APPROACH TO DEVELOPMENTAL DELAY

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CONFLICT OF INTEREST

- I have no conflicts of interest.

SESSION OBJECTIVES

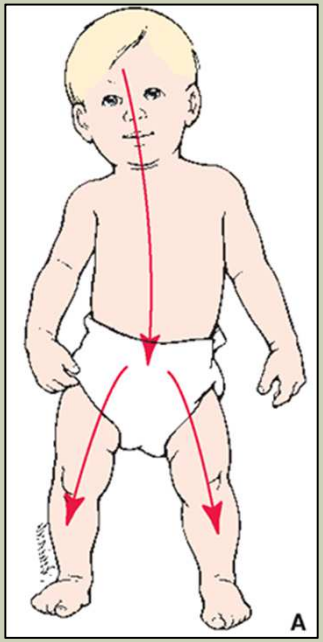
- To understand normal development, developmental delay and intellectual disability.
- To understand the difference between developmental screening and developmental surveillance.
- To develop an approach to screening for developmental delay using the most current guidelines.
- To review preliminary steps to be taken when a child with developmental delay is identified.

WHAT IS NORMAL DEVELOPMENT?

Age (Months)	Gross Motor	Fine Motor	Language	Social/Personal
2	• Lifts head to 45 degrees in prone		• Coos	• Responsive smile
4	• Rolls front to back	• Hands to midline	• Laughs	
5	• Rolls back to front			
7	• Sits independently on hard surface	• Transfers objects hand to hand		• Distinguishes stranger from family
9	• Transitions well in and out of sitting	• Lifts small object with scissor grasp	• Bisyllabic babbling (consonant-vowel-consonant) • Responds to name and “no”	
12	• Pulls to stand and cruises, may take independent steps	• Neat pincer grasp	• One word plus “mama” or “dada • Follows simple command with gesture	• Shifts gaze to follow a point by another.
18	• Walks independently	• Makes tower of 3-4 cubes	• 15-20 single words • Points to 1-4 body parts	• Points to distant object to share enjoyment.
24	• Jumps with both feet	• Imitates vertical stroke and circular scribble	• Vocabulary of 50 words with 2 word combinations • Follows 2 step commands	• Puts on simple garments
36	• Pedals a tricycle	• Copies circle	• Large vocabulary • 3-5 word sentences • Names many familiar objects or pictures	• Toileting accomplished

CEPHALOCAUDAL PRINCIPLE

- Development through infancy and toddlerhood follows a head-to-toe progression.
- Head – 6-8 weeks – head up from prone
- Arms – 3-4 months – grabbing for toys, hands to midline
- Torso – 4-6 months – rolls, sits independently
- Lower body – 7-11 months – crawls, transitions
- Legs and feet – 12-14 months – cruises, walks



WHAT ARE NEURODEVELOPMENTAL DISABILITIES?

- **Neurodevelopmental Disabilities:** Group of chronic clinically distinct disorders that all share a documented disturbance in developmental progress in one or more developmental domains compared with established norms.

- **Developmental domains:**
  - Motor (gross or fine)
  - Speech and language
  - Personal-social
  - Cognition
  - Activities of daily living

Don't forget these in older kids!

WHAT IS DEVELOPMENTAL DELAY?

- **Global Developmental Delay:** A disturbance in an individual child (<5y) across <u>two or more</u> developmental domains
  - Defined operationally as a significant delay (2 or more SDs) lower than the mean on objective norm-referenced age-appropriate testing in two or more developmental domains.
  - Typically there is delay across all domains → look for this!

- **Mental Retardation:** A disability characterized by significant limitation both in intellectual functioning and in adaptive behaviour as expressed in conceptual, social and practical adaptive skills.
  - The term intellectual disability has replaced mental retardation.

