

Part 1

The background

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How to use this book

Introduction

This book aims to bring together the diverse aspects of the management of minor musculoskeletal injuries and conditions. A number of texts already exist to cover subjects such as:

- anatomy and physiology
- history taking and physical examination
- minor musculoskeletal injuries
- minor musculoskeletal conditions
- patient documentation
- X-ray interpretation
- legalities and ethics.

Here I've brought several of these together into one volume for your convenience. No one can give you everything that you require, but it will provide a firm basis for your initial study and your further development.

The book

The format

The book uses a **distance learning** (DL) approach to study and is written in a friendly, encouraging and **minimally academic** tutorial style. For extra clarity, the text is supported by hundreds of illustrations. There is also a wide variety of 'boxed activities', which will test and deepen your understanding, providing you with added interest.

Associated with the book is a large and informative website, giving you free access to the following:

- Regional PowerPoint presentations of X-rays for interpretation.
- Multiple choice questions (MCQs) with detailed comments on answers.
- Documentation exercises.
- History taking scenarios.
- A clinical photo tutorial.
- Legal and ethical scenarios.

Who is the book designed for?

Senior nurses and paramedics are the main target groups, but A&E nurses, paramedics, school nurses, practice nurses and many physiotherapists will find a wealth of essential information, making the book a valuable resource.

How the book may be used

There are two ways of using it. Few standard texts are ever read cover to cover, or anything approaching that. So first, just pick and choose: you will find both the illustrations and the explanations clear and mostly at the level you require. If you do not need the boxed activities, just ignore them.

Second, use the book as a guide for independent organised study. To do this, start here and slowly work your way through the remainder of this chapter. Let my experience direct you to an activity, or onto our website, to have a rest or to gain clinical experience as you progress.

This approach is the next best thing to a full university 'face-to-face' programme and is based on my many years of experience running both diploma and degree courses.

You, the student

Organise yourself

To study to the best advantage, you have to make an initial agreement with yourself to try to complete the work in a given time and also to get into a habit of **regular study**.

The study habit can be difficult, because it 'eats' into your time (Figure 1.1).

Making a flexible study plan is one of the better ways to start.

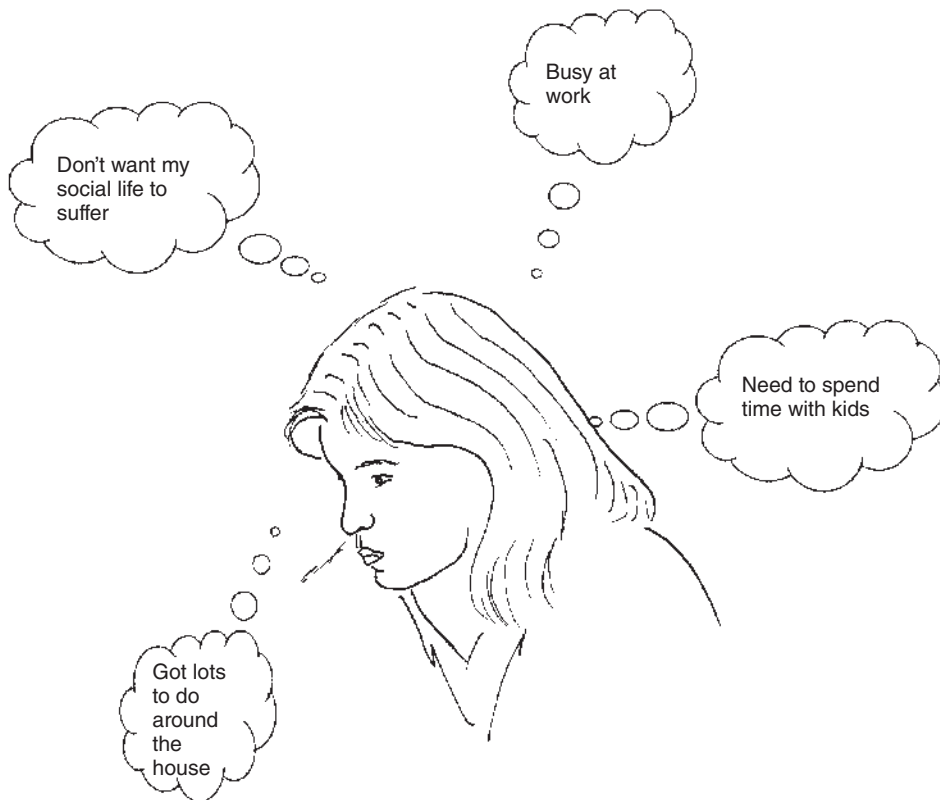


Figure 1.1 Organise your study to fit your life; something has to go.

