

Visualizing and Predicting Heart Diseases with an Interactive Dashboard

Team ID: PNT2022TMID23446

Team Leader : Hari Balaji.V

Team Member : Mahendhiravarman.S

Team Member : Tharun Kumar.J

Team Member : Karthik Kesavan.K

Average Age For Different Chest Pain Types

Different Kinds of Chest Pain and What Causes It:

Having a sudden chest pain is terrifying to most people. If you ask many people what they associate with the words chest pain, chances are their thoughts will jump directly to heart attacks. While chest pain can be caused by a heart attack, there are also other possibilities, many unrelated to your heart altogether.

Don't Ignore It!

Chest pain is not something to ignore, and you should always seek out the advice of a physician to rule out any cardiac or life-threatening causes for the pain. Problems in your lungs, muscles, ribs, gastrointestinal tract, or nerves can also cause chest pain. Some of these are life threatening, and some are simply uncomfortable but benign. The different causes of chest pain present with different symptoms.

Types of Pain:

Your pain can be sharp, dull, burning, stabbing, tight, or aching depending on the cause. When speaking to your physician, it is imperative that you try to describe your pain to help them diagnose the cause. Let's explore some different types of chest pain and the part of the body involved. We will discuss the symptoms, causes, treatment and prevention for each category. As always, this is meant to serve as a guide, and is not a substitute for seeking professional medical advice.

Heart

Coronary Artery Diseases (CAD)

Coronary artery disease is caused by damaged or diseased blood vessels that supply the heart with blood and oxygen. Deposits of cholesterol, or plaque in your arteries, is usually the main cause of coronary artery disease. When the artery becomes either mostly or completely blocked by plaque or cholesterol, it deprives the heart muscle of oxygen, this results in a heart attack.

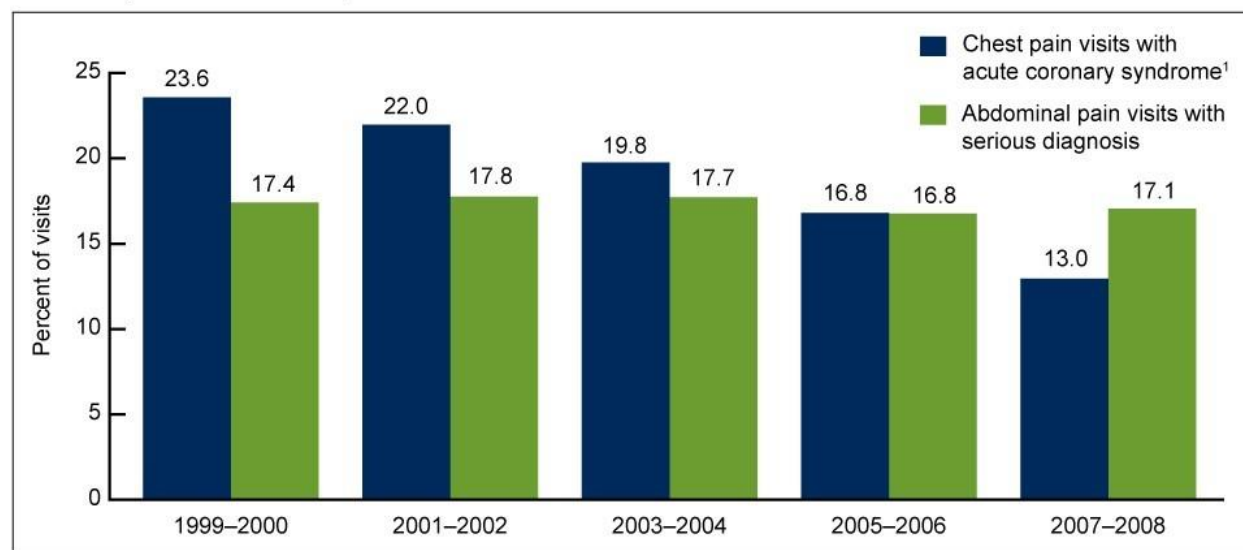
The chest pain you feel with CAD compares to someone sitting on your chest. Your chest feels tight and like it's under pressure. The pain may wax and wane, and may be exacerbated by exercise. Due to the blockages in your arteries, you may feel short of breath as your heart can't receive and pump enough oxygen to keep your lungs working properly. Along with the shortness of breath, you may also feel extremely fatigued and tired. If you suspect a heart attack or have a family history of heart disease, call 911 or get to your doctor as soon as possible if you suffer any of the above symptoms.

The best way to prevent CAD is to eat a healthy diet and exercise regularly, and absolutely **DO NOT SMOKE** tobacco products. Knowing your family health history is also critical because some families are genetically prone to heart disease. If you have a family member that had a heart attack, high cholesterol, or other heart problems at a young age you may also be pre-disposed to those conditions.

Talk to your doctor about your risks and ask if there are any tests or blood work that you need to ensure you do not have CAD.

If CAD is caught in the early stages your doctor will prescribe medications to lower your cholesterol. They will also start you on an exercise program. This will lower your cholesterol and blood pressure if that also happens to be an issue.

Figure 5. Chest pain- and abdominal pain-related emergency department visits for persons aged 18 years and over with a serious diagnosis: United States, 1999–2008



¹Trend is significant ($p < 0.05$).

NOTES: Figures are based on 2-year averages. Serious diagnosis is defined by the *International Classification of Diseases, Ninth Revision, Clinical Modification* codes. Serious abdominal diagnoses are defined as codes 540, 541, 560.8, 560.9, 574, 575.0, 575.1, 575.2, 575.4, 577.0, 578.9, 590.80, 590.81, 592.0, 592.1, 633.1, 633.8, 633.9, or 788.0. Acute coronary syndrome is defined as codes 410–414.

SOURCE: CDC/NCHS, National Hospital Ambulatory Medical Care Survey, 1999–2008.

