Coronary heart disease: develops when the coronary arteries become too narrow. The coronary arteries are the blood vessels that supply oxygen and blood to the heart.

1. **slope\_of\_peak\_exercise\_st\_segment** (type: int): the slope of the peak exercise [ST segment](https://en.wikipedia.org/wiki/ST_segment), an electrocardiography read out indicating quality of blood flow to the heart

* The J point (the point of inflection at the junction of the S wave and ST segment) becomes depressed during exercise, with maximum depression at peak exercise. The normal ST segment during exercise therefore slopes sharply upwards.
* The standard criterion for an abnormal ST segment response is horizontal (planar) or downsloping depression of >1 mm. If 0.5 mm of depression is taken as the standard, the sensitivity of the test increases and the specificity decreases (vice versa if 2 mm of depression is selected as the standard).

1. **thal**(type: categorical): results of [thallium stress test](https://www.ucsfbenioffchildrens.org/tests/007201.html) measuring blood flow to the heart, with possible values normal, fixed\_defect, reversible\_defect

* A thallium stress test is a nuclear medicine study that shows your physician how well blood flows through your heart muscle while you're exercising or at rest. This exam also allows your physician to visualize whether there has been any damage done to your heart by any problems you may have had previously.
* if they suspect your heart isn’t getting enough blood flow when it’s under stress — for example, when you exercise
* if you have chest pain or worsening angina
* if you’ve had a previous heart attack
* to check how well medications are working
* to determine whether a procedure or surgery was successful
* to determine whether your heart is healthy enough to start an exercise program

The thallium stress test can show:

* the size of your heart chambers
* how effectively your heart pumps —that is, its ventricular function
* how well your coronary arteries supply your heart with blood, known as myocardial perfusion
* if your heart muscle is damaged or scarred from previous heart attacks

1. **resting\_blood\_pressure** (type: int): resting blood pressure

* Blood pressure below 120/80 mm Hg is considered to be normal. Elevated: When blood pressure readings consistently range from 120 to 129 systolic and less than 80 mm Hg diastolic, it is known as elevated blood pressure.
* For the average person who is not at high risk for hypertension, we aim for a total blood pressure of 120/80 or lower. If your blood pressure is higher than 120/80, you could be at risk for heart disease.

1. **chest\_pain\_type** (type: int): chest pain type (4 values)

* Chest-pain type: displays the type of chest-pain experienced by the individual using the following format :  
  **1 = typical angina**: Angina symptoms include chest pain and discomfort, possibly described as pressure, squeezing, burning or fullness. You may also have pain in your arms, neck, jaw, shoulder or back. Other symptoms that you may have with angina include: Dizziness.  
  **2 = atypical angina**: When one experiences chest pain that doesn't meet the criteria for angina, it's known as atypical chest pain. Angina chest pain is a pressure or squeezing like sensation that is usually caused when your heart muscle doesn't get an adequate supply of oxygenated blood.  
  **3 = non — anginal pain** : A chest pain is very likely nonanginal if its duration is over 30 minutes or less than 5 seconds, it increases with inspiration, can be brought on with one movement of the trunk or arm, can be brought on by local fingers pressure, or bending forward, or it can be relieved immediately on lying down.  
  **4 = asymptotic**: heart attack that has either no symptoms or minimal symptoms or unrecognized symptoms, but it is like any other heart attack where blood flow to a section of the heart is temporarily blocked and can cause scarring and damage to the heart muscle. The rupture causes a blood clot to form in the artery, leading to an acute blockage. The heart muscle is supplied by the blocked artery immediately becomes ischemic (starved for oxygen), which typically leads to chest pain or other alarming symptoms. Unless the blockage is relieved within a few hours, the muscle dies. It is the death of a portion of the heart muscle that constitutes a heart attack

1. **num\_major\_vessels** (type: int): number of major vessels (0-3) colored by flourosopy

diagnosis of heart disease (angiographic disease status) ,Value 0: < 50% diameter narrowing. Value 1: > 50% diameter narrowing

3 = normal  
6 = fixed defect  
7 = reversible defect

1. **fasting\_blood\_sugar\_gt\_120\_mg\_per\_dl** (type: binary): fasting blood sugar > 120 mg/dl compares the fasting blood sugar value of an individual with 120mg/dl.  
   If fasting blood sugar > 120mg/dl

then : 1 (true)  
else : 0 (false)

1. **resting\_ekg\_results** (type: int): resting electrocardiographic results (values 0,1,2) displays resting electrocardiographic results  
   0 = normal  
   1 = having ST-T wave abnormality  
   2 = left ventricular hyperthrophy
2. **serum\_cholesterol\_mg\_per\_dl**(type: int): serum cholestoral in mg/dl

* A serum cholesterol level is a measurement of certain elements in the blood, including the amount of high- and low-density lipoprotein cholesterol (HDL and LDL) in a person's blood. Serum cholesterol levels also show the amount of triglycerides present. Triglycerides are another lipid that can be measured in the blood.
* In general, HDL levels of 60 mg/dL or higher are considered to be good. Likewise, levels below 40 mg/dL are considered a risk factor for heart disease.

Learn more: Is it a stroke or a heart attack? »

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| --- | --- |
| healthy serum cholesterol | less than 200 mg/dL |
| healthy LDL cholesterol | less than 130 mg/dL |
| healthy HDL cholesterol | higher than 55 mg/dL for women and 45 mg/dL for men |
| healthy triglycerides | less than 150 mg/d |

1. **oldpeak\_eq\_st\_depression** (type: float): oldpeak = [ST depression](https://en.wikipedia.org/wiki/ST_depression) induced by exercise relative to rest, a measure of abnormality in electrocardiograms

Peak exercise ST segment :  
1 = upsloping  
2 = flat  
3 = downsloping

1. **sex** (type: binary): 0: female, 1: mal
2. **age** (type: int): age in years
3. **max\_heart\_rate\_achieved** (type: int): maximum heart rate achieved (beats per minute)

* You can estimate your maximum heart rate based on your age. To estimate your maximum age-related heart rate, subtract your age from 220. For example, for a 50-year-old person, the estimated maximum age-related heart rate would be calculated as 220 – 50 years = 170 beats per minute (bpm).

1. **exercise\_induced\_angina** (type: binary): exercise-induced chest pain (0: False, 1: True)

Stable angina is usually triggered by physical activity. When you climb stairs, exercise or walk, your heart demands more blood, but narrowed arteries slow down blood flow.

1 = yes  
0 = no