A Risk Score for Cardiovascular Disease

Click here to calculate your risk score

This website was reviewed and updated on 20th December 2004 (See FAQs)

Frequently asked questions (FAQs).

This website enables physicians and the general public to readily assess a person’s risk of dying within 5 years from cardiovascular disease, including both stroke and heart disease.

To calculate the risk score you need to know the following:

- age
- sex
- current smoker?
- systolic blood pressure
- serum total cholesterol
- serum creatinine
- height
- diabetic?
- left ventricular hypertrophy?
- previous heart attack/myocardial infarction?
- previous stroke?

If you are ready, just click the link above, and then key in all these items. We’ll then tell you your score, which is a number in the range of 0 to 70. We’ll also give your percentage risk of dying from cardiovascular disease in the next 5 years.

Since risk increases with age and is higher in men than in women, we will also tell you how you compare with the average risk for people of the same age and sex, placing you in one of four categories: low risk, average risk, high risk and very high risk.

Finally, we’ll list which risk factors (if any) are responsible for increasing your risk.

Our goal is to enable a patient and their physician to assess their overall risk of cardiovascular disease. This will help in making practical judgements.
on what to do about the patient's cardiovascular health, including possible needs for life-style changes or drug treatment of particular risk factors such as raised blood pressure.

We hope you find this website useful. If you have any queries please read first our frequently asked questions. For other queries or comments on the risk score, please e-mail stuart.pocock@lshtm.ac.uk. For any technical issues with the calculator or these web pages, please e-mail mike.bennett@lshtm.ac.uk

More about the risk score and its basis

Full details of the risk score and how it was derived are published in the British Medical Journal issue of 14 July 2001. The article entitled "A Score for Predicting Risk of Cardiovascular Death in Adults with Elevated Blood Pressure" is by Stuart Pocock, Valerie McCormack, Francois Gueyffier, Florent Boutitie, Robert Fagard and Jean-Pierre Boissel and appears on pages 75 to 81. It can be found here.

The score is derived from data on 47,088 men and women who participated in eight randomised controlled trials of drug treatment for high blood pressure in Europe and North America. Average follow-up was over 5 years and 1639 patients died of cardiovascular disease (1031 coronary heart disease, 371 stroke and 237 other). Though these trial participants did tend to have elevated blood pressure, the risk score should be of widespread use in health screening not necessarily motivated by high blood pressure.

Two of these trials were on 21750 British subjects and their data have been used to give a country-specific probability of cardiovascular death linked to a person's risk score. These British data have also been used to give age-and-sex-specific distributions for the risk score. This enables any individual to see how their risk compares with others of the same age and sex.

The selection of risk factors is based on what makes a highly significant independent contribution to predicting risk. Age, sex, smoking, systolic blood pressure and total cholesterol are well known to be important. Also, diabetes and left ventricular hypertrophy increase risk as does a previous stroke or heart attack. Raised creatinine and short stature are less widely known as risk factors, but the substantial body of evidence for their importance supports our inclusion of them in the risk score. However, if
serum creatinine happens to be unknown we can still calculate your risk. Incidentally, diastolic blood pressure does not help to predict your risk score once systolic pressure is taken into account, and hence your diastolic pressure is not included.

Of course, assessing your overall risk of cardiovascular disease is just a starting point. What life-style and treatment strategies to subsequently recommend is beyond the scope of this website and should be primarily led by consultation between the patient and their physician.

Click to calculate risk

Read the BMJ article

Click here to download the calculator as a 'free standing' program for the PC

Other useful links