



Living better with a Fontan circulation: become the CEO of your health

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Become the CEO of your own health

Mitigates
Risks

Chief operating officer

Works with
Team

Prioritizes
and
Organizes

Seeks out
new
knowledge

Proactive

Has a
Vision

“charged with maximizing the value of an entity”
- **in this case YOU!**

Mitigates
Risks

Minimizing risk with a Fontan circulation

Don't:

smoke cigarettes or cannabis

use any drugs (including all forms of cannabis)

drink alcohol

become obese

Don't smoke any substance

Fontan circulation depends on excellent lung function

Cardiac transplantation is not offered to smokers

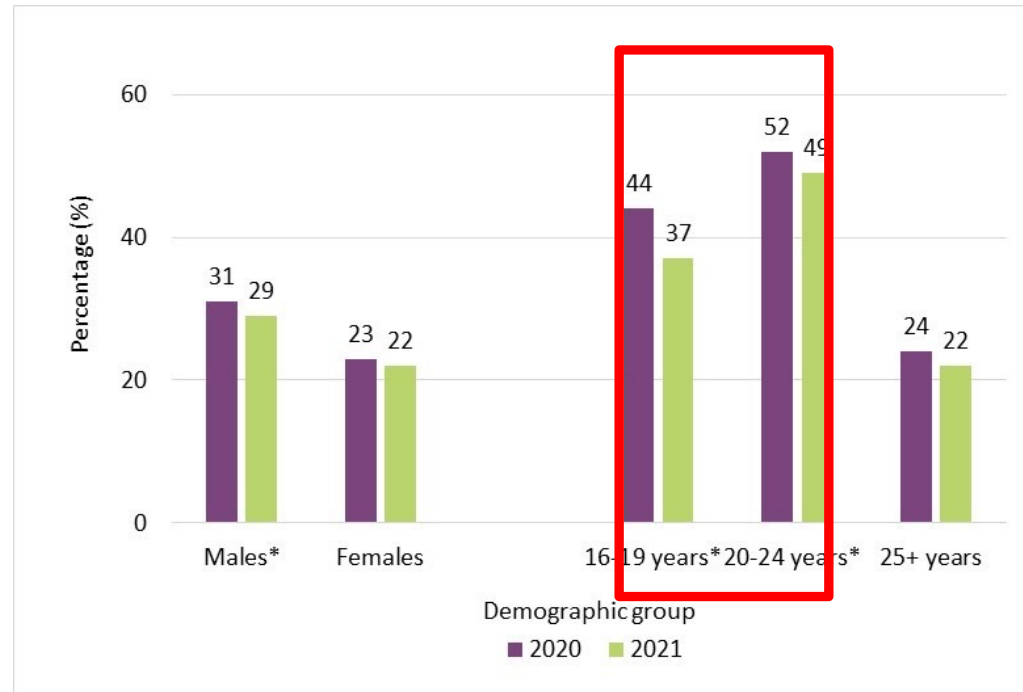


Prevalence of cigarette smoking in ACHD:
14% men
11% women

Moons et al Can J Cardio 2019; 35(12):1842-50

Cannabis Use in Canada

Poll Question 1



Data from Health Canada

Cannabis is not a “cure-all”

