# Depression and Heart Disease

## Summary

- Depression is a risk factor for future coronary heart disease, and is also common in patients with clinical coronary disease and congestive heart failure.
- Depressive symptoms following acute coronary events are associated with increased cardiovascular morbidity and impairment in quality of life.
- Depressed mood should be assessed using standardised questionnaires in patients who have been discharged from hospital following acute cardiac events or cardiac surgery, and in individuals suffering from heart failure. Positive scores should be followed up with clinical interviews.
- Discuss issues of adherence to medication and lifestyle advice with patients who are identified as depressed. If patients have been prescribed drugs for secondary prevention, ensure that these are being taken reliably.
- Consider treatment with selective serotonin uptake inhibitors in patients with severe depression.


## Introduction

Depression is a common problem in patients following acute cardiac events such as myocardial infarction. Up to 20% of individuals have a major depressive episode within a few weeks, and a further 25% experience minor depression or elevated levels of depressive symptoms. Depressive symptoms are present in around one third of patients with congestive heart failure as well. It used to be thought that depressed mood was a normal part of coming to terms with the cardiac event and had no lasting impact on health, but this is not the case.

## Depression and cardiovascular health

Research over the last 15 years has demonstrated that patients who are depressed in the weeks following an acute coronary syndrome have a poorer cardiac outcome[1]. Most studies have found at least a twofold increase in death and recurrent cardiac events over the first 12 months after discharge from hospital. Depression is also linked with poor quality of life and less successful rehabilitation. Outcome is worst for the seriously depressed, but even patients with moderately depressed mood tend to have less good cardiovascular health over the next five years. The same pattern is present in patients with congestive heart failure, with an increased risk of early mortality in depressed individuals. Depressed patients also show smaller gains in physical functioning following coronary artery bypass surgery[2].

## Why is depression bad for cardiovascular health?

We do not completely understand the mechanisms through which depression affects cardiovascular health. However, it is linked with several biological processes that influence vascular pathology, including dysfunction of the vascular endothelium and activation of platelets. Depressed individuals have reduced heart rate variability that is indicative of disturbances in cardiac autonomic control that in turn can increase risk of cardiac arrhythmia. Additionally, depressed people are less likely than other patients to adhere to treatment advice and take medication reliably, and tend to be more sedentary. Thus biological and behavioural factors may both contribute to the link between depression and poor cardiovascular outcomes.

## Assessing depression in cardiac patients

Depression is known to be a risk factor for coronary disease, an association that is independent of standard risk factors such as smoking, hypertension and high cholesterol levels. This means that some patients suffering acute coronary disease will have experienced depression before the cardiac event, while in others the depressed mood will be a new experience. We do not know at the moment whether this makes a difference to the impact of depression on later outcomes. Depressive problems can be reliably assessed by clinical interviews and simple questionnaires such as the Hospital Anxiety and Depression scale or the Patient Health Questionnaire administered following discharge from hospital[2]. High scores on these measures will identify the majority of individuals who are depressed. However, care is needed in the interpretation of somatic symptoms of depression such as fatigue, since these may also be signs of cardiac problems.

## Management of depression

The management of depression in cardiac patients is a field of intense clinical investigation at the moment. The only randomised clinical trial published to date that was statistically powered to assess cardiac outcomes was a comparison of cognitive-behaviour therapy with usual care[3]. This showed modest effects on depression, but no differences in event free survival over an average of 29 months. Unexpectedly, cognitive-behavioural therapy appeared to have a beneficial effect in men but a negative effect in women. Cardiac rehabilitation programmes that incorporate stress management methods such as *The Heart Manual* developed by the BHF Care and Education Research Group lead to decreases in depressive symptom levels, though whether they reduce future cardiac morbidity is not known. Pharmacological methods should also be considered. Selective serotonin uptake inhibitors (SSRIs) have proved quite effective in the treatment of the depressive symptoms of cardiac patients, and safe from the cardiovascular point of view[4]. There are some indications that SSRIs may also be beneficial in terms of cardiac morbidity and mortality[5]. However, this conclusion is based at the moment on case-control studies and secondary analysis, and not on randomised controlled trials. Other medications, in particular tricyclic anti-depressants, may be cardiotoxic and should be avoided.

## References


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