DSM - V

Intellectual Disability (Intellectual Developmental Disorder)

Diagnostic Criteria

Intellectual disability (intellectual developmental disorder) is a disorder with onset during the developmental period that includes both intellectual and adaptive functioning deficits in conceptual, social, and practical domains. The following three criteria must be met:

A. Deficits in intellectual functions, such as reasoning, problem solving, planning, abstract thinking, judgment, academic learning, and learning from experience, confirmed by both clinical assessment and individualized, standardized intelligence testing.

B. Deficits in adaptive functioning that result in failure to meet developmental and sociocultural standards for personal independence and social responsibility. Without ongoing support, the adaptive deficits limit functioning in one or more activities of daily life, such as communication, social participation, and independent living, across multiple environments, such as home, school, work, and community.

C. Onset of intellectual and adaptive deficits during the developmental period.

Note: The diagnostic term *intellectual disability* is the equivalent term for the ICD-11 diagnosis of *intellectual developmental disorders.* Although the term *intellectual disability* is used throughout this manual, both terms are used in the title to clarify relationships with other classification systems. Moreover, a federal statute in the United States (Public Law 111-256, Rosa's Law) replaces the term *mental retardation* with *intellectual disability,* and research journals use the term *intellectual disability.* Thus, *intellectual disability* is the term in common use by medical, educational, and other professions and by the lay public and advocacy groups.

DSM - V

Global Developmental Delay

315.8 (F88)

This diagnosis is reserved for individuals *under* the age of 5 years when the clinical severity level cannot be reliably assessed during early childhood. This category is diagnosed when an individual fails to meet expected developmental milestones in several areas of intellectual functioning, and applies to individuals who are unable to undergo systematic assessments of intellectual functioning, including children who are too young to participate in standardized testing. This category requires reassessment after a period of time.

HOW TO DIAGNOSE DEVELOPMENTAL DELAY

RISK FACTORS FOR DEVELOPMENTAL DELAY

- Poor maternal health during pregnancy or maternal illness
- Low birth weight
- Premature birth
- Birth complications
- Congenital infections and other Infections
- Genetic syndrome (dysmorphic features)
- Exposure to toxins, trauma, maltreatment
- Family history of developmental delay
- Low SES (possibly)

TAKE A GOOD HISTORY

- Comprehensive family history, cover 3 generations
  - Suggests specific neurologic disorders.
- Parental consanguinity
- Previous familial neonatal or infantile deaths or maternal pregnancy losses.
- Ethnic heritage and geographic origin
- Mother's pregnancy:
  - Adverse antenatal events (bleeding, GDM, infections, medical conditions)
  - Prescription medications
  - Tobacco, alcohol, illicit drugs

HISTORY

- Labour and Delivery:
  - Timing (spontaneous vs. induced)
  - Duration
  - Mode of presentation
  - Instrumentations
  - Adverse events during the labour and delivery process (meconium staining, abnormal fetal heart rate monitoring, C/S)
  - Birth weight, APGAR scores, duration of postnatal stay, any neuro symptoms as a newborn

- Child's past medical history:
  - Hospital admissions, surgical procedures, chronic ongoing medical conditions
  - Medication use

HISTORY

- Social history:
  - Parental marital, custodial and SES
  - Parental educational attainment
  - Existing child care arrangements
  - Possible adverse early psychosocial situations (adoption, parental neglect, abuse, removal from caregiver)
- Developmental History:
  - What were the parents' initial concern and at what age?
  - Ask questions about key motor/language milestones
  - Ask specifically if there has been any loss of function or regression of developmental skills
  - Performance with respect to key activities of daily living in the older child
- Probe for any possible coexisting autistic features (poor eye contact, emotional inappropriateness, repetitive play, inappropriate social interactions with respect to emotional cues)

PHYSICAL EXAM

- Height, weight
- Occipital-frontal head circumference
  - Macrocephaly
  - Microcephaly
- Dysmorphic features
- Stigmata of a neurocutaneous disorder
- Abdomen – hepatosplenomegaly
- Spine
- Neurologic Exam (detailed!)

