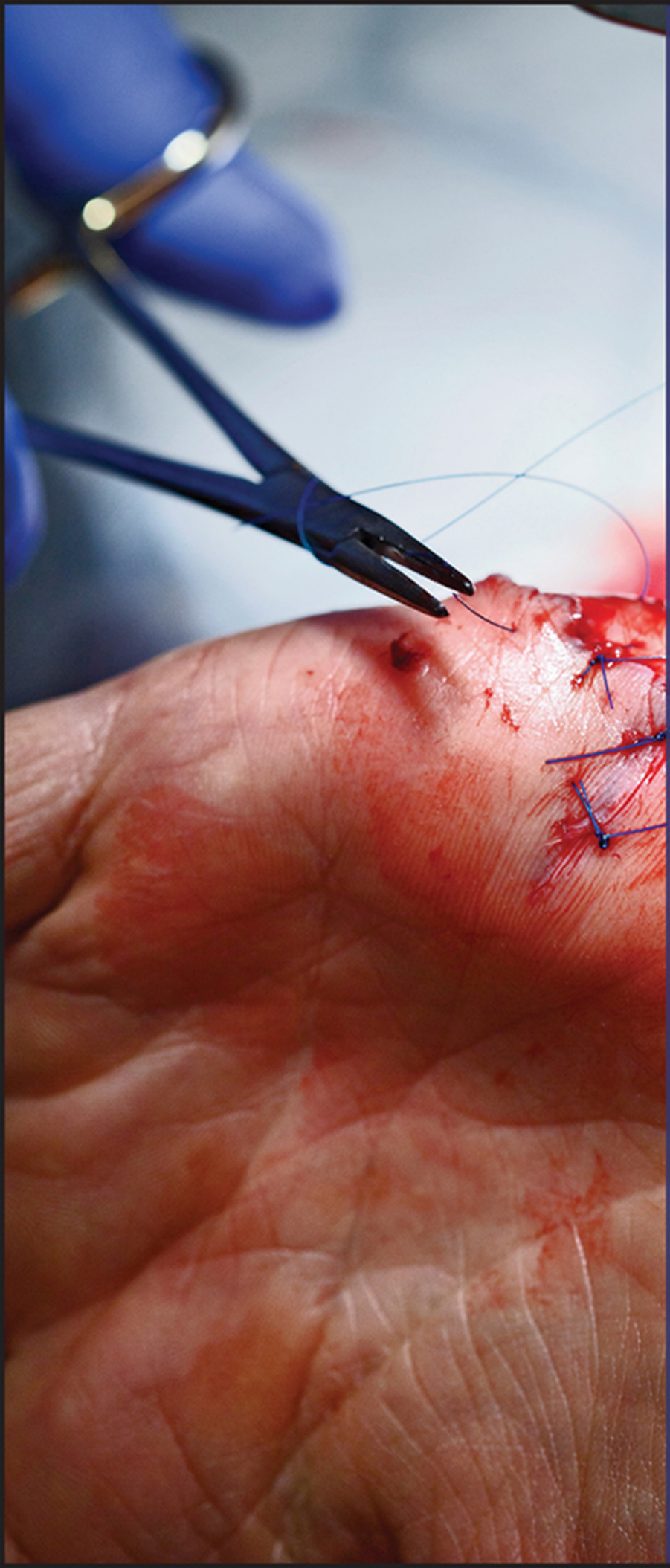

Wound Care at a Glance

Second Edition

Ian Peate
Melanie Stephens

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Wound Care
at a Glance

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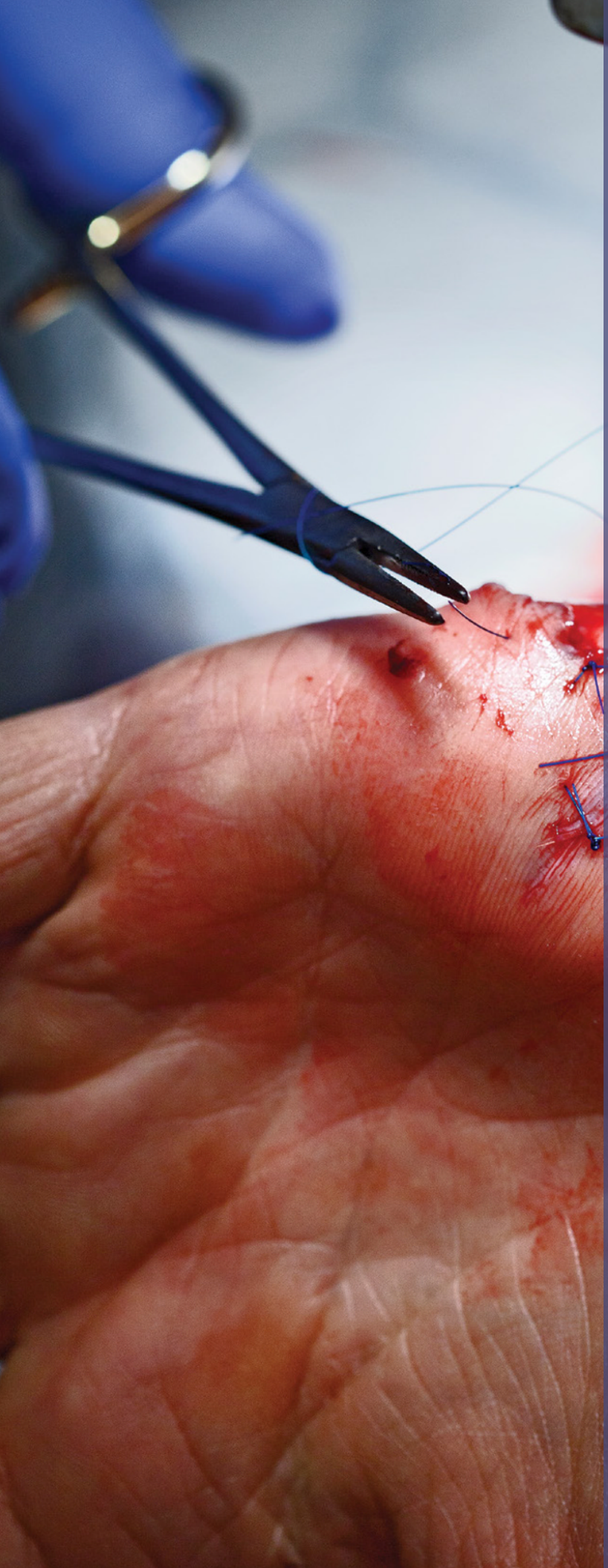

Wound Care at a Glance

Second Edition

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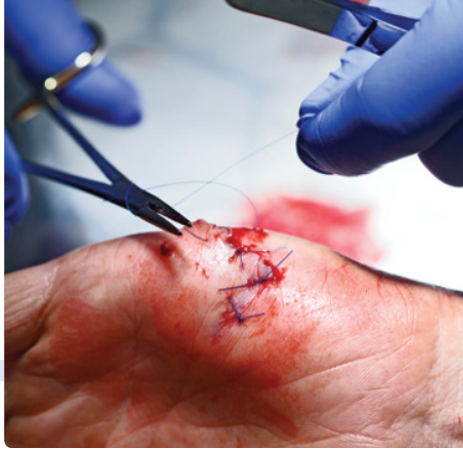

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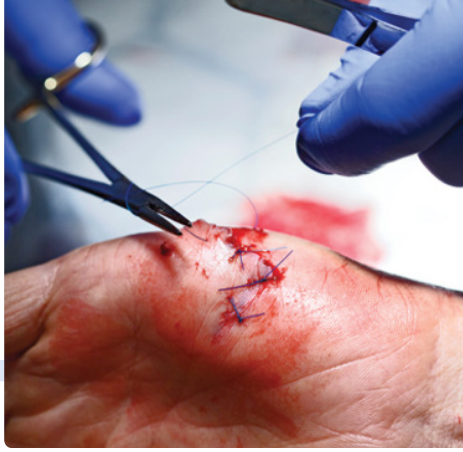
Preface to the second edition



This second edition of *Wound Care at a Glance* has been revised and reviewed in light of the on-going developments in wound care practice. In preparing this new edition, we have listened to readers' feedback, which has encouraged us to provide updates to the chapters in order to reflect changes and advances in the field, and we have added an extended reference list so as to support practice with an evidence base. As wound care management develops, it is also a requirement that nurses and other health care practitioners update their knowledge base as they respond to the needs of the people they offer care and support to. The field of wound care is a dynamic and ever-changing field; keeping up-to-date, and ensuring that care provision is safe, effective and patient centred, are key requirements of any practicing nurse (Nursing and Midwifery Council, 2018).

