

## 11. CARDIAC AND RESPIRATORY CONDITIONS

11.1	Contents	Paragraph
	Conditions Considered	11.2
	Introduction	11.3
	Disability in Diseases of Heart and Lungs	11.4
	Care Needs	11.5
	Mobility Considerations	11.6
	Duration of Needs	11.7
	Further Evidence	11.8
	Oxygen Therapy	11.9
	Cardiac Pacing	11.10
	Bronchial Asthma in Adults	11.11
	Bronchiectasis	11.12
11.2	<b>Conditions Considered</b>	
	Coronary Artery Disease	11.3.3
	Ischaemic Heart Disease	11.3.3
	Angina	11.3.3
	Valvular Disease of the Heart	11.3.6
	Heart Failure	11.3.7
	Chronic Obstructive Airways Disease	11.3.8
	Chronic Bronchitis and Emphysema	11.3.8
	Bronchial Asthma in Adults	11.11.
	Bronchiectasis	11.12.
	<b>Related Conditions Considered in other Chapters:</b>	
	<b>Cystic Fibrosis</b>	<b>Chapter 44</b>
	<b>Asthma in Children</b>	<b>Chapter 45</b>
11.3	<b>Introduction</b>	
	<b>11.3.1</b> Diseases of the heart and lungs are important in this context for two reasons. First, they are very common. 17% of men and 8% of women between the ages of 40 and 60 have chronic bronchitis. In England and Wales 30% of deaths amongst men and 22% amongst women are due to ischaemic heart disease. They are considered together in this chapter since the resulting disabilities which give rise to care and mobility needs are very similar.	
	<b>11.3.2</b> These diseases are also important for the degree of disability they cause. Many of the diseases are progressive and often lead to severe disability which can persist for many years.	
	<b>11.3.3 Ischaemic Heart Disease (Coronary Artery Disease)</b>	

- (i) Ischaemic heart disease (coronary artery disease) is caused by narrowing of the arteries that supply blood to the heart muscle. Angina (chest pain on exertion) is often the first symptom although for many the first sign of the disease is the severe pain of a myocardial infarction (heart attack). Sometimes the first sign of disease is sudden, unpredictable death.
- (ii) For the majority of people with ischaemic heart disease modern treatment is effective in controlling the frequency and severity of attacks of angina. Most should be able to lead a normal or near normal life, although the pace of life may have to be reduced. Even after a heart attack most people are back to normal exercise levels within two or three months.
- (iii) In a small number of cases treatment fails to limit chest pain, even at rest, or complications developing, such as heart failure. Some of these people can be helped by surgery to the arteries of the heart (coronary by-pass surgery) or by stretching the narrowed arteries with a special balloon device or, in extreme cases, by heart transplantation, but many will become increasingly disabled as time goes on.

#### **11.3.4 Valvular Disease (Rheumatic Heart Disease)**

Conditions that damage the valves of the heart may also result in an impaired pumping action of the heart. In the past, valve damage usually followed rheumatic fever but nowadays is more often due to degeneration or wear and tear to the valve tissues. The effect of valvular damage is to put additional strain on the heart. Treatment, either by drugs or by valve replacement surgery, is intended to minimise this strain. In some instances, however, this does not work and heart failure develops.

#### **11.3.5 Heart Failure**

Heart failure is the term used to describe the situation when the heart is no longer able to maintain an adequate output of blood. This causes swelling of the feet and ankles because of fluid retention and breathlessness from accumulation of fluid in the lungs. In its early stages drugs can be used to control symptoms, but if the cause of the heart failure is irreversible then the severity of the heart failure will gradually increase, adding greatly to the disability already present.

#### **11.3.6 Chest Disease**

- (i) Chronic obstructive airways disease is a term used to describe a condition in which there is irreversible and usually progressive limitation of airflow into and out of the lungs. Both chronic bronchitis and emphysema come within this definition. They are caused by cigarette smoking.
- (ii) In these conditions there is progressive destruction of the lung tissue, causing cough, excessive production of sputum and increasing

breathlessness. The situation is made worse by repeated chest infections which add to the destruction of the lung tissue. Various drugs are used to relieve the symptoms of these diseases but in many cases a stage is reached where the person has severe impairment of respiration, breathlessness at rest, or is even bed-bound. Complications such as heart failure [11.3.7] add to the already severe disability.

