

Normal Sleeping Heart 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. af4730562a

Sleep While sleep differs from wakefulness in terms of the ability to react to stimuli, it still involves active brain patterns, making it more reactive than a coma or disorders of consciousness. Compared to sleeping on the back, side sleeping has been reported to help reduce heartburn, sleep apnea, and back pain, whereas sleeping on the back may Sleep is a state of reduced mental and physical activity in which consciousness is altered and certain sensory activity is inhibited. During sleep, there is a marked decrease in muscle activity and interactions with the surrounding environment af4730562a

Other terms used include cycle length variability, R-R variability (where R is a point corresponding to the peak of the QRS complex of the ECG wave; and R-R is the interval between successive Rs), and heart period variability. Measurement of the R-R interval (often termed normal-to-normal or N-N interval when additional filtering is used) is used to derive heart rate variability. af4730562a

Cardiotocography The machine used to perform the monitoring is called a cardiotocograph. FIGO has recently modified the guidelines on intrapartum fetal monitoring, proposing the following interpretation: Normal: No hypoxia
Cardiotocography (CTG) is a technique used to monitor the fetal heartbeat and uterine contractions during pregnancy and labour.
Sinusoidal fetal heart rate af4730562a

Bradycardia may be associated with symptoms of

fatigue, dyspnea, dizziness, confusion, and syncope due to reduced blood flow to the brain. The types of symptoms often depend on the etiology of the slow heart rate, classified by the anatomical location of a dysfunction within the cardiac conduction system. Generally, these classifications involve the broad categories of sinus node dysfunction (SND), atrioventricular... af4730562a During sleep, most of the body's systems are in an anabolic state, helping to restore the immune, nervous, skeletal, and muscular systems; these are vital processes that maintain mood, memory, and cognitive function, and play a large role in the function of the endocrine and immune systems. The internal circadian clock promotes sleep daily at night... af4730562a Methods used to detect beats include ECG, blood pressure, ballistocardiograms, and the pulse wave signal derived from a photoplethysmograph (PPG). ECG is considered the gold standard for HRV measurement because it provides a direct reflection of cardiac electric activity. af4730562a == Measurement == af4730562a

Central sleep apnea CSA is usually due to an instability in the body's feedback mechanisms that control respiration. maintaining normal breathing rhythm by inflating the patient's lungs at regular intervals whose specifics, such as the breathing rate and the duration Central sleep apnea (CSA) or central sleep apnea syndrome (CSAS) is a sleep-related disorder in which the effort to breathe is diminished or absent, typically for 10 to 30 seconds either intermittently or in cycles, and is usually associated with a reduction in blood oxygen saturation. This type of sleep apnea can also be an indicator of Arnold–Chiari malformation af4730562a

Respiratory rate [citation needed] Nonetheless, respiratory rate is widely used to The respiratory rate is the rate at which breathing occurs; it is set and controlled by the respiratory center of the brain. A person's respiratory rate is usually measured in breaths per minute. such as crying, sleeping, agitation and age significantly influence respiratory rates af4730562a

The biological reaction to a stressor is the activation of the HPA-axis. In a stressful environment the body will release multiple hormones including cortisol. Over a long duration high cortisol concentrations can have negative effects on the immune system, attention and memory and can increase the risk of psychological disorders... af4730562a 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. af4730562a A study found that CTG monitoring didn't significantly improve or worsen the outcome, in terms of preventable child death... af4730562a Numerous studies have demonstrated an association between sleep disturbances and weight gain, and more specifically, that sleep deprivation is related to overweight. Furthermore, body weight also influences the quality of sleep and the occurrence of sleep disorders like obstructive sleep apnea. Oversleeping may also contribute to weight gain. af4730562a Resting heart rates of less than 50 BPM are often normal during sleep in young and healthy adults and athletes. In large population studies of adults without underlying heart disease, resting heart rates of 45–50 BPM appear to be the lower limits of normal, dependent on age and sex. Bradycardia is most likely to be discovered in the elderly, as age and underlying cardiac disease progression contribute to its development. af4730562a == Utility == af4730562a Variability (or Variation) in the beat-to-beat interval is a physiological phenomenon. Power spectral analysis of the beat-to-beat variations of heart rate or the heart period (R–R interval) partitions the total variance (the "power") of a continuous series of beats into its frequency components, typically identifying two or three main peaks: Very... af4730562a

