

**informedhealthonline.org**

INDEPENDENT, OBJECTIVE AND EVIDENCE-BASED

## Evaluation of international guidelines: Recommendations for people with coronary heart disease



German disease management programmes for people with coronary heart disease are essentially in line with recommendations made in international guidelines. A few additions could be made, for example, about weight reduction and flu vaccination.

**German disease management programmes for people with coronary heart disease are essentially in line with recommendations made in international guidelines. A few additions could be made, for example, about weight reduction and flu vaccination.**

Coronary heart disease (CHD), sometimes also called coronary artery disease (CAD), is a chronic condition. It arises when the blood vessels around the heart which supply the heart muscle with oxygen (coronary arteries) become narrow. People who have CHD have hardened coronary arteries. This is known as "arteriosclerosis". Arteriosclerosis can develop when fats and other substances in the blood accumulate in a damaged site within the blood vessel wall, and the vessel becomes increasingly narrow. Fatty deposits like this ("plaques") build up in the blood vessels of most people at some point in their lives. In severe cases of CHD, the narrowed coronary arteries may no longer be able to supply the heart with enough oxygen. This kind of blood supply deficiency is known as "ischaemia".

The main symptoms of coronary heart disease are sudden chest pains which can last anything between a few seconds and several minutes. The medical name for this is angina pectoris, which means "tight chest". Along with the pain, there is a feeling of tightness and anxiety. The pain may spread to the back of the neck, the back, arms or jaw.

Specialists differentiate between stable and unstable angina pectoris. In the stable form, symptoms usually only arise during or after physical exercise, like climbing stairs, and then disappear again.

In the unstable form of angina pectoris, which is much less common, symptoms already arise following very light physical activity or even when the person is resting. Unlike the stable form, unstable angina pectoris poses an immediate threat: the person is in danger of having a heart attack.

Heart attacks (myocardial infarctions) may be caused by coronary heart disease and can be life-threatening. They occur when a coronary artery suddenly becomes so narrow that part of the heart muscle can no longer be supplied with oxygen. If it is not treated in time, part of the muscle tissue dies. Depending on the extent of damage, the heart muscle is permanently weakened, and the heart can no longer work properly. The likelihood of surviving a heart attack has greatly increased over the years: in countries like Germany, about 3 out of 4 people survive a heart attack.

It is not clear exactly how many people have coronary heart disease in Germany. However, there are estimates of the number of people who have heart attacks: every year, about 1 to 2 out of 100 women between the ages of 25 and 74 have a heart attack (between 1% and 2%). Men in the same age group have a slightly higher risk: about 4 out of every 100 men have a heart attack (4%). However, the risk of CHD and possible complications can vary greatly from person to person. The main risk factors are believed to be age, gender, smoking, having diabetes, being overweight and having high blood pressure. Also, a lot of people who have CHD have high cholesterol levels. But there has not been enough research to say what influence high blood cholesterol levels alone may have.

CHD treatment aims to reduce the symptoms of angina pectoris, as well as to prevent heart failure (cardiac insufficiency) and heart attacks. Typical strategies include dietary changes, doing more exercise and giving up smoking. This is usually accompanied by medication. If the condition is serious, surgery is often performed to try to widen the coronary arteries.

## Structured disease management programmes

From 2002, people in Germany with CHD have had the option of joining a so-called disease management programme (DMP) offered by state health insurance funds. DMPs, or structured treatment programmes, aim to ensure that people with certain chronic illnesses get the best treatment possible. This could be achieved through, for example, regular doctor's appointments, individual treatment plans and patient education courses. You can read more about DMPs here (URL: <http://www.gesundheitsinformation.de/fact-sheet.340.276.en.htm>).

Doctors who participate in a DMP have to follow certain quality criteria and defined treatment plans. In Germany, the Federal Joint Committee (G-BA) determines what requirements a disease management programme has to fulfil and what medical treatments it should include. The Federal Joint Committee is the national decision-making body of the self-governing body of doctors, dentists, psychotherapists, hospitals and health insurance funds in Germany. One important requirement is that the treatment offered should ideally comply with "evidence-based guidelines". Guidelines are a kind of decision aid for doctors and patients. They aim to ensure that patients have the best possible quality-assured

treatment. "Evidence-based" means that the guidelines are based on the results of reliable scientific studies, particularly so-called randomised controlled trials.

Medical knowledge is constantly growing, so recommendations for DMPs have to be regularly updated. For this reason, the Federal Joint Committee commissioned the German Institute for Quality and Efficiency in Health Care (IQWiG) to compare the recommendations for the coronary heart disease DMP with current international guidelines, and to point out any changes that may be needed. Together with researchers from the Berlin Institute of Technology, the IQWiG systematically evaluated 21 clinical guidelines from different countries. The Federal Joint Committee took the results of this evaluation into consideration when discussing possible changes to be made to the recommendations for the coronary heart disease DMP.

## The results

The researchers found that the recommendations for the coronary heart disease DMP in Germany were generally in line with the current German and international guidelines. However, they suggested that further analysis of the benefits and harms of some treatments could be worthwhile. For example, strategies like losing weight and quitting smoking are more frequently recommended for people with CHD nowadays. Also, two of the guidelines recommend that CHD patients be vaccinated against influenza.

