

# Learning Disorders in Children and Youth: Information for Primary Care



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**Summary:** Success at school contributes greatly to success in life. Unfortunately, learning disorders (aka learning disabilities) are a common contributor to poor school outcome. Fortunately, early identification and appropriate management of a learning disability can make a difference in eventual outcome. Primary care providers can play a key role with early identification of possible learning disorders, ruling out medical causes, and can recommend further assessment. With children and youth that have an established diagnosis of learning disorders, family physicians play a key role with case management and coordinating services.

## Case

- David is a 10-yo who lives with his father. He is normally a happy, outgoing child who likes to play outdoors, and enjoys drawing. He attends Gr. 5, but has never liked school -- "its boring and I hate reading."
- Teachers have approached the father, and recommended that David be seen by his doctor
- Father states, "he's just like me - I never did well at school either... It only got better after I went into a trade... Now I even have my own business..."

## What are Learning Disorders?

- The term learning disorders refers to a number of disorders that may affect perceiving, thinking, remembering or learning in an individual who otherwise has at least average cognitive abilities overall
- Learning disorders range in severity and may interfere with one or more of the following:
  - Oral language (e.g., listening, speaking, understanding)
  - Reading (e.g., decoding, phonetic knowledge, word recognition, comprehension)
  - Written language (e.g., spelling and written expression)
  - Mathematics (e.g., computation, problem solving).
- Learning disorders can also affect other areas such as
  - Organization
  - Social perception, social interaction and perspective taking
- Note
  - Learning disabilities are different from (global) intellectual disabilities, in which an individual has global problems with learning, i.e., across numerous domains

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## Terminology

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- Note the following differences between healthcare professionals and educators
- With healthcare professionals, the term “Learning disorders” is generally used, whereas with educators and schools, the term “learning disabilities” is used
- Healthcare professionals might consider using the term “learning disabilities” in order to be consistent with schools.

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## Etiology

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By definition, learning disabilities are

- Due to genetic and/or neurobiological factors or injury
- Not due primarily to hearing and/or vision problems, socio-economic factors, cultural or linguistic differences, lack of motivation or ineffective teaching, though these factors often contribute to learning problems

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## Epidemiology

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3-4% of Canadian children have a learning disability (Learning Disorders Association of Ontario (LDAO); Statistics Canada, 2007).

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## Screening

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Red flags

- Does the student have unexpected underachievement in some areas (e.g., math, reading, writing), but has at least average ability in most other areas?
- Does the person have problems in any of the following areas:
  - Reading
  - Expressive language (writing, spelling, handwriting)
  - Math
  - Social skills problems
  - Does the student have to work unusually harder than others in order to have the same marks as others?
- Does the child have a diagnosis of ADHD, and despite adequate treatment for ADHD, continues to have troubles learning?

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## Clinical Presentation

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- Parents typically report that their child has:
  - Difficulties with academics
  - Signs of frustration, e.g., anger, irritability, behavior problems
  - Been avoiding homework or having battles over homework
- Younger children in primary school may have problems with reading, writing and math, and thus, such problems may present earlier.
- As kids get older (such as Gr. 5), they are expected to be able to do more tasks on their own and manage their own time (i.e., an increase in independence).

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## History

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ID	Age, gender, school
HPI	<p>What is difficult about your child's learning?</p> <p>ADHD</p> <ul style="list-style-type: none"> <li>• Distractibility: Any problems being easily distracted?</li> <li>• Attention: Any problems paying attention?</li> <li>• Hyperactivity: Any problems sitting still?</li> <li>• Impulsivity: Does your child tend to act before thinking through the consequences?</li> </ul> <p>School</p> <ul style="list-style-type: none"> <li>• How is school?</li> <li>• What sort of marks do you usually get?</li> <li>• Any troubles with peers?</li> <li>• Any troubles with the teachers or the homework?</li> </ul> <p>Learning review of symptoms</p> <ul style="list-style-type: none"> <li>• Reading disorder: Any problems with reading? Do you like reading? Any problems understanding what you have read?</li> <li>• Writing problems: Any problems with your printing or handwriting? Are you able to copy down what the teacher writes down on the board fast enough? Can you write down and express your thoughts?</li> </ul> <p>Math</p> <ul style="list-style-type: none"> <li>• Any problems with math?</li> </ul> <p>Any other problems with learning such as:</p> <ul style="list-style-type: none"> <li>• Sequencing: Do you have troubles getting things in the right order?</li> <li>• Abstraction: Do you understand when people tell jokes?</li> </ul> <p>Executive function:</p> <ul style="list-style-type: none"> <li>• Any problems organizing things?</li> <li>• Do you lose or forget things?</li> <li>• Any problems planning things?</li> <li>• Memory: Any problems remembering things? Do you learn best by listening to people, or by reading?</li> </ul>
Pregnancy Hx	For mother: "Any problems with your health during the pregnancy?" "Any use of drugs?"
Delivery Hx	For mother: "Was the delivery full-term?" "Any problems with the delivery?" "Any problems with your child after delivery?"

## Prognosis

Learning disabilities are life long, however appropriate identification can lead to supports that can make a significant difference.

There are many examples of exceptional individuals in society who have done well not only despite, but perhaps even because of their learning differences.

## DSM-5 Criteria for Specific Learning Disorder (SLD)

### DSM-5 Specific learning disorder

A neurodevelopmental condition with:

- learning difficulties and problems in acquiring academic skills markedly below age level and manifested in the early school years
- lasting for at least 6 months
- not attributed to intellectual disabilities, developmental disorders, or neurological or motor disorders.