In order to provide wound care to people across the lifespan, from all socioeconomic backgrounds and in all care specialities and communities, the nurse has to be confident and competent. There is need to understand the anatomy and physiology of the skin, as well as to adopt a holistic and patient-centred approach. This edition again emphasises that wound care has to incorporate patient care. This must involve and engage patients and their families with regards to decisions about their health and care, as this has the potential to enhance individual well-being and care outcomes. When the nurse understands the patient's experiences of the services provided, this can help identify areas of waste and inefficiency, as well how to make improvements to the overall patient experience. When there is a breakdown in skin integrity, this is likely to have a negative impact on the person's health and well-being, as well as the individual's family and society. There will also be implications for the wider health and care economy.

There are often a wide range of professional challenges associated with wound care – from the technological aspects of care to the ethical and sociological questions that should be and are always present when a nurse makes clinical decisions. The provision of high-quality, safe and effective, patient-centred wound care is complex, and success will depend on effective integration of scientific breakthroughs and wound care practices. The provision of wound care and the promotion of wound healing is very much interdisciplinary in nature.

This second edition of *Wound Care at a Glance* retains its easy-to-access approach. This book stays true to the underlying philosophy of the 'At a Glance' series by providing the reader with full-colour illustrations and bite-size information that is easy to digest, as the authors are fully aware that keeping up-to-date with the latest developments in the science of wound care can often be overpowering.

The book has six parts, starting with the history of wound care, the anatomy and physiology, and the normal and abnormal healing processes. The section in the book on wound management in practice emphasises the need for a holistic assessment of skin and describes the various classifications of wounds; in this section, there are chapters dedicated to the ethical and legal aspects of wound care, as well as treatment options and pain management strategies. Dressing selection is a multifaceted process, and the nurse is required to bring together knowledge and understanding of the person as well as the many dressings that are available. Dressing selection and the factors that are required to be taken into consideration when choosing an appropriate wound care product are discussed. There is an emphasis throughout on ensuring that the person's individual needs are addressed. The concluding section of the text takes into account wound care complexities and considers a range of circumstances that the nurse may face.

We were delighted to have been asked to prepare a second edition and have been enthused by the feedback. We are indebted to Wyn Glencross, co-editor of the first edition. Our wish is that this text helps you enhance your practice, knowledge, skills and understanding of wound care.

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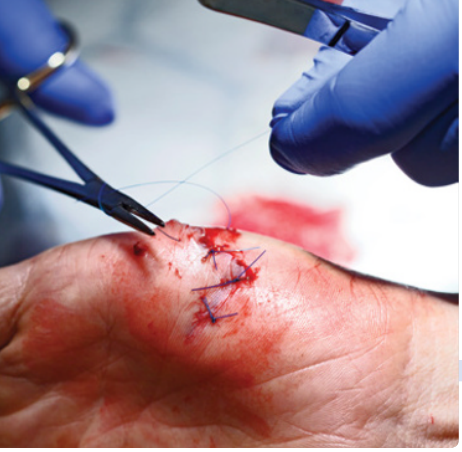
Nursing and Midwifery Council (2018). The Code. Professional standards of practice and behaviour for nurses, midwives and nursing associates. https://www.nmc.org.uk/globalassets/sitedocuments/nmc-publications/nmc-code.pdf. Last accessed September 2019.



