



# The Pediatrician's Role in Optimizing School Readiness

COUNCIL ON EARLY CHILDHOOD, COUNCIL ON SCHOOL HEALTH

School readiness includes not only the early academic skills of children but also their physical health, language skills, social and emotional development, motivation to learn, creativity, and general knowledge. Families and communities play a critical role in ensuring children's growth in all of these areas and thus their readiness for school. Schools must be prepared to teach all children when they reach the age of school entry, regardless of their degree of readiness. Research on early brain development emphasizes the effects of early experiences, relationships, and emotions on creating and reinforcing the neural connections that are the basis for learning. Pediatricians, by the nature of their relationships with families and children, may significantly influence school readiness. Pediatricians have a primary role in ensuring children's physical health through the provision of preventive care, treatment of illness, screening for sensory deficits, and monitoring nutrition and growth. They can promote and monitor the social-emotional development of children by providing anticipatory guidance on development and behavior, by encouraging positive parenting practices, by modeling reciprocal and respectful communication with adults and children, by identifying and addressing psychosocial risk factors, and by providing community-based resources and referrals when warranted. Cognitive and language skills are fostered through timely identification of developmental problems and appropriate referrals for services, including early intervention and special education services; guidance regarding safe and stimulating early education and child care programs; and promotion of early literacy by encouraging language-rich activities such as reading together, telling stories, and playing games. Pediatricians are also well positioned to advocate not only for children's access to health care but also for high-quality early childhood education and evidence-based family supports such as home visits, which help provide a foundation for optimal learning.

## abstract

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## COMPONENTS OF SCHOOL READINESS

Children's readiness for school, according to the National Education Goals Panel, consists of the following elements: physical health and motor development, social and emotional development, approaches to learning, language development, and cognition and general knowledge.<sup>1</sup> The National Education Goals Panel advocates for a broader concept of school readiness that includes not only children's readiness for school but also schools' readiness for children as well as the family and community supports and services that contribute to school success. Thus, the responsibility for school readiness of the child lies not only with the child but also with the families, communities, and schools that shape his or her development.<sup>2</sup> Families need to provide a safe, stable, and nurturing environment in which trust and confidence allow children to take advantage of learning experiences.<sup>3</sup> Parents should read aloud to their children, preferably daily, as well as expand their children's language through responsive verbal interactions, and engage them in active and stimulating play. Communities need to provide high-quality prenatal and intrapartum care, including home visits for families at significant risk; stimulating early education and child care experiences; healthy nutrition and housing for children; appropriate child protective services; and early interventions for children at risk of developmental delays.<sup>4</sup> Communities also have the responsibility of reducing environmental toxins, developing safe areas for play, and providing means for all families to access quality medical and dental care.<sup>4</sup> Schools need to meet the individual needs and abilities of children who come from a wide range of environmental and emotional experiences.<sup>2</sup> The technical report by the American Academy of Pediatrics (AAP) on school readiness

provides an excellent description of school readiness issues; this policy statement addresses the role of the pediatrician in promoting school readiness.<sup>5</sup> It is understood that, even with best intentions, not all of the physical, emotional, and social factors that can adversely affect school performance will be identifiable by a pediatrician before school entry, but to the extent that it is practical, pediatricians may significantly influence school readiness.

## EARLY BRAIN DEVELOPMENT AND SCHOOL READINESS

The importance of school readiness has become increasingly apparent with recent research on early brain development, which emphasizes the effects that early experiences and relationships have on the brain's foundational architecture and subsequent function. Early learning is integrated, cumulative, and nonlinear, with critical periods of proliferation and pruning of neuronal synapses.<sup>6</sup> Neural connections are created and modified by the child's social and environmental interactions; repetition helps strengthen neural pathways. Learning is influenced not only by individual learning styles but by emotions and specific settings and situations.<sup>7,8</sup> This early plasticity can be a double-edged sword, because chronically chaotic, stressful, and otherwise adverse environments can be toxic to the development of important brain structures, such as the hippocampus and prefrontal cortex. Safe, stable, and nurturing relationships, on the other hand, mitigate this kind of "toxic stress," providing a strong foundation for future learning.<sup>9</sup> The literature on early brain development shows that a child's caregivers exert a tremendous influence, both positive and negative, on early learning. These findings take on special significance in view of the factors that have been identified as affecting school readiness, namely

