

Lewis's Medical-Surgical Nursing 6e

Assessment and Management
of Clinical Problems

Australia and New Zealand Edition

Di Brown
Thomas Buckley
Robyn L Aitken
Helen Edwards
Mariann M. Harding
Jeffrey Kwong
Debra Hagler
Courtney Reinisch



ELSEVIER

Evolve®

Student Resources on Evolve
Details Inside

Lewis's

Medical-Surgical Nursing 6e

Assessment and Management
of Clinical Problems

Australia and
New Zealand
Edition

Sample proofs © Elsevier Australia

Contents

Navigate the text by colour xiv
Text structure xv
Preface xvi
Acknowledgements xix
Contributors xx
Reviewers xxiv

SECTION 1

Concepts in nursing practice

Robyn L Aitken

1 The importance of nursing 2

Di Brown, Robyn L Aitken, Tom Buckley and
Helen Edwards; Mariann M. Harding

The evolution of nursing as an essential service in
Australia and New Zealand 4
Key aspects of nursing practice 4
Interprofessional teamwork 10
Influences on professional nursing practice 10
Person/patient-centred care 12
Informatics and technology 14
Evidence-based practice 16
Coordinating care between healthcare team
members 17
Conclusion 18

2 Patient safety and clinical reasoning: Thinking like a nurse 21

Di Brown

Patient safety 21
Clinical reasoning 24
Keeping yourself safe at work 34

3 Stress and stress management 38

Margaret R. Ratea; Monica Rückholdt and Thomas Buckley

Theoretical models of stress 38
Types of stress 39
Factors affecting response to stress 39
Physiological adaptive responses to stress 40
Mind–body–spirit connection 42
Effects of stress on health 42
Stress management and coping strategies 44

4 Health inequities and cultural care 52

Robyn L Aitken; Andrew Scanlon and Courtney Reinisch

Determinants of health 52
Health inequality and health inequity 53
Why does culture matter in healthcare? 65
Cultural care and health services 66
Cultural diversity in the healthcare workplace 67
Cultural/social factors that may affect health and
healthcare 68

Nursing management: Reducing health inequities and
increasing cultural competence 70

5 Working with Indigenous peoples of Australia and New Zealand 76

Robyn L Aitken

Aboriginal and Torres Strait Islander people and health 76
Māori people and health 78

Respect for Indigenous people 79
Communication 81
Closing the gap between Indigenous and non-
Indigenous health in Australia 82
Creating a culturally secure healthcare environment 84
Reflection 87
Racism 87
Summary 89

6 Pain management 92

Sarah Grant and Michelle Freeling; Jessica I. Goldberg and
William E. Rosa

Contexts of pain management 92
Definitions of pain 94
Classification of pain 99
Nociceptive pain 99
Pain assessment 101
Principles of pain management 104
Managing pain in special populations 120
Contemporary issues 123

7 Palliative care 127

Katrina Margaret Breaden; Amisha Parekh de Campos,
Shila Pandey and William E. Rosa

Introduction 127
Palliative care: Definitions, frameworks, evidence and
practice 128
Definition of terms 128
Identifying transitions of care 129
Death 129
Physical symptoms at the end of life 130
Psychosocial symptoms at the end of life 131
Cultural challenges and spiritual needs in palliative
care 132
Legal and ethical issues affecting palliative care 134
Nursing management at the end of life 135
Special needs of carers in palliative care 140
Special needs of the nurse who cares for dying patients
and their families 143

8 Substance use and dependency 148

Robyn L Aitken; Mariann M. Harding

Tobacco, alcohol and other drugs 158
Vulnerable populations 176

9 Rural and remote area nursing 184

Robyn L Aitken; Sue Lenthall and Bev Mackay

Country characteristics 184
Rural and remote health service delivery and nursing
roles 187
Remote mental health 193
Interprofessional practice 193
Challenges and rewards 194

10 Autism and intellectual disability 199

Andrew Cashin

Introduction 199
Defining autism spectrum disorder and intellectual
disability 199
Causation 203

vi CONTENTS

- Health and quality-of-life outcomes 203
- Aboriginal, Māori and Torres Strait Islander people 203
- Imperative of care in addition to person-centredness and citizenship 204
- Reasonable support 205
- Communication 206
- Adjustments to the healthcare environment 208
- Therapeutic interventions 208
- Professional practice: Nursing and interprofessional management 212

SECTION 2

Pathophysiological mechanisms of disease

Helen Edwards

11 Nursing management: Inflammation and wound healing 216

Catherine R. Ratliff; Kathleen Finlayson and Christina Parker

- Inflammatory response 216
- Nursing and interprofessional management: Inflammation 219
- Healing process 221
- Nursing and interprofessional management: Wound healing 224
- Pressure injuries 230
- Nursing and interprofessional management: Pressure injuries 231

12 Genetics and genomics 239

Janice Smolowitz and Marybeth Duffy; Kim Alexander

- Basic principles of genetics 239
- Genetic mutations (genetic variation) 241
- Human Genome Project 244
- Genetic disorders 244
- Genetic testing 245
- Genetic technology 247
- Pharmacogenetics and pharmacogenomics 248
- Gene therapy 249

13 Altered immune responses and transplantation 253

Thuy Lynch, Yeow Chye Ng, and Haley Hoy; Helen Anderson

- Normal immune response 253
- Altered immune response 259
- Allergic disorders 263
- Nursing management: Immunotherapy 266
- Nursing and interprofessional management: Latex allergies 268
- Autoimmunity 269
- Immunodeficiency disorders 270
- Human leucocyte antigen system 271
- Organ transplantation 272
- Stem cell therapy 276
- Graft-versus-host disease 277

14 Nursing management: Infectious diseases and healthcare-associated infections 279

Samantha Lavender; Jeffrey Kwong

- Infection and infectious disease 279
- The chain of infection 281
- When infection strikes: the immune response 283
- Healthcare-associated infection 285
- COVID-19 296

- Human immunodeficiency virus infection 300
- Conclusion 304

15 Cancer 308

Susan Doyle-Lindrud; Patsy Yates

- Interprofessional Care 318
- Nursing management: Chemotherapy and radiation therapy 325
- Nursing management: Immunotherapy and targeted therapy 334
- Complications Resulting from Cancer 337
- Coping with Cancer and Treatment 341

16 Nursing management: Fluid, electrolyte and acid-base imbalances 345

Margaret R. Rateau; James A Hughes

- Homeostasis 345
- Water content of the body 345
- Electrolytes 346
- Mechanisms controlling fluid and electrolyte movement 347
- Fluid movement in capillaries 349
- Fluid spacing 350
- Regulation of water balance 350
- Fluid volume imbalances 351
- Sodium imbalances 354
- Potassium imbalances 356
- Calcium imbalances 359
- Phosphate imbalances 361
- Magnesium imbalances 362
- Acid-base imbalances 362
- Assessment of fluid, electrolyte and acid-base imbalances 367
- Oral fluid and electrolyte replacement 369
- IV fluid and electrolyte replacement 369
- Central venous access devices 371

SECTION 3

Perioperative care

Robyn L Aitken

17 Nursing management: Preoperative care 380

Jed Duff; Janice A. Neil

- Surgical settings 380
- Patient interview 381
- Nursing assessment of the preoperative patient 381
- Culturally competent care for the preoperative patient 395

18 Nursing management: Intraoperative care 398

Paula Foran and Fiona Newman; Kimberly Day and Debra Hagler

- Infection control and physical environment of the operating suite 398
- Surgical team 400
- Nursing management: Patient before surgery 402
- Nursing management: Patient during surgery and room preparation 404
- Transferring the patient 404
- Surgical hand antisepsis, gowning and gloving 404
- Anaesthesia 406
- Future considerations 412

19 Nursing management: Postoperative care 416

Paula Foran; Diane M. Rudolphi

- Immediate postoperative care of the surgical patient 416
- Nursing management: Respiratory complications 423

Nursing management: Cardiovascular complications	424
Nursing management: Neurological complications	424
Nursing management: Pain and discomfort	425
Nursing management: Thermoregulation	427
Nursing management: Nausea and vomiting	427
Continued care of the postoperative patient in the surgical unit/inpatient ward	428
Nursing management: Respiratory complications	429
Nursing management: Cardiovascular complications	431
Nursing management: Urinary complications	432
Nursing management: Gastrointestinal complications	433
Nursing management: Surgical wounds	434
Nursing management: Pain	435
Nursing management: Altered temperature	436
Nursing management: Neurological and psychological problems	437

SECTION 4

Problems related to altered sensory input

Robyn L Aitken

20 Nursing assessment: Visual and auditory systems 444

Mariann M. Harding; Robyn L Aitken and Thomas Buckley

Visual System 444

Structures and functions of the visual system 444

Auditory System 455

Structures and functions of the auditory system 455

21 Nursing management: Visual and auditory problems 464

Mariann M. Harding; Di Brown

Visual Problems 464

Nursing management: Visual impairment 466

Extraocular Disorders 468

Nursing management: Inflammation and infection 470

Intraocular Disorders 471

Nursing management: Cataracts 473

Nursing management: Glaucoma 478

Auditory Problems: External Ear and Canal 481

Nursing and interprofessional management:

External otitis 481

Middle Ear and Mastoid Problems 482

Nursing and interprofessional management:

Chronic otitis media 483

Inner Ear Problems 484

Nursing and interprofessional management:

Ménière's disease 484

Nursing and interprofessional management:

Hearing loss and deafness 486

22 Nursing assessment: Integumentary system 495

Margaret R. Rateau; Victoria Team

Structures and functions of the skin and appendages 495

Assessment of the integumentary system 498

Diagnostic studies of the integumentary system 506

23 Nursing management: Integumentary problems 510

Victoria Team; Mary M. Cameron

Health promotion 510

Malignant skin neoplasms 514

Non-melanoma skin cancers 515

Malignant melanoma 516

Skin infections and infestations 518

Allergic dermatological problems 522

Benign dermatological problems 522

Diseases with dermatological symptoms 525

Interprofessional care of dermatological problems 525

Nursing management: Dermatological problems 530

Cosmetic procedures 531

Nursing management: Cosmetic surgery 533

Skin grafts 533

24 Nursing management: Burns 537

Cecilia Bidigare; Robyn L Aitken and Sharon Rowe

Phases of burn management 544

Nursing and interprofessional management:

Emergent phase 549

Nursing and interprofessional management:

Acute phase 556

Nursing and interprofessional management:

Rehabilitation phase 560

SECTION 5

Problems of oxygenation: Ventilation

Thomas Buckley

25 Nursing assessment: Respiratory system 568

Samantha J. Bonaduce; Sarah Kourouche and

Thomas Buckley

Structures and functions of the respiratory system 568

Assessment of the respiratory system 573

Diagnostic studies of the respiratory system 587

26 Nursing management: Upper respiratory problems 594

Janice A. Sarasnick; Sarah Kourouche

Problems of the nose and paranasal sinuses 594

Nursing and interprofessional management: Epistaxis 596

Nursing and interprofessional management: Allergic rhinitis 597

Nursing and interprofessional management: Acute viral rhinitis 598

Nursing and interprofessional management: Sinusitis 600

Obstruction of the nose and sinuses 601

Nursing management: Nasal surgery 601

Problems of the pharynx 601

Nursing and interprofessional management:

Acute pharyngitis 601

Problems of the trachea and larynx 602

Nursing management: Tracheostomy 602

Head and neck cancer 608

Nursing management: Head and neck cancer 611

27 Nursing management: Lower respiratory problems 617

Eugene E. Mondor; Sarah Kourouche

Lower respiratory tract infections 617

Acute bronchitis 617

Influenza 618

Nursing and interprofessional management: Influenza 618

COVID-19 619

Pertussis 619

Pneumonia 620

Nursing management: Pneumonia 624

Tuberculosis 625

Nursing management: Tuberculosis	630
Atypical mycobacteria	631
Pulmonary fungal infections	631
Lung abscess	631
Nursing and interprofessional management: Lung abscess	632
Environmental/occupational lung diseases	632
Lung cancer	633
Nursing management: Lung cancer	637
Chest trauma and thoracic injuries	639
Pneumothorax	639
Fractured ribs	641
Flail chest	641
Chest tubes and pleural drainage	642
Nursing management: Chest drainage	644
Chest surgery	645
Restrictive respiratory disorders	647
Bronchiectasis	647
Pleural effusion	648
Pleurisy	649
Atelectasis	649
Interstitial lung diseases	649
Idiopathic pulmonary fibrosis	649
Sarcoidosis	649
Vascular lung disorders	649
Pulmonary oedema	649
Pulmonary embolism	650
Nursing management: Pulmonary embolism	651
Pulmonary hypertension	652
Idiopathic pulmonary arterial hypertension	652
Nursing and interprofessional management: Pulmonary hypertension	653
Secondary pulmonary arterial hypertension	653
Cor pulmonale	654
Lung transplantation	654
28 Nursing management: Obstructive pulmonary diseases	659
Eugene E. Mondor; Elliot Williams	
Asthma	659
Nursing management: Asthma	675
Chronic obstructive pulmonary disease	679
Nursing management: Chronic obstructive pulmonary disease	697
Nursing management: Cystic fibrosis	705
Bronchiectasis	705
Nursing management: Bronchiectasis	706
SECTION 6	
Problems of oxygenation: Transport	
Thomas Buckley	
29 Nursing assessment: Haematological system	712
Sandra Irene Rome; Shannon Philp	
Structures and functions of the haematological system	712
Assessment of the haematological system	719
Diagnostic studies of haematological system	726
30 Nursing management: Haematological problems	734
Sandra Irene Rome; Shannon Philp	
Anaemia	734
Nursing management: Anaemia	736
Anaemia caused by decreased erythrocyte production	738
Iron-deficiency anaemia	738
Nursing management: Iron-deficiency anaemia	740
Thalassaemia	740
Megaloblastic anaemia	741
Nursing management: Megaloblastic anaemia	743
Anaemia of inflammation (anaemia of chronic disease)	743
Aplastic anaemia	743
Nursing and interprofessional management: Aplastic anaemia	744
Anaemia caused by blood loss	744
Acute blood loss	744
Nursing management: Acute blood loss	745
Chronic blood loss	745
Anaemia caused by increased erythrocyte destruction	745
Sickle cell disease	746
Nursing and interprofessional management: Sickle cell disease	747
Acquired haemolytic anaemia	749
Other red blood cell disorders	750
Haemochromatosis—inherited iron overload disorder	750
Polycythaemia (erythrocytosis)	750
Nursing management: Polycythaemia vera	752
Problems of haemostasis	752
Thrombocytopenia	752
Nursing management: Thrombocytopenia	756
Haemophilia and von Willebrand disease	758
Nursing management: Haemophilia	760
Disseminated intravascular coagulation	760
Nursing management: Disseminated intravascular coagulation	763
Priority care problems	763
Neutropenia	763
Nursing and interprofessional management: Neutropenia	765
Myelodysplastic syndrome	767
Nursing and interprofessional management: Myelodysplastic syndromes	767
Leukaemia	767
Nursing management: Leukaemia	771
Lymphomas	773
Hodgkin lymphoma	773
Nursing and interprofessional management: Hodgkin lymphoma	775
Nursing management: Hodgkin lymphoma	776
Non-Hodgkin lymphoma	776
Nursing and interprofessional management: Non-Hodgkin lymphoma	777
Multiple myeloma	778
Nursing management: Multiple myeloma	779
Disorders of the spleen	780
Blood component therapy	780
SECTION 7	
Problems of oxygenation: Perfusion	
Thomas Buckley	
31 Nursing assessment: Cardiovascular system	792
Debra Hagler and Diana Rabbani Hagler; Thomas Buckley	
Structures and functions of the cardiovascular system	792
Assessment of the cardiovascular system	797
Diagnostic studies of the cardiovascular system	805

32 Nursing management: Hypertension 819

Rita Wermers; Di Brown

Normal regulation of blood pressure 819

Hypertension 821

Nursing management: Primary hypertension 833

Hypertensive crisis 836

Nursing and interprofessional management:

Hypertensive crisis 837

33 Nursing management: Coronary artery disease and acute coronary syndrome 842

Rose B. Shaffer; Thomas Buckley and Jacqueline Colgan

Coronary artery disease 842

Nursing and interprofessional management: Coronary artery disease 849

Angina 854

Acute coronary syndrome 861

Nursing management: Chronic stable angina and acute coronary syndrome 868

Sudden cardiac death 875

Nursing and interprofessional management: Sudden cardiac death 875

34 Nursing management: Heart failure 879

Vera Barton-Maxwell; Linda Soars

Heart failure 879

Nursing management: Heart failure 893

Cardiac transplantation 897

35 Nursing management: ECG monitoring and arrhythmias 901

Kimberly Day; Thomas Buckley

Rhythm identification and treatment 901

ECG changes associated with acute coronary syndrome 920

Syncope 921

36 Nursing management: Inflammatory and structural heart disorders 924

Patricia Keegan; Nicola Straiton

Inflammatory disorders of the heart 924

Nursing management: Infective endocarditis 927

Nursing management: Acute pericarditis 931

Nursing and interprofessional management: Chronic constrictive pericarditis 931

Nursing management: Myocarditis 932

Nursing management: Rheumatic fever and rheumatic heart disease 934

Valvular heart disease 935

Nursing management: Valvular disorders 941

Cardiomyopathy 942

Nursing and interprofessional management: Dilated cardiomyopathy 943

Nursing and interprofessional management:

