Topic: Normal Development: 3 to 5 Years; School Readiness

Learning Objectives: At the end of this learning experience, viewers will be able to:

1. Identify normal developmental milestones in the 3-5 year old child.
2. Define school readiness.
3. Identify risk factors for school failure.
4. List the resources available for preschool-aged children who fail to meet expected developmental milestones or are at risk for school failure.


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**Case 1:**

A child comes to your office for a well visit. He can speak full sentences and is intelligible about 75% of the time. He can copy a circle, walk up and down stairs alternating feet, and has trouble hopping on one foot. He likes to play pretend games and hide and seek with his friends. He dresses himself with help but cannot tie shoes, button buttons or zip a zipper.

**Question 1: What is the most likely age of this child?**

This child is 3 years old. See age-appropriate items from the [Ireton Child Developmental Chart – First Five Years](#) below:

<table>
<thead>
<tr>
<th>Age</th>
<th>Gross Motor</th>
<th>Fine Motor</th>
<th>Language</th>
<th>Social</th>
<th>Self care</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 years</td>
<td>Walks up and down stairs one foot per step</td>
<td>Cuts with small scissors</td>
<td>Answers questions like, &quot;What do you do with a hat? a cracker?&quot;</td>
<td>Plays games like tag, hide and seek.</td>
<td>Dresses self with help</td>
</tr>
<tr>
<td></td>
<td>Rides on tricycle, using pedals</td>
<td>Draws or copies a complete circle</td>
<td>Asks questions beginning with &quot;Why? When? How?&quot;</td>
<td>Gives directions to other children</td>
<td>Toilet trained</td>
</tr>
</tbody>
</table>

**Case 2:**

A child comes to your office for a well visit. She can print her first and last name, balance on one foot, and copy a triangle. She knows her telephone number. She uses the toilet by herself. She can define simple words and has difficulty copying a diamond.

**Question 2: What is the most likely age of this child?**
This child is **5 years old**. See age-appropriate items from the [Ireton Child Developmental Chart – First Five Years](#) below:

<table>
<thead>
<tr>
<th>Age</th>
<th>Gross Motor</th>
<th>Fine Motor</th>
<th>Language</th>
<th>Social</th>
<th>Self care</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 years</td>
<td>Swings on swing, pumping by self.</td>
<td>Prints first name (four letters).</td>
<td>When asked, for example, “What is an orange?” answers, “A fruit.”</td>
<td>Shows leadership among children.</td>
<td>Goes to the toilet without help.</td>
</tr>
</tbody>
</table>

**Case 2 (cont):**

**School Readiness**

This 5 year-old girl, who has met the expected developmental milestones as noted above, is in your office for her well-child exam. Her birthday was in January and she will be starting Kindergarten in August. Her mother is married and works part-time. Her husband is a hospital administrator. The mother has some questions about her readiness for school.

**Question 3: How would you define school readiness?**

According to the AAP Technical report on School Readiness (2008), “School readiness includes the readiness of the individual, the school’s readiness for children, and the ability of the family and community to support optimal early child development.”

The National Education Goals Panel defines readiness in the child by:

- Physical well-being and motor development, including health status, growth, and disability;
- Social and emotional development, including turn-taking, cooperation, empathy, and the ability to express one’s own emotion;
- Approaches to learning, including enthusiasm, curiosity, temperament, culture, and values;
- Language development, including listening, speaking, and vocabulary, as well as literacy skills, including print awareness, story sense, and writing and drawing processes; and
- General knowledge and cognition, including sound-letter association, spatial relations, and number concepts.

**Question 4: How can we as pediatricians promote school readiness?**
There are many ways we can promote the components of school readiness as defined above. One way to think of it is to promote the “5 Rs” of early education.

1. **Reading** together as a daily family activity
2. **Rhyming**, playing, and cuddling together often
3. **Routines** and regular times for meals, play, and sleeping, which help children know what they can expect and what is expected from them
4. **Reward** everyday successes with praise; and
5. **Reciprocal** and nurturing relationship

**Question 5:** Your patient’s mother feels that their family can do the above, but would like to have her daughter “tested” for school readiness. How do you respond?

