

Holter Monitoring

Holter monitoring is a test used to detect possible heart-related problems when you experience symptoms like dizziness, irregular heartbeats or fainting. Holter monitoring is most commonly used to detect cardiac arrhythmias.

What are Cardiac Arrhythmias?

Cardiac arrhythmias or abnormal heartbeats, is a group of conditions in which the heart beats too fast, too slow or erratically. A person with cardiac arrhythmia may have unexplained dizziness or fainting, palpitations or in some rare cases, may experience no symptom at all. Your doctor may be the first to notice signs of an arrhythmia. This will probably be during a routine physical exam when they listen to your heartbeat or perform an electrocardiogram (ECG).

Some arrhythmias can increase the risk of stroke, heart attack, heart failure, or sudden cardiac death (which kills over 40,000 Canadians a year). Atrial fibrillation is the most common serious arrhythmia and affects about 2% to 3% of people in North America and Europe.

What happens if I have Atrial fibrillation?

Atrial fibrillation is a widespread arrhythmia, affecting approximately 350,000 Canadians. The risk of developing atrial fibrillation increases with age and with other risk factors such as diabetes, high blood pressure and underlying heart disease. The main complications of atrial fibrillation are stroke and heart failure. People with atrial fibrillation have a risk of stroke that is 3 to 6 times greater than people without atrial fibrillation.

It is estimated that up to 15% of all strokes are caused by atrial fibrillation. The risk increases with age, so that after age 60 one-third of all strokes are caused by Atrial Fibrillation.

Atrial fibrillation can also lead to heart failure. Heart failure is a condition in which your heart can't circulate enough blood to meet your body's needs. Atrial fibrillation's irregular, fast heart beat leads to ineffective pumping of the blood which – especially if not controlled – may weaken the heart.



How does Holter Monitoring work?

A holter monitor is a small, lightweight recording device with sensors that are attached to your chest. This device monitors your heart's electrical activity as you go about your daily routine, at home or work. The recorder is typically attached to your chest for 24 hours, but a longer duration can be chosen based on how often your symptoms appear. This is especially useful if your symptoms are intermittent and not detected during an ECG test.

Your heart's rhythm is transmitted and recorded, then played back into a computer so it can be analyzed by a cardiac technologist and confirmed by a cardiologist to find out what is causing your arrhythmia.

Who should get tested?

If you have unexplained palpitations, dizziness, fainting, shortness of breath, anxiety or fatigue, or if you have a family history of sudden cardiac death, your doctor may recommend holter monitoring



Palpitations



Dizziness



Fainting

Abnormal heart rhythms and other types of cardiac symptoms can come and go. Monitoring for a longer period of time is necessary to record these events. The Holter monitor lets your doctor see how your heart functions on a long-term basis.

If you're already being treated for heart problems, wearing your monitor can help your doctor determine if your medicine is working or if changes need to be made.

How is the test performed?

Your doctor will provide you with a requisition form and book an appointment for you at a specific LifeLabs location. Your requisition form will indicate the duration of recording, which can vary from 24 hours to 2 weeks.

At your appointment, you can expect the following:

1. A few small areas of your chest will be cleaned, marked and prepared for attaching the sensors
2. The sensors will be attached to your skin with tape
3. A cable will connect the skin sensors to a small monitor, which is placed in a holder attached to your belt or clothes
4. The monitor is small enough that it allows you to continue with your normal daily activity.
5. The monitor will continuously record your heart's activity until disconnected.
6. Hookup appointment usually takes 30 minutes to an hour. You may be asked to keep an activity journal / diary, so your heart rhythm can be correlated to your daily activities
7. Once the recording duration is over, you must return to the same LifeLabs location. The disconnect appointment takes approximately 15 to 30 minutes.

How do I prepare for the test?

Make sure your appointment is booked for both hookup and disconnection, and if your doctor has given you a paper requisition, bring it with you.

- Shower or bathe just prior to your appointment.
- DO NOT use talcum, lotions or perfumes.
- Wear a comfortable outfit, which opens in the front.
- Bring a list of all current prescribed medication and herbal remedies.
- For patients with pacemakers, please bring your Pacemaker Card with the latest setting.
- Women should not wear full slips. Instead, wear a comfortable bra, as you will be required to wear it during the entire recording duration
- Men should be aware that shaving will be required to remove any chest hair where sensors are attached

Understanding your results

Your results will be sent to your doctor shortly after your disconnection appointment. Your doctor will read your activity journal and analyze the results of the monitor. Depending on the results of the test, you may need to undergo further testing before a diagnosis is made.

