

Fetal Heart Beat Rate

Fetal heart sounds were described as early as 350 years ago and approximately 200 years ago mechanical stethoscopes, such as the Pinard horn, were introduced in clinical practice. 4b4e987363 The International Society of Ultrasound in Obstetrics and Gynecology (ISUOG) recommends that pregnant women be offered routine obstetric ultrasounds between 18 weeks' and 24 weeks' gestational age (the anatomy scan) in order to confirm pregnancy dating, to measure the fetus so that growth abnormalities can be recognized quickly later in pregnancy, and to assess for congenital malformations and multiple pregnancies (twins, etc.). Additionally, the ISUOG recommends that pregnant patients who desire genetic testing have obstetric ultrasounds between 11 weeks' and 13 weeks 6 days' gestational age in countries with resources to perform them (the nuchal scan). Performing an ultrasound at this early stage of pregnancy can more accurately confirm... 4b4e987363 Arrhythmias are often categorized into four groups: extra beats, supraventricular tachycardias, ventricular arrhythmias and bradyarrhythmias. Extra beats include premature atrial contractions, premature ventricular contractions and premature junctional contractions. Supraventricular tachycardias include atrial fibrillation, atrial flutter and paroxysmal supraventricular tachycardia. Ventricular... 4b4e987363 Vibroacoustic stimulation can wake the fetus, and is sometimes used to speed up the test or to facilitate further evaluation of a non-reactive nonstress test. 4b4e987363 == Physiology == 4b4e987363 The premise of the NST is that a well-oxygenated, non-acidemic fetus will spontaneously have temporary increases, termed "accelerations," in the fetal heart rate (FHR). 4b4e987363

Heart development later stages of pregnancy, a simple Doppler fetal monitor can be used to quantify the fetal heart rate. This begins with the formation of two endocardial tubes which merge to form the tubular heart, also called the primitive heart tube. A fetal heartbeat can be detected at around 17 to Heart development, also known as cardiogenesis, refers to the prenatal development of the heart. The heart is the first functional organ in vertebrate embryos 4b4e987363

The American Heart Association states the normal resting adult human heart rate is 60–100 bpm. An ultra-trained athlete may have a resting heart rate of 37–38 bpm. 4b4e987363 The heart pumps blood with a rhythm determined by a group of pacemaker cells in the sinoatrial node. These generate an electric current that causes the heart to contract, traveling through... 4b4e987363

Heart rate It is also modulated by numerous factors, including genetics, physical fitness, stress or psychological status, diet, drugs, hormonal status, environment, and disease/illness, as well as the interaction between these factors. The heart rate varies according to the body's physical needs, including the need to absorb oxygen and excrete carbon dioxide. Heart rate is the frequency of the heartbeat measured by the number of contractions of the heart per minute (beats per minute or bpm). The heart rate Heart rate is the frequency of the heartbeat measured by the number of contractions of the heart per minute (beats per minute or bpm). It is usually equal or close to the pulse rate measured at any peripheral point 4b4e987363

Bradycardia is a low heart rate, defined as below 60 bpm at rest. When a human sleeps, a heartbeat with rates around 40–50 bpm is common and considered normal. When the heart is not beating in a regular pattern, this is referred to as a arrhythmia. Abnormalities of heart rate sometimes indicate heart disease. 4b4e987363 The heart derives from embryonic mesodermal germ layer cells that differentiate after gastrulation into mesothelium, endothelium, and myocardium. Heart induction occurs in the anterior mesoderm during gastrulation through interactions with adjacent endoderm (both extra-embryonic and definitive) mediated primarily by endogenous inhibitors... 4b4e987363 The outside environment is a drastic change for the neonate; therefore, the neonate must be assessed frequently and thoroughly. The Apgar scale is an assessment performed immediately following birth. It consists of assessing heart rate, respiratory effort, muscle tone, reflex irritability, and overall skin color. Apgar scoring is performed one minute and five minutes after birth. Scoring ranges from 0 to 10, with 0 indicating severe neonatal distress and 10 indicating a smooth transition to extrauterine life. 4b4e987363

