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# KIRK'S BASIC SURGICAL TECHNIQUES

FIONA MYINT

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# KIRK'S
# BASIC SURGICAL TECHNIQUES

For Poppy

*When the disease is not known, there is no remedy*
*(Old Burmese proverb)*

Seventh Edition

# KIRK'S BASIC SURGICAL TECHNIQUES


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# Contents

## RAYMOND MAURICE (JERRY) KIRK

Jerry Kirk was born and brought up in Nottingham. While he was still at school the Second World War began, and after a brief interim as a bank clerk he served as an ordinary seaman in the famous cruiser *HMS Ajax* during Operation Torch – the first combined American-British landings in North Africa. Commissioned in charge of a minesweeper in the Mediterranean Sea, he swept no mines but the ship, renamed 'Calypso', was famously converted by the oceanographer Jacques Cousteau. After demobilization, and financed by an ex-service grant, Jerry attended Medical School at Kings College London and Charing Cross Hospital. He became an anatomy lecturer at Kings College London and went on to work for Professor Ian Aird at the Royal Postgraduate Medical School, Hammersmith Hospital. He held registrar posts at Charing Cross Hospital and subsequently the Royal Free Hospital, where he became a consultant general surgeon in 1964 and remained for the rest of his career.

He was an elected member of the Council of the Royal College of Surgeons of England, and devised the original basic surgical skills (BSS) course, as well as the first minimal access course, alongside Professor Sir Alfred Cuschieri. As director of the Overseas Doctors Training Scheme he was proud to see trainees return home with greater confidence and competence to deal with the surgical challenges in their homelands.

Jerry Kirk was privileged to work with a series of wonderful teachers, colleagues, students and patients. Notable among these were Professor Ian Aird, a scintillatingly brilliant intellect, and Norman Tanner, who from modest beginnings became internationally celebrated as a pioneer of standardized, safe gastric surgery, resulting in outstanding long-term outcomes. A third giant was the eminent oesophageal surgeon Hiroshi Akiyama of Tokyo, who could have been a twin brother of Tanner in character, both matching each other in talent, commitment, honesty and teaching by example. All three left Jerry recognizing the privilege of being a teacher.

He is a former president of the Surgical Section of the Royal Society of Medicine, the Medical Society of London and the Hunterian Society. He holds honorary fellowships of the Association of Surgeons of Poland and the College of Surgeons of Sri Lanka and is a fellow of the Royal Society of Medicine. After retiring from clinical surgical practice in 1989, Jerry was appointed an honorary consulting surgeon at the Royal Free Hospital and Honorary Professor of Surgery at University College London teaching anatomy, basic surgical skills and essential clinical insights. He has had a second career teaching aspiring surgeons for more than 25 years.

He is past editor-in-chief of the *Annals of the Royal College of Surgeons* and has written and edited numerous books for surgeons in training, including *Basic Surgical Techniques*, *Clinical Surgery in General* and *General Surgical Operations*.

# Preface

The first edition of *Kirk's Basic Surgical Techniques* was published in 1973. Since that time Professor Jerry Kirk has updated and revised his classic work five times. Over the decades he has educed and refined the text into a more synoptic publication which has become a familiar staple for generations of surgical trainees. Buying a copy of *Kirk's Basic Surgical Techniques* has become a rite of passage for generations of fledgling surgeons. Having been one of those surgical trainees who carried the third edition around in the pocket of my long since defunct white coat, I was honoured when he asked me to oversee this, the seventh edition.

This book was never intended to be an operative surgery manual; there are weightier tomes that serve this market. This book has always been about something more fundamental. It has been written to aid the aspiring surgeon in both understanding and practising the techniques that underpin basic surgical practice. As such, this book should be seen as that which complements courses, simulation and active clinical practice. Many of the techniques described herein are generic and others of more interest to those on rotational training programmes. The basic surgical techniques skill set is broad and encompasses more than simply technical procedures. Manual dexterity is neither the sole nor necessarily the most important quality of a good surgeon. Whilst there are constant developments in the field of surgical practice, much of the fundamentals of surgery are little changed.

My own surgical practice has been the result of an amalgamation and distillation of the teachings of my own surgical mentors and that which I have learned from my trainees over the course of my career. I have been privileged to work with many great and inspiring surgeons. I am still learning. Learning does not stop at the end of a training programme, a course or indeed a book.