NEUROLOGIC EXAM

- Cranial nerves – visual field defects, pupillary abnormalities, funduscopic changes, nystagmus, facial paresis, excessive drooling, dysphagia, dysarthria, head tilt
- Motor exam – assess for asymmetries, lateralizing features associated with muscle bulk, strength, tone, stretch reflexes and plantar responses.
- Assess proximal muscle strength:
  - Standing from a supine position (ie. Gower sign)
  - Standing from a squat
  - Going up or down stairs
  - Reaching above shoulder height
- Quality of limb movements – dyskinesisas such as tremor, dysmetria, dystonia, athetosis, chorea should be documented
- Gait

HOW TO SCREEN FOR DEVELOPMENTAL DELAYS?

NEURODEVELOPMENTAL ASSESSMENT

- Mostly by observation – observe child playing with age-appropriate playthings to assess the developmental level in various domains

- More formal assessment:
  - Language – identify pictures, body parts, colours, shapes, story-telling capabilities, grasp of abstract concepts and analogies, vocabulary
  - Comprehension – ask increasingly complex commands
  - Cognition – assess by response to direct questioning or commands
  - Motor skills – best assessed by direct observation – gait, use of blocks, copying/drawing
  - ADLs – assessed by direct questioning of the caregiver

SURVEILLANCE VS. SCREENING

- **Developmental Screening:** Use of standardized tools to search for developmental delay in asymptomatic populations intended to detect signs and symptoms suggestive of developmental delay.

- **Developmental Surveillance:** Ongoing monitoring of development, identification of risk factors and elicitation of parental concerns.
  - Considered part of standard clinical practice for children.

- **Case Finding:** Identification of developmental delay in populations that are at increased risk of developmental delays.

CANADIAN PEDIATRIC SOCIETY

POSITION STATEMENT

Canadian Paediatric Society

Getting it right at 18 months: In support of an enhanced well-baby visit

R Williams, J Clinton; Canadian Paediatric Society Early Years Task Force

Paediatr Child Health 2011;16(10):647-50

Posted: Dec 1 2011

CPS 18-MONTH VISIT

- Crucial time in child's development.
- Often the final regularly scheduled visit prior to school entry.
- Critical that families know how to promote healthy development and be alert to signs of difficulty.
- Early child development assessed in SK (age 5) shows 27% of Canadian children score as "vulnerable" (not adequately prepared for school) and that 2/3 of these are preventable.
- When children fall behind they tend to stay behind.
- Suggest incorporation of:
  - An evidence-based health supervision guide including a developmental screening tool
  - Screening for parental comorbidities
  - Promotion of early literacy
  - Information about community-based resources

CPS DEVELOPMENTAL SCREENING TOOLS

Home > Clinical tools & resources > Behavioural and General Developmental Screening Tools

Print | Share

Behavioural and General Developmental Screening Tools

Screening tool	Age group(s)	Completed by	Time required to complete	Availability	Additional Comments
Ages and Stages Questionnaires (ASQ)	4 months to 5 years	Parent	10–20 minutes	For purchase Available in French	These questionnaires assess a child's global development: gross motor, fine motor, language functions and social-emotional development, adaptive skills. Screening tool for developmental delay and to identify specific strengths and weaknesses a child may present
Child Developmental Inventory (CDI)	15 months to 16 years		30-50 minutes	Requires permission for use	Used for children 16 months to 6 years of age to assess development in 8 areas of functioning including cognitive and language. **Reliablility:** Author reports internal consistency alphas, categorized by age range and by scale, ranging from .43 to .92.

http://www.cps.ca/en/tools-outils/behavioural-and-general-developmental-screening-tools

THE ONTARIO SYSTEM

- October 2009 – introduction of enhanced 18-month well-baby visit with new physician fee code.
- Visit focuses on an assessment of developmental health.
- Recommend use of standardized tools – Rourke Baby Record and Nipissing Developmental Screen.
- Web portal created to support this http://www.18monthvisit.ca

