



Case 2



Case 2: Louis, Age 7



- Louis's parents bring him in because he has been acting out in class. Class clown.
- New teacher - Grade 2 - asking for testing for ADHD. Two year wait list.
- His mom is an EA and knows that early identification and intervention is important.
- Father thinks he is just rambunctious and loves his spontaneity.
- Sometimes discipline is an issue at home.



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- Sometimes discipline is an issue at home.



You ask for more history.

Greig Health Record



GHR
GREIG HEALTH RECORD

**Preventive Care Visits:
Ages 6,7,8,9**

(visits in this age group are recommended every two to three years)

Name: _____
Date of Birth: _____
Pronouns: _____

Allergies: _____

Family History: _____
Risk Factors: _____

			Age 6	Age 7	Age 8	Age 9
Date						
Measurements (see WHO growth charts)	Wt	BMI				
	Ht	BMI percentile				
Specific Concerns						
Psychosocial history and Development	☐ School & Activities ☐ Peer relationships ☐ Family relationships ☐ Poverty Screen ☐ Sleep Issues ☐ Body changes ☐ Menstrual issues ♀					
Education & Advice:						
Nutrition			Active healthy living	Behaviours and Habits	Injury Prevention And Safety	
- Refer to Canada's Food Guide - Eat a variety of vegetables and fruits daily - Choose whole grains - Eat protein daily. Consume plant-based proteins more often. - Choose mostly unsaturated rather than saturated fats - Water is the beverage of choice. - Avoid sugar-sweetened beverages and diet drinks - Family meal-time and home-cooked meals can promote healthy eating - Ask about supplements and CAM - Vitamin D – through diet or supplement (400IU)			- Refer to CSEP guidelines - Daily physical activity (PA) 60 min - Include vigorous PA for 60 min. ≥ 3 days/week - Include muscle and bone strengthening ≥ 3 days/week - Stay active - several hours of light physical activity/day, limit sitting for extended periods - Screens - no more than 2 hrs per day of recreational screen time, less is better - Sleep - 9 to 11 hours/d – ages 6 to 13 years	- Ask about safe media use, TV and Internet - Hearing Protection - Effective Discipline & Positive parenting - Dental care, fluoride - Alcohol - Tobacco - Cannabis - Other - Substances & Addictions	- Refer to Parachute Canada - Helmet safety - Vehicle safety (see local laws) - Booster seat: ≥ 18 kg (40 lbs) - Rear Seat: ≥ 145 cm (57 in) and check fit of lap & shoulder belts - Violence & Firearms - Trampoline Safety - Water Safety - Sun Safety - Smoke and Carbon Monoxide Detectors - Environmental Hazards – incl. Second Hand Smoke	
Examination	Blood Pressure					
	Head & Neck					
	Visual Acuity (L)					
	(R)					
	CVS					
	Chest					
	Back					
	Abd					
Assessment Immunization Medications ©A.Greig 2024	Update immunizations: DTaP-IPV (age 4-6) MMR (2 nd dose by age 6) HPV (ages 9 and older) Varicella vaccine-2 doses (12mos to 12 years) Discuss Men B Discuss flu & COVID vaccinations Consider TB test					
Signature						

Strength of Recommendations
Bold = Good
 Italics = Fair
 Plain Text = consensus or inconclusive evidence

Disclaimer: Given the evolving nature of evidence and changing recommendations, the Greig Health Record is meant to be used as a guide only.

Selected Guidelines and Resources are found at
greighealthrecord.ca

Greig Health Record



Psychosocial history and Development	○ School & Activities				
	○ Peer relationships				
	○ Family relationships				
	○ <i>Poverty Screen</i>				
	○ Sleep Issues				
	○ Body changes				
	○ Menstrual issues ♀				
Education & Advice:					
Nutrition	Active healthy living	Behaviours and Habits	Injury Prevention And Safety		
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Case 2: Louis, Age 7 - Context



You use the Greig Health Record and discover the following:

- Other than being disruptive and doing things to make his peers laugh, he is doing OK at school – **on par with peers**
- **Screens 3 hours per day**
- Not getting **physical activity** outside of school, he rides in a car to/from school
- **Sleep is 9 hours**, in the morning he hard to rouse, does **mouth breathe**
- Paternal uncle incarcerated, has a diagnosis of ADHD
- Dad works as a mechanic – was much like Louis as a child, Mom is a primary school EA

Case 2: Louis, Age 7 - Context



You let Louis's parents know that this could be ADHD. You explain that there is a approach to diagnosis that involves:

- Screening tests
- More history
- Lifestyle interventions
- Evaluation for other physical or medical illness that mimic ADHD symptoms.



What could be going on?



Interactive Group Discussion

What conditions can mimic **ADHD**?



- **Physical / Medical:** Thyroid, iron deficiency
- **Educational / Learning Issues:** Learning disabilities, sensory processing issues
- **Medications:** Prescriptions, abused medications, steroids, sedatives, appetite suppressants
- **Drugs**
- **Sleep disorders:** OSA
- **Mental Health:** Anxiety, ASD, PTSD

What physical/medical conditions can mimic mental health symptoms?



- **Endocrine:** Cushing, thyroid, prolactinoma, hyperparathyroidism, diabetes
- **Medications:** Prescriptions, abused medications, steroids, sedatives, appetite suppressants
- **Drugs**
- **Infectious:** mono, HIV, Lyme, hepatitis, AOM
- **Inflammatory:** SLE
- **Deficiencies:** iron, folate, B12, vit D
- **Sleep disorders:** OSA

Case 2: Louis, Age 7 - Evaluation



You review Louis's history, growth chart etc. and conduct a brief physical examination.

Case 2 – Louis, Age 7 – More History



You review his history.

- Born preterm at 34 weeks. One of twins.
- He has been seen frequently in your office for ear infections and asthma.
- Parents are smokers. They both smoke outside.
- You review his development to date.

Developmental Milestones



'CRUCIAL SKILLS' IN CHILD DEVELOPMENT – SCHOOL AGE



A* = Always

M = Make

C = Compassion

C = Clinically

S = Significant

*At every age, ask ACADEMICS: Does parent have concern about child's writing, reading, or math?

Age	Motor	Communication	Cognitive	Social-Emotional
7 years	Skips forward Uses chopsticks without help Hooks & separates zipper	Follows embedded 2-step directions (e.g. <i>'Before you give me the paper, print your name on it.'</i>) Speaks with mostly correct grammar Hears for speech 90%+ understood	Verbally copies 5 digits forward, 3 digits backward	Draws or visualizes worries Knows how to be a good friend

Case 2: Louis, Age 7 - Physical Exam and Evaluation



You discuss:

- Louis is growing well. Meeting all developmental milestones.
- His tonsils are not enlarged but he has been a mouth breather for some time.
- Otherwise you find no other signs or symptoms that would lead you to evaluate further.

Thoughts?



Interactive Group Discussion



Louis, who has been sitting quietly playing on a handheld gaming device, wants to know why the doctor thinks something is wrong with him.

How can we adjust our approach to Louis?



Interactive Group Discussion

Case 2 – Louis, Age 7



You use the Greig Health Record.

It reminds you to **ask about strengths**.

Case 2 – Louis, Age 7



You use the Greig Health Record.
It reminds you to **ask about strengths**.

<https://greighealthrecord.ca>

**Strengths Questions (examples)
to promote positive communication and to help build
resiliency.**

What do you enjoy doing?

How would you describe yourself?

How would your best friend describe you?

What things are you proud of?

What are you good at?

What do others admire about you?

What is something someone said that made you feel really good about yourself?

Resources

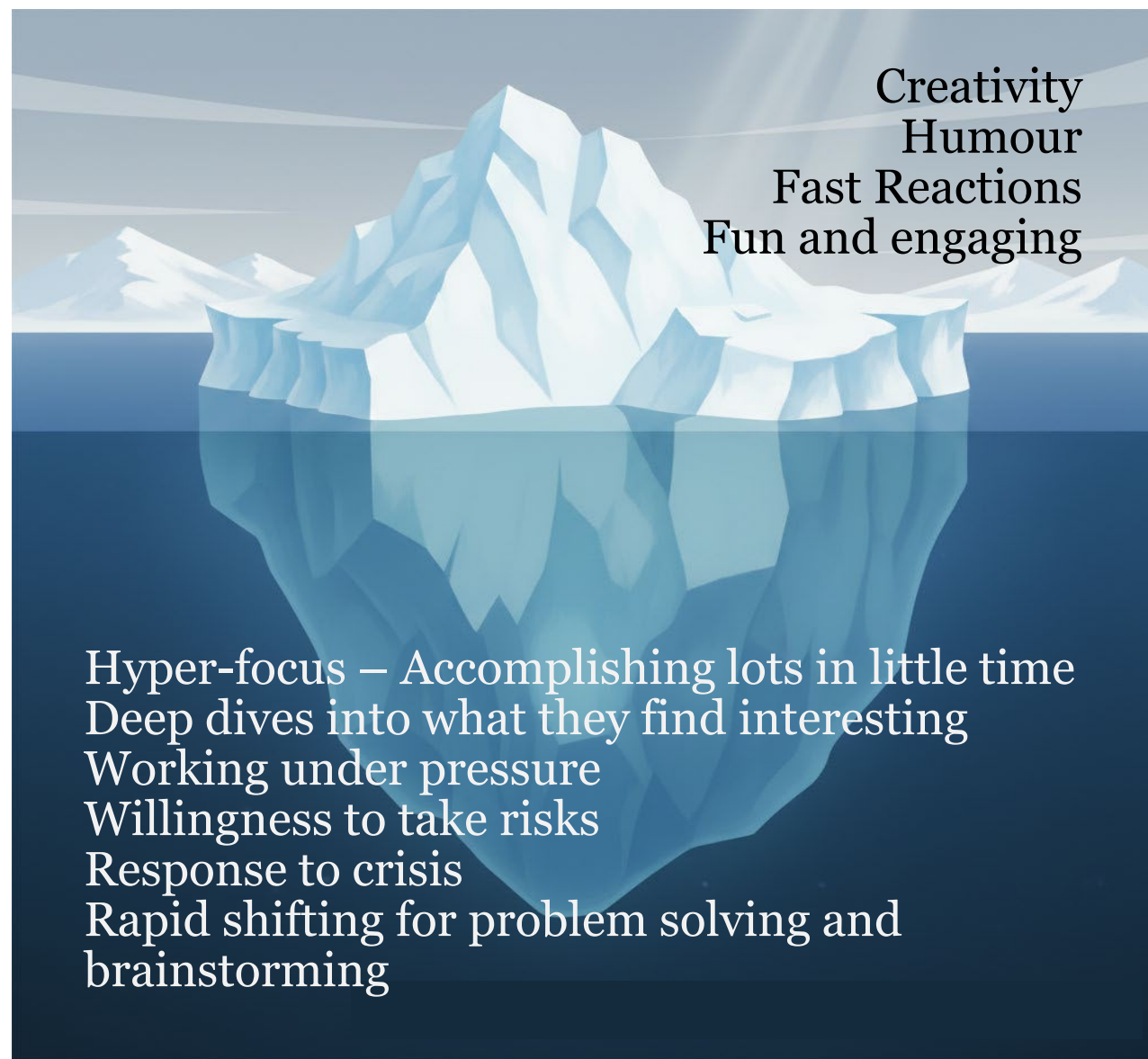
<https://publications.aap.org/aapbooks/book/574/chapter-abstract/5815923/The-SSHADESS-Screen-A-Strength-Based-Psychosocial-ebooks.aappublications.org/content/reaching-teens-strength-based-communication-strategies-to-build-resilience-and-support-healthy-adolescent-development>

The ADHD Iceberg



<https://www.understood.org/en/articles/adhd-iceberg-infographic>

The **Alternative** ADHD Iceberg



<https://www.understood.org/en/articles/adhd-iceberg-infographic>

Case 2 – Louis, Age 7 – More history



- Louis is well liked by all classmates.
- He excels at sports. He is the best player on his hockey team.
- In the summer at science camp, the counsellors were impressed with his creativity and ability to think “outside the box”.
- He has a great sense of humour and is the expert at “quick one-liners”.

