Every person who becomes a patient expects their consulting doctor to have an up-to-date working knowledge of the causes and treatment of disease in order to accurately diagnose and manage their care. All patients expect their doctor to be able to be able to weigh up the scientific evidence that is relevant to their particular condition or disease, and to recommend the best management strategy for them. In order for doctors to act in the patient’s best interests, they need to be able to understand the research evidence available in their area of practice. All doctors should also be able to advise their patient on new areas of research which may be of relevance to their condition, and of active studies which may potentially question the effectiveness of current treatment strategies. Patients are also becoming a lot more knowledgeable and sophisticated and are able to appreciate that doctors who are involved in research have an aim to build on current clinical knowledge which may one day lead to improvements in the diagnosis, treatment and prevention of disease.

**Research Methodology**

Medical research encompasses ‘basic science research’ (also called bench science), which involves developing our understanding of more fundamental scientific principles, to clinical research, which is distinguished by the involvement of patients. The purpose of research is to discover better ways to treat and prevent disease and advance knowledge for the good of society. Undergraduate and postgraduate training are founded on established evidence through research and practice. The delivery of care to patients by healthcare professionals is based on decisions made from the best available evidence to inform diagnostic and management plans in order to meet patient needs. If there is limited evidence available in a particular area, it is the responsibility of the doctor to systematically search for it, evaluate it for scientific validity and determine whether it is applicable with respect to the decision required for the care of their patient. Every practising doctor should therefore maintain up-to-date knowledge relevant to their specialty and understand how to correctly evaluate and apply available evidence. This encompasses a key skill in being able to understand and critique statistical analyses. Overall, this forms a General Medical Council (GMC) Good Medical Practice principle, stating that doctors should ‘provide effective treatments based on the best available evidence’. This principle should not be perceived as an option.

**Audit and Its Loop**

Clinical audit, which is at the heart of clinical governance, involves reviewing the quality of current medical practice against explicit criteria for expected healthcare standards. Healthcare professionals should be actively involved in clinical governance to improve the quality of patient care. While clinical research aims to establish what is the best or most effective practice, clinical audit evaluates how closely local practice resembles this. Audit (and quality improvement) forms a key pillar of clinical governance, encouraging services to make better use of resources and therefore become more efficient. The data you gather during the audit process can be used to inform patients about the standard of care they are receiving. Audits may generate new research questions, which may subsequently be investigated using a...
An introduction to research, audit and teaching

A research protocol. Audit and research may therefore follow each other in a continuous cycle. In an era where training doctors in management is often criticised, audits offer a good platform to learn about service provision and improvement.

TEACHING THEORY AND PRACTICE

The word ‘doctor’ means ‘teacher’ or ‘learned one’, and is derived from the Latin word docere, to teach. The GMC mandates that doctors have a professional obligation to contribute to the education and training of other doctors, medical students and nonmedical healthcare professionals on the team. Teaching activities allow you to consolidate and improve your knowledge in an area of interest, as well as improve your communication skills, which may translate to improved interactions with patients.

THE ESSENTIALS FOR CAREER SUCCESS

Fig. 1.1 illustrates how the different sections of this book are all linked together to form a model for career success. Recruitment panels recognize the importance of research, audit, teaching and publications, with a significant number of points awarded to these activities as part of your future job applications. The skills you will acquire by the end of this book will enable you to not only provide good medical care, as defined by the GMC, but also allow you to successfully advance on the career ladder in order to reach your potential. Good luck!

Chapter Summary

Clinical practice hones many skills that make doctors suited to research, such as teamwork, communication and analytical thinking. While not everyone should choose to pursue a long-term career in research, any time spent in research is valuable, as it will equip you with many different skills, including:

- Systematic reviewing and critical appraisal
- Numeracy (including an understanding of statistics)
- Evidence synthesis
- Communication (through teaching and publications)

FURTHER READING