

Chapter 1 : Holter monitor (24h): MedlinePlus Medical Encyclopedia

Ambulatory electrocardiogram monitors your heart when you are doing your normal activities. It helps to detect abnormal heart rates and rhythms (arrhythmias). Note: the information below is a general guide only. The arrangements, and the way tests are performed, may vary between different hospitals.

Mobile cardiac outpatient telemetry Ambulatory electrocardiography AECG is used to detect, characterise and document cardiac arrhythmias in clinical practice. As some arrhythmias are infrequent or may occur only during certain activities eg, sleep or exercise , it is usual to record the electrical activity of the heart over a period of time, usually 24 hours. A hour cardiac monitor is also often termed Holter monitor after Norman Holter who invented cardiac monitoring in Nowadays monitoring may be done for 48 hours and even seven continuous days. Intermittent recorders may also be used to provide brief records of recordings from a longer period of time. These recorders may have a memory loop to allow documentation of sudden change in rate or rhythm of the heart. Most modern pacemakers and implantable defibrillators can also be used to gather information about arrhythmias for retrieval. Ambulatory ECG monitoring is suitable for patients with symptoms which may be caused by arrhythmia eg, palpitations, light-headedness or syncope: Patients should be able to record symptoms in a diary. Patients with symptoms occurring daily or almost daily, or those who have syncope without warning, should be evaluated with a hour Holter monitor. Patients with symptoms occurring less frequently may be better evaluated using a patient-activated event recorder. Newer cardiac monitors can also monitor heart rates with changes in activity and posture. Ambulatory electrocardiography equipment The most commonly used method of extended ECG recording is a Holter monitor which uses a conventional tape recorder or solid-state storage system for acquiring ECG information that can then be reviewed. There are two commonly used types of AECG recorders: These recorders are typically used for 24 or 48 hours to record events which might reasonably be expected to occur within that timeframe, ie frequent, or at least once a day symptoms. The patient keeps a diary of symptoms and records the time on the Holter clock when the symptoms occur, for later correlation with ECG abnormalities. Their use is limited by cost and reliance on computer software to analyse the results accurately former limited storage capacity of digital data is rapidly being overcome. These are generally for recording infrequent symptoms and are one of two types: Event recorders, which store only a brief recording of ECG activity when activated by the patient in response to symptoms. Loop recorders, which record the ECG in a continuous fashion but store only a brief record when activated by the patient. Both types of intermittent recorder may be worn by patients for periods of many weeks in order to capture infrequently occurring events.

Chapter 2 : Ambulatory Electrocardiogram

Ambulatory electrocardiography equipment. The most commonly used method of extended ECG recording is a Holter monitor which uses a conventional tape recorder or solid-state storage system for acquiring ECG information that can then be reviewed.

