HOW TO USE THE CORONARY RISK PREDICTION CHARTS FOR PRIMARY PREVENTION

These charts are for estimating coronary heart disease (CHD) risk (non-fatal MI, coronary death and new angina pectoris) for individuals who have **not** already developed CHD or other major atherosclerotic disease. They are an aid to making clinical decisions about how intensively to intervene on lifestyle and whether to use antihypertensive and lipid lowering medication, but should **not replace clinical judgment.**

- The use of these charts is **not appropriate** for patients who have existing diseases which already put them at high risk. Such diseases are:-
    - CHD or other major atherosclerotic disease
    - Familial hypercholesterolaemia or other inherited dyslipidaemias
    - Renal dysfunction including diabetic nephropathy

- The charts should **not** be used to decide whether to introduce antihypertensive medication when blood pressure is persistently at or above 160/100 or when target organ damage due to hypertension is present. In both cases antihypertensive medication is recommended regardless of CHD risk.

- To estimate an individual's absolute 10 year risk of developing CHD choose the table for his or her gender, diabetes (yes/no), smoking status (smoker/non-smoker) and age. Within this square define the level of risk according to the point where the coordinates for systolic blood pressure and the ratio of total cholesterol to high density lipoprotein (HDL) cholesterol meet. If no HDL cholesterol result is available, then assume this is 1.00mmol/l and the lipid scale can be used for total serum cholesterol alone. Diabetes refers to type 2 diabetes. See later notes, if patient has type 1 diabetes or impaired fasting glucose.

- Higher risk individuals are defined as those whose 10 year CHD risk exceeds 15%, which is equivalent to a combined risk of CHD and stroke (cardiovascular risk) of >20% over the same period. As a minimum those at highest CHD risk (>30%

red) should be targeted and treated now. When resources allow others with a CHD risk of >15% (orange) should be progressively targeted.

- Smoking status should reflect lifetime exposure to tobacco and not simply tobacco use at the time of assessment. For example, those who have given up smoking within 5 years should be regarded as current smokers for the purposes of the charts.

- The initial blood pressure and the first random (non-fasting) total cholesterol and HDL cholesterol are used to estimate an individual's risk. However, the decision on using drug therapy should generally be based on repeat risk factor measurements over a period of time.

- These charts (and all other currently available methods of CHD risk prediction) are based on groups of people with **untreated** levels of blood pressure, total cholesterol and HDL cholesterol. In patients already receiving antihypertensive therapy in whom the decision is to be made about whether to introduce lipid-lowering medication or vice versa the charts can act as a guide, but unless recent pre-treatment risk factor values are available it is generally safest to assume that CHD risk is higher than that predicted by current levels of blood pressure or lipids on treatment.

- CHD risk is also higher than indicated in the charts for:-
    - Those with a family history of premature CHD (male first degree relatives aged <55 years and female first degree relatives aged <65 years) which increases the risk by a factor of approximately 1.5
    - Those with raised triglyceride levels
    - Women with premature menopause
    - Those who are not yet diabetic, but have impaired fasting glucose (6.1-6.9mmol/l)
    - Patients with Type 1 diabetes in whom the risk is often greater than predicted by the total

cholesterol to HDL cholesterol ratio. It may be more accurate to ignore HDL cholesterol in them and use the lipid scale for total serum cholesterol alone, but direct evidence for this is currently lacking.

- As the person approaches the next age category. Risk increases exponentially with age so the risk will be closer to the higher decennium for the last four years of each decade.

● In some ethnic minorities the risk charts underestimate CHD risk because they have not been validated in these populations. For example, in people originating from the Indian subcontinent it is safest to assume that the CHD risk is higher than predicted from the charts (1.4 - 1.5 times).

● An individual can be shown on the chart the direction in which his or her risk of CHD can be reduced by changing smoking status, blood pressure or cholesterol, but it should be borne in mind that the estimate of risk is for a group of people with similar risk factors and that within that group there will be considerable variation in risk. The charts are primarily to assist in directing intervention to those who typically stand to benefit most.

Reference:

1. Wood D, Durrington P, Poulter N, McInnes G, Rees A, Wray R. Joint British recommendations on prevention of coronary heart disease in clinical practice. *Heart 1998; 80 supplement 2*

Further Reading:

BHF Factfile 8/99 - Joint British Recommendations on Prevention of Coronary Heart Disease in Clinical Practice part 1

BHF Factfile 9/99 - Joint British Recommendations on Prevention of Coronary Heart Disease in Clinical Practice part 2

NB: The above 2 Factfiles will shortly be available on the British Heart Foundation's website (www.bhf.org.uk)

Factfile Supplement

January 2002

Promoting health through exercise

Following on from the Factfile 'Physical activity and the heart: an update' (4/2001), we are joining forces with the British Heart Foundation National Centre for Physical Activity and Health and SportEx Health (a monthly journal promoting health through exercise) to produce advice sheets for patients. The advice sheets focus on a variety of medical conditions and give some general exercise advice, as well as stating the benefits and the type of exercise relevant to that condition.

The aim of the advice sheets is to enable patients to have a better understanding of "how" to exercise when advised to do so by their general practitioner or primary care health professional.

We are seeking to enlist a number of GPs with an interest in the health benefits of physical activity to take part in an evaluation of the advice sheets we have to date. This will involve reviewing 9 advice sheets, completing a basic questionnaire and possibly being contacted for a follow-up telephone call.

If you are interested in helping us, please send in your name, address, telephone number and e-mail address to:

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Education Project Manager
British Heart Foundation
14 Fitzhardinge Street
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or e-mail: wilkinsc@bhf.org.uk

Please respond by Wednesday 6 March 2002

Thank you