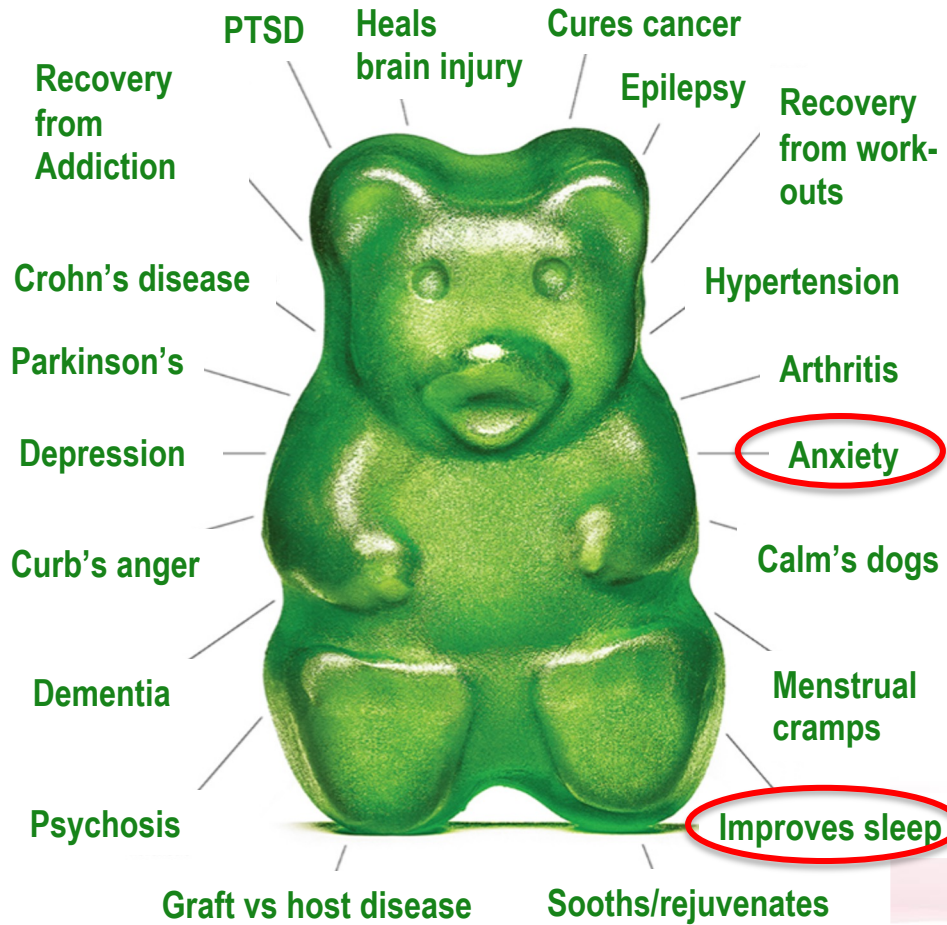
The New York Times Magazine

The Health Issue

Can CBD Really Do All That?

How one molecule from the cannabis plant came to be seen as a therapeutic cure-all.

By MOISES VELASQUEZ-MANOFF MAY 14, 2019



Limited Therapeutic Role for Cannabis



- Chronic neuropathic pain *
- Palliative pain *
- Spasticity or
spinal muscle spasm
- Nausea due to
chemotherapy *

Not for:
-anxiety
-depression
-sleep

*after failure to respond to standard
therapies

Cannabis probably harms the lungs

- Larger puff volumes + longer breath hold = ↑ delivery of inhaled elements compared to cigarettes
 - Similar combustion byproduct smoking tobacco
 - including carcinogens
 - ↑ tar burden because no filters
- Cannabis smokers have:
 - ↑ symptoms of cough, sputum and wheezing
 - ↑ episodes of bronchitis
 - ↑ airway inflammation on bronchoscopy and biopsy

