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MEDICATION TREATMENT FOR ADHD

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LEARNING OBJECTIVES

1. To understand the medication options for ADHD
2. To understand how other conditions can influence ADHD treatment
3. To empower you as parents to be active participants in decision-making around your child's ADHD treatment

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Disclosures

- No financial disclosures (no relationships with any pharmaceutical company)
- I will be using some brand names for clarity
- I will mention one “off-label” medication

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Take A Deep Breath…Relax

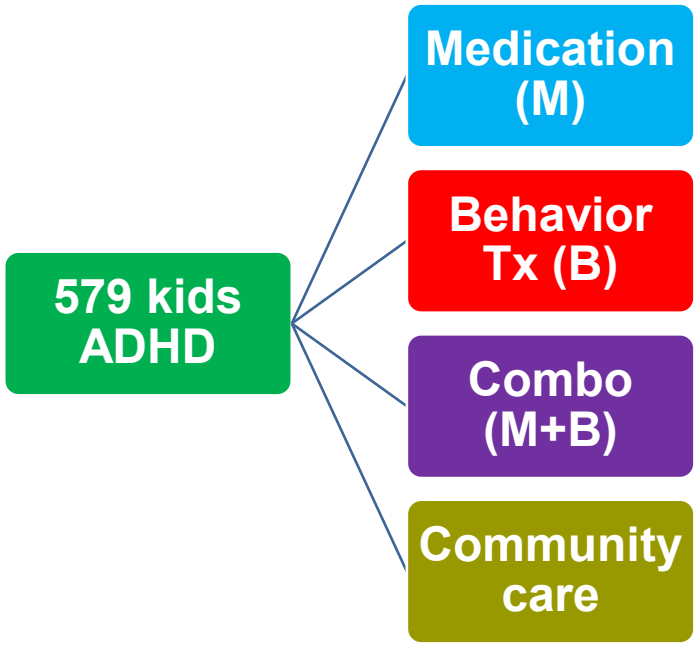
- Find your zone of tranquility… It's easy to get emotional when it comes to our kids.
- ADHD kids are unique despite their symptoms of ADHD. So, it's no surprise that each parent's journey of treating their child's ADHD is unique.
- There is no right or wrong decision with regards to treating your child's ADHD. You know your child best and are a powerful advocate for them.



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Multimodal treatment study ADHD--1999



- Kids who got medication had the biggest improvement in ADHD symptoms
- Combo group not better than Med group for ADHD symptoms
- Combo group had other benefits: oppositional behavior, social skills, and parent-child relationship
- Kids in the Combo group needed lower medication doses to get the same benefit!

A 14-Month Randomized Clinical Trial of Treatment Strategies for Attention-Deficit/Hyperactivity Disorder
The MTA Cooperative Group; Arch Gen Psychiatry. 1999;56(12):1073-1086.

MEDICATION TREATMENT

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When to try Medication….



- ADHD symptoms are interfering with child's functioning
- After evaluation for co-existing conditions
- Assessment of cardiac health
- Everyone is well educated and prepared for the trial of medication