Each of the book's chapters would take you approximately a week of study. Note, **this is not the time taken to read the book** – anyone can do that in hours: it is the time when you are:

- reading text
- highlighting and making notes
- completing activities
- sampling clinical practice and receiving feedback
- using the book's specific website for tutorials
- reading suggested texts
- looking at suggested YouTube videos.

Try to avoid commencing study at times that are likely to be exceptionally stressful, such as Christmas, during overtime, when you are decorating, or perhaps when there is illness in the family. It will simply spoil your enjoyment.

Although not always practical, it is best to complete the basic examination skills for a particular region of the body before starting the next.

Record clinical accomplishments

In each of the regional chapters, there is a checklist for you to complete, or get your clinical mentor to sign to prove your competencies in this area. These tables are excellent as an aid to your memory, but also your clinical mentor can see at a glance which skills still need to be accomplished and can work towards your continuing professional development (CPD). Further information on CPD for paramedics may be found in Fellows (2008).

Let others know you are studying

Some students do not see the need to tell anyone about their self-directed study. So, if they are noticed 'just' reading this book, others will see no harm in asking them to do something else for them instead. **They cannot understand a student's annoyance if they are not told they are studying.** Studying on your own is **almost impossible without the help of your family and friends.** So let's make a 'golden rule':

GOLDEN RULE

Include others in your study plans, so that they understand what you are trying to achieve.

When to study

No one can tell you the best way to study, or when – there are too many variables. However, I can give you some general rules students have found useful. Give them a trial and keep using them if you find them effective. Most of you don't have the luxury of choosing a time to study. More often than not it is a matter of fitting in with commitments. Try for regularity and what suits you.

Everyone reads and learns at a different rate. But **never rush** – I can skim read an article in minutes to update myself before a lecture, but one of my students could need about an hour.

Have frequent breaks

Whatever is the best time for you, **break your study up into small portions**, never longer than an hour.

Changing the type of study or **having a short break** is also beneficial. Don't feel guilty about having a break. I will remind you occasionally in the text.

Why?

You know that age children reach when all they do is ask you 'why'. Why does the sun rise? Why is the sky blue? What makes it rain? Endless questions.



Figure 1.2 Use a mentor to talk through experiences, ask advice and ‘bounce’ ideas off them (Dustagheer *et al.*, 2005).

In some way, that is how you must act as a student studying with this book. **Question all you see, hear, read and do.** That includes what I write: **there is not a book published without a fault.** The more you ask, the more people will notice your enthusiasm and try to help. Of course, you must choose a time when people are not too busy.

Someone to help you

Embarking on a moderate level of study, such as this book, can be made far easier and more interesting by approaching a work colleague or acquaintance to act as your mentor. No formal contract is necessary: simply talk with them during a break. Say you are studying this book for a few months and ask to ‘bounce’ ideas off them, talk through experiences and seek advice (Figure 1.2).

Ideally they should be more knowledgeable or experienced than you, but that is not absolutely necessary. Discussing points with a colleague at the same level can make you feel less alone in your study and add interest. Studying on your own is lonely!

Look studious

Now leave this book and go to a mirror. No, don’t just read on, it sounds silly but is important: just do as I ask and go to a mirror . . . Ready, look into it, what do you see? That face is exactly the same face as always, you look the same. However, both you and I know you are now studying minor injuries and conditions, but it doesn’t show. So, what you have to do is **let people know and keep reminding them that you are studying, if you want any substantial form of support.**

Another small but important point is to tell people that you are **studying**, not just reading, but **studying**. There is a very important difference: you will get no ‘Brownie points’ for reading, we all read. But, if you are studying, that’s a different matter and you tend to get more help.

Having said that, what you tell a busy colleague with a waiting room full of patients or just rushing out to a call will maybe register in their mind for a matter of minutes. You have to **keep on telling them**, again and again, day after day.



Figure 1.3 Phoning to follow up is often the only way of knowing if you managed your patient correctly (Dustagheer *et al.*, 2005).

Then eventually it clicks and they remember to call you over to discuss something or see an interesting point – success!