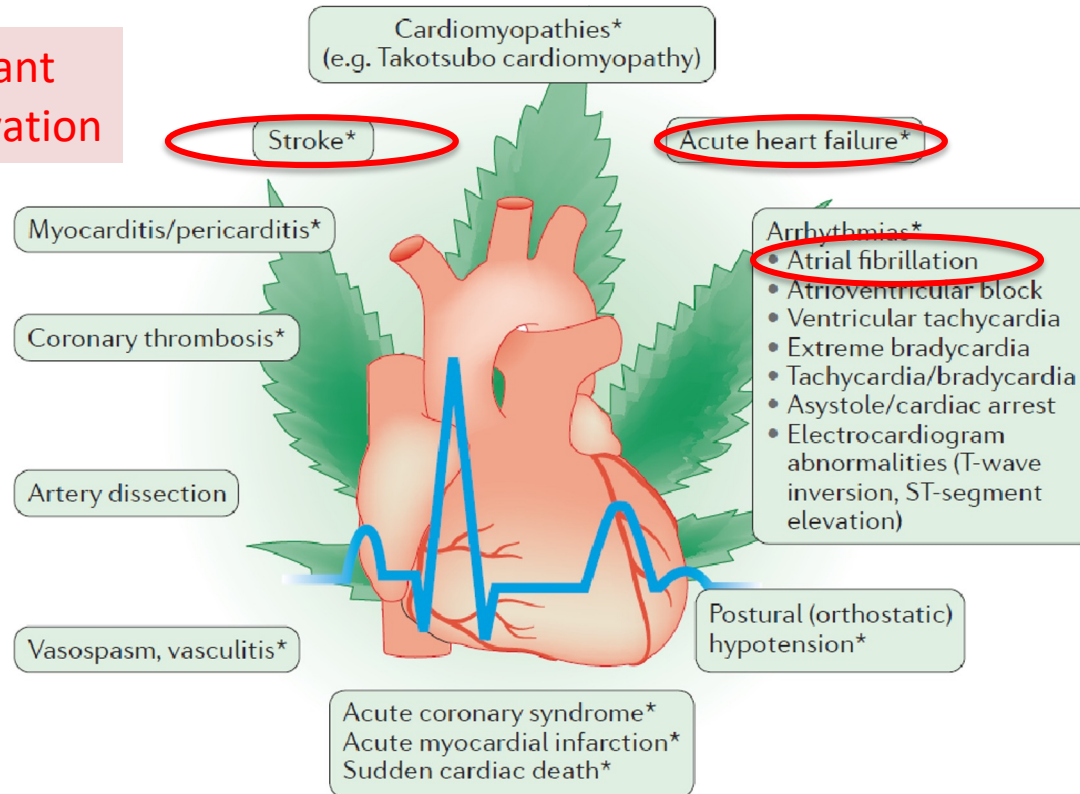


slide modified from Dr. Sheri Koshman

Cannabis harms the heart

Procoagulant
Platelet activation

Oxidative
stress



Impairs myocardial
contractility

Hyperadrenergic
state

Applies to all
forms of
cannabis: incl.
joints, vapes,
oils, edibles

Figure 2 | **Reported cardiovascular adverse consequences of recreational marijuana and synthetic cannabinoid use.** *Adverse effects that were reported for synthetic cannabinoids; note almost complete overlap with the adverse effects of marijuana.

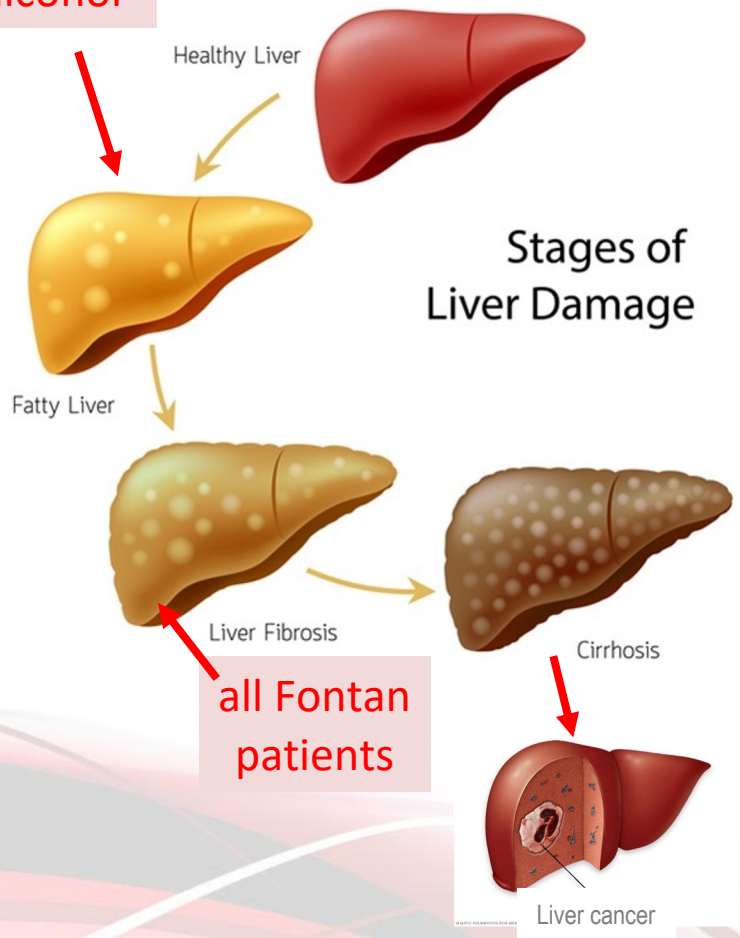
Cardiac transplantation is not offered to drug users

