The ROYAL MARSDEN
NHS Foundation Trust

Professional Edition

The Royal Marsden Manual of Clinical Nursing Procedures

Ninth Edition

Edited by **Lisa Dougherty and Sara Lister**

NHS

WILEY Blackwell

The Royal Marsden Manual of

Clinical Nursing Procedures

Professional Edition

The Royal Marsden Manual of Clinical Nursing Procedures

Ninth Edition

Edited by

Lisa Dougherty

OBE, RN, MSc, DClinP

Nurse Consultant Intravenous Therapy

The Royal Marsden NHS Foundation Trust

and

Sara Lister

RN, PGDAE, BSc (Hons), MSc, MBACP

Head of Pastoral Care and Psychological Support

The Pastoral Care Centre

The Royal Marsden NHS Foundation Trust

The ROYAL MARSDEN

NHS Foundation Trust

WILEY Blackwell

This edition first published 2015 © 2015 by The Royal Marsden NHS Foundation Trust
Previous editions published 1992, 1996, 2000, 2004, 2008, 2011

Registered office: John Wiley & Sons, Ltd, The Atrium, Southern Gate,
Chichester, West Sussex, PO19 8SQ, UK

Editorial offices: 9600 Garsington Road, Oxford, OX4 2DQ, UK
The Atrium, Southern Gate, Chichester, West Sussex, PO19 8SQ, UK
111 River Street, Hoboken, NJ 07030-5774, USA

For details of our global editorial offices, for customer services and for information about how to apply for permission to reuse the copyright material in this book please see our website at www.wiley.com/wiley-blackwell

The right of the author to be identified as the author of this work has been asserted in accordance with the UK Copyright, Designs and Patents Act 1988.

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, except as permitted by the UK Copyright, Designs and Patents Act 1988, without the prior permission of the publisher.

Designations used by companies to distinguish their products are often claimed as trademarks. All brand names and product names used in this book are trade names, service marks, trademarks or registered trademarks of their respective owners. The publisher is not associated with any product or vendor mentioned in this book. It is sold on the understanding that the publisher is not engaged in rendering professional services. If professional advice or other expert assistance is required, the services of a competent professional should be sought.

The contents of this work are intended to further general scientific research, understanding, and discussion only and are not intended and should not be relied upon as recommending or promoting a specific method, diagnosis, or treatment by health science practitioners for any particular patient. The publisher and the author make no representations or warranties with respect to the accuracy or completeness of the contents of this work and specifically disclaim all warranties, including without limitation any implied warranties of fitness for a particular purpose. In view of ongoing research, equipment modifications, changes in governmental regulations, and the constant flow of information relating to the use of medicines, equipment, and devices, the reader is urged to review and evaluate the information provided in the package insert or instructions for each medicine, equipment, or device for, among other things, any changes in the instructions or indication of usage and for added warnings and precautions. Readers should consult with a specialist where appropriate. The fact that an organization or Website is referred to in this work as a citation and/or a potential source of further information does not mean that the author or the publisher endorses the information the organization or Website may provide or recommendations it may make. Further, readers should be aware that Internet Websites listed in this work may have changed or disappeared between when this work was written and when it is read. No warranty may be created or extended by any promotional statements for this work. Neither the publisher nor the author shall be liable for any damages arising herefrom.

Library of Congress Cataloging-in-Publication Data
Royal Marsden Hospital manual of clinical nursing procedures
The Royal Marsden manual of clinical nursing procedures / edited by Lisa Dougherty and Sara Lister. – Ninth edition.
p. ; cm.
Preceded by: Royal Marsden Hospital manual of clinical nursing procedures / edited by Lisa Dougherty and Sara Lister. 8th ed. 2011.
Includes bibliographical references and index.
ISBN 978-1-118-74592-2 (pbk.)
I. Dougherty, Lisa, editor. II. Lister, Sara E., editor. III. Title.
[DNLM: 1. Nursing Care–methods. 2. Nursing Process. 3. Nursing Theory. 4. Patient Care Planning. WY 100.1]
RT41
610.73--dc23

2014032706

A catalogue record for this book is available from the British Library.

Wiley also publishes its books in a variety of electronic formats. Some content that appears in print may not be available in electronic books.