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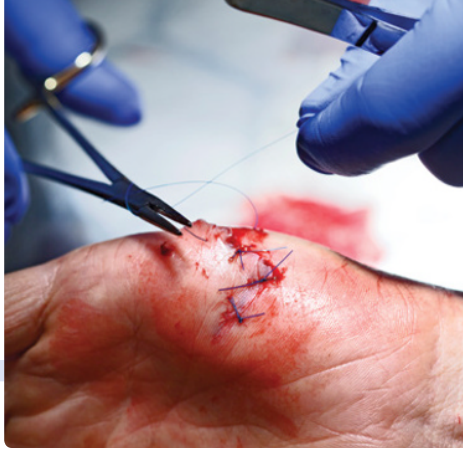
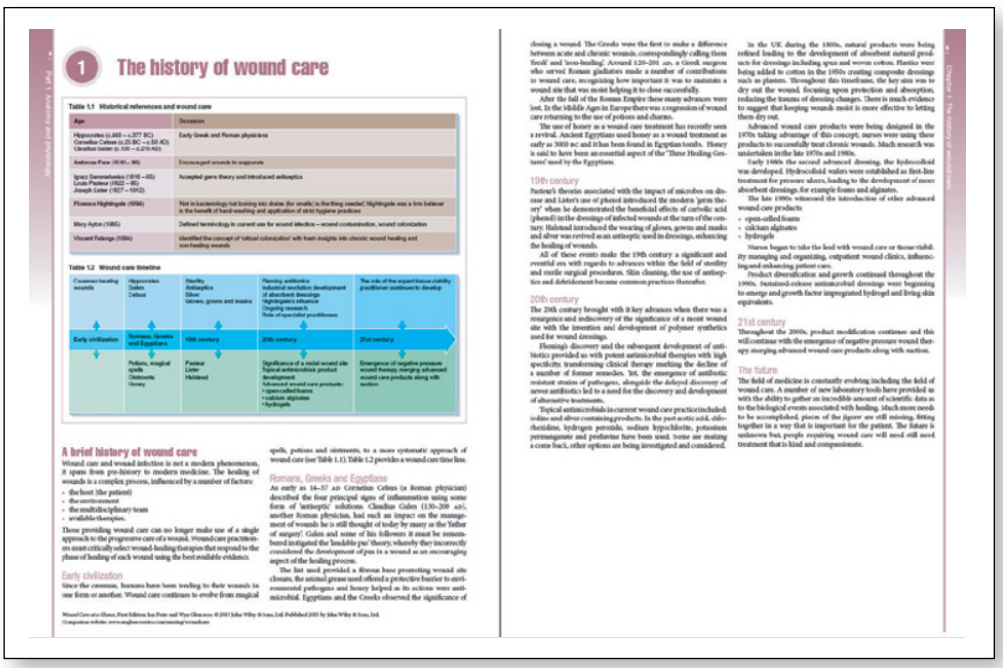
We would like to acknowledge the contribution made by Wyn Glencross to the first edition.

How to use your textbook



Features contained within your textbook

Each topic is presented in a double-page spread with clear, easy-to-follow diagrams supported by succinct explanatory text.



1 The history of wound care

Table 1.1 Historical references and wound care

Age	Occasion
Hippocrates (c.460 – c.377 BC) Cornelius Celsus (c.25 BC – c.50 AD) Claudius Galen (c. 130 – c.210 AD)	Early Greek and Roman physicians
Ambroise Paré (1510 – 90)	Encouraged wounds to suppurate
Ignaz Semmelweiss (1818 – 65) Louis Pasteur (1822 – 95) Joseph Lister (1827 – 1912)	Accepted germ theory and introduced antiseptics
Florence Nightingale (1856)	Not in bacteriology but looking into drains (for smells) is the thing needed' Nightingale was a firm believer in the benefit of hand-washing and application of strict hygiene practices
Mary Ayton (1965)	Defined terminology in current use for wound infection – wound contamination, wound colonization
Vincent Falanga (1994)	Identified the concept of 'critical colonization' with fresh insights into chronic wound healing and non-healing wounds

Table 1.2 Wound care timeline

Cutaneous healing wounds	Hippocrates Galen Celsus	Sterility Antiseptics Silver Gloves, gowns and masks	Fleming antibiotics Industrial revolution development of absorbent dressings Nightingale's influence Ongoing research Role of specialist practitioners	The role of the expert tissue viability practitioner continues to develop
Early civilization	Romans, Greeks and Egyptians	16th century	20th century	21st century
	Potions, magical spells Ointments Honey	Pasteur Lister Halstead	Significance of a moist wound site Topical antimicrobials printed development Advanced wound care products: • open-celled foams • calcium alginates • hydrogels	Emergence of negative pressure wound therapy, merging advanced wound care products along with suction

A brief history of wound care

Wound care and wound infection is not a modern phenomenon, it spans from pre-history to modern medicine. The healing of wounds is a complex process, influenced by a number of factors:

- the host (the patient)
- the environment
- the multidisciplinary team
- available therapies.

Those providing wound care can no longer make use of a single approach to the progressive care of a wound. Wound care practitioners must critically select wound-healing therapies that respond to the phase of healing of each wound using the best available evidence.

Early civilization

Since the caveman, humans have been tending to their wounds in one form or another. Wound care continues to evolve from magical spells, potions and ointments, to a more systematic approach of wound care (see Table 1.1). Table 1.2 provides a wound care time line.

