

# 1 Introduction

## 1 Textbook guide

### 1.1 Introduction

This textbook is designed to help prepare you to work as an ambulance service support worker (SW, although this role may be named differently in your organisation, for example, emergency care assistant). The content is suitable for any Level 3 diploma course, or similar, that qualifies you to practise as an SW.

Each chapter comprises a number of topics centred on a theme, such as health and safety, or the airway. The learning objectives for each chapter have been mapped to objectives from a range of courses that are used by ambulance services to prepare their staff for the role of ambulance SW.

### 1.2 Textbook

This textbook is designed to be read from start to finish on the first reading because concepts introduced later on in the book assume that you already have knowledge of the content that has been covered in earlier chapters. However, this textbook will also be a useful reference to which you can return again and again, reflecting on the learning points that are highlighted.

### 1.3 Getting started

To help get you orientated to the book and the relevance of the various chapters to clinical practice, the next section, 'Anatomy of an emergency call', will take you step by step through an emergency attended by an ambulance crew. It will highlight the variety of knowledge and skills that you will require in order to be an effective SW.

Each chapter is split into sections, which are typically laid out in the following way:

- **Learning objectives:** To clearly highlight what you are expected to learn in the chapter.

- **Introduction:** Setting the scene for the theme of the chapter.
- **Content:** The content!

## 2 Anatomy of an emergency call

### 2.1 Introduction

This book consists of a number of chapters that are completed in sequence and all play an essential part in your role as an SW. It can be helpful to find out why you need to learn something. In order to see the themes of this book in context, let's review a typical clinical scenario that you may be faced with when working on an emergency ambulance (Figure 1.1).

### 2.2 The emergency operations centre

When Mr Brown's daughter makes a 999 call, she speaks to a telephone operator who asks her which service she requires. She asks for the ambulance service and is put through to her local



**Figure 1.1** Mr James Brown, a 59-year-old man who has chest pain, with his daughter.



**Figure 1.2** A dispatcher in the EOC.

ambulance service's emergency operations centre (EOC; see Figure 1.2).

While she talks to the call handler, the dispatcher allocates the ambulance that you are working on to the emergency call. Since it has been categorised as a high-priority call by the medical priority dispatch system, you need to arrive as soon as possible.

You will learn more about the ambulance service, including the roles and responsibilities of its staff, and ambulance and clinical quality indicators in Chapter 2, 'The Ambulance Service'.

### 2.3 Arriving on scene

You will have been conducting a scene assessment before arriving at the address. This will include the location, time of day and type of incident, and is a dynamic process, i.e. it should be constantly reviewed as the scene can change rapidly. You will learn about scene assessment and safety later on in the book.

In addition to scene safety, you will consider the need for personal protective equipment. At a residential address, this may be limited to a pair of disposable gloves, but at the scene of a road traffic collision, you will need a helmet and high-visibility jacket as well.

With the help of your paramedic colleague, you carry the immediate aid kit, oxygen, drugs bag and monitor/defibrillator to the front door, where the patient's daughter is anxiously waiting (Figure 1.3).



**Figure 1.3** The crew arrive at the address.



**Figure 1.4** The paramedic talking to Jim.

### 2.4 Principles of communication

You are shown into the living room where Mr Brown is sitting on the sofa, clutching his chest and looking rather grey and sweaty. Your paramedic colleague introduces you both to Mr Brown and his daughter, and clarifies what Mr Brown prefers to be called. He tells you to call him Jim (Figure 1.4).

Communication is a fundamental aspect of all ambulance work and your role as an SW. It is not

always easy as you will have to communicate with patients, friends and family members, as well as other healthcare professionals, and will need to adapt your approach and style appropriately. In addition, you cannot communicate the same way with an elderly person as you would a two-year-old child. Some patients will not, or cannot, communicate with you, because they are depressed or don't speak English, for example. Chapter 3, 'Communication' will cover this in more detail.

## 2.5 Patient assessment

Your paramedic colleague completes an initial airway, breathing, circulation, disability, exposure (ABCDE) assessment of Jim and asks you to obtain a set of baseline observations to support this. Jim's airway is patent; he is breathing at a rate of 16 breaths per minute, which is in the normal range. After obtaining permission (correctly termed 'consent', an important legal concept, covered in Chapter 4, 'Legal, Ethical and Professional Issues') from Jim, you apply a pulse oximeter to one of his fingers. His oxygen saturations are 93% on air and, having excluded the presence of chronic obstructive pulmonary disease (COPD, which you will learn about in Chapter 11, 'Breathing'), you confirm with the paramedic before administering low-flow oxygen via a simple face mask.

Continuing with the assessment of Jim's circulation, you measure his blood pressure and apply electrodes to each of his limbs in order to record a 3-lead electrocardiogram (ECG), put on your disposable gloves to check his blood sugar (covered in the assessment of disability lesson in Chapter 13, 'Disability') and, finally, check his temperature.