physical health and motor skill development, social and emotional development, individual learning differences, language development, and cognitive abilities.<sup>10</sup> Certainly, within the context of a medical home, which provides compassionate, coordinated, family-centered, accessible, and culturally sensitive care, the pediatrician will have a foremost role in monitoring the critical elements of early experiences that foster school readiness.<sup>11</sup>

## ROLE OF THE PEDIATRICIAN IN PROMOTING SCHOOL READINESS

### Physical Well-being

The effect of physical well-being on school readiness is indisputable, and optimizing physical health has always been a primary goal of the pediatrician.<sup>12,13</sup> *Bright Futures* provides comprehensive health supervision guidelines within the context of the family-physician partnership and emphasizes effective communication strategies and shared goals.<sup>14</sup> Health supervision includes monitoring growth; identifying obesity, food insecurity, or abnormal growth patterns; and encouraging physical activity and attainment of motor skills, and emphasizing the effects of high-quality, accredited child care and early education programs such as Head Start on school readiness. Pediatricians, through their advocacy, can help ensure that existing surveillance programs, such as Early and Periodic Screening, Diagnosis, and Treatment (EPSDT), are aligned with *Bright Futures* guidelines.<sup>15,16</sup> The pediatrician screens children for exposure to lead and other environmental toxins, as indicated, and identifies vision and hearing deficits as early as possible. The pediatrician has a crucial role in treating chronic health problems and minimizing the effects of these problems on physical stamina and development.<sup>17</sup> Pediatricians can

also help ensure that children with chronic illnesses have access to quality early learning experiences despite their health concerns. In addition, the pediatrician has the responsibility of reporting suspected child abuse and monitoring and supporting children in foster and kinship care. Pediatricians may also be advocates for accessible health care for all children, including home visits and food subsidy programs that help minimize the gap in health care services for the disadvantaged.<sup>17</sup>

### **Social-Emotional Well-being**

The pediatrician's influence on the social-emotional well-being of the child begins with the identification of risk factors such as maternal depression, parental history of early childhood adversity, parental discord, or other family psychosocial stressors, such as poverty, that could interfere with initial parent-infant bonding. The critical influence of early attachment on later behavior and development is overwhelmingly supported by research.<sup>3,18,19</sup> The pediatrician also provides anticipatory guidance regarding behaviors, such as infant crying, sleeping, and feeding, as well as parental self-care. A parent's perceived success or failure with these early challenges can set the tone for how he or she approaches subsequent difficult behaviors, such as tantrums or toileting problems. Positive parenting techniques should also be discussed. Physicians can model appropriate adult-child interactions within the office and provide materials and resources to help promote healthy parent-child relationships.<sup>20</sup> The physician often has the opportunity to help parents recognize differences in temperament that may influence parent-child interactions.<sup>9</sup> Pediatricians are often asked to give advice about behavior concerns and appropriate disciplinary strategies. Emphasis should be placed on the

3 essential components of effective discipline: (1) a positive, supportive parent-child relationship with many opportunities for "times in" throughout the day; (2) the use of positive reinforcement strategies, including praise, to increase desired behaviors; and (3) the purposeful and appropriate use of strategies such as ignoring, redirection, "time out," or removal of privileges to reduce undesired behaviors.<sup>21</sup> The use of corporal punishment should be discouraged, because harsh disciplinary strategies often have a deleterious effect on the parent-child relationship by promoting aggressive behaviors on the part of the child.<sup>9</sup> Consideration of cultural differences must always be part of this process.<sup>22</sup> For children or families who present with significant behavioral/emotional issues or children who have experienced significant exposure to toxic stressors, the pediatrician can offer support and guidance and referral to behavioral health professionals who can provide evidence-based interventions.<sup>23</sup> Integrated models of mental health care often allow families better access to services.