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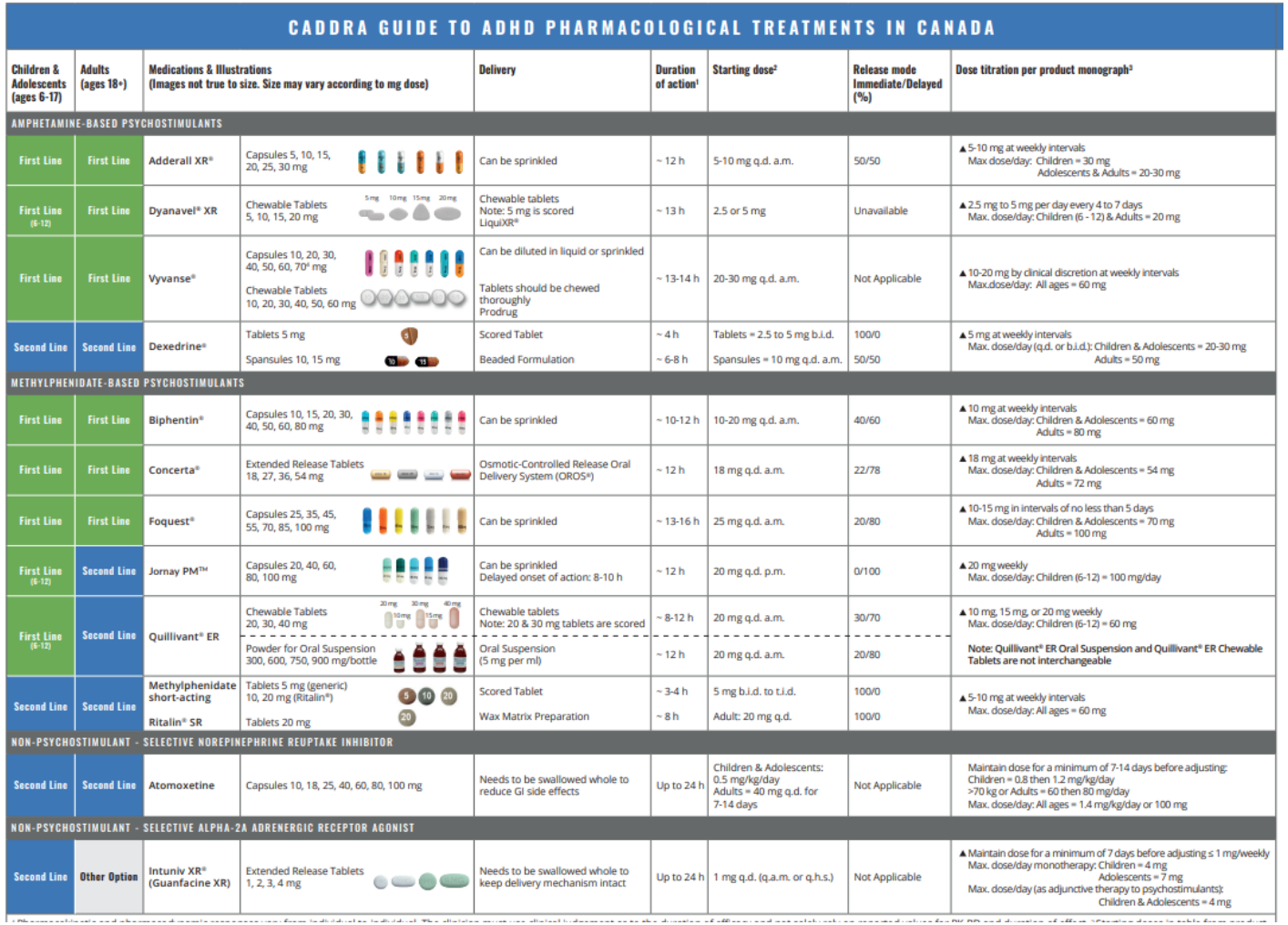
CADDRA TREATMENT GUIDELINES MAY 2026

1ST LINE

- Long-acting stimulants

2ND LINE

- Short and intermediate-acting stimulants
- Atomoxetine = Strattera
- Guanfacine XR = Intuniv



CADDRA GUIDE TO ADHD PHARMACOLOGICAL TREATMENTS IN CANADA

Children & Adolescents (ages 6-17)	Adults (ages 18+)	Medications & Illustrations (Images not true to size. Size may vary according to mg dose)		Delivery	Duration of action[1]	Starting dose[2]	Release mode Immediate/Delayed (%)	Dose titration per product monograph[2]
AMPHETAMINE-BASED PSYCHOSTIMULANTS								
First Line	First Line	Adderall XR®	Capsules 5, 10, 15, 20, 25, 30 mg	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 (6-12)	First Line	Dyanavel® XR	Chewable Tablets 5, 10, 15, 20 mg	Chewable tablets Note: 5 mg is scored LiquiXR®	~ 13 h	2.5 or 5 mg	Unavailable	▲2.5 mg to 5 mg per day every 4 to 7 days Max. dose/day: Children (6 - 12) & Adults = 20 mg
First Line	First Line	Vyvanse®	Capsules 10, 20, 30, 40, 50, 60, 70[3] mg Chewable Tablets 10, 20, 30, 40, 50, 60 mg	Can be diluted in liquid or sprinkled Tablets should be chewed thoroughly Prodrug	~ 13-14 h	20-30 mg q.d. a.m.	Not Applicable	▲10-20 mg by clinical discretion at weekly intervals Max.dose/day: All ages = 60 mg
Second Line	Second Line	Dexedrine®	Tablets 5 mg Spansules 10, 15 mg	Scored Tablet Beaded Formulation	~ 4 h ~ 6-8 h	Tablets = 2.5 to 5 mg b.i.d. Spansules = 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	First Line	Biphentin®	Capsules 10, 15, 20, 30, 40, 50, 60, 80 mg	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	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	First Line	Foquest®	Capsules 25, 35, 45, 55, 70, 85, 100 mg	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 (6-12)	Second Line	Jornay PM™	Capsules 20, 40, 60, 80, 100 mg	Can be sprinkled Delayed onset of action: 8-10 h	~ 12 h	20 mg q.d. p.m.	0/100	▲20 mg weekly Max. dose/day: Children (6-12) = 100 mg/day
First Line (6-12)	Second Line	Quillivant® ER	Chewable Tablets 20, 30, 40 mg	Chewable tablets Note: 20 & 30 mg tablets are scored	~ 8-12 h	20 mg q.d. a.m.	30/70	▲10 mg, 15 mg, or 20 mg weekly Max. dose/day: Children (6-12) = 60 mg **Note: Quillivant® ER Oral Suspension and Quillivant® ER Chewable Tablets are not interchangeable**
			Powder for Oral Suspension 300, 600, 750, 900 mg/bottle	Oral Suspension (5 mg per ml)	~ 12 h	20 mg q.d. a.m.	20/80	
Second Line	Second Line	Methylphenidate short-acting	Tablets 5 mg (generic) 10, 20 mg (Ritalin®)	Scored Tablet	~ 3-4 h	5 mg b.i.d. to t.i.d.	100/0	▲5-10 mg at weekly intervals Max. dose/day: All ages = 60 mg
		Ritalin® SR	Tablets 20 mg	Wax Matrix Preparation	~ 8 h	Adult: 20 mg q.d.	100/0	
NON-PSYCHOSTIMULANT - SELECTIVE NOREPINEPHRINE REUPTAKE INHIBITOR								
Second Line	Second Line	Atomoxetine	Capsules 10, 18, 25, 40, 60, 80, 100 mg	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: All ages = 1.4 mg/kg/day or 100 mg
NON-PSYCHOSTIMULANT - SELECTIVE ALPHA-2A ADRENERGIC RECEPTOR AGONIST								
Second Line	Other Option	Intuniv XR® (Guanfacine XR)	Extended Release Tablets 1, 2, 3, 4 mg	Needs to be swallowed whole to keep delivery mechanism intact	Up to 24 h	1 mg q.d. (q.a.m. or q.h.s.)	Not Applicable	▲Maintain dose for a minimum of 7 days before adjusting ≤ 1 mg/weekly Max. dose/day monotherapy: Children = 4 mg Adolescents = 7 mg Max. dose/day (as adjunctive therapy to psychostimulants): Children & Adolescents = 4 mg

