important not to be deceived by a child who interacts with others or even gives hugs but only on the child’s own terms.

Children with ASD often have a fascination with patterns. The pattern may be in the form of household routines or within a particular subject area. This may manifest in an obsession for sameness and resistance to change or an obsessive need to know everything about a certain topic. Many know all there is to know about such favorite topics as Thomas the Tank Engine or dinosaurs from the Jurassic Period but cannot answer a question such as, “How are you?” or “What is your name?” They may be upset by a road detour or a furniture rearrangement. Some of these children, because of an incredible ability to recognize patterns, can read as early as 2 years of age, even though they can neither speak functionally nor comprehend what they read.

A significant portion of children have difficulty with sensory processing. This takes the form of problems with smells, tastes, sounds, sights, and touch. This symptom may be manifest in the need to taste everything, including nonfood items; covering ears in loud situations; or an inability to tolerate tags in clothing.

A huge variation exists in cognitive ability. The severity of ASD is independent of cognitive ability. Although approximately 25% of those with ASD have intellectual disabilities, many are of normal intelligence and some are gifted.

Parents or caregivers often raise behavioral concerns. It is important to recognize red flags and behaviors that demand further evaluation (Boxes 132.2 and 132.3). That is, certain classic symptoms exist, but the physician must be mindful of the child who is simply unable to connect with others. Physicians should rely on their own instincts. Inconsistent symptoms are the hallmark of this disorder. Some parents or guardians of children with an ASD describe a phenomenon whereby the children are developing normally until 12 to 15 months of age and then suddenly lose skills or stop progressing. This finding is particularly concerning.

### Pathophysiology

Numerous proposed etiologic possibilities for the origins of ASD exist, from the inbreeding of computer “whizzes” to exposure to microwaves. However, no consistent explanation or pattern has emerged. It is known that the structure of the brain is different, but the reason why remains unknown.

Up to 10% of those with ASD have another medical condition that might have led to this disorder (Box 132.4). This leaves 90% of patients without an etiology, however.

Genetics seem to play an important role in the development of ASD. A risk of the disorder among siblings of up to 20% has been reported, which is more than 10 times the risk in the normal population. Family members are more likely to exhibit social deficits, anxiety, or depression than are family members who do not have a relative with the disorder. Several candidate chromosomes have been suggested as being associated with this disorder, but no 1 locus is responsible for this disorder.

It is also important to realize that up to 30% of children with ASD have abnormalities on electroencephalography (EEG). This finding may point to the structural abnormalities in an autistic brain but does not seem to account for the disease itself. The epileptiform changes should be evaluated by a neurologist to determine if

---

### Box 132.2. Common Aberrant Behaviors Associated With Autism Spectrum Disorder (ie, Red Flags)

- Decreased eye contact (common but not universal)
- Only wants to be cuddled on the child’s terms
- Areas of unusual knowledge—recognizes entire alphabet by 2 years of age, all types of dinosaurs by 4 years, names of all Thomas trains, interest in fans or spinning items
- More interested in how things work than with playing
- Unusual sensitivities—oversensitive to hearing, bright lights, shirt tags, new foods, new places
- Smelling or licking nonfood items
- Repeating words instead of answering questions, or answering off topic
- Difficulty interacting with other children
- Plays amongst children, not with them
- Resistance to change, “very independent”
- “In his/her/their own world”
- Lines things up
- Unusual hand movements or jumping when emotional
- Things have to be a certain way
- Odd tone of voice (ie, prosody)
- Increased pain tolerance

### Box 132.3. Indications for Referral for Evaluation

- 12 months of age: Not babbling or gesturing (pointing, waving)
- 16 months of age: No single words
- 24 months of age: Absence of 2-word phrases
- Loss of language or social skills at any age

---

medication is indicated. Without an outward expression of seizures, however, many patients do not opt for treatment.

Several environmental markers have also been suggested as being linked to ASD, but most have not proved credible. Major epidemiologic studies within the United States and internationally have examined the roles of vaccinations, diet, and thimerosal preservative in the development of this disorder. None of these studies has found proof to support these theories. Known associations include older paternal age, preterm birth, and jaundice. Several studies have suggested that pollution may play an epigenetic role.