Hypertrophic cardiomyopathy 944

Nursing and interprofessional management: Restrictive cardiomyopathy 945

37 Nursing management: Vascular disorders 948

Kimberly Day; Julee McDonagh and Caleb Ferguson

Peripheral artery disease 948

Nursing management: Lower-extremity peripheral artery disease 953

Aortic aneurysms 956

Nursing management: Aortic aneurysms 959

Nursing management: Aortic dissection 962

Venous disorders 962

Nursing management: Venous thromboembolism 969

Nursing management: Varicose veins 973

Nursing management: Chronic venous insufficiency and venous leg ulcers 974

SECTION 8

Problems of ingestion, digestion, absorption and elimination

Di Brown and Thomas Buckley

38 Nursing assessment: Gastrointestinal system 980

Kara Ann Ventura; Ali Moloney

Structures and functions of the gastrointestinal system 980

Assessment of the gastrointestinal system 987

Diagnostic studies of the gastrointestinal system 996

39 Nursing management: Nutritional problems 1005

Mariann M. Harding; Elizabeth Denney-Wilson

Nutritional problems 1005

Normal nutrition 1005

Special diet: Vegetarian diet 1008

Culturally competent care: Nutrition 1008

Malnutrition 1009

Nursing and interprofessional management: Malnutrition 1014

Types of specialised nutritional support 1016

Nursing management 1022

Eating disorders 1022

40 Nursing management: Obesity 1026

Mariann M. Harding; Narelle Story

Defining obesity 1026

Aetiology (causes) of obesity 1030

Weight stigma 1035

Health consequences of obesity 1036

Nursing and interprofessional management: Obesity 1038

Interprofessional care 1041

Nursing management: Perioperative care of the patient with obesity 1047

41 Nursing management: Upper gastrointestinal problems 1054

Kara Ann Ventura; Ann Framp

Nausea and vomiting 1054

Nausea and vomiting: Nursing assessment 1055

Oral inflammation and infections 1057

Oral cancer 1057

Nursing management: Oral cancer 1060

Oesophageal Disorders 1060

Gastro-oesophageal reflux disease 1060

Hiatus hernia 1065

Nursing and interprofessional management: Hiatus hernia 1065

Oesophageal cancer 1066

Nursing management: Oesophageal cancer 1067

Other oesophageal disorders 1068

Disorders of the Stomach and Upper Small**Intestine 1070**

Gastritis 1070

Nursing and interprofessional management: Gastritis 1071

Peptic ulcer disease 1071

x CONTENTS

- Nursing management: Peptic ulcer disease 1076
- Stomach cancer 1078
- Nursing management: Stomach cancer 1081
- Nursing management: Gastric surgery 1082
- Upper gastrointestinal bleeding 1083
- Nursing management: Upper gastrointestinal bleeding 1085
- Food-borne illness 1087
- 42 Nursing management: Lower gastrointestinal problems 1091**
- Mariann M. Harding; Ann Framp**
- Nursing management: Acute infectious diarrhoea 1093
- Nursing management: Faecal incontinence 1095
- Nursing management: Constipation 1097
- Nursing management: Acute abdominal pain 1100
- Chronic abdominal pain 1101
- Nursing and interprofessional management: Abdominal trauma 1103
- Inflammatory disorders 1103
- Nursing management: Appendicitis 1104
- Nursing management: Peritonitis 1105
- Nursing management: Inflammatory bowel disease 1112
- Nursing management: Intestinal obstruction 1114
- Nursing management: Colorectal cancer 1119
- Nursing management: Ostomy surgery 1122
- Nursing and interprofessional management: Diverticulosis and diverticulitis 1126
- Nursing and interprofessional management: Hernias 1127
- Malabsorption syndrome 1127
- Anorectal problems 1130
- Nursing management: Haemorrhoids 1131
- 43 Nursing management: Liver, pancreas and biliary tract problems 1137**
- Mary C. Olson and Christine M. Cervini; Ann Framp**
- Disorders of the liver 1137**
- Hepatitis 1137
- Nursing management: Viral hepatitis 1145
- Alcohol-, medication- and chemical-induced liver diseases 1147
- Autoimmune, genetic and metabolic diseases 1148
- Cirrhosis 1148
- Nursing management: Cirrhosis 1156
- Acute liver failure 1159
- Nursing and interprofessional management: Acute liver failure 1159
- Liver cancer (hepatocellular cancer) 1160
- Nursing and interprofessional management: Liver cancer 1160
- Liver transplantation 1161
- Disorders of the Pancreas 1162**
- Acute pancreatitis 1162
- Nursing management: Acute pancreatitis 1165
- Chronic pancreatitis 1166
- Nursing management: Chronic pancreatitis 1167
- pancreatic cancer 1167
- Nursing management: Pancreatic cancer 1168
- Disorders of the Biliary Tract 1168**
- Cholelithiasis and cholecystitis 1168
- Nursing management: Gallbladder disease 1172

SECTION 9

Problems of urinary function

Di Brown

44 Nursing management: Urinary system 1178

Teresa Turnbull; Ann Bonner

- Structure and function of the urinary system 1178
- Assessment of the urinary system 1183
- Diagnostic studies of the urinary system 1189

45 Nursing management: Renal and urological problems 1199

Cynthia Ann Smith; Ann Bonner

- Infectious and inflammatory disorders of the urinary system 1199
- Nursing management: Urinary tract infection 1202
- Nursing management: Acute pyelonephritis 1205
- Nursing management: Interstitial cystitis/painful bladder syndrome 1207
- Immunological disorders of the kidney 1208
- Nursing and interprofessional management: Acute post-streptococcal glomerulonephritis 1208
- Nursing management: Nephrotic syndrome 1210
- Obstructive uropathies 1211
- Nursing management: Urinary tract calculi 1215
- Renal trauma 1217
- Renal vascular problems 1217
- Hereditary kidney diseases 1218
- Nursing and interprofessional management: Polycystic kidney disease 1218
- Urinary tract tumours 1219
- Nursing and interprofessional management: Kidney cancer 1220
- Nursing and interprofessional management: Bladder cancer 1221
- Bladder dysfunction 1222
- Nursing management: Urinary incontinence 1226
- Nursing management: Urinary retention 1227
- Catheterisation 1227
- Surgery of the urinary tract 1230
- Nursing management: Urinary diversion 1232

46 Nursing management: Acute kidney injury and chronic kidney disease 1236

Hazel A. Dennison; Ann Bonner

- Nursing management: Acute kidney injury 1241
- Nursing management: Chronic kidney disease 1252
- Dialysis 1254
- Kidney Transplantation 1262
- Nursing management: Kidney transplant recipient 1264

SECTION 10

Problems related to regulatory and reproductive mechanisms

Di Brown

47 Nursing assessment: Endocrine system 1272

Julia A. Hitch; Di Brown

- Structures and functions of the endocrine system 1272
- Assessment of the endocrine system 1279

48 Nursing management: Diabetes mellitus 1294

Jane K. Dickinson; Toni Slotnes-O'Brien

Diabetes mellitus 1294

Culturally competent care: Diabetes mellitus 1314

Nursing management: Diabetes mellitus 1314

Acute complications of diabetes mellitus 1319

Diabetic ketoacidosis 1320

Hyperosmolar hyperglycaemic syndrome 1323

Nursing management: Diabetic ketoacidosis and hyperosmolar hyperglycaemic syndrome 1324

Nursing and interprofessional management:

Hypoglycaemia 1325

Chronic complications of diabetes mellitus 1325

49 Nursing management: Endocrine problems 1335

Ann H. Crawford; Julie Heatherington

Disorders of the anterior pituitary gland 1335

Nursing management: Acromegaly 1338

Nursing and interprofessional management:

Hypopituitarism 1339

Disorders of the posterior pituitary gland 1339

Nursing and interprofessional management:

Syndrome of inappropriate antidiuretic hormone 1340

Nursing and interprofessional management:

Diabetes insipidus 1341

Disorders of the thyroid gland 1342

Nursing management: Hyperthyroidism 1347

Nursing management: Hypothyroidism 1350

Nursing and interprofessional management:

Thyroid cancer 1352

Disorders of the parathyroid glands 1352

Nursing management: Hyperparathyroidism 1354

Nursing and interprofessional management:

Hypoparathyroidism 1354

Disorders of the adrenal cortex 1355

Nursing management: Cushing's syndrome 1356

Nursing management: Addison's disease 1360

Nursing and interprofessional management:

Primary hyperaldosteronism 1363

Nursing and interprofessional management:

Pheochromocytoma 1363

50 Nursing assessment: Reproductive system 1367

Ashton T. Strachan; Virginia Stulz

Structures and functions of the male and female reproductive systems 1367

Assessment of male and female reproductive systems 1375

Diagnostic studies of reproductive systems 1383

51 Nursing management: Breast disorders 1391

Marion Strong; Deena D. Dell

Benign breast disorders 1393

Nursing and interprofessional management:

Fibrocystic changes 1394

Breast cancer 1395

Nursing management: Breast cancer 1411

Nursing management: Breast augmentation and reduction 1418

52 Nursing management: Sexually transmitted infections 1422

Donna Margaret Tilley and Shailendra Sawleshwarar;

Daniel P. Worrall

Bacterial infections 1423

Viral infections 1432

Other infections 1435

Nursing management: Sexually transmitted infections 1436

53 Nursing management: Female reproductive problems 1442

Robyn Schafer; Virginia Stulz

Nursing and interprofessional management:

Infertility 1442

Problems related to menstruation 1445

Nursing management: Premenstrual syndrome 1445

Nursing and interprofessional management:

Dysmenorrhoea 1446

Nursing management: Abnormal uterine

bleeding 1448

Nursing and interprofessional management: Ectopic

pregnancy 1449

Nursing management: Perimenopause and

postmenopause 1451

Infections of the lower genital tract 1451

Nursing management: Infections of the lower genital

tract 1453

Nursing management: Pelvic inflammatory

disease 1455

Chronic pelvic pain 1455

Nursing management: Endometriosis 1457

Benign tumours of the female reproductive system 1457

Nursing and interprofessional management:

Leiomyomas 1458

Cancers of the female reproductive system 1459

Nursing and interprofessional management: Cancers of

the female reproductive system 1464

Pelvic organ prolapse 1466

Nursing and interprofessional management: Pelvic

organ prolapse 1468

Nursing and interprofessional management:

Fistulas 1468

Sexual assault 1469

54 Nursing management: Male reproductive problems 1474

Anthony Lutz; Ann Bonner

Problems of the prostate gland 1474

Benign prostatic hyperplasia 1474

Nursing management: Benign prostatic hyperplasia 1479

prostate cancer 1482

Culturally competent care: Prostate cancer 1487

Nursing management: Prostate cancer 1488

Prostatitis 1489

Nursing and interprofessional management:

Prostatitis 1489

problems of the penis 1490

Congenital problems 1490

Problems of the prepuce 1490

Problems of the erectile mechanism 1490

Cancer of the penis 1491

Problems of the scrotum and testes 1491

Inflammatory and infectious problems 1491

Congenital problems 1491

Acquired problems 1492

Testicular cancer 1492

Nursing and interprofessional management: Testicular cancer 1493

Sexual function 1493

Erectile dysfunction 1494

Nursing management: Erectile dysfunction 1496

Hypogonadism 1496

Infertility 1496

Vasectomy 1497

SECTION 11

Problems related to movement and coordination

Di Brown

55 Nursing assessment: Nervous system 1502

Kristen J. Costello; Sonia Matiuk

Structures and functions of the nervous system 1502

Assessment of the nervous system 1517

Diagnostic studies of the nervous system 1526

56 Nursing management: Acute intracranial problems 1533

Kristen J. Costello; Jeanne Barr and Elizabeth

Mary O'Brien

Nursing management: Increased intracranial pressure 1542

Nursing management: Head injury 1550

Nursing management: Brain tumours 1556

Nursing management: Cranial surgery 1558

Inflammatory conditions of the brain 1559

Nursing management: Bacterial meningitis 1561

Nursing and interprofessional management: Encephalitis 1563

57 Nursing management: The patient with a stroke 1566

Michelle Bussard; Elizabeth Mary O'Brien and Jeanne Barr

Pathophysiology of stroke 1567

Risk factors for stroke 1568

Types of stroke 1569

Nursing management: Stroke 1579

58 Nursing management: Chronic neurological problems 1591

Cynthia Amerson; Sonia Matiuk

Headaches 1591

Nursing management: Headache 1596

Chronic neurological disorders 1597

Nursing management: Seizure disorders and epilepsy 1603

Nursing and interprofessional management: Restless legs syndrome 1606

Degenerative neurological disorders 1607

Nursing management: Multiple sclerosis 1611

Nursing management: Parkinson's disease 1618

Nursing management: Myasthenia gravis 1621

59 Nursing management: Cognitive impairment 1626

Allyson Waird; Janice Smolowitz

Aggression 1626

Delirium 1628

Depression 1634

Dementia 1635

Alzheimer's disease (AD) 1638

Other neurodegenerative diseases 1642

People with intellectual disabilities 1643

Care at home 1647

Advance care planning 1649

Palliative care 1649

60 Nursing management: Peripheral nerve and spinal cord problems 1653

Cranial nerve disorders 1653

Trigeminal neuralgia 1653

Kristen J. Costello; Rochelle Firth

Nursing management: Trigeminal neuralgia 1655

Bell's palsy 1655

Nursing management: Bell's palsy 1656

Polyneuropathies 1656

Guillain-Barré syndrome 1656

Nursing and interprofessional management:

Guillain-barré syndrome 1657

Tetanus 1658

Neurosyphilis 1658

Spinal cord problems 1658

Spinal cord injury 1658

Nursing management: Spinal cord injury 1667

Spinal cord tumours 1679

Poliomyelitis and post-polio syndrome 1680

61 Nursing assessment: Musculoskeletal system 1685

Colleen Walsh; Paul McLiesh

Structures and functions of the musculoskeletal system 1685

Risk factors in older people 1690

Assessment of the musculoskeletal system 1692

Diagnostic studies of the musculoskeletal system 1702

62 Nursing management: Musculoskeletal trauma and orthopaedic surgery 1708

Rebekah Filson; Paul McLiesh

Soft-tissue injuries 1709

Nursing management: General 1710

Nursing management: Sprains and strains 1710

Nursing and interprofessional management:

Dislocation 1712

Nursing and interprofessional management:

Carpal tunnel syndrome 1713

Nursing and interprofessional management:

Meniscus injury 1714

Nursing and interprofessional management:

Anterior cruciate ligament injury 1715

fractures 1715

Nursing management: Fractures 1722

Complications of fractures 1727

Types of fracture 1730

Nursing management: Hip fracture 1732

Nursing management: Mandibular fracture 1737

Nursing management: Amputation 1738

Common joint surgical procedures 1741

Nursing management: Joint surgery 1744

63 Nursing management: Musculoskeletal problems 1748

Paul McLiesh; Diane Ryzner

Nursing management: Osteomyelitis 1750

Bone tumours 1751

Nursing management: Bone cancer 1753
 Lower back pain 1755
 Nursing management: Acute lower back pain 1756
 Chronic lower back pain 1758
 Nursing and interprofessional management: Chronic lower back pain 1758
 Nursing management: Spinal surgery 1761
 Neck pain 1762
 Foot disorders 1762
 Nursing management: Foot disorders 1762
 Metabolic bone diseases 1764
 Nursing and interprofessional management: Osteoporosis 1767

64 Nursing management: Arthritis and connective tissue diseases 1773

Dottie Roberts; Di Brown

Nursing management: Osteoarthritis 1780
 Nursing management: Rheumatoid arthritis 1787
 Nursing management: Gout 1792
 Spondyloarthropathies 1793
 Nursing management: Ankylosing spondylitis 1795
 Nursing management: Systemic lupus erythematosus 1799
 Nursing management: Scleroderma 1803
 Nursing and interprofessional management: Polymyositis and dermatomyositis 1804
 Nursing management: Fibromyalgia 1807
 Nursing and Interprofessional Management: ME/CFS 1808

SECTION 12

Nursing care in specialised settings

Thomas Buckley

65 Nursing management: Critical care environment 1814

Eugene E. Mondor; Thomas Buckley

Critical care nursing 1814
 Culturally competent care: Critical care patients 1819
 Haemodynamic monitoring 1819
 Nursing management: Monitoring 1827
 Circulatory assist devices 1827
 Nursing management: Circulatory assist devices 1831
 Artificial airways 1831
 Nursing management: Artificial airway 1833
 Mechanical ventilation 1836
 Nursing management: Mechanical ventilation 1846
 Other critical care content 1846

66 Nursing management: Shock, systemic inflammatory response syndrome and multiple organ dysfunction syndrome 1849

Helen Miley; Frances Lin

Nursing management: Shock 1866
 Systemic inflammatory response syndrome and multiple organ dysfunction syndrome 1868

Nursing and interprofessional management: SIRS and MODS 1869

67 Nursing management: Respiratory failure and acute respiratory distress syndrome 1873

Eugene E. Mondor; Christopher Gordon

Acute respiratory failure 1873
 Nursing and interprofessional management: Acute respiratory failure 1880
 Acute respiratory distress syndrome 1885
 Nursing and interprofessional management: Acute respiratory distress syndrome 1889

68 Nursing management: Emergency care situations 1893

Elizabeth Leonard; Samantha J. Bonaduce and Mariann M. Harding

Environmental Emergencies 1902
 Poisonings/Toxicology 1913
 Major Incident and Disaster Preparedness 1916

69 Chronic illness and complex care 1924

Linda Soars

Chronic illness 1924
 Management of chronic illness 1926

70 Recognising and responding to the deteriorating patient 1940

Ken Hambrecht

Background 1940
 Patient safety 1941
 Assessing clinical deterioration 1944
 Rapid response systems 1950
 Communication and handover 1953

71 Cardiopulmonary resuscitation: Basic and advanced life support 1960

Ken Hambrecht

Defibrillation 1978
 Assessment and management of the unconscious patient 1980
 Advanced life support 1981
 Post-resuscitation care 1990
 Unsuccessful resuscitation 1990
 Future directions: new technology 1991

Index 1995

Navigate the text by colour

Clinical practice features highlight nursing assessment and implementation, including emergency management, health history, nursing assessment, focused assessment, assessment abnormalities, diagnostic studies, medication therapy, nutritional therapy, complementary and alternative therapies, and informatics in practice, along with patient teaching guides.

Professional practice features help students to appreciate the interprofessional nature of today's healthcare environment, highlight nursing responsibilities within the continuum of care, and promote critical thinking on a range of issues that students will encounter as they transition to professional practice.

Key information needed for effective clinical practice is presented in numerous other tables and boxes throughout the text.

NURSING ASSESSMENT

TABLE 6.4 Pain assessment

Subjective data	Objective data
-----------------	----------------

Medication Therapy

BOX 6.3 Managing side effects of pain medications

Side effects can be managed using one or more of the following methods:

- Most side effects are dose-dependent, which is why an effective and practical approach is to administer the lowest effective dose.
- Use a multimodal approach by combining medications with

EVIDENCE FOR PRACTICE

Postoperative pain experiences of central Australian Aboriginal women—what do we understand?

Purpose
The aim of this study was to explore the postoperative pain experiences of Central Australian Aboriginal women and the subsequent interpretation of that pain experience by non-Aboriginal female nurses.

TEAMWORK & COLLABORATION

TABLE 1.3 Elements of interprofessional teamwork

Element	Strategies
---------	------------

PROFESSIONAL PRACTICE

BOX 2.1 Key characteristics of the critical thinker

- **Open-minded**, having an appreciation of alternative perspectives, being willing to respect the right of others to hold different opinions, and understanding other cultural traditions to gain perspectives on self and others.
- **Inquisitive**, curious and enthusiastic in wanting to acquire

DIFFERENCES IN OLDER PEOPLE

TABLE 19.5 Auditory system changes with ageing

Changes in the auditory system	Differences in assessment
--------------------------------	---------------------------

HEALTH PROMOTION

Health impact of immunisation

- Can help control the spread of infections within communities.
- Can prevent disability and death from infectious disease for individuals.
- Reduces and can possibly eliminate polio, measles and other diseases with widespread use.

TABLE 3.1 Intervention strategies for reducing caregiver burden

Strategy	Benefit to caregiver
----------	----------------------

BOX 3.1 Factors affecting response to stress

Internal

- Age
- Health status
- Personality characteristics
- Previous experience with stressors
- Genetic background
- Resilience
- Hardiness

CASE STUDY

Substance use



Patient profile
Carla Miller, a 78-year-old woman, is brought to the emergency department at 9 pm after falling and injuring her right shoulder and arm. She has been widowed for 4 years and lives alone. Recently, her best friend died. Her only family is a daughter who lives out of town. When the nurse contacts the daughter by telephone, she tells the nurse that her mother has seemed increasingly disoriented and confused over the past year.

Subjective data

Carla Miller appears hesitant in talking and has slightly slurred speech. She reports:

Evidence for practice features present the findings from current research to improve patient outcomes along with the implications for nursing practice.

Population health/people at risk features highlight specific issues for different populations, including health promotion, health inequities, gender differences, differences in older people, and issues relating to genetic differences.

Case studies present examples of nursing assessment and management of medical–surgical problems within acute-care settings and the community.

GENETIC RISK ALERT

FOCUSED ASSESSMENT Cardiovascular system

Use this checklist to make certain the key assessment steps are done.

Subjective

Ask the patient about any of the following and note responses.

Genetic risk alerts call attention to important genetic risks.

MEDICATION ALERT

tacrolimus and cyclosporin (ciclosporin)

- A substance in grapefruit and grapefruit juice prevents the metabolism of these medications.
- Consuming grapefruit or grapefruit juice while using these medications could increase their toxicity.

Medication alerts draw attention to nursing considerations and cautions regarding specific agents.

SAFETY ALERT

When thrombolytic therapy is used, bleeding may occur.

- If signs and symptoms of major bleeding occur (e.g., increase in HR, a sudden change in the patient's level of consciousness, blood in the urine or stool), stop the therapy and notify the doctor.

Safety alerts highlight important safety considerations in nursing practice.

Text structure

The text is organised into 12 sections. Section 1 introduces a range of key healthcare concepts. Sections 2–12 are organised around two central themes—nursing assessment and nursing management.

Chapter 32

NURSING MANAGEMENT:

Coronary artery disease and acute coronary syndrome

Written by Rose Shaffer and Linda Bucher
Adapted by John Xavier Rolley

LEARNING OUTCOMES

1. Describe the aetiology and pathophysiology of coronary artery disease, angina and acute coronary syndrome.
2. Identify risk factors for coronary artery disease, and the nursing role in the promotion of therapeutic lifestyle changes in patients at risk.
3. Compare and contrast the precipitating factors, signs and symptoms, interprofessional care and nursing management of the patient with coronary artery disease and with chronic stable angina.
4. Describe the signs and symptoms, complications, diagnostic study results and interprofessional care of the patient with acute coronary syndrome.
5. Describe the pathophysiology of myocardial infarction from the onset of injury to the healing process.
6. Identify commonly used medication therapy for treating patients with coronary artery disease and acute coronary syndrome.
7. Identify key issues to include in the rehabilitation of patients recovering from acute coronary syndrome and coronary revascularisation procedures.
8. Describe the precipitating factors, clinical presentation and interprofessional care of patients who are at risk of or have experienced sudden cardiac death.

KEY TERMS

acute coronary syndrome (ACS), p. 829
angina, p. 822
atherosclerosis, p. 810
chronic stable angina, p. 823
collateral circulation, p. 811
coronary artery disease (CAD), p. 810
coronary revascularisation, p. 828
metabolic equivalent (MET), p. 842
myocardial infarction (MI), p. 830
percutaneous coronary intervention (PCI), p. 828
Prinzmetal's angina, p. 825
silent ischaemia, p. 823
stent, p. 829
sudden cardiac death (SCD), p. 844
unstable angina (UA), p. 830

Cardiovascular disease, which incorporates ischaemic heart disease and other vascular conditions, remains the major cause of death in Australia. Since 2003, with the decline in cardiovascular-related mortality, the gap is narrowing with New Zealand primary care guidelines⁴⁴ emphasise comprehensive risk assessment to enable the effective management of identified risk factors through lifestyle changes (e.g. weight management, smoking cessation and increasing physical activity).

Chapter opener identifies the chapter as either nursing management or nursing assessment

Learning objectives highlight the key content and what the student will attain from each chapter

Key terms are listed at the beginning of each chapter and appear in red in the text to emphasise essential terminology

Nursing assessment chapters begin with the structure and function of each body system to provide a brief review of skills and nursing considerations to promote an understanding of nursing care

Nursing management chapters focus on pathophysiology and signs and symptoms, and discuss diagnostic study results, interprofessional care and nursing management of various diseases and disorders

REVIEW QUESTIONS

1. A patient with hepatitis A is in the acute phase. The nurse plans care for the patient based on the knowledge that:
a. pruritus is a common problem with jaundice in this phase.
b. the patient is most likely to transmit the disease during this phase.
c. gastrointestinal symptoms are not as severe in hepatitis A as they are in hepatitis B.
d. extrahepatic symptoms of glomerulonephritis and polyarthritis are common in this phase.
2. A patient with acute hepatitis B is being discharged in 2 days. In the discharge teaching plan the nurse should include instructions to:
a. avoid alcohol for the first 3 weeks.
b. use a condom during sexual intercourse.
c. have family members get an injection of immunoglobulin.
d. follow a low-protein, moderate-carbohydrate, moderate-fat diet.
3. A patient has been told that she has elevated liver enzymes caused by non-alcoholic fatty liver disease (NAFLD). The nursing teaching plan should include:
a. having genetic testing done.
b. recommending a low-fat diet.
c. the necessity to reduce weight rapidly.
d. avoiding alcohol until liver enzymes return to normal.
4. The patient who is so swollen that knowledge of:
a. a lack of

REFERENCES

1. Hamlin L, Davies M. Medical aspects of perioperative nursing practice. In: Hamlin L, Davies M, Richardson-Tench M, et al, eds. *Perioperative Nursing: An Introductory Text*. 2nd ed. Sydney: Elsevier; 2016.
2. Mitchell M. General anaesthesia and day case patient anxiety. *J Adv Nurs*. 2010;66(5):1099–1071.
3. Colley DJ, Fiskery D, Fiskery MC, et al. Poor performance on a preoperative cognitive screening test predicts postoperative complications in older orthopedic surgical patients. *Anesthesiology*. 2014;120(6):1266–1276.
44. Ministry of Civil Defence and Emergency Management Te Kaitiaki Whakaitiaki. National civil defence and emergency management strategy. 2007. Wellington: Department of Internal Affairs; 2008. Available from: www.civildefence.govt.nz/assets/Uploads/publications/national-CDEM-strategy-2008.pdf. Accessed January 30, 2019.
54. Smith E. National disaster preparedness in Australia: before and after 9/11. *Australian J Physiother*. 2006;42(3). Available from: <https://ajp.physiotherapy.org.au/journals/view/376>.
55. New South Wales Government. Community Welfare Act 1987 No 52. Available from: www.legislation.nsw.gov.au/view/act/1987/52.html. Accessed February 17, 2019.

RESOURCES

Australian College of Critical Care Nurses (ACCCN)
www.acccn.org.au

Australian College of Emergency Medicine (ACEM)
www.acem.org.au

Australian Organ Donor Register
<https://www.organregister.gov.au/individuals/services/medical-australian-organ-donor-register>

Ministry of Civil Defence and Emergency Management
www.civildefence.govt.nz

National Poisons Centre Te Pūnaha Matua
www.poisons.org.nz

NSP Poisons Information Centre
www.nsp.org.nz/poisons

Queensland Poisons Information Centre
www.health.qld.gov.au/health-and-safety/poisons-information-centre

Western Australia Poisons Information Centre
www.wa.gov.au/poisons

Western Australia Poisons Information
www.sgph.health.wa.gov.au/OurServices

Structures and functions of skin and appendages

The integumentary system is the largest body organ and is composed of the skin, hair, nails and glands. The skin is further divided into two layers: the epidermis and the dermis. The subcutaneous tissue is located under the dermis (Figure 32.1).

The epidermis is the outermost layer of the skin. The dermis is the second skin layer, contains collagen bundles and supports the nerve and vascular network. The subcutaneous layer is composed primarily of fat and loose connective tissue.

Epidermis
The epidermis is the thin, avascular superficial layer of the skin. It is made up of an outer dead cornified portion that serves as a protective barrier and a deeper, living portion that folds into the dermis. Together these layers measure 0.05–0.1 mm in thickness. The epidermis is nourished by blood vessels in the dermis. The epidermis regenerates with new cells every 28 days. The two main types of epidermal cells are keratinocytes and melanocytes.

Epidermal cells
The keratinocytes are the most numerous cells in the epidermis. They are responsible for the production of keratin, a protein that gives the skin its strength and elasticity. Keratinocytes are synthesised from epidermal stem cells. Initially these cells are undifferentiated (keratinocytes), they move to the surface and die to form the outer skin layer (keratin). Keratinocytes produce a fibrous protein, keratin, which is essential to the skin's protective barrier function. Keratinocytes slough off too rapidly, the skin will erode. If new cells form faster than old cells are shed, the skin becomes scaly and thickened. Changes are reflected in many skin problems, such as psoriasis. Langerhans cells are found throughout the epidermis. The epidermis regenerates with new cells every 28 days.

Dermis
The dermis is the connective tissue below the epidermis. Dermal thickness varies from 1 to 4 mm. The dermis is divided into two layers, a deeper, thicker reticular layer and a thinner papillary layer. The dermis contains blood vessels, nerves, sweat glands, sebaceous glands and hair follicles.

AETIOLOGY AND PATHOPHYSIOLOGY

Despite numerous attempts to determine the cause of CS/SEID, the aetiology remains unknown. However, CS/SEID is linked to the hypothalamic-pituitary-gonadal (HPG) axis, which regulates the stress response and reproductive hormone levels. Several microorganisms have been investigated as aetiological agents, including herpes viruses (e.g. Epstein-Barr virus [EBV], cytomegalovirus [CMV]), retroviruses, enteroviruses, Coxsackieviruses and others. In patients with CS/SEID, it has been suggested that the immune system is overactive, leading to chronic inflammation.

SIGNS AND SYMPTOMS

CS/SEID is often difficult to diagnose. The patient may experience a variety of symptoms, including fatigue, muscle pain, joint pain, and difficulty concentrating. The patient may also experience a variety of physical symptoms, including skin rashes, hair loss, and weight changes. The patient may also experience a variety of psychological symptoms, including anxiety, depression, and social isolation.

Review questions offer an opportunity for consolidation of the main points in each chapter

References provide an up-to-date list of evidence-based sources and journal articles

Resources contain web links to nursing and healthcare organisations for current information on best practice and evidence-based guidelines

Preface

The sixth Australian and New Zealand (ANZ) edition of *Lewis's Medical - Surgical Nursing: Assessment and Management of Clinical Problems* builds on the combined strengths of the fifth ANZ edition and the twelfth US edition. It has been written to address the needs of ANZ students and educators. Professor Di Brown, Associate Professor Thomas Buckley, Professor Robyn L Aitken and Professor Helen Edwards have once again worked closely with a team of specialist nurse clinicians and academic contributors from across ANZ to develop this cutting-edge text.

The sixth edition has been thoroughly revised and incorporates the most recent nursing knowledge in an engaging and reader-friendly format. More than a textbook, this is a comprehensive resource containing essential information that students need in order to prepare for lectures, classroom activities, examinations, clinical assignments and the professional care of people and their families with healthcare needs. It is also an invaluable textbook for graduates who need a quick reference to refresh their knowledge, or have the opportunity to work in a new area of medical or surgical nursing, or who are supporting students in a clinical teaching or academic teaching role.

In addition to its accessible writing style and high-quality illustrations, the text provides special features to facilitate student learning such as evidence-based practice boxes, review questions and clinical reasoning exercises. Recurring topics include patient teaching guides, advice about care and considerations for older people, management of chronic and ongoing conditions, interprofessional care, considerations of cultural and ethnic diversity, nutrition, community and home-based care, and nursing research. Inclusion of the new chapter on 'Autism and intellectual disability' introduces readers to the concept of neurodiversity and the variations in thinking and information processing styles of a unique group of patients. The information in this chapter aims to equip nurses with an understanding of specific adaptations to medical or surgical nursing care that will optimise the experiences of these patients and their families. Inclusion of this chapter in the sixth edition comes from a strong imperative to provide inclusive care. The need to address poor health outcomes of other marginalised groups such as people who identify as LGBTQIA+ and people who face mental health challenges is also highlighted in this edition. Each chapter throughout the book also considers the specific vulnerabilities and cultural considerations that nurses should be cognisant of when caring for Māori, Aboriginal and Torres Strait Islander people and their families/whānau.

The use of the nursing process as an organising framework for nursing practice has been retained and new content has been added to reflect rapid changes in practice. The early chapters in the book have been extensively revised to reflect the contemporary and dynamic practice context that is not only influenced by global change, especially in recent years, but is also unique to nursing in the Australasian healthcare setting. These chapters also support development of capability in relation to the Australian Registered Nurse Standards for Practice and the New Zealand Registered Nurse Competencies. The chapters 'Recognising and responding to

the deteriorating patient' and 'Cardiopulmonary resuscitation: Basic and advanced life support' particularly reflect the latest evidence-based practice where Australia and New Zealand are at the forefront of the translation of research into clinical practice. Similarly, the thoroughly revised 'Substance use and dependency' chapter highlights how Australia and New Zealand are leading the way with a harm minimisation approach. The chapter on cognitive impairment and dementia responds directly to government-designated national health priorities in New Zealand and Australia and provides best practice, evidence-based resources and information that have been developed by local nursing researchers and others to assist users of this book to effectively recognise and support people who are suffering with cognitive impairment in both hospitals and the community.

Contributors have been selected for their expertise in specific areas, and clinical specialists have thoroughly reviewed each chapter to ensure accuracy, currency and regional relevance. This edition was written during the COVID-19 pandemic, so the editors considered that it was important to acknowledge both the challenges and the positive impacts that this infection has had on health, healthcare delivery and nursing care. Each contributor was asked to consider incorporating relevant content to enhance the content of the book, not just as a moment in time, but for the long-term improvement of nursing care and the profession of nursing. This edition, therefore, has been enriched by the COVID-19 experience. This edition also endeavours to extend medical and surgical nursing beyond the acute hospital setting, considering, where applicable, health promotion, disease prevention and primary healthcare nursing and interprofessional activities. The chapter on 'Rural and remote area nursing' includes a primary healthcare model of consultation that has been developed by and for Australian remote area nurses. Additionally, the chapter on 'Chronic illness and complex care', written specifically for the ANZ edition, highlights the principles of chronic disease self-management based on social cognitive theory, to assist people to integrate their own disease management as well as highlight the nurse's multiple roles within the chronic disease pyramid model.

In line with the contemporary approach to healthcare, this edition of the text aims to assist students to understand and apply the guidelines developed in Australia and New Zealand to improve medication safety by harmonising drug names so that they are consistent with World Health Organization guidelines, and thus similar across countries and across the world. This is a long-term process to ensure patient safety, and in this edition we have used both the old and the new names for the medications, written as 'old name (new name)'—for example, frusemide (furosemide).

Organisation

The content is organised into 12 sections. Section 1 (Chapters 1–10) introduces key healthcare concepts within Australia and New Zealand. Sections 2–12 (Chapters 11–71) present nursing assessment and nursing management of medical and surgical patient problems both within acute-care settings and within the community. The focus of each section is across the

whole trajectory of healthcare, including health promotion, risk assessment, management of acute and chronic conditions, and the various nursing roles and responsibilities, as well as the contribution of the interprofessional healthcare team. The various body systems are grouped to reflect their interrelated functions. Each section is organised around two central themes: assessment and management.

Chapters dealing with *assessment* of a body system include a discussion of the following:

1. A brief review of anatomy and physiology, focusing on information that will promote an understanding of nursing care
2. Health history and non-invasive physical assessment skills to expand the knowledge-base on which decisions are made
3. Common diagnostic studies, expected results and related nursing responsibilities to provide easily accessible information

Management chapters focus on the pathophysiology, signs and symptoms, diagnostic study results, interprofessional care and nursing management of various diseases and disorders. The sections on nursing management are organised into assessment, identification of priority care problems, planning, implementation and evaluation. To emphasise the importance of patient care in various clinical settings, nursing implementation of all major health problems is organised by the following levels of care:

1. Health promotion
2. Acute intervention
3. Ambulatory and community/home care

Classic features

- **Critical thinking, clinical judgement and clinical reasoning skills** (introduced in Chapter 2) are developed throughout the text. In Chapter 2, an applied framework for clinical decision-making provides students with a structured way to think about patient situations effectively. The use of multiple case studies at the end of each section enables students to practise prioritising care across a number of different patients. The multiple case studies and the individual ones in the assessment and management chapters are structured so that students are encouraged to use their clinical reasoning and judgement skills to plan and outline care priorities.
- **National patient safety and quality goals and standards** for both New Zealand and Australia are introduced in Chapter 2, and are then addressed in more detail in relevant chapters throughout the book. Important patient safety information such as medication interactions are highlighted within specific chapters.
- **Key epidemiological information** is provided to enable students to understand the incidence and prevalence of the various conditions in the Australian and New Zealand context. Vulnerable populations are identified, as are epidemiological changes that have occurred over time, including the emergence of new patterns of disease and improvements in population health that arise from health promotion activities and advancements in clinical care.
- **Priority care problems** outlined in each of the management chapters illustrate the interprofessional nature of contemporary healthcare practice.
- **Interprofessional care** is further highlighted in focused care sections in all management chapters and in more

than 80 interprofessional care boxes and tables throughout the text.

- **The whole trajectory of care**, from prevention and health promotion, through to the acute-care phase into rehabilitation and chronic disease management, is included where appropriate. Chapters have been thoroughly updated to reflect current nursing practice and include defining characteristics, expected patient outcomes, interprofessional care and specific nursing interventions with rationales. The book is structured to enable nursing students to gain a comprehensive understanding of the nursing role and the differences (and similarities) in nursing and other healthcare roles and functions. The information and structure of the chapters increases student understanding of the interprofessional nature of current healthcare practice and the roles that nurses play.
- **Patient and carer education** is an ongoing theme throughout the text. Coverage includes more than 80 patient teaching guides throughout the text.
- **The needs of older people** are included in each chapter where the differences in assessment and the effects of ageing are detailed. Chapter 59 provides a thorough explanation of delirium, dementia and depression in older adults who are admitted to an acute-care setting, using the latest research from Australian nurses who are world leaders in dementia care.
- **Nutrition** is highlighted throughout the book and in a separate chapter (Chapter 39). Nutritional therapy boxes and tables summarise nutritional interventions for patients with various health problems. Chapter 40 specifically focuses on obesity and the role and responsibilities of nurses in educating and caring for patients who are obese when they come into contact with healthcare providers.
- **Complementary and alternative therapies** boxes in various chapters summarise what nurses need to know about non-traditional therapies, such as herbal remedies and acupuncture.
- **Evidence for practice** boxes included throughout the text demonstrate how clinical research and evidence can be used to enhance clinical knowledge and nursing practice.
- **Culturally competent care** is covered in Chapter 4 in a way that encompasses the comprehensive set of congruent behaviours, attitudes and policies that enable nurses as professionals to work effectively in cross-cultural situations. It describes the continuum of cultural awareness, cultural respect, cultural safety, cultural security and cultural responsiveness. Each concept is then integrated into chapters throughout the book and, consistent with the content of Chapter 4, highlights health inequities across and within populations. The focus on Indigenous health in Chapter 5 ensures that the concepts developed in Chapter 4 are contextualised to the specific needs of Māori, Aboriginal and Torres Strait Islander people to ensure that new nursing graduates are better equipped to provide care in line with the specific needs of First Nations populations of Australia and New Zealand.
- **Rural and remote area nursing** is covered in Chapter 9, and not only continues the theme of population health but also presents the unique influence that geography and climate have on people's health in rural and remote Australia and New Zealand. Burden of disease is described, acknowledging multiple contributing factors

including access to healthcare services, cultural diversity, chronic disease, mental health, injury and trauma. The specialist skills required by nurses working in rural and remote settings are identified along with the challenges and rewards of working and living in tightly knit and often isolated communities. The chapter supports development of knowledge and skills articulated in the recently released National Rural and Remote Nursing Generalist Framework 2023–2027 at the level required for a student learning in a non-metropolitan setting and new graduates embarking on a career outside a capital city.

- **Current issues in healthcare** such as advances in genetic research, use of technology, the ageing population, emerging therapies, end-of-life decision-making and the role of the social determinants of health in the incidence of various conditions provide students with a broad overview of many of the key challenges currently facing nursing and healthcare consumers. Contemporary approaches such as patient-centred care, consumer and family engagement and partnerships, and self-management models are presented as key strategies to address these challenges, with examples of how to implement these models of care included throughout the book.
- Several **Genetics in clinical practice** boxes highlight the genetic basis, genetic testing and clinical implications for genetic disorders that affect adults. An overview is described in Chapter 12 along with page numbers for easy reference to information throughout the book.
- **Professional practice** boxes promote critical thinking about key elements of the nursing role, including ethical dilemmas relating to timely and sensitive issues that nursing students may deal with in clinical practice.
- **Emergency management** tables and boxes outline the emergency treatment of health problems that are most likely to require emergency intervention, including responding to the patient with arrhythmias (in Chapter 35), the deteriorating patient (in Chapter 70) and the patient in cardiac arrest (in Chapter 71).
- **Assessment abnormalities** tables in assessment chapters alert the nurse to frequently encountered abnormalities and their possible aetiologies.
- **Nursing assessment** tables summarise the key subjective and objective data related to common diseases. Subjective data are organised by functional health pattern.
- **Health history** boxes and tables in assessment chapters present key questions to ask patients related to a specific disease or disorder.
- Additional student-friendly pedagogy includes the following:
 - **Learning outcomes** and **key terms** at the beginning of each chapter help students to identify the goals of the chapter and key content for each topic, body system or disorder.

- **Structure and function** sections within assessment chapters review the anatomy and physiology of each body system to provide a sound basis for nursing assessment.
- **Nursing management** sections of individual chapters identify key priority care problems to illustrate the specific needs of individual patients and their carers. Specific nursing and interprofessional care is outlined in each chapter and detailed nursing care plans are available on the website for the book.
- **Case studies** throughout the book enable students to apply their learning to real-life situations and guide them through the steps involved in planning and implementing nursing care. At the end of each section, students are able to apply their critical thinking and clinical knowledge to the assessment and management of multiple patients. This enables both students and teachers to explore issues in planning and prioritising care for multiple patients and thus further assists the students to transition to the role of Registered Nurse.
- **Review questions** at the end of each chapter help students learn the important points in the chapter. Answers are provided in the web resources of the book so that the review questions may serve as a self-study tool. Further questions can also be found in the web resources.
- **Resources** at the end of each chapter contain information about nursing and healthcare organisations that provide patient teaching, health promotion and disease prevention, and disease and disorder information. Resources also include internet sites to help students find current information online, legislation, policies and standards, as well sites that provide access to the best practice, evidence-based guidelines developed by many of the specialty clinical colleges and organisations within Australia and New Zealand.

Ancillary website

LEARNING SUPPLEMENTS FOR THE STUDENT AND INSTRUCTOR

The sixth edition Evolve website (available at <http://evolve.elsevier.com/AU/Brown/medsurg>) hosts an eBook and features the following valuable learning aids:

- **Instructor resources**
 - Test bank
 - PowerPoint® slides
 - Image bank
- **Student resources**
 - Review questions
 - Conceptual Care Map creator
 - Student Case studies
 - Fluids and Electrolytes tutorial
 - Nursing Care Plans
 - *Clinical Cases* case studies

Acknowledgements

We are especially grateful to the many people at Elsevier Australia who had the vision to develop this Australian and New Zealand edition. In particular, we would like to thank the Elsevier team involved in this edition: Elizabeth Coady, Content Strategist; Shruti Raj, Content Project Manager; Scott Vandervalk and Kate McGregor, copyeditors; and Gobinath Palanisamy, Permissions and Copyright Coordinator, each of whom have ensured that the high quality of the previous editions has been maintained.

Thank you to all the contributors and reviewers for their hard work in ensuring that the information was both relevant and up to date. We feel sure that the students and clinicians

who use this book will benefit from the thorough approach that they have adopted.

Finally, we thank the readers of the fifth edition who gave us feedback on how to make the content more relevant to Australia and New Zealand. It has been an interesting and enjoyable journey and we hope that the students who use this book gain as much from it as we have through undertaking this role.

Di Brown
Tom Buckley
Robyn L Aitken
Helen Edwards
April 2023

Contributors

Australia and New Zealand

Robyn L Aitken, RN Cert Anaes. & RR, B Ed St, M Ed St, PhD
Professor and Dean, Rural and Remote Health
College of Medicine and Public Health
Flinders University South Australia & Northern Territory, Australia

Kim Alexander, RN, BN, BHLth Sci, PhD
Associate Professor, School of Nursing
Queensland University of Technology, Brisbane, Qld, Australia

Helen Anderson, RN, BSc(Hons) Oncology
Genitourinary Cancer Nurse Navigator
Gold Coast University Hospital
Southport, Qld, Australia

Jeanne Barr, BN, MN
Nurse Consultant
Sydney, Australia

Ann Bonner, PhD, MA, BAppSc (Nurs), RN
Professor and Head of School of Nursing and Midwifery
School of Nursing and Midwifery
Griffith University, Brisbane, Qld, Australia

Katrina Breden, RN, BAppSc (Nursing Science), Grad Cert
Education, MN, PhD
Senior Lecturer, College of Nursing and Health Sciences, Flinders
University, Adelaide, SA, Australia

Di Brown, AO, RN, PhD
Professor of Nursing, WHO Collaborating Centre for Nursing,
Midwifery and Health Development, Faculty of Health, University
of Technology, Sydney, NSW, Australia
Adjunct Professor of Nursing, Fiji National University, Suva,
Republic of Fiji

Thomas Buckley, RN, BSc(Hons), MN(thesis), Cert(ICU),
Cert(HPol), PhD
Associate Professor and Deputy Head of School, Susan Wakil
School of Nursing and Midwifery
Faculty of Medicine and Health
The University of Sydney, Sydney, NSW, Australia

Andrew Cashin, RN, MHN, NP, Dip App Sci, BHSC, GCert PTT, GCert
Hpol, MN, PhD, FACNP, FACMHN, FACN
Professor of Autism and Intellectual Disability, Faculty of Health
and Human Sciences and Health Clinic, Southern Cross University,
Lismore, NSW, Australia

Jacqueline Colgan, RN, MN, CertCardiacN
Lecturer Cardiovascular Nursing,
School of Nursing, College of Health and Medicine
University of Tasmania, Tasmania, Australia
Clinical Nurse Consultant Cardiology,
Central Coast Local Health District, NSW, Australia

Elizabeth Denney-Wilson, RN, BN, MPH, PhD
Professor of Nursing
Susan Wakil School of Nursing and Midwifery,
University of Sydney, Sydney, NSW, Australia

Jed Duff, BN, MN, PhD, RN, FACORN
Chair and Professor of Nursing, Royal Brisbane and Women's
Hospital
School of Nursing, Queensland University of Technology
Brisbane, Qld, Australia

Helen Edwards, RN, PhD, OAM, FACN, FAAN
Emeritus Professor, School of Nursing, Queensland University of
Technology, Brisbane, Qld, Australia

Frances Fengzhi Lin, RN, PhD, FACCCN, SFHEA
Professor, College of Nursing and Health Sciences, Flinders
University, Adelaide, SA, Australia

Caleb Ferguson, RN, BScN, MHLth, PhD, FACN, FCSANZ, FESC
NHMRC Emerging Leadership Fellow
Associate Professor and Associate Head of School (Research
Strategy, Development & Partnership)
Principal Research Fellow
Centre for Chronic & Complex Care
Blacktown Hospital, Western Sydney Local Health District
Blacktown, NSW, Australia
School of Nursing, Faculty of Science, Medicine & Health,
University of Wollongong, Wollongong, NSW, Australia

Kathleen Finlayson, PhD, MNurs, BN, RN, FWA
Lecturer in Nursing, Centre for Healthcare Transformation,
Faculty of Health
Queensland University of Technology, Brisbane, Qld, Australia

Rochelle Firth, BN, MN,
Nurse Practitioner Neurosurgery
Royal North Shore Hospital
Sydney, Australia

Paula Foran, RN, PhD, FACPAN, FACORN
Lecturer in Nursing
Master level coordinator
School of Nursing, College of Health and Medicine
University of Tasmania, Tasmania, Australia

Ann Framp, RGON, MADNursSci, PhD
Casual academic, University of the Sunshine Coast,
Sippy Downs, Qld, Australia

Michelle Freeling, RN, BN(Hons)
Associate Lecturer (Teaching & Research)
College of Nursing and Health Sciences
Flinders University, Adelaide, SA, Australia

Christopher J Gordon, RN, BN, Grad Cert Bus, MExSc(Research), PhD,
SFHEA
Associate Professor
Sydney Nursing School, Faculty of Medicine and Health
The University of Sydney, Sydney, NSW, Australia

Sarah Grant, Cert Nursing
Clinical Nurse Consultant Acute Pain Service
The Royal Women's Hospital
Parkville, Vic, Australia

Ken Hambrecht, RN, CCU, Cert ICU, Cert BS (Physiology & Biochem),
MED, JP, MACN
Principal Consultant Critical Care Education Services, Rathmines,
NSW, Australia

Julie Hetherington, MN (NP), BN
Clinical Nurse Consultant Endocrinology & Metabolism
Royal Prince Alfred Hospital, Sydney, NSW, Australia
Honorary Lecturer, Susan Wakil School of Nursing and Midwifery
Faculty of Medicine and Health
University of Sydney, Sydney, NSW, Australia

James A Hughes, PhD, MAdvPrac, GradCertEmgNur, BN, RN
Senior Lecturer
School of Nursing
Queensland University of Technology, Kelvin Grove, Qld, Australia

Sarah Kourouche, RN, BSN, MNurs, PhD

Lecturer Acute Care Nursing, Implementation Science Research Fellow,
Susan Wakil School of Nursing and Midwifery, Faculty of Medicine and Health
The University of Sydney, Sydney, NSW, Australia

Samantha Lavender, BN, MInfectPreventionCont, GCHSM, ACIPC

Senior Policy Officer
Royal Australian College of General Practitioners (RACGP),
East Melbourne, Vic, Australia

Elizabeth Leonard, RN, BAppSc (Nursing), MN (Hons) CritCare, (Hons), MN, NP (Hons)

Lecturer in Nursing, Coordinator Emergency Nursing Course.
Susan Wakil School of Nursing, Midwifery and Dietetics, University of Sydney, Sydney, NSW, Australia
Trauma Coordinator, Royal Prince Alfred Hospital, Camperdown, NSW, Australia

Sonia Matiuk, RN, MN, GradCert Neuroscience, BN

Lecturer in Nursing
School of Nursing and Midwifery
University of Technology Sydney, Sydney, NSW, Australia

Paul McLiesh, BN, GDipOrth, MNSc

Senior Lecturer/Program Director, Adelaide Nursing School
University of Adelaide, Australia

Ali Moloney, BN, BEdProfHons(AppLearn), GCert CardiacN, GCert

AdvN, GCert FlightN, GCertEd(AppLearn), Cert IV TAE
Project Officer – WHO Collaborating Centre for Nursing, Midwifery and Health Development
University of Technology, Sydney, NSW, Australia
Educational Team Leader, Nursing – TAFE Queensland, Mount Gravatt, Qld, Australia

Fiona Newman, RN, MN, BN(Hons), BEd, Grad Dip Psych, Grad Cert

Digital Education, Grad Cert Business Admin, Cert Anaes Nursing, FACPAN
Perioperative Nurse Educator - Perioperative Introductory Program Coordinator
Princess Alexandra Hospital, Woolloongabba, Qld, Australia

Elizabeth O'Brien, RN, BHSc Nursing, Grad Dip Neurosciences, MNNP

Nurse Practitioner Stroke, Royal North Shore Hospital, Sydney, NSW, Australia
Academic Casual, University of Sydney, Faculty of Nursing and Midwifery, Sydney, Australia

Christina Parker, SFHEA, BHLthSci(Nursing), Grad Cert Academic

Practice, PhD, Distinguished Educator in Gerontological Nursing Associate Professor
Faculty of Health, School of Nursing
Queensland University of Technology
Kelvin Grove, Qld, Australia

Shannon Philp, RN, NP, BN, MN(NP), GradCertWomen'sHealthNurs,

GradCertCancNurs
Lecturer and Nurse Practitioner
Coordinator, Cancer and Haematology Nursing
Susan Wakil School of Nursing and Midwifery, Sydney Nursing School
Faculty of Medicine and Health, The University of Sydney, Sydney, NSW, Australia
Chris O'Brien Lifehouse, Sydney, NSW, Australia

Jacqueline PICH, PhD, BNurs (Hons I), BSc, MACN

Associate Professor, School of Nursing and Midwifery
Faculty of Health
University of Technology, Sydney, NSW, Australia

Sharon Rowe, RN, BN, Post Grad Dip Clin Educ, Post grad Dip Burns

nursing, MCN
Clinical Nurse Consultant, State Adult Burns Unit
Fiona Stanley Hospital
Perth, WA

Monica Rückholdt, RN, BMedSci (Hons), MScMed, MN, PhD

Lecturer in Nursing, School of Nursing, Midwifery and Paramedicine,
Faculty of Health Sciences, Australian Catholic University, North Sydney, NSW, Australia

Shailendra Sawleshwarkar, MBBS, MD, PhD

Associate Professor, Director, Postgraduate Coursework Programs
Director of Academic Education, Sydney Medical School
The University of Sydney Institute for Infectious Diseases (Sydney ID),
Faculty of Medicine and Health,
The University of Sydney, Sydney, NSW, Australia

Toni Slotnes-O'Brien, NP, B App Science, Grad Cert Diab. Ed., Grad

Cert MH, Master of NP
Senior Lecturer, Clinical and Health Sciences, University of SA,
Adelaide, SA, Australia

Linda Soars, RN, ICU cert, BSc, MA (Educ and Work), MCN

Clinical Associate Director, Care Across the Lifecycle and Society Directorate,
Agency for Clinical Innovation,
NSW Health, St Leonards, NSW, Australia

Narelle Story, RN, BN, MN, PhD

Lecturer, Susan Wakil School of Nursing and Midwifery
Faculty of Medicine and Health
The University of Sydney, Sydney, Australia

Nicola Straiton, PhD, MSc, RN, BSc (Hons)

Research Fellow (Implementation Science), Implementation Science Platform
Maridulu Budyari Gumal Sydney Partnership for Health, Education, Research and Enterprise (SPHERE)
Nursing Research Institute
St Vincent's Health Network, Darlinghurst, NSW, Australia

Marion Strong, RN, Grad Cert Breast Cancer Nursing, Grad Cert

Stomal Therapy Nursing
Clinical Nurse Consultant, Toowoomba Hospital, Darling Downs Health, Toowoomba, Qld, Australia

Virginia Stulz, Associate Professor of Midwifery

School of Nursing and Midwifery
Centre for Nursing and Midwifery Research
Level 1, South Wing, Court Building,
Derby Street, Nepean Hospital, Penrith, NSW, Australia

Victoria Team, MD, MPH, DrPH

Senior Research Fellow, School of Nursing and Midwifery,
Faculty of Medicine, Nursing and Health Sciences,
Monash University, Clayton, Vic, Australia

Donna Tilley, RN, MNNP, MScMed(STD/HIV),

GCHHealthServMgt(Safe&Qual), GDipCounselling,
CertSexualReproHlth Nursing, Cert IV TAE, DipHlthSci(Nursing)
Nurse Practitioner, Western Sydney Sexual Health Centre,
Parramatta, NSW, Australia
Adjunct Lecturer, Sydney Nursing School, The University of Sydney, Sydney, NSW, Australia

Allyson Waird, BN, MN (Clinical/Acute Care), RN, JP

Clinical Nurse Consultant for Aged Care, Delirium and Dementia
Royal North Shore Hospital, St Leonards, NSW and Ryde Hospital, NSW
Chair NSW Dementia and Delirium Nursing Network
Nursing Chair Aged Health Executive, NSW Agency for Clinical Innovation, St Leonards, NSW, Australia

Elliot Williams, NP, BN, GradCert CritCare, MN (NP), MAICD
Nurse Practitioner, Intensive Care, Royal North Shore Hospital,
St Leonards, NSW, Australia
Casual Academic, Sydney Nursing School, Faculty of Medicine and
Health, University of Sydney, Sydney, Australia
Deputy Commissioner, Clinical Systems, St John Ambulance
Australia (NSW), NSW, Australia

Patsy Yates, AM, PhD, MSocSci, BA, DipAppSci, RN, FAAN, FACN
Executive Dean, Faculty of Health, Queensland University of
Technology, Brisbane, Qld, Australia

United States

Cynthia Amerson, MS, MSN, RN, CNE
Professor
Division of Nursing
Collin College
McKinney, Texas

Vera Barton-Maxwell, PhD, APRN, FNP-BC
Assistant Professor
Advanced Nursing Practice
Family Nurse Practitioner Program
Georgetown University
Washington, DC
Nurse Practitioner
Wheeling Health Right
Wheeling, West Virginia

Cecilia Bidigare, DNP
Professor
Nursing
Sinclair Community College
Dayton, Ohio

Samantha J Bonaduce, DNP
Associate Lecturer
Nursing Technology
Kent State University Tuscarawas
New Philadelphia, Ohio

Diana Taibi Buchanan, PhD, RN
Associate Professor and Mary S. Tschudin
Endowed Professor of Nursing Education
Biobehavioral Nursing and Health
Informatics
University of Washington
Seattle, Washington

Michelle Bussard, PhD, MSN, ACNSBC, CNE
Director
School of Nursing
Associate Professor
College of Health and Human Services
Bowling Green State University
Bowling Green, Ohio

Mary M Cameron, MSN, RN
Lecturer
Nursing Technology
Kent State University Tuscarawas
New Philadelphia, Ohio

Christine M Cervini, DNP, APRN, ANP-BC
Associate Professor
Barbara H. Hagan School of Nursing and
Health Sciences
Molloy University
Rockville Centre, New York
Nurse Practitioner
Gastroenterology
Mount Sinai Beth Israel
New York, New York

Kristen J Costello, DNP, ACNP-BC, PMHNP-BC, RNFA
Nurse Practitioner
Trauma and Acute Care Surgery
Banner Thunderbird Medical Center
Glendale, Arizona

Ann H Crawford, PhD, RN, CNS, CEN, CPEN
Professor
Scott & White School of Nursing
University of Mary Hardin-Baylor
Belton, Texas
Relief Charge/Staff Nurse
Emergency Department
Baylor Scott & White McLane Children's
Medical Center
Temple, Texas

Kimberly Day, DNP, CHSE
Clinical Associate Professor
Edson College of Nursing and Health
Innovation
Arizona State University
Phoenix, Arizona

Deena D Dell, MSN, APRN, AOCN, LNC
Nurse in Professional Development Specialist
Oncology
Sarasota Memorial Hospital Brian D. Jellison
Cancer Institute
Sarasota, Florida

Hazel A Dennison, DNP, APNc, CHCP, CPHQ, CNE
Senior Manager
Accreditation
HealthStream
Nashville, Tennessee
Faculty
College of Nursing
Walden University
Minneapolis, Minnesota

Jane K Dickinson, PhD, RN, CDCES
Program Director and Senior Lecturer
Health and Behavior Studies
Teachers College
Columbia University
New York, New York

Susan Doyle-Lindrud, DNP, ANP
Assistant Dean of Academic Affairs
School of Nursing
Columbia University
New York, New York

Nathan J Dreesmann, PhD, RN
Clinical Operations Specialist
Operations
Virtual Therapeutics
Kirkland, Washington

Marybeth Duffy, DNP, FNP, ACNP, ANCC
Associate Professor
School of Nursing
Montclair State University
Montclair, New Jersey

Rebekah Filson, DNP, ACNS-BC, ANP-BC
Clinical Outcomes Manager
Orthopedics and Neurosciences
Northside Hospital
Cumming, Georgia

Jessica I Goldberg, PhD, NP, ACHPN
Nurse Practitioner
Supportive Care Service
Memorial Sloan Kettering Cancer Center
New York, New York

Sandra Irene Rome, MN, AOCN

Clinical Nurse Specialist
Blood and Marrow Transplant Program
Cedars-Sinai Medical Center
Los Angeles, California
Volunteer Assistant Clinical Professor
UCLA School of Nursing
Los Angeles, California

William E Rosa, PhD, MBE, ACHPN, FAANP, FAAN

Chief Research Fellow
Department of Psychiatry & Behavioral
Sciences
Memorial Sloan Kettering Cancer Center
New York, New York

Diane M Rudolphi, MSN, RN

Senior Instructor
Nursing
University of Delaware
Newark, Delaware

Diane Ryzner, MSN, APRN, CNS-BC, OCNS-C

Clinical Practice Specialist
Professional Practice
Northwest Community Healthcare
Arlington Heights, Illinois

Janice A Sarasnick, PhD, MSN, RN

Associate Professor
Nursing
Robert Morris University
Coraopolis, Pennsylvania

Andrew Scanlon, DNP, MNS, BN

Senior Lecturer
Nursing
University of Melbourne
Melbourne, Victoria, Australia
Nurse Practitioner
Neurosurgery
Austin Health
Heidelberg, Victoria, Australia

Robyn Schafer, PhD, CNM, FACNM

RBHS Lecturer
Division of Advanced Nursing Practice
Rutgers School of Nursing
Newark, New Jersey
Certified Nurse Midwife
Department of Obstetrics, Gynecology and
Reproductive Sciences
Robert Wood Johnson Medical School
New Brunswick, New Jersey

Rose B Shaffer, MSN, ACNP-BC, CCRN, FAHA

Nurse Practitioner
Cardiology
Thomas Jefferson University Hospital
Philadelphia, Pennsylvania

Cynthia Ann Smith, DNP, APRN, FNPBC, CNN-NP, FNKF

Clinical Coordinator
Ambulatory Care
Hershel "Woody" Williams VA Medical
Center
Huntington, West Virginia

Janice Smolowitz, PhD, DNP, EdD

Dean and Professor
School of Nursing
Montclair State University
Montclair, New Jersey

Ashton T Strachan, DNP, FNP-c, WHNP-BC

Nurse Practitioner
Women's Health
Georgia Institute of Technology
Atlanta, Georgia
Adjunct Professor
School of Nursing
University of Alabama at Birmingham
Birmingham, Alabama

Teresa Turnbull, DNP, MN

Clinical Assistant Professor
School of Nursing
Oregon Health & Science University
Portland, Oregon

Kara Ann Ventura, DNP, PNP, FNP

Director
Liver Transplant Program
Yale New Haven Hospital
New Haven, Connecticut

Colleen Walsh, DNP, ONC, ONP-C, CNS, ACNP-BC

Contract Assistant Professor of Nursing
Emeritus
Graduate Nursing
University of Southern Indiana
Evansville, Indiana

Rita Wermers, DNP, ANP-BC

Nurse Practitioner and Clinic Manager
Health Services
Arizona State University
Phoenix, Arizona

Daniel P Worrall, MSN, ANP-BC

Nurse Practitioner
Sexual Health Clinic
Massachusetts General Hospital
Boston, Massachusetts
Nurse Practitioner
General and Gastrointestinal Surgery
Massachusetts General Hospital
Boston, Massachusetts
Clinical Operations Manager
Ragon Institute of MGH, MIT and Harvard
Cambridge, Massachusetts

Reviewers

Australia and New Zealand

TECHNICAL REVIEWERS

Jerry Perkins, BPharm, BSc

Lynne Margaret Perkins, BPharm, BVA

Patient safety and clinical reasoning: Thinking like a nurse

Written by Di Brown

LEARNING OUTCOMES

1. Consider the relationship between national patient safety goals, nursing practice and the use of effective clinical reasoning skills.
2. Examine the risks for nurses and patients in clinical settings.
3. Explain why critical thinking and clinical reasoning are integral to professional nursing practice and patient safety.
4. Analyse key characteristics of the critical thinker.
5. Describe the relationship between critical thinking, clinical reasoning and clinical judgment.
6. Consider how language and culture can affect patient safety.
7. Explore the tools that can assist the application of clinical reasoning and clinical judgment in the clinical setting.
8. Apply clinical reasoning skills to clinical case study analysis and patient and nurse safety.
9. Identify risk factors for episodes of violence in the nursing workplace.
10. Describe risk management strategies to minimise the risk of episodes of violence in the workplace.

KEY TERMS

clinical judgment, p. 24
 clinical reasoning, p. 24
 critical thinking, p. 24
 cultural safety, p. 28
 national patient safety goals, p. 23
 Patient Safety Competency Framework, p. 21
 self-care, p. 35
 workplace violence, p. 34

The clinical care environment is increasingly complex and turbulent. It requires nurses who are adaptable and intelligent, and who have sound knowledge, skills and understanding relevant to the work that they carry out. As well as preventing suffering, nurses are responsible for providing high-quality, cost-effective care. Registered Nurses (RNs) are highly regarded by the community and are consistently recognised by the public as being one of the most ethical and trusted professional groups. They are answerable for their decisions and actions and are professionally accountable under legislation for their practice. They must be able to justify the decisions that they make in practice to healthcare consumers, the profession and their employer. In order to achieve this and to care for patients safely, the RN needs the skills of critical thinking, clinical reasoning and clinical judgment. Not only do nurses need the necessary skills to protect their patients, they also need the capability and confidence to speak up when the care environment becomes unsafe for themselves while carrying out care.

While nurses have been well respected by the communities they serve, there is a growing problem with aggression and violence towards healthcare workers that became increasingly evident during the COVID-19 pandemic. A coalition of international medical and nursing organisations¹ reported increasing levels of violence aimed specifically at nurses and other healthcare workers operating on the frontline during the pandemic. This included reports of nurses being ostracised, abused and even physically attacked. Nurses are driven by altruism and adhere to high professional standards; however, they should not be expected to work in conditions that may cause them harm when caring for patients.

This chapter discusses the application of clinical reasoning and clinical judgment to clinical practice to ensure that care is

provided in a safe and effective manner, and to assist nurses to care for their own safety. It does this by providing the novice nurse with a number of tools and ways of thinking to assist them in developing important skills in clinical reasoning and patient safety. In this chapter, the **Patient Safety Competency Framework²** (PSCF) for Nursing Students (Table 2.1) is applied to case studies and the work of nurses to enable novice nurses to have an evidence-based framework for use while caring for their patients in everyday practice. To illustrate the importance of critical thinking and clinical judgment in nursing practice, this chapter also provides an example of practice where an RN does not apply their knowledge and skills in the way that is expected. The PSCF is used here to illustrate how it can readily be used when applying critical thinking to all aspects of clinical care. The chapter then discusses workplace violence in healthcare and briefly outlines strategies for self-care that can be used by nursing students to ensure that they can be safe when in healthcare settings.

Patient safety

PROVIDING PROFESSIONAL AND SAFE CARE

Patient safety is a fundamental principle of healthcare. All members of the healthcare team have a professional, legal and moral responsibility to ensure that patient care is of the highest quality.

While healthcare is much safer today than in the past, it is estimated that up to 1 in 10 patients admitted to hospital will suffer an adverse event as a consequence of their hospitalisation,³ leading to increased length of stay, permanent injury or even death. Healthcare errors have been identified as the third leading cause of death in developed countries.⁴ In the UK, Europe,

TABLE 2.1 Patient Safety Competencies for Nursing Students

Domain	Description	Rationale
Person-centred care	The nursing student demonstrates the ability to plan and provide care that is respectful of the person's individual needs, values and life experiences.	Person-centred care is the central tenet underpinning the delivery of safe and effective nursing care. Person-centred care means treating each person as an individual, protecting their dignity, respecting their rights and preferences and developing a therapeutic relationship that is built on mutual trust and empathic understanding. Note: The term 'person' in this context refers to the patient, their family and/or significant others. In the case of a child, person-centred care also denotes family-centred care.
Therapeutic communication	The nursing student demonstrates the ability to use verbal and non-verbal communication skills to meet the healthcare needs of the person and convey respect and empathy. Nursing students encourage the person to express their feelings and needs (while at the same time maintaining professional boundaries) in order to provide effective patient care.	Therapeutic communication occurs when nurses use verbal and non-verbal communication techniques in a goal-directed way ensuring that the healthcare needs of the person remain the central focus. Therapeutic communication is built on trust, authenticity, empathy and self-awareness. Nurses who communicate therapeutically listen to understand, maintain a non-judgmental stance and are 'fully present' with the person. ^A The purpose is to provide effective person-centred care.
Cultural competence	The nursing student demonstrates respect for each person's cultural values, beliefs, life experiences and health practices.	Cultural competence is integral to safe and effective clinical practice. The term cultural competence refers to behaviours and attitudes that enable systems, organisations, professions and individuals to work effectively in cross-cultural situations. Cultural competence refers to individual and institutional willingness to adapt practice to meet the needs of people from diverse cultures, and the ability to interact with persons from cultures and/or belief systems different to one's own. ^B (See Chapters 4 and 5.)
Teamwork and collaborative practice	The nursing student demonstrates the ability to collaborate and communicate effectively with members of the healthcare team in ways that facilitate mutual respect and shared decision-making.	Teamwork and collaborative practice refers to healthcare professionals working together using complementary knowledge and skills to provide patient care, based on trust, respect and understanding of each other's expertise. ^C Collaborative practice prioritises the patient's needs, requires well developed intraprofessional and interprofessional communication skills and the ability to speak up if one has concerns.
Clinical reasoning	The nursing student demonstrates the ability to accurately assess, interpret and respond to individual patient data in a systematic and timely way.	Clinical reasoning is a cyclical process by which nurses collect cues, interpret the information, come to an understanding of a patient problem or situation, plan and implement interventions, evaluate outcomes and reflect on and learn from the process. Clinical reasoning requires a critical thinking disposition and may be influenced by the nurse's assumptions, attitudes and cognitive biases.
Evidence-based practice	The nursing student demonstrates the ability to provide care that takes into account the best available evidence, clinical expertise and patient's individual needs, values and preference.	Evidence-based practice is the conscientious and explicit use of contemporary research, current <i>evidence</i> , clinical expertise and patient values to make decisions about patient care. ^D Evidence-based practice requires the ability to search for, critically appraise and apply research evidence to clinical practice.
Preventing, minimising and responding to adverse events	The nursing student demonstrates the ability to anticipate and respond to human and system factors that have the potential to jeopardise patient safety and, at their level of competence, take appropriate action to prevent occurrence of errors and near misses.	Preventing, minimising and responding to adverse events refers to the ability to identify and respond to factors that have the potential to affect patient safety. Responding appropriately to adverse events encompasses the ability to recognise and manage patient deterioration, to participate in analysis of the events at their level of education to help identify system failures and appropriate solutions, and to provide honest and timely communication about the facts of an adverse event.
Infection prevention and control	The nursing student demonstrates the ability to reduce the risk of patients acquiring healthcare-associated infections and, at their level of competency, effectively manage infections if they occur.	Infection prevention and control refers to the use of effective, evidence-based strategies to prevent and manage healthcare-associated infections. It also focuses on minimising the risk of transmission by effectively using standard and transmission-based precautions and reducing the development of resistant organisms.

TABLE 2.1 Patient Safety Competencies for Nursing Students—cont'd

Domain	Description	Rationale
Medication safety	The nursing student demonstrates the ability to administer and monitor the safe use of medications and appraise their effects. Nursing students need to also be able to recognise and respond appropriately to medication errors and adverse drug reactions.	Medication safety refers to the safe use of medicines to achieve therapeutic outcomes and improve people's quality of life, while minimising risks and responding to errors. ^E

Adapted from Levett-Jones T, Dwyer T, Reid-Searl K, et al. *Patient safety competency framework (PSCF) for nursing students*. 2017. Available: https://efaidnbmnnnibpajpcglclefindmkaj/https://www.cqu.edu.au/_data/assets/pdf_file/0026/65780/PatientSafetyCompetencyFrameworkFINAL.pdf.

^A Rossiter R, Scott R, Walton C. *Key attributes of therapeutic communication*. In *Critical conversations for patient safety: An essential guide for health professionals*. 2014:102–112. Pearson Australia Group.

^B Cross T, Bazron B, Dennis K, Isaacs M. *Toward a culturally competent system of care*. Vol. 1. Washington DC, Georgetown University, 1989.

^C Rogers GD, Thistlethwaite JE, Anderson ES, et al. International consensus statement on the assessment of interprofessional learning outcomes. *Medical Teacher*. 2017;39(4):347–359.

^D Sackett DL, Rosenberg WM, Gray JM, et al. Evidence based medicine: what it is and what it isn't. *BMJ*. 1996;312(7023):71–72.

^E Roughhead L, Semple S, Rosenfeld E. Literature review: medication safety in Australia. Sydney: Australian Commission on Safety and Quality in Health Care. 2013 Aug.

Australia and New Zealand it is estimated that 8–12% of hospital admissions will suffer adverse events.^{5,6} The impact of lapses in patient safety are significant—both financially and personally. It is estimated that between 12% and 15% of total hospital activity and expenditure in Australia is the direct result of adverse events. In the financial year 2017–2018, admissions associated with hospital-acquired infections were estimated by the Australian Commission on Safety and Quality in Health Care⁶ to cost the public section \$4.1 billion or 8.9% of total hospital expenditure. It is estimated that the cost of harm associated with the resulting loss of life or permanent disability amounts to trillions of US dollars every year,⁴ with approximately 50% of adverse events thought to be preventable.

The physical and psychological cost to the patient and their families associated with losing a loved one or coping with permanent disability is significant and should not be underestimated.

In recognition of the global concern about patient safety, in 2004 the World Health Organization (WHO) launched a global health initiative aimed at reducing harm in healthcare.³ Since then, more than 140 countries have become involved in the programs, including Australia and New Zealand. In Australia, the Australian Commission on Safety and Quality in Health Care (ACSQHC) provides national leadership and advice about safety and quality in healthcare.⁶ In New Zealand, the Health Quality & Safety Commission New Zealand (NZHSC) provides leadership in quality and safety improvements in the health sector. The aim of both commissions is to work with clinicians and health managers to support and encourage quality and safety improvements, to identify areas where improvements can take place and to drive change.⁵

National patient safety goals have been developed in both countries. Both New Zealand⁵ and Australia⁶ have developed clear goals and indicators to guide quality assessment and improvement in healthcare. In New Zealand, the overarching goal has been to develop a set of national health quality and patient safety indicators that support improvement, articulated in the New Zealand Triple Aim framework⁷ (Fig. 2.1):

- Improved quality, safety and experience of care
- Improved health and equity for all populations
- Best value from public health system resources

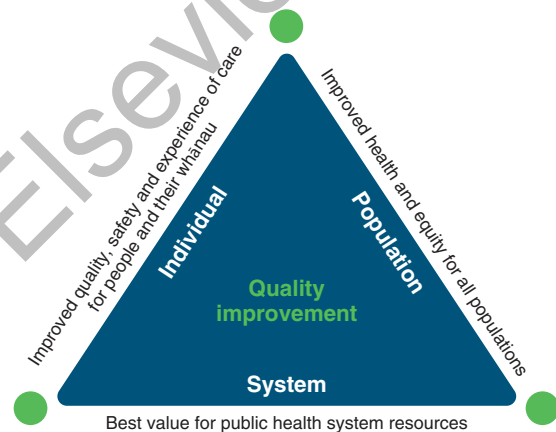


Figure 2.1 The New Zealand Triple Aim of healthcare.

Source: Reproduced by permission of the Health Quality & Safety Commission New Zealand. www.hqsc.govt.nz.

In Australia, the National Safety and Quality Health Service Standards have also been designed to protect the public from harm and improve the quality of healthcare.⁸ Table 2.2 summarises the standards that have been agreed by governments, consumers and health services to ensure that healthcare continues to improve and against which all health facilities must evaluate their performance.

Priorities for improvement in Australia include:

- Consumer and patient involvement in care
- Medication safety
- Preventing and controlling infections
- Management of falls
- Surgical safety and surgical-site infection
- Safe and effective management of blood products
- Prevention of pressure injury
- Reduction of venous thromboembolism
- Recognition and effective treatment of sepsis
- Responding to clinical deterioration
- Ensuring that people's care is based on the best available evidence

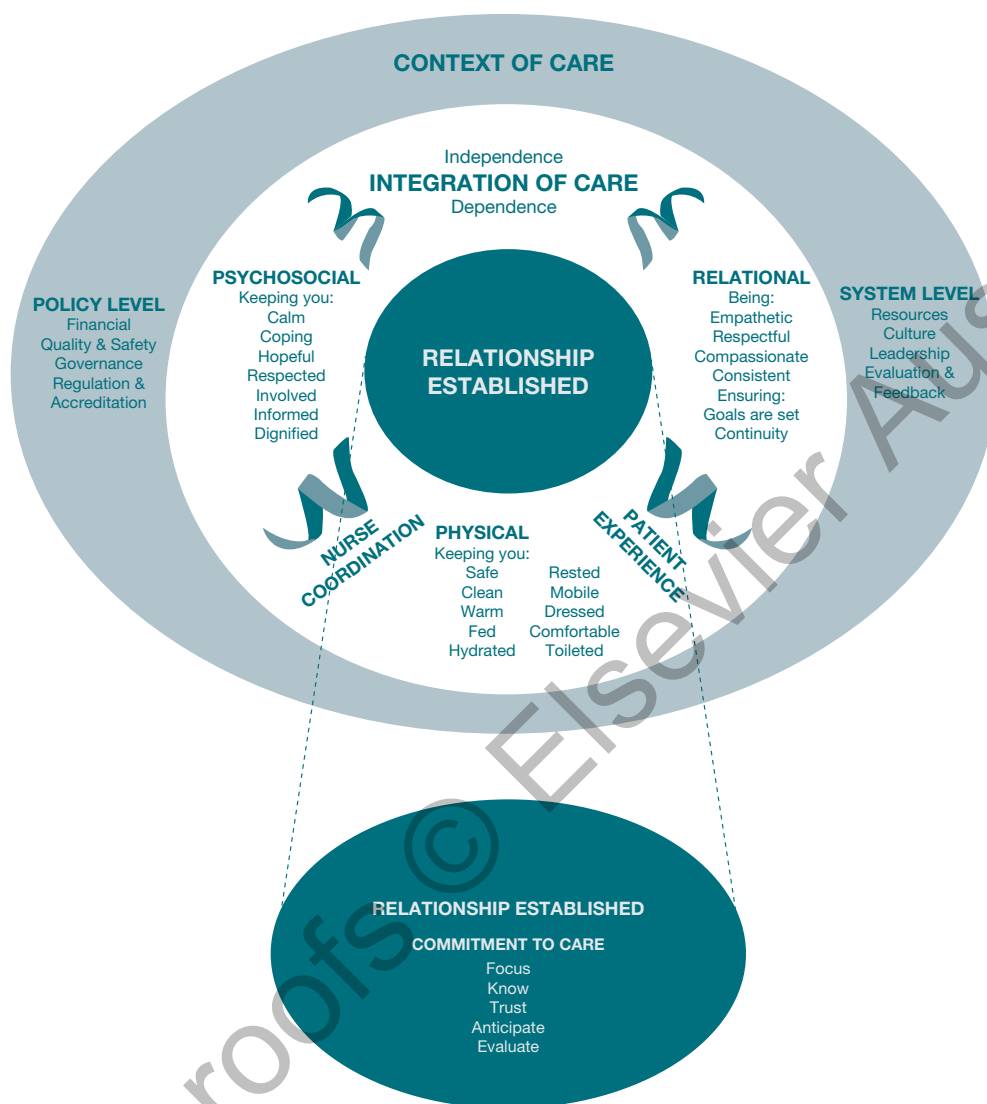


Figure 2.4 The Fundamentals of Care Framework and process.

Source: Crisp J, et al. *Potter and Perry's fundamentals of nursing*, 5th ed. (ch. 3) Elsevier. 2016.

or that when they do carry out the observations they are not taking the action required to prevent further harm.^{17,18} A change in respiratory rate is often the first sign of deterioration, and just four breaths either side of normal range can be indicative of impending clinical deterioration. Despite this, the respiratory rate remains the least accurately recorded vital sign.¹⁸

Because of the lack of consistency in recognising and acting on changes in a patient's vital signs, a number of clinical tools have been developed to assist nurses in making the clinical judgments necessary to act.¹⁶ Chapter 70 discusses this issue in greater detail; however, in order to act properly, nurses need to have effective clinical judgment skills to assess what is needed for that particular patient at that time. Box 2.3 summarises possible sources of error that can lead to serious consequences for patients.

It is critical that novice nurses develop the skills of critical thinking and clinical judgment, and for them to know how they can keep their patients safe from harm from their first day on the job. To do this, nurses need to know what is happening physiologically with each patient. They then need to be able to recognise and prioritise the patient cues in order to interpret the significance of what they are seeing. To do this effectively, nurses need to have the skills of critical thinking, clinical reasoning and clinical judgment.¹⁹ Fig. 2.5 illustrates the process and outcomes of this thinking process.

However, there is another important factor that needs to be considered in providing safe and effective nursing care. Cappelletti and colleagues²⁰ reinforce the research discussed above and also found that changes in patients' assessment data may change subtly over a few days (which may mean

TABLE 2.3 The 10 principles of person-centred care (PCC)

1. Attend to the whole person	through attention to physical, social and mental needs.
2. See each individual as special and unique	by exploring their backgrounds and using imagination and empathy to understand what they might be experiencing.
3. Give respect for the past	by understanding the impact of past events on reactions to the present.
4. Focus on the positives	by assessing and enabling the things the person can still do, more so than focusing on what they have lost.
5. Stay in communication	by adapting means of verbal and non-verbal communication with orientating and validating strategies.
6. Nourish attachments	by enabling family, carers and friends to maintain close contact and avoid feelings of abandonment or isolation.
7. Create community	by welcoming the person into a group to give a sense of belonging, through repeated introductions, explanations and inclusion in general conversation where possible.
8. Maximise autonomy, minimise control	by avoiding using 'no' or 'don't' and employing distraction strategies.
9. Don't just give, receive as well	by appropriately sharing a little of yourself in conversations to make it possible for the person also to respond empathically on an equal adult basis, thus maintaining a sense of dignity for the person and wellbeing for the nurse.
10. Maintain a moral world	by striving to protect people with cognitive impairment from oppression, exploitation and abuse.

Source: McCormack B. Development of a framework for person-centred care nursing. *Journal of Advanced Nursing*. 2006;56(5):472–479.

to reflect on their practice and to develop their capacity for critical thinking.

IMPLICATIONS FOR CLINICAL PRACTICE

Nursing is a practice-based discipline in which there is a constant interplay between theoretical and practical knowledge. Central to clinical practice is the relationship between nurses and their patients. The nurse brings professional knowledge and experience, and both the nurse and the patient bring their culture, personal knowledge, experience and attributes to their relationship. The nurse needs to work with respect and compassion, considering the patient's cultural and language background, and values and beliefs, and self-awareness of any preconceived bias or stereotyping. Through the processes of nursing enquiry and clinical judgment, the nursing relationship becomes a therapeutic interaction (see Fig. 1.4, which illustrates the boundaries of the therapeutic relationship). The *Evidence for practice* box illustrates the impact of the nurse–patient relationship on care quality and patient length of stay.

EVIDENCE FOR PRACTICE

Impact of nurse–patient relationship on quality of care and patient autonomy in decision-making

Aim of the study

The aim of this study was to analyse the nurse–patient relationship and explore their implications for clinical practice, the impact on quality of care and the decision-making capacity of patients.

Design

A phenomenological qualitative study was conducted. Thirteen in-depth interviews with nurses and 61,484 nursing records from 2015–2016 from internal medicine and specialties departments in a Spanish general hospital were accessed.

Results

The categories elaborated from nursing records were: Good Patient, Bad Patient and Social Problem. Analysis of the interviews resulted in a category defined as Patient as a Passive Object.

Discussion

The researchers noted a difference between the interviews and the clinical notes. The clinical notes had an objective voice that described the tasks and clinical activities performed with little obvious input from patients in relation to their care planning. In the interviews, nurses were able to express their empathy and the importance of the nurse–patient relationship in planning and delivering care. However, the researchers found that a good relationship could be affected by whether or not the patient was seen as 'good' (i.e. submissive and compliant with their care). A 'bad patient' was one who was difficult or demanding and who increased the nurses' workload. A preference for an 'obedient patient' was seen in younger nurses and those with fewer years of professional experience. In older and more experienced nurses, the interpersonal relationship with the patient was prioritised.

Conclusions

Analysing the types of relationships allowed the researchers to establish new ways of understanding the decision-making capacity of patients in a clinical setting. A good nurse–patient relationship was found to reduce the length of hospital stay and improve the quality and satisfaction of both patients and nurses. The analysis of nursing records and nurse interviews showed that, while nurses were concerned for patients and ensuring they were given high-quality care, their professional practice was not yet totally patient-centred.

Reference for evidence

Molina-Mula J, Gallo-Estrada J. Impact of nurse–patient relationship on quality of care and patient autonomy in decision-making. *International Journal of Environmental Research and Public Health*. 2020;29(17(3)):835. doi: 10.3390/ijerph17030835. PMID: 32013108; PMCID: PMC7036952.

Person-centred care makes intuitive and ethical sense. However, there is not a large body of research that shows the effects of patient outcomes. An umbrella systematic review²⁵ on the impact of person-centred care on patient safety reported that person-centred initiative may result in reduced rates of falls, in both acute and residential aged-care settings. A reduction in agitation for people with dementia and some improvement in antipsychotic medication use on older people with dementia were also noted.

The Registered Nurses Standards for Practice²⁶ state that registered nursing practice, as a professional endeavour, requires

continuous thinking and analysis in the context of the nursing relationship. Key professional standards 1 and 2 apply here:

1. That the RN thinks critically and analyses nursing practice
2. That the RN engages in therapeutic and professional relationships

Clinical nursing involves the RN in a complex situation that requires the integration of judgment, clinical action and the appraisal of its effect.

IN SUMMARY

While critical thinking is a habit that can be developed in all spheres of life, it can be enhanced in the clinical setting by considering it from three perspectives.²⁷

1. **Thinking ahead:** This is a responsibility to anticipate what might happen in particular situations. A newly graduated nurse, for example, may know that she or he is going to work on an acute surgical ward where the majority of patients have orthopaedic procedures. It is their responsibility, therefore, to revise what they know about the care of orthopaedic patients' injuries and the treatments and types of medications that patients may be taking. The nurse also needs to review relevant best-practice guidelines, policies and procedures, and to plan the type of care that may be required by patients. The nurse may also want to think about the patients who are represented on the wards. How might the nurse's personal history and beliefs affect how they go about care and how they can go about effectively responding to these specific patients' needs?
2. **Thinking in action:** This is the ability to 'think on your feet' and tends to be 'rapid, dynamic reasoning that considers several cues and priorities at once' (p. 25). This type of thinking will improve with time as the nurse gains more experience and is able to think back to other, similar cases. Nevertheless, it is an important skill for a nurse and can be improved by, for example, taking part in clinical simulation activities and being exposed to online, real-time testing of knowledge, skills and decision-making. Tanner calls this 'reflection in action'.¹²
3. **Thinking back (reflecting):** Every situation can be used as a learning experience; whether something went well or badly, lessons can be learned for use in the future. In many hospitals, debriefing sessions are held following major adverse events, but not in relation to the day-to-day, normal care activities of the ward. For the individual nurse, it is important to develop the habit of critically reviewing what they have done and learned each day in order to improve and to be able to take better action in future. Each person will do this in different ways—some will keep a journal, others will use a mentor or more senior nurse to assist, while others will discuss what has happened with friends or via discussion boards on the internet. The critical factor is to learn to tease out the themes or underlying assumptions that caused you to respond in the ways that you did. What could you have done differently? Why did you act in the way you did? What was the outcome for the patient, the family and other members of the healthcare team?

Benner and colleagues¹³ talk of 'clinical forethought' in which nurses (or other health professionals) develop specific habits of thinking, including (1) future thinking, (2) clinical forethought about specific patient problems, (3) anticipation

of risks for particular patients and (4) seeing the unexpected. These are complicated cognitive skills that can be acquired and improved only with practice. A newly graduated nurse will need to consciously practise these ways of thinking while in the clinical field to ensure that they develop the highly attuned, holistic approach of the expert nurse as quickly as possible.

To be able to provide safe and effective care professionally, RNs are expected to practise in accordance with the professional standards outlined by their relevant registering authority. These describe the scope and the requirements of nursing practice (discussed in more detail in Ch 1). Thinking critically about life events will enable nurses to transfer their skills to the clinical field, thus ensuring that patients, as far as is possible, are not harmed as a result of their interaction with the healthcare system. As Florence Nightingale said, 'The very first requirement in a hospital ... is that it should do the sick no harm ...'²⁸

The following section provides more details about how nurses can work to ensure that patients are not harmed as a result of their interaction with the healthcare system.

A FRAMEWORK FOR PATIENT SAFETY

In the next section, we describe a framework for patient safety that builds on the Fundamentals of Care Framework discussed earlier and provides a structured way of thinking critically and effectively about patient care (see Table 2.1) and in a way that ensures their safety.

The Patient Safety Competency Framework (PSCF) consists of knowledge and skill statements categorised into nine domains:

- Person-centred care
- Therapeutic communication
- Cultural competence
- Teamwork and collaborative practice
- Clinical reasoning
- Evidence-based practice
- Preventing, minimising and responding to adverse events
- Infection prevention and control

The case study below illustrates the application of a number of the competencies from the PSCF to clinical care in order to illustrate how nurses can help prevent harm to patients.

CASE STUDY

Applying patient safety competencies to clinical practice



Source:
Shutterstock/
PathDoc.

Background

You are a newly graduated Registered Nurse and have commenced your morning shift. You have been given, as one of your patients, Mr Cutrafello.

Guiseppe Cutrafello is an 86-year-old man who fell from a ladder. He has sustained two fractured ribs on his right side and one fractured rib on the left side. He presented to the emergency department last night complaining of pain in his chest.

Mr Cutrafello has mild asthma. Twenty years ago he underwent a left inguinal hernia repair; he is otherwise healthy. His only medication is a bronchodilator.

PROFESSIONAL PRACTICE

BOX 2.4 Applying the patient safety competency framework to professional practice

The State Administrative Tribunal (the Tribunal) reprimanded a nurse and suspended her registration for 7 months, for her involvement in the administration and provision of unproven cancer treatments to patients in one of the Australian states. The case involved a Registered Nurse (RN) who provided intravenous administration of various nutrients, minerals and other substances to patients as well as giving nutritional supplements and specifically prepared food.

A coronial investigation by the deputy state coroner found that the treatment had hastened the death of four patients.

In an agreed statement of facts presented to the Tribunal, the nurse admitted to professional misconduct ... when she:

- prepared the treatment for administration to patients
- administered the treatment to patients
- provided nursing care to the patients
- took observations of the patients while they received the treatment and
- implemented instructions received from Dr YY through another nurse, Ms ZZ.

Using Patient Safety Competency Framework, we see that the nurse could and should have taken steps to protect her patients from harm.

1. **Clinical reasoning competency:** A number of patients required cancer treatment; the treatment was to be delivered in the patients' homes. *Here, the nurse should have made sure that the treatment was consistent with current practice and that the work she was being asked to do was within her professional scope of practice.*
2. **Preventing adverse events and protecting against medication errors:** There was no clear mandate for the treatment to be provided in the patients' homes.
3. **Evidence-based practice:** Treatment was not of the standard expected in Australia, and did not conform to the guidelines for cancer treatment in Australia.
4. **Teamwork and collaborative practice:** The nurse could have consulted a medical specialist or other specialist nurse. She also could have consulted her professional body about the legality, safety and appropriateness of providing the treatment. She did not consult a specialist or her professional body about the efficacy of, or the risks associated with, treatment or of the individual substances that were part of it; she acted on instructions relayed or given to her by Ms ZZ (who was not at the time an RN) from Dr YY, despite these being inconsistent with acceptable standards of treatment and care in Australia. Finally, she did not cease the treatment, or her participation in it, until after the death of one of the patients or after other patients were admitted to hospital.
5. **Working safely:** The nurse was clearly working outside of her professional scope of practice. She did not conform to the legal and professional standards expected of an RN. If she had checked with a specialist or read the guidelines and standards about cancer treatment, then it is unlikely that the treatment would have gone ahead.

Action: The nurse was reported to the Registration Board who then referred the case to a Tribunal (which happens when allegations involve the most serious unprofessional conduct).

6. **The consequences of not ensuring patient safety were at the forefront of decision-making:** One patient died and others were admitted to hospital. The Tribunal found that the nurse engaged in professional misconduct, reprimanded her, suspended her registration for 7 months and ordered her to pay the Registration Board \$7000 in legal costs.

Adapted from Australian Health Practitioner Regulation Agency, Court and Tribunal decisions 2014, 2015, 2016, 2017. Available www.ahpra.gov.au/Publications/Tribunal-Decisions.aspx

BOX 2.5 Applying clinical reasoning skills and patient safety competencies to clinical practice: A second year nursing student

'The first time I escalated care as a student, I was in second year on a placement in Alice Springs. I was on a medical-surgical unit and we had a lot of preoperative and postoperative patients. I was looking after a 40-year-old woman post-op after a hysterectomy. While I was attending to routine post-op observations, I noticed that she appeared pale in colour. I couldn't get a blood pressure using the automatic machine. I took initiative and found a manual blood pressure cuff before escalating to the Registered Nurse. I took a manual blood pressure and found a bilateral reading of 70 mmHg systolic. The family were there and were asking questions and I explained that I thought her blood pressure was a little low so I escalated to the RN. A rapid response was immediately done after the RN confirmed the hypotension. A bedside ultrasound was attended by the doctor and it revealed that the patient had post-op bleeding. She was rushed to theatres for emergency surgery. That day I felt like a "real" nurse for the first time.'

Critical thinking and the Patient Safety Competency Framework for Nursing Students:

The cultural heritage of the patient in this scenario is not reported. Approximately 80% of hospitalised patients in Alice Springs identify as Aboriginal. The majority of Aboriginal people in the Northern Territory do not speak English as their first language and have varying levels of health literacy. Reflect on how the student nurse could provide the highest level of care by aligning her responses to this scenario with the Patient Safety Competency Framework for Nursing Students – particularly utilising the knowledge and skills of Therapeutic Communication and Cultural Competence.

Ellie Pich RN (Ellie is now a Registered Nurse working in the ED). Used with permission.

It is important for Registered Nurses to have a framework for assessing what the best action is in each case. They need to be able to carefully justify what they're doing and why. This is the process of 'thinking like a nurse'. As with many things in nursing, the capacity to think critically is not immediately visible to a person watching a nurse practise, but it will become evident in the way that nurses respond to changes in patients' conditions. Students in nursing, and indeed all nurses, have a responsibility to improve their capacity to think critically about life and clinical care. Box 2.5 provides an example of where a student in nursing was able to apply the patient safety competencies and her skills of clinical reasoning and clinical judgment to the care of a patient while she was on clinical practicum. Box 2.6 summarises the responsibilities of RNs in the practice setting.

While all healthcare workers have a professional and ethical obligation to keep patients safe there is also a legal requirement for employers to provide a safe environment for their workers. (See Box 2.7 regarding the rights of nurses at work.) Box 2.8 and Box 2.9 provide specific example of issues in resource allocation and patient and nurse safety. Box 2.8 describes the ethical dilemmas faced by nurses when they have insufficient resources. Box 2.9 provides an example of problem solving during an Ebola outbreak in a low resource environment.

In addition to the critical requirements for material resources, psychological and physical security are also key factors for protecting both staff and patients. The next section of the chapter examines research into workplace violence and workplace bullying and provides some guidance about

Recognising and responding to the deteriorating patient

Written by Ken Hambrecht

LEARNING OUTCOMES

1. State five criteria that may be used to escalate care.
2. Explore the tools that can assist the recognition of and response to clinical deterioration.
3. Explain how 'track and trigger' tools can be used to assist the process of recognising and responding to clinical deterioration.
4. Describe a structured approach to communicating regarding a patient you are concerned about.
5. Discuss the role of the patient or family activating the medical emergency team or rapid response system.

KEY TERMS

medical emergency team, p. 1950
early warning, p. 1941
communication, p. 1941
handover, p. 1953

Many other chapters in this book discuss assessment and management of the patient in relation to specific conditions, including the parameters of relevant clinical observations. This chapter will build on those concepts to enhance the clinician's recognition of and response to clinical deterioration.

Background

While complications arising from healthcare are reducing due to improved techniques, monitoring and systems, adverse events—including those occurring during healthcare treatment, such as hospital-acquired complications—continue to be of major concern. In Australia in 2021–22, the incidence of a hospital-acquired complication occurs in every 411 hospitalisations.¹ In New Zealand, adverse events associated with healthcare occurred in 12.9% of admissions.² Further analysis of these adverse events determined that 35% could be classified as highly preventable.² Although permanent disability or death occurred in less than 15% of adverse events, they resulted in an average of over nine days additional hospital stay per event.²

- In Australia, adverse events were higher in surgical admissions (7.7 per 100 separations) compared with non-surgical admissions (4.7 per 100 separations).³
- The incidence of adverse events in public hospitals was 6.6%; and 3.8% for private hospitals.³
- According to Australia Health Performance Framework 'The most common adverse event groups reported in hospitals were: 'Procedures causing abnormal reactions/complications' (in 51% of hospitalisations involving an adverse event) and *Adverse effects of drugs, medicaments and biological substances* (32%).³

Data published by the Australian Commission on Safety and Quality in Health Care demonstrate that in 2017–18, there were 140,393 admissions associated with Hospital Acquired Complications (HACs) which was estimated to cost the public sector \$4.1 billion or 8.9% of total hospital expenditure.⁴ The most common adverse event types include Hospital Acquired Infections (HAIs), medication complications including errors

and/or reactions, delirium, and cardiac complications such as arrhythmias, myocardial ischaemia or infarction.⁴

NATIONAL STANDARDS

Australia and New Zealand each has a national body that facilitates the advancement of quality and safety in healthcare: these are the Australian Commission on Safety and Quality in Health Care (ACSQHC)^{4–7} and the Health Quality and Safety Commission New Zealand (HQSC)⁸ along with district health boards that collect and publish data regarding adverse events.^{9,10} The aim of both commissions is to work with clinicians and health managers to support and encourage quality and safety improvements, to identify areas where improvements can take place and to drive improvements in patient safety, including recognising and responding to clinical deterioration and education of consumers, clinicians and healthcare administrators.^{5,8}

The ACSQHC has released the second edition of its National Safety and Quality Health Service Standards. Standard 8 is *Recognising and responding to acute deterioration*.⁷ This describes the systems and processes for responding effectively to deterioration in a patient when changes occur in their physiological or cognitive status.⁶ To support Standard 8, in January 2022 the ACSQHC published the third edition of the national consensus statement, entitled *Essential elements for recognising and responding to clinical deterioration*,⁷ and another volume relating to recognition and response to mental health deterioration.¹¹ A summary of the nine essential elements from the ACSQHC's national consensus statement is presented in Box 70.1.⁷

In addition, various state bodies in Australia, such as the Clinical Excellence Commission (CEC) in NSW, are driving education and implementation of programs and systems to identify and respond to the patient who experiences, or who has the potential to suffer from, clinical deterioration. Examples of such programs include the Between the Flags Tier Two Education, known as DETECT (**D**etecting deterioration,

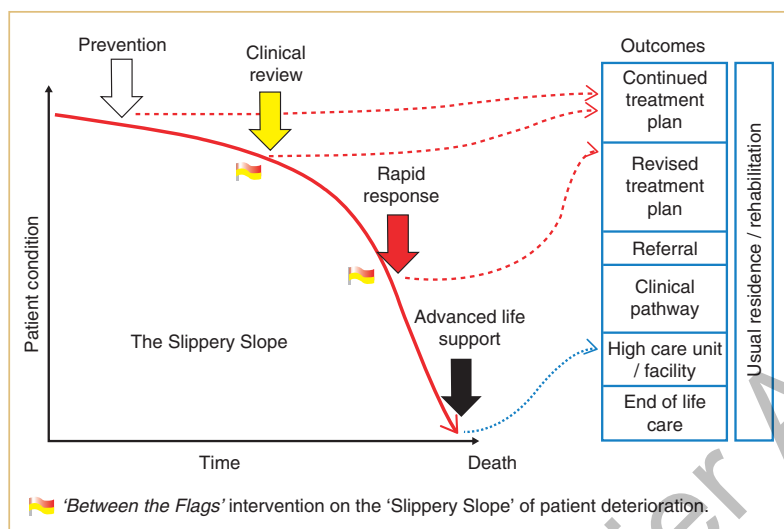


Figure 70.4 The Slippery Slope.

Source: © - Copyright – Clinical Excellence Commission, 2014.

ADDITIONAL MARKERS OF CLINICAL DETERIORATION

Cioffi and colleagues⁴² identified 10 ‘changes of concern’ that nurses used to recognise patients with potentially early clinical deterioration: (1) noisy breathing, (2) inability to talk in sentences, (3) increasing supplementary O₂ to maintain oxygen saturation levels, (4) agitation, (5) impaired mentation, (6) impaired cutaneous perfusion, (7) not following expected trajectory, (8) new or escalating pain, (9) new symptom(s) and (10) new observations.

In the ‘SOCCER’ study,²² five indicators or precursors to early clinical deterioration were identified. These were (1) pain (uncontrolled, change in location or character, new, complaint of chest pain), (2) new bleeding, (3) poor peripheral circulation, (4) partial airway obstruction and (5) ‘non-specific other’.

Clinicians may choose to document other observations and assessments to support timely recognition of deterioration. Examples of additional parameters that may be assessed are shown in Box 70.3.

Biochemical and haematological markers have also been shown to demonstrate changes that may herald clinical deterioration up to 24 hours in advance. However, as yet they have not been defined well enough to become a component of the general surveillance for clinical deterioration although this is an area for future investigation.

COMPONENTS OF OBSERVATIONS

Observations have three components:

1. **Assessment.** The patient requires assessment of various parameters at certain time intervals or in response to changes in their condition. Each patient should have a daily observation plan that is appropriate for their condition.
2. **Documentation.** The parameters (vital signs and observations) must be recorded or documented. Remember: not documented = not done!

BOX 70.3 Additional parameters that may be used in patient assessment

- Fluid balance
- Occurrence of seizures
- Pain, chest pain
- Respiratory distress
- Pallor
- Capillary refill
- Pupil size and reactivity
- Sedation score
- Agitation
- Delirium assessment
- Sweating
- Nausea and vomiting
- Biochemical analyses
- Haematological analyses

Source: Adapted from Australian Commission on Safety and Quality in Health Care (ACSQHC). Standard 8: recognising and responding to acute deterioration. National Safety and Quality Health Service Standards. 2nd ed. Sydney: ACSQHC. 2018.

3. **Interpretation.** What do individual readings reflect? What is the relationship to other observations and the physiological and pathophysiological changes occurring in the patient? What are the trends and responses to interventions?

Interpretation of clinical observations, including vital signs, is like a jigsaw puzzle. The greater the number of pieces (of information) we have, the more we can arrange them and place them correctly—and then view the overall picture rather than take an isolated observation unrelated to other observations.

For example, with a patient who has a falling SpO₂, what could be the cause and what do our other observations and assessment of that patient suggest? What are the determinants

Such empowerment of relatives and visitors is consistent with the advocacy role of the nurse. Remember that nurses are there to help the patient improve; nurses need to assist relatives or visitors to have their concerns voiced and acted on. To assist and involve patients and their relatives in the care of a person in a healthcare institution, the ACSQHC has released a report entitled *Vital signs 2017*.⁷⁵ This report is structured around three important questions that members of the public ask about their healthcare: (1) Will my care be safe? (2) Will I get the right care? (3) Will I be a partner in my care?⁷⁵

Communication and handover

Communication regarding a patient's condition, their clinical course and plan for ongoing management is essential when care for a patient is being transferred or handed over to another healthcare professional. To facilitate this, the ACSQHC has published a guide entitled *OSSIE Guide to Clinical Handover Improvement*.⁷⁶ The guide includes the statement that 'Clinical handover is a high risk area for patient safety and therefore a priority project',⁷⁶ and summarises clinical handover as 'the transfer of professional responsibility and accountability for some or all aspects of care for a patient, or group of patients, to another person or professional group on a temporary or permanent basis'.⁷⁶

The five phases of OSSIE implementation are shown in Box 70.6. Registered Nurses need to be familiar with the five principles of clinical handover, and ensure that they are aware of the handover procedures in their workplace to ensure comprehensive and safe transfer of information and care.

COMMUNICATION REGARDING A PATIENT YOU ARE CONCERNED ABOUT

The greatest problem in communication is the illusion that it has been accomplished.

George Bernard Shaw

BOX 70.6 The five phases of OSSIE implementation⁷

'OSSIE' stands for the following five phases:

- O** Organisational leadership
- S** Simple solution development
- S** Stakeholder engagement
- I** Implementation
- E** Evaluation and maintenance

Source: Reproduced with permission from OSSIE Guide to Clinical Handover Improvement, developed by the Australian Commission on Safety and Quality in Health Care (ACSQHC). ACSQHC: Sydney 2010.

Globally, several systems and mnemonics have been developed to provide a framework for structured communication for handover. These are intended to ensure that the important details have been thought about, are conceptualised into useable, meaningful pieces of information, and that information is then communicated in a logical framework to minimise the risk of any omissions or assumptions regarding the patient's condition and progress.

These mnemonics include ISBAR (Table 70.1), ISOBAR (Table 70.2), SBAR (Table 70.3), SHARED (Table 70.4) and Hand me an ISOBAR (Table 70.5). These are available as wall posters and lanyard cards (see Fig. 70.8) and in many cases as apps for mobile devices.

Using a structured approach to handover has resulted in improved communication, especially in urgent situations, with better patient outcomes.⁷⁶ The use of written material such as handover sheets can further facilitate the retention of knowledge when time allows or once initial treatments have been instigated during urgent situations.⁷⁶

TABLE 70.1 ISBAR handover tool

ISBAR		
I	Identify	Self: Name, position, location Who you are talking to: 'Is this Dr...?' Patient: Name, gender, location
S	Situation	State purpose: 'The reason I am calling is...' If URGENT, say so: 'This is urgent because the patient is unstable with a BP of...'
B	Background	Tell the story: Relevant history, relevant examination, relevant test results, relevant management If URGENT: Relevant vital signs, current management
A	Assessment	State what you think is going on: 'The patient is febrile and I can't find a source of infection.' 'The patient is deteriorating. I think they may be bleeding.'
R	Recommendation/request	State request: 'I'd like your opinion on the most appropriate test.' 'I need help urgently. Are you able to come now?' 'What can I do in the meantime?' Or state recommendation: 'My recommendation is ...'

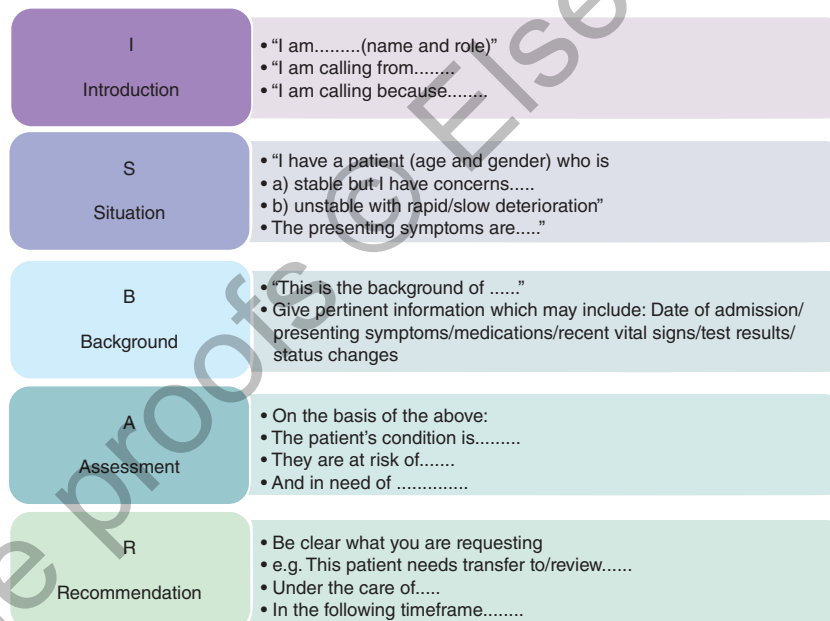
Sources: Sector Performance, Quality and Rural Health. *Standard 6: Clinical handover*. Victorian Government Department of Health and Human Services; February 2014; ACSQHC, 2010.

TABLE 70.5 Hand Me an ISOBAR handover tool**Hand Me an ISOBAR**

The major principles of clinical handover have been combined with the ISOBAR handover tool to form the acronym 'HAND ME AN ISOBAR'. This reflects what needs to occur and what information needs to be exchanged during shift-to-shift nursing handovers.

Step 1: HAND (prepare for handover)	H Hey, it's handover time! A Allocate staff for continuity of patient care N Nominate participants, time and venue/s D Document on written sheets and patient notes
Step 2: ME (organise handover)	M Make sure all participants have arrived E Elect a leader
Step 3: AN (patient and safety focus)	A Alerts, attention and safety N Nothing about me, without me ... INVOLVE THE PATIENT
Step 4: ISOBAR (provide handover for individual patients)	I Identification of patient S Situation and status O Observations of patient ($\pm$ need for emergency calls) B Background and history A Action, agreed plan and accountability R Responsibility and risk management

Source: Adapted from Standard 6, Clinical Handover. Sector Performance, Quality and Rural Health, Victorian Government, Department of Health. February 2014/85.

**Figure 70.8** ISBAR handover tool.

Source: Reproduced with permission from ISBAR Poster, developed by the Australian Commission on Safety and Quality in Health Care (ACSQHC). ACSQHC: Sydney 2008.

46. Chrysoschoou G, Gunn SR. Demonstrating the benefit of medical emergency teams (MET) proves more difficult than anticipated. *Critical Care*. 2006;10(2):306.
47. Haynes AB, Weiser TG, Berry WR, et al. A surgical safety checklist to reduce morbidity and mortality in a global population. *New England Journal of Medicine*. 2009;360(5):491–499. doi: 10.1056/NEJMsa0810119.
48. Davis P, Lay-Yee R, Briant R, et al. Adverse events in New Zealand public hospitals II: Preventability and clinical context. *New Zealand Medical Journal*. 2003;116(1183):U624.
49. Chen J, Bellomo R, Hillman K, et al. MERIT Study investigators for the Simpson Centre and the ANZICS Clinical Trials Group. Triggers for emergency team activation: A multicenter assessment. *Journal of Critical Care*. 2010;25(2):359.e1–359.e7. doi: 10.1016/j.jcrc.2009.12.011.
50. Australian Standardisation of the Hospital Emergency Number. Patient Safe Network. 2022. Available: <https://www.psnetwork.org/australian-standardisation-of-the-hospital-emergency-number>. 12 November 2022.
51. Boots R, Carter A, Erickson S, et al. Joint position statement on rapid responses systems in Australia and New Zealand and the roles of intensive care. College Intensive Care Medicine. IC-25. 2016. Available: https://www.researchgate.net/publication/311969902_Joint_position_statement_on_rapid_responses_systems_in_Australia_and_New_Zealand_and_the_roles_of_intensive_care. 7 November 2022.
52. Winterbottom FA, Webre H. Rapid response system restructure. Focus on prevention and early intervention. *Critical Care Nursing Quarterly*. 2021;44(4):424–430. doi: 10.1097/CNQ.0000000000000379.
53. Flabouris A, Chen J, Hillman K, et al. MERIT Study investigators from the Simpson Centre and the ANZICS Clinical Trials Group. Timing and interventions of emergency teams during the MERIT study. *Resuscitation*. 2010;81(1):25–30. doi: 10.1016/j.resuscitation.2009.09.025.
54. Bellomo R, Goldsmith D, Uchino S, et al. A prospective before-and-after trial of a medical emergency team. *Medical Journal of Australia*. 2003;179(6):283–287.
55. Do Campo J, Anderson M, Shennan C, et al. The Early Warning Score: Implementation reduced the number of unexpected deaths: 052. *Internal Medicine Journal*. 2010;40:14. Available: <https://insights.ovid.com/internal-medicine/inmjo/2010/03/001/early-warning-score-implementation-reduced-number/52/00130554>. 7 November 2022.
56. Konrad D, Jäderling G, Bell M, et al. Reducing in-hospital cardiac arrests and hospital mortality by introducing a medical emergency team. *Intensive Care Medicine*. 2010;36(1):100–106.
57. Buist M, Harrison J, Abaloz E, et al. Six year audit of cardiac arrests and medical emergency team calls in an Australian outer metropolitan teaching hospital. *British Medical Journal*. 2007;335(7631):1210–1212.
58. Chen J, Ou L, Hillman K, et al. The impact of implementing a rapid response system: A comparison of cardiopulmonary arrests and mortality among four teaching hospitals in Australia. *Resuscitation*. 2014;85(9):1275–1281. doi: 10.1016/j.resuscitation.2014.06.003.
59. Le Guen MP, Tobin AE, Reid D. Intensive care unit admission in patients following rapid response team activation: Call factors, patient characteristics and hospital outcomes. *Anaesthesia and Intensive Care*. 2015;43(2):211–215.
60. Herod R, Frost SA, Parr M, et al. Long term trends in medical emergency team activations and outcomes. *Resuscitation*. 2014;85(8):1083–1087. doi: 10.1016/j.resuscitation.2014.04.010.
61. Jones D, Hicks P, Currey J, et al. Findings of the first ANZICS conference on the role of intensive care in rapid response teams. *Anaesthesia and Intensive Care*. 2015;43(3):369–379.
62. Corke C. *Letting go: How to plan for a good death*. Melbourne: Scribe Publications. 2018.
63. NSW Health End of Life and Palliative Care Framework 2019–2024. Available: <https://www.health.nsw.gov.au/palliativecare/Publications/eol-pc-framework.pdf> accessed 8-11-22. 12 November 2022.
64. Downar J. Rapid response teams and end-of-life care. *Canadian Respiratory Journal*. 2014;21(5):268.
65. Hilton AK, Jones D, Bellomo R. Clinical review: the role of the intensivist and the rapid response team in nosocomial end-of-life care. *Critical Care*. 2013;17(2):224. doi: 10.1186/cc11856.
66. Rotherham HJ, Jones DA, Presneill JJ. Intensive care unit trainee perception of end-of-life care provided during medical emergency team activation events. *Internal Medicine Journal*. 2022;52:982–994. Available: <https://doi.org/10.1111/imj.15262>.
67. Australian Commission on Safety and Quality in Health Care (ACSQHC). National consensus statement: essential elements for safe and high-quality end-of-life care. Sydney: ACSQHC. 2015. Available: <https://www.safetyandquality.gov.au/publications-and-resources/resource-library/national-consensus-statement-essential-elements-safe-and-high-quality-end-of-life-care>. 8 November 2022.
68. Josie King Foundation. Available: <http://josieking.org/home>. 8 November 2022.
69. Josie King Foundation. Condition Help. Available: <http://josieking.org/programs/condition-help-condition-h>. 8 November 2022.
70. Gerdik C, Vallish RO, Miles K, et al. Successful implementation of a family and patient activated rapid response team in an adult level 1 trauma center. *Resuscitation*. 2010;81(12):1676–1681. doi: 10.1016/j.resuscitation.2010.06.020.
71. Queensland Health. Ryan's Rule. Available: <https://clinicalexcellence.qld.gov.au/priority-areas/safety-and-quality/ryans-rule>. 8 November 2022.
72. Australian Technical Advisory Group on Immunisation (ATAGI). Australian Immunisation Handbook, Australian Government Department of Health and Aged Care, Canberra, 2022. Available: <https://immunisationhandbook.health.gov.au/contents>. 9 November 2022.
73. Royal Children's Hospital (Melbourne). Intussusception. [Clinical Guideline.] Melbourne: Royal Children's Hospital; Last Updated August 2019. Available: www.rch.org.au/clinicalguide/guideline_index/Intussusception_Guideline. 9 November 2022.
74. Barnes M, Office of the State Coroner, Queensland Courts. Inquest into the death of Ryan Charles Saunders. File no. COR 4449/07(0). 2011. Available: http://www.courts.qld.gov.au/_data/assets/pdf_file/0004/107536/cif-saunders-rc-20111007.pdf. 8 November 2022.
75. Australian Commission on Safety and Quality in Health Care (ACSQHC). Vital signs 2017: The state of safety and quality in Australian health care. Sydney: ACSQHC. 2017. Available: www.safetyandquality.gov.au/publications/vital-signs-2017-the-state-of-safety-and-quality-in-australian-health-care. 9 November 2022.
76. Australian Commission on Safety and Quality in Health Care (ACSQHC). OSSIE guide to clinical handover improvement. Sydney: ACSQHC. 2010. Available: www.safetyandquality.gov.au/wp-content/uploads/2012/01/ossie.pdf. 9 November 2022.
77. Haig KM, Sutton S, Whittington J. SBAR: A shared mental model for improving communication between clinicians. *Joint Commission Journal on Quality and Patient Safety*. 2006;32(3):167–175.

RESOURCES

- Australian and New Zealand Falls Prevention Society**
www.anzfallsprevention.org
- Australian Commission on Safety and Quality in Health Care (ACSQHC)**
www.safetyandquality.gov.au
- Australian Institute of Health and Welfare (AIHW)—safety and quality health care resources**
www.aihw.gov.au/reports-data/health-welfare-overview/health-care-quality-performance/about-health-performance
- Clinical Excellence Commission, NSW**
www.cec.health.nsw.gov.au
- First2ActWeb**
<https://first2act.com>
- Government of Western Australia Office of Safety and Quality in Health Care**
<https://www2.health.wa.gov.au/Health-for/Health-professionals/Safety-and-quality>

**Health Quality and Safety Commission New Zealand Kupu
Taurangi Hauora o Aotearoa**
www.hqsc.govt.nz

**Joint Commission of Health Care Accreditation (USA)—National
Patient Safety Goals free resources**
www.jcrinc.com

Josie King Foundation
<http://josieking.org/home>

QSEN Institute (Quality and Safety Education for Nurses)
<http://qsen.org/competencies>

Queensland Health, Patient Safety and Quality Improvement Service
<https://www.health.qld.gov.au/clinical-practice/guidelines-procedures/patient-safety>

SA Health—safety and quality programs

[www.sahealth.sa.gov.au/wps/wcm/connect/public+content/
sa+health+internet/clinical+resources/safety+and+quality/
safety+and+quality+programs](http://www.sahealth.sa.gov.au/wps/wcm/connect/public+content/sa+health+internet/clinical+resources/safety+and+quality/safety+and+quality+programs)

Better Safer Care Victoria

<https://bettersafercare.vic.gov.au/about-us/about-scv/councils/vcc>

World Alliance for Patient Safety, World Health Organization

https://www.who.int/health-topics/patient-safety#tab=tab_1

Evolve®

See the Evolve site for more great resources at
<http://evolve.elsevier.com/AU/Brown/medsurg>.