Physicians have the benefit of a variety of monitoring options, with several companies competing to offer devices and services. These companies can be classified into five distinct types, and the key to choosing your ideal solution lies in your answers to several questions: How do you fit into this diverse landscape? Do you offer parts or software to these companies? Does the device you sell depend on a diagnosis made by ambulatory ECG monitoring devices? Their close relationship with local physicians is the main reason these firms still exist; some physicians appreciate the idea of having the monitoring data and its analysis close at hand. These small companies do not offer new types of monitoring, like long-term Holter monitoring and telemetry. As demand increases for these services, I see these small operations fizzling out. The Up-And-Coming Technology Service Company Companies like BioTelemetry and iRhythm Technologies offer solutions that are more convenient, collect more data, and perform more analysis than traditional monitoring. These companies usually offer their new services in addition to traditional monitoring. One area of innovation among such companies is the skin patch device: These companies operate nationally and aim to displace traditional monitoring, leading to a bright outlook for their future growth prospects, especially since the reimbursement landscape for advanced monitoring has improved. These companies earn revenue for every prescription issued, so revenue grows quickly as physicians adopt the technology. However, expect fierce competition as companies introduce competing next-gen devices to win over physicians. The devices usually are bundled with bigger hospital equipment or software purchases. Physicians who choose to do their monitoring in-house, instead of outsourcing it to a Type 1 or 2 service company, buy devices from capital equipment companies. However, ambulatory ECG monitoring capital equipment sales are not lucrative. Physicians are increasingly likely to outsource their ambulatory ECG monitoring needs, especially since many innovations in this space are available only from service companies. In fact, GE Healthcare and Philips appear to recognize this, and do not innovate on their devices. The Multinational Cardiovascular Medtech These companies focus on implantable loop recorders, subcutaneous devices that upload data daily for up to 3 years. Medtronic has led this segment since by offering the Reveal LINQ, a device smaller than what was previously available. Still, since this device needs to be implanted in a hospital setting, its use is dwarfed by the types of monitoring discussed above. As of now, growth prospects for multinationals look pretty good. As Medtronic has stated during earnings calls, Reveal LINQ is seen as generating additional revenue because it increases the diagnosis rate of arrhythmia, and patients are likely to seek more device therapy, such as a pacemaker, as their conditions progress. As a result, Medtronic can increase the size of its device bundles. Therapeutic devices can be purchased on a discount basis following the purchase of diagnostic devices and the associated services for collecting and managing the data. In fact, remote monitoring-enabled cardiac rhythm management devices can continue the data collection process started by an implanted diagnostic device, offering a wealth of patient data. One can imagine this data being used for value-based payment, enabling medtech companies to offer risk-based payment schedules for healthcare facilities. Of course, these devices are limited to collecting ECG data after a patient has noticed symptoms, so their utility in serious clinical decision-making, like deciding whether a patient should be prescribed anticoagulants or get an ablation, is limited. So, will physicians replace all of their ECG monitoring with post-symptomatic smart-phone devices? How much data are they willing to forego for the sake of convenience? As you can see, there is variety in both the types of ambulatory ECG monitoring currently available and the competitive landscape. An understanding of the growth prospects for each type of monitoring company is useful for strategic planning. A good understanding of the clinical and technological shifts in heart rhythm monitoring can help your business succeed. About The Author Erik J. Bracciodieta is a Senior Analyst on the Medical Device Insights team at Decision Resources Group, where he authors Medtech products for global cardiovascular device markets. Erik earned an M.

Chapter 3 : Ambulatory ECG Monitoring – The Student Physiologist

Ambulatory ECG monitoring, which can be performed using a variety of techniques for as short as 24 to 48 hours and for as long as months to years, offers the opportunity to review cardiac ECG data during normal routine activity, including any physical and psychological stresses.

What is a Holter monitor? Your doctor may ask you to use one if they need more information about how your heart functions than a routine electrocardiogram EKG can give them. You wear the Holter monitor for 12 to 48 hours as you go about your normal daily routine. This device has electrodes and electrical leads exactly like a regular EKG , but it has fewer leads. Holter monitor testing is also sometimes called ambulatory electrocardiography. There are other types of devices that can be used to measure heart activity for longer periods of time. 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. The recordings made by the monitor help your doctor determine if your heart is getting enough oxygen or if the electrical impulses in the heart are delayed or early. These irregular impulses may be referred to as arrhythmias or abnormal heart rhythms. It can also help them to see why you might be experiencing other symptoms of irregular heartbeat, such as dizziness , faintness , or feeling like your heart is racing or skipping a beat. How it works The Holter monitor is small. Several leads, or wires, are attached to the monitor. The leads connect to electrodes that are placed on the skin of your chest with a glue-like gel. You wear a small pouch around your neck that holds the monitor itself. Your doctor will show you how to reattach electrodes if they become loose or fall off during the testing period. This helps your doctor determine if changes in heart activity are related to your behaviors and movements. Wearing the Holter monitor itself has no risks involved. However, the tape or adhesives that attach the electrodes to your skin can cause mild skin irritation in some people. A hour Holter monitor test is painless. However, be sure to record any chest pain, rapid heartbeat, or other cardiac symptoms you have during the testing period. Accuracy of testing Keep the Holter monitor dry to ensure it functions properly. Avoid activities that might lead to the monitor getting wet. Magnetic and electrical fields may interfere with the function of the Holter monitor. Avoid areas of high voltage while wearing the monitor. In an event where misreadings or false-positives do occur, the Holter may need to be applied again. 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. Wearing a Holter monitor is painless and one of the best ways to identify potential heart problems or other issues.

Chapter 4 : Ambulatory Monitors | Cleveland Clinic

Ambulatory ECG monitoring can be employed to record your heart rhythm for much longer periods of time—days, weeks, or even years—to greatly increase the odds of capturing and recording this kind of brief, intermittent, but potentially significant arrhythmia.