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Revised February 20, 2014
www.rourkebabyrecord.ca

Canadian Paediatric Society / Société canadienne de pédiatrie — The College of Family Physicians of Canada / Le Collège des médecins de famille du Canada — Dietitians of Canada / Les diététistes du Canada

Past problems/Risk factors:	Family history:

Rourke Baby Record: Evidence-Based Infant/Child Health Maintenance GUIDE IV: 18 mo–5 yr (Ontario)

NAME: _____ Birth Day (d/m/yy): _____ M [ ] F [ ]

Gestational Age: _____ Birth Length: _____ cm Birth Wt: _____ g Birth Head Circ: _____ cm

DATE OF VISIT	18 months			2–3 years			4–5 years	
GROWTH[1] use WHO growth charts. Correct age until 24–36 months if < 37 weeks gestation	**Length**	**Weight**	**Head circ.**	**Height**	**Weight**	**HC** if prior abN	**Height**	**Weight**
PARENT/CAREGIVER CONCERNS								
	For each ❍ item discussed, indicate "✓" for no concerns, or "X" if concerns							
NUTRITION[1]	❍ **Breastfeeding**[1] ± Vitamin D 400 IU/day[1] ❍ Homogenized milk [500–750 mLs(16–24 oz) /day[1]] ❍ Avoid sweetened juices/liquids ❍ No bottles			❍ Breastfeeding[1] ❍ Skim, 1% or 2% milk [~ 500 mLs(16 oz) /day[1]] ❍ Avoid sweetened juices/liquids ❍ *Gradual transition to lower fat diet*[1] ❍ Inquire re: vegetarian diets[1] ❍ Canada's Food Guide[1]			❍ Skim, 1% or 2% milk [~ 500 mLs(16 oz) /day[1]] ❍ Avoid sweetened juices/liquids ❍ Inquire re: vegetarian diets[1] ❍ Canada's Food Guide[1]	
EDUCATION AND ADVICE Injury Prevention	❍ **Car seat (child)**[1] ❍ *Bath safety*[1] ❍ Choking/safe toys[1] ❍ *Falls (stairs, change table, unstable furniture/TV)*[1] ❍ *Wean from pacifier*[1]			❍ **Car seat** (child/booster)[1] ❍ **Bike helmets**[1] ❍ **Firearm safety**[1] ❍ Carbon monoxide/*smoke detectors*[1] ❍ Matches ❍ *Water safety*[1] ❍ *Falls (stairs, unstable furniture/TV, trampolines)*[1]				
Behaviour	❍ Parent/child interaction ❍ *Discipline/Parenting skills programs*[2] ❍ **Healthy sleep habits**[2]			❍ Parent/child interaction ❍ *Discipline/parenting skills programs*[2] ❍ **High-risk children**[2] ❍ Parental fatigue/depression[2] ❍ Family conflict/stress ❍ Siblings				
Family	❍ Parental fatigue/stress/depression[2] ❍ **High-risk children**[2] ❍ **Family healthy active living/sedentary behaviour**[1] ❍ *Encourage reading*[2] ❍ Socializing/peer play opportunities			❍ **Healthy sleep habits**[2] ❍ **Assess child care** /*preschool needs*/school readiness[2] ❍ **Family healthy active living/sedentary behaviour**[2] ❍ Socializing opportunities ❍ *Encourage reading*[2]				
Environmental Health	❍ **Second-hand smoke**[1] ❍ *Pesticide exposure*[1] ❍ *Serum lead if at risk*[1] ❍ Sun exposure/sunscreens/insect repellent[1]			❍ **Second-hand smoke**[1] ❍ *Pesticide exposure*[1] ❍ *Serum lead if at risk*[1] ❍ Sun exposure/sunscreens/insect repellent[1]				
Other	❍ **Dental care/Dentist**[1] ❍ Toilet learning[2]			❍ **Dental cleaning/Fluoride/Dentist**[1] ❍ *No pacifiers*[1] ❍ *Complementary/alternative medicine*[1] ❍ Toilet learning[2] ❍ **No OTC cough/cold medicine**[1]				