Case 2 – Louis, Age 7 – Next Steps



- You praise Louis for his amazing accomplishments.
- He shrugs and replies with, “I’m bored.”
- Louis goes out of the room with one parent while you discuss next steps including screening with the other parent.

Stepwise Approach

ADHD – Screening

ADHD Screening



Canadian ADHD Resource Alliance (CADDRA)

<https://www.caddra.ca/etoolkit-forms/>



ADHD Questionnaires

Screening & Assessment Measures

- Adult ADHD Self Report Scale (ASRS)
- Jerome Driving Questionnaire (JDQ)
- SNAP-IV-26 Teacher and Parent Rating Scale (SNAP)
- Weiss Symptom Record II (WSR II)
- Weiss Functional Impairment Rating Scale – Self (WFIRS-S)
- Weiss Functional Impairment Rating Scale – Parent (WFIRS-P)

CADDRA Forms

- CADDRA ADHD Assessment Form
- CADDRA ADHD Patient Transition Form
- CADDRA Clinician ADHD Baseline/Follow-Up Form
- CADDRA Patient ADHD Medication Form
- CADDRA Teacher Assessment Form
- CADDRA ADHD Information and Resources Handout

Mental Health: Screening Tools and Rating Scales

Each instrument was rated on a series of criteria including:

- age range to which it applies
- time required to complete
- who completes the questionnaire,
- accuracy
- availability in French
- cost
- whether the tool allows co-morbidities to be identified.

Diagnoses screened include:

- Adverse Childhood Experiences
- Anxiety
- ADHD
- Autism Spectrum Disorders
- Eating Disorders
- Learning disabilities
- OCD
- Sleep problems
- Substance Use
- Suicide Risk
- Tics



SNAP-IV (SNAP-IV Teacher and Parent Rating Scale)

Age range:

5 to 18 years

Completed by:

Parent or teacher-report

Time required to complete:

15 minutes

Availability:

Free

Available in French.

Additional comments:

26-item questionnaire measuring symptoms of ADHD, oppositional defiant disorder and aggression.

References:

Swanson, JM. SNAP-IV Scale. Irvine, CA: University of California Child Development Center; 1995.

Tags:

Attention deficit/hyperactivity

School-aged

Adolescent

<https://cps.ca/en/mental-health-screening-tools>

Case 2: Louis - SNAP IV



- 26 questions
- Parent and Teacher
- Multiple settings assessed - school and home
- If two households, each caregiver can do
- If multiple teachers, each can do

SNAP-IV 26 – Teacher and Parent Rating Scale

James M. Swanson, Ph.D., University of California, Irvine, CA 92715

Name: _____

Gender: _____ Age: _____ Grade: _____

Completed by: _____ ☐ T

For each item, check the column which best describes this child.	Not at all	Just a little
1. Often fails to give close attention to details or makes careless mistakes in schoolwork or tasks		
2. Often has difficulty sustaining attention in tasks or play activities		
3. Often does not seem to listen when spoken to directly		
4. Often does not follow through on instructions and fails to finish schoolwork, chores, or duties		
5. Often has difficulty organizing tasks and activities		
6. Often avoids, dislikes, or reluctantly engages in tasks requiring sustained mental effort		

Case 2: Louis - SNAP IV



- 26 questions
- Parent and Teacher
- Multiple settings assessed - school and home
- If two households, each caregiver can do
- If multiple teachers, each can do
- You give out multiple copies and ask parents to return for another visit. They plan to come back while Louis is at school.

SNAP-IV 26 – Teacher and Parent Rating Scale

James M. Swanson, Ph.D., University of California, Irvine, CA 92715

Name: _____

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Case 2: Louis - SNAP IV - Scoring



Scoring

- 26 questions
- Inattention (Q1-Q9)
- Hyperactivity (Q10 -18)
- Opposition and Defiance (Q19-26)

	Not at all	Just a little	Quite a bit	Very much

Each item scores 0 to 3

Case 2: Louis - SNAP IV - Scoring



Scoring

- 26 questions
- Inattention (Q1-Q9)
- Hyperactivity (Q10 -18)
- Opposition and Defiance (Q19-26)

	Not at all	Just a little	Quite a bit	Very much

Each item scores 0 to 3

Threshold Scores

- **Inattention** (Q1-Q9) ≥ 13
- **Hyperactivity** (Q10 -18) ≥ 13
- **Opposition and Defiance** (Q19-26) ≥ 8

.

Case 2: Louis - SNAP IV - Scoring



Scoring

- 26 questions
- Inattention (Q1-Q9)
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Threshold Scores

- **Inattention** (Q1-Q9) ≥ 13
- **Hyperactivity** (Q10 -18) ≥ 13
- **Opposition and Defiance** (Q19-26) ≥ 8

Interpretation

- Screening tool not a diagnostic tool.
- Use in conjunction with other sources of information
- High scores for Opposition may not mean ADHD, other causes may need to be explored.

SNAP IV – Scoring – Louis



Positive Score

His Score

- Inattention (Q1 to Q9) ≥ 13
- Hyperactivity Q10 to Q 18) ≥ 13
- Opposition and Defiance (Q19 to Q26) ≥ 8

SNAP IV – Scoring – Louis



Positive Score

His Score

- Inattention (Q1 to Q9)
- Hyperactivity Q10 to Q 18)
- Opposition and Defiance (Q19 to Q26)

≥ 13

12

≥ 13

18

≥ 8

2



Does Louis have ADHD?

What other sources of information will help us?



Interactive Group Discussion

SNAP IV – Scoring – Louis



Positive Score

His Score

- **Inattention (Q1 to Q9)**
- **Hyperactivity Q10 to Q 18)**
- **Opposition and Defiance (Q19 to Q26)**

≥13

12

≥13

18

≥8

2

Supporting the Diagnosis

- **Parent-teacher interview** – teacher advised testing
- **Previous report cards also support** – issues with inattention, fidgeting
- **Family history** – uncle has diagnosis, dad reports having difficulties in school with focus and was frequently sent to the office, currently works as a mechanic – does well but difficulty focusing in staff meetings



Based on this information we do think Louis has ADHD.

***We now need to explore treatment:
Non-pharmacologic and
Pharmacologic***

Resources

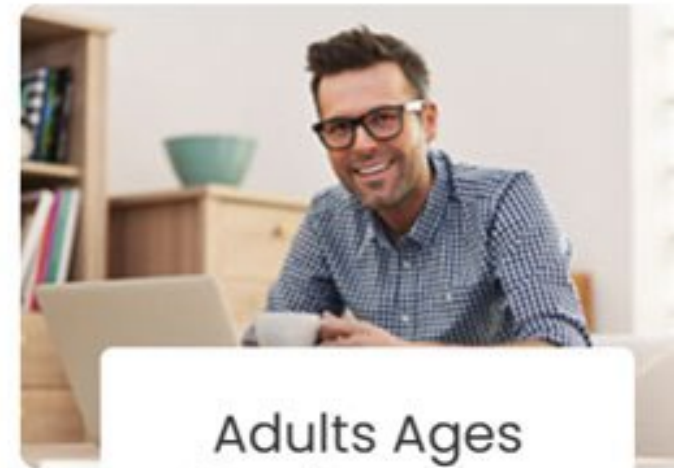
Step-by-Step Guides (CADDRA)



Children Ages
5-12 flowchart



Adolescents
Ages 13-18
flowchart



Adults Ages
18+ flowchart

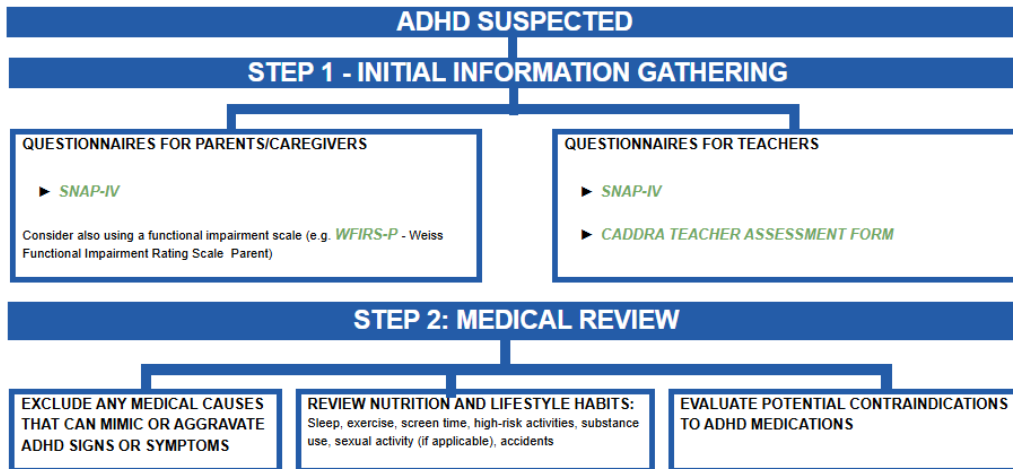
Stepwise Approach

[HOME](#)[OVERVIEW](#)[RESOURCES](#)[ABOUT CADDRA](#)[DOWNLOAD AS PRINTABLE PDF](#)

DIAGNOSIS AND TREATMENT FOR CHILDREN

An ADHD assessment should always include a general mental health screening (to consider comorbidities and differential diagnoses). In addition to a diagnostic interview, CADDRA recommends tools such as the [WSR II](#). This eToolkit contains an optional guided assessment tool, the [CADDRA ADHD Assessment Form](#).

The step-by-step flowchart below applies after general mental health screening has been completed and ADHD is suspected. All the tools documented in this flowchart are free to download and use. Other assessment tools (e.g. Vanderbilt, Conners, Strengths and Difficulties Questionnaire - SDQ) can be used in place of those proposed below. Further information on these steps can be found in Chapter 1, Canadian ADHD Practice Guidelines, 4th Edition.



