

Canadian Fontan Education Day 2024

Medication considerations for individuals living with a Fontan



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Slido question

Question: What's the average number of prescription medications taken by adults with CHD?

Answer: On average, adults with CHD take 3 prescription medications

Other facts (to share after the poll):

- About 8 in 10 adults with CHD take at least one medication
- About 3 in 10 adults with CHD take 5 or more medications (often called “polypharmacy”)
- The more medications a person is taking, the more chances there are for drug interactions

What we'll cover in this session

Medications that can improve Fontan flow

Anticoagulants (“blood thinners”)

For both: Important drug interactions and how to avoid them

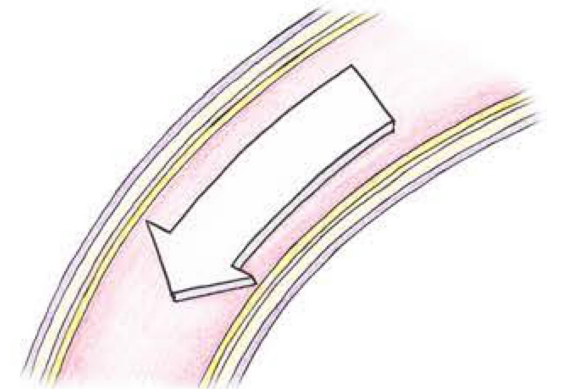
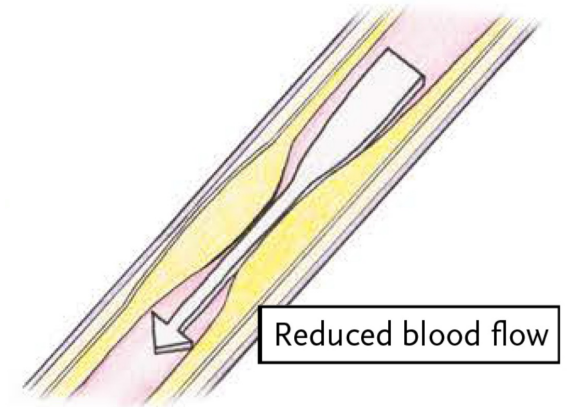
Medications that can improve Fontan flow

Types of medications:

- For high blood pressure in the lungs (called **pulmonary hypertension**)
- For decreased squeezing function of the single ventricle (called **reduced ejection fraction**)
- Diuretics (“water pills”) for **congestion** (fluid accumulation)

Medications for **pulmonary hypertension**

- Lower blood pressure in the lungs by relaxing & widening blood vessels
 - Improves blood flow into lungs
- Several options
 - **Phosphodiesterase-5 inhibitors** (e.g. sildenafil)
 - Important drug interactions to avoid: Nitrates, grapefruit juice
 - **Endothelin receptor antagonists** (e.g. bosentan)
- Expensive (range ~\$3000-13,000/year)
 - Limited coverage PharmaCare drugs – need to be prescribed by pulmonary hypertension specialist