The Holter monitor may reveal that your medicine isn't working or your dosage needs to be altered if you're already taking medication for an abnormal heart rhythm. It's especially useful in detecting abnormal heart rhythms that are painless and unknown to you. If you have unexplained palpitations, dizziness, fainting, shortness of breath, anxiety or fatigue, or if you have a family history of sudden cardiac death, your doctor may recommend holter monitoring

How is the test performed?

This is a non-invasive test in which you will wear a recording device for a specific duration of time.

How much does it cost?


There is no charge for this test if you have provincial health coverage in Canada.

When will I get my results?

Your results will be available to your healthcare provider within 1 week.

Sources

- [The Heart & Stroke Foundation of Canada](#)
- [The University of Ottawa Heart Institute](#)
- [American Heart Association](#)
- [Cardiac Arrhythmia Network of Canada](#)
- [Cardiac Care Network of Ontario / CorHealth Ontario](#)
- [International Society for Holter and Non-invasive Electrocardiology](#)
- [Heart Rhythm Society](#)

 Ministry of Health and Long-Term Care Laboratory Requisition Requisitioning Clinician / Practitioner		Laboratory Use Only		<div>Clear Form</div>	
Name Address		Clinician/Practitioner's Contact Number for Urgent Results ()			
Clinician/Practitioner Number CPSO / Registration No.		Health Number Version		Sex <input type="checkbox"/> M <input type="checkbox"/> F	
Check (✓) one: <input type="checkbox"/> OHIP/Insured <input type="checkbox"/> Third Party / Uninsured <input type="checkbox"/> WSIB		Province Other Provincial Registration Number		Date of Birth yyyy mm dd	
Additional Clinical Information (e.g. diagnosis)		Patient's Telephone Contact Number ()			
Patient's Last Name (as per OHIP Card)		Patient's First & Middle Names (as per OHIP Card)			
<input type="checkbox"/> Copy to: Clinician/Practitioner Last Name First Name		Patient's Address (including Postal Code)			
Address					
Note: Separate requisitions are required for cytology, histology / pathology and tests performed by Public Health Laboratory					
Biochemistry		Hematology		Viral Hepatitis (check one only)	
<input type="checkbox"/> Glucose <input type="checkbox"/> Random <input type="checkbox"/> Fasting		<input type="checkbox"/> CBC		<input type="checkbox"/> Acute Hepatitis	
<input type="checkbox"/> HbA1C		<input type="checkbox"/> Prothrombin Time (INR)		<input type="checkbox"/> Chronic Hepatitis	
<input type="checkbox"/> Creatinine (eGFR)		Immunology		Immune Status / Previous Exposure Specify: <input type="checkbox"/> Hepatitis A <input type="checkbox"/> Hepatitis B <input type="checkbox"/> Hepatitis C or order individual hepatitis tests in the "Other Tests" section below	
<input type="checkbox"/> Uric Acid		<input type="checkbox"/> Pregnancy Test (Urine)		Prostate Specific Antigen (PSA)	
<input type="checkbox"/> Sodium		<input type="checkbox"/> Mononucleosis Screen		<input type="checkbox"/> Total PSA <input type="checkbox"/> Free PSA	
<input type="checkbox"/> Potassium		<input type="checkbox"/> Rubella		Specify one below: <input type="checkbox"/> Insured – Meets OHIP eligibility criteria <input type="checkbox"/> Uninsured – Screening: Patient responsible for payment	
<input type="checkbox"/> ALT		<input type="checkbox"/> Prenatal: ABO, RhD, Antibody Screen (titre and ident. if positive)		Vitamin D (25-Hydroxy)	
<input type="checkbox"/> Alk. Phosphatase		<input type="checkbox"/> Repeat Prenatal Antibodies		<input type="checkbox"/> Insured - Meets OHIP eligibility criteria: osteopenia; osteoporosis; rickets; renal disease; malabsorption syndromes; medications affecting vitamin D metabolism	
<input type="checkbox"/> Bilirubin		Microbiology ID & Sensitivities (if warranted)		<input type="checkbox"/> Uninsured - Patient responsible for payment	
<input type="checkbox"/> Albumin		<input type="checkbox"/> Cervical		Other Tests - one test per line	
<input type="checkbox"/> Lipid Assessment (includes Cholesterol, HDL-C, Triglycerides, calculated LDL-C & Chol/HDL-C ratio; individual lipid tests may be ordered in the "Other Tests" section of this form)		<input type="checkbox"/> Vaginal			
<input type="checkbox"/> Albumin / Creatinine Ratio, Urine		<input type="checkbox"/> Vaginal / Rectal – Group B Strep			
<input type="checkbox"/> Urinalysis (Chemical)		<input type="checkbox"/> Chlamydia (specify source):			
<input type="checkbox"/> Neonatal Bilirubin:		<input type="checkbox"/> GC (specify source):			
<input type="checkbox"/> Child's Age: days hours		<input type="checkbox"/> Sputum			
<input type="checkbox"/> Clinician/Practitioner's tel. no. ()		<input type="checkbox"/> Throat			
<input type="checkbox"/> Patient's 24 hr telephone no. ()		<input type="checkbox"/> Wound (specify source):			
<input type="checkbox"/> Therapeutic Drug Monitoring:		<input type="checkbox"/> Urine			
<input type="checkbox"/> Name of Drug #1		<input type="checkbox"/> Stool Culture			
<input type="checkbox"/> Name of Drug #2		<input type="checkbox"/> Stool Ova & Parasites			
<input type="checkbox"/> Time Collected #1 hr. #2 hr.		<input type="checkbox"/> Other Swabs / Pus (specify source):			
<input type="checkbox"/> Time of Last Dose #1 hr. #2 hr.					
<input type="checkbox"/> Time of Next Dose #1 hr. #2 hr.					
I hereby certify the tests ordered are not for registered in or out patients of a hospital.		Specimen Collection			
X Clinician/Practitioner Signature Date		Time 24 hour clock Date yyyy/mm/dd			
		Fecal Occult Blood Test (FOBT) (check one)			
		<input type="checkbox"/> FOBT (non CCC) <input type="checkbox"/> ColonCancerCheck FOBT (CCC) no other test can be ordered on this form			
		Laboratory Use Only		<div>Print</div>	