Stepwise Approach

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ADHD SUSPECTED

STEP 1 - INITIAL INFORMATION GATHERING

QUESTIONNAIRES FOR PARENTS/CAREGIVERS

► *SNAP-IV*

Consider also using a functional impairment scale (e.g. *WFIRS-P* - Weiss Functional Impairment Rating Scale - Parent)

QUESTIONNAIRES FOR TEACHERS

► *SNAP-IV*

► *CADDRA TEACHER ASSESSMENT FORM*

STEP 2: MEDICAL REVIEW

EXCLUDE ANY MEDICAL CAUSES THAT CAN MIMIC OR AGGRAVATE ADHD SIGNS OR SYMPTOMS

REVIEW NUTRITION AND LIFESTYLE HABITS:
Sleep, exercise, screen time, high-risk activities, substance use, sexual activity (if applicable), accidents

EVALUATE POTENTIAL CONTRAINDICATIONS TO ADHD MEDICATIONS

- Initial information gathering – Snap IV
- Medical Review
 - Other conditions that mimic
 - Nutrition and lifestyle
 - Contraindications to Medication
 - ADHD Specific Interview
- ADHD Specific Interview
- Treatment
- Follow-up

ADHD Resources – for Providers



CPS Guidelines

- Part 1 Etiology, Diagnosis and Comorbidity
- Part 2 Treatment
- Part 3 Assessment and Treatment with Comorbid ASD, ID or Prematurity



CADDRA Guidelines (The Canadian ADHD Resource Alliance)

- Guidelines
- Psychoeducation



ADHD Resources – for Parents



- **CPS** www.cps.ca
- **CADDRA** caddra.ca
- **CADDAC** [\(Centre for ADHD Awareness Canada\) About ADHD](#)
- **CHEO** [Resources](#)

- **Child Mind Institute** [Complete Guide to ADHD](#)
- **Nemours Kids Health** [ADHD in Kids and Teens](#)
- **AAP** healthychildren.org
- **NIMH** [National Institute for Mental Health](#)
- **AACAP** [American Academy of Child and Adolescent Psychiatry ADHD Resource Centre](#)

Case 2: Louis – 7 years old - Treatment

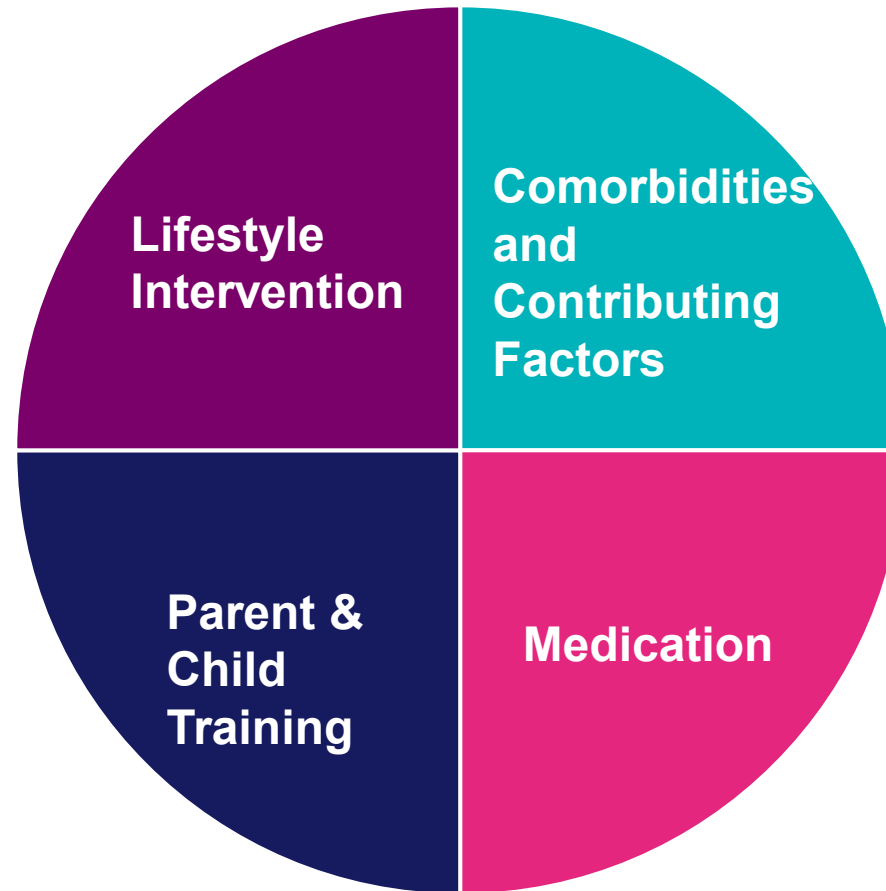


Position Statement from the Canadian Paediatric Society

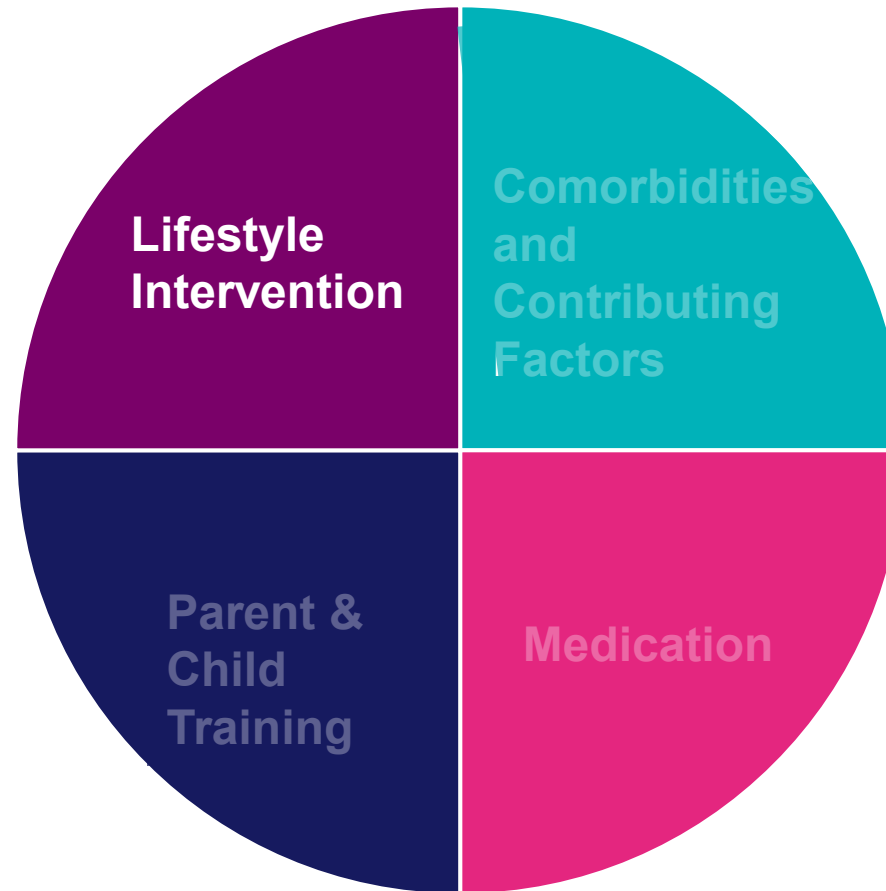
ADHD in children and youth: Part 2 - Treatment

Treatment

Case 2: Louis – 7 years old - Treatment



Case 2: Louis – 7 years old - Treatment



Lifestyle Interventions

Greig Health Record





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Ages 6,7,8,9**

(visits in this age group are recommended every two to three years)

Name: _____

Date of Birth: _____

Pronouns: _____

Family History: _____

Risk Factors: _____

Allergies: _____

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Assessment Immunization Medications ©A.Greig 2024	Update immunizations: DTaP-IPV (age 4-6) MMR (2 nd dose by age 6) HPV (ages 9 and older) Varicella vaccine-2 doses (12mos to 12 years) Discuss Men B Discuss flu & COVID vaccinations Consider TB test					
		Signature				

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Greig Health Record



Education & Advice:	
Nutrition	Active healthy living
Psychosocial history and Development - Refer to Canada's Food Guide - Eat a variety of vegetables and fruits daily - Choose whole grains - Eat protein daily. Consume plant-based proteins more often. - Choose mostly unsaturated rather than saturated fats - Water is the beverage of choice. - Avoid sugar-sweetened beverages and diet drinks - Family meal-time and home-cooked meals can promote healthy eating - Ask about supplements and CAM - Vitamin D – through diet or supplement (400IU)	- Refer to CSEP guidelines Daily physical activity (PA) 60 min Include vigorous PA for 60 min. ≥ 3 days/week Include muscle and bone strengthening ≥ 3 days/week Stay active - several hours of light physical activity/day, limit sitting for extended periods Screens - no more than 2 hrs per day of recreational screen time, less is better Sleep - 9 to 11 hours/d – ages 6 to 13 years
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Assessment	Blood Pressure
	Head & Neck
	Visual Acuity (L)
	(R)

Case 2: Louis – 7 years old - Lifestyle Issues



- Screens 3 hours per day
- Not getting physical activity outside of school, he rides in a car to school
- Sleeps ~ 9 hours/night, in the morning he is hard to rouse, does mouth breathe





What other information would you like?



Interactive Group Discussion

Case 2: Louis – 7 years old – More Information



- Get more school history
- Discuss abuse and bullying, ACEs
- Discuss sleep, OSA
- Parenting, boundaries, limit setting, attachment, consistency
- Discuss developmental issues – learning disability, executive function, emotional regulation



Case 2: Louis – 7 years old – Lifestyle Interventions



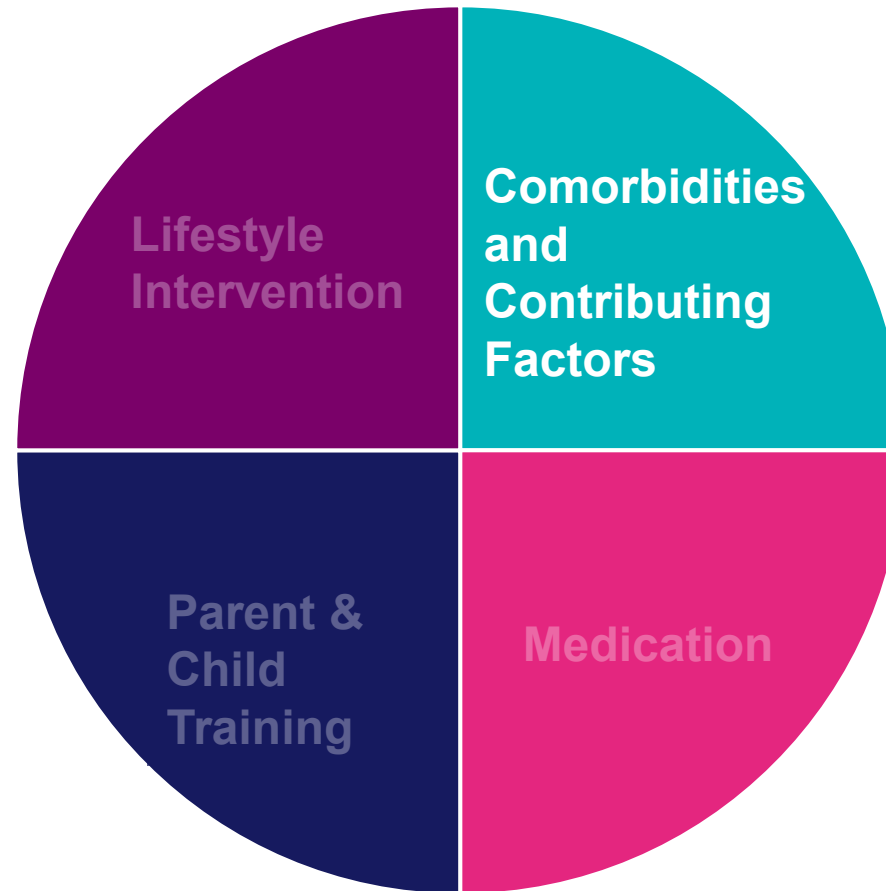
- How would you counsel parents?
- Any investigations or referrals?