Much of the newer research suggests a fundamental neurobiologic difference in the prefrontal cortex, which likely occurs as the result of abnormal neuronal overgrowth in the first 20 weeks of gestation. This suggests a genetic or epigenetic etiology before birth in 90% of patients with autism.

Children with ASD should undergo routine health maintenance, including all recommended immunizations. No evidence exists linking ASD with immunizations.

**Differential Diagnosis**

Few entities present with impairment in the same 2 domains as those that are affected by ASD. A limited number of disorders mimic ASD (Box 132.5). However, several disorders exist that commonly occur with ASD that, if not identified, make treatment more difficult (Box 132.6).

**Evaluation**

No single diagnostic test, blood or otherwise, can confirm the diagnosis of ASD. Diagnosis is based on history, interaction with the child, and meeting DSM-5 criteria.

**History**

Regular developmental surveillance and screening should be part of every well-child evaluation, especially between ages 9 and 30 months. In 2019, the American Academy of Pediatrics recommended that pediatricians conduct developmental and behavioral surveillance during all well child visits, developmental screening at the 9-, 18-, and 30-month visits, and standardized screenings of patients for ASD at 18 and 24 month. Special attention should be given to a child who has a sibling with ASD or a child whose parent or caregiver has expressed concern. Several standardized screening tools can be used, including the Parents’ Evaluation of Developmental Status or the Ages and Stages Questionnaire, to identify developmental and social competency skills and concerns. The Modified Checklist for Autism in Toddlers, Revised, with Follow-Up (M-CHAT-R/F) is an excellent autism-specific screening tool with moderate sensitivity and high specificity for use at the 18- and 24-month visits to identify individuals at high risk for ASD. A positive M-CHAT-R/F screening is associated with ASD in 50% of patients and with developmental delay in 90% of patients. These screening tools are quick and easy and can be completed by the parent or caregiver in the waiting area or with minor assistance from office personnel.

---

**Box 132.4. Medical Conditions Associated With Autism Spectrum Disorder**

- Epilepsy
- Fragile X syndrome
- Tuberous sclerosis
- Prader-Willi syndrome
- Visual or auditory impairment syndrome
- Down syndrome (ie, trisomy 21)
- Cerebral palsy
- Neurofibromatosis
- Congenital rubella

**Box 132.5. Disorders That May Mimic Autism Spectrum Disorder**

- Hearing impairment
- Global developmental delay
- Tourette syndrome and comorbidities
- Selective mutism
- Reactive attachment disorder
- Lead ingestion
- Sensorimotor integration dysfunction
- Severe auditory processing/language deficit
- Severe anxiety
- Severe attention-deficit/hyperactivity disorder
- Brain trauma
- Childhood-onset schizophrenia

**Box 132.6. Disorders That Can Occur With Autism Spectrum Disorder**

- Tuberous sclerosis
- Congenital blindness
- Global developmental delay
- Chromosomal abnormalities (eg, Down syndrome, fragile X syndrome, Prader-Willi syndrome)
- Phenylketonuria
- Epilepsy
- Elevated lead level
- Congenital infections
- Brain trauma
- Bipolar disorder
- Global developmental delay
- Neurofibromatosis
- Congenital profound hearing loss
- Tourette syndrome
- Landau-Kleffner syndrome
- Inborn errors of metabolism
- Anemia
- In utero exposure to drugs and/or alcohol
- Depression and/or anxiety
- Attention-deficit/hyperactivity disorder
PART 12: NEUROPSYCHIATRIC DISORDERS

For the child with suspected developmental difference, the physician must gather as much information as possible. Thorough birth and medical histories are important in helping to understand if early experiences may have predisposed the child to any deficits. For example, children born preterm are at increased risk for ASD. Monozygotic and dizygotic twins have high concordance. Older fathers or infertility treatments may have a role as well.

Family history is also important, because ASD is presumed to have a genetic contribution and it may be helpful in identifying other etiologies. Understanding family structure is helpful in determining whether abuse, neglect, or maternal depression play a role in the child’s delay. It is important to remember, however, that ASD is not caused by poor parenting.