This is still very much Professor Kirk's book. I make no apology for maintaining the distinctive writing style and its familiar narrative. By addressing the reader directly it is hoped that you will absorb and engage yourself in the personal instruction given therein. The message is simple. Practise until you are as good as you can be with any technique. Learn the theory, practise on a simulator, then undertake supervised practise in a clinical setting, taking heed of constructive critique. Knowing how to do something is not enough. Being able to do something is not enough. 'Competence' is a much abused word in clinical education; however, whilst competence is adequate, being competent does not make you an expert. Your patients deserve expertise. Hopefully, this book will be but the first step to achieving that.

Fiona Myint
London 2018

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# Acknowledgements

This book has evolved over many years. In addition to acknowledging that there are still many of Prof Kirk's own words in this book, I would acknowledge the assistance of all those that supported him in writing it over the years. More recently, I would offer personal thanks to the following UK surgeons who have helped and advised me in updating it: Mr Tim Lane, Mr Rovan D'Souza, Mr Nick Garlick, Mr PH Tan.

Fiona Myint
London 2018

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# Chapter 1

# Handling yourself

**CHAPTER CONTENTS**



The personal qualities you bring to medicine are the same as those that drive all clinicians. We are all primarily physicians, endeavouring to apply the same knowledge and judgement that our medical colleagues apply to diagnosing and treating patients.

1. The extra, practical aptitude you must acquire beyond clinical competence is operating skill – the ability to manipulate living human tissue with intimate knowledge of its characteristics in health and disease, while endeavouring to preserve its physical and functional qualities. In the medieval period surgeons, unlike physicians, did not study at a university but were ranked as craftsmen, learning as apprentices from masters. As in other trades, surgeons use tools or instruments to facilitate controlling their materials but recognize that they are intermediates between their hands and the object of their skill. Your awareness of this should impress on you the need to use every practical task you perform as a means of improving the skills required in surgery – all day, every day, not just in the operating theatre.
2. Individual components of operative skill can be listed but do not define the way in which they are put together to create a successful surgeon. Few of us are fully equipped mentally and physically, but by putting in the extra effort to overcome our weaknesses, we hope to compensate for them. In contrast, some who are fortunate enough to be born with natural aptitudes fail to put in the extra effort.
3. In this chapter I hope to demonstrate how to identify in yourself some of the qualities you need to utilize and develop in order to become a skilful surgeon. You can recognize the presence or lack of them in your everyday life and initiate your training even before you step into the operating theatre. Continue this process when you watch operations, become an assistant and are eventually allowed to perform part or all of an operation.
4. It is not necessary to see someone operating to identify the presence or absence of desirable qualities. Watch others performing everyday

tasks such as carving a joint of meat, peeling fruit, or eating a meal; is the food on the plate still orderly – or does it look like a battlefield? Note someone who habitually drops objects and swears at them, muttering, 'Bad luck. That happens every time.' Why do experts not suffer such misfortunes? They recognize the likelihood and incorporate precautionary measures into their routines.

5. Some accomplish everyday tasks calmly, safely and in an orderly manner, all while maintaining uncluttered surroundings. Others are casual; messy; rough; clumsy with their hands, the equipment or the object which they are handling; and do not seem to anticipate an imminent fault or accident that is evident to the onlookers. They may be outstanding at their vocation, but you would feel anxious if they claimed to be surgeons or intended to pursue such a career.

**Key points**

- ***'Get it right first time'*** incorporates the recognition that faults occur and that they must be anticipated and avoided.
- Do not hope for the best. If an error is likely, build into your routine a check or corrective.
- Correcting errors is more time consuming than avoiding them.

## ATTITUDES – THE FIVE Cs

1. ***Common sense*** encompasses being aware at all times of what is going on around you and reacting to it in a logical and rational manner. It is eroded if you are distracted or lose your composure and temper, so your anticipation of impending danger is blunted, as is your ability to react sensibly and perform effectively. If you encounter a difficulty, do not rush wildly into 'doing something'. Respond to changed circumstances; errors often result from dogged and blind continuation with the intended procedure; this is sometimes (but not by me) entitled 'situational awareness'.
2. ***Competence.*** Make it a habit in your everyday life to carry out your duties in a relaxed atmosphere of expertise and calm. List your intentions in descending order of priority and ensure you are able to carry them out proficiently and professionally. Take each step in its correct order, complete it, check it and continue with the next one – but react to new input and if necessary respond to it.
3. ***Commitment.*** Keep in mind your prime purpose. Unless circumstances change, concentrate on this and do not be deflected from it without good reason. Be willing to defer or cancel other duties in order to fulfil the most important one. Except in an emergency, complete every task.
4. ***Compassion.*** How privileged you are to be a physician, able to treat patients who are in pain or anxious. Now you wish to add to your skills and offer another means of treatment. Operating on people can be dramatically successful – and also disastrous. Expect to have occasional sleepless nights from anxiety and guilt as you retrospectively consider your recent actions.
5. ***Communication.*** You are in a professional relationship with your patients, their relatives and your colleagues. Technical skill in the operating theatre is not sufficient on its own to make you a successful surgeon. It is a vital add-on but it is one component among many others. You must communicate and be open to communication – listen, as well as talk.