The researchers also suggested that it would be a good idea to update the recommendations for the DMP concerning certain medications and surgical procedures. For example, some guidelines have changed their recommendations about the use of statins (cholesterol-lowering drugs), and about the most appropriate time to consider procedures to widen the coronary arteries or bypass surgery. Another more recent development is that some guidelines emphasise the risks of hormone therapy in women with menopause symptoms.

In our "Heart and circulation" (URL: <http://www.gesundheitsinformation.de/heart-and-circulation.31.67.en.html>) topic area you can read more about the research on cardiovascular diseases and find out what the signs of a heart attack are.

*Author: German Institute for Quality and Efficiency in*

*Health Care (IQWiG)*

## Note

This health information is a summary of a scientific report published by IQWiG. It is not an assessment of the right to have health care services reimbursed by statutory health insurance funds in Germany. By law, decisions about the reimbursement of diagnostic and therapeutic procedures can only be made by the German Federal Joint Committee (G-BA). The Federal Joint Committee takes IQWiG reports into consideration in its decision-making process. You can find information about the decisions of the German Federal Joint Committee on its English-language website, [www.english.g-ba.de](http://www.english.g-ba.de) (URL: <http://www.english.g-ba.de/>).

## Glossary

### cholesterol levels

Cholesterol levels are a way of measuring the concentration of cholesterol in the blood. It is often called fat levels, although cholesterol is not really a fat. Fat is found in the tiny droplets that transport cholesterol through the blood. Depending on the type of transport molecule, doctors differentiate between HDL, LDL and VLDL cholesterol. The total level of cholesterol, measured in milligrams per decilitre (mg/dl), combines the individual values of all these types of cholesterol.

### statins

Statins are a class of drugs that are described as cholesterol-lowering. Statins affect the metabolism of building blocks of cholesterol in the body, which slows down the production of cholesterol.

### evidence

Evidence is what we call scientific proof from well-conducted, good-quality scientific trials that have been carefully designed to answer specific questions. Depending on the types of questions, different scientific research methods (types of study) are most appropriate to find reliable answers to these questions. Randomized controlled trials (RCTs), for example, are the best way to get reliable evidence on the effectiveness of medical treatments (interventions). This type of study, however, is not the best form of evidence for all possible questions, and does not provide the best answers to all kinds of questions, either. Epidemiological studies, for example, are very suitable for establishing well-founded proof for the spreading of a disease in the population.

### vaccination

Vaccination involves stimulating the body's production of antibodies to a particular virus or bacteria, so that the person has increased resistance if they are exposed to the real infection. A vaccine aims to launch the body's defence system, without actually causing the disease. Depending on the vaccine, it could take some time after vaccination to develop immunity. With most vaccines, more than one vaccination is needed. Sometimes the immunity from a vaccine lessens over time. That means there are some types of vaccination that need be repeated after a few years to stay active. There are several types of vaccines. Some

vaccines are "inactivated" or "killed", which means that even though they are made from a virus, for example, no "live" part of the virus remains. That means the vaccine itself cannot cause infection. Other vaccines are "live attenuated vaccines". This means that the virus has been made so much less infective than the real virus, that it should not be able to cause symptoms.

## Sources

German Institute for Quality and Efficiency in Health Care (IQWiG). *Systematic guideline search and evaluation, as well as extraction of new and relevant recommendations, for the DMP "Coronary heart disease". Final report V06-03. Version 1.0.* Cologne: IQWiG. February 2008.

[Executive summary (URL:

[http://www.iqwig.de/download/V06-03\\_Executive\\_Summary\\_Systematic\\_guideline\\_search\\_and\\_evaluation\\_for\\_the\\_DMP\\_Coronary\\_-in\\_English](http://www.iqwig.de/download/V06-03_Executive_Summary_Systematic_guideline_search_and_evaluation_for_the_DMP_Coronary_-in_English)] [Full text (URL:

[http://www.iqwig.de/download/V06-03\\_Abschlussbericht\\_Leitlinienrecherche\\_und\\_bewertung\\_fuer\\_das\\_DMP\\_KHK.html](http://www.iqwig.de/download/V06-03_Abschlussbericht_Leitlinienrecherche_und_bewertung_fuer_das_DMP_KHK.html)) - in German]

**The German Institute for Quality and Efficiency in Health Care (IQWiG)**

The German Institute for Quality and Efficiency in Health Care (IQWiG) was established by legislation to provide evaluations of the effectiveness, quality and efficiency of healthcare services. This includes the assessment of medicines as well as the publication of health information for consumers and patients.

**Evidence basis of our health information**

Our information is based primarily on systematic reviews of the effects of health care. Systematic reviews are necessary to gain an objective picture of health care. In order to do this, a clear question is formulated. Researchers then find all the relevant studies that could answer this question. They then evaluate those studies.

You can find a list of the evidence and other scientific literature on which this information is based at **[www.informedhealthonline.org](http://www.informedhealthonline.org)**

**Disclaimer**

This information was prepared and published by the German Institute for Quality and Efficiency in Health Care (IQWiG). It is based on the evidence and other scientific literature available at the time of publication. The information is intended for the use of patients in Germany. It is not intended to for use to diagnose illnesses and the information is not intended to substitute for medical advice.