https://www.caddra.ca/wp-content/uploads/CADDRA_ADHD-Medication-Chart_EN_FINAL.pdf

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Why are stimulants first line?

- Medications are the most effective treatment for core ADHD symptoms.
- Stimulants are the most effective medications for ADHD
- Over 90% of children will have symptom improvement with stimulant treatment (50% will be in normal range)
- Work quickly and can be stopped and started easily

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Stimulants: alert and focus your brain

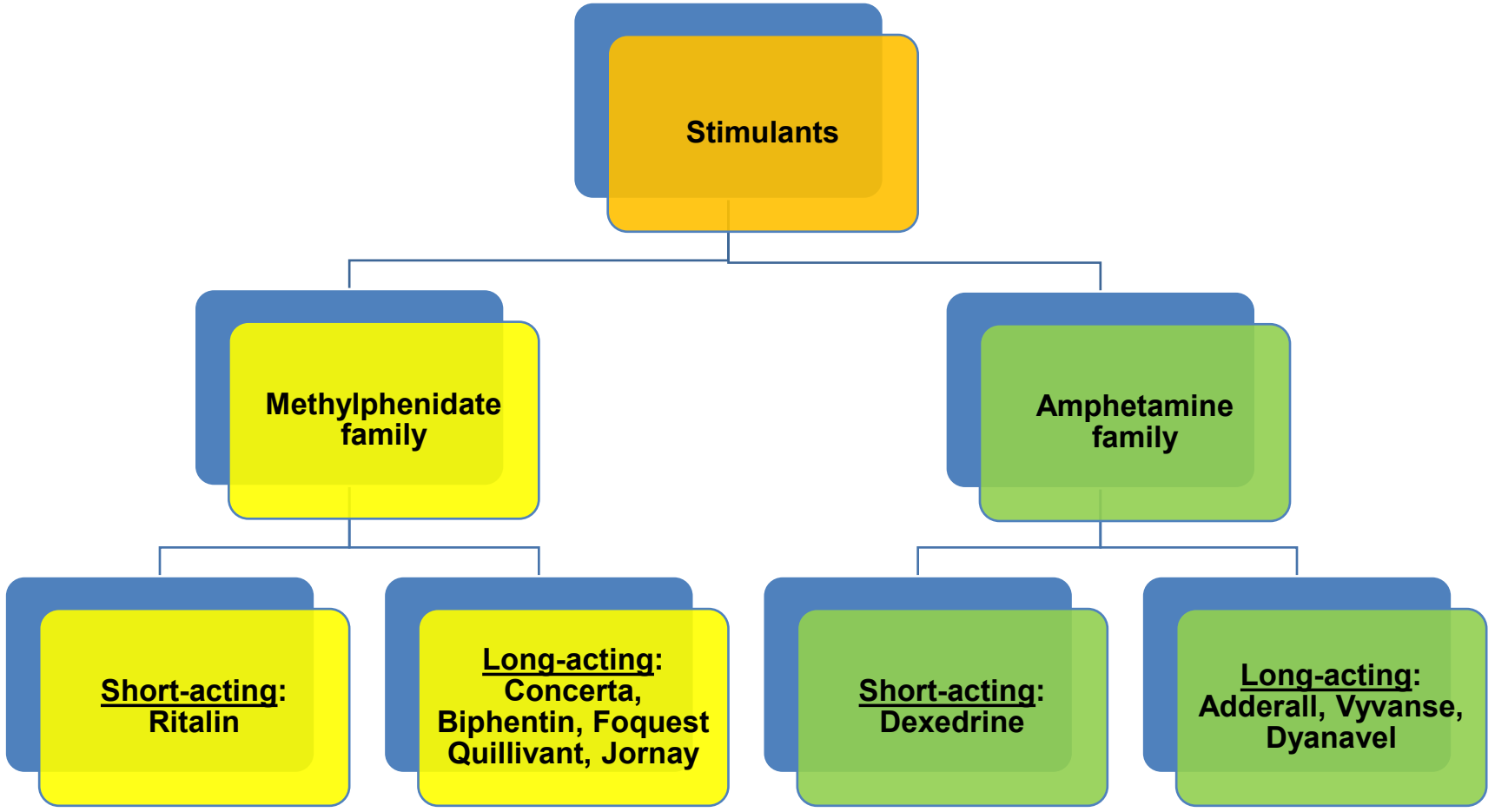
- **Improve ADHD symptoms:**
  - Increase concentration & attention
  - Decrease impulsivity & hyperactivity/restlessness
- **Secondary effects:**
  - Increase work/school productivity and accuracy
  - Decrease aggression & defiance (in most children)
  - Improve peer acceptance & interactions
  - Improve self-esteem
  - Improve driving performance