Many years ago when studying for a degree with the Open University, I would bring study units, books, papers etc. into A&E with me on a shift. Although it would be rare to get much study done except in breaks, I used this as an opportunity to promote conversation with passing clinicians. In time people got used to the fact that I desperately wanted to learn more and they came to me with stimulation; it helped.

Follow patients through

Following your patients through hospital departments can prove rather difficult. All I can say is you must be persistent. In this context there is no legal problem with patient confidentiality: you are part of the professional team managing them and are just requiring basic diagnosis and early management details. Phoning to follow your patient's progress to find this information is often the only way of knowing if you managed your patient correctly or in some way let them down by your inexperience (Figure 1.3).

Maybe time for another golden rule:

GOLDEN RULE

Do your best to follow up the definitive diagnosis and management of your patients.

Note taking

You may ask, 'Do I have to write notes about what I read?' Well no, but, if not, you are unlikely to learn as much as someone who does. Writing includes you more in the learning process, assisting pure memory and helping the pieces of the knowledge 'jigsaw' fit together.

You will find that in many of the activity boxes, you are asked to write comments before continuing to read the page. For this, although you could scribble the occasional word in the margin, it is far better if you have a notebook to write in as well.

Now try this first activity, writing your four brief answers in a notebook.



Activity 1.1

Time: 5 minutes

Without searching the previous text, list three of the major paragraph points that I made in the text you have just read about 'Someone to help you'. Then look back and check what you have written.

Sneaky trick eh!

What I am trying to explain is that, if you read text effectively and understand it, that does not mean that the knowledge is firmly in your brain. However, if while you were reading it you had underlined parts, highlighted them or scribbled notes all over the page, I bet you would have remembered most of them. Notes all over a book are a sign of a busy mind and proof that you are involved in the learning process. Please, **make this the most scribbled-in book you ever study**, unless it's a library book!

Enjoy the frequent breaks in the text to attempt the suggested activities, each with their own (rough) estimate of time for completion. The amount that you learn, even with an interesting topic, will rapidly fall off even after half an hour. This method refreshes you and you will see that because of the more leisurely approach you will learn more.

Questions are sometimes asked in the activities. These are to ensure that you understand rather than just read, and rest assured: the answers are provided for you to check later if necessary.

Your study

Academic level

This is not a standard academic text. **Simple everyday language is purposely used throughout**, so that it **feels just like a tutor is talking with you**, along with the associated occasional humour and stories. However, don't for one moment think that this means that the book is in any way basic: it's primarily intended for diploma and degree levels of university study. Challenging subjects, put over palatably.

At this stage, don't become too involved with the precise academic level that a piece of work like this is aimed at. Knowing the name and function of a ligament, having the ability to perform a specific examination, or writing up case notes doesn't hold a particular academic level. **What your employer wants you to do with a particular knowledge or skill is where the levels vary.**

Let me explain this a little more by discussing a very complex skill – emergency endotracheal intubation – which is surrounded by a complex area of knowledge. Over the years, I have taught the theory and practice of this to both paramedics and senior A&E nurses. What I taught the different groups was exactly the same, because they all had to clearly understand exactly when and under what circumstances to perform the skill and how to get out of trouble if the patient reacted badly. Their background knowledge had to be immense to cover all eventualities without immediate medical back-up. Yet, all **this extremely complex theory, and hours of individual, stressful, simulated practice, came under part of a diploma-level university programme.**

In these days of funding and resource scrutiny, it is often the university **form of assessment** that is the major indicator of an academic level – basically, a student at a lower level only needing to repeat facts, at higher levels needing to be able to analyse and discuss, and finally at Master's and Doctorate levels being able to turn water into wine! It is the **competency to practise** that is important, and that requires different levels of knowledge and understanding, depending on the operator's role.

Referencing

A form of the Harvard referencing system is used throughout, with essential listings at the end of each chapter along with any recommended reading. In major academic works and essays, new thoughts and comments are expected to be

referenced exhaustively. However, I have purposely used references sparingly, to improve the flow of the book as in a face-to-face tutorial.

You will find that in many major established texts, especially those centered around anatomy and physical examination, evidence-based references are scarce to non-existent – authors tending to rely more on suggesting further ‘backup’ reading for you (Douglas, Nicol and Robertson, 2009; Gosling *et al.*, 2008, for example).