In general, most communities offer some form of school readiness screening and most do it appropriately. However it can vary in its sophistication and can be incorrectly interpreted. According to the AAP Policy statement, “The Inappropriate Use of School 'Readiness' Tests”, the use of readiness testing that is designed for screening should NOT be used to make placement decisions. (Pediatrics Vol. 95 No. 3 March 1, 1995 pp. 437-438)

You can give the mother resources from schools and teachers on aspects of readiness to help her think about her child’s skills and maturity. (See Resources: PTA School Readiness Questions)

**Case 3:**

**At-risk for school failure**

A four-year-old boy is brought to your office for evaluation of his "school readiness." He will turn five in July and school starts in August. His mother is a 19 year old single parent who works during the day while he is in daycare. His mother is also working toward her GED. The child did not attend pre-school. His birth history is significant for being an SGA product (1500g) of a 35 weeks gestation. His mother smoked 1-2 packs per day during pregnancy. During the interview, the child is active, talking loudly out of turn and pulling the paper off the examination table. His physical examination is grossly normal.

**Question 6:** What are this child's risk factors for school failure?
School failure risk factors identified for this child:

- Single parent
- Teenage parent
- Low level of maternal education
- Lack of formal preschool
- Maternal smoking
- Low (<2500g) and very low (<1500g) birth weight

Other school failure risk factors include:

- Large family
- Poverty
- Family history of mental retardation or school problems
- Parents with depression or other mental health problems

Case 3 (cont):

Upon further questioning, you find that the child is able to copy a circle crudely, but cannot copy a cross. His mother says he doesn't color or draw much. On the PEDS questionnaire, she remarks that she is concerned about how her child talks. He doesn't speak during the examination and mother states “He is harder to understand than his cousins who are also four.” He does not recognize letters, and she is not sure if he knows his colors.

Question 7: How do you assess whether this child has a developmental delay that may require intervention? Do you “screen” this child using the components on the EpiCare developmental surveillance items only, conduct a full validated developmental screen, or do you refer for a full developmental evaluation? Explain your actions.
Assessment of developmental abnormalities in preschoolers:

- The AAP recommended in their most recent policy statement on developmental screening that pediatricians perform developmental surveillance (e.g., Ireton, PDQ, Bright Futures) at all routine well child visits and developmental screening (e.g., PEDS, Ages and Stages, or Child Development Inventories) at least at the 9 month, 18 month and 24-30 month visits to formally screen for children's developmental delays or parental concerns with a validated screen.

- Developmental surveillance:
  - Is defined as "a flexible, continuous process whereby knowledgeable professionals perform skilled observations during the provision of health care."
  - Should be performed at every visit with every child. This includes talking to the family and making good observations of development and behavior. Problems with cognition, speech and hearing delays, low birth weight, frequent otitis media, and behavioral problems have all been associated with early school difficulties and warrant attention.

- For those working in the Epicare System, there is a place in the progress note within each well child smart set to record the developmental surveillance items specific to this child’s age. Note that the milestones for younger and older ages than the smart set’s age will also be present to select if a child is delayed or advanced. Items can be selected or unselected after questioning the caregiver about the child’s development.

- If the child is at risk based on the history, or your observations of the child’s abilities during the visit suggest a problem, you must refer for a more comprehensive developmental assessment, not just a developmental screen.

Case 3 (cont):

Developmental services

You decide to obtain a more comprehensive developmental assessment of this child.

Question 8: What are the local community resources available for evaluating and treating children at risk for developmental delay or school failure?
Early Intervention services

http://www.dhs.state.pa.us/forchildren/earlyinterventionservices/index.htm

- The goal of early intervention programs is to eliminate or modify the “external” or environmental risk factors that may adversely affect development.
- Early Intervention programs provide both the developmental testing and the developmental therapy (OT, PT, speech) to children who meet the criteria of at least 25% delay
- Early Intervention services are federally mandated (as established by Public Law 99-457) and locally funded. Parents should be reassured that in PA they do not pay for any testing or treatment services for which their child is eligible.
- Services for birth-3 years are provided in the home and services for 3 years and older are provided in Head Start or in school settings.
- Note that physicians may refer patients for birth to 3 years services, but parents must self-refer for services for children 3 years and older. Physicians should assist parents in requesting services for these older children.

