

Introduction

Heart disease is a major cause of morbidity and mortality, causing 30% of all deaths in Australia in 1996. The most common forms of heart disease affecting Australians are coronary heart disease, acquired valve disease, conduction defects, congestive heart failure and congenital heart defects. Cardiac services offer a range of interventions to treat heart disease, among which are cardiac surgery and electrophysiological treatments.

Coronary artery bypass grafting (CABG) was developed in the 1960s and is now a well-established procedure. Vessel grafts are used to construct new conduits from major arteries to points beyond obstructions in the coronary arteries to restore adequate blood supply to the heart muscle (myocardium). The procedure usually requires the chest to be opened and the circulation to be diverted from the heart and lungs to a cardiopulmonary bypass machine with a pump oxygenator. In most cases the graft material is obtained from the patient's saphenous vein in the leg or the internal mammary artery, or both. Less invasive techniques for performing the procedure are now being introduced. CABG is a treatment and not a cure for coronary artery disease, and there is a risk of recurrent disease. Reoperations are uncommon within the first five years but become more frequent later. Although coronary angioplasty has replaced some CABG procedures since it was introduced in the early 1980s, the techniques are regarded as complementary and the rate of CABG is still increasing.

Valve surgery involves repairing or replacing the mitral, aortic, tricuspid or pulmonary valves. It usually requires cardiopulmonary bypass. Valve disease may be age-related, a result of disease such as rheumatic fever, or congenital. Most valve procedures done in Australia consist of replacing the damaged valve with a mechanical prosthesis, a porcine bioprosthesis or a human graft. Reconstruction of the damaged valve by suturing techniques is less common. Simpler valve procedures can be undertaken with catheter-based techniques.

Congenital conditions include abnormalities of the heart or heart valves, defects of the great vessels, such as the aorta and pulmonary artery, or combinations of defects. Most children with congenital defects are treated with open surgery, usually in infancy or early childhood.

Electrophysiology surgery involves removing sections of heart muscle tissue responsible for abnormal heart rhythms (arrhythmias) such as ventricular and supraventricular tachycardias, which can be serious or even life threatening.

Other cardiac procedures include operations on the aorta, surgery for cardiac tumours and trauma, transplants, and pericardiectomy for infectious disease.

The aim of this report is to provide details of cardiac surgery performed in Australia in 1994. The report covers patterns and trends in the use of cardiac surgery procedures for acquired and congenital conditions, and associated mortality.

This report is also available on the Internet at the Institute's web site:

<http://www.aihw.gov.au>