The references in this book are important for your study for two reasons. First, you must use them extensively in assignments. You are most unlikely to even gain a pass grade unless you support your opinions and major facts, with adequate referencing. Second, they will assist your reading in more depth around a presented subject. This will be a tremendous help to you and the places to start will be the references or further reading suggestions provided at the end of the chapters.

Beware the subtle trap of becoming too studious at too early a stage. Unless you have a burning desire for a particular answer, leave further specific searches, such as in the excellent Cochrane library, until most of your study of this book is complete. Too many resources can sometimes cause confusion.

A great problem in the management of patients in A&E minors, minor injury units, walk-in centres and the ambulance service is that they deal with a multitude of diverse conditions – many of these comparatively trivial in themselves, not lending themselves to research funding and not ‘sexy’ enough to encourage research – compared with major conditions such as acute myocardial infarction (AMI).

In a bold attempt to counter this problem, a website was set up and developed a few years ago by the professionals at the Emergency Department of Manchester Royal Infirmary. Called ‘Best Evidence Topics’, it covers many of the small areas that are in urgent need of firm evidence to lead clinical practice (www.bestbets.org). In many areas, I have made a point of using this site as a valuable and up-to-date source for you. My hope is that you continue to use it, **or even add to it yourself**, as you become a more experienced practitioner.

A study plan

One of the major disadvantages of self-directed study is that you tend to be mostly on your own, without the daily banter and support of other students, or the occasional passing comment of a tutor in the university corridor. To overcome these difficulties, you have to be focused in your approach and set a plan. In the simplest form, you would write out a section of a diary, or calendar on the fridge, with a set time to try to study, but a more thorough approach would list topics and set aims to stage the study through the month.

The whole patient

This book is mostly organised around anatomical regions – for instance, the knee, the shoulder. But one of the most important lessons for you to learn is that **when you deal with a patient, it is wrong to consider them mainly by a body region** (Figure 1.4).

This is partly because of the following:

1. Their presenting pain may be referred from another part of the body.
2. An injuring force may mainly affect one area, but may travel, also damaging another area.
3. The presenting pain may be so severe as to mask lesser pain elsewhere.
4. A medical condition may have caused the initial accident.

In a standard book, we would simply go on to the next point, but because this is DL I want you to become involved. So, think of the four points now and try the following activity, either in your mind, or on some paper, whatever suits you.



Activity 1.2

Time: 5 minutes

Cover up my observations on this activity.

Now give an example of each of the four numbered points in your notebook.

Check your answers then with my observations.