<table>
<thead>
<tr>
<th>Organization</th>
<th>Age range</th>
<th>Criteria for entry</th>
<th>Services</th>
<th>Contact Info.</th>
</tr>
</thead>
</table>
| Alliance for Infants and Toddlers   | Birth to 3 years | Developmental delay of 25% in one or more areas or risk factors for DD. (LBW<1500g), NICU, elevated Pb, CYF involvement, substance abusing parents | Developmental screening/assessments, family education, social work, OT/PT, speech/Audiology, nutritional counseling, psychosocial counseling | Phone: (412) 885-6000  
                                   |                |                                                                                    |                                                                          | Website: http://www.afit.org/ |
| Pittsburgh Early Intervention Services (City of Pittsburgh Public Schools) | 3 through 5 years | Developmental Delay of 25% in one or more areas or risk factors for DD | Developmental screening; provide developmental, psychological, speech and language, audiological and otological assessments | Phone: (412) 323-3960  
Website: [http://www.pps.k12.pa.us/Page/727](http://www.pps.k12.pa.us/Page/727) |
|---|---|---|---|---|
| DART -- Discovery, Assessment, Referral, Tracking (Allegheny County Early Intervention – does not service the city of Pittsburgh) | 3 through 5 years | Developmental Delay of 25% in one or more areas or risk factors for DD | Developmental screening; provide developmental, psychological, speech and language, audiological and otological assessments | Phone: 412-394-5736  
| Head Start (Pre-school and Kindergarten programs Pittsburgh Public Schools) | 3 through 5 years | Available for families who meet federal income guidelines. | Kindergarten and Pre-school services and special education. | Phone: 412-488-4540  
Website: [http://www.paheadstart.org/](http://www.paheadstart.org/) |
| **Family Care Connection Centers** (CHP-affiliated Family Support Centers) | All ages | Children’s Hospital Family Care Connection Centers provide both general and specialized family support services for all members of the family, particularly children, adolescents and mothers. | Nurse home visiting, Mental health services, Substance abuse prevention and treatment, Child development, Parenting education, Community building | **Phones:**
Turtle Creek: 412-823-2060
Braddock: 412-273-4610
Rankin: 412-271-3408
Mt. Oliver/Hilltop: 412-432-1635
Lawrenceville: 412-784-8683
Website: [http://www.chp.edu/CHP/family+care+connection+centers](http://www.chp.edu/CHP/family+care+connection+centers) |
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</tr>
</thead>
<tbody>
<tr>
<td><strong>Allegheny County Family Support Centers</strong></td>
<td>All ages</td>
<td>Both general and specialized family support services for all members of the family, particularly children, adolescents and mothers.</td>
<td>Vary by site; include support of child development, Parenting education, Community building</td>
<td>Website: <a href="http://www.alleghenycountyfamilysupport.org/">http://www.alleghenycountyfamilysupport.org/</a></td>
</tr>
</tbody>
</table>

**Case 3 (cont):**

**Promoting school readiness at home**

His mother contacted DART since they reside in Allegheny County but live outside of Pittsburgh city limits. She shares her report with you at their next visit.

The child was evaluated by DART and was found to be 25% delayed in language and fine motor skills. DART will provide weekly developmental services outlined in his IFSP
(Individualized Family Service Plan) while the child is at the Head Start preschool where his mother enrolled him, based on your suggestion.

Remember:

1) DART provides services for 3-5 year olds who live in Allegheny County, but not in the Pittsburgh Public School District
2) Referrals for all children 3 years or older must be made by parents

Question 9: What additional resources can you suggest to this child’s mother to promote school readiness at home?

Promoting school readiness: Literacy

- In the Reach Out and Read program, infants and young children receive an age-appropriate book at every health supervision visit from 6 months through 5 years. Physicians counsel parents about the importance of reading and model age-appropriate literacy skills. For example, physicians explain that teething on board books is appropriate and acceptable for toddlers, while showing parents how to engage young children by pointing out familiar objects or colors in the book. With local grant funding, the PCC is participating in this program. Books are stored on the shelves in the PCC charting area. [http://www.reachoutandread.org/](http://www.reachoutandread.org/)

- Family Care Connection provides community-based parenting classes and other programs that encourage language stimulation. Pamphlets for the five CHP-supported Family Support Centers are available in the PCC. [http://www.chp.edu/CHP/family+care+connection+centers](http://www.chp.edu/CHP/family+care+connection+centers)


Promoting school readiness: Limiting television

- Preschoolers in the United States watch an average of 28 hours of television per week, and children in poor families tend to watch even more.

- Excessive television viewing limits the time preschoolers spend reading, playing with peers, building with blocks, coloring with crayons, cutting with scissors, pasting and making projects, and most importantly, interacting with caring adults.

- When discussing TV limits (e.g., 1 hour/day) during preschool health supervision visits, physicians have a special opportunity to suggest alternative activities that promote cognitive and social development, such as reading.
Delaying Kindergarten entry

Question 10: What are potential advantages or disadvantages of "holding the child back" from starting kindergarten in the fall?