Interactive Group Discussion

Case 2: Louis – 7 years old - Treatment



Case 2: ADHD Co-morbidities



University of Nottingham

Understanding ADHD

Case 2: ADHD Co-morbidities



- Behavioural
- ODD
- Conduct Disorder
- Mood Disorders
- Anxiety
- Depression - uni- and bipolar
- Learning Disorders
- Dyslexia, dyscalculia, dysgraphia
- Substance Use
- OCD
- Borderline Personality Disorder

Dyspraxia, or Developmental Coordination Disorder (DCD), is a lifelong neurodevelopmental condition affecting physical coordination, motor planning, and movement.

Case 2: ADHD Co-morbidities Issues



- Increased severity
- Diagnostic challenges
- Treatment implications

Case 2: ADHD Co-morbidities – Screening



Weiss Symptom Record II

- Caddra recommends using the WSR II for Quick Screening

- Weiss Symptom Record II

- Attention
- Hyperactivity and Impulsivity
- Oppositional
- Development and Learning
- Autism Spectrum
- Motor Disorders
- Psychosis
- Depression
- Anxiety
- Suicide
- Stress Related Disorders
- PTSD
- Sleep
- Eating
- Conduct
- Substance use
- Addictions
- Personality

Weiss Symptom Record Scoring

WEISS SYMPTOM RECORD II

PATIENT: _____

INFORMANT: _____

This is a problem checklist. Not all the items will be appropriate for you. Please indicate the level of difficulty associated with each item.

- ☐ None: This is not a problem or concern. Any challenges are age-appropriate.
- ☐ Mild: Some difficulty (somewhat).
- ☐ Moderate: This is a problem (pretty much).
- ☐ Severe: This is a serious problem (very much).
- ☐ NA: Not applicable. Check this column if the item is not a problem or not relevant to you.

Difficulty with:	None (0)	Mild (1)	Moderate (2)	Severe (3)	NA
ATTENTION					
Attention to details or makes careless mistakes					
Holding attention or remaining focused					
Listening or mind seems elsewhere					
Instructions or finishing work					
Organizing (e.g. time, messy, deadlines)					
Avoids or dislikes activities requiring effort					
Loses or misplaces things					
Easily distracted					
Forgetful (e.g. chores, bills, appointments)					
HYPERACTIVITY AND IMPULSIVITY					
Fidgets or fidgets					

Case 2: ADHD Co-morbidities – **What isn't?**



Executive Dysfunction



More a feature of ADHD than a comorbidity

Children with ADHD are more likely to have deficits in:

1. Organizing, prioritizing and activating for tasks
2. Focusing, sustaining and shifting attention to task
3. Regulating alertness, sustaining effort and processing speed
4. Managing frustration and modulating emotions
5. Utilizing working memory and accessing recall
6. Monitoring and self-regulating action

Case 2: ADHD Co-morbidities Issues



- If Weiss Symptom Record indicates a problem - Use specific screens to clarify

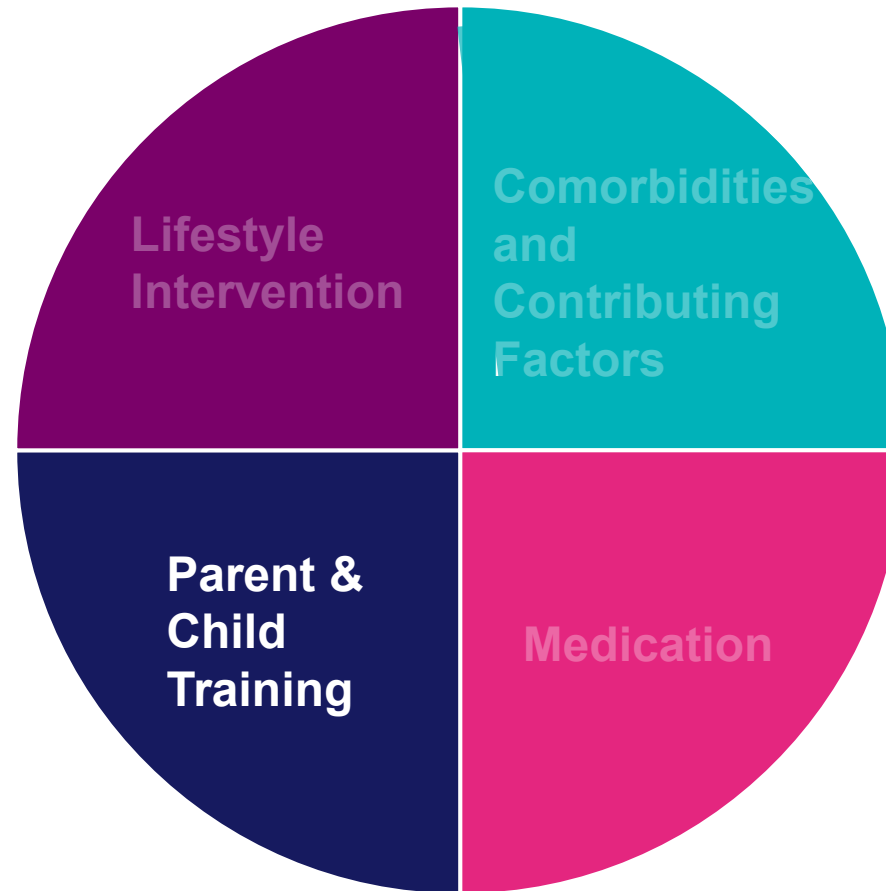


<https://cps.ca/en/mental-health-screening-tools>



<https://projectteachny.org/child-rating-scales/>

Case 2: Louis – 7 years old - Treatment



Training and Therapy

Case 2: Louis – Non-Pharmacologic



Good Evidence for:

- Parent Behaviour Therapy
- Organizational Skills Training
- Exercise

Less clear:

- Diet
- Neurofeedback

Case 2: Louis – Non-Pharmacologic



Parent Behaviour Training

- Parent-Child Interaction Therapy
- Parent Management Training
- Positive Parenting Program

Includes:

- Creating house rules, organization, and routine
- Using clear instructions
- Learning to praise good behaviour and ignoring mild incorrect behaviours
- Planning ahead for changes in routine, outings, public spaces
- Using charts, point systems with rewards and consequences

Especially effective in younger children – a clear way to earn positive attention

Parent-Child Interaction Therapy (PCIT)



PRIDE Skills

- **Praise:** Parents provide praise for a child's appropriate behavior—for example, telling them, “good job cleaning up your crayons”—to help encourage the behavior and make the child feel good about their relationship with the parent.
- **Reflection:** Parents repeat and build upon what the child says to show that they are listening and to encourage improved communication.
- **Imitation:** Parents do the same thing that the child is doing, which shows approval and helps teach the child how to play with others.
- **Behavioral Description:** Parents describe the child's activity (e.g., “You're building a tower with blocks”) to demonstrate interest and build vocabulary.
- **Enjoyment:** Parents are enthusiastic and show excitement about what the child is doing.

Case 2: Louis – Non-Pharmacologic



Parent Behaviour Training **Outcomes**

- Reduced tantrums
- Reduced defiance
- Reduced tuning out of parental instructions
- Building skills to reduce problem behaviours in other settings

Done by psychologists, group sessions, community programs

Case 2: Louis – Non-Pharmacologic – Child Focused



- **Child Skills Training**
- **Child Behaviour Therapy**

Case 2: Louis – Non-Pharmacologic



Child Skills Training & Child Behaviour Therapy

Funded

- Strides Toronto - free online ADHD Seminars
<https://stridestoronto.ca/program-service/adhd-seminars/>
- SNAP ADHD - Behavioural skills, Family Supports
<https://snap.childdevelop.ca/snap-programs/>
- CAMH Better Behaviours Service (Child/Parent) if disruptive behaviour also present
<https://www.camh.ca/en/patients-and-families/programs-and-services/better-behaviours-for-children-and-youth-service>

Private

- Clinical Psychologists
- Possibilities Clinic
- Springboard
- Launch Behavioural Health



Case 2: Louis



- Louis's parents attend parent classes. They have reduced his **screen time to 1 hour a day** on school nights. He has had a trial of **nasal steroid** that has helped his snoring.
- Parents have both **quit smoking together**. He **feels rested** and bounds out of bed in the morning.
- Louis now does an extended brisk walk/**run** before school. His parents make it fun by challenging him with a stop-watch over set distances.
- Louis learns about how his brain functions. He learns about his **strengths and challenges**. His behaviour in class has improved.

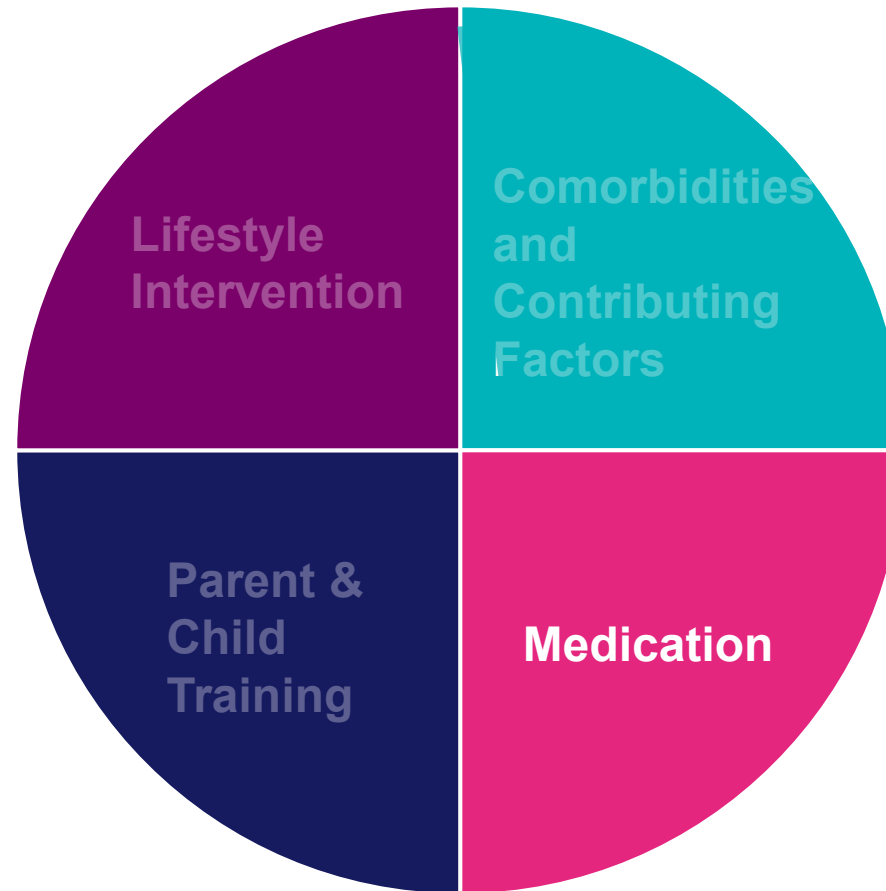
Case 2: Louis



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- Louis now does an extended brisk walk/**run** before school. His parents make it fun by challenging him with a stop-watch over set distances
- Louis learns about how his brain functions. He learns about his **strengths and challenges**. His behaviour in class has improved.