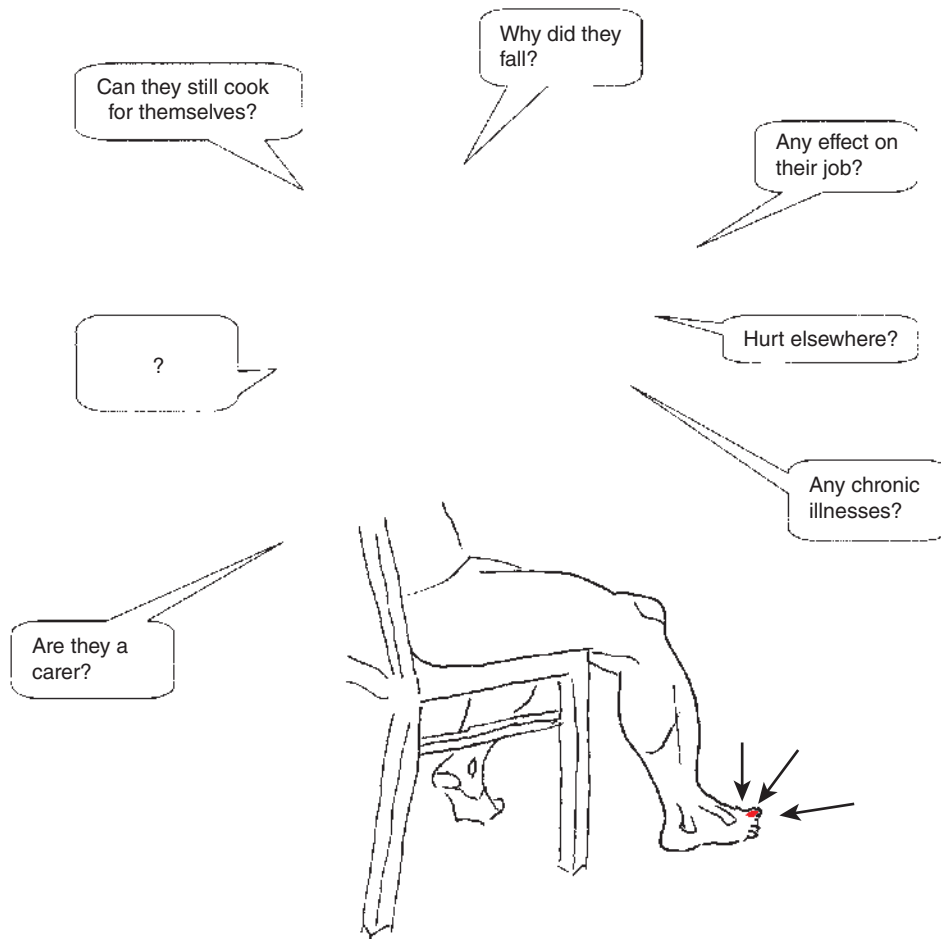


Figure 1.4 Don't manage a semi-'invisible' patient – consider them as a whole.

Observations on Activity 1.2

I thought of the following that I have seen occasionally:

1. Shoulder pain referred from an acute abdomen.
2. Wrist fracture associated with a fractured neck of radius.
3. A painful clavicle fracture 'hiding' abdominal trauma following a road traffic collision (RTC).
4. A transient ischemic attack (TIA) causing a fall.

You will notice how these facts tend to stay in your mind more easily when you have short activities; so, although you may miss them out to get on with the study faster, it's just not advisable.

Maybe now would be the best opportunity to state our first **clinical** golden rule:

GOLDEN RULE

Always consider your patient as a whole, never just the part of the body with the obvious problem.

You will find occasional golden rules scattered throughout; they are designed to act like trusty mentors looking over your shoulder and giving advice.

Aims and outcomes

At the start of each further chapter are listed aims and outcomes to guide you if you are studying this book by directing your own learning. The **aim is the main (overall) reason** for the chapter, whereas the **outcomes are the detail** of exactly what I would like you to have achieved. However, and this is important: I only expect you to have completed the outcomes after thoroughly studying a specific chapter **and the associated activities both in the book and on the website**. Also, that you have had appropriate, **structured clinical practice**. Quite a tall order, isn't it?!

The aim of this first chapter:

To introduce you to study with this book and the best way of using it.

Its outcomes:

That by the end of the period of study and experience, you will:

- effectively use the book and website to the best advantage, not just read them
- organise your own individual system of study
- choose at least one effective mentor
- refamiliarise yourself with major study skills
- make increased use of references.

Without further ado, make yourself comfortable and progress with the first chapter of actual clinical study. Do not rush, don't even push yourself to complete a chapter, take it a section at a time at a reasonable rate, so that you can take in the knowledge at your own educational pace and enjoy the experience!

REFERENCES AND SUGGESTED READING

- Douglas, G., Nicol, F. and Robertson, C. (eds) (2009) *Macleod's Clinical Examination*, 12th edn, Churchill Livingstone, Oxford.
- Dustagheer, A., Harding, J. and McMahon, C. (eds) (2005) *Knowledge to Care: A Handbook for Care Assistants*, 2nd edn, Blackwell, Oxford.
- Fellows, B. (2008) Continuing professional development: who needs it?, in *Foundations for Paramedic Practice: A Theoretical Perspective*, 1st edn (ed. A.Y. Blaber), Open University Press, Maidenhead.
- Gosling, J., Willan, P.L.T., Whitmore, I, Harris, P.F. (2008) *Human Anatomy: Color Atlas and Text*, 5th edn, Mosby, Edinburgh.
- Moore, S., Neville, C., Murphy, M. and Connolly, C. (2010) *The Ultimate Study Skills Handbook*, Open University Press, Maidenhead.

Introduction to Multiple choice questions

At the end of each chapter you will see some MCQs to try. These will allow you to test yourself and get just **a little idea of how effectively you have been studying**, rather than the usual of **just reading** a book. In university when my students have attempted questions like these, the **major fault** they have had is that they have tried to **answer the questions after just quickly reading through the work**. Do not even attempt the questions until you have completed all the chapter **and the associated activities and practical experience**. Now, I know you may not heed this advice, but honestly, it is best if you wait.