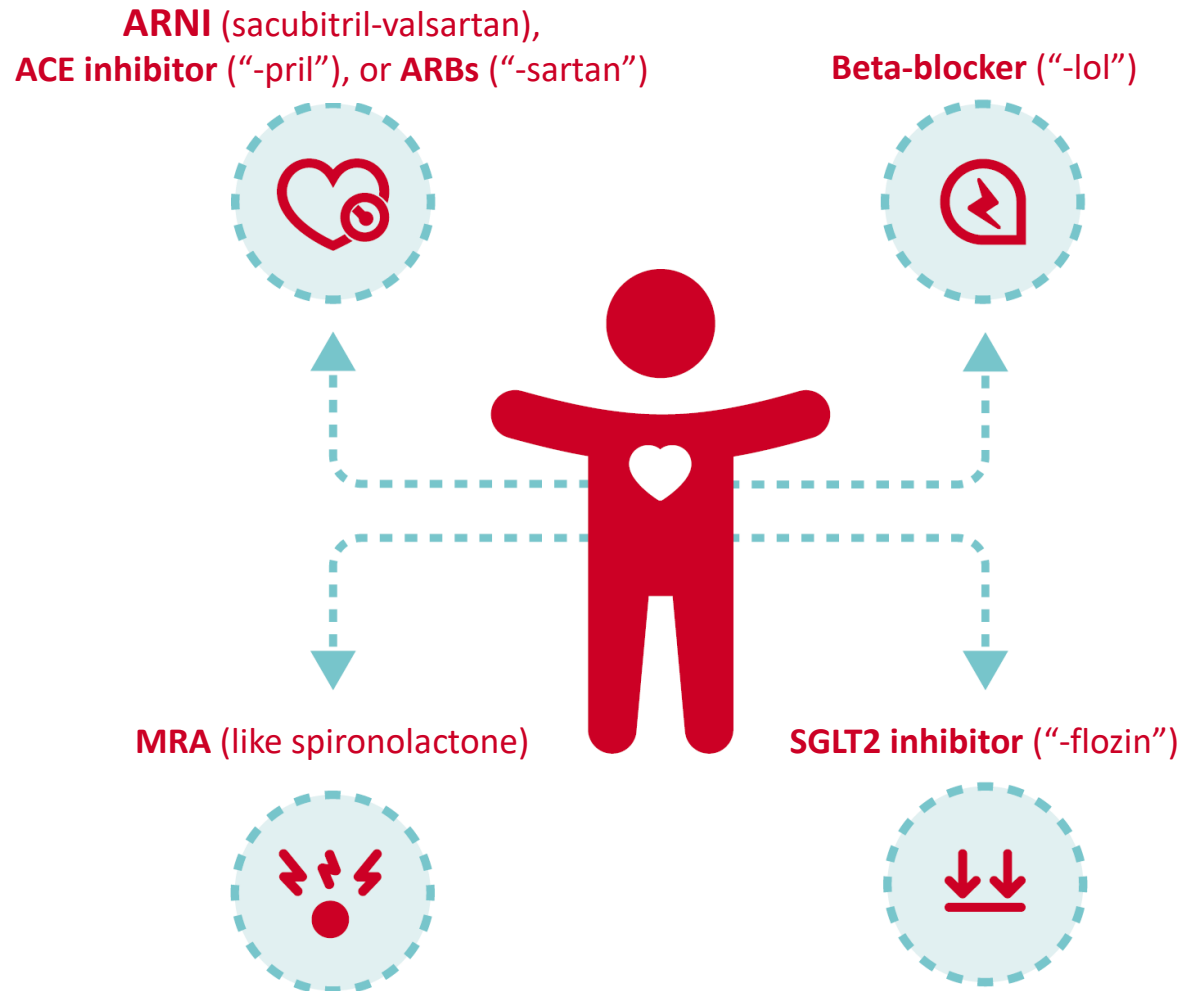


Medications for **reduced ejection fraction**

Canadian guidelines recommend using **4 different types of medications in combination** (where possible):

1. Angiotensin-receptor neprilysin inhibitor (ARNI), or ACE inhibitor/angiotensin receptor blocker (ARB)
2. Beta-blocker
3. Mineralocorticoid receptor antagonist (MRA)
4. Sodium-glucose cotransporter-2 (SGLT2) inhibitor

Each works in a unique way, & they work best when used together



NEW RESOURCE

Heart Failure Medications: A Patient & Caregiver Guide

Understanding Guideline-Directed Medical
Therapy for Heart Failure with reduced
ejection fraction (HFrEF)



ourhearthub.ca/heart-failure-medications-guide/



Common side effects of medications for pulmonary hypertension & reduced ejection fraction

Feeling lightheaded/dizzy is the most common side effect with these medications

What to do:

- Many side effects go away on their own, or become less bothersome with time
- Don't stop/change your medications on your own
- Your healthcare team can help you manage these medications

What can I do to make sure I'm on the right medications (and doses)?