**Key point**

- You will carry these attitudes that you strive to develop from your everyday life to the operating theatre.

## PHYSICAL ATTRIBUTES

### Hands

1. There is no ideal surgeon's hand. The shape of your hand has little or no bearing on your manipulative skill. However, identify the peculiarities of your own hands and fingers in order to exploit the benefits and make the best use of them. For example, the terminal phalanx, nail shape and extent of nail bed towards the tips of your fingers affect your preference for fingertip pressure or pulp pressure.
2. Your hands are important assessors of tissues. Their sensitivity is affected by wearing gloves. When clinical circumstances require you to

wear gloves, consciously note the changes. Make sure you wear the correct size of gloves and wear them correctly. Do not allow the glove fingertips to project beyond yours – pull the glove fingers on fully, if necessary creating concertina'd wrinkles near the base of your fingers.

3. There are many outstanding left-handed surgeons, so this is no disability, even though many instruments are designed for right-handed people. Some instruments are also available for left-handed users.

## Stability

1. Surgeons do not usually have extraordinarily steady hands. Our ability to perform finely controlled movements diminishes as we age.
2. If you hold long-handled instruments at arm's length, the tips magnify the tremor – and anxiety exaggerates this. Do not feel embarrassed. The farther the distance from a firm base to the point of action, the less steady are your hands.
3. Stand upright with feet apart, arms and fingers outstretched. You will detect a slight tremor at your outspread fingertips. Now press your elbows into your sides and you should find your hands are steadier. Sit or brace your hips against a fixture to become even steadier. Rest your elbows on a table; also rest the heel of your hand or your little finger on the table (Fig. 1.1).

**Key point**

- Keep a firm base as close as possible to the point of action.

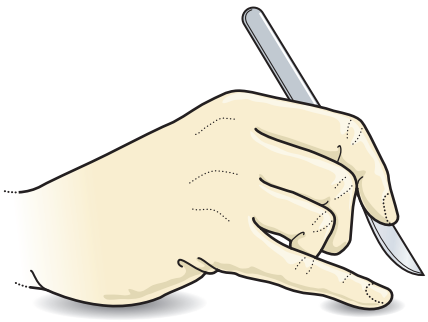

**Fig. 1.1** Your wrist and little finger rest on the base, forming a steadying bridge while you hold the scalpel to make a precise incision.

4. If you cannot use a base close to the active fingers, use the other hand to steady the dominant hand by grasping the wrist. If you need to reach to make an action – for example, when you are cutting ligatures as an assistant – use the fingers of the inactive hand on which to rest the scissors (Fig. 1.2). If no other base exists, place the 'heels' of your hands together when carrying out a manoeuvre such as the nowadays rare need to thread a needle (Fig. 1.3).
5. If you need to carry out a smooth movement, try practising it in the air first, as a golfer does before making a stroke.

## WHAT IS SKILL?

1. The Old Norse word 'skil' signified distinction (from *skilja* = to separate, discriminate). In everyday use it commonly signifies expertise and dexterity in performing a practical procedure as opposed to facility in a theoretical or abstract accomplishment.
2. As an example, a tennis beginner must learn to control the racket to strike a ball. Initially

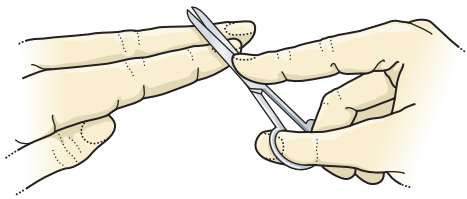

**Fig. 1.2** Steadying an instrument by resting it on the fingers of the other hand.

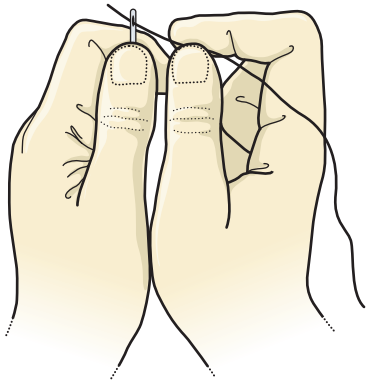

**Fig. 1.3** Press your wrists together while threading a needle.