Cover design by Design Deluxe

Set in Lexia 9/10 by Aptara

1 2015

Brief table of contents

Detailed table of contents vii
Foreword to the ninth edition xiii
Acknowledgements xiv
List of contributors xv
List of abbreviations xix
Quick reference to the procedure guidelines xxiii
How to use your manual xxvii

1 Introduction 1

Part One Managing the patient journey 7

2 Assessment and discharge 9
3 Infection prevention and control 49

Part Two Supporting the patient with human functioning 95

4 Communication 97
5 Elimination 133
6 Moving and positioning 207
7 Nutrition, fluid balance and blood transfusion 253
8 Patient comfort and end-of-life care 331
9 Respiratory care 431

Part Three Supporting the patient through the diagnostic process 507

10 Interpreting diagnostic tests 509
11 Observations 595

Part Four Supporting the patient through treatment 673

12 Medicines management 675
13 Perioperative care 789
14 Vascular access devices: insertion and management 861
15 Wound management 935

Index 967

Detailed table of contents

Brief table of contents v
Foreword to the ninth edition xiii
Acknowledgements xiv
List of contributors xv
List of abbreviations xix
Quick reference to the procedure guidelines xxiii
How to use your manual xxvii

1 Introduction 1

Overview 2

Evidence-based practice 2
What is evidence-based practice? 2
Grading evidence in *The Royal Marsden Manual of Clinical Nursing Procedures* 3

Structure of the Manual 4
Structure of chapters 4

Conclusion 4
References 4

Part One Managing the patient journey 7

2 Assessment and discharge 9

Overview 10

Inpatient assessment and the process of care 10

Observation 19

Physical assessment/examination 19
Respiratory examination 21
Cardiovascular examination 26
Abdominal examination 30

Communication and discharge planning 34
References 45

Procedure guidelines for Chapter 2
2.1 Respiratory examination 25
2.2 Cardiovascular examination 28
2.3 Abdominal examination 32

3 Infection prevention and control 49

Overview 50

Infection prevention and control 50

Aseptic technique 78

Source isolation 80

Protective isolation 86

Prevention and management of inoculation injury 88

Management of waste in the healthcare environment 89
Management of soiled linen in the healthcare environment 91
References 92

Procedure guidelines for Chapter 3
3.1 Hand washing 61
3.2 Hand decontamination using alcohol handrub 63
3.3 Putting on and removing non-sterile gloves 64
3.4 Putting on and removing a disposable apron 66
3.5 Putting on and removing a disposable mask or respirator 67
3.6 Putting on or removing goggles or a face shield 68
3.7 Surgical scrub technique 69
3.8 Donning sterile gloves: open technique 71
3.9 Donning a sterile gown and gloves: closed technique 73
3.10 Aseptic technique example: changing a wound dressing 78
3.11 Source isolation: preparing an isolation room 83
3.12 Source isolation: entering the isolation room 84
3.13 Source isolation: leaving the isolation room 85
3.14 Source isolation: transporting infected patients outside the source isolation area 86
3.15 Protective isolation: preparing the room 87
3.16 Protective isolation: entering the isolation room 88
3.17 Safe disposal of foul, infected or infested linen 92

Part Two Supporting the patient with human functioning 95

4 Communication 97

Overview 98

Communication 98

Communicating with those who are worried or distressed 108

Informing patients 110

Communicating with those with specific psychological needs 113
Denial and collusion 113
Anxiety 114
Panic attacks (acute anxiety) 115
Depression 116
Anger, aggression and violence management 118
Delirium 121
Dementia 123
Acquired communication disorders 124
Websites and useful addresses 128
References 128

5 Elimination 133

Overview 134

Normal elimination 134
Vomiting 134
Insertion of a nasogastric drainage tube 135
Removal of a nasogastric drainage tube 138
Urinary elimination 138
Faecal elimination 139
Assisting the patient with elimination 141

Altered urinary elimination 144
Urinary incontinence 144
Urinary catheterization 147
Suprapubic catheterization 155
Intermittent catheterization 155
Bladder irrigation 160
Nephrostomy tubes 166
Surgical urinary diversions 170

Altered faecal elimination 173
Diarrhoea 173
Constipation 175
Enemas 179
Suppositories 183
Digital rectal examination 185
Digital removal of faeces 187