Romans, Greeks and Egyptians

As early as 16–37 AD Cornelius Celsus (a Roman physician) described the four principal signs of inflammation using some form of 'antiseptic' solutions. Claudius Galen (130–200 AD), another Roman physician, had such an impact on the management of wounds he is still thought of today by many as the 'father of surgery'. Galen and some of his followers it must be remembered instigated the 'laudable pus' theory, whereby they incorrectly considered the development of pus in a wound as an encouraging aspect of the healing process.

The list used provided a fibrous base promoting wound site closure, the animal grease used offered a protective barrier to environmental pathogens and honey helped as its actions were antimicrobial. Egyptians and the Greeks observed the significance of closing a wound. The Greeks were the first to make a difference between acute and chronic wounds, correspondingly calling them 'fresh' and 'non-healing'. Around 120–201 AD, a Greek surgeon who served Roman gladiators made a number of contributions to wound care, recognizing how important it was to maintain a wound site that was moist helping it to close successfully.

After the fall of the Roman Empire these many advances were lost. In the Middle Ages in Europe there was a regression of wound care returning to the use of potions and charms.

The use of honey as a wound care treatment has recently seen a revival. Ancient Egyptians used honey as a wound treatment as early as 3000 BC and it has been found in Egyptian tombs. Honey is said to have been an essential aspect of the 'Three Healing Gestures' used by the Egyptians.

19th century

Pasteur's theories associated with the impact of microbes on disease and Lister's use of phenol introduced the modern 'germ theory' when he demonstrated the beneficial effects of carbolic acid (phenol) in the dressings of infected wounds at the turn of the century. Halstead introduced the wearing of gloves, gowns and masks and silver was revived as an antiseptic used in dressings, enhancing the healing of wounds.

All of these events make the 19th century a significant and eventful era with regards to advances within the field of sterility and sterile surgical procedures. Skin cleaning, the use of antiseptics and debridement became common practices thereafter.

20th century

The 20th century brought with it key advances when there was a resurgence and rediscovery of the significance of a moist wound site with the invention and development of polymer synthetics used for wound dressings.

Fleming's discovery and the subsequent development of antibiotics provided us with potent antimicrobial therapies with high specificity, transforming clinical therapy marking the decline of a number of former remedies. Yet, the emergence of antibiotic resistant strains of pathogens, alongside the delayed discovery of newer antibiotics led to a need for the discovery and development of alternative treatments.

Topical antimicrobials in current wound care practice included iodine and silver containing products. In the past acetic acid, chlorhexidine, hydrogen peroxide, sodium hypochlorite, potassium permanganate and proflavine have been used. Some are making a come back, other options are being investigated and considered.

In the UK during the 1800s, natural products were being refined leading to the development of absorbent natural products for dressings including spun and woven cotton. Plastics were being added to cotton in the 1950s creating composite dressings such as plasters. Throughout this timeframe, the key aim was to dry out the wound, focusing upon protection and absorption, reducing the trauma of dressing changes. There is much evidence to suggest that keeping wounds moist is more effective to letting them dry out.

Advanced wound care products were being designed in the 1970s taking advantage of this concept; nurses were using these products to successfully treat chronic wounds. Much research was undertaken in the late 1970s and 1980s.

Early 1980s the second advanced dressing, the hydrocolloid was developed. Hydrocolloid wafers were established as first-line treatment for pressure ulcers, leading to the development of more absorbent dressings, for example foams and alginates.

The late 1980s witnessed the introduction of other advanced wound care products:

- open-celled foams
- calcium alginates
- hydrogels

Nurses began to take the lead with wound care or tissue viability managing and organizing outpatient wound clinics, influencing and enhancing patient care.

Product diversification and growth continued throughout the 1990s. Sustained-release antimicrobial dressings were beginning to emerge and growth factor impregnated hydrogel and living skin equivalents.

21st century

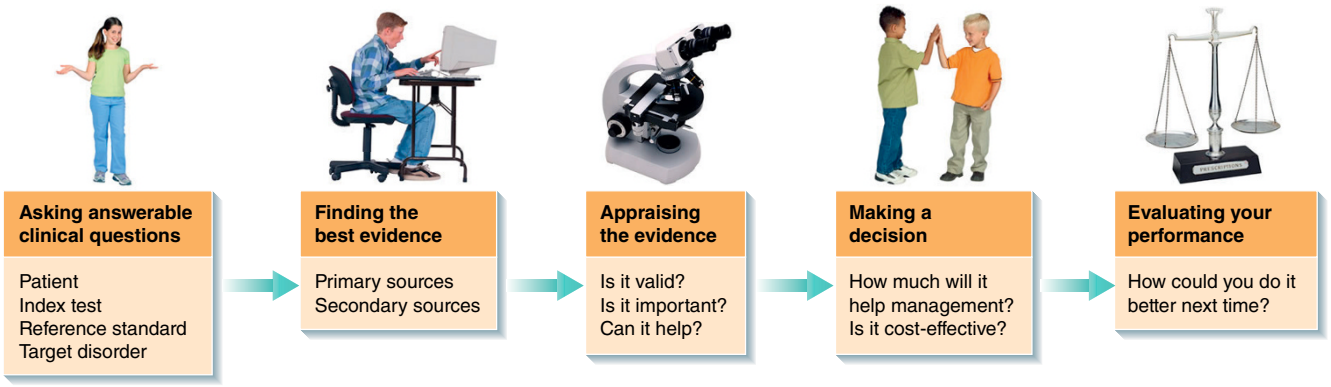
Throughout the 2000s, product modification continues and this will continue with the emergence of negative pressure wound therapy merging advanced wound care products along with suction.

The future

The field of medicine is constantly evolving including the field of wound care. A number of new laboratory tools have provided us with the ability to gather an incredible amount of scientific data as to the biological events associated with healing. Much more needs to be accomplished, pieces of the jigsaw are still missing, fitting together in a way that is important for the patient. The future is unknown but, people requiring wound care will need still need treatment that is kind and compassionate.

The website icon indicates that you can find accompanying resources on the book's companion website.

Figure 21.1 Five stages associated with evidence-based practice



Source: Thompson and Van den Bruel 2011, figure on p. x of Introduction. Reproduced with permission of Wiley & Sons, Ltd.

Table 21.1 Hierarchy of evidence

Level	Description of evidence	Strength
I	Systematic review or meta-analysis of all relevant randomized controlled trials (RCTs), or evidence-based clinical practice guidelines based on systematic reviews of RCTs	Strongest
II	Evidence from at least one well-designed RCT	
III	Evidence from well-designed controlled trials without randomization	
IV	Evidence from well-designed case-control and cohort studies	
V	Systematic reviews of descriptive and qualitative studies	
VI	A single descriptive or qualitative study	
VII	The opinion of authorities and/or reports of expert committees	Weakest

Figure 44.1 Incision/cut

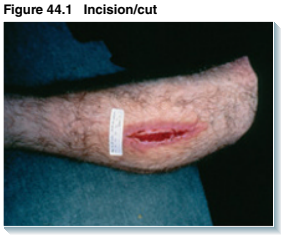


Figure 44.2 Laceration

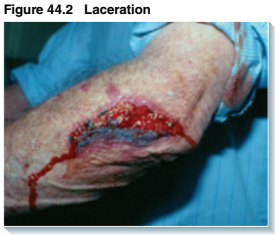


Figure 44.3 Puncture wound

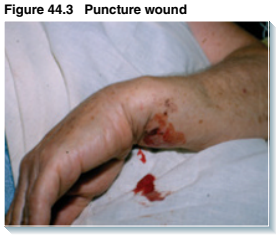


Figure 44.4 Abrasion/friction

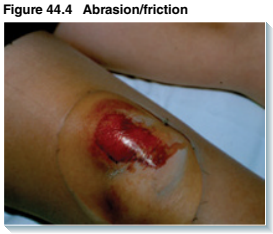
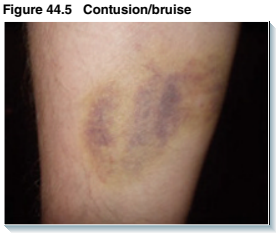


Figure 44.5 Contusion/bruise



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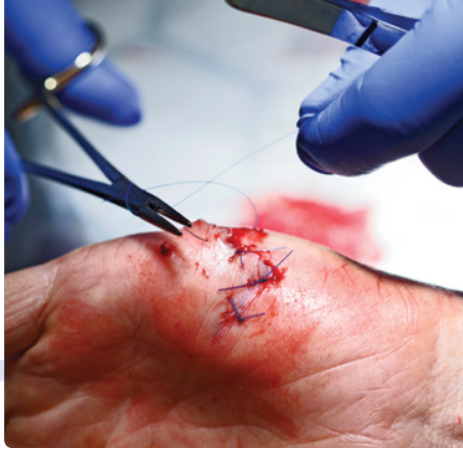