Developmental history is a critically important part of the history. The physician must probe all 4 areas of development: fine motor, gross motor, language, and social development (see Chapter 32). As stated previously, it is expected that the most significant delays will be in language and social interaction; however, delays may be noted in all components of development. Additionally, probing for abnormal behaviors specific to ASD helps distinguish this disorder from others. Box 132.7 contains some suggestions that may help elicit information relevant to a diagnosis of ASD in a toddler; the history should be adjusted based on the age of the child. The physician should always include early language milestones. Children with ASD tend to have splinter skills, that is, skills that may be normal or above developmental level for age. The physician should not let these skills distract from probing areas of suspected delay.

Finally, parents/caregivers and physicians often fall victim to common myths and excuses about development because it is not easy for many parents to discuss or admit delays (Box 132.8). These myths, although they may seem plausible, are not substantiated and only serve to further delay onset of intervention.

Physical Examination

A thorough physical examination with special attention directed to the growth parameters, neurologic examination, dysmorphic features, and neurocutaneous stigmata are essential to a complete evaluation. Height, weight, and head circumference should be plotted. Twenty-five percent of children with ASD have a head circumference greater than the 97th percentile. That is not to say that everyone with a large head has ASD, only that it is an associated feature. In utero infections may predispose to a small occipitofrontal circumference, but both a large and a small head circumference have developmental implications for ASD.

Detecting subtle physical signs, such as clinodactyly, simian crease, or a high-arched palate, although not diagnostic, is somewhat helpful in raising suspicion for neurodevelopmental delays. A Wood lamp evaluation may be helpful in uncovering neurocutaneous stigmata.

A series of dysmorphic features, such as a thin upper lip, flat philtrum, and upturned nose, may be suggestive of a syndrome, such as fetal alcohol syndrome. Hypotonia is a common finding among children with ASD but may be suggestive of an inborn error of metabolism. The physician must also check reflexes, because degenerative

Box 132.7. What to Ask

Autism Spectrum Disorder

Questions to Ask Parents/Caregivers

- Does your child seem to hear you? Did your child undergo a hearing test in the neonatal period?
- Does your child make noises? If so, what kind?
- When did your child say his, her, or their first word after “mama” and/or “dada”? Does your child have 2-word phrases?
- Are there any other behaviors that concern you?
- Can your child scribble? Has your child lost any skills? Does your child line things up?
- When did your child first walk? What does your child like to play with?
- Do tags on the back of clothes bother your child?
- Is your child interested in other children? What does your child do upon seeing another child in a park?
- When do you first remember your child pointing with 1 finger?
- Does your child play peekaboo? Will your child try to engage you?
- Does your child talk into a play telephone?
- Does your child eat a variety of foods?
- Does your child turn when you call him, her, or them?
- What should be done to evaluate?
- What types of intervention would be helpful?

Questions for the Physician to Ask Oneself

- What does this child’s autism specific screener show?
- Do any complicating historical factors exist that may predispose this child to a developmental problem?
- Is this merely personality variation, or does this represent delays and aberrant behavior?
- Is this a language delay, or does concern exist for more social or odd behaviors?
- What should be done to evaluate?
- What types of intervention would be helpful?

Box 132.8. Common Excuses for Unusual Behaviors in Children With Suspected Autism Spectrum Disorder*

1. We speak 2 languages at home. (By age 3 years in a bilingual home, language should follow a normal progression. Social and unusual behaviors should always follow a normal trajectory.)
2. He is a boy. (This is accounted for in the range of normal.)
3. She is a twin. (If 1 twin has autism spectrum disorder [ASD], the other twin has an increased risk of having ASD or being delayed developmentally.)
4. He is the first child. (There is no evidence that firstborn children speak late.)
5. She is the baby. (There is no evidence that children born last speak late.)
6. He is having a bad day.
7. She watches too much television. (Neglect can result in delays, but these children still need intervention.)

*These are not reasons to delay evaluation.
issues are not warranted in a child with ASD; they are used primarily in the research setting.