## **11.4 Disability in Diseases of Heart and Lungs**

**11.4.1** Chronic (long-standing) conditions affecting either the heart or the lungs often result in similar disability. In most cases of heart disease, and in the early stages of chest disease, medical treatment is effective in controlling symptoms and the affected individual has little or no disability. In some cases of heart disease however, and in the later stages of chest disease, the disease progresses so that treatment becomes less effective. In these circumstances the disability can be very severe.

**11.4.2** The main symptoms arising from all these conditions are breathlessness, swelling of the feet and ankles because of fluid retention and chest pain. It is the combination of these symptoms that leads to the disability. Symptoms usually occur on exertion, but in advanced cases can occur at rest. In advanced cases reduced oxygen supply to the brain may lead to confusion and disturbances of consciousness.

## **11.5 Care Needs**

**11.5.1** The first problem likely to be noticed will be the development of chest pain or breathlessness when the person exerts himself more than usual. This will progress to pain or breathlessness even on normal exertion. At this stage the person should have little or no problem in attending to bodily functions, although climbing stairs may be difficult.

**11.5.2** As symptoms increase in frequency and severity, the person may also begin to experience problems with breathlessness in bed. He may find that breathing is alright when he is propped up but, as during sleep he slides down in the bed he becomes increasingly breathless. This may be so bad that he is not able to pull himself back upright and he needs help from someone else in order to prop him up so that he can breathe more freely. By the time a person has developed such problems at night there will almost always be significant problems during the day.

**11.5.3** Further progression of the disease means that even slight exertion such as that involved in dressing, washing and preparing a meal will cause severe breathlessness or pain. In the circumstances it would be reasonable for the

person to have help with these activities. Eventually, the stage is reached when even the slightest exertion causes severe symptoms and the affected person is effectively chair or bed-bound. At this point he will be in need of a great deal of help both by day and at night.

## **11.6** Mobility Considerations

**11.6.1** The development of chest pain or breathlessness when the person exerts himself more than usual should not at first limit walking distance to any significant extent. The person should still be able to walk a reasonable distance albeit more slowly than before.

**11.6.2** As symptoms increase in frequency and severity, the person's exercise tolerance is reduced to the stage where walking is limited either by extreme breathlessness or by chest pain that is not relieved quickly by drugs. When a person has chest pain of such severity that it restricts mobility in this way, they will almost always have been referred for consideration for cardiac surgery.

**11.6.3** In those people whose breathlessness is due to the more severe, later stages of progressive chronic bronchitis, there may also be heart failure. Cough which produces sputum (phlegm) is also a most debilitating feature. In these people with severe chronic bronchitis breathlessness may be present on the slightest exertion and walking will be very limited.

## **11.7. Duration of Needs**

**11.7.1** Once help is required, the need for it is likely to be lifelong. A successful bypass operation or heart transplant can, however, change the situation dramatically for some people where the disability is due to heart disease. Transplantation of the lungs is much less commonly encountered except in the younger person whose lung disease is due to the effects of Cystic Fibrosis [See Chapter 44].

## **11.8 Further Evidence**

**11.8.1** A factual report from the GP may help to clarify the needs of someone suffering from heart or chest disease. Further information on any residual needs in those persons who have undergone a successful heart transplant or coronary by-pass may best be obtained by a factual report from the relevant hospital where the person is being followed up as an outpatient. Lung function tests will have been carried out on people with disabling chronic bronchitis. The results of these special tests will demonstrate poor lung function in those who have significant care needs and substantial limitation of walking. Advice may be needed from a Medical Services doctor to ask questions of the GP or hospital about the lung function tests and how these should be interpreted in assessing the degree of ensuing disability.