He still finds it hard to sit still and focus in class. His parents ask about a trial of medication.

Case 2: Louis – 7 years old - Treatment



Pharmacologic Treatment



Why should we treat ADHD?

(after or concurrently trying non-pharmacologic methods)

Long-term Prognosis



- Current estimates show that 50% of children with ADHD continue to have symptoms of ADHD in adolescence and adulthood.
- Common notion of “growing out of ADHD” but this is likely attributed to reduced impairment through better coping strategies and there can be a change in how symptoms manifest (inattention more persistent than hyperactivity)

<https://cps.ca/en/documents/position/adhd-etiology-diagnosis-and-comorbidity>



Untreated ADHD is associated with significant consequences (compared with peers)

- **Underachievement** (chronic) and educational consequences
 - 33.2% do not graduate high school
- **Employment** Job loss and financial instability
 - 20% less likely to be employed, earn 16% less
- **Relationship issues** including risky sexual behaviours, double the divorce rate
- **Mood issues** comorbid anxiety and depression
- **Substance use** increased rates – up to 35%
- **Incarceration** 33% of inmates have ADHD
- **Physical health and Injury**
 - Reduced years of healthy living (8.4%)
 - More likely to be in MVA (45% to 47%)

Benefits of Medication – the Evidence



- Evidence for long term trials: under-researched, publication bias
- Most are observational studies
- Those who choose medication may make better choices overall

Benefits of Medication – the Evidence



- Better academic performance – achievement, decision making , handwriting
- Reduction in antisocial behaviours
- Less substance use
- Less obesity
- Better employment
- Lower use of social services
- Lower rates of comorbid anxiety and depression, suicidality in young adulthood
- Lower rates of all-cause mortality

Jensen, P. S., https://caddac.ca/wp-content/uploads/policy-paper_seriousness-of-ADHD-final-english.pdf et al. (2007). 3-year follow-up of the NIMH MTA study. *Journal of the American Academy of Child and Adolescent Psychiatry*, 46(8), 989–1002.
<https://doi.org/10.1097/CHI.0b013e3180686d48>

Specific studies: N Engl J Med 2012; 367,21 BMJ 2014;348:3769 JAMA Psychiatry 2021;74(6):567 AmJPsych 2017;174(9):877 J Am Acad Child Adol Psychiatry 2025;64(3):346

A systematic review and analysis of long-term outcomes in attention deficit hyperactivity disorder: effects of treatment and nontreatment. *BMC Med*. 2012 Sep 4;10(1):99.

Johnson M. et al. Long-term medication for ADHD and development of cognitive functions in children and adolescents. *Journal of Psychiatric Research*, Volume 142, 2021, Pages 204-209.
<https://doi.org/10.1016/j.jpsychires.2021.07.055>.

Harms of Medication – the Evidence



- Sleep problems
- Reduced appetite
- Slower growth
- Headaches
- Irritability – when medication wears off

<https://childmind.org/article/side-effects-of-adhd-medication/>

Harms of Medication – the Evidence



- Sleep problems – get better with time, may be ADHD, can try melatonin
- Reduced appetite – big breakfast, evening snack
- Slower growth – weekend and summer drug-holidays
- Headaches – get better with time, adjust dose
- Irritability – gets better with time, adjust dose or duration of action

Harms of Medication – the Evidence



- Risk of sudden cardiac death
 - Over-reported in lay press
 - Based on grouping of data with other stimulants eg cocaine and methamphetamines

Drug Overdose Deaths Involving Stimulants, MMWR, Vol 74, No 32

- Lower all-cause mortality

Chen et al. Methylphenidate and mortality in children British J. Psychiatry, 2020.

Li et al. ADHD Pharmacology and Mortality.... JAMA 2024; 33(10)850

Case 2: Louis – ECG?



ECG - Not required but a careful history and physical focusing on:

- Patient history or family history of fainting, sudden cardiac death, early CVD under age 50, cardiomyopathies, connective tissue disorders, storage diseases
- Child with a structural heart abnormality, arrhythmia, murmur or hypertension
- If there is a concern, pediatric cardiology referral is recommended

CADDRA Medication Chart



FIRST LINE

- Stimulants
 - More rapid onset and stronger effect than non-stimulants
 - **Amphetamine** (Adderall XR, Vyvanse, Dexedrine) - mild serotonin effects
 - **Methylphenidate** (Biphentin, Concerta, Focalin, QuillivantER [oral suspension], Ritalin)
See chart for options - granules to be sprinkled, chewable tablets, controlled delivery system, oral suspension, swallowed whole

SECOND LINE

- Non-Psychostimulant - can be used as an adjunct to stimulants
 - **Atomoxetine** (Strattera) - primarily NRI with some serotonergic and dopaminergic effects
 - **Guanfacine XR** (Intuniv XR) - Selective Alpha-2A Adrenergic Receptor Agonist

https://www.caddra.ca/wp-content/uploads/CADDRA-ADHD-Medication-Chart_EN-FR_October2024_Final.pdf

CADDRA GUIDE TO ADHD PHARMACOLOGICAL TREATMENTS IN CANADA - OCTOBER 2024								
Medications & Illustrations				Delivery	Duration of action ¹	Starting dose ¹	Release mode Immediate/Delayed (%)	Dose titration per product monograph ²
AMPHETAMINE-BASED PSYCHOSTIMULANTS								
First Line	Adderall XR [®]	Capsules 5, 10, 15, 20, 25, 30 mg 	Granules can be sprinkled	~ 12 h	5-10 mg q.d. a.m.	50/50	▲ 5-10 mg at weekly intervals Max. dose/day: Children = 30 mg Adolescents & Adults = 20-30 mg	
First Line	Vyvanse [®]	Capsules 10, 20, 30, 40, 50, 60, 70 ³ mg Chewable Tablets 10, 20, 30, 40, 50, 60 mg 	Capsule content can be diluted in liquid or sprinkled Chewable tablets should be chewed thoroughly	~ 13-14 h	20-30 mg q.d. a.m.	Not Applicable (Prodrug)	▲ 10-20 mg by clinical discretion at weekly intervals Max. dose/day: All ages = 60 mg	
Second Line	Dexedrine [®]	Tablets 5 mg Spanules 10, 15 mg 	Scored Tablet Beaded Formulation	~ 4 h ~ 6-8 h	Tablets = 2.5 to 5 mg b.i.d. Spanules = 10 mg q.d. a.m.	100/0 50/50	▲ 5 mg at weekly intervals Max. dose/day (q.d. or b.i.d.) Children & Adolescents = 20-30 mg Adults = 50 mg	
METHYLPHENIDATE-BASED PSYCHOSTIMULANTS								
First Line	Biphentin [®]	Capsules 10, 15, 20, 30, 40, 50, 60, 80 mg 	Granules can be sprinkled	~ 10-12 h	10-20 mg q.d. a.m.	40/60	▲ 10 mg at weekly intervals Max. dose/day: Children & Adolescents = 60 mg Adults = 80 mg	
First Line	Concerta [®]	Extended Release Tablets 18, 27, 36, 54 mg 	Osmotic-Controlled Release Oral Delivery System (OROS [®])	~ 12 h	18 mg q.d. a.m.	22/78	▲ 18 mg at weekly intervals Max. dose/day: Children & Adolescents = 54 mg Adults = 72 mg	
First Line	Foquest [®]	Capsules 25, 35, 45, 55, 70, 85, 100 mg 	Granules can be sprinkled	~ 13-16 h	25 mg q.d. a.m.	20/80	▲ 10-15 mg in intervals of no less than 5 days Max. dose/day: Children & Adolescents = 70 mg Adults = 100 mg	
First Line	Quillivant [®] ER	Chewable Tablets 20, 30, 40 mg Powder for Oral Suspension 300, 600, 750, 900 mg/bottle 	Chewable Tablets Note: Scored Tablets 20, 30 mg Oral Suspension	~ 8-12 h ~ 12 h	20 mg q.d. a.m. 20 mg q.d. a.m.	30/70 20/80	Children 6-12 years Titrate up or down weekly in increments of 10 mg, 15 mg, or 20 mg Max. dose/day = 60 mg Quillivant [®] ER Oral Suspension and Quillivant [®] ER Chewable Tablets are not interchangeable	
Second Line	Methylphenidate short-acting Ritalin [®] SR	Tablets 5 mg (generic) 10, 20 mg (Ritalin [®]) Tablets 20 mg 	Scored Tablet Wax Matrix Preparation	~ 3-4 h ~ 8 h	5 mg b.i.d. to t.i.d. Adult: 20 mg q.d.	100/0 100/0	▲ 5-10 mg at weekly intervals Max. dose/day: All ages = 60 mg	
NON-PSYCHOSTIMULANT - SELECTIVE NOREPINEPHRINE REUPTAKE INHIBITOR								
Second Line	Atomoxetine (Strattera [®]) No longer manufactured	Capsules 10, 18, 25, 40, 60, 80, 100 mg 	Capsule needs to be swallowed whole to reduce GI side effects	Up to 24 h	Children & Adolescents: 0.5 mg/kg/day Adults = 40 mg q.d. for 7-14 days	Not Applicable	Maintain dose for a minimum of 7-14 days before adjusting Children = 0.8 then 1.2 mg/kg/day 70 kg or Adults = 60 then 80 mg/day Max. dose/day: 1.4 mg/kg/day or 100 mg	
NON-PSYCHOSTIMULANT - SELECTIVE ALPHA-2A ADRENERGIC RECEPTOR AGONIST								
Second Line	Intuniv XR [®] (Guanfacine XR)	Extended Release Tablets 1, 2, 3, 4 mg 	Pills need to be swallowed whole to keep delivery mechanism intact	Up to 24 h	1 mg q.d. (morning or evening)	Not Applicable	Maintain dose for a minimum of 7 days before adjusting by no more than 1 mg increment weekly Max. dose/day: Monotherapy: 6-12 years = 4 mg, 13-17 years = 7 mg As adjunctive therapy to psychostimulants: 6-17 years = 4 mg	

Illustrations do not reflect actual size of pills/capsules. Longer-acting stimulants tend to have lower abuse potential than shorter-acting formulations. Non-stimulant formulations have no abuse potential.
¹Pharmacokinetic and pharmacodynamic responses vary from individual to individual. The clinician must use clinical judgment as to the duration of efficacy and not solely rely on reported values for PK/PD and duration of effect. ²Starting doses in table from product monographs. CADDRA recommends usually starting with lowest dose available. ³For specific details on how to start, adjust and switch ADHD medications, clinicians should refer to the Canadian ADHD Practice Guidelines (www.caddra.ca). ⁴Vyvanse 70 mg is an off-label dosage for ADHD treatment in Canada. Original version of this sheet developed by Dr. Anneck Vincent in collaboration with Direction des communications et de la pharmacologie, Laval University.