Data storage[edit] Atrial fibrillation recorded by a Holter monitor. Older devices used reel-to-reel tapes or a standard C90 or C audio cassette and ran at a 1. Once a recording was made, it could be played back and analyzed at 60x speed so 24 hours of recording could be analyzed in 24 minutes. More modern units record an EDF-file onto digital flash memory devices. The data is uploaded into a computer which then automatically analyzes the input, counting ECG complexes, calculating summary statistics such as average heart rate, minimum and maximum heart rate, and finding candidate areas in the recording worthy of further study by the technician. Components[edit] Each Holter system consists of two basic parts—the hardware called monitor or recorder for recording the signal, and software for review and analysis of the record. Advanced Holter recorders are able to display the signal, which is very useful for checking the signal quality. Recorder[edit] The size of the recorder differs depending on the manufacturer of the device. In case the batteries are depleted, some Holters allow their replacement even during monitoring. These systems use the classic Mason-Likar lead system, i. These Holters can occasionally provide information similar to that of a ECG stress test examination. They are also suitable when analyzing patients after myocardial infarction. Some modern devices also have the ability to record a vocal patient diary entry that can be later listened to by the doctor. Analyzing software[edit] Screenshot of Holter ECG software When the recording of ECG signal is finished usually after 24 or 48 hours, it is up to the physician to perform the signal analysis. Since it would be extremely time demanding to browse through such a long signal, there is an integrated automatic analysis process in the software of each Holter device which automatically determines different sorts of heart beats, rhythms, etc. However the success of the automatic analysis is very closely associated with the signal quality. The quality itself mainly depends on the attachment of the electrodes to the patient body. If these are not properly attached, electromagnetic disturbance can influence the ECG signal resulting in a very noisy record. If the patient moves rapidly, the distortion will be even bigger. Such record is then very difficult to process. Besides the attachment and quality of electrodes, there are other factors affecting the signal quality, such as muscle tremors, sampling rate and resolution of the digitized signal high quality devices offer higher sampling frequency. The automatic analysis commonly provides the physician with information about heart beat morphology, beat interval measurement, heart rate variability, rhythm overview and patient diary moments when the patient pressed the patient button. Another requirement is the ability of pacemaker impulses detection and analysis. Such ability may be useful when the physician desires to check for correct basic pacemaker function. History[edit] The cardiac event monitor has been used for over twenty years. At first, these devices were not portable and had to be used only in hospital buildings. Advances resulted in these devices becoming smaller but were still being used only in hospitals for twenty four to forty eight hours. Soon portable monitors were developed weighing at first thirty pounds, then 10 pounds, and 1 pound. Modern devices are much easier to wear, weighing only a fraction of a pound. This section does not cite any sources. Please help improve this section by adding citations to reliable sources. Unsourced material may be challenged and removed. The recording device can be worn in a case on a belt or on a strap across the chest. The device may be visible under light clothing, and those wearing a Holter monitor may wish to avoid shirts with a low neckline. Persons being monitored should not limit normal daily activities, since its purpose is to record how a heart works under various actual conditions over an extended period. It is an electrical device, however, and should be kept dry; showering or swimming should probably be avoided. Monitors can be removed for a few minutes without invalidating collected data, but proper reattachment is critical to avoid degradation of its signals. Beyond changing batteries, one should leave its handling to trained personnel.

Chapter 5 : Holter monitor - Wikipedia

CardioSTAT is a compact and comfortable portable ECG recorder designed for long-term continuous monitoring. High-quality recording, immediate availability and optimal patient compliance make CardioSTAT the ideal tool for efficient cardiac monitoring.

