

# Vascular Ultrasound Services

*At our vascular lab, we offer sub-specialized, multidisciplinary diagnostic imaging that is non-invasive to care for your patient's vascular needs. All of our vascular studies use either direct imaging of the blood vessels through Doppler ultrasound or indirect pressure measurements, such as for ABI/TBI and arm segmental pressures.*

# Clinic Assessment

Every vascular referral study is triaged at Mayfair by our vascular team to ensure the most appropriate testing is performed for optimal patient care. Our experienced vascular team includes sub-specialized vascular interventional radiologists, registered vascular technologists, and an accredited clinical vascular scientist with an MSc in vascular imaging. This team ensures that your patient is booked with the most appropriate study for their history, and that you receive answers to your questions.

Mayfair performs high-quality studies that are read by vascular-specific radiologists who generate quality reports. In addition to these reports, our use of SECTRA technology allows us to upload technical worksheets and diagrams to Netcare. This ensures all relevant patient information can then be easily viewed during patient encounters and when making treatment decisions.

## Peripheral Arterial Procedures

### **PERIPHERAL ARTERIAL ASSESSMENT LOWER EXTREMITY INCLUDING ABI +/- TBI**

This ultrasound assesses the arteries in the legs from the groin to the ankles, without the use of injection or dyes, to acquire an ankle-brachial index (ABI) and, if indicated, a toe-brachial index (TBI) pressure calculation. This test may also involve imaging of aorta and iliac blood vessels in the lower abdomen. The most common symptoms of lower extremity peripheral arterial disease include muscle cramping when walking, skin changes or ulceration on the legs and/or feet that may be slow to heal, and discoloration of the feet and toes.

### **ABI +/- TBI**

This exam can help to rule out peripheral arterial disease for patients with leg swelling, edema, and known venous disease, and for patients awaiting compression stockings.

### **PERIPHERAL ARTERIAL ASSESSMENT UPPER EXTREMITY INCLUDING SEGMENTAL ARM PRESSURES**

This ultrasound is used to help rule out peripheral arterial disease of the upper extremity arterial vasculature for patients with unequal blood pressure, pain, numbness, arm claudication, or non-healing lesions.

### **RAYNAUDS ASSESSMENT**

Raynauds is a rare disorder that affects the small blood vessels in the fingers and toes. The digits can change color (white, blue, and red) and feel numb, cold, and painful. Symptoms typically get worse with cold weather. Raynauds testing can determine whether or not there is an abnormality in the small blood vessels of the hands or feet.

### **POPLITEAL ARTERY ENTRAPMENT**

This study is often requested by a sports medicine or MSK physician to investigate pain in calf muscles during high intensity exercise. Ultrasound is used to assess the popliteal artery in a neutral position and with the legs in dynamic positions (forced dorsiflexion, forced plantarflexion, and weight bearing on tip toes). This can determine whether there is any compression or occlusion of the popliteal artery indicating popliteal artery entrapment syndrome - when an abnormally positioned or enlarged calf muscle compresses on the popliteal artery.



## Head and Neck Studies

### CAROTID DOPPLER INCLUDING VERTEBRAL AND SUBCLAVIAN ARTERIES

Carotid artery stenosis is either diagnosed or ruled out during a carotid and vertebral Doppler ultrasound. Typically, it's requested for patients with symptoms of TIA, such as dizziness, double vision, or unilateral weakness or numbness. During this exam, we assess the subclavian and vertebral arteries to identify evidence of subclavian steal syndrome. We also perform intima-media thickness measurements for patients with high cholesterol. *This study is performed at 12 Mayfair Diagnostics locations, including Sunridge.*

### TEMPORAL ARTERIES

Temporal arteritis is a condition which affects the small blood vessels located along the temples. The walls of the blood vessels become inflamed and can cause localized headaches, pain, and throbbing. This ultrasound can assess the blood flow in these small vessels to determine if there is any stenosis, occlusion, or vessel edema which can indicate giant cell arteritis.

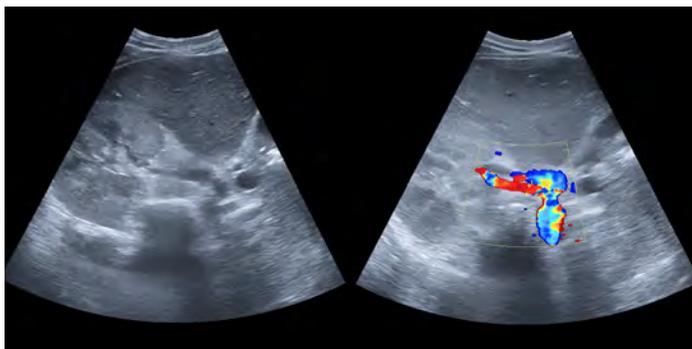
### THORACIC OUTLET SYNDROME

Thoracic outlet syndrome (TOS) can affect the blood flow or the nerves in the arms. It can be caused when the clavicle, first rib, or accessory muscle compress the artery, vein, or nerve. This typically occurs when the arms are raised or in certain positions. Patients will often feel numbness, weakness, or pain in the arms when performing certain tasks. TOS testing assesses blood flow when the arms are in a normal position and when the arms are raised above the head. This can show if there is compression causing a change in blood flow to and from the arms.

## Abdominal Assessment

### RENAL DOPPLER

This ultrasound is typically requested for patients with uncontrolled high blood pressure. It assesses the arteries supplying blood to the kidneys to ensure there is no narrowing (renal artery stenosis) that is contributing to the patient's symptoms. Mayfair also performs renal transplant Doppler ultrasound.



### LIVER DOPPLER

Liver Doppler is used to assess the hepatic vessels in order to evaluate the success of candidacy for liver transplant, liver transplant graft surveillance, or for patients who have undergone a transjugular intrahepatic portosystemic shunt procedure (TIPS).

### MESENTERIC VESSELS

Mesenteric vessel ultrasound is used to assess the celiac axis, superior mesenteric artery, and inferior mesenteric artery for evidence of stenosis or occlusions. Symptoms for this can include abdominal pain, sudden weight loss, and post-prandial pain.

### AORTA AND ILLIAC VESSELS

This exam assesses blood flow in the large blood vessels. It can evaluate previous vascular interventions, such as stents and angioplasty, or investigate symptoms of buttock or thigh claudication. This ultrasound may be used for surveillance of previously diagnosed abdominal aortic aneurysms.

### HEMODIALYSIS FISTULA SURVEILLANCE

Ultrasound is often preferred to help plan follow up for end-stage renal disease for hemodialysis centers. Typically ordered by vascular surgeons and nephrologists, this exam helps examine the fistula non-invasively, gaining information as to how the fistula is working, whether there is a risk of failure or whether steal is present.

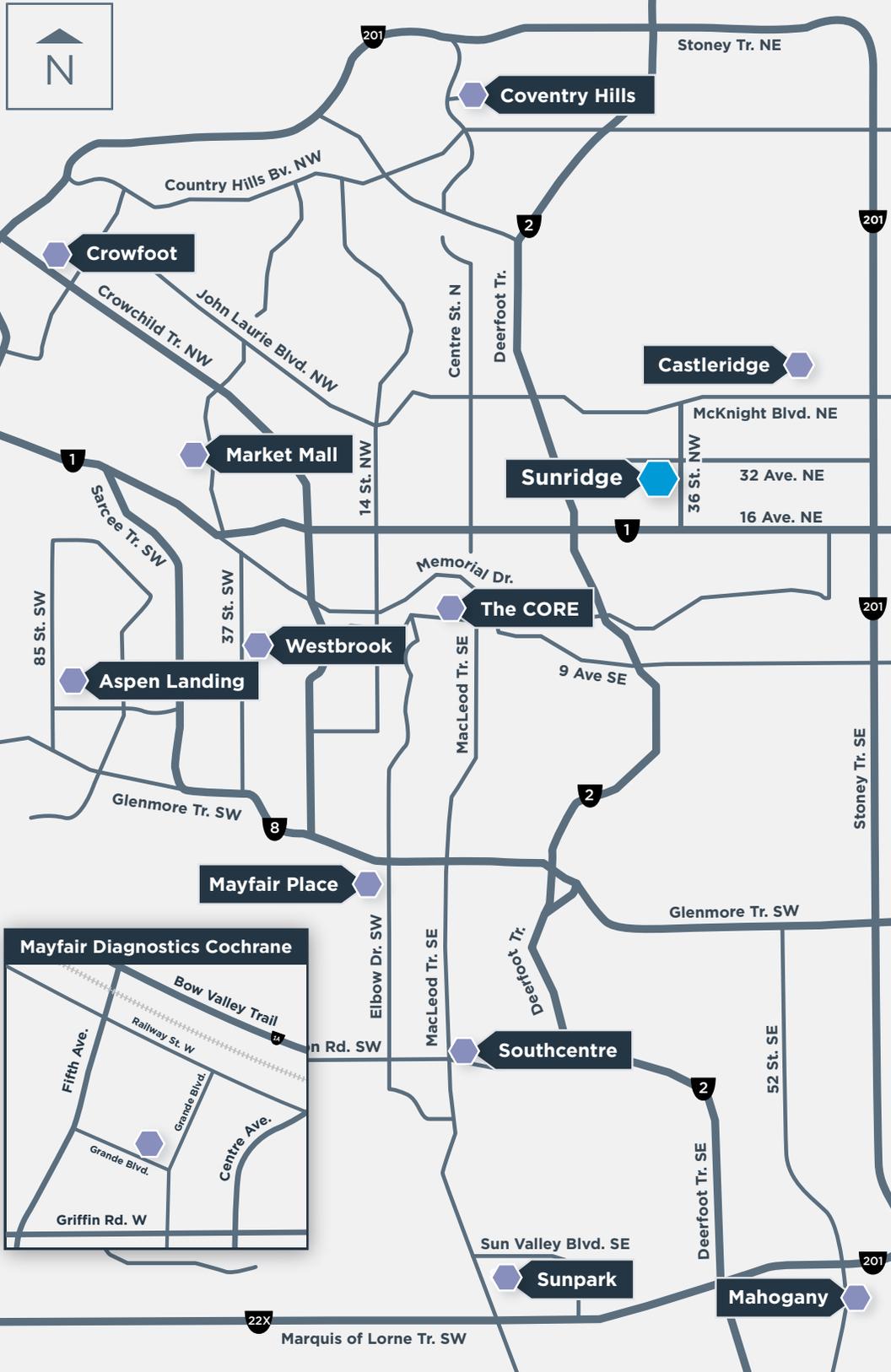
## Venous Assessment

### LOWER & UPPER EXTREMITY VENOUS ULTRASOUND FOR DVT

A venous ultrasound is one of the most common tests performed. It evaluates the blood flow in the veins of the leg or arm to check for the presence of blood clots (deep venous thrombosis or phlebitis). Patients will typically present with pain, swelling, tenderness, or redness to the affected limb. This study is marked as STAT and will be reported by the radiologist immediately. Any findings will be reported to the patient and they will be advised to either return to the referring doctor or the nearest emergency room. *This study is performed at 12 Mayfair Diagnostics locations, including Sunridge.*

### VENOUS INSUFFICIENCY

Venous insufficiency is a condition which typically causes swelling, discoloration, or, most commonly, varicose veins in the legs. The specialized ultrasound can provide a "road map" of the veins to help determine the source of the varicose veins and their appropriate management. Please note, this exam must be requested by a vein specialist or vascular surgeon.



# Mayfair Diagnostics Clinic Locations

## CALGARY

-  **SUNRIDGE PLAZA VASCULAR LAB**  
150, 3363 - 26 Ave. NE
- Aspen Landing Shopping Centre**  
105, 339 Aspen Glen Lndg. SW
- Castleridge Plaza**  
20, 55 Castleridge Blvd. NE
- Coventry Hills**  
457, 130 Country Village Rd. NE
- Crowfoot Business Centre**  
401, 400 Crowfoot Cres. NW
- Mahogany Village**  
230, 3 Mahogany Row SE
- Market Mall Professional Building**  
333, 4935 - 40 Ave. NW
- Mayfair Place**  
132, 6707 Elbow Dr. SW
- Southcentre Mall**  
177, 100 Anderson Rd. SE
- Sunpark Professional Centre**  
125, 40 Sunpark Plz. SE
- The CORE Shopping Centre**  
417, 751 - 3 St. SW
- Westbrook Professional Building**  
200, 1610 - 37 St. SW

## COCHRANE

- Cochrane Grande Plaza**  
1123, 116 Grande Blvd

Mayfair Diagnostics has moved our vascular lab to the new Sunridge location to better serve your patients. It's especially ideal for vascular surgery patients who have same-day appointments at the Peter Lougheed Centre.