Know:

- Your ejection fraction
- What medications and doses you are taking, and what they are for
 - Keep a list in your wallet and/or on your phone/tablet

Ask your healthcare team:

- What treatment options may be available for you
- What side effects to watch out for
- What to do about side effects you may be experiencing

**Medicines Checklist for
reduced ejection fraction**



<https://patientdecisionaid.org/wp-content/uploads/2020/11/EPIC-HF-Med-Grid-11.2020-1.pdf>

Anticoagulants (“blood thinners”)

Options & their main features

	Warfarin	Direct oral anticoagulants (apixaban, dabigatran, edoxaban, rivaroxaban)
Experience	Used since 1950s	Available since 2000s, evolving experience
How often do I take it?	Once per day, usually evening (to adjust dose after INR tests)	Once per day (edoxaban, rivaroxaban) or two times per day (apixaban, dabigatran)
Lab testing?	Frequent (for INR every 2-4 weeks depending on how INR control)	Every 6-12 months (kidney function blood test)
Food interactions?	Leafy-green vegetables (contain vitamin K; don't avoid, but need day-to-day consistency)	Rivaroxaban: Must take with a large meal Others: No
		Others: No
Drug interactions?	Many (usually managed with increased INR testing)	Some (fewer than with warfarin)
Cost?	Cheap, covered by all drug plans	All except edoxaban are generic (~\$30/month)
Antidote?	Yes (vitamin K), and blood products	Dabigatran: Yes Others: Blood products

Drug interactions: Overview

- What is a drug interaction?
 - Change in how a drug acts when taken with other medications, herbals/supplements, or foods
- A drug can interact with another by:
 - Changing how the medication acts on the body
 - Changing how the body deals with the medication
 - Changes how it's absorbed
 - Changes where it goes (distributes) into the body
 - Changes how it's eliminated (metabolism by the liver, excretion by the kidneys)
- Possible results of a drug interaction
 - **Decreased effectiveness** of one or both medications
 - **Increased side effects** from one or both medications

Top 5 tips to avoid drug interactions

- 1. Fill all your prescriptions at the same pharmacy**
 - Find a pharmacy with a team you trust (pharmacies with the cheapest prices may not always offer the best care)
- 2. Talk to your pharmacist before starting (or stopping) any new medications**
 - Including prescription medications, **natural health products, vitamins/minerals, or supplements (these are medications too!)**
- 3. Know what medications you're taking and why you're taking them**
- 4. Keep an updated list of all your medications**
- 5. Beware hidden ingredients in over-the-counter products**
 - Many over-the-counter products contain multiple ingredients
 - Example: Advil Cold & Sinus Plus contains 3 active ingredients
 - Ibuprofen (anti-inflammatory – can worsen heart failure), pseudoephedrine (nasal decongestant – can increase blood pressure), chlorpheniramine (antihistamine – can cause drowsiness)

Top 5 over-the-counter drug interactions to watch out for

1. **Non-steroidal anti-inflammatory drugs (NSAIDs)**

- Acetylsalicylic acid (Aspirin, except at “Baby” doses of 81 mg), ibuprofen (Advil, Motrin), naproxen (Aleve)
- Often included in cough & cold products, products for arthritis, headaches, period pain
- **When to avoid?**
 - If you’re taking an anticoagulant (increases the risk of bleeding)
 - If you’ve been told you have heart failure, high blood pressure, kidney issues
- **Alternative:** Acetaminophen (Tylenol)... unless...

2. **Acetaminophen if you’re taking warfarin**

- At doses >2000 mg/day, can increase INR if also taking warfarin

3. **Pseudoephedrine**

- Decongestant found in many cough & cold/flu products
- **Why avoid?** Can increase blood pressure, causing strain on the heart
- **Alternative:** Nasal saline rinse, decongestant nasal spray (use for <3 days to avoid dependence)

4. **Natural health products/supplements**

- Many contain active ingredients that can lower blood pressure, increasing side effects of prescription medications

5. **Certain fruit juices (grapefruit, pomelo, pomegranate)**

- **What’s the interaction?** These juices block an enzyme in the intestine, which leads to increased absorption of warfarin (increasing INR) and other medications (e.g. sildenafil, bosentan)

Take-home messages

- Know your medications and what they're for
- In most cases, there are several medication options
 - Talk to your healthcare team if you're unsatisfied or having issues with your medications
- Find a good pharmacist who you trust, and talk with them whenever starting (or thinking about starting) or stopping any medication

Resources

- <https://phacanada.ca/Living-with-PH/Resources>
- <https://ourhearthub.ca/heart-failure-medications-guide/>
- <https://patientdecisionaid.org/wp-content/uploads/2020/11/EPIC-HF-Med-Grid-11.2020-1.pdf>