Ambulatory means that you are able to walk during the test. Many heart problems are noticeable only during certain activities. These include exercise, eating, sex, stress, bowel movements, and even sleeping. An ambulatory electrocardiogram is more likely to find abnormal heartbeats that occur during these activities. Many people have irregular heartbeats arrhythmias from time to time. What this means depends on the type of pattern they produce, how often they occur, how long they last, and whether they occur at the same time you have symptoms. There are several different types of ambulatory monitors. Your doctor will choose the type that works best for you and is most likely to help diagnose your heart problem. Look for and record irregular heartbeats that come and go or happen during certain activities. Find out what is causing chest pain or pressure, dizziness, or fainting. These may be symptoms of heart problems. Check to see if treatment for an irregular heartbeat is working. How To Prepare Your preparation may depend on the type of monitor you are getting. Be sure to tell your doctor about all the medicines you take, even over-the-counter ones. Many medicines can change the results of this test. If you are going to have electrode pads or a patch, take a shower or bath before the electrode pads are put on. You may not be able to get the pads wet during the test. Your doctor will give you instructions on how to wear the electrodes. Wear a loose blouse or shirt. Do not wear jewellery or clothes with metal buttons or buckles. They can affect the recording. Women should not wear an underwire bra for the same reason. If you are getting a monitor put under your skin, you will get instructions on how to prepare for the procedure. Talk to your doctor if you have any concerns about the need for the test, its risks, how it will be done, or what the results will mean. To help you understand the importance of this test, fill out the medical test information form What is a PDF document? How It Is Done Your doctor will choose the type of heart monitor that is most likely to help diagnose your heart problem. You may have a monitor that records your heart activity all of the time or only some of the time. A continuous monitor records your heart activity all of the time. Examples are a Holter monitor and a wireless patch monitor. An event monitor records your heart activity only when you have symptoms or a change in your heart rhythm. It may monitor you all of the time and record only when it detects a problem. Or it may only work when you start the monitor at the times you have symptoms. Continuous monitors Continuous recorders are a common type of monitor used for this test. A Holter monitor gives a 24 hour record of the electrical signals from your heart. Wireless patch monitors can be used for many days. A standard EKG monitors only 40 to 50 heartbeats during the brief time you are attached to the machine. A continuous recorder monitors about 100,000 heartbeats in 24 hours. It is likely to find any heart problems that happen with activity. You will see a doctor or technician to get your heart monitor and to learn how to use it. Several areas on your chest may be shaved and cleaned. The pads or patch will be attached to the skin of your chest. For pads, thin wires will connect the electrodes to the monitor. You may be hooked up briefly to a standard EKG machine. This is done to check that the electrodes are working as they should. Event monitors Event monitors are used when symptoms of an abnormal heart rhythm do not happen very often. This kind of recorder can be used for a longer time than a continuous recorder. You may be told to call your doctor, clinic, or hospital while you are having symptoms or soon after you record your heart rhythm. This way the information on the monitor can be looked at right away. There are different types of monitors. A loop recorder constantly monitors your heartbeats. It records your heartbeats only when you have symptoms or an abnormal heart rhythm. The device might start recording when you press a button or it might automatically record when an abnormal heart rhythm happens. Loop recorders are called this because they save a small amount of information about how your heart was beating right before the monitor started recording. This feature is especially useful for people who pass out when their heart problems occur and can press the button only after they wake up. Electrode pads or a patch will be attached to your chest in the same way as with a continuous recorder. When you have symptoms, you press a button on the monitor to record

your heart rhythm. If you pass out, you should start the recorder as soon as you wake up. Also, be sure a friend or family member knows how to start the recorder if you pass out. One type of loop recorder can be placed under the skin of your chest. This is done with surgery. You might have this monitor for a year or more. This may be a good choice for people who have symptoms that happen rarely, such as once every 6 months. The recorder may start recording on its own when it detects an abnormal heartbeat. Or you might use a hand-held device to start the monitor when symptoms occur. This small device records your heartbeats only when you have symptoms. You are not attached to the machine. There are different types of event monitors. One type is worn on the wrist like a watch. When you have symptoms, you press a button to start the EKG recording. The other type is a device that you carry where you can reach it easily, such as in your purse or pocket. When you have symptoms, you press the back of the device against your chest. Then you press a button to start the recording. The back of the device has small metal discs that work like electrodes. These hand-held monitors can be very small some are about the size and shape of a credit card. The event monitor records heart signals only when you hold it against your chest. Using your heart monitor Your doctor will explain the details of how to use your monitor. If you have to do anything to send your heart data, your doctor will show you how. What you do during the test Your doctor may ask you to keep a diary of all your activities and symptoms while you wear the monitor. You will write down the type of activity you were doing and the time your symptoms started. For example, write down the exact times when you: Exercise or climb stairs. Urinate or have a bowel movement. If you have any symptoms of heart problems, such as dizziness, fainting, chest pain, or abnormal heartbeats, push the event-marker button on the recorder to mark it if you have the type that allows you to. Then write down the exact time and how long the symptom lasts. For example, you might write: Argument with boss, had chest tightness for several minutes. This will help keep the electrodes from getting pulled off. If one of the electrodes or lead wires comes loose, a light on the monitor will flash. Press on the centre of each electrode to see if you can restore the contact. Your doctor will tell if you need to stay away from strong electromagnetic fields while wearing a monitor. These may include magnets, remote controls for garage door openers, microwave ovens, and electric blankets. Do not use an electric toothbrush or shaver. And try to stay away from metal detectors and high-voltage areas. Signals from these types of electronic equipment can sometimes affect the recording. What you and your doctor do after the test At the end of the recording period, your doctor will give you instructions. Or you may be able to remove them yourself. Your doctor will let you know how to return the monitor. Your doctor will review the data from your monitor and also look at your records of activities and symptoms and times they occurred. Your doctor will compare the timing of your activities and symptoms with the recorded heart pattern.