DEVELOPMENT[2] (Inquiry and observation of milestones) Tasks are set after the time of normal milestone acquisition. Absence of any item suggests consideration for further assessment of development. NB–Correct for age if < 37 weeks gestation	Enhanced Inquiry after Nipissing Developmental Screen (NDDS)[2] List NDDS items not yet attained: _____ Social/Emotional ❍ *Child's behaviour is usually manageable* ❍ *Interested in other children* ❍ *Usually easy to soothe* ❍ *Comes for comfort when distressed* Communication Skills ❍ *Points to several different body parts* ❍ *Tries to get your attention to show you something* ❍ *Turns/responds when name is called* ❍ *Points to what he/she wants* ❍ *Looks for toy when asked or pointed in direction* ❍ *Imitates speech sounds and gestures* ❍ *Says 20 or more words (words do not have to be clear)* ❍ *Produces 4 consonants, (e.g., B D G H N W)* Motor Skills ❍ *Walks alone* ❍ *Feeds self with spoon with little spilling* Adaptive Skills ❍ *Removes hat/socks without help* ❍ *No parent/caregiver concerns*			**2 years** ❍ *Combines 2 or more words* ❍ *Understands 1 and 2 step directions* ❍ *Walks backward 2 steps without support* ❍ *Tries to run* ❍ *Puts objects into small container* ❍ *Uses toys for pretend play (e.g., give doll a drink)* ❍ Continues to develop new skills ❍ *No parent/caregiver concerns* **3 years** ❍ *Understands 2 and 3 step directions (e.g., "Pick up your hat and shoes and put them in the closet.")* ❍ *Uses sentences with 5 or more words* ❍ *Walks up stairs using handrail* ❍ *Twists lids off jars or turns knobs* ❍ *Shares some of the time* ❍ *Plays make-believe games with actions and words (e.g., pretending to cook a meal, fix a car)* ❍ Turns pages one at a time ❍ Listens to music or stories for 5–10 minutes ❍ *No parent/caregiver concerns*			**4 years** ❍ *Understands 3-part directions* ❍ *Asks and answers lots of questions (e.g., "What are you doing?")* ❍ *Walks up/down stairs alternating feet* ❍ *Undoes buttons and zippers* ❍ *Tries to comfort someone who is upset* ❍ *No parent/caregiver concerns* **5 years** ❍ *Counts out loud or on fingers to answer "How many are there?* ❍ *Speaks clearly in adult-like sentences most of the time* ❍ *Throws and catches a ball* ❍ *Hops on 1 foot several times* ❍ *Dresses and undresses with little help* ❍ *Cooperates with adult requests most of the time* ❍ *Retells the sequence of a story* ❍ *Separates easily from parent/caregiver* ❍ *No parent/caregiver concerns*	
PHYSICAL EXAMINATION An appropriate age-specific physical examination is recommended at each visit. Evidence-based screening for specific conditions is highlighted.	❍ Anterior fontanelle closed[1] ❍ **Eyes (red reflex)**[1] ❍ **Corneal light reflex/Cover-uncover test & inquiry**[1] ❍ Hearing inquiry ❍ **Tonsil size/sleep-disordered breathing**[1] ❍ Teeth[1]			❍ *Blood pressure* ❍ **Eyes (red reflex)/Visual acuity**[1] ❍ **Corneal light reflex/Cover-uncover test & inquiry**[1] ❍ Hearing inquiry ❍ **Tonsil size/sleep-disordered breathing**[1] ❍ Teeth[1]			❍ *Blood pressure* ❍ **Eyes (red reflex)/Visual acuity**[1] ❍ **Corneal light reflex/Cover-uncover test & inquiry**[1] ❍ Hearing inquiry ❍ **Tonsil size/sleep-disordered breathing**[1] ❍ Teeth[1]	
PROBLEMS AND PLANS								
INVESTIGATIONS/IMMUNIZATION **Discuss immunization pain reduction strategies**[3]	❍ **Record Vaccines on Guide V**			❍ **Record Vaccines on Guide V**			❍ **Record Vaccines on Guide V**	
Signature								

ROURKE BABY RECORD

ndds.ca

Child's Name: _____

Birthdate: _____ Today's Date: _____

The ndds checklist is designed to help monitor your child's development.