Nature Rev Cardiol 2018;15:151-166

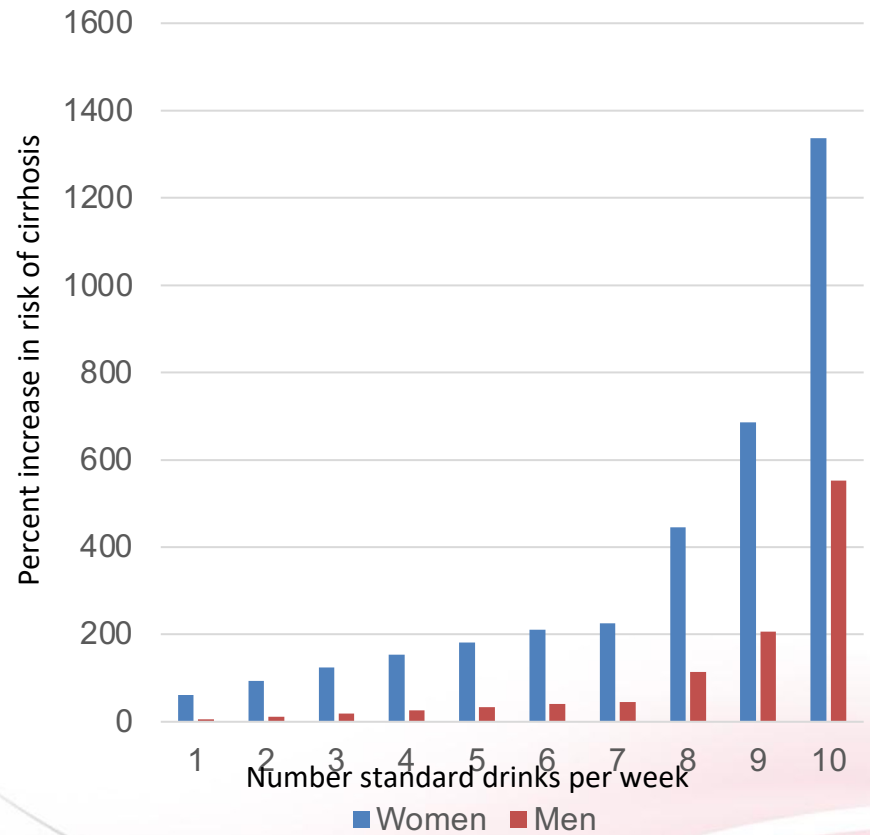
Mitigates Risks

Don't drink alcohol

drinking alcohol



Etol increases risk of cirrhosis



Canada's Guidance on Alcohol and Health, 2023

Don't become obese

Mitigates Risks

HEALTH RISKS of Being **OVERWEIGHT OR OBESE**



ATRIAL
FIBRILLATION



Cardiac transplantation is not offered if BMI > 35

Attend clinic appointments and engage with your HCPs

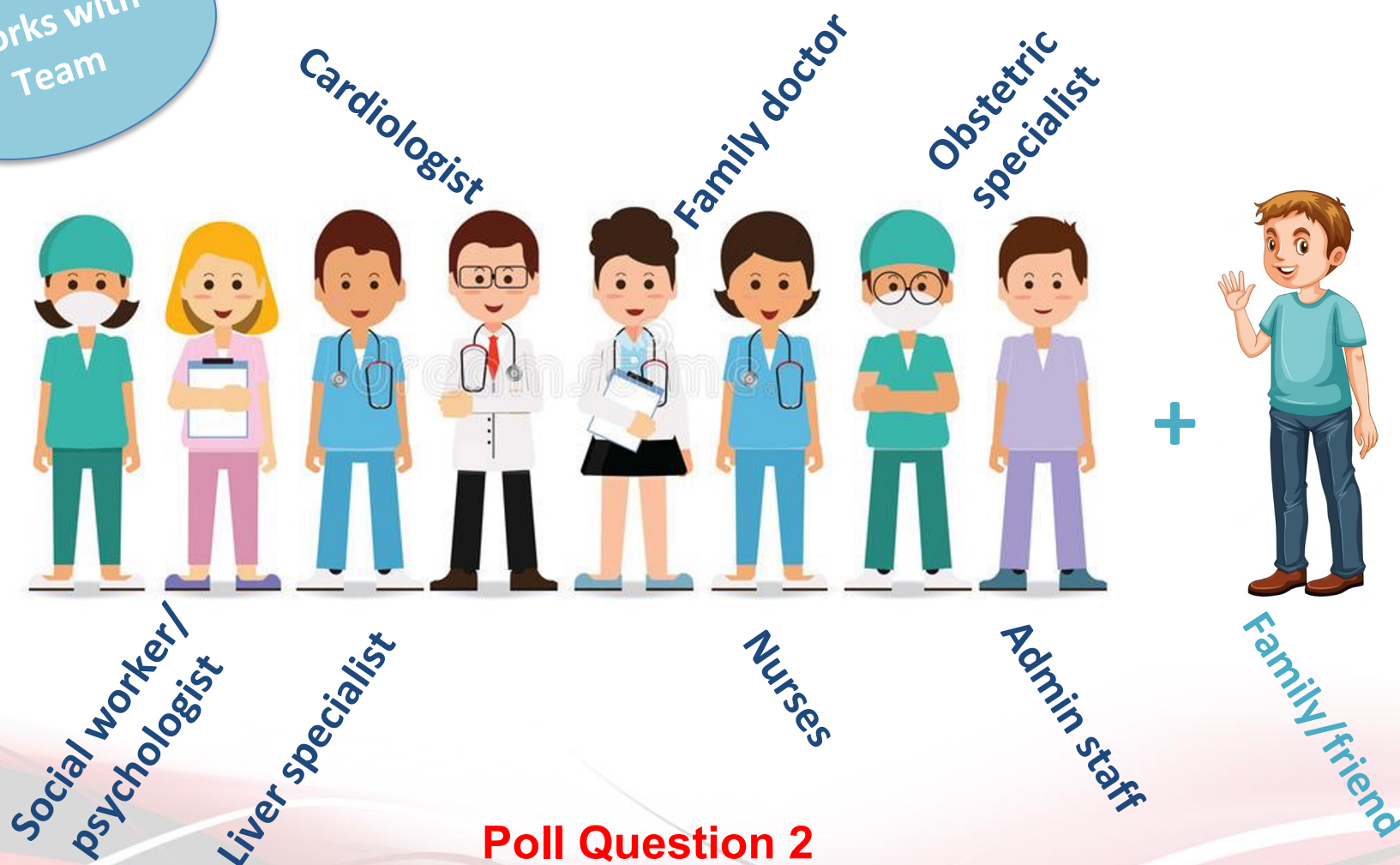
- Everyone's busy: come at least annually
 - if you don't get an appointment, don't assume you don't need to be seen
- Be organized
 - keep prescriptions current
 - have names, phone #s of your clinic handy
 - keep track of questions and answers
- The ACHD team is there to help you
 - ask questions: inform yourself
 - know the basic facts of your condition: passport/summary
 - anticipate future issues: pregnancy

Prioritizes
and
Organizes



You need a health care team

Works with Team



Poll Question 2

Exercise regularly

Takes
Proactive
Steps

- Recommendation for physical activity for Canadians is 150 min weekly of moderately vigorous exercise
- Fontan circulation very dependent on skeletal muscle (act like an extra-ventricle for the heart)