Chapter 6 : Ambulatory ECG Monitoring and Related Investigations AECG. Patient | Patient

Ambulatory electrocardiogram (ECG) monitoring is an essential tool in a cardiologist's practice, used to diagnose cardiac arrhythmias and to monitor the efficacy of treatments like antiarrhythmic drugs or catheter ablation.

The guidelines include recommendations for the evaluation of symptoms of cardiac arrhythmias; for risk assessment in patients who have sustained a myocardial infarction, have congestive heart failure CHF or have hypertrophic cardiomyopathy; for the evaluation of antiarrhythmic therapy, or pacemaker or implantable cardioverter-defibrillator function; and for the evaluation of possible myocardial ischemia. There is also a section on the use of ambulatory ECG for the evaluation of children with cardiac symptoms. The eight-page executive summary of the guidelines appears in the August 24, issue of *Circulation*. It is also available on the ACC Web site <http://www.acc.org>. The guidelines are published in their entirety in the September issue of the *Journal of the American College of Cardiology*. A single reprint of the executive summary reprint no. Reprints of the complete guidelines reprint no. The classification system is as follows: The following is an excerpt from the executive summary, giving the recommendations for the use of ambulatory ECG for assessing symptoms of arrhythmia, the risk of arrhythmias, the efficacy of antiarrhythmic therapy, the function of pacemakers and implantable cardioverter defibrillators and monitoring myocardial ischemia. The crucial information needed is the recording of an ECG during the precise time that the symptom is occurring. The recommendations note that the yield of ambulatory ECG monitoring in syncope is relatively low. However, because of the severity of symptoms, such testing is usually warranted. The yield of ambulatory monitoring that captures an episode of palpitation is higher than the yield in patients with syncope. Ambulatory ECG monitoring may also be indicated in the evaluation of other symptoms that may be related to cardiac abnormalities, such as intermittent shortness of breath, unexplained chest pain, episodic fatigue or diaphoresis. The indications for ambulatory ECG monitoring for symptoms of arrhythmia are as follows: Class Iâ€” 1 Patients with unexplained syncope, near syncope or episodic dizziness without obvious cause. Class IIâ€” 1 Patients with episodic shortness of breath, chest pain or fatigue that is not otherwise explained. Class IIIâ€” 1 Patients with symptoms such as syncope, near syncope, episodic dizziness or palpitation in whom other causes have been identified by history, physical examination or laboratory tests. Assessment of Risk of Arrhythmias According to the guidelines, ambulatory ECG monitoring is increasingly used to identify asymptomatic patients at risk of arrhythmias, such as after a myocardial infarction, in congestive heart failure and in hypertrophic cardiomyopathy. With myocardial infarction, hour ECG monitoring is frequently performed before the patient is discharged from the hospital. Frequent premature ventricular contractions and high-grade ventricular ectopy are associated with a higher mortality rate among survivors of myocardial infarction. Patients with CHF often have complex ventricular ectopy and a high mortality rate. Several studies have found that ventricular arrhythmias are sensitive but not specific markers of death and sudden death. There are divergent results with respect to the association between heart rate variability and arrhythmic events. According to the guidelines, there is not sufficient evidence to support the routine use of ambulatory ECG or heart rate variability monitoring in patients with CHF or dilated cardiomyopathy. Although ambulatory ECG monitoring may provide prognostic information in patients with hypertrophic cardiomyopathy, the guidelines state that treatment of ventricular arrhythmias has not been shown consistently to increase life expectancy. Therefore, the role of ambulatory ECG in the day-to-day treatment of these patients remains unclear. The guidelines state that three groups may benefit from ambulatory ECG or heart rate variability monitoring: However, the tests currently cannot be recommended for routine use in any other population. The indications for ambulatory ECG monitoring to detect arrhythmias and to assess the risk of cardiac events in patients without symptoms are as follows: Class IIâ€” 1 Postmyocardial infarction patients with left ventricular dysfunction ejection fraction of 40 percent or less. Class IIIâ€” 1 Patients who have sustained a myocardial contusion. Assessment of Efficacy of Antiarrhythmic Therapy Although ambulatory ECG monitoring is widely used to assess the effects of antiarrhythmic therapy, it has limitations as a guide for therapeutic efficacy. The limitations relate to significant day-to-day variability in the frequency and type of arrhythmias in many patients, a lack of