Specify if impairment in:

- Reading and/or
- Written expression and/or
- Mathematics

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## DDx Learning Problems

It is important to rule out medical issues that may contribute to learning problems which includes:

Medical problems such as:	Nutritional issues, such as low iron, low B12/folate Endocrine problems such as hypo- or hyperthyroidism Sensory deficits such as <ul style="list-style-type: none"> <li>• Visual problems, e.g., convergence insufficiency)</li> <li>• Auditory problems, e.g., chronic ear infections, auditory processing disorder</li> <li>• Sensory processing problems</li> </ul>
Environmental factors	Lack of stimulation in environment, e.g., deprivation or neglect
Metabolic issues	Phenylketonuria, which is usually diagnosed in the first week of life
Fetal alcohol spectrum disorder (FASD)	Individuals with FASD, which arises from maternal alcohol consumption during pregnancy, may have learning problems
Genetic conditions	Any genetic conditions such as <ul style="list-style-type: none"> <li>• Down Syndrome</li> <li>• Fragile X</li> <li>• Prader Willi Syndrome</li> </ul>

## Comorbid Conditions

Individuals with learning disorders may have other conditions as well such as:

Attention deficit hyperactivity disorder (ADHD), with or without hyperactivity	Distractibility: Any problems getting easily distracted? Attention: Any problems paying attention? Hyperactivity: Any problems sitting still? Impulsivity: Does your child tend to act before thinking through the consequences?
Developmental coordination disorder	Does the child have any problems with coordination? E.g., Is your child particularly clumsy? Any problems with gym class? Any problems learning to walk? Ride a bike?
Mood / Anxiety disorders	Are there any problems with feeling sad, depressed, angry, irritable? Any problems with feeling anxious?
Sensory impairments	Are there any problems with vision? Hearing?
Medical conditions	Any medical issues?
Gifted/LD	Is the child advanced in any particular areas, such as academics at school?

## Complications

- Learning disabilities can cause significant problems when not recognized and when adequate supports are not provided
- Individuals with learning disabilities are twice as likely to drop out of school, have more problems with employment, physical/emotional health, have higher levels of stress, and more problems with depression and anxiety.

## Physical exam

A complete physical exam can rule out medical issues such as:

General	Any obvious deformities that might suggest a genetic syndrome? Any signs of low iron, nutritional deficiencies?
Head and Neck	Any sensory issues with the eyes or ears?
Cardio	Any cardiac issues that might be a contraindication to ADHD medication, if it were required?
Respiratory	Any troubles breathing?
Abdo	Any abdominal masses?
Neuromuscular	Any obvious coordination problems that might suggest developmental coordination disorder?
Skin	Any neurocutaneous syndromes, dysmorphic features to suggest a developmental condition?

## Investigations

There are no specific medical investigations for learning disability.

However, are there any issues that might require referral?

- Visual problems: Consider referral to optometrist if concerns
- Hearing problems: Consider referral to audiologist if concerns
- Genetic testing: Consider referral to genetics for consideration for genetic testing if syndromes suspected such as fragile X (in males), or fetal alcohol spectrum disorder (FASD)

## When and Where to Refer

Children with learning disabilities are supported through the school board's special education services.

Formal psycho-educational assessments are typically not provided until age 10.

If you suspect a learning problem, consider referring for a psychoeducational assessment to confirm that there is a specific learning disorder.

This can be done in a few ways:

- Psychoeducational assessment through the schoolboard. Communicate with the child's school that you recommend a psychoeducational assessment. The advantage of having your child assessed by a school board psychologist is that it will be funded through the school board. The disadvantage is that waitlists can be quite long depending on the school board.
- Example of a letter:

*I am writing this letter on behalf of this student, who is having problems with learning.*

*For example... (examples go here)*

*I would like to recommend that this child be considered for Psychoeducational Testing.*

*Please do not hesitate to contact me if you have any further questions or concerns.*

*Sincerely,*

*Doctor's name*

- Refer to a professional in private practice
  - For families with resources or access to insurance funding through their workplace, consider referring the patient for a private practice psychologist.
  - Consider writing a referral letter such as
    - I would like to refer \_\_\_ for a Psychoeducational Assessment, which includes individual sessions for psychoeducational assessment as well as parent consultation.
- Publicly funded services
  - If a child is already connected to a publicly funded mental health agency (e.g. hospital or other agency), ask the child's therapist to see if there might be psychoeducational testing through the agency
- Specific professionals may be helpful such as:
  - Language disabilities: Speech-language therapists work on language disabilities.
  - Motor disabilities: Occupational therapists help with motor disabilities.
  - Ideally, the school can provide SLP or OT support. In some cases, there is a shortage of SLP/OT support, and in those cases, it is recommended that parents seek out their own private practice services.

## Management of Learning Disorders in Primary Care

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- In most cases, it is specialist professionals such as educators, psychologists, psychiatrists, or paediatricians that will provide further management of the learning disorder
- Interventions usually include:
  - Accommodations
    - E.g., a student who has troubles with arithmetic may be allowed to use a calculator
    - E.g., a student may be given extra time for tests
- Specific skill instruction
  - E.g., students can be taught specific skills to help them deal with the learning disorder.
- Compensatory strategies
  - E.g., a student who is a good visual learner will benefit from visual strategies such as pictures, drawings (as opposed to simply listening to a lesson).
- Self-advocacy skills
  - E.g., the student is taught how to identify when they are struggling and to be able to let others (such as teachers, parents) know that they need additional support.

## References

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Participation and Activity Limitation Survey (PALS), Statistics Canada, 2006. Retrieved Apr 13, 2015 from <http://www.statcan.gc.ca/pub/89-628-x/89-628-x2007002-eng.htm>

## About this Document

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## Disclaimer

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