Stoma care 189
Complications 199
Websites 199
References 202

Procedure guidelines for Chapter 5
5.1 Care of a patient who is vomiting 135
5.2 Insertion of a nasogastric (NG) drainage tube 137
5.3 Removal of a nasogastric tube 138
5.4 Slipper bedpan use: assisting a patient 142
5.5 Commode use: assisting a patient 143
5.6 Penile sheath application 145
5.7 Urinary catheterization: male 151
5.8 Urinary catheterization: female 153
5.9 Urinary catheterization: intermittent self-catheterization patient guidance: male 156
5.10 Urinary catheterization: intermittent self-catheterization patient guidance: female 157
5.11 Urinary catheter bag: emptying 158
5.12 Urinary catheter removal 159
5.13 Commencing bladder irrigation 162
5.14 Care of the patient during bladder irrigation 164
5.15 Nephrostomy tube: weekly dressing and bag change 167
5.16 Nephrostomy tube: removal of locking pigtail drainage system 169
5.17 Continent urinary diversion stoma: self-catheterization 172
5.18 Enema administration 181
5.19 Suppository administration 184
5.20 Digital rectal examination 186
5.21 Digital removal of faeces 188
5.22 Stoma siting 193
5.23 Stoma bag change 195
5.24 Stoma bridge or rod removal 196

6 Moving and positioning 207

Overview 208

Moving and positioning: general principles 208
Risk assessment: prevention of falls 212
Positioning the patient: in bed 213
Positioning the patient: sitting in bed 214
Positioning the patient: side-lying 215
Positioning the patient: in a chair/wheelchair 217
Moving the patient from sitting to standing 218
Walking 219

Moving and positioning the unconscious patient 221

Moving and positioning the patient with an artificial airway 222

Moving and positioning the patient with respiratory compromise 225
Positioning to maximize ventilation/perfusion matching 225
Positioning to minimize the work of breathing 227
Positioning to maximize the drainage of secretions 228

Moving and positioning the patient with neurological impairment 230

Moving and positioning of the patient with actual or suspected spinal cord compression or spinal cord injury 235

Moving and positioning the patient with an amputation 246
Websites 249
References 249

Procedure guidelines for Chapter 6
6.1 Positioning the patient: supine 213
6.2 Positioning the patient: sitting in bed 214
6.3 Positioning the patient: side-lying 215
6.4 Positioning the patient: lying down to sitting up 216
6.5 Positioning the patient: in a chair/wheelchair 218
6.6 Moving from sitting to standing: assisting the patient 219
6.7 Assisting the patient to walk 220
6.8 Positioning the unconscious patient or patient with an airway in supine 222
6.9 Positioning the unconscious patient or patient with an airway in side-lying 224
6.10 Positioning the patient to maximize V/Q matching with unilateral lung disease in a self-ventilating patient 226
6.11 Positioning the patient to maximize V/Q matching for widespread pathology in a self-ventilating patient 227
6.12 Positioning to maximize the drainage of secretions 230
6.13 Positioning the neurological patient with tonal problems 233
6.14 Log rolling for suspected/confirmed cervical spinal instability 237
6.15 Positioning for suspected/confirmed cervical spinal instability: pelvic twist to right 240
6.16 Log rolling for suspected/confirmed thoracolumbar spinal instability 242
6.17 Early mobilization of the patient in bed 243
6.18 Positioning the pre-operative and post-operative amputation patient 247

7 Nutrition, fluid balance and blood transfusion 253

Overview 254

Fluid balance 254

Nutritional status 266

Provision of nutritional support: oral 272

Nutritional management of patients with dysphagia 277

Enteral tube feeding 279
Enteral tube insertion 280
Enteral tube removal 287
Enteral tube care 288
Administration of enteral tube feed 294
Enteral feeding tubes: administration of medication 296
Enteral feeding tubes: unblocking 298

Parenteral nutrition 299

Transfusion of blood and blood components 302
Websites and useful addresses 323
References 324

Procedure guidelines for Chapter 7
7.1 Fluid input: measurement 259
7.2 Fluid output: monitoring/measuring output if the patient is catheterized 261
7.3 Fluid output: monitoring/measuring output if the patient is not catheterized 261
7.4 Fluid output: measuring output from drains 262
7.5 Fluid output: monitoring output from gastric outlets, nasogastric tubes, gastrostomy 263
7.6 Fluid output: monitoring output from bowels 263
7.7 Fluid output: monitoring output from stoma