correlation between arrhythmia suppression after intervention and subsequent outcome, uncertain guidelines for the degree of suppression required to demonstrate a statistical or clinical effect and an absence of quantifiable spontaneous asymptomatic arrhythmias between episodes in many patients with a history of life-threatening arrhythmias. The indications for ambulatory ECG monitoring for the purpose of assessing antiarrhythmic therapy are as follows: Class Iâ€”To assess antiarrhythmic drug response in individuals in whom the baseline frequency of arrhythmia has been characterized as reproducible and of sufficient frequency to permit analysis. Class IIa â€”To detect proarrhythmic responses to antiarrhythmic therapy in patients at high risk. Class IIbâ€” 1 To assess rate control during atrial fibrillation. Assessment of Function of Implanted Cardiac Devices According to the recommendations, ambulatory ECG monitoring is useful in assessing the function of cardiac pacemakers and implantable cardioverter defibrillators and for guiding appropriate programming of such devices. Monitoring is also useful for correlating intermittent symptoms with the device activity and for establishing the appropriateness of cardioverter-defibrillator shock therapy during follow-up. The indications for ambulatory ECG monitoring to assess pacemaker and implantable cardioverter-defibrillator function are as follows: Class Iâ€” 1 Evaluation of frequent symptoms of palpitation, syncope or near syncope to assess device function to exclude myopotential inhibition and pacemaker-mediated tachycardia and to assist in the programming of enhanced features such as rate responsivity and automatic mode switching. Class IIbâ€” 1 Evaluation of immediate postoperative function after implantation of the device as an alternative or adjunct to continuous telemetric monitoring. Assessment of Myocardial Ischemia According to the guidelines, it is widely accepted that ambulatory ECG monitoring provides accurate and clinically meaningful information about myocardial ischemia in patients with coronary artery disease. However, there is presently no evidence that ambulatory ECG monitoring provides reliable information concerning ischemia in asymptomatic subjects without known coronary artery disease. Ambulatory ECG has been used for preoperative evaluation of patients with peripheral vascular disease with no clinical evidence of coronary artery disease. However, on the basis of available data, exercise testing alone or with an imaging study remains the preferred test for risk stratification of patients with coronary artery disease or for preoperative evaluation. For patients who cannot perform exercise, ambulatory ECG can be used for further evaluation of the patient. The indications for ambulatory ECG monitoring for myocardial ischemia are as follows: Class IIaâ€”Patients with suspected variant angina. Class IIbâ€” 1 Evaluation of patients with chest pain who cannot exercise. Class IIIâ€” 1 Initial evaluation of patients with chest pain who are able to exercise. Read the full article. Get immediate access, anytime, anywhere. Choose a single article, issue, or full-access subscription. Earn up to 6 CME credits per issue.

Chapter 7 : ACC/AHA Guidelines for Ambulatory ECG - Practice Guidelines - American Family Physician

Ambulatory ECG monitoring provides your Doctor with a recording of your heart's electrical activity over a prolonged period. There are two variants: Holter monitoring and event monitoring. With Holter monitoring, the recording is continuous over a 24 or 48 hour period.