### **Cognitive and Language Development**

Cognitive and language development can be promoted by sharing with families the powerful information on early brain development that emphasizes the essential role that parents play in their child's learning. Families may need guidance regarding the importance of touch, movement, and gestures in learning.<sup>24,25</sup> Optimal early childhood environments in and outside the home encourage exploration, mentor basic skills, celebrate developmental advances, rehearse and extend new skills, protect from inappropriate disapproval and punishment, and provide a rich and responsive language environment.<sup>26</sup> Exposure to television and other media is not recommended for children younger

than 2 years, and the need for limitations and restrictions on media use and attention to media quality can be raised with parents and other caregivers of children of all ages.<sup>27</sup> Pediatricians can promote early language development and literacy by encouraging parents to read and spend time with their children every day if possible and by participating in programs such as Reach Out and Read.<sup>28</sup> For parents with limited reading skills, pediatricians can model storytelling; educate parents as to the value of using books to identify words, numbers, colors, and objects; and emphasize the power of the spoken word on brain development and cognition.<sup>29</sup> Physicians should foster the 5 "Rs" of early childhood education: "reading" together daily; "rhyming," talking, playing together; establishing "routines" around meals, play, and sleep; "rewarding" everyday successes; and supporting nurturing reciprocal "relationships."<sup>5</sup>

Pediatricians have responsibility for early screening for developmental problems, such as autism, intellectual disability, and attention-deficit/hyperactivity disorder, with subsequent referral for intervention services and diagnostic clarification as available.<sup>30</sup> Pediatricians may also help parents recognize a child's individual strengths and weaknesses in learning and provide resources that can help the child succeed within this framework. Guidance regarding the importance of early education and child care quality and the availability of these resources will also be helpful to families as they seek healthy and stimulating environments for their children. Pediatricians can contribute to child care and school guides to assist parents in selecting and monitoring child care programs and working with schools to enhance the academic success of their children. Pediatricians can encourage parents to take an active interest in their

child's education by suggesting that parents visit the child's school and meet with the teacher before school entry, have regular communication with the teacher, and advocate for appropriate school services, especially for children with developmental concerns. Finally, pediatricians can advocate for high-quality educational services in the community, as measured by objective quality-rating systems or accreditation, including efforts such as early intervention services and Head Start.<sup>31</sup>

## CONCLUSIONS

In summary, the concept of school readiness encompasses the entirety of a child's physical, cognitive, and social-emotional attributes, which serve as the foundation for early brain development and learning. A team effort among families, the medical home, child care/early intervention, schools, and communities provides the experiences, relationships, and interactions that shape the learning process and serve as building blocks for later success in school and in life. Pediatricians, in their role as medical home providers, have the opportunity to substantially influence school readiness. Not only do pediatricians address physical health concerns, but they also are uniquely suited to address developmental and behavioral health concerns of the child and family and to promote healthy relationships and interactions that encourage future resilience. Beyond the influence that pediatricians have on individual families, they can lend their voices as advocates for appropriate mental health, early education, and child care; basic health care services; and safe, healthy living conditions for children and families.

## RECOMMENDATIONS FOR PEDIATRICIANS

1. Optimal physical well-being is critical to school readiness.

Pediatricians promote this in all of their work around health issues. Pediatricians are encouraged to use the comprehensive guidelines provided by *Bright Futures* to ensure adequate and appropriate health supervision.