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Stimulant medication made simple:



Stimulant family comparison

Methylphenidate family

- Ritalin, Biphentin, Concerta, Foquest, Quillivant, Jornay
- Moderate-strong effect (0.8)
- Milder side effects
- Often tried first, especially with younger kids
- Jornay—option for nighttime administration

Amphetamine family

- Dexedrine, Adderall, Vyvanse, Dyanavel
- Strong effect (1.0)
- Slightly more side effects
- Often tried second especially for younger kids
- Vyvanse works well for teens

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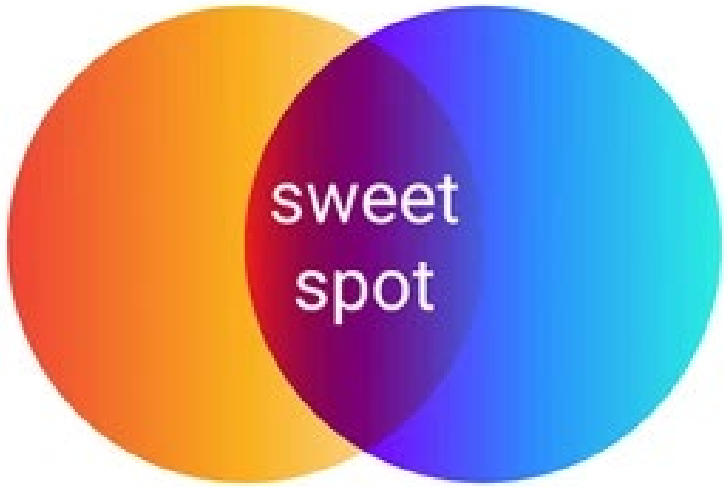
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Stimulants: Side Effects

- **Insomnia (50%+)**
- **Decreased appetite (50%+)**
- Irritability, anxiety, flat mood (<25%)
- Stomachaches (<20%)
- Headaches (<15%)
- Worsening of tics
- Growth effects (monitor long term)
- Cardiac effects: increased HR, BP



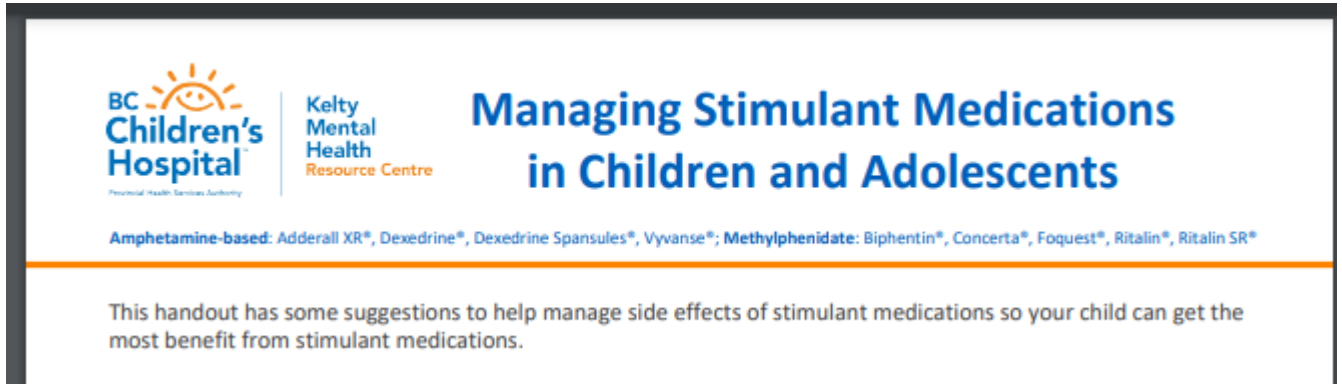
Goal of stimulant treatment is to find the sweet spot…



- Enough medication to get the benefits of the stimulants
- But not so much that side effects are a problem….

