



Statins, Cholesterol and Cardiovascular Risk?

Many patients are aware of their cholesterol and know of medications that can lower cholesterol called statins, but are these for you?

Individuals between the ages of 40-75 may benefit from medication to reduce their risk of cardiovascular disease. Your cholesterol contributes in part to your risk of cardiovascular disease, and reducing this lowers your chance of heart attacks and strokes. Medications called statins, reduce individuals cardiovascular risk by approximately 25% - whether or not you need to take statins depends upon your **individual (or absolute) risk**.

Your individual risk is calculated by taking into account several factors, such as your age, sex, blood pressure, cholesterol, your smoking status as well as your ethnicity. The adjusted Framingham Risk Score calculates the 10-year risk of having a heart attack or a stroke. **A score of 20% or more** is normally an indication that you should be assessed by a doctor.

Lifestyle changes

Before medication is commenced, the most important (and usually overlooked or dismissed) intervention is that of what you can do for your self. The advice below (which if followed), has an effect far exceeding that of medication on the chances of you having a heart attack or stroke. Medication is often seen as a panacea, or even a substitute for healthy living, but although this article is concerned with heart attacks and strokes, the lifestyle changes below help alleviate, arthritis, depression, and reduces the risk of cancer.

- Diet (5 Fruit a day)
- Diet (2 Portions of fish a week – one oily)
- Weight Loss – maintain a healthy weight, through portion control and exercise
- Exercise – ideally 30mins of sweat-producing exercise a week, but anything you do helps your heart.
- Stopping smoking – probably the single most beneficial intervention to your body

Medication

If despite the above, your risk remains high, then the option of commencing a statin to reduce your risk may be discussed with you. At present the Joint British Society and National Institute for Clinical Excellence (NICE) recommend commencing upon Simvastatin 40mg which should be taken at night. As mentioned previously the benefit of the drug to you depends upon your risk, for example;

- If your individual 10-year risk is 20%, then taking Simvastatin 40mg will reduce this by 25%. This means your absolute risk will reduce by a quarter (25%) from 20% to 15%. Which means over 10 years your risk of having a stroke is reduced by 5%.
- Alternatively if your 10-year risk is 40%, then taking Simvastatin 40mg will reduce this by 25%, meaning your absolute risk is reduced from 40% to 30%, or a 10% risk reduction over 10 years.

Are there Side-Effects?

Like all medication there are side-effects, and the statins are no different. There is a rare complication of rhabdomyolysis, which occurs with higher doses of medications, but in general the medications are well tolerated. The much publicised 'myalgia' – aches in the muscles, initially attributed to the statins does not hold up to scientific analysis and the rate of 'aches and pains' in individuals taking statins is no higher than taking a sugar pill (placebo). The most common side-effects relate to sleep disturbance, dizziness and headache.

However if you are taking a statin and feel unwell, and developed pains in your muscles then you should see your doctor such that hepatitis and myositis may be ruled out.

What if my cholesterol is high but my cardiovascular risk is low?

This is a common scenario, and each individual should be assessed accordingly. In general total cholesterol is made up of, 'bad' (LDL) and 'good' (HDL) cholesterol, and the proportion of good cholesterol is the key. If your **ratio of total-cholesterol to good cholesterol** (HDL) is high (>6.0), then you may be advised to commence a statin, but in most cases the ratio is within limits. For example;

- If your total cholesterol is 7, but your HDL (good) cholesterol was 2, your ratio would be satisfactory, and although seemingly high, you would not need to do take any medication (but would be advised on lifestyle changes).

What if I am already taking a Statin?

This advice relates to **primary prevention** only. As already mentioned the decision on whether you may benefit from a statin is dependent on your overall estimated future RISK score and not just on the cholesterol level alone.

If your risk is high (ie over 20%) and you decide to commence a statin many people often think that the cholesterol level needs to be rechecked on a regular basis. However currently, in terms of primary prevention there is no recommended "target cholesterol" that we aim for, so follow up cholesterol checks are not indicated, unless the situation changes and you require **secondary prevention** (see below).

If you are already taking a statin and your cardiovascular risk score (which should ideally be calculated considering your natural cholesterol profile, that is the cholesterol profile **before** you commenced drug treatment, is **low** (ie less than 20%) then it may be reasonable to consider stopping drug treatment and reassessing your risk at a later time.

If you have already had a heart attack, or a stroke, are diabetic or have a lipid metabolism disorder than you should already be taking a statin, termed **secondary prevention**. Statins prescribed for secondary prevention have been proven to be beneficial for all people regardless of what the natural level of cholesterol is prior to starting to treatment. Even patients who have low cholesterol levels benefit from taking a statin.

Statins prescribed for **secondary prevention** do target your level of cholesterol (and not your risk as in primary prevention), and in most cases a target of total cholesterol less than 5 is aspired to. This requires annual monitoring.

Not sure?

If you are unclear regarding cholesterol, statins or cardiovascular risk then please make an appointment to see your doctor who can talk to you further regarding these matters.