What is it? There are two variants: Holter monitoring and event monitoring. With Holter monitoring, the recording is continuous over a 24 or 48 hour period. With event monitoring, the device is worn for up to 7 days but only records when you instruct it to do so. Both monitors can record heart rate and rhythm when you feel chest pain or symptoms of an irregular heart beat palpitations. Your Doctor can look at the recording around the time of your symptoms. This information can help clarify the presence and nature of any heart problem. What should I expect? Both tests are painless. You will need to come to our testing centre to have the monitor fitted. An event monitor, however, may be removed when bathing is required. A technician will clean your chest with alcohol in the areas where the electrodes are attached. The ECG leads are attached to stick-on electrodes which are placed around the front of the chest. For men, the nurse may have to shave some small areas of your chest. The electrodes stick to the skin with a gel. Sometimes, an electrode and lead wire will be taped to your chest to prevent them from moving. What else do I need to know? Whilst wearing the monitor, you need to keep a diary of your daily activities. This helps your Doctor to understand what you were doing during the times of abnormal readings. Otherwise, you can do your typical activities, except those that might result in wetting the monitor. After the end of the recording period, you will return to our centre to have the equipment removed. We will analyse the readings and send a report to your doctor who will discuss the results with you.

Ambulatory ECG monitoring may also be indicated in the evaluation of other symptoms that may be related to cardiac abnormalities, such as intermittent shortness of breath, unexplained chest pain.

How is the test done? What is an electrocardiogram? An electrocardiogram ECG records the electrical activity of the heart. The heart produces tiny electrical impulses which spread through the heart muscle to make it contract. These impulses can be detected by the ECG machine. The machine amplifies the electrical impulses that occur at each heartbeat and records them on to a paper or computer. An ECG recording is painless and harmless. The ECG machine records electrical impulses coming from your body - it does not put any electricity into your body. What is an ambulatory electrocardiogram? The ECG test records the electrical activity of your heart when you are walking about ambulatory and doing your normal activities. Small metal electrodes are stuck on to your chest. Wires from the electrodes are connected to a small lightweight recorder often called a Holter monitor. The recorder is attached to a belt which you wear around your waist. It is like wearing an mp3 player. The electrical activity is usually recorded for hours. Why is an ambulatory electrocardiogram test done? Your doctor may advise you have this test if he or she suspects that you are having bouts of an abnormal heart rate or rhythm arrhythmia. They may never be found when you are examined by a doctor. So, the test may detect an arrhythmia. It takes about 10 minutes for the electrodes and recorder to be fitted. You then go and do what you normally do over the next hours. You wear the recorder when asleep in bed too. However, you should not have a bath or shower, as the recorder should not get wet. The ECG tracing is analysed at the end of the test. But, any times you record when you had symptoms will be most carefully analysed to see if you had an abnormal heart rate or rhythm arrhythmia to account for the symptoms. A doctor may ask you to do some activities which have previously brought on symptoms, to try to provoke the same symptoms. There are some variations in the equipment that may be used: On some recorders, you press a button to mark the time whenever symptoms occur. Some recorders activate automatically only if your heart rate or rhythm is abnormal. With some recorders you send the ECG tracing for analysis down the phone line. Some recorders are worn for longer periods. Did you find this information useful?

Chapter 9 : Ambulatory Electrocardiogram (ECG). ECG Test or Scan | Patient

A revolution in heart monitoring is here. An accurate diagnosis starts with an accurate tracing. The Carnation Ambulatory Monitor (CAM[®]) is a lightweight, extended-wear ECG patch monitor that delivers unparalleled comfort, convenience, and clarity.

URL of this page: The monitor is worn for 24 to 48 hours during normal activity. How the Test is Performed Electrodes small conducting patches are stuck onto your chest. These are attached by wires to a small recording monitor. You carry the Holter monitor in a pocket or pouch worn around your neck or waist. The monitor runs on batteries. Keep a diary of what activities you do while wearing the monitor, and how you feel. The provider will look at the records and see if there have been any abnormal heart rhythms. It is very important that you accurately record your symptoms and activities so the provider can match them with your Holter monitor findings. While wearing the device, avoid: Electric blankets Magnets Metal detectors Continue your normal activities while wearing the monitor. You may be asked to exercise while being monitored if your symptoms have occurred in the past while you were exercising. Your provider will start the monitor. Tell your provider if you are allergic to any tape or other adhesives. Make sure you shower or bathe before you start the test. You will not be able to do so while you are wearing a Holter monitor. How the Test will Feel This is a painless test. However, some people may need to have their chest shaved so the electrodes can stick. You must keep the monitor close to your body. This may make it hard for you to sleep. Occasionally there may be an uncomfortable skin reaction to the sticky electrodes. Why the Test is Performed Holter monitoring is used to determine how the heart responds to normal activity. The monitor may also be used: