

FUNDAMENTALS

Fundamentals of

Medical-Surgical Nursing

A Systems Approach

EDITED BY **ANNE-MARIE BRADY,**
CATHERINE McCABE AND
MARGARET McCANN



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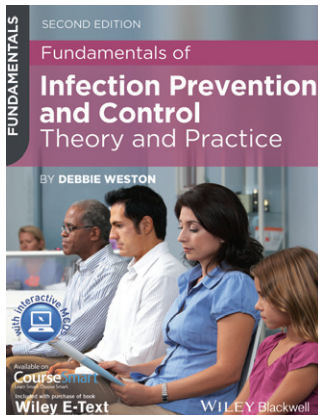
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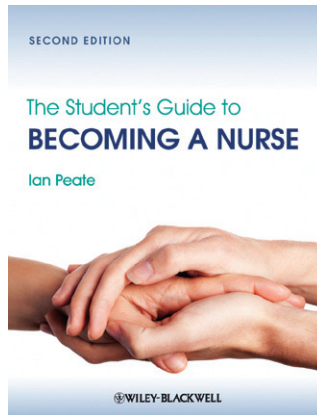
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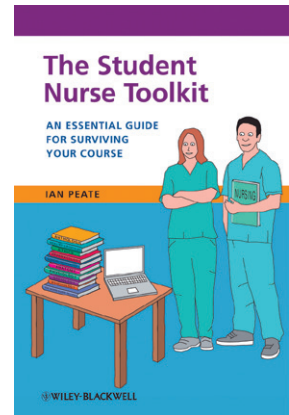
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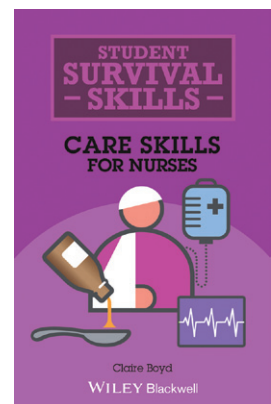
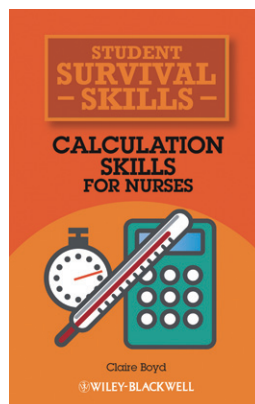
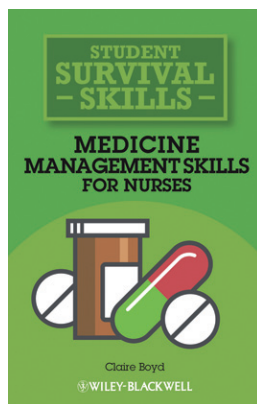
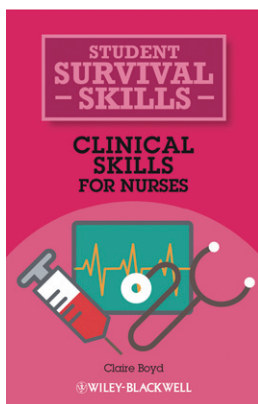
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Fundamentals of

Medical-Surgical Nursing: A Systems Approach

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EDITED BY

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Contents

<i>About the series</i>	ix
<i>Preface</i>	x
<i>About the editors</i>	xii
<i>Contributors</i>	xiii
<i>How to get the best out of your textbook</i>	xviii
<i>About the companion website</i>	xxi
Part 1: Common Principles Underlying Medical and Surgical Nursing Practice	1
Chapter 1 Principles of nursing assessment <i>Naomi Elliott</i>	2
Chapter 2 Principles of drug administration <i>Sue Jordan</i>	12
Chapter 3 Principles of intravenous therapy <i>Lisa Dougherty</i>	26
Chapter 4 Principles of nutritional care <i>Carolyn Best and Helen Hitchings</i>	44
Chapter 5 Principles of infection prevention and control <i>Sile Creedon and Maura Smiddy</i>	58
Chapter 6 Principles of acute care for older people <i>Louise Daly, Debbie Tolson and Anna Ayton</i>	78
Chapter 7 Principles of end of life care <i>Kevin Connaire</i>	90
Chapter 8 Principles of perioperative nursing <i>Joy O'Neill, Bernie Pennington and Adele Nightingale</i>	104
Chapter 9 Principles of high-dependency nursing <i>Tina Day</i>	124
Chapter 10 Principles of emergency nursing <i>Valerie Small, Gabrielle Dunne and Catherine McCabe</i>	142

Part 2: Adult Medical and Surgical Nursing	155
Chapter 11 Nursing care of conditions related to the skin <i>Zena Moore and Julie Jordan O'Brien</i>	156
Chapter 12 Nursing care of conditions related to the respiratory system <i>Anne Marie Corroon and GERALYN HYNES</i>	176
Chapter 13 Nursing care of conditions related to the circulatory system <i>Kate Olson and Tracey Bowden</i>	210
Chapter 14 Nursing care of conditions related to the digestive system <i>Joanne Cleary-Holdforth and Therese Leufer</i>	240
Chapter 15 Nursing care of conditions related to the urinary system <i>Margaret McCann, Ciara White and Louisa Fleure</i>	262
Chapter 16 Nursing care of conditions related to the endocrine system <i>David Chaney and Anna Clarke</i>	298
Chapter 17 Nursing care of conditions related to the neurological system <i>Elaine Pierce and Mary E. Braine</i>	326
Chapter 18 Nursing care of conditions related to the immune system <i>Michael Coughlan and Mary Nevin</i>	364
Chapter 19 Nursing care of conditions related to haematological disorders <i>Mairead Ni Chonghaile and Laura O'Regan</i>	386
Chapter 20 Nursing care of conditions related to the musculoskeletal system <i>Sonya Clarke and Julia Kneale</i>	422
Chapter 21 Nursing care of conditions related to the ear, nose, throat and eye <i>Dympna Tuohy, Jane McCarthy, Carmel O'Sullivan and Niamh Hurley</i>	448
Chapter 22 Nursing care of conditions related to reproductive health <i>Debra Holloway and Louisa Fleure</i>	478
<i>Index</i>	510

About the series

Wiley's *Fundamentals* series are a wide-ranging selection of textbooks written to support pre-registration nursing and other healthcare students throughout their course. Packed full of useful features such as learning objectives, activities to test knowledge and understanding, and clinical scenarios, the titles are also highly illustrated and fully supported by interactive MCQs, and each one includes access to a **Wiley E-Text: powered by VitalSource** – an interactive digital version of the book including downloadable text and images and highlighting and note-taking facilities. Accessible on your laptop, mobile phone or tablet device, the *Fundamentals* series is *the* most flexible, supportive textbook series available for nursing and healthcare students today.

Preface

The impetus for this book came from the experience of teaching undergraduate and postgraduate nursing students and the realisation that a comprehensive textbook on medical and surgical nursing was needed to inform and guide learning related to the nursing care of adults. This book is designed to provide a broad overview and a practical understanding of the principles related to adult nursing. It examines the principles underpinning medical and surgical nursing and includes contemporary developments in clinical care, drawing extensively on national and international evidence. Using a systems approach, the book is designed to provide a comprehensive application of the relevant anatomy and physiology, which will inform medical and surgical nursing practice.

The book comprises 22 chapters and is presented in two sections that are designed to guide readers so they can reach an understanding of the context and the key aspects of medical and surgical nursing practice.

- Part 1: Common Principles Underlying Medical and Surgical Nursing Practice
- Part 2: Adult Medical and Surgical Nursing

Part 1 addresses common principles that underpin medical and surgical nursing practice. Chapter 1 presents an overview of the principles underlying the comprehensive nursing assessment of patient care needs. The management of medications is a major component of the everyday work of the nurse in a medical-surgical environment, and Chapters 2 and 3 provide a comprehensive overview of the principles underlying care and the nurses' responsibilities in relation to drug administration, both oral and parental. Nutritional assessment and support is a key responsibility of medical-surgical nursing care and is given detailed consideration in Chapter 4. The prevention and control of infection is discussed in Chapter 5 as this a fundamental element of all healthcare practice. Influenced by changing demographics, caring for the older person represents a significant proportion of everyday medical-surgical nursing practice, and Chapter 6 seeks to develop an understanding of the unique care needs of this population. Chapter 7 aims to develop the nurse's ability to provide appropriate and individualised care to families at the final stage of life. Chapter 8 provides students with an overview of the principles of perioperative nursing. High-dependency care is an increasing feature of medical and surgical care environments and is addressed in Chapter 9. The final chapter in this section gives the reader an overview of emergency department nursing and an understanding of the diverse nature of presenting medical/surgical emergencies, trauma and shock.

In Part 2, a systems approach is taken to afford an overview of adult nursing in medical and surgical acute care environments. The nursing care related to all the systems is discussed in Chapters 11–22 and covers topics related to the skin and the respiratory, cardiovascular, digestive, urinary, endocrine, neurology, immune, haematological, musculoskeletal, eye/ear/nose/throat and reproductive systems. Each chapter presents a brief overview of the related anatomy and physiology to enhance students' understanding. All of the main conditions are considered, with a focus on relating the main concerns and priorities of medical and surgical nursing. Each chapter is associated with **additional sources of information** such as further reading, professional organisations and online resources.

To be used in addition to the traditional text, learning outcomes, conclusion and references, the website provides a series of **reflective questions** to prompt further discussion in both the classroom and the work setting. **Case studies** are employed where possible to enable the reader to engage with

the content from a service provider/user perspective. **Multiple choice questions** are also provided to enable self-evaluation.

The primary market for this textbook is undergraduate students in general nursing at the 3rd level in Ireland and the UK. The book should, however, be of interest to all students undertaking nursing degrees and courses in which general nursing skills are an expectation for professional performance. It will also be relevant to students of other nursing disciplines undertaking health service professional degrees who wish to understand the comorbidities of clients in their care. In addition, it will be a resource for staff already working in medical and surgical nursing.

Anne-Marie Brady
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1 Principles of nursing assessment

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Contents

Introduction	3	Documenting patient assessment and record-keeping	9
The purpose of nursing assessment	3	Conclusion	10
Assessment frameworks	4	References	10
Methods of assessment	6		
Rapid assessment of the acutely ill patient	8		

Learning outcomes

This chapter will examine the WHY, WHAT, HOW questions of nursing assessment. It will enable you to ask:

- **Why** – to explain the purpose of nursing assessment and why it is vital to quality patient care
- **What** – to consider what patient information is collected and the rationale for using an assessment framework
- **How** – to identify a range of methods available to assess patients and collect information that support clinical decision-making and individualised patient care plans.

Common Principles Underlying Medical and Surgical Nursing Practice

Figure 4.1 NGT insertion.

Type of gastrostomy tube	Indications for use
PEG	The most common method of primary gastrostomy insertion
Radiologically inserted gastrostomy or fluoroscopically guided percutaneous gastrostomy	May be the method of choice if endoscopic placement is not available or is inadvisable
Balloon gastrostomy	May be used for primary placement or as a percutaneous replacement where further endoscopic or radiological intervention is to be avoided
Button or low-profile device	Tend to be used in younger adults and children

Tube bypasses the stomach and sits in the small intestine. Three types of tube are used for postpyloric feeding (Table 4.3).

Enteral tube feeds

Standard precautions

Standard precautions are taken by healthcare workers to protect themselves and patients against exposure to blood and/or body fluid. Implementation of standard precautions minimises the risk of transmission of infectious agents. These precautions are based on the principle that all blood, body fluids, secretions, excretions except sweat, non-intact skin and mucous membranes may contain transmissible infectious agents.

Standard precautions apply to ALL patients at ALL times regardless of their diagnosis.

Box 5.1 The cycle of infection (adapted from Health Protection Surveillance Centre 2007)

- **Infectious agent:** an organism that causes disease (e.g. a bacterium, virus, fungus or protozoan)
- **Reservoir or source of infectious agent:** the place where an infectious agent lives and grows (e.g. the gastrointestinal and upper respiratory tracts for the normal flora)
- **Portal of exit:** any body opening that allows the infectious agent to leave (e.g. the mouth, nose, rectum or breaks in the skin)
- **Means of transmission:** how the infectious agent travels from the infected person to another person. The principle routes of transmission are contact (indirect and direct), droplet and airborne. The mode of transmission varies by type of infectious agent, and some may be transmitted by more than one route
- **Portal of entry:** any body opening that allows the infectious agent to enter (e.g. the nose, mouth, eyes, mucous membranes, a surgical or non-surgical break in the skin or medical devices such as central catheters that bypass the body's natural defences)
- **A susceptible host:** a non-infected person who could get infected. The factors that influence the acquisition and severity of the infection are related to the virulence of the infectious agent and host factors such as extremes of age, underlying disease, treatment for complex diseases, immunosuppression and whether the patient is the recipient of an organ and tissue transplant.

Definition

Polypharmacy is 'the prescription, administration, or use of more medications than are clinically indicated in a given patient' (Charles & Lehman 2010, p. 262).

Now visit the companion website and test yourself on this chapter:
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Each chapter ends with a **conclusion** to consolidate learning, a reminder to test yourself on the **website** and a list of **references**.

Conclusion

The nursing assessment of the patient is complex as it involves using different methods to gather information on diverse aspects of patient care across a range of acute and chronic healthcare situations. Nursing assessment generates information that is used to inform nursing actions and interventions. From this information, the patient's problems are identified, further investigations to determine the cause of the problem are selected, and decisions are made about what observations need to be tracked and which referrals to other healthcare professionals are needed.

The pace at which nursing assessment is carried out is determined by the patient's condition and whether it is an emergency, the level of patient distress, how quickly the patient's condition is deteriorating, whether the patient's condition is stable or unstable, and whether the patient is presenting with an acute or chronic illness. The principles of nursing assessment in this chapter are intended to serve as a framework to guide nurses in organising their patient assessment. The key to nursing assessment, however, is to listen to the patient and work towards an understanding of the nature of the healthcare problem from the patient's perspective.

A useful **glossary** can be found at the end of Chapter 2 (Principles of drug administration).

Glossary

This chapter contains some difficult terminology. Rather than disrupt the text with explanations, we have added a short glossary.

Angiotensin-converting enzyme (ACE) inhibitors	ACEs, e.g. enalapril and lisinopril, are prescribed for hypertension or heart failure (see Jordan 2005)
Adverse drug reactions (ADRs)	ADRs are any unwanted and unintended responses in patients or investigational subjects to a medicinal product that is related to any dose administered. Serious ADRs are those that result

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Part 1

Common Principles Underlying Medical and Surgical Nursing Practice

Chapter 1	Principles of nursing assessment	2
Chapter 2	Principles of drug administration	12
Chapter 3	Principles of intravenous therapy	26
Chapter 4	Principles of nutritional care	44
Chapter 5	Principles of infection prevention and control	58
Chapter 6	Principles of acute care for older people	78
Chapter 7	Principles of end of life care	90
Chapter 8	Principles of perioperative nursing	104
Chapter 9	Principles of high-dependency nursing	124
Chapter 10	Principles of emergency nursing	142

1

Principles of nursing assessment

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Contents

Introduction	3	Documenting patient assessment and	
The purpose of nursing assessment	3	record-keeping	9
Assessment frameworks	4	Conclusion	10
Methods of assessment	6	References	10
Rapid assessment of the acutely ill patient	8		

Learning outcomes

This chapter will examine the WHY, WHAT, HOW questions of nursing assessment. It will enable you to ask:

- **Why** – to explain the purpose of nursing assessment and why it is vital to quality patient care
- **What** – to consider what patient information is collected and the rationale for using an assessment framework
- **How** – to identify a range of methods available to assess patients and collect information that support clinical decision-making and individualised patient care plans.

Introduction

3

Assessment is the first step in determining the condition of the patient's health and their immediate and long-term needs. The nursing assessment of patients on admission to hospital or on attendance at clinics is key to clinical decision-making and to planning patient care that takes account of the individual patients' needs and circumstances. Nurses have responsibility for carrying out the initial and ongoing patient assessments, for initiating interventions that take patients' needs into consideration and for evaluating the effectiveness of these interventions.

The nursing assessment is one component within a larger, multidisciplinary team assessment during which the patient is assessed by different healthcare professionals as part of the care pathway and patient referral process. A multifactorial assessment of the older person for falls, for example, can involve the nurse, doctor, physiotherapist, occupational therapist, optician and other healthcare professionals working in specialist areas of practice such as cardiac assessment. As a member of the multidisciplinary team, the nurse often plays a key role in coordinating the patient assessment and ensuring that appropriate referrals are made and followed up.

The principles of nursing assessment presented in this chapter are in line with the national guidelines from the professional nursing board in Ireland, *An Bord Altranais*, and in the UK the Nursing and Midwifery Council (NMC). The principles need to be read in conjunction with local policies and procedures for the nursing assessment, which are usually set by the hospital or healthcare employer. At ward or unit level, more specific assessment procedures may apply; for example, cerebrovascular or stroke units may include an assessment of swallowing and mood as part of the assessment of a patient newly diagnosed with a cerebrovascular accident – a stroke.

The purpose of nursing assessment

Assessment is the first stage in the nursing process and is key to developing a care plan that is tailored to a patient's individual needs (Figure 1.1).

The purpose of assessment is to achieve the following:

- **Obtain baseline data and track changes.** On admission to hospital or on a first visit to the clinic, it is important to carry out a comprehensive assessment of the patient to establish a set of baseline data against which subsequent assessments can be compared and any changes indicating a deterioration or improvement in the patient's condition tracked.
- **Early recognition of the critically ill or deteriorating patient.** Identifying patients who are 'at risk' is key to initiating a rapid response from the medical emergency or rapid response team. 'Track and Trigger' (e.g. Alert® and other early warning systems) incorporate objective physiological and subjective criteria that can be used to support the nurse's decision about when to call the medical team for help and avert more serious patient emergencies (National Institute for Health and Clinical Excellence [NICE], 2007). If a Track and Trigger system has not been set up in the hospital, a nurse who is concerned about a patient should take urgent action and notify the medical team.
- **Risk assessment.** Assessment is the first step in preventing complications, the aim being to identify patients who are 'at risk' of developing complications associated with their healthcare problem, hospitalisation and reduced mobility. Key areas for risk assessment include pressure ulcers, infection, falls and constipation. Local hospital policy may include risk assessment tools as part of the admission procedure, for example the Braden, Waterlow and Norton scores to identify patients at risk of pressure ulcers and to activate an action plan and interventions to prevent pressure ulcers developing.
- **Screening for health problems.** Nursing assessment provides an ideal opportunity for health promotion and for screening patients for risk factors associated with obesity, cancer, cardiovascular disease, diabetes mellitus and other major Irish and UK health problems. It also provides the opportunity to screen for specific problems such as emotional distress or organisms important in infection control (e.g. methicillin-resistant *Staphylococcus aureus* [MRSA] and vancomycin-resistant *Enterococcus* [VRE]).

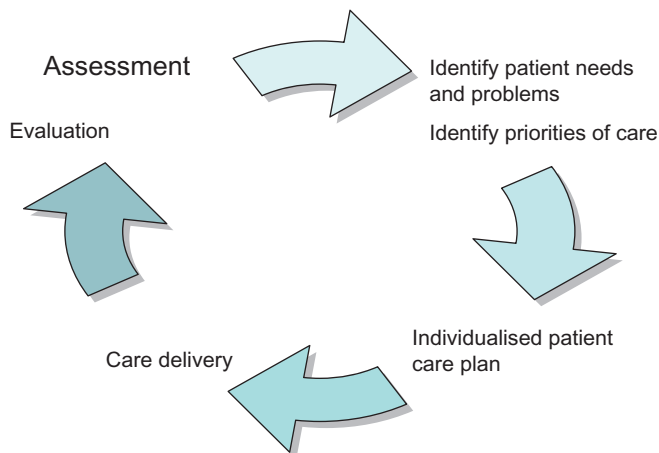


Figure 1.1 Assessment – the first stage in the process of planning patient care.

- **Identify actual and potential problems and prioritise care.** The patient’s current problems (actual problems) and problems that could develop in the future (potential problems) need to be identified so that the care plan can be tailored to individual patient needs. Importantly, once the range of patient problems has been identified, care can be prioritised so that major problems are dealt with first.
- **Care planning, tailored to individual patient needs.** The purpose of assessment is not only to determine and document the patient’s current condition, but also to provide evidence for the planning and provision of nursing care. Although standardised care plans are available in some units or hospitals, the nursing actions that are required to meet a patient’s needs and problems should be tailored to take account of individual patient needs.
- **Discharge planning.** Patient assessment also includes the early identification of patients’ needs for forward planning and organising the supports and community services necessary to facilitate a timely discharge from hospital. Recent trends indicate that patients’ stay in hospital is shortening, the use of day surgery is increasing, and policies on early discharge and discharge planning are setting the standards for healthcare practice (Capelastegui *et al.* 2008; Saczynski *et al.* 2010; Shepperd *et al.* 2010). Although the reasons for a delay in discharging the patient home from hospital are multifactorial, patient assessment that includes information about the patient’s home and social circumstances, family and community supports will help prevent problems arising from a poor knowledge of a patient’s home situation or the support available, and will avert delays related to non-medical reasons.

Assessment frameworks

An important principle underpinning the nursing approach to patient assessment is that it is systematic, comprehensive and person-centred. Many of the assessment frameworks used in clinical practice are linked to nursing theories such as the activities of living (Roper *et al.* 2000) or the self-care deficit theory of nursing (Orem 2001), or to other theory including Maslow’s (1999) hierarchy of needs.

Nursing models and theories serve as a guide for clinical practice and provide for a structured approach insofar as they map out what areas to include in a patient assessment. The number of new or modified assessment frameworks for nursing practice is ever increasing, but a common feature across different nursing assessments is the inclusion of the core aspects of physical, psychosocial and spiritual assessment within the context of family, community and environment (Figure 1.2). The decision of which assessment framework to use is made by healthcare organisations and nursing management, who then oversee its implementation in their admission procedures and nursing documentation. This is important because it provides a way of assuring a standardised approach to nursing assessment and quality patient care.

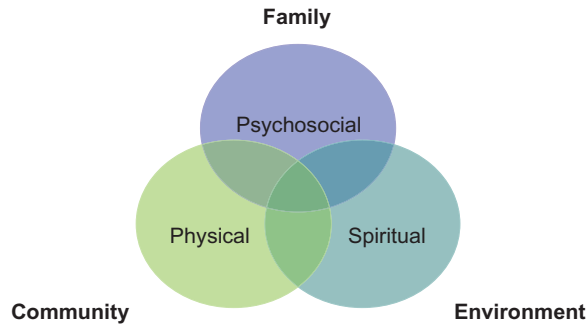


Figure 1.2 Key aspects to include in a patient assessment.

In terms of how this translates into practice and what information is gathered during the nursing assessment, the broad areas to consider include biographical and health data, a systematic review of patient systems and functions, and a social assessment:

- **Biographical and health data.** Obtaining information about the patient's health history is vital for putting the current problem or illness into context (Kaufman 2008).

Assessment of in relation to the following aspects
<ul style="list-style-type: none"> The patient's understanding of the reason for admission Biographical and contact details Religion Past medical and surgical history Previous history of healthcare-associated infections, e.g. MRSA, VRE and <i>Clostridium difficile</i> Allergies Drugs and medications The patient's knowledge of hospital policy, such as visiting, patients' property and valuables 	<ul style="list-style-type: none"> Identifying significant information that affects current health status and care-planning

- **Patient assessment.** This involves a 'head-to-toe' systematic review of the patient. A review of systems and functions enables the nurse to elicit information about problems and provide vital clues to support a clinical diagnosis or uncover a problem of which the patient is unaware. The depth of the patient assessment will depend on the patient's condition and the urgency of the clinical situation (Tagney 2008).

Assessment of in relation to the following aspects
<ul style="list-style-type: none"> Breathing; smoking history Cardiovascular system Communication Diet, nutrition and hydration Elimination Mobility Personal hygiene Skin condition Sleep patterns Sexual health Concerns, anxieties, fears and mood 	<ul style="list-style-type: none"> The key problem as identified by the patient Changes in function Coping strategies in dealing with changes Level of dependence/independence The patient's normal activity, function and behaviour Health beliefs and lifestyle behaviour Preventive health measures including screening and immunisation

- **Social assessment.** Taking a social history enables an early identification of patients' needs and problems that might delay discharge from hospital. Social history-taking is not always considered a priority in acute healthcare services, but it helps nurses to identify the patient's needs so that appropriate referrals can be made to the health and social services and service delivery is coordinated (Atwal 2002).

Assessment of in relation to the following aspects
Marital status Occupation Whether the patient is living alone or with others, has a carer or is providing care for another person Social networks and supports Housing or accommodation situation Informal support from family, neighbours or voluntary community groups Current community or home services – does the patient have a home help or meals-on-wheels, go to a day centre or receive support from a public health (or community) nurse or other personnel? Access to shops for food, chemist, doctor, dentist, health clinic, bank/post office Access to exercise or sports facilities	Impact of the health problem on work, day-to-day living, lifestyle and family Coping strategies – how the patient currently manages to deal with problem Current supports used by the patient Identification of unmet support service needs



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Methods of assessment

The methods of assessment that are used to gather the information for clinical decision-making include interviewing the patient and obtaining a health history, carrying out a physical examination, making clinical observations and using risk assessment tools.

Interviewing and obtaining a health history

Taking a patient history is an essential part of assessment as an accurate history can provide over 80% of the information required for diagnosis (Epstein *et al.* 2008). Obtaining an accurate history is not just about asking a list of questions, but also requires establishing an effective patient–nurse relationship in which the patient feels that the nurse is interested in understanding their healthcare problems (Elliott 2010). This involves putting patients at their ease, providing as much privacy as possible, ensuring the nurse is familiar with any information already gathered, being sensitive to cultural differences and inviting patients to tell their story (Tagney 2008).

Once the introductions have been completed, obtaining a health history begins with inviting the patient to tell their story and using an open question such as, *'Can you tell me what has brought you here today?'* After an explanation has been given, the nurse moves to asking key and targeted questions to build up a comprehensive picture of the patient's problem: *'How has it affected you? Have you noticed what makes it worse or what helps? Have you noticed any changes in . . . ? How does this compare with previous times you have had this problem?'* More targeted questions are used to focus on eliciting whether there are any associated symptoms so the nurse needs to be familiar with the patterns associated with specific health problems.

Investing in the end of the interview and considering the closing questions is vital to ensuring ongoing continuity in the patient–nurse relationship in future consultations. Ending the interview involves