**Laboratory Tests**

No single laboratory or radiologic evaluation is diagnostic for ASD. The real keys to diagnosis are developmental surveillance, screening, and observation. Some tests are helpful to rule out comorbid conditions, however. If the child has not undergone an audiologic evaluation, that should be done first. However, the physician should not wait for audiology results before referring the patient for help. From a medical perspective, a tiered approach to the workup often is helpful. The first tier includes laboratory studies, such as a chromosomal microarray analysis (eg, comparative genomic hybridization) and a DNA test for fragile X syndrome. A lead level, carnitine profile, plasma homocysteine levels, serum amino acids, urine organic acids, thyroid evaluation, and vision evaluation should be assessed in children with global developmental delay, loss of developmental milestones, or other findings concerning for neurological or developmental disorders. If the symptoms are severe, ammonia, lactate, and pyruvate levels should also be measured. An EEG is appropriate if concern for seizures exists. The results of the newborn screening should also be reviewed. In the absence of specific clinical findings, the yield of these diagnostic studies is anticipated to be low (approximately 7%) but, if positive, may aid in the recognition of a specific comorbidity.

The second tier of tests, if necessary, includes an evaluation for specific rare diseases. Some consideration might be given to chromosomal 15 methylation, methyl CpG-binding protein 2 (in males and females), phosphatase and tensin homolog deleted on chromosome 10, fibroblast karyotype if pigmentary abnormalities are noted, sterol profile, guanidinoacetate urine analysis (only in males), or other associated genetic evaluations. According to current literature, laboratory evaluation for ASD yields an etiology in 15% of patients.

**Imaging Studies**

Magnetic resonance imaging should be considered for the patient with a history of regression or microcephaly, or in the presence of focal findings suggestive of central nervous system malformations; otherwise, it is considered low yield for detecting any abnormality of diagnostic significance. The child with regression, more significant involvement, or behavior suspicious of a seizure should undergo EEG. Although positron emission tomography and single-photon emission computed tomography show abnormalities, these studies are not sufficiently specific for diagnosis or to direct care. These studies are not warranted in a child with ASD; they are used primarily in the research setting.

**Management**

Diagnosis of ASD is sometimes challenging, but early diagnosis is critical in changing ultimate outcomes. Waitlists to see specialists and a limit on the number of specialists in this field makes it imperative for the primary care physician to be able to make the diagnosis of significant autism. The primary care physician who makes the diagnosis of ASD in a child who is older than 2 months of age with significant symptoms is correct more than 90% of the time. Because early intervention can have such a vital effect on patient outcomes, the American Academy of Pediatrics has made early diagnosis and intervention, which can reduce the cost of lifelong care by two-thirds, a priority. The diagnosis of ASD is based on the *DSM-5*.

Because children 3 years and older receive services through the local public school district, children younger than 3 years should be referred to other local governmental agencies. Most states have a government-sponsored early intervention program for children up to 3 years of age that is responsible for the evaluation of as well as the behavioral, educational, and therapeutic interventions for children with suspected delays. Such agencies offer comprehensive diagnostic evaluation and placement of eligible children in an intensive intervention program. Therefore, after a hearing test has been completed, referral to such an agency is the next step. On average, it takes 6 months from the time a child is seen in a physician's office to the attainment of such services. Thus, it is important to identify eligible children before age 30 months. Furthermore, such services are covered by private insurance in many states. It is important for primary care physicians to make such referrals.

For children older than 3 years with moderate to severe impairment, the responsibility for evaluation and treatment lies with the local school system, medical insurance, and government-sponsored agency. Even before a child is of school age, the child's local school district is responsible for the evaluation and interventions necessary to implement appropriate remediation. Physicians should verify with local agencies to determine whether such a system exists in their respective state, however. Between ages 3 and 21 years, each child is entitled to a free and appropriate education guaranteed under the federal mandate known as the Individuals with Disabilities Education Act. By law, educational programs should be comprehensive and individualized to the needs of each child. Following the assessment, teachers and other school personnel meet with parents to develop an Individualized Education Program (IEP) for the child.

Most children with ASD require, at minimum, speech and language services, occupational therapy, and social skills training. Many require a 1:1 aide in a mainstream class, and others benefit from special education services in the form of pullout or a special day class. Additional services to augment those provided in school can be given privately. Some states have mandated that medical insurance support these additional necessary services; however, in other states these additional services are the sole responsibility of the parent or caregiver.

**Interventions**

Autism spectrum disorder is a neurologic condition that can improve with intensive multimodality interventions. This improvement is...
solutions, magic medications, or diets exist to “cure” ASD. Behaviors such as impulsive aggression, repetition, resistance to change, and obsession are frequently targeted by systematic interventions. Furthermore, some basic social learning behaviors can be shaped by different types of intervention. Several different techniques based on different psychological principles exist that may be used to help improve the difficulties associated with ASD (Box 132.9). The best studied therapy is known as applied behavior analysis, in which a child’s behavior is scrutinized by a trained behaviorist and goals and trials are developed to slowly shape appropriate responses. The parent or caregiver is then taught the skills necessary for the desired outcome.

