

How this book is organized

This book is different to other biochemistry books you have seen. It is small. It is not pages and pages of text and diagrams. Instead it is groups of short questions with short answers in short chapters. Each question highlights an important point or fact. As you follow the questions in sequence in each chapter you will be taken step by step through an important biochemical pathway and the associated chemical structures.

This book is not meant to be a substitute for biochemistry textbooks. In order to get a proper understanding and knowledge of any subject it is best to read a few different books and articles. However, many people find the detail in textbooks almost impossible to deal with when they start to study biochemistry. This book aims to give you a basic understanding of the important facts. Armed with this basic knowledge and understanding you will be better able to tackle those large and daunting textbooks.

You will also find this book useful for revision. If you know the information contained in these books you will be well able to deal with any questions in written exams, multiple choice or short answer questions and oral exams.

Let's summarize the contents of this book:

- In the first section we review some basic concepts about chemical bonds and then we look at a molecule called ATP which is the source of much of the energy used to form chemical bonds in cells.
- In the second, third and fourth sections we look at how ATP is synthesized using energy from chemical bonds in some of the foods we eat. We look at how energy is extracted from the three basic groups of energy containing molecules (glucose and other carbohydrates, fatty acids and ketone bodies [which are derived from fatty acids] and finally, amino acids).
- In the fifth section we look at how carbohydrates and fats are stored in the body as glycogen or triacylglycerols so that they can be used as energy sources when we are not eating. In the sixth section we look at NADPH which is an important molecule in the synthesis of the fatty acid components of triacylglycerols.
- In the seventh section we look at how these stores of food are converted back into the basic energy containing molecules so that the energy they contain can be used to synthesize ATP.
- In the eight section we look at some other important classes of lipid molecules. In section nine we see how basic energy containing molecules are extracted from the food we eat, absorbed and transported to the cells where they will be used. Finally, in section ten we take a closer look at how lipids are transported in the blood.

One of the most difficult aspects of learning biochemistry is the myriad of chemical structures you encounter. This book deliberately only includes a few of the more important ones. If you can draw the ones in this book you will know more than enough chemical structures to illustrate most points.

Please don't spend your time trying to learn every chemical structure you come across in lectures and textbooks.

Finally, let me give you one of the great secrets to making learning easier. **REPETITION.** Don't read through the book once and expect to be able to remember and understand every detail. This is a relatively short book. Read it a few times. Every time you do you will learn and understand a little bit more. There is also repetition built into each chapter. Each section begins by introducing the topics to be covered and most chapters finish with some form of summary. Therefore by the time you have read the book once you will have covered all the important points three times. At the risk of repeating myself, let me remind you, that one of the big secrets to learning is **REPETITION !**

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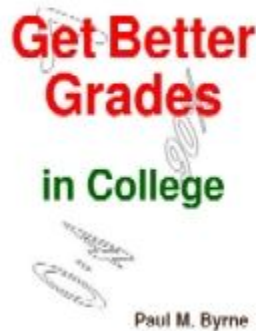
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