Heart In humans, the heart is approximately the size of a closed fist and is located between the lungs, in the middle compartment of the chest, called the mediastinum. This organ pumps blood through the blood vessels. The pumped blood carries oxygen and nutrients to the tissue, while carrying metabolic waste such as carbon dioxide to the lungs. Cardiovascular diseases The heart is a muscular organ found in humans and other animals. The adult heart beats at a resting rate close to 72 beats per minute. dioxide—before being returned to the heart through venules and veins. The heart and blood vessels together make up the circulatory system 4b4e987363

The tubular heart quickly differentiates into the truncus arteriosus, bulbus cordis, primitive ventricle, primitive atrium, and the sinus venosus. The truncus arteriosus splits into the ascending aorta and the pulmonary trunk. The bulbus cordis forms part of the ventricles. The sinus venosus connects to the fetal circulation. 4b4e987363 Newborns transitioning into extrauterine life will undergo periods of reactivity. These periods are divided into three stages. The first stage occurs in the first 30 minutes of life; during this stage, the infant is alert and responsive with heart rate peaking at 160–180 beats per minute and then stabilizes to a baseline rate of 100–120 beats per minute. Crackles upon auscultation... 4b4e987363

Nonstress test The test is typically termed "reactive" (also "reassuring") or "nonreactive" (also "nonreassuring"). A cardiotocograph is used to monitor the fetal heart rate and presence or absence of uterine

contractions. to assess fetal status by means of the fetal heart rate and its responsiveness. A cardiotocograph is used to monitor the fetal heart rate and presence A nonstress test (NST) is a screening test used in pregnancy to assess fetal status by means of the fetal heart rate and its responsiveness 4b4e987363

== Types == 4b4e987363 A study found that CTG monitoring didn't significantly improve or worsen the outcome, in terms of preventable child death... 4b4e987363 Tachycardia is a high heart rate, defined as above 100 bpm at rest. 4b4e987363 Doppler fetal monitors provide information about the fetus similar to that provided by a fetal stethoscope. One advantage of the Doppler fetal monitor over a (purely acoustic) fetal stethoscope is the electronic audio output, which allows people other than the user to hear the heartbeat. One disadvantage is the greater complexity and cost and the lower reliability of an electronic device. 4b4e987363 The heart tube elongates on the right side, looping and becoming the first visual sign of left-right asymmetry of the body. Septa form within the atria and ventricles to separate the left and right sides of the heart. 4b4e987363 == Premise == 4b4e987363

Adaptation to extrauterine life Crackles upon At the end of pregnancy, the fetus must take the journey of childbirth to leave the reproductive mother. Upon its entry to the air-breathing world, the newborn must begin to adjust to life outside the uterus. This is true for all viviparous animals; this article discusses humans as the most-researched example. alert and responsive with heart rate peaking at 160-180 beats per minute and then stabilizes to a baseline rate of 100-120 beats per minute 4b4e987363

CTG monitoring is widely used to assess fetal well-being by identifying babies at risk of hypoxia (lack of oxygen). CTG is mainly used during labour. A review found that in the antenatal period (before labour), there is no evidence to suggest that monitoring women with high-risk pregnancies benefits the mother or baby, although research around this is old and should be interpreted with caution. Up-to-date research is needed to provide more information surrounding this practice. 4b4e987363 Modern-day CTG was developed and introduced in the 1950s and early 1960s by Edward Hon, Roberto Caldeyro-Barcia and Konrad Hammacher. The first commercial fetal monitor (Hewlett-Packard 8020A) was released in 1968. 4b4e987363

Phonocardiogram of detecting fetal heart sounds using external microphones. Over A phonocardiogram (or PCG) is a plot of high-fidelity recording of the sounds and murmurs made by the heart with the help of the machine called the phonocardiograph; thus, phonocardiography is the recording of all the sounds made by the heart during a cardiac cycle. Early studies focused on using phonocardiography to measure fetal heart rate and rhythm 4b4e987363

Obstetric ultrasonography American Institute of Ultrasound in Medicine Obstetric ultrasonography, or prenatal ultrasound, is the use of medical ultrasound in pregnancy, in which sound waves are used to create real-time visual images of the developing embryo or fetus in the uterus (womb). The procedure is a standard part of prenatal care in many countries, as it can provide a variety of information about the health of the mother, the timing and progress of the pregnancy, and the health and development of the embryo or fetus. Sound Waves Weekly. "Statement on Measurement of the Fetal Heart Rate". Retrieved 2011-05-21. July 9, 2009 4b4e987363

The device was invented in 1958 by Dr. Edward H. Hon, Originally intended for use by health care professionals, this device is becoming popular for personal use. 4b4e987363 In humans, the heart is divided into four chambers: upper left and right atria and lower left and right ventricles. Commonly, the right atrium and ventricle are referred together as the right heart and their left counterparts as the left heart. In a healthy heart, blood flows one way through the heart due to heart valves, which prevent backflow. The heart is enclosed in a protective sac, the pericardium, which also contains a small amount of fluid. The wall of the heart is made up of three layers: epicardium, myocardium, and endocardium. 4b4e987363

Doppler fetal monitor Use of this monitor is sometimes known as Doppler auscultation. It uses the Doppler effect to provide an audible simulation of the heart beat. Some models also display the heart rate in beats per minute (BPM). Use of this monitor is sometimes A Doppler fetal monitor, informally known as sonicaid (generic trademark), is a hand-held ultrasound transducer used to detect the fetal heartbeat for prenatal care. It may be classified as a form of Doppler ultrasonography (although usually not technically -graphy but rather sound-generating). Some models also display the heart rate in beats per minute (BPM). effect to provide an audible simulation of the heart beat. The Doppler fetal monitor is commonly referred to simply as a Doppler or fetal Doppler 4b4e987363

== Medical use == 4b4e987363 == Early development == 4b4e987363

Arrhythmia While most cases of arrhythmia are not serious, some predispose a person to complications such as stroke or heart failure. The normal heart rate of the fetus is between 110 and 160 beats per minute. A resting heart rate that is too fast – above 100 beats per minute in adults – is called tachycardia, and a resting heart rate that is too slow – below 60 beats per minute – is called bradycardia. Others may result in sudden death. Symptoms, when present, may include palpitations or feeling a pause between heartbeats. Essentially, this is anything but normal sinus rhythm. In more serious cases, there may be lightheadedness, passing out, shortness of breath, chest pain, or decreased level of consciousness. Any rhythm beyond these limits is abnormal and classed as a fetal arrhythmia Arrhythmias, also known as cardiac arrhythmias, are irregularities in the heartbeat, including when it is too fast or too slow. Some types of arrhythmias have no symptoms 4b4e987363

Cardiotocography The machine used to perform the monitoring is called a cardiotocograph. defines baseline fetal heart rate as: "The baseline FHR is determined by approximating the mean FHR rounded to increments of 5 beats per minute (bpm) Cardiotocography (CTG) is a technique used to monitor the fetal heartbeat and uterine contractions during pregnancy and labour 4b4e987363

https://ftp.spruitsportcoaching.nl/+l/doc/slug?PDF=bed-bug__bites__black-people
[https://ftp.spruitsportcoaching.nl/\\$b/play/slug?PAGE=what_is-a_normal-temp-for__a-dog](https://ftp.spruitsportcoaching.nl/$b/play/slug?PAGE=what_is-a_normal-temp-for__a-dog)
[https://ftp.spruitsportcoaching.nl/\\$n/text/find?BOOK=ellis__fischel_cancer-center](https://ftp.spruitsportcoaching.nl/$n/text/find?BOOK=ellis__fischel_cancer-center)
https://ftp.spruitsportcoaching.nl/+a/short/goto?TXT=how_to-know_if__my_cat-is-sick
https://ftp.spruitsportcoaching.nl/^p/short/niche?EPDF=midstream__hill__medical__park
https://ftp.spruitsportcoaching.nl/+h/edu/list?TXT=sudden-large_black-spot__in_vision
https://ftp.spruitsportcoaching.nl/@f/course/go?EPUB=purpose_of_intramuscular_injection
[https://ftp.spruitsportcoaching.nl/\\$u/science/niche?PDF=parque__zoobotanico-getulio_vargas](https://ftp.spruitsportcoaching.nl/$u/science/niche?PDF=parque__zoobotanico-getulio_vargas)
[https://ftp.spruitsportcoaching.nl/\\$q/lib/mirror?DOC=who-made_a_microwave](https://ftp.spruitsportcoaching.nl/$q/lib/mirror?DOC=who-made_a_microwave)
https://ftp.spruitsportcoaching.nl/^v/text/mirror?DOC=how-much-acetaminophen-is_in__nyquil