BC – Provincial Academic Detailing



- Cost
 - Onset
 - Titration
 - Generics vs Brand name
 - Delivery method
-
- Does not give details on duration

https://www2.gov.bc.ca/assets/gov/health/pracpro/provincial-academic-detailing-service/bc_pad_2022_adhd_medications_drug_table_feb_2024.pdf

pad Attention Deficit Hyperactivity Disorder (ADHD) Medications Marketed in Canada for Ages 6 Years and Older (February 2024 update)

Onset of Effect

- Defined by regulators as a statistically significant difference between drug and placebo on an ADHD symptom scale.^{1,2}
- Commonly-prescribed methylphenidate and amphetamine formulations have an onset of effect within hours,³⁻⁷ atomoxetine (Strattera) within 1 to 4 weeks⁸ and guanfacine (Intuniv XR) within 1 to 2 weeks.⁹

Dose Response and Titration

- Dose response relationships for ADHD medications are often not well characterized by Health Canada and the US FDA.^{1,2}
- ADHD medications are approved with a defined dosage range, informed by fixed-dose trials which typically use rapid or no dose titration and may not apply to clinical practice.^{1,2}
- Health Canada advises starting ADHD medications at the lowest dose, then titrating slowly upward to the lowest effective dose; methylphenidate and amphetamines are generally titrated at weekly intervals, atomoxetine (Strattera) at 1 to 2 week intervals, and guanfacine (Intuniv XR) at weekly intervals.¹

Duration of Effect

- Defined by regulators as the time period for which a change in ADHD symptoms were statistically different from placebo.^{1,2}
- Longer-acting methylphenidate and amphetamine formulations have durations that range from ~8 to 16 hours.^{4-7,10-13}
- Not reported by Health Canada or the US FDA for immediate release formulations.^{10,11,14,15}

Generic Name, Brand Name, available strengths, dosage form, cost, coverage		ADHD Health Canada Indications, Dosage Considerations indication, initial dosing, dose response, dose titration, maximum dose, administration, tapering	
METHYLPHENIDATE ^{1,2,10,11,16,17}			
methylphenidate immediate-release RITALIN, generics 5, 10, 20 mg IR tablets methylphenidate extended-release RITALIN SR, generics 20 mg film-coated SR tablets Cost per 30 days: generic: \$10 to \$30; SR: \$25 to \$70 brand: discontinued BC PharmaCare: Regular Benefit	Indication	▪ ADHD: ages ≥ 6 years	
	Initial Dosing	▪ IR tablets: 5 to 10 mg BID or TID with or without food ▪ SR tablets: may be used in place of IR tablets when the 8-hour dosage of SR corresponds to the titrated 8-hour dosage of IR	
	Dose Response	▪ not reported by Health Canada, US FDA	
	Dose Titration	▪ 5 to 10 mg/day at weekly intervals	
	Maximum Dose	▪ 60 mg/day	
	Administration	▪ SR tablets: swallow whole, do not crush or chew	

Methylphenidate ER Brand and Generic Interchangeability

- Consider cost differences and monitor for changes in effectiveness and adverse events when switching between ADHD medication formulations.
- The US FDA states that for methylphenidate and amphetamines, there is a relationship between drug concentration and efficacy and adverse events; modification to a drug's pharmacokinetics may impact the onset and duration of its effects.¹⁸ It is unclear which specific pharmacokinetic parameter (C_{max}, AUC, T_{max}) is the most informative and these parameters can show substantial inter-individual variability. For example, the time to maximum concentration for Concerta methylphenidate ER is 6 hours in adults, but varies from 1–10 hours.¹²
- Like several methylphenidate sustained release products, Concerta methylphenidate ER provides a combination of immediate release (IR) and sustained release (SR) properties.^{1,12} There are two generic products currently marketed in Canada (APOTEX, Actavis); the manufacturers indicate that the APO generic is only an SR formulation while the ACT generic is a combined IR and SR formulation.^{19,20} Small, single-dose bioavailability studies find modest differences in some of the pharmacokinetic parameters between these two generic products and the brand name.¹ We could not find applicable comparisons of these generics to the brand name product examining patient-important outcomes.

Managing the Challenges

Case 2: Louis – 7 years old – Medication Challenges



- What challenges do you have or anticipate with using ADHD medications?





Interactive Group Discussion

ADHD Managing the Challenges



- **Dosing**
 - Confused about the dosing? How to titrate? It was working before and now it's not - developing tolerance?
- **Duration**
 - Lasts too long - can't eat or sleep at night?
 - Wears off too quickly?
- **Administration**
 - Can't swallow capsules
- **Timing**
 - Can't get organized in the morning – missing doses?
- **Side effects**
 - Using them to advantage in the Impulsive Eater/overweight?
- **Non-stimulants**
 - Can't take stimulants or need a bit extra?

Getting the Dose Right



- **Weight-based dosing**

- CADDRA and BC PAD guidelines do not discuss wt-based dosing! Max doses for children and adults.
- Start at 0.5 mg/kg, target 1.2 mg/kg
- Off label maximum doses (done at HSC) methylphenidate (Concerta) up to 108 mg or 2 mg/kg
- Caution:
 - In developmental disabilities – doses may be different
 - Using in liver disease – caution re: dose
 - In ASD – may be better to initiate with shorter acting, easier to monitor

- **Side-Effects and Efficacy**

- No difference in nausea – 30% in placebo, 30% in meds
- If you start too low, less likely to continue
- Having an extra dose for hockey practice – short-acting methylphenidate (Ritalin), worry about muscle mass



- **Zombie-like?** = first time seeing neurotypical behaviour “the spark is gone”
Could actually be moments of quiet contemplation/less impulsivity

Challenges - Dosing



- **Confused about the dosing?**
 - All approximately 1.2 mg/kg – except [Mixed Amphetamine salts XR \(Adderall XR\)](#) -twice as potent)
 - Vyvanse and SSRIs - both are serotonergic, reduced combination doses
- **How to titrate?**
 - Check the [BC guidelines](#)
 - Dosing by weight - [CPS guidelines](#)
 - Intervals for increase, tapering, discontinuing
- **Was working – now not.**
 - Check weight and adjust dose accordingly
 - Brief medication break may help – mild risk of developing tolerance

ADHD Medication Duration of Action



- Use **Long- acting** formulations
- **Short-acting**
 - risk for diversion
 - wears off too quickly
- Exception: some children are slow metabolizers



Getting the Duration Right

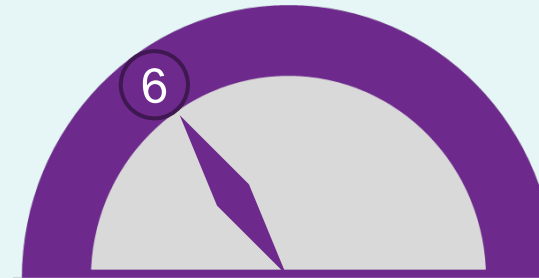


Amphetamine based

- Durations are approximate
- Wide variations between individuals
- Differences between brand names and generics



Dextroamphetamine IR
(Dexedrine -Scored Tablet)



Dextroamphetamine SR
(Dexedrine -Spansules)
Capsules



Amphetamine Mixed Salts XR
(Adderall XR)
Capsules



Lisdexamfetamine
(Vyvanse)
Capsules, Chewable tablets

Getting the Duration Right



Amphetamine based

- Durations are approximate
- Wide variations between individuals
- Differences between brand names and generics

Second Line



Dextroamphetamine IR
(Dexedrine -Scored Tablet)



Dextroamphetamine SR
(Dexedrine -Spansules)
Capsules



Amphetamine Mixed Salts XR
(Adderall XR)
Capsules



Lisdexamfetamine
(Vyvanse)
Capsules, Chewable tablets

Getting the Duration Right

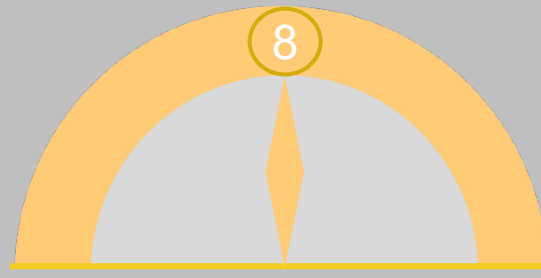


Methylphenidate

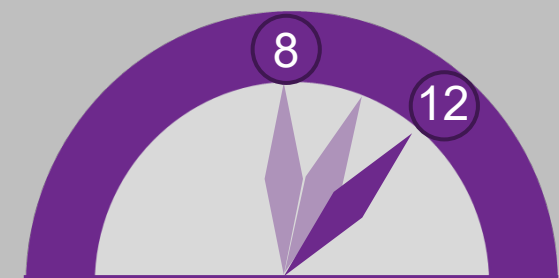
- Durations are approximate
- Wide variations between individuals
- Differences between brand names and generics



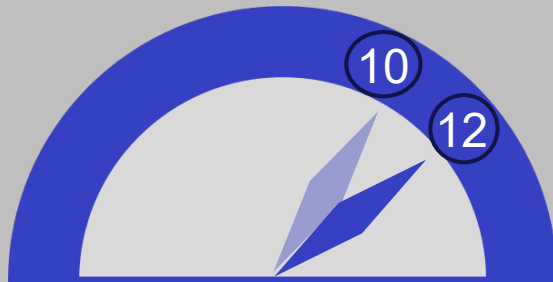
Methylphenidate IR
(Ritalin)
Scored Tablet



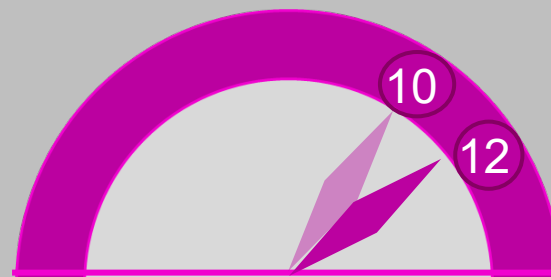
Methylphenidate SR
(Ritalin SR)
Wax Matrix Tablet



Methylphenidate ER
(Quillivant ER- not generic)
Chewable tablets, Oral Suspension



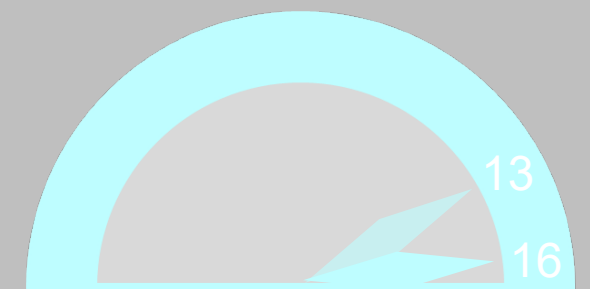
Methylphenidate ER
(generic)
Tablets



Methylphenidate CR
(Biphentin)
Biphasic-release Capsules



Methylphenidate ER
(Concerta OROS – not generic)
Osmotic Release Capsules



Methylphenidate CR
(Foquest – no generic)
Biphasic-release Capsules 13 to 16

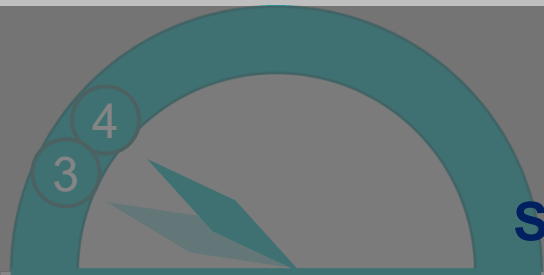
Getting the Duration Right



Methylphenidate

- Durations are approximate
- Wide variations between individuals
- Differences between brand names and generics

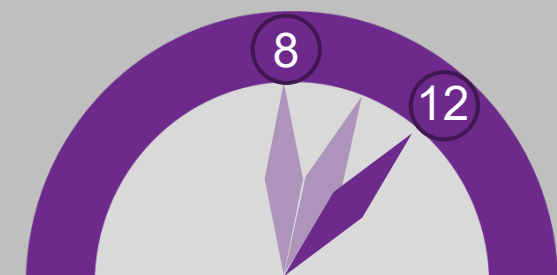
Second Line



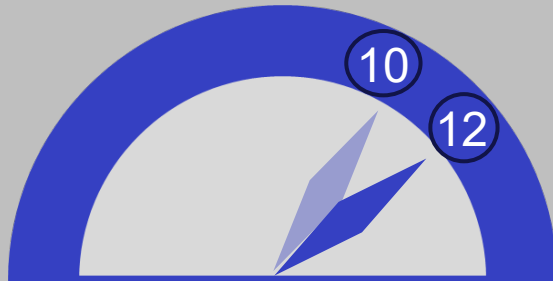
Methylphenidate IR
(Ritalin)
Scored Tablet



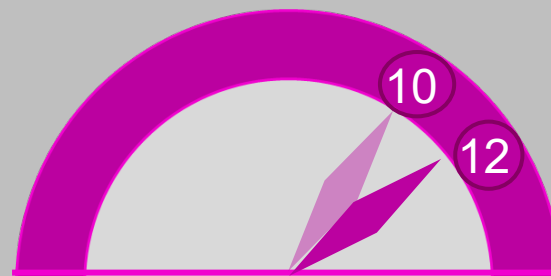
Methylphenidate SR
(Ritalin SR)
Wax Matrix Tablet



Methylphenidate ER
(Quillivant ER- not generic)
Chewable tablets, Oral Suspension



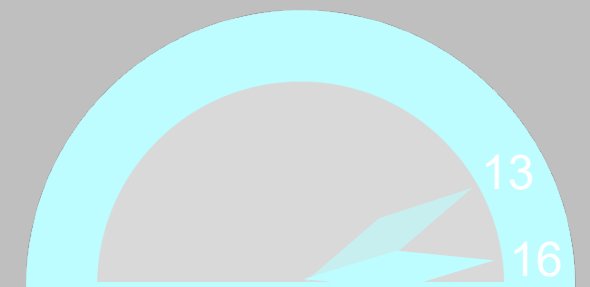
Methylphenidate ER
(generic)
Tablets



Methylphenidate CR
(Biphentin)
Biphasic-release Capsules



Methylphenidate ER
(Concerta OROS – not generic)
Osmotic Release Capsules



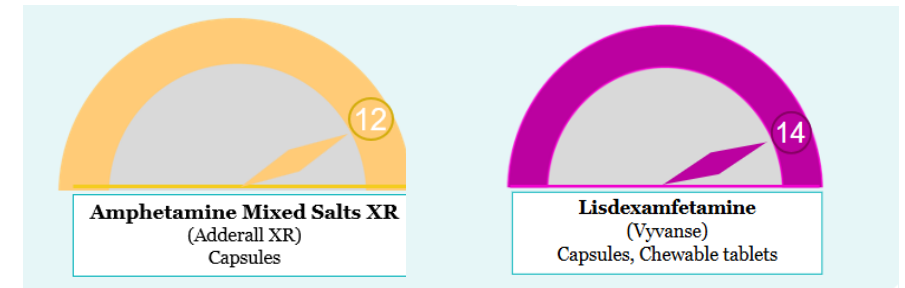
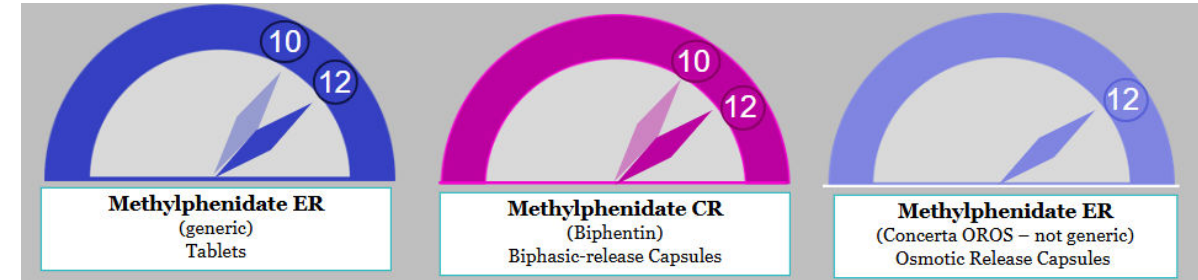
Methylphenidate CR
(Foquest – no generic)
Biphasic-release Capsules 13 to 16

Challenges - Duration



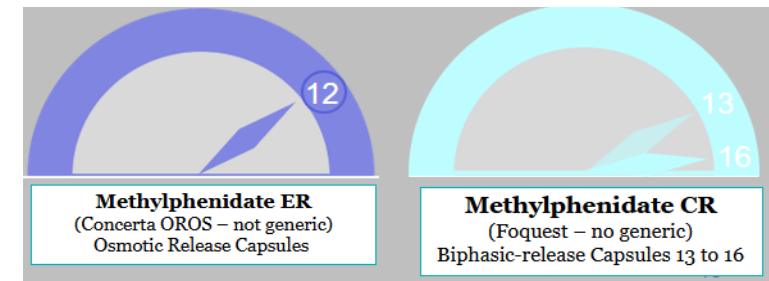
Can't eat or sleep at night.

- Use a "shorter" duration long-acting from
- Methylphenidate
 - Methylphenidate CR (Biphentin) and generic Methylphenidate ER – are shorter acting than brand name Concerta
- Amphetamine
 - Mixed Amphetamine Salts XR (Adderall XR) is slightly shorter acting than lisdexamfetamine (Vyvanse)



Wears off too quickly?

- Use a longer acting brand
- Foquest lasts 13 to 16 hours
- Split dosing (more for adults as requires repeat administration)
- Use an extra dose of short acting if extended effects required – hockey practice, post-secondary, studying for exams (caution re: muscle mass)



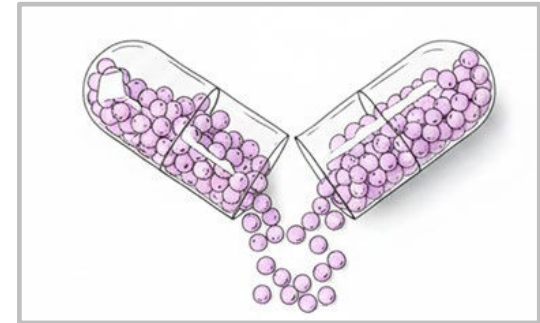
ADHD Managing the Challenges - Delivery



- **Can't swallow capsules?**
 - Try other formulations

Amphetamine

- Adderall XR – granules – sprinkle
- Vyvanse – dilute capsule contents in liquid or sprinkle, and chewable tablets



Methylphenidate

- Biphentin – granules – sprinkle
- Foquest – granules – sprinkle
- Quillivant ER – chewable tablets or powder for oral suspension

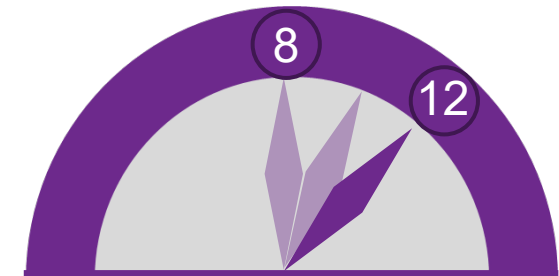


Getting the Duration Right



Quillivant

- Chewable tablets and Powder for Oral Suspension
- Not interchangeable



Methylphenidate ER
(Quillivant ER- not generic)
Chewable tablets, Oral Suspension

Challenges - Timing



Can't get organized in the morning – missing doses?

- **Jornay PM**
 - Methylphenidate preparation – specially coated micro-beads
 - Give at night – 6:30 to 9:30pm – with food
 - Kicks in in the morning – 10 to 12 hours later
 - Sprinkles
 - Large bowel absorption
 - Duration - approx 12 to 14 hours
 - **Higher dosing:** 6 to 12 y.o. is **2 mg/kg** per dose on average
 - Can take with other nighttime meds (guanfacine/clonidine)

Challenges – Managing Side-Effects



Side Effects - may need milder choice of medication

- Less with methylphenidate (vs. amphetamine)
- Choose methylphenidate if used in combination with SSRI (serotonergic effects)
- Choose longer-acting formulations over short acting
- Consider non-stimulants if appetite/sleep issues intolerable (can still have risk of appetite suppression but relatively lower)

Impulsive Eater/overweight?

- Use stimulant side-effects to advantage
 - Use before breakfast
 - Use longest acting or split dosing or Jornay – suppresses breakfast and lunch

Challenges – The Non-Stimulants



Indications

- For those who can't take stimulants
e.g. cardiac risk, seizure disorder, weight/nutrition concerns
- For those needing adjunctive medications.

