

Details of Each Column in the Heart Disease Classification Dataset

1. **Unnamed: 0**: This is simply an index or row identifier, generally added by default when exporting data from a database or another software, not relevant for analysis.
2. **age**: The age of the patient at the time of observation. Useful in assessing risk as heart disease incidence can increase with age.
3. **sex**: Gender of the patient, typically male or female. Gender is a significant risk factor as men are generally at higher risk of heart disease than women at younger ages.
4. **cp** (Chest Pain Type): Type of chest pain experienced by the patient, categorized by values 0 to 3. Types include typical angina, atypical angina, non-anginal pain, and asymptomatic, each having different implications for heart disease.
5. **trestbps** (Resting Blood Pressure): The patient's resting blood pressure on admission in millimeters of mercury (mm Hg). High values might indicate hypertension, a risk factor for heart disease.
6. **chol** (Serum Cholesterol): The amount of cholesterol in mg/dl. Elevated cholesterol is a major risk factor for coronary artery disease.
7. **fbs** (Fasting Blood Sugar): Indicates if fasting blood sugar is above 120 mg/dl (1 = true, 0 = false). High fasting glucose can indicate diabetes, which is a risk factor for heart disease.
8. **restecg** (Resting Electrocardiographic Results): This measures the electrical activity of the heart while at rest to identify heart conditions.
9. **thalach** (Maximum Heart Rate Achieved): Represents the maximum heart rate achieved during a stress test. Lower values might indicate underlying heart conditions.
10. **exang** (Exercise Induced Angina): Indicates whether exercise induced angina (1 = yes, 0 = no). Angina during exercise is a critical indicator of coronary artery disease.
11. **oldpeak** (ST Depression Induced by Exercise Relative to Rest): A measure of the severity of ischemic episodes during stress (measured via ECG). Higher values are typically more concerning.
12. **slope** (Slope of Peak Exercise ST Segment): The slope can indicate the severity of ischemic heart disease during an exercise stress test.
13. **ca** (Number of Major Vessels Colored by Fluoroscopy): Shows the number of major coronary arteries narrowed by significant stenosis. More vessels generally mean more severe disease.
14. **thal** (Thalassemia): A blood disorder turned marker in heart disease studies, where different values indicate normal, fixed defect, or reversible defect.
15. **target**: Indicates the presence of heart disease (yes or no). This is typically the outcome or label used in predictive models.