

## Bypass Surgery/Angioplasty



Heart Bypass surgery and angioplasty are usually performed on atherosclerotic blockages greater than 70%, so they basically alleviate the symptoms of coronary heart disease. These procedures increase the blood flow through the coronary arteries and can reduce chest discomfort (i.e. angina) and shortness of breath (i.e. dyspnea).

But, Clinical research studies have consistently shown that heart attacks are most often prompted by blockages of less than 50% which are not treated by bypass or angioplasty. Clinical studies have revealed that 65% of all heart attacks occur at the site of atherosclerotic blockages that are under 50% and that 90% of all heart attacks occur at the site of atherosclerotic blockages that are less than 70%.

And so, generally you are almost as likely to have a heart attack before heart bypass surgery as you are after the procedure. Only on an emergency situation, or when a blockage in a specific segment of the coronary artery (called the left main segment) is bypassed, or if three or more major coronary arteries are severely narrowed does this surgery modestly reduce the risk of further complications including death. For example, if you are in the midst of having a heart attack and arrive at the hospital almost immediately, your chance of survival will significantly improve if you have heart bypass surgery. The same applies to angioplasty.

By no means it is intended to imply that heart bypass surgery and angioplasty are not important or useful. They do reduce the symptoms of coronary artery disease (i.e., they will likely make you feel better) and therefore improve the quality of life. However, do not confuse relief of symptoms with improving your chances of not having a heart attack or dying from coronary artery disease complications (i.e. sudden death).

The evidence for these relatively disappointing outcomes from heart bypass surgery and angioplasty comes from controlled interventional clinical studies published in reputed journals. There have been several of these types of studies conducted that evaluated the effectiveness of coronary artery bypass surgery or angioplasty on heart attack rate, death from coronary heart disease, and rate of hospitalizations required because of coronary heart disease complications. The following is a list of the most important of these studies and their results with references so that you can, should you desire, review them for your satisfaction.

## Heart Bypass Surgery Studies

### Coronary Artery Surgery Study (CASS)

Demonstrated that bypass surgery reduced neither death nor heart attack in patients with stable Coronary heart disease. Source : **New England Journal Of Medicine**, Volume 310, pages 750 - 758, 1984.

### Veterans Administration Cooperative Study (VACS)

Concluded that coronary artery bypass surgery did not improve overall survival of patients. Even patients with more than three blocked coronary arteries did not benefit from it. Only patients with a blockage in the main portion of the left coronary artery benefited relative to reduced mortality from bypass surgery. Source **New England Journal of Medicine** , Volume 311 pages 1333 - 1340, 1984.

### European Coronary Surgery Study (ECSS)

Observed that bypass surgery did not improve survival for patients with single or two vessel coronary artery disease. Only patients with three-vessel coronary artery disease or a blockage in the left main coronary artery benefited modestly from bypass surgery, Source : The Lancet, Volume 2, pages 1173 - 1179, 1982.

## Balloon Angioplasty Studies

### Atorvastatin versus Revascularisation Treatment (AVERT) Study

Demonstrated that aggressive lowering of bad cholesterol (i.e. LDL) was more effective for reducing coronary heart disease events than balloon angioplasty, Source: **New England Journal of Medicine**, volume 341 pages 70-76, 1999.

### Randomised Intervention Treatment of Angina (RITA-2) Trial

Demonstrated that patients receiving balloon angioplasty experienced more deaths and heart attacks than patients not receiving angioplasty, i.e. those who only received standard care with medication. Source : **The Lancet** :Volume 350, pages 461 - 468, 1997.

### Angioplasty Compared to Medicine (ACME) Trial

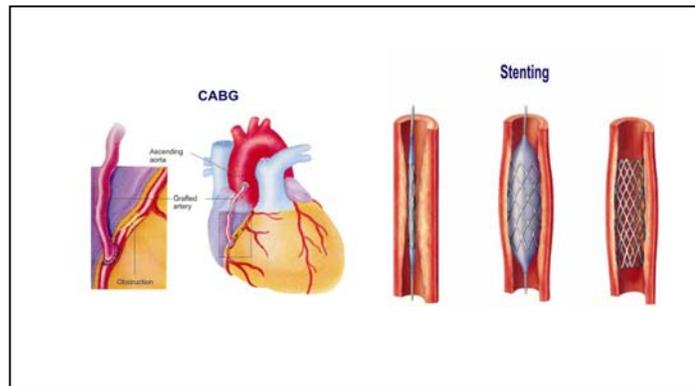
Observed that death, heart attack, and repeat of angioplasty was 35% higher patients receiving balloon angioplasty compared to patients not undergoing angioplasty and receiving just standard medicines. Source **New England Journal Of Medicine**. Volume 326, pages 10-16, 1992.

## Angioplasty With Stent

Editorial Alice K. Jacobs, M.D. " To date, it is disappointing that no study has shown that stents favourably influence mortality." Source : **New England Journal Of Medicine**, Volume 341, pages 2005 - 2006, 1999.

**Summaries** : Three randomized interventional studies examining the effect of stent placement on coronary heart disease outcomes. Observed higher rates of death and heart attack than anticipated among patients receiving stent implantation. Sources : **New England Journal Of Medicine**, Volume 341 pages 1949 - 1956, 1999. Heart ByPass Surgery and Angioplasty Do Not Cure Coronary Heart Disease

## Does Bypass Surgery or Balloon Angioplasty Eliminate the Risk of Heart Attack?... NO.



Recent studies have shown that unstable ruptured plaques that cause heart attacks are not necessarily the severe blockages. Majority of heart attacks (85% or more) occur at blockages that are less than 70% which are not treated by bypass surgery or angioplasty.

Bypass surgery or balloon angioplasty is usually done for the blockages that are more than 70% and are effective in reducing symptoms of angina for some period but they do not significantly reduce the risk of heart attack. The reason for this seemingly paradoxical phenomenon is that these procedures do not tackle the younger less severe soft plaques which are more likely to rupture due to a thin cap covering the fast growing underlying cholesterol laden inflammation. These are the lesions that rupture and cause heart attacks. As against this, the older, slowly growing more stable but severe blockages (more than 70%) have a thick, strong fibrous cap covering the underlying cholesterol and hence they do not easily rupture.

In spite of the fact that only minority of heart attacks are caused by the plaque rupture at the sites of severe (more than 70%) blockages, we are more worried about them and ironically keep on treating them with Bypass surgery or balloon angioplasty while keep on ignoring the lesser but more vulnerable blockages which may be lying hidden in our coronary arteries. We rely more on expensive & potentially dangerous procedures like bypass surgery and angioplasty while continue to ignore simpler yet much more effective treatment of controlling risk factors. No wonder people get heart attacks and keep dying even after bypass surgery or balloon angioplasty.

**It is essential that you understand that heart bypass surgery and angioplasty do not cure coronary heart disease. These surgical procedures essentially alleviate the symptoms of the disease. The cure of the disease resides in managing your risk factors and most importantly reducing the blood cholesterol through diet, exercise and medications. And the best way to achieve this is aggressive lifestyle modification with expert medical guidance.**

**Cardio Uno program will help you control your risk factors very effectively and prevent future Heart Attack.**