Challenges – The Non-Psychostimulants

https://www2.gov.bc.ca/assets/gov/health/practitioner-pro/provincial-academic-detailing-service/bc_pad_2022_adhd_medications_-_drug_table_feb_2024.pdf



Medication

Guanfacine XR

Selective Alpha-2A adrenergic medication

- Monotherapy or with stimulants
- Well-tolerated
- Can help with sleep (evening dosing), irritability/aggression
- Once daily - better adherence, PM
- Swallow whole, with a small amount of liquid, do not crush or chew
- Monitor BP and heart-rate
- Dizziness, sedation
- Do not take with grapefruit or high-fat meal
- Reduce doses with renal or hepatic impairment
- Check drug interactions
- Avoid abrupt withdrawal

Use

How to take

Precautions

Clonidine

Central alpha-2 adrenoceptor agonist

- Useful for behaviour issues when meds wear off (e.g. sleep disturbances, tics, irritability and aggression)
- Off-label for anxiety, autism, migraines, nightmares
- BID dosing
- Monitor blood pressure (hypotension)
- Side effect of drowsiness, fatigue, dizziness
- Avoid abrupt withdrawal

Atomoxetine

NRI

- Monotherapy or with stimulants
- Delayed onset of action (weeks)
- May or may not help with mood issues: anxiety effects > mood
- Dosing for maximal effect ($\leq 70\text{kg}$) 1.2 mg/kg
- Check drug interactions CYP2D6
- Reduce doses in hepatic impairment
- Swallow whole – do not open capsule – GI side effects)



Interactive Group Discussion

Case 2b



Case 2b Vanessa



- Vanessa is Louis's twin sister.
- Teacher reports she is a pleasure. Loves reading but sometimes reads her own books under the desk during class. Excels at math but only on computer games. Often leaves worksheets unfinished.
- Parents also report she daydreams a lot. It is hard for her to get ready for school on time.

What could this be???





Interactive Group Discussion



- **Inattentive ADHD**

- Difficulty focusing, organizing, sustaining attention
- Careless mistakes
- Forgetfulness
- Zoning out
- Trouble finishing tasks
- Loses things
- “spacey, lazy, disorganized”
- May have more hyperfocus - can lead to more productivity along with neglecting responsibilities

- **Treatment – Same as for Louis**

- Behaviour and Skills training
- Consistent daily schedules



Inattentive ADHD

- Harder to diagnose in younger children
- Those with stronger cognitive abilities still learn foundational skills
 - They are good at piecing together concepts when they miss information
 - But they still struggle to complete tasks, longer time spent on homework
- May do well at school, but in less structured environments they struggle – more frustration and emotional dysregulation at home



Inattentive ADHD at Home

- Create a structured environment
- Consistency, Establish routines
- Use checklists or visual aids to help with task completion
- Provide positive reinforcement and rewards for desired behaviours



Extra Slides



Pharmacogenetic testing

- Not useful in ADHD
- With stimulants you know right away if they work or not
- (Use pharmacogenetic testing for SSRIs and SNRIs etc., in cases where treatment resistance, or failure of multiple different classes tried)

Risk of death from stimulants

- Misquoted in lay press – because cocaine and crystal meth are stimulants
- With patients with pre-existing cardiac abnormalities - arrhythmias - WPW, malformations



- The DSM-5 recognizes that ADHD and ASD are not mutually exclusive diagnoses
- 50% of ASD meet criteria for ADHD
- 50% of ADHD have ASD traits
- Usually children receive ADHD diagnosis first, ASD comes avg. 3 years later
- Combined diagnosis = more severe impairments
 - More cognitive impairment
 - More behaviour issues
 - More psychopathology

ADHD with Prematurity and ADHD with ID



Prematurity

- An association with extreme prematurity
 - Cognitive impairment
 - Inattention , hyperactivity
 - Internalizing behaviour disorders
 - Social interaction disabilities
- For near term infant
 - No statistical difference between 34 to 37 weeks and term infants

Intellectual Disability

- ADHD – most common comorbidity
- Diagnosed when the ADHD symptoms exceed expectations for developmental age
- **Treatment: Exercise**

ADHD

Core Symptoms/
Impairments

- Inattention
- Impulsivity
- Hyperactivity

ASD+ADHD

- Early onset
- Male predominance
- High heritability
- Comorbidity
- Young children dx
ADHD first
- Shared genetics –chr
12,16, & 18
- Emotional
dysregulation
- Hyperfocus/rigidity
- Social difficulties

ASD

Core Symptoms/
Impairments

- Social skills
- Communication
- Repetitive patterns
of behaviour,
interests, or
activities
- Self Care



Stimulants are first line – same treatment algorithm

- However
 - More likely to be non responders
 - Stimulants can cause more irritability/agitation
 - May do better with multiple doses of short-acting methylphenidate

Non-Simulants

- Evidence for guanfacine and guanfacine extended release for ADHD symps (irritability)
- Some evidence for atomoxetine – limited studies

Non-Pharmacologic

- **Exercise**



- Long term cardiovascular effects – more HT – 4mm Hg, and 4 BPM
- But those who adhere to meds are more likely to be overweight, have impulsive eating
- Controlling weight and impulse eating can result in improved cardiovascular outcomes
- **Adult ADHD Dx 5%, but prescriptions are 12%**
 - Not easy diagnosis, overdiagnosis
 - Symptoms improve when prefrontal cortex improves – mid 20s
 - Trying meds, improves confidence, including off meds,
 - Only keep on if helping a lot
 - By the end of school – they have learned strategies to function without meds
 - A small percentage still need stimulants
 - With age people develop strategies to compensate for symptoms, inattention persists > hyperactivity
 - Childhood history of academic impairment not always apparent - can be missed esp in young girls
 - Can have ongoing features - emotional dysregulation, rejection sensitivity



GUIDE TO ADHD PSYCHOEDUCATION

What is ADHD?

Attention Deficit Hyperactivity Disorder is a neurodevelopmental condition with symptoms existing along a continuum from mild to severe. It occurs across the life span.

How is ADHD Treated?

Treatment should be **multimodal**. Incorporating different interventions, such as education, medication, and behavioral modifications/motivational interviewing/psychotherapy, produces a better outcome.

Treatment must be collaborative among the physician, the patient, and the family. It should be targeted to each individual's needs and goals, which may change over time.

Two important components of a multimodal approach:

PSYCHOEDUCATION

Psychoeducation should be the first intervention. Educating the family/patient about ADHD (symptoms, functional impairment, possible comorbidities and treatment) will ensure a more successful outcome.

PSYCHOSOCIAL INTERVENTIONS

Psychosocial interventions can reduce impairments associated with ADHD symptoms and improve overall quality of life. Interventions can be **cognitive or behavioral**.

PSYCHOEDUCATION

Discover

- What does the individual/family know about ADHD?

Demystify

- Myths about ADHD
- Diagnosis and assessment processes

Instill Hope

- Evidence-based treatments and interventions **do** exist and **will** promote a positive outcome

Educate

- Importance of combining pharmacological and psychosocial interventions
- Risks and benefits

Empathize

- Acknowledge feelings of discouragement, grief, and frustration.

Encourage

- A strength-based approach
- Make more positive than negative comments
- Discourage criticisms

Recognize

- Appropriate behavior, whether observed or reported
- Goals achieved

Be Sensitive

- Ethnic, cultural and gender issues may shape the perception and beliefs about ADHD and its treatment

Motivate

- Nurture strengths and talents
- Encourage skills

Promote

- Regular exercise
- Consistent sleep hygiene
- Healthy nutrition routine

Humour



Humour can defuse awkward, tense situations and avoid or reduce conflict

Give Resources

- Websites
- Local community resources
- Book lists



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Psychosocial Interventions



GUIDE TO ADHD PSYCHOSOCIAL INTERVENTIONS

At Home

Instructional

- Make eye and/or gentle physical contact before giving one or two clear instructions. Have instructions repeated back, or confirm they were understood, before proceeding

Behavioral

- Use a positive approach and calm tone of voice. Teach calming techniques to de-escalate conflict
- Use praise, catch them being good (playing nicely)
- Set clear attainable goals and limits (homework and bedtime routines, chores) and connect them to earning privileges, special outings etc.
- Use positive incentives and natural consequences: When you..., then you may...
- Frequently, instructions can be useful, such as I understand
- Adults should model emotional self-regulation and a balanced lifestyle (good eating and sleep habits, exercise and hobbies)
- Choices should be limited to two or three options

Environmental

- Structure and routine are essential. Parents/partners must be united, consistent, firm, fair and follow through
- Encourage prioritizing instead of procrastination
- Post visual reminders (rules, lists, sticky notes, calendar) in prominent locations
- Use timers/apps for reminders (homework, chores, limiting electronics, paying bills)
- Keep labeled, different coloured folders or containers in prominent locations for items (keys, electronics)
- Find the work area best suited to the individual (dining table, quiet area)
- Break down tasks
- Allow movement breaks
- Allow white noise (fan, background music) during homework or at bedtime

At School

Instructional

- Keep directions clear and precise
- Get student's attention before giving instructions
- Check understanding and provide clarification as needed
- Actively engage the student by providing work at the appropriate academic level

Behavioral

- Provide immediate and frequent feedback
- Use direct requests – when...then
- Visual cues for transitions
- Allow for acceptable opportunities for movement – “walking papers”

Environmental

- Preferential seating
- Quiet place for calming down

Accommodations

- Chunk and break down steps to initiate tasks
- Provide visual supports to instructions
- Reduce the amount of work required to show knowledge
- Allow extended time on tests and exams
- Provide note takers or access to assistive technology
- Supports can include the CADDRA psychoeducational and accommodations template
- Request school support services

At Work

Accommodations

- Identify accommodation needs
- Provide CADDRA workplace accommodations template

Counsel

- Suggest regular and frequent meetings with manager and support collaborative approach
- Set goals, learn to prioritize, review progress regularly
- Identify time management techniques that work for the client, e.g. using a planner, apps
- Declutter and create a work friendly environment

Tools

- Organizational apps and/or productivity websites: caddra.ca/medical-resources/psychosocial-information

Relationships

- Understand the impact ADHD can have on relationships with partners, family, friends, teachers, peers and coworkers
- Recognize and accept ADHD can cause unintended friction and frustration between parent and child as well as between partners (e.g. difficulties with self-regulation, time management difficulties)
- Learn how to listen and communicate effectively
- Organize frequent time to communicate (don't just talk) to discuss goals and plans (what works, what doesn't) within home, educational and work environments
- Schedule regular fun with family, partners, friends
- Practice relaxation and mindfulness techniques: caddra.ca/medical-resources/psychosocial-information
- Stay calm, be positive, recognize/validate and celebrate strengths!

Other referrals may be needed:

- Psychologist
- Social Skills Program
- Tutor, Family Therapist
- Organizational Skill Course
- Parenting Program
- Occupational Therapist
- Speech and Language
- Audiologist
- Learning Strategies
- ADHD Coach
- Vocational Coach

Psychosocial Interventions



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- Praise them for being good (playing nicely)
- Break tasks into smaller steps and limit homework and screen time to prevent them from missing
- Use positive reinforcement
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- Praise them for being good
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For further information, please refer to the Psychosocial Interventions and Treatments chapter, Canadian ADHD Practice Guidelines at caddra.ca

Version: October 2016

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Quiet environment
White Noise
Positive Feedback
Visual cues for Transitions
Build communication and relationship skills