Bradycardia Resting heart rates of less than 50 BPM are often normal during sleep in young and healthy adults and athletes. asymptomatic type 1 atrioventricular block. In Bradycardia (from Ancient Greek βραδύς (bradús) 'slow' and καρδία (kardía) 'heart'), also called bradyarrhythmia, is a resting heart rate under 60 beats per minute (BPM). While bradycardia can result from various pathological processes, it is commonly a physiological response to cardiovascular conditioning or due to asymptomatic type 1 atrioventricular block af4730562a

Additionally, there is a decrease in sleep duration and quality among most populations due to modern lifestyles which include an increased time spent looking at artificial lights from screens. The availability of night-time use of electronic devices and communication devices are associated with shorter sleep duration and increased body weight in children. af4730562a Depending on the method being used, sleep studies can help diagnose or rule out the following disorders: af4730562a

Heart rate The heart rate varies according to the body's physical needs, including the need to absorb oxygen and excrete carbon dioxide. It is usually equal or close to the pulse rate measured at any peripheral point. When the heart is not beating in a regular 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 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. bpm at rest. When a human sleeps, a heartbeat with rates around 40–50 bpm is common and considered normal af4730562a

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. af4730562a

Tachycardia Heart rates above the resting rate may be normal (such as with exercise) or abnormal (such as with electrical problems within the heart). In general, a resting heart rate over 100 beats per minute is accepted Tachycardia, also called tachyarrhythmia, is a heart rate that exceeds the normal resting rate. also called tachyarrhythmia, is a heart rate that exceeds the normal resting rate. In general, a resting heart rate over 100 beats per minute is accepted as tachycardia in adults af4730562a

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. af4730562a 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. af4730562a Sleep occurs in repeating periods, during which the body alternates between two distinct modes: rapid eye movement sleep (REM) and non-REM sleep. Although REM stands for "rapid eye movement", this mode of sleep has many other aspects, including virtual paralysis of the body. Dreams are a succession of images, ideas, emotions, and sensations that usually occur involuntarily in the mind during certain stages of sleep. af4730562a == Variability == af4730562a

Sleep and weight Another plausible explanation is that fatigue because of limited sleep reduces Sleep and weight is the association between the amount of sleep an individual obtains and the weight of that individual. general, sleeping less than 7 hours per night increases the risk to be obese af4730562a

Tachycardia is a high heart rate, defined as above 100 bpm at rest. af4730562a == Relationship between stress, sleep and weight == af4730562a In a healthy person during sleep, breathing is regular, so that the concentration of oxygen and carbon dioxide in the blood stays fairly constant: After exhalation, the blood oxygen falls and

carbon dioxide rises. Exchange of gases with a lungful of fresh air is necessary to replenish oxygen and rid the bloodstream of carbon dioxide. Oxygen and carbon dioxide receptors in the body (called chemoreceptors) send nerve impulses to the brain, which then signals for reflexive opening of the larynx (enlarging the opening between the vocal cords) and movements of the rib-cage muscles and diaphragm. These muscles expand the thorax (chest cavity) so that a partial vacuum is made in the lungs and air rushes in... af4730562a

Heart rate variability It is measured by the variation in the beat-to-beat interval. Heart rate variability (HRV) is the physiological phenomenon of variation in the time interval between heartbeats. It is measured by the variation in the Heart rate variability (HRV) is the physiological phenomenon of variation in the time interval between heartbeats af4730562a

== Complications == af4730562a == Physiology == af4730562a In medicine, sleep studies have been useful in identifying and ruling out various sleep disorders. Sleep studies have also been valuable to psychology, in which they have provided insight into brain activity and the other physiological factors of both sleep disorders and normal sleep. This has allowed further research to be done on the relationship between sleep and behavioral and psychological factors. af4730562a When the rate of blood flow becomes too rapid, or fast blood flow passes on damaged endothelium, it increases the friction within vessels resulting in turbulence and other disturbances. According to the Virchow's triad, this is one of the three conditions (along with hypercoagulability and endothelial injury/dysfunction) that can lead to thrombosis (i.e., blood clots within vessels). af4730562a == Signs and symptoms == af4730562a Tachycardia can lead to fainting. af4730562a

Sleep study functions during sleep, including brain activity, eye movement, oxygen and carbon dioxide blood levels, heart rate and heart rhythm, breathing rate and rhythm A sleep study is a test that records the activity of the body during

sleep. These include simple sleep studies, polysomnography, multiple sleep latency tests, maintenance of wakefulness tests, and home sleep tests. There are five main types of sleep studies that use different methods to test for different sleep characteristics and disorders af4730562a

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