COMPLETE and ACCURATE information is required in all shaded areas.

Patient Surname (from CareCard)		First	Initial(s)	Date of Birth		Sex
				DAY	MONTH	YEAR
Bill to: <input type="checkbox"/> MSP <input type="checkbox"/> ICBC <input type="checkbox"/> WorkSafeBC <input type="checkbox"/> Patient <input type="checkbox"/> Other				Chart Number		Room # (LTC use only)
PHN		I.D. Number				
Patient Address		City, Province	Postal Code	Patient Telephone Number		
Ordering Physician, Address, MSP Practitioner Number	Locum for:		C0 Number	Date/Time of Collection		Phlebotomist
	Physician					Data Entry
	MSC #			Date/Time/Name of Medication		
Copy to: Address, MSP Practitioner Number	Pregnant <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Fasting	<input type="checkbox"/> Phone <input type="checkbox"/> Fax	Telephone Requisition Received By:		
		hours prior to test		INITIAL/DATE		
Diagnosis and indications for guideline protocol and special tests						
For tests indicated with a shaded tick box <input type="checkbox"/> , consult provincial guidelines and protocols (www.BCGuidelines.ca)						

HEMATOLOGY	MICROBIOLOGY	URINE TESTS
<input type="checkbox"/> Hematology profile <input type="checkbox"/> PT-INR <input type="checkbox"/> On Warfarin? <input type="checkbox"/> Ferritin (query iron deficiency) HFE – Hemochromatosis (check ONE box only) <input type="checkbox"/> Confirm diagnosis (ferritin first, \pm TS, \pm DNA testing) <input type="checkbox"/> Sibling/parent is C282Y/C282Y homozygote (DNA testing)	LABEL ALL SPECIMENS WITH PATIENT'S FIRST AND LAST NAME, DOB AND/OR PHN & SITE ROUTINE CULTURE List current antibiotics: _____ <input type="checkbox"/> Throat <input type="checkbox"/> Sputum <input type="checkbox"/> Blood <input type="checkbox"/> Superficial Wound Site: _____ <input type="checkbox"/> Deep Wound Site: _____ <input type="checkbox"/> Other: _____ VAGINITIS <input type="checkbox"/> Initial (smear for BV & yeast only) <input type="checkbox"/> Chronic/recurrent (smear, culture, trichomonas) <input type="checkbox"/> Trichomonas testing GROUP B STREP SCREEN (Pregnancy only) <input type="checkbox"/> Vagino-anorectal swab <input type="checkbox"/> Penicillin allergy CHLAMYDIA (CT) & GONORRHEA (GC) <input type="checkbox"/> CT & GC Testing Source/site: <input type="checkbox"/> Urethra <input type="checkbox"/> Cervix <input type="checkbox"/> Urine <input type="checkbox"/> GC culture: <input type="checkbox"/> Throat <input type="checkbox"/> Rectal <input type="checkbox"/> Other: _____ STOOL SPECIMENS History of bloody stools? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> C. difficile testing <input type="checkbox"/> Stool culture <input type="checkbox"/> Stool ova & parasite exam <input type="checkbox"/> Stool ova & parasite (high risk, 2 samples) DERMATOPHYTES <input type="checkbox"/> Dermatophyte culture <input type="checkbox"/> KOH prep (direct exam) Specimen: <input type="checkbox"/> Skin <input type="checkbox"/> Nail <input type="checkbox"/> Hair Site: _____ MYCOLOGY <input type="checkbox"/> Yeast <input type="checkbox"/> Fungus Site: _____	<input type="checkbox"/> Urine culture - list current antibiotics: _____ <input type="checkbox"/> Macroscopic \rightarrow microscopic if dipstick positive <input type="checkbox"/> Macroscopic \rightarrow urine culture if pyuria or nitrite present <input type="checkbox"/> Macroscopic (dipstick) <input type="checkbox"/> Microscopic <input type="checkbox"/> Special case (if ordered together)
CHEMISTRY <input type="checkbox"/> Glucose - fasting (see reverse for patient instructions) <input type="checkbox"/> GTT - gestational diabetes screen (50 g load, 1 hour post-load) <input type="checkbox"/> GTT - gestational diabetes confirmation (75 g load, fasting, 1 & 2 hour test) <input type="checkbox"/> Hemoglobin A1c <input type="checkbox"/> Albumin/creatinine ratio (ACR) - Urine LIPIDS <input checked="" type="checkbox"/> One box only. For other lipid investigations, please order under Other Tests section and provide diagnosis. <input type="checkbox"/> Baseline cardiovascular risk assessment or follow-up (Lipid profile, Total, HDL, non-HDL & LDL Cholesterol, Triglycerides, fasting) <input type="checkbox"/> Follow-up of treated hypercholesterolemia (Total, HDL & non-HDL Cholesterol, fasting not required) <input type="checkbox"/> Follow-up of treated hypercholesterolemia (ApoB only, fasting not required) <input type="checkbox"/> Self-pay lipid profile (non-MSP billable, fasting)		HEPATITIS SEROLOGY <input checked="" type="checkbox"/> One box only. For other Hepatitis Markers, please order under Other Tests section. <input type="checkbox"/> Acute viral hepatitis undefined etiology Hepatitis A (anti-HAV IgM) Hepatitis B (HBsAg, plus anti-HBc if required) Hepatitis C (anti-HCV) <input type="checkbox"/> Chronic viral hepatitis undefined etiology Hepatitis B (HBsAg, anti-HBc, anti-HBs) Hepatitis C (anti-HCV) Investigation of hepatitis immune status <input type="checkbox"/> Hepatitis A (anti-HAV, total) <input type="checkbox"/> Hepatitis B (anti-HBs) <input type="checkbox"/> Hepatitis marker(s) HBsAg
THYROID FUNCTION <input checked="" type="checkbox"/> One box only. For other thyroid investigations, please order under Other Tests section and provide diagnosis. <input type="checkbox"/> Monitor thyroid replacement therapy (TSH Only) <input type="checkbox"/> Suspected Hypothyroidism TSH first (plus FT4 if required) <input type="checkbox"/> Suspected Hyperthyroidism, TSH first (plus FT4 or FT3 if required)		HIV SEROLOGY <input type="checkbox"/> HIV Serology (patient has legal right to choose not to have their name and address reported to public health – non-nominal reporting) <input type="checkbox"/> Non-nominal reporting
OTHER CHEMISTRY TESTS <input type="checkbox"/> Sodium <input type="checkbox"/> Creatinine/eGFR <input type="checkbox"/> Potassium <input type="checkbox"/> Calcium <input type="checkbox"/> Albumin <input type="checkbox"/> Creatine kinase (CK) <input type="checkbox"/> Alk phos <input type="checkbox"/> PSA - Known or suspected prostate cancer (MSP billable) <input type="checkbox"/> ALT <input type="checkbox"/> PSA screening (self-pay) <input type="checkbox"/> Bilirubin <input type="checkbox"/> Pregnancy Test <input type="checkbox"/> GGT <input type="checkbox"/> Serum <input type="checkbox"/> Urine <input type="checkbox"/> T. Protein		OTHER TESTS <input type="checkbox"/> ECG <input type="checkbox"/> Fecal Occult Blood (Age 50-74 asymptomatic q2y) Copy to Colon Screening Program. <input type="checkbox"/> Fecal Occult Blood (other indications)

The personal information collected on this form and any medical data subsequently developed will be used and disclosed only as permitted or required by the Personal Information Protection Act (and related acts and regulations) of British Columbia. LifeLabs privacy policy is available at www.lifelabs.com. Use of this form implies consent for the use of de-identified patient data and specimens for quality assurance purposes.

Date _____
 Requisition is valid for one year from the date of issue.

Standing Order requests - expiry and frequency must be indicated
 Physician Signature _____

You will be asked to present your Care Card/BC Services Card at each visit.

For tests not covered by MSP, payment can be made by VISA, MasterCard and Debit.

Test Results for clinicians: 1-800-431-7206. Patients can register to receive test results at www.myehealth.ca

Patient Service Centres	Hours (Monday to Friday)	Fax
Kamloops - St. Paul 135 - 546 St. Paul Street	8:00 to 4:00	(250) 374-5638
Kamloops - Nicola 202 - 321 Nicola Street	8:00 to 3:00	(250) 372-0588
Kamloops - Tranquille 1 - 685 Tranquille Road	7:00 to 4:00; (Sat. 7:00 to 12:00)	(250) 376-4165
Kamloops - Harrison 1966 Harrison Way	8:00 to 4:00	(250) 377-7504
Prince George 110 - 1669 Victoria Street	7:00 to 4:00; (Sat. 7:00 to 12:00)	(250) 562-7358
Quesnel 15 - 665 Front Street	7:30 to 3:00	(250) 992-5889
Terrace 105 - 4634 Park Avenue	8:00 to 4:00	(250) 615-0332
Dawson Creek 2 - 705 - 103rd Avenue	7:30 to 3:00	(250) 782-5764
Nelson 806 Vernon Street	8:00 to 4:00	(250) 352-6628
Kimberley 260 - 4th Avenue	7:30 to 3:30	(250) 427-2108
Scotch Creek 2 - 3874 Squilax-Anglemont Road	9:00 to 1:00 (Wed and Fri only)	

PATIENT INSTRUCTIONS: (unless otherwise indicated by your physician)

Fasting Required: Do not eat or drink (except water) for **8-12 hours** before the following tests:

- GLUCOSE - fasting
- GTT-gestational diabetes confirmation and GTT - non pregnant
- LIPIDS/CHOLESTEROL - if indicated

Note: Chewing gum and brushing teeth during the fasting period is acceptable.

Fasting is preferred, but not required for the following tests:

- Homocysteine, Iron/Transferrin

H. Pylori: Do not eat, drink (except water), or smoke for **4 hours** before the test. Do not drink **any** fluid for the last hour of fasting.

AM Cortisol and Testosterone: Collect sample within 3 hours of waking

Patient Instructions are also available on our website www.lifelabs.com

APPOINTMENTS ARE REQUIRED FOR THE FOLLOWING TESTS:

Call to schedule an appointment Mon - Fri from 9am - 5pm
604-412-4495 or Toll Free 1-855-412-4495

- Ambulatory Blood Pressure
- DOT/non-DOT Drug Screen
- Holter Monitor
- Lactose Tolerance/Hydrogen Breath Test
- Paternity / DNA
- Semen Analysis

APPOINTMENTS ARE AVAILABLE BUT NOT REQUIRED FOR THE FOLLOWING TESTS:

- Legal Drug Screen
- Panorama Pre-Natal Screening Test

For tests not listed above, you may arrive without an appointment OR schedule an appointment at a LifeLabs location online at www.lifelabs.com.