Poll Question 3

Exercise: the Ultimate Pill for the Fontan circulation

Improve muscle mass

Improve lung function

Improve metabolic profile



Lower blood pressure

Improve diastolic function

Improve cardiac output

Reduce inflammation

Improve Quality of Life

Adapted from a slide of Dr. Rachel Cordina

Cardiopulmonary exercise test



Poll Question 4

Exercise Ability is reduced in Fontans

- Average Fontan peak VO₂: 20-27 mL/kg/min, 50-65% predicted
- Exercise training/cardiac rehabilitation can increase by 10-15%
- Australia/New Zealand study
 - n=133 Fontan underwent a cardiopulmonary test
 - 14 had score of 31 mL/kg/min = normal ($\geq 80\%$ predicted)
= “Super-Fontan”
 - *All Super-Fontans participated in moderate to vigorous sports*



Ohuchi et al. Congenit Heart Dis 2015;10: 105-16

Cordina et al. Int J Cardio 2013; 168:780-88

Sutherland et al. Heart Lung Circ 2015;24:765-68

My advice to children and parents of Fontan:

*Start a lifelong
pattern of
physical activity!*



*Do
something
you enjoy!*

Proactive

My advice to adult Fontan patients:

For _____
Address _____ Date _____

Rx

- ✓ Invest in equipment
- ✓ Exercise at home
- ✓ On-line apps/trainer

REFILL _____ TIMES _____, M.D.
DEA NO. _____ Address _____



Proactive

Do Not Underestimate the Benefits of Walking



Participate in Research

Seeks out
new/latest
Knowledge

Poll Question 5

- Research has an up-front cost: money, time, risk
 - research and development is key to improving outcomes
- There is many things we don't know about the Fontan state
- The fruits of research may take time to be realized
 - it may not benefit you; but patients in the future may benefit



Vision

Have a Vision



Have a Vision for your Life

- You are a person with congenital heart disease
 - living with health concerns
 - living with uncertainty
- Still: **Squeeze the juice out of life!**





“We all need purpose”
for our bodies, minds
and souls



A shared purpose can be
more fulfilling

Purpose can change at
each stage of our life

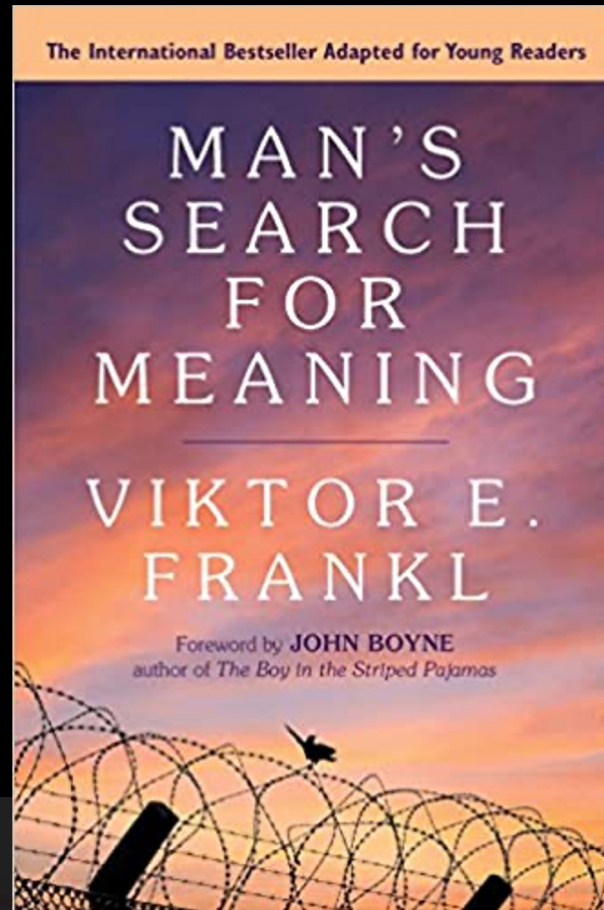


Vision

Finding a Purpose/Vision



Viktor Frankl
Viennese psychiatrist



3 ways to find
purpose/meaning


- Work
- Love
- Suffering

Vision



 Work



 Love



 Suffering



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Become the CEO of your Fontan health

Chief operating officer

Don't smoke
-use drugs
-become obese

Participate in research

Attend clinic, keep Rx current, has clinic info

Healthcare team: heart, liver, family doctor +...

Participate in sports or exercise and walk!

Have a Vision for your health and your life

Maximizing the value of **YOU!**