Y	N		BY **EIGHTEEN MONTHS** OF AGE, DOES YOUR CHILD:
○	○	1	Identify pictures in a book? *("show me the baby")**
○	○	2	Use a variety of familiar gestures? *(waving, pushing, giving, reaching up)**
○	○	3	Follow directions using "on" and "under"? *("put the cup on the table")**
○	○	4	Make at least four different consonant sounds? *(b, n, d, h, g, w)**
○	○	5	Point to at least three different body parts when asked? *("where is your nose?")**
○	○	6	Say 20 or more words? *(words do not have to be clear)*
○	○	7	Hold a cup to drink?**
○	○	8	Pick up and eat finger food?
○	○	9	Help with dressing by putting out arms and legs?**
○	○	10	Walk up a few stairs holding your hand?
○	○	11	Walk alone?
○	○	12	Squat to pick up a toy and stand back up without falling?
○	○	13	Push and pull toys or other objects while walking forward? *A*
○	○	14	Stack three or more blocks?
○	○	15	Show affection towards people, pets, or toys?
○	○	16	Point to show you something?
○	○	17	Look at you when you are talking or playing together?

A

* Examples provided are only suggestions. You may use similar examples from your family experience.

** Item may not be common to all cultures.

18 MONTHS English

Always talk to your healthcare or childcare professional if you have any questions about your child's development or well being.

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NIPPISING DISTRICT DEVELOPMENTAL SCREEN

THEN IN 2015 THIS CAME ALONG…

CMAJ GUIDELINES

Recommendations on screening for developmental delay

Canadian Task Force on Preventive Health Care*

CANADIAN TASK FORCE GUIDELINES ON DEVELOPMENTAL SCREENING

- Focuses specifically on the use of standardized tools to search for developmental delays in asymptomatic children (children without recognized signs of such delay and whose parents/clinicians have not raised concerns)
- Wanted to see whether population-based screening to identify developmental delay in children who would otherwise go unidentified through standard clinical practice (ie. developmental surveillance) would improve health outcomes of the children who were screened relative to those who were not screened.
- Critical outcomes of interest: cognitive function, academic performance, incidence of mental health conditions, overall quality of life, survival, functionality as an adult, improvements in gross/fine motor skills, language, adaptive functioning, cognition and performance.

RECOMMENDATIONS

Box 3: Summary of recommendation for clinicians and policy-makers

We recommend against screening for developmental delay using standardized tools in children aged one to four years with no apparent signs of developmental delay and whose parents and clinicians have no concerns about development (strong recommendation, low-quality evidence).

This recommendation *applies* to children aged one to four years without recognized signs of possible developmental delay and whose parents or clinicians have no concerns about development. These are children whose age-appropriate developmental milestones have been sequentially acquired for gross and fine motor, social, emotional, language and cognitive domains. Milestone ages should be based on the oldest age by which the skill should have been achieved.[22]

This recommendation *does not apply* to children who present with signs, symptoms or parental concern that could indicate delayed development or to whose development is being closely monitored because of identified risk factors, such as premature birth or low birth weight.[1,2]

TASK FORCE RECOMMENDATIONS

- Systematic review did not find any evidence from RCTs or controlled cohort studies to show that screening for developmental delay in children aged 1-4 with no known developmental concerns improved health outcomes.
- Screening tests have poor to moderate accuracy and their use would generate a high number of false positives.
- Clinicians should perform developmental surveillance on an ongoing basis.
- Clinicians should remain alert for any social, economic or environmental factors that might reduce the likelihood of parents to raise concerns about their child's development/
  - Ie. lower parental education, mental illness, neglect or maltreatment, poverty, English as a second language.
- Current task force guidelines do NOT preclude use of the Rourke Baby Record which is used for developmental surveillance.