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Kelty Mental Health Resource Centre

Managing Stimulant Medications in Children and Adolescents

Amphetamine-based: Adderall XR®, Dexedrine®, Dexedrine Spansules®, Vyvanse®; **Methylphenidate**: Biphentin®, Concerta®, Foquest®, Ritalin®, Ritalin SR®

This handout has some suggestions to help manage side effects of stimulant medications so your child can get the most benefit from stimulant medications.

Tips and tricks to manage stimulants

- Appetite problems:
  - Big breakfast, Boost supp.'s, grazing during the day, evening snack, …..
- Sleep problems:
  - Give pill early, sleep hygiene, melatonin, switch to shorter-acting med….
- Irritability/low mood
  - Lower dose, Switch to non-stimulant
- Wears off too quickly
  - Switch to longer acting form, give pill later, add non-stimulant
- Early morning challenges
  - Give pill earlier, add low dose short-acting med, try Jornay

https://keltymentalhealth.ca/sites/default/files/resources/ManagingStimulantMedications_2022_0.pdf

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When to try a non-stimulant?

- Stimulants from both medication families haven't worked
- Stimulants work for ADHD symptoms but cause side effects
- Stimulants work but need more full day support
- Other factors like sleep and anxiety



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Non-Stimulants: 2ND LINE MEDICATIONS

- Guanfacine XR (Intuniv), Clonidine, Atomoxetine (Strattera)
- Must be taken every day
- Dose gradually titrated up when starting and down when stopping
- Takes 4 to 6 weeks patience to see full therapeutic effect
- Less of a “Wow” on core ADHD symptoms, but can be better tolerated and help more with other things
- No abuse potential

Non-stimulant comparison

Atomoxetine

- Noradrenaline reuptake inhibitor
- Approved for monotherapy (off-label with stimulants)
- **Also helps anxiety**
- Side effects:
  - Stomach upset, ↓ appetite
  - Headache
  - Potential for irritability, energized feelings
  - Rare: rash, liver problems

Guanfacine XR (Clonidine)

- Alpha-2 agonists
- Approved for monotherapy and with stimulants
- **Also helps with sleep, emotional regulation, and tics**
- Side effects:
  - Dizziness
  - ↓ Blood pressure
  - Sedation
  - Dry mouth

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"Drug Holidays"

- Time off medication: can be weekends, spring break, summer
- Easy to do with stimulants
- Can allow for catch-up eating and growth
- **Allows for reassessment of baseline—is medication still needed?**
- Downsides: impact on child's functioning at home and extracurricular activities, e.g summer camp.
- Harder to do with non-stimulants—but possible to try over summer when there is enough time.