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www.ataglanceseries.com/nursing/woundcare

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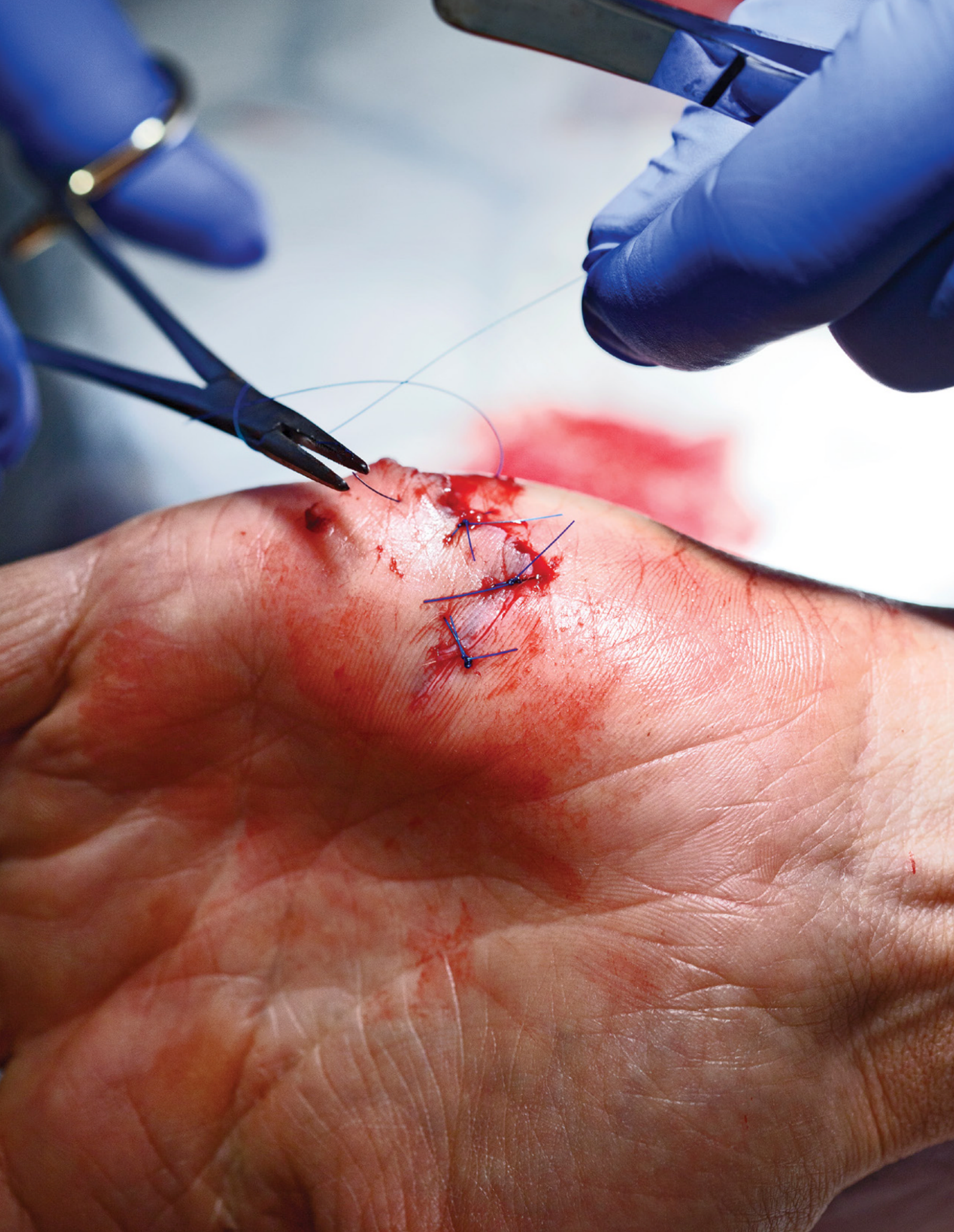

Anatomy and physiology

Part 1

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