Background information

- Pittsburgh City Schools deadline for Kindergarten is age 5 by September 1.

Advantages

- For children with “late birthdays” (5th birthdays occurring shortly before September 1), who are developing normally and are in home and preschool environments that support school readiness development, delaying Kindergarten entry for one year may be considered by some families. They are seeking enhanced emotional and physical maturation for their child with a year’s delay.
- Parents who are considering delayed school entry for these younger, normally developing children should be encouraged to speak with teachers in advance about school structure and expectations to determine school readiness.
- Parents can also refer to the 7 PTA questions on school readiness (see Resources).

Disadvantages

- Delaying Kindergarten entry is not likely to benefit at-risk children because these children will simply remain in the same environment that failed to produce readiness in the first place.
- Overcoming the lack of school readiness requires more intensive efforts by parents, children, and schools once a child is in school, but even with these efforts, educational outcomes are generally not as good as those of children who are ready for school when they enter.
Take Home points:

1. Developmental surveillance should take place at each well care check.
   - All children should have developmental screening done minimally at the 9, 18, 24 or 30 month visits.
   - Patients with risk factors can be screened at an earlier encounter than these prescribed visits especially if the parents voice a concern.
   - Any child found to have suspected delays on screening should be referred to the appropriate early intervention program for evaluation and treatment if necessary.

2. School Readiness is difficult to define and evaluate, therefore should be based on multiple factors which include the characteristics of the child, their family situation, life experience, and the community/school program.

3. Pediatricians have many ways to promote school readiness, through anticipatory guidance, giving information on available resources for families, and referring for further developmental evaluation as needed.
Resources:

Ireton Child Developmental Chart 0-5 years.  
https://snwps.files.wordpress.com/2013/07/child-development-chart.pdf

Fine Motor Skills and Geometry Mnemonics:

<table>
<thead>
<tr>
<th>Age</th>
<th>Fine Motor Skill</th>
<th>Mnemonic</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 years old</td>
<td>draws a straight line</td>
<td>2 years old; a line connects 2 points</td>
</tr>
<tr>
<td>3 years old; 36 months</td>
<td>copies a circle</td>
<td>36 months; 360 degrees in a circle</td>
</tr>
<tr>
<td>4 years old</td>
<td>copies a cross</td>
<td>4 years old; a cross has 4 points</td>
</tr>
<tr>
<td>4.5 years</td>
<td>copies a square</td>
<td></td>
</tr>
<tr>
<td>5 years; 60 months</td>
<td>copies a triangle</td>
<td>60 months; 60 degrees in each angle of equilateral triangle</td>
</tr>
<tr>
<td>7 years</td>
<td>copies a diamond.</td>
<td></td>
</tr>
</tbody>
</table>

PTA School Readiness Questions

Seven questions for parents to ask to determine whether their child is ready for Kindergarten adapted from the National Parent Teacher’s Association:

1. Does your child demonstrate a certain amount of independence by taking responsibility for personal tasks, such as toileting, putting on and taking off his or her coat and putting it away after using it?
2. Is your child able to exercise some control over his or her behavior? Is he/she able to use words instead of physical actions to express anger or frustration?
3. Is your child comfortable being away from you for a good portion of the day?
4. Is your child generally cooperative and able to interact positively in a group – sharing, taking turns and following instructions?
5. Does your child demonstrate curiosity about his or her world and how things work?
6. Is your child eager to exhibit his or her word and number knowledge, as well as eager to learn new things?
7. Does your child like to play with blocks and paints, work puzzles, play make-believe and generally manipulate his or her play world?
Reach Out and Read. http://www.reachoutandread.org/


Alliance for Infants and Toddlers
(Early Intervention in Allegheny County)
http://www.afit.org/

Pittsburgh Early Intervention Services
(City of Pittsburgh Public Schools)
http://www.pps.k12.pa.us/Page/727

DART -- Discovery, Assessment, Referral, Tracking
(Allegheny County Early Intervention – does not service the city of Pittsburgh)
http://www.aiu3.net/Level3.aspx?id=588

Head Start
(Pre-school and Kindergarten programs Pittsburgh Public Schools)
http://www.paheadstart.org/

Family Care Connection Centers
(CHP-affiliated Family Support Centers)
http://www.chp.edu/CHP/family+care+connection+centers

Allegheny County Family Support Centers
http://www.alleghenycountyfamilysupport.org/

**Early Intervention and Family Support Services in the Pittsburgh Area**
References