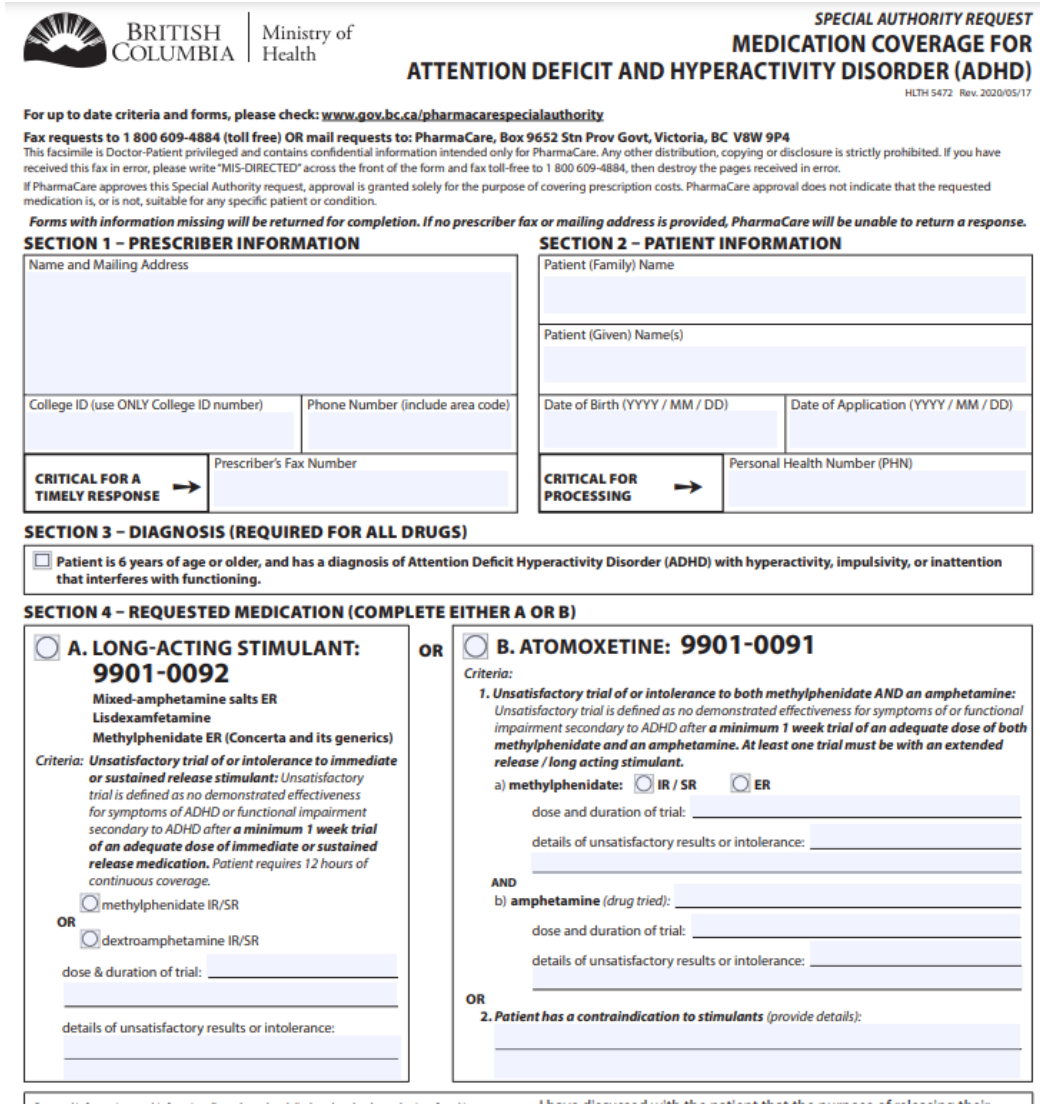
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Practicalities: COST

- Pharmacare requires you to first try a short or intermediate-acting stimulant to be able to be eligible for long-acting stimulant
- Pharmacare covers Concerta, Foquest, Adderall, Vyvanse and Atomoxetine
- Other ADHD medications (Biphentin, Quillivant, guanfacine XR) may be covered by extended health plans
- Clonidine is good replacement for guanfacine if not covered
- Go to BC Pharmacare online.



BRITISH COLUMBIA | Ministry of Health

SPECIAL AUTHORITY REQUEST

MEDICATION COVERAGE FOR ATTENTION DEFICIT AND HYPERACTIVITY DISORDER (ADHD)

HLTH 5472 Rev. 2020/05/17

For up to date criteria and forms, please check: www.gov.bc.ca/pharmacarespecialauthority

Fax requests to 1 800 609-4884 (toll free) OR mail requests to: PharmaCare, Box 9652 Stn Prov Govt, Victoria, BC V8W 9P4

This facsimile is Doctor-Patient privileged and contains confidential information intended only for PharmaCare. Any other distribution, copying or disclosure is strictly prohibited. If you have received this fax in error, please write "MIS-DIRECTED" across the front of the form and fax toll-free to 1 800 609-4884, then destroy the pages received in error.

If PharmaCare approves this Special Authority request, approval is granted solely for the purpose of covering prescription costs. PharmaCare approval does not indicate that the requested medication is, or is not, suitable for any specific patient or condition.

Forms with information missing will be returned for completion. If no prescriber fax or mailing address is provided, PharmaCare will be unable to return a response.

SECTION 1 – PRESCRIBER INFORMATION

Name and Mailing Address

College ID (use ONLY College ID number) | Phone Number (include area code)

CRITICAL FOR A TIMELY RESPONSE → Prescriber's Fax Number

SECTION 2 – PATIENT INFORMATION

Patient (Family) Name

Patient (Given) Name(s)

Date of Birth (YYYY / MM / DD) | Date of Application (YYYY / MM / DD)

CRITICAL FOR PROCESSING → Personal Health Number (PHN)

SECTION 3 – DIAGNOSIS (REQUIRED FOR ALL DRUGS)

☐ **Patient is 6 years of age or older, and has a diagnosis of Attention Deficit Hyperactivity Disorder (ADHD) with hyperactivity, impulsivity, or inattention that interferes with functioning.**

SECTION 4 – REQUESTED MEDICATION (COMPLETE EITHER A OR B)

◯ **A. LONG-ACTING STIMULANT: 9901-0092**

Mixed-amphetamine salts ER
Lisdexamfetamine
Methylphenidate ER (Concerta and its generics)

