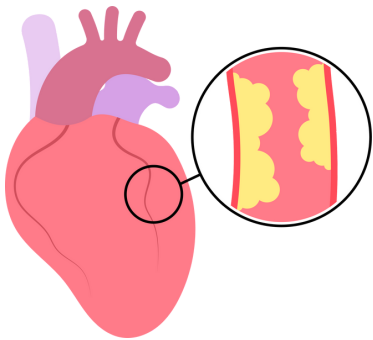


Cardiovascular Disease

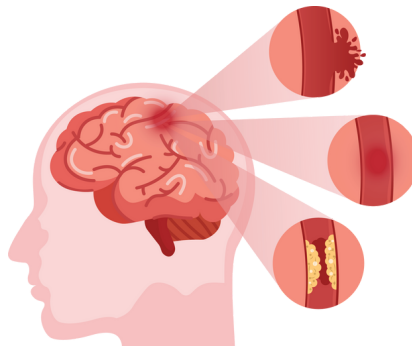
Atherosclerosis is the thickening and hardening of arteries caused by a buildup of cholesterol plaque in their inner lining. When this becomes severe enough to compromise blood flow, it results in a heart attack, stroke or peripheral vascular disease.



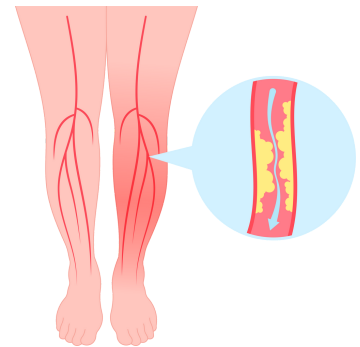
Types of Atherosclerotic Cardiovascular Disease:



Heart Disease



Stroke



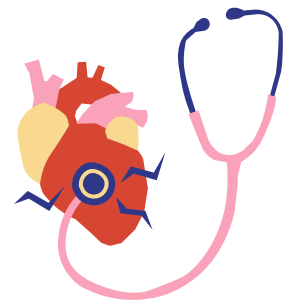
Peripheral Vascular Disease

Atherosclerotic Cardiovascular Disease (ASCVD) is the number one killer worldwide. Although genetics play a role, there is a lot that can be done to reduce your risk of suffering from the effects of ASCVD. Prevention is key!

Until menopause, women are at a much lower risk for ASCVD compared to men. This is mostly due to the protective effects of **estrogen**. As estrogen declines in mid life, our **blood sugar**, **insulin** and **cholesterol** levels begin to rise and our risk for ASCVD begins to increase.

Did you know that ASCVD increases the risk of **dementia** and **Alzheimer's disease**? Steps you take to prevent ASCVD also protect your brain.

ASCVD Prevention



- **Vasomotor symptoms:** more severe hot flashes and night sweats are associated with an increased risk for ASCVD. Exercise and hormone therapy lower this risk and improve your QoL!
- **Smoking:** a well established risk factor.
- **Sitting:** it really IS the new smoking! And perimenopausal women MOVE LESS for a variety of reasons.
- **Alcohol:** new guidelines suggest no more than 2 drinks per week.
- **Sarcopenia:** Muscle is medicine! The better your grip strength, the lower your risk of ASCVD as well as dementia and Alzheimer's disease. Grip strength is a marker of overall muscle mass. The activities you engage in to build and maintain muscle also reduce your risk of osteoporosis.
- **Sleep deprivation:** adults 50+ who sleep 8.5 hours per 24 hours experience significantly less ASCVD and dementia. Afternoon naps should be encouraged (20-60min) to help you reach this target.
- **Isolation and loneliness:** we need community, stimulation and purpose.
- **Diabetes:** insulin resistance, pre-diabetes, type 2 diabetes and poorly controlled type 1 diabetes all increase risk.
- **CHOLESTEROL:** Do you know your numbers??

HDL cholesterol - this is the good stuff that takes cholesterol to your liver for elimination via bile. >1.0 is healthy for women, 1.0-2.0 for men.

Non-HDL cholesterol - this is all the bad stuff that causes atherosclerosis. A level <3.4 is protective.

LDL cholesterol - this is a type of non-HDL cholesterol. It is the worst stuff and it causes atherosclerosis. A level <2.6 is protective. Also, **size matters**. Large particles are safe; small particles cause atherosclerosis. A test called ApoB tells you about cholesterol particle size.

Triglycerides - a type of fat in the blood. High levels indicate a caloric excess and that fat storage is happening. Abdominal fat storage, which increases in perimenopause, is harmful as it increases ASCVD risk.

ASCVD Screening



Screening blood tests play a vital role in ASCVD prevention. They should be performed at a much earlier age than what has been the standard of care. Our stressed healthcare system makes it difficult for family doctors to perform the most comprehensive, proactive and personalized testing possible - and they have little time to educate you about what your results mean. Knowing what to ask for and why it matters can help you take action to prevent ASCVD.

- Fasting glucose **AND fasting insulin** - testing both allows for **HOMA-IR** to be calculated. HOMA-IR is a score that tells us if you are insulin sensitive or insulin resistant. This picks up on blood sugar problems up to decades before a diagnosis of pre-diabetes or diabetes would be made. **Think of insulin resistance as “Pre-pre-diabetes” and a risk factor for ASCVD.**
- Hemoglobin A1C - this is the “blood sugar report card” (3 month trend)
- Cholesterol panel - total cholesterol, triglycerides, HDL-C, LDL-C, non-HDL-C. Note that the reference ranges on lab reports are currently not ideal.
- **ApoB** - this marker is a better indicator of ASCVD risk than a cholesterol panel alone because it tells us about the size of your LDL and non-HDL cholesterol particles. While larger particles are safe, particles below a certain size will penetrate the vascular endothelium and cause atherosclerosis.
- **Lp(a)** - this detects a genetic tendency for inflammation and blood clotting. It is genetically determined and does not change over time. Every adult should have it tested once. Newer drugs can help to mitigate this risk factor.
- Inflammatory markers - C-reactive protein (CRP) and others when indicated. Inflammation enhances ASCVD risk.
- Vitamin D - deficiency is harmful to the cardiovascular system, bones, immune system. Or is it a biomarker for an active lifestyle and time spent outdoors??
- Thyroid - hypothyroidism and Hashimoto’s are common and increase ASCVD risk. These conditions need to be managed to reduce your risk.
- Liver function tests - to screen for non-alcoholic fatty liver disease (NAFLD)
- Homocysteine - associated with an increased risk of stroke
- Genetics: if you are 40+ and your LDL is > 5mmol/L then you need to be screened and treated for familial hypercholesterolemia