## 2.6 Patient history

Jim explains that he experienced a sudden onset of central chest pain radiating to his jaw, back and both arms an hour prior to his daughter's 999 call. It feels like a heavy pressure, which he scores as 7 out of 10, and is associated with shortness of breath, nausea and sweating. His daughter states that he has been very pale since the onset of pain.



**Figure 1.5** Reviewing the patient's medication is an important part of the history.

The paramedic asks about Jim's past medical history and is told that he has high cholesterol and hypertension, for both of which he takes medication (Figure 1.5). He has never suffered from a heart attack (myocardial infarction, MI), but does admit to suffering from occasional chest pain on exertion over the past month or so.

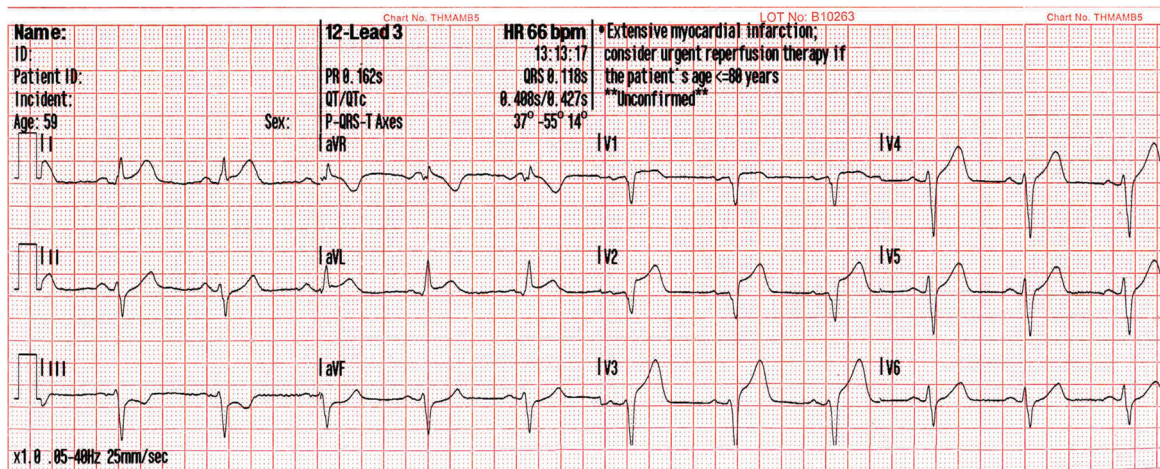
## 2.7 The 12-lead ECG

The paramedic asks you to record a 12-lead ECG, while she administers aspirin and glyceryl trinitrate (GTN) to Jim, having checked that there are no contra-indications to administration (criteria when the drugs should not be given to the patient).

After obtaining consent, you open Jim's shirt and prepare his chest for the electrodes, which is not easy as his skin is greasy with sweat. Having prepared the skin (covered in Chapter 12, 'Circulation'), you identify the anatomical landmarks to ensure you place the electrodes in the correct location. Once completed, you connect up the ECG leads to the monitor/defibrillator, enter the patient's age and gender and press the 12-lead ECG button.

There is a short pause while the machine acquires the ECG and prints it out (Figure 1.6). You review the 12-lead ECG with the paramedic and come to the conclusion that it shows signs of a heart attack. Knowing that patients with a heart attack should not walk, you fetch the carry chair from the ambulance.





**Figure 1.6** A 12-lead ECG showing signs of a heart attack.

## 2.8 Manual handling

You return with the carry chair, complete a task, individual, load, environment, equipment (TILEE) assessment and explain to Jim how you would like him to transfer to the carry chair. Ensuring that you have a hand on the back of the chair at all times, you assist Jim into the chair and fasten the safety strap across his chest. Before tipping the chair backwards onto the rear wheels, you warn Jim, and then proceed out of the house, stopping to allow your colleague to exit first to lift the chair over the lip of the doorframe and outside step.

You wheel Jim around to the rear of the ambulance, up the ramp, and alongside the ambulance stretcher so that he can transfer onto it (Figure 1.7).

The TILEE manual handling assessment tool and the equipment used for manual handling are covered in sections 1 and 2 of Chapter 7, 'Manual Handling': 'Principles of manual handling' and 'Moving and handling equipment and techniques'.

## 2.9 Assist the paramedic

With the patient safely aboard the ambulance, you reconnect the monitor/defibrillator so that the paramedic can observe changes in Jim's condition en route to hospital. However, the paramedic would like to cannulate before leaving and asks you to help.



**Figure 1.7** The crew loading Jim into the ambulance.

Assisting the paramedic is part of the SW role. You quickly gather the equipment required, including a selection of cannulas, a dressing pack, alcohol wipes, syringes and a saline flush (Figure 1.8). Having identified a vein and prepared the site, the paramedic inserts the cannula and advances it, releasing the tourniquet and removing the needle, which is safely deposited in a sharps bin that you have already placed close to her.

With this completed, and due to the fact that Jim is having a heart attack, the paramedic requests