## **11.9 Oxygen Therapy**

**11.9.1** There are occasions when the use of oxygen in the home is valuable. Oxygen in portable form as a small light cylinder which the disabled person can carry and replenish as required from a main cylinder kept at home may be prescribed. Used in this way, the person can take a few breaths of oxygen before undertaking exertion which would otherwise cause breathlessness, such as mounting stairs or moving from one building to another. Portable oxygen should have the effect of reducing the amount of assistance required as the person can manage the apparatus unaided.

**11.9.2** In some cases where the disease has progressed to the stage of severe disability, oxygen may be prescribed for continuous use over a prolonged period up to 15 hours per day. This has the effect of promoting a sense of wellbeing and of prolonging survival. Oxygen for prolonged use may be supplied from large cylinders or by means of an oxygen concentrator, a machine which concentrates oxygen in normal air to very high levels. The use of oxygen at this stage of severe disability is not likely to reduce the significant amount of assistance required.

## **11.10. Cardiac Pacing**

**11.10.1** Cardiac pacemakers are used mainly in the treatment of heart block (a fixed slow heart rate), though other forms of dysrhythmia (irregular heartbeat) may occasionally be treated by this means.

**11.10.2** Two types of pacemaker are currently in use, the demand pacemaker which comes into action when the pulse rate falls below a predetermined level and the physiological pacemaker which can also speed up on exercise. Both are very reliable and people fitted with them attend hospital for regular checks to ensure there are no problems. Batteries are changed as necessary. A person fitted with a pacemaker is very unlikely to have any care or mobility needs of significance on that account alone.

**11.10.3** If it is suggested that a person fitted with a pacemaker, has care or mobility needs, a report from the GP or an examining medical practitioner may be helpful.

## **11.11 Bronchial Asthma in Adults**

**Bronchial Asthma in Children is described separately in Chapter 45**

### **11.11.1 General Description**

(i) Asthma is due to reversible narrowing of the air passages in the lungs

brought about by an over-reaction to various stimuli, such as air pollutants, allergens, cold air, emotional stress, etc, which causes cough and/or wheezing. Modern medical treatment for asthma is very effective and most sufferers have few or no symptoms for many months of the year. Treatment is usually given by inhalers which can be divided into those which act immediately and those which prevent attacks if given regularly. Inhalers are usually self-administered. In more severe cases the same drugs can be nebulised into water droplets using a small machine. The use of a nebulizer in adults rarely requires the assistance of another person unless other complicating conditions are present (eg. arthritis of the hands, mental impairment, etc) Most people with asthma can live a normal active life.

### **11.11.2 Care Needs**

- (i)** Even for those who suffer from regular attacks additional treatment (usually with steroid tablets or inhalations) will quickly be effective and these treatments can usually be taken without assistance. Even when some other condition such as loss of manual dexterity or mental impairment makes assistance with treatment necessary, it is unlikely attacks will persist with any frequency over a prolonged period.
- (ii)** For many people, the onset of an asthmatic attack can be a frightening experience, even if the attack is not severe. Some of these people will feel the need for another person to be present at all times, more for reassurance than anything else. However, the affected individual is usually capable of treating the attacks without help, is seldom in any serious danger and could summon help should it be required.

### **11.11.3 Further Evidence**

- (i)** If care in excess of that described above is claimed to be needed, a report from the GP or an examining medical practitioner may be helpful in clarifying the actual needs. The frequency of hospital admissions, if any, may also be a useful indication of the severity of the disorder.
- (ii)** A report on peak expiratory flow readings may be useful as a measure of severity. It is an indirect measure of the degree of obstruction of the air passages. After taking a deep breath, the person blows hard into a peak flow meter, and the reading (expressed as litres per minute) is compared with that expected of a healthy person of the same age. Some persons with asthma will have their own mini peak flow meters. The GP or an EMP may also be able to report on peak flow readings. The result of a single reading must be considered in the context of the situation at the time, ie.



Persons with advanced disease and progressive lung damage may reach a stage where exercise tolerance is reduced by extreme breathlessness as described earlier in this chapter.

#### **11.12.4 Duration of Need**

In persons with advanced disease other than in those suitable for surgery, significant improvement is not to be expected.