2. Pediatricians should promote social-emotional well-being necessary for school readiness by establishing a partnership with the family to (1) foster safe, stable, and nurturing relationships through age-appropriate anticipatory guidance<sup>14,32</sup>; (2) address behavior concerns in a proactive, skills-building fashion, recognizing that temperament may play a role; (3) identify and mitigate psychosocial risks for toxic stress, such as child abuse and neglect, maternal depression, inadequate food or shelter, and domestic violence; (4) help families access community resources, including evidence-based home-visiting programs, such as Nurse Family Partnership, Family Check Up, Parent Child Home Program, and Parents as Teachers<sup>33</sup>; and (5) facilitate access to evidence-based mental health services when indicated.<sup>34-37</sup>
3. Families have a critical role in promoting cognitive and language development of their children, both of which greatly influence school readiness. Pediatricians are encouraged to share information on early brain development<sup>9,38</sup> and the role that families play in their child's early learning.<sup>5,32,39</sup> Pediatricians can discuss with families the need for providing optimal learning environments rich with reading materials (eg, [www.reachoutandread.org](http://www.reachoutandread.org)), opportunities for exploration (eg, [www.circleofsecurity.net](http://www.circleofsecurity.net)), and praise. Pediatricians should support whenever possible opportunities for the utilization of strategies to improve school readiness, such as colocation of

parent-child specialists (<http://www.rain.org/littlesteps/Healthy%20Steps%20User%20Manual.pdf>) and videotaping/reviewing of parent-child interactions.<sup>40</sup>

4. Pediatric providers can promote the 5 Rs of early childhood education by encouraging parents to read together daily as a favorite family activity that strengthens family relationships and builds language, literacy, and social-emotional skills that last a lifetime; rhyme, play, sing, talk, and cuddle with their young children throughout the day (children develop language skills, problem-solving ability, and relationships through play); create and sustain routines for children around sleep, meals, and play (children need to know what caregivers expect from them and what they can expect from those who care for them); provide frequent rewards for everyday successes, especially for effort toward worthwhile goals such as helping (praise from those the child loves and respects is among the most powerful of rewards); and remember that relationships that are nurturing and secure provide the foundation of healthy child development.<sup>5</sup>
5. Pediatricians should identify children at risk of developmental problems through the use of valid screening tests, behavioral observations, and attention to parent concerns.<sup>30</sup> Pediatricians can make timely referrals for appropriate early intervention services and further evaluation for diagnostic clarification. Pediatricians should familiarize themselves with suitable community resources and understand their state's laws that mandate public school intervention for children identified as high risk of school or learning problems.

6. All children would benefit from access to high-quality early education programs. Pediatricians can link children from low-income or disadvantaged households to such programs (eg, Headstart) in an effort to minimize the gap in early learning experiences. Pediatricians can collaborate with professionals from other disciplines who have relevant expertise (eg, early childhood education, infant mental health, public health practitioners) and with key stakeholders (eg, early intervention agencies, Zero to Three) to minimize toxic stressors and to establish a solid foundation for positive early childhood experiences. Pediatricians can assist families in identifying the characteristics of quality child care facilities.
7. Pediatricians can advocate for services and supports that will allow children to be successful in school and in life; opportunities for advocacy occur not only within the pediatrician's office and community but also in regional, national, or international venues.

## RECOMMENDATIONS FOR POLICY MAKERS

1. The AAP supports state and federal funding for quality preschool, child care, and child development programs (eg, Head Start) that promote developmentally appropriate activities in a stimulating, nurturing, and safe environment.
2. The AAP supports the incorporation of components of school readiness into pediatric residency training. Residency continuity practices can integrate the recommendations for pediatricians listed above regarding the promotion of school readiness into their competency-based curriculum.

3. The AAP supports funding for parent-child programs that help build the positive interactions and appropriate attachments that are the cornerstones of healthy social-emotional development and an essential component for school readiness.
4. The AAP supports funding for community, state, and federal programs that ensure adequate housing, health care, and nutrition for children in their formative years and that provide safe environments in which children can explore and play.
5. The AAP supports research into the ways in which school readiness can be most effectively achieved and the dissemination of this information to families and other child care providers/educators.

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### ABBREVIATION

AAP: American Academy of Pediatrics

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