HOT OFF THE PRESS…

COMMENTARY

Developmental surveillance of young children in clinical settings: Time to step out or step up?

John C. LeBlanc MD MSc, Robin Williams MD

■ Cite as: *CMAJ* 2017 May 23;189:E709-10. doi: 10.1503/cmaj.161182

COMMENTARY FROM THE CPS

- CPS is concerned that the task force recommendation may lead to reduced monitoring of development.

KEY POINTS

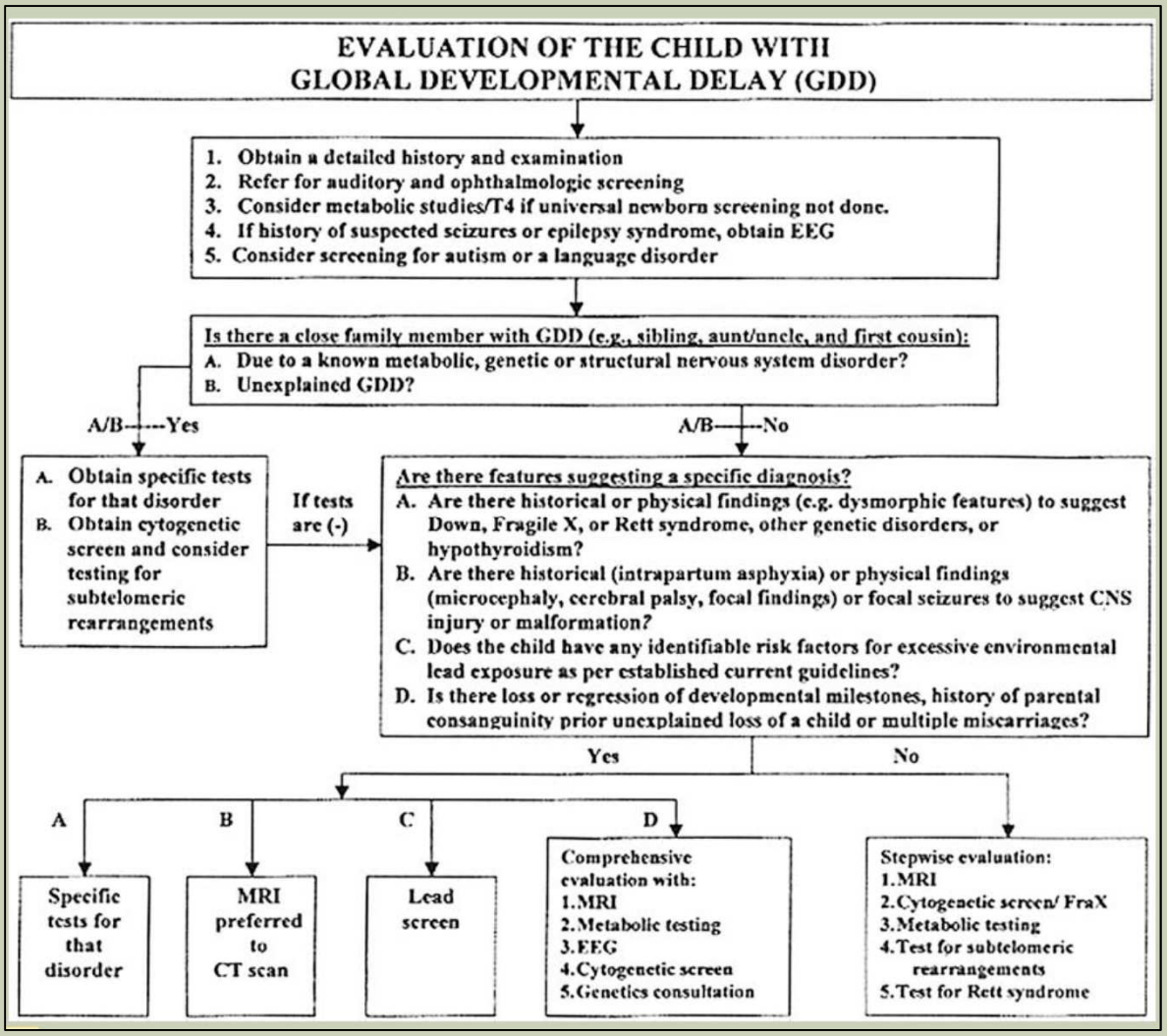
- To date, no screening protocol has been shown to detect and improve developmental outcomes for children aged one to four with unsuspected developmental delay.
- A recent recommendation by the Canadian Task Force on Preventive Health Care to not screen for developmental delay in children aged one to four should not apply to developmental surveillance, which is a broad, flexible, ongoing process of monitoring development in young children in their clinical and social context, which also involves parents or caregivers.
- High-quality research is needed to develop effective and efficient screening and developmental surveillance strategies.