Criteria: ***Unsatisfactory trial of or intolerance to immediate or sustained release stimulant:*** *Unsatisfactory trial is defined as no demonstrated effectiveness for symptoms of ADHD or functional impairment secondary to ADHD after* ***a minimum 1 week trial of an adequate dose of immediate or sustained release medication.*** *Patient requires 12 hours of continuous coverage.*

◯ methylphenidate IR/SR
OR
◯ dextroamphetamine IR/SR

dose & duration of trial:

details of unsatisfactory results or intolerance:

OR

◯ **B. ATOMOXETINE: 9901-0091**

Criteria:

1. ***Unsatisfactory trial of or intolerance to both methylphenidate AND an amphetamine:*** *Unsatisfactory trial is defined as no demonstrated effectiveness for symptoms of or functional impairment secondary to ADHD after* ***a minimum 1 week trial of an adequate dose of both methylphenidate and an amphetamine. At least one trial must be with an extended release / long acting stimulant.***

a) **methylphenidate:** ◯ **IR / SR** ◯ **ER**

dose and duration of trial:

details of unsatisfactory results or intolerance:

AND

b) **amphetamine** *(drug tried):*

dose and duration of trial:

details of unsatisfactory results or intolerance:

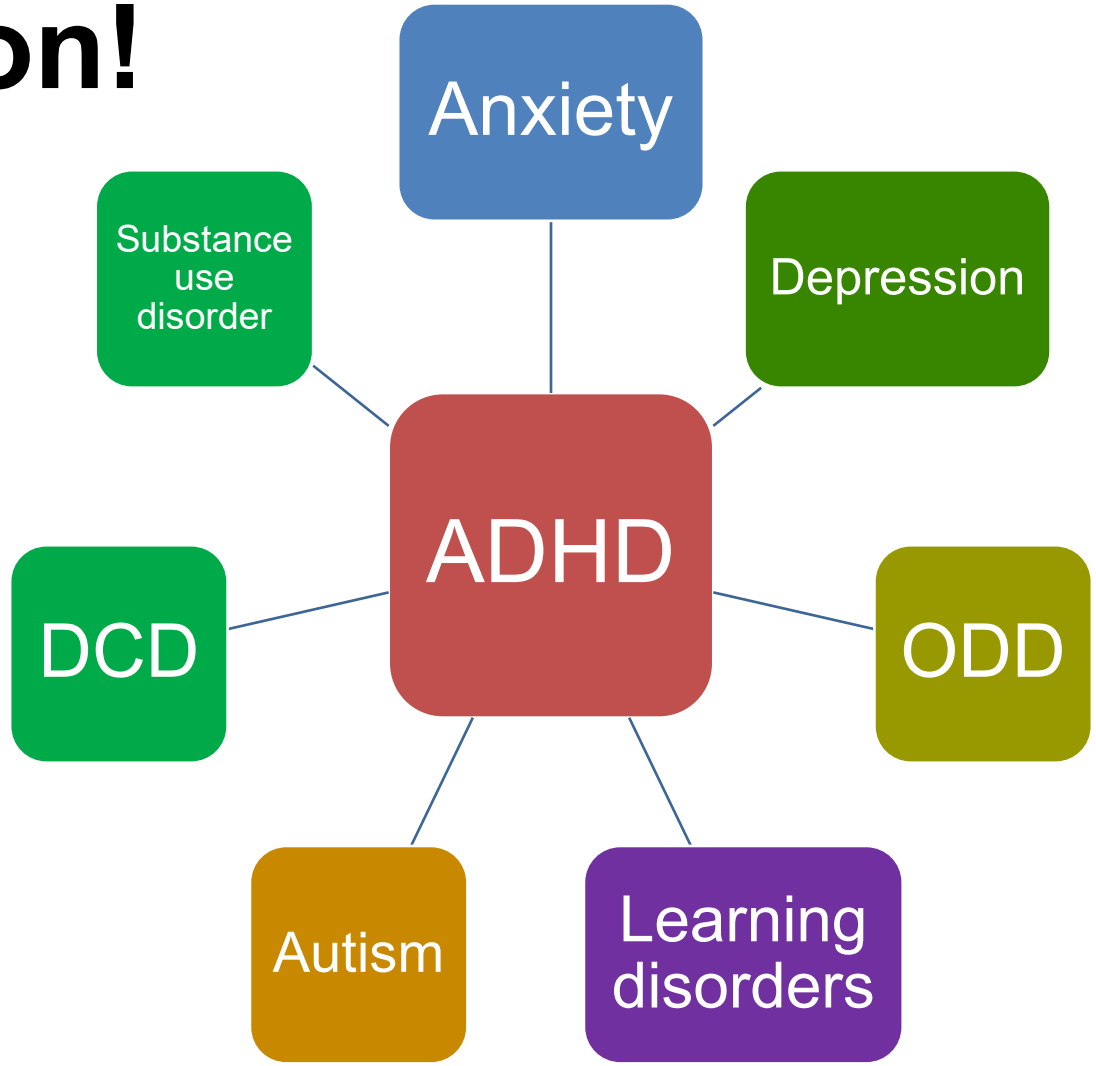
OR

2. ***Patient has a contraindication to stimulants*** *(provide details):*

ADHD +: What to do when there's more than one thing going on?