These are often used as a complementary strategy. These stories describe in detail basic social skills in different scenarios.

**Applied Behavior Analysis**
Applied behavior analysis strives to achieve pre-academic skills, such as eye contact, imitation, sitting, and following simple directions using the principles of conditioning and behavioral psychology. In a 1:1 fashion, a child is trained to respond in a predetermined way using a specific curriculum and reinforcers.

**Behavior Analysis**
This method uses close study of behaviors to determine antecedent triggers and consequences, such as a tantrum. The goal is to substitute acceptable responses, such as using words, and increase rewards for substituted behaviors.

**Pivotal Response Treatment**
This strategy uses principles of behavior analysis as well as the child’s interests and internal drives to motivate with the aim of generalizing the skills from a therapy room to a variety of environments. Children with an autism spectrum disorder often have difficulty performing a previously mastered skill in a new setting.

**Picture Exchange Communication System**
The Picture Exchange Communication System uses pictures that the nonverbal child can use to show a caregiver what the child wants.

**Treatment and Education of Autistic and Related Communication Handicapped Children**
The Treatment and Education of Autistic and Related Communication Handicapped Children is a complete program that incorporates the child into a large autism spectrum disorder community. The goal is to promote autonomy; the program uses many methods based on cognitive therapeutic principles.

**Social Stories**
These are often used as a complementary strategy. These stories describe in detail basic social skills in different scenarios.

The recommendations in this publication do not indicate an exclusive course of treatment or serve as a standard of medical care. Variations, taking into account individual circumstances, may be appropriate. Original resource included as part of Berkowitz’s Pediatrics: A Primary Care Approach, 6th Edition.
well. Obtaining an accurate IQ is often challenging. The major determinant of ultimate outcome seems to be progress in a comprehensive, early intervention program for a duration of 2 years before the child reaches age 5 years. Having little or no language by age 6 years is a poor prognostic indicator. Therefore, the goal remains focused on early identification, intensive treatment, and advocacy for children to receive such interventions with ongoing support throughout their preschool and school years.

Intensive early intervention programs have been available only since approximately 1995. Since that time, children with ASD have moved into the mainstream. Despite receiving early intervention, these children continue to have problems with transitions, more complex social interactions, and higher-level organization tasks. Thus, physicians must continue to advocate for and support these families in an ongoing longitudinal manner.

Many adults with ASD continue to require significant support. They may require sheltered living and work environments, safety monitoring, and ongoing medical support. Persons with severe ASD may receive care in group homes.

Another significant proportion of children with ASD attend college, marry, and have children. It is difficult to quantify the number of persons with ASD who achieve these milestones, because the numbers change rapidly, and the true number of children with ASD remains unknown.

CASE RESOLUTION

The child’s parent completed an M-CHAT-R/F, and the child scored a 4 (ie, intermediate risk). A follow-up interview confirmed that the risk for ASD was significant, and the child was evaluated by a developmental-behavioral pediatrician and the local governmental agency, where he underwent a comprehensive assessment by a multidisciplinary team. The diagnosis of autism was confirmed, and his brother was noted to have a language delay. Both children were placed in an early intervention program. The primary patient was placed in a 1:1 structured teaching environment for 4 months. After exhibiting significant improvement, he was moved to a therapeutic preschool setting that emphasized generalization of his newly acquired skills, speech therapy, occupational therapy, and social skills. His brother received speech therapy 2 times per week. Both are due to start an early intervention program. The primary patient was placed in a 1:1 structured environment for 4 months. After exhibiting significant improvement, he was moved to a therapeutic preschool setting that emphasized generalization of his newly acquired skills, speech therapy, occupational therapy, and social skills. His brother received speech therapy 2 times per week. Both are due to start a regular kindergarten class in the fall, with ongoing speech and social support. The primary patient has been placed on a stimulant medication to control hyperactivity and problems with attention.

Selected References


Copyright © 2020 American Academy of Pediatrics