WHAT TO DO IF YOU IDENTIFY A CHILD WITH DEVELOPMENTAL DELAY

INVESTIGATIONS

- REFER to a general pediatrician!
- Recommend selective rational approach that is individualized to a particular child/family
  - Target clinical suspicion after a thorough history and physical
- In the absence of a clinical diagnosis after history and physical, routine screening of all individuals with GDD/MR with karyotyping/microarray, FMR1 triplet repeat testing (Fragile X) and neuroimaging may yield an underlying etiology in ~1/6 cases.
- Unselected metabolic screening cannot be justified → yield of less than 1%.
- EEG if hx of convulsive episodes.
- Always do hearing and vision screening – high frequency of associated sensory impairments

EVALUATION OF THE CHILD WITH GDD



METABOLIC SCREENING

- Clinical clues to suggest metabolic screening may be warranted:
  - Prior family history of a similarly affected child
  - Parental consanguinity
  - Documented developmental regression
  - Episodic decompensation
  - Suggested dysmorphology
  - Failure of appropriate growth
  - Various ophthalmologic and retinal abnormalities

ETIOLOGY OF GDD

- Top etiologies (represent ~3/4 of all etiologic diagnoses):
  1. Genetic syndrome or chromosomal anomalies (esp. T21, Fragile X)
  2. Intrapartum asphyxia
  3. Cerebral dysgenesis
  4. Early severe psychosocial deprivation
  5. Antenatal toxin exposure
- Other more rare etiologies: Infections (CNS, TORCH), other structural brain abnormalities, metabolic disorders, hypothyroidism, lead exposure

- 1/3 of etiologic diagnoses are made after history and exam.
- Another 1/3 use lab testing to confirm a diagnosis suspected on the basis of history and exam.
- Last 1/3 diagnosis is made on the basis of lab testing alone, usually undertaken on a screening basis.

SUMMARY

- Developmental delay refers to a significant delay (2 or more SDs) lower than the mean on objective norm-referenced age-appropriate testing.
  - Global developmental delay is used when there is a delay in 2 or more domains.
- Be aware of risk factors for developmental delay and perform a thorough history in all patients.
- Developmental screening using standardized tools is not recommended in asymptomatic patients, but developmental surveillance for all patients is the standard of care.
  - The Rourke Baby Record is recommended for developmental surveillance.

SUMMARY

- Order vision and hearing assessments in all children suspected of having developmental delay, and avoid routine investigations that are not supported by the history of physical examination.
- Refer all children with suspected developmental delays to a general paediatrician for further assessment.
- Continue to follow these patients closely.

The End!