

## Diagnosis of Pediatric Developmental Delay

### What is Developmental Delay?

- A child younger than 5 years old has global developmental delay (GDD) when they perform at least 2 standard deviations below the norm in two or more developmental categories. GDD is prevalent in 1-3% of children younger than 5 years.<sup>1</sup>
- Studies suggest that underlying genetic issues account for anywhere between 17-50% of developmental delay cases. Other biological and social factors may also cause developmental delay.<sup>2</sup>

### How is Developmental Delay Diagnosed?

- Per AAP guidelines, developmental **surveillance** should be performed at every pediatric wellness exam (except for 9 month, 18 month, and 30 month appointments when developmental **screening** should be performed, see below).<sup>3</sup>
  - There are five components of surveillance:<sup>4</sup>
    1. Asking parents if they have any concerns about their child's development
    2. Maintaining a history of the child's development
    3. Observing the child
    4. Identifying risk factors
    5. Recording the findings of the above components
  - The CDC provides a [checklist in paper](#) and app form of developmental milestones for children aged 2 months to 5 years old. These checklists include activities that a child should be able to perform at the appropriate age, and can be used by parents and physicians as a way to monitor a child's development.<sup>5</sup>
- Developmental **screening** should be performed at the 9 month, 18 month, and 30 month appointments. Screening should be performed more often as concerns arise among parents and physicians, especially as a consequence of missed milestones recognized during developmental surveillance.<sup>3,4</sup>
  - There are multiple tests that can be used for developmental screening, most of which are parent administered and reviewed by a physician. These are **not diagnostic**, but rather identify specific areas of underperformance in various developmental areas for a specific age. The following tests are suggested:
    1. [Ages and Stages Questionnaire](#)<sup>6,7</sup>
      - Administered by parents
      - Takes 10-15 minutes to test and 2-3 minutes to be evaluated by a physician
      - Can be performed online or on paper, and can be done anywhere
    2. [Parents' Evaluation of Developmental Status](#) (PEDS)<sup>6,8</sup>
      - Administered by parents
      - 2-10 minute administration
      - Can be performed online or in print, can be done anywhere
      - Reviewed by a physician
    3. [Denver II- Developmental Screening Test](#)<sup>4</sup>
      - Administered by a physician
      - 10-20 minute administration

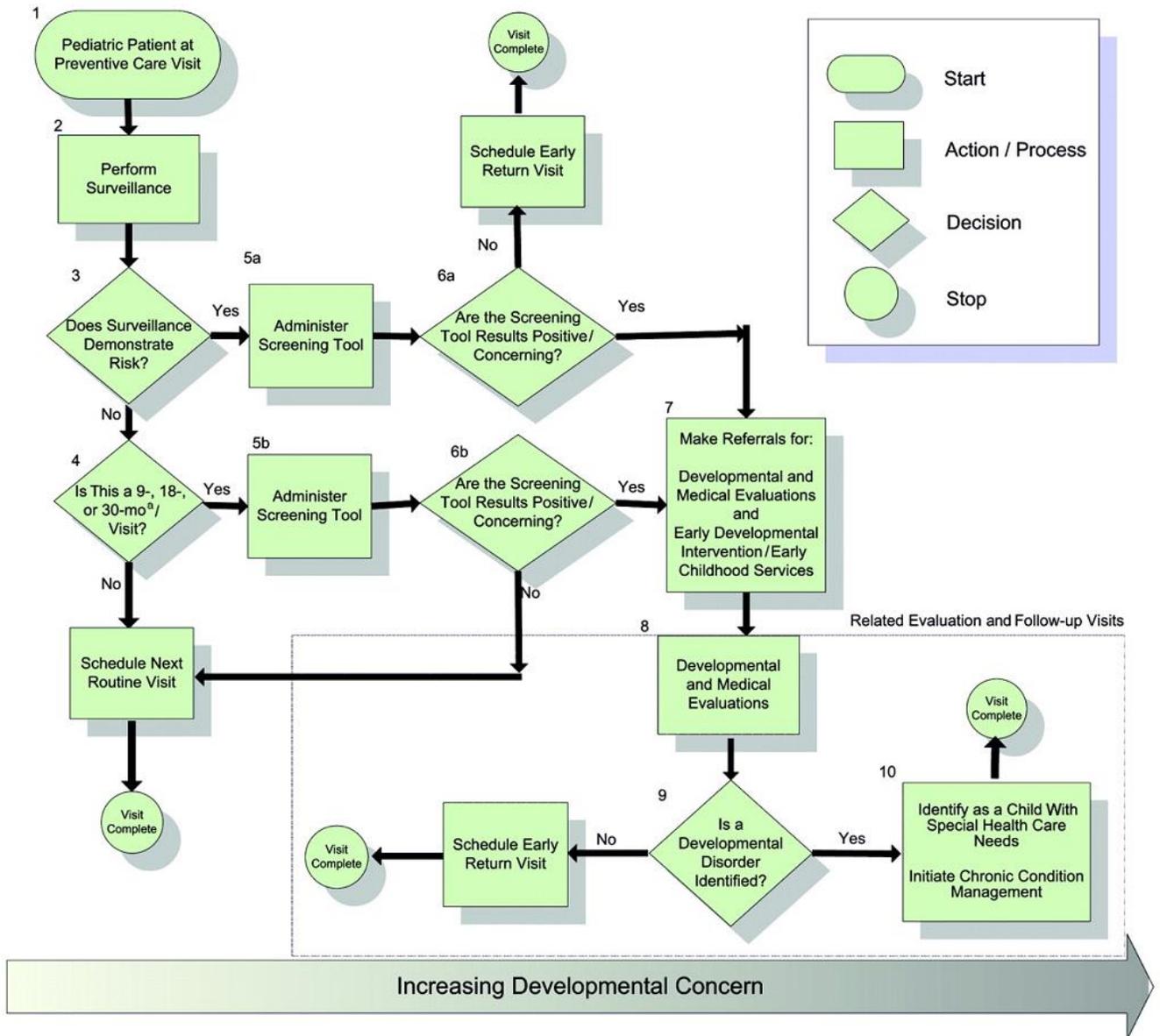
### If a Child Has Concerning Developmental Screening Results:

- [MCHAT](#), a screening test for Autism can be performed.
- All AAP guidelines (including hearing tests) should be followed.
- The child must be referred to the [Early Childhood Intervention Program](#) where diagnostic tests will be performed to determine if a child has developmental delay. They can also be referred to a Developmental Pediatrician.<sup>4,9</sup>

**After Developmental Delay Diagnosis**

- Following diagnosis, the physician should review biological and social risk factors. These should be reviewed and addressed before moving on to genetic tests that could identify underlying genetic causes for developmental delay. The child can be referred to ABA or other appropriate therapy before their genetics appointment.

## Diagnosis of Developmental Delay AAP<sup>4</sup>





**FIGURE 1** Developmental surveillance and screening algorithm within a pediatric preventive care visit. <sup>a</sup> Because the 30-month visit is not yet a part of the preventive care system and is often not reimbursable by third-party payers at this time, developmental screening can be performed at 24 months of age.

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- <sup>1</sup> “Global Developmental Delay Evaluation: Evidence-based Approach.” The University of Chicago. Accessed June 4, 2018. <https://pedclerk.bsd.uchicago.edu/page/global-developmental-delay-evaluation-evidence-based-approach>
- <sup>2</sup> Karam, Simone M et al. “Genetic Causes of Intellectual Disability in a Birth Cohort: A Population-Based Study. *American Journal of Medical Genetics* 167, no. 6 (2015): 1204-1214.
- <sup>3</sup> “Recommendations for Preventative Pediatric Health Care.” Bright Futures/American Academy of Pediatrics (2017).
- <sup>4</sup> Council on Children with Disabilities. “Identifying Infants and Young Children with Developmental Disorders in the Medical Home: An Algorithm for Developmental Surveillance and Screening.” *Pediatrics* 118, no. 1 (2006, reaffirmed 2010 and 2014): 405-420.
- <sup>5</sup> “Learn the Signs, Act Early: Developmental Milestones.” Center for Disease Control. Accessed June 4, 2018. <https://www.cdc.gov/ncbddd/actearly/milestones/index.html>
- <sup>6</sup> “Birth to 5: Watch me Thrive!: A Compendium of Screening Measures for Young Children.” US Department of Health and Human Services, Washington, D.C., March 2014.
- <sup>7</sup> “ASQ-3.” Ages & Stages Questionnaires. Accessed June 4, 2018. <http://agesandstages.com/products-services/asq3/>
- <sup>8</sup> “Developmental-Behavioral Screening & Evaluation.” PEDS Test. Accessed June 4, 2018. <http://www.pedstest.com/default.aspx>
- <sup>9</sup> “Learn the Signs, Act Early: Information for Healthcare Providers.” Center for Disease Control. Accessed June 13, 2018. <https://www.cdc.gov/ncbddd/actearly/hcp/index.html>