Comorbidity is common!

- Over half of children with ADHD have at least one other condition.
- Many children will have two or more other conditions.



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How to treat ADHD in children with anxiety?

- **Counseling**
  - Cognitive behavioral therapy (CBT) is first line treatment
  - Can help with anxiety management and help mitigate impact of ADHD on self-esteem
  - Available through CYMH teams, private counselors; visit Kelty for resource lists for anxiety
- **Mild to moderate anxiety:**
  - Try treating ADHD first—in many children, improving ADHD symptoms can help decrease **anxiety as their lives become less stressful and chaotic**
- **Moderate to severe anxiety:**
  - Consider starting an SSRI (fluoxetine, sertraline, or escitalopram) first, before starting stimulant medication for ADHD.

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How to treat ADHD in Autism

- Stimulant medications are still first-line
- Watch for activating side effects
- Guanfacine XR and Clonidine are good alternatives to stimulants because of their benefit for emotional regulation
- Ensure appropriate supports are in place for the child in school and at home
- Watch for anxiety—can look different in kids with Autism

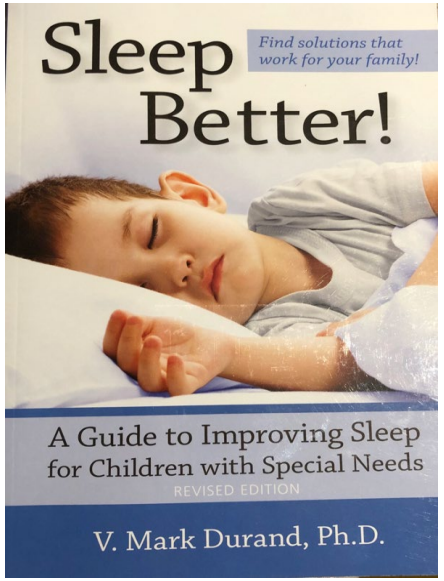
How to treat ADHD in children with ODD?

- ODD describes challenging behaviors, but doesn't say anything about what is contributing to the behavior
- Children want to be successful and difficult behaviors are usually the result of poor coping skills which overwhelm the child's ability to deal with a stressor
- Treating ADHD with stimulants generally helps ODD as it allows child to have a bit more of a filter and time to think before they react
- Parenting and family interventions are particularly important!



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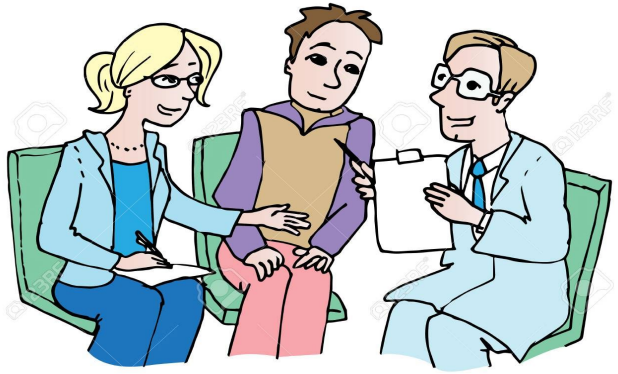
Sleep Problems with ADHD

- First line: Behavioral/sleep hygiene approaches
    - Better Nights Better Days online resource for sleep in kids with ADHD https://betternightsbetterdays.ca/better-nights-better-days-center
- Second line: Melatonin can be helpful in kids with neurodevelopmental disorders
    - Shortens sleep onset time by ~ 30 min and increases total sleep time by ~ 30 min
    - Give 30-60 min before bedtime,
    - Dose ranges poorly defined: Consider up to 3 mg school age kids, up to 5 mg teens
    - Adverse effects usually mild but can sometimes cause headache, GI upset, nightmares
    - 2 yr study of melatonin in kids with ASD showed sustained benefit and no effect on growth or puberty
    - **BUT—no longer term safety data exists….**

References:
Melatonin for insomnia in children, JAMA. 2020 Oct 20;324(15):1559-1560.
European expert guidance on management of sleep onset insomnia and melatonin use, European Journal of Pediatrics. 2024. Bruni O et al.

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CONCLUSIONS

- For best outcomes, combine medication and non-medication treatment.
- Stimulant medications are first-line in almost all cases
- ADHD medications can protect against negative outcomes of ADHD
- Comorbidities are common and can affect choice of treatment
- **The more you and your child become experts in your ADHD, the better able you are to direct and improve treatment outcomes**