Now before you go further, here are just a few points to note. Read the questions carefully – some may even depend on you noticing **deliberate spelling mistakes**, or the **exact meaning** of a word.

Not all the information required for a correct answer will be found in this book. By the time you attempt the questions, you will have been expected to have read around the particular topic, to enrich your experience. To gather the basic concepts of a topic, it is often an advantage to stick with a particular ‘reader’ such as this book. However, following that, it is very advantageous to read the works of others. That is one of the reasons for lecturers to give you references and tests, to encourage you to study more.

Unlike many collections of MCQ questions, there may be:

- all answers correct
- no correct answers
- any number correct in-between.

Just circle the correct answer/s.

The correct answers will be shown at the end of the book. However, all the questions, answers and detailed comments supporting the answers are to be found on the book’s website.

If **all the parts** of your individual question are completely correct, just score yourself one mark.

How to interpret the result

Very important for you to understand is that these MCQs **will not tell you how clever you are** – few tests in this world ever do! What they **will** do, **if you complete them at the correct stage**, is give you a reasonable idea of how effectively you have studied the chapter.

The number of questions varies with each chapter, so I talk here in percentages.

100% correct. This would be a really excellent score, but difficult to achieve, requiring intense study. Perhaps only one or two of my students a year would be able to put the commitment in to achieve this score.

75% correct. Be very pleased with yourself. A score around this level shows that you either knew a lot already or have understood what is required of you and put the hours of study in. You would only have to top up occasional areas to improve. Very well done.

50% correct. Well, not to be sniffed at; quite a bit has stuck in your brain. What has probably happened is that you have enthusiastically gone through the chapter fairly quickly. Best read through the sections that you went down on; possibly making the occasional note in the margin or highlighting text will help the information to stick in your mind. Don’t be downhearted; spending more time with the following chapter will probably work wonders.

15–25% correct. Oh dear! Possibly not one of your best attempts. There are several likely reasons for a low score like this:

- You have rushed the study, not putting the time in. Maybe too busy at home or trying to catch up.
- The area is not one that you particularly enjoy; we all tend to skimp over things we don’t like.
- It’s just a fluke: you may have misread questions, become distracted or tried to answer them too quickly.
- You have been putting the time into study, but not effectively. Possibly rethink how you study.

Only you will know exactly what happened. Remember I said that these are only a reflection of how well you have studied, **not how clever you are**. Better next time eh!

1% correct. Well, some people just don’t do well at tests; consider the bullet points in the previous section; it may just be a one-off. Sometimes your mentor may work through the answers with you, offering advice and explanation.

Another explanation is that sometimes with a group of questions you have got most of the individual answers correct, but maybe just one or two in each set of four were a puzzle to you and that dragged your score down.

DL just does not work well with some people. If very low scores become a trend, perhaps face-to-face learning in a university would be a better option.

Multiple choice questions

1. As a general rule, studying is most effective:

- A In one long session so that you are not disturbed
- B Broken up into short sessions
- C Done in the morning, when you are alert
- D If you vary your study activities

2. Regarding the aims and outcomes in this book:

- A An aim is an overall statement of what I want you to achieve from the chapter
- B Outcomes are the detail of your individual achievements
- C Aims must be achieved, whereas outcomes are extras for you to attempt if you have time
- D You cannot use this book unless you work through the objectives

3. It is wrong to think of a patient as having an injury in just one body region; you should always consider the whole patient. This is because:

- A The presenting pain may be referred
- B The injuring force may travel to a more distant part
- C The presenting pain may be so severe that it masks another
- D A medical condition may have helped cause the injury

4. Finding and reading up some of the references in this book will:

- A Encourage you to reference your own university assignments
- B Help you to 'read around' a topic in this book, to consolidate your knowledge
- C Help you to become more familiar with the Harvard system
- D Assist you in future full-time courses

5. Having a mentor while reading through this book:

- A Is essential.
- B Will aid discussion of points you find difficult or challenging
- C Will be especially useful to help you through the practice experiences
- D Is quite desirable because they may be used to 'sign off' competencies

6. The advantages of DL are that:

- A You have more control of when to study
- B It is generally easier to study this way than in 'face-to-face' education
- C It blends easier into a full-time occupation
- D It is cheaper



Answers are available at the end of the book. For an explanation of these answers and further resources visit the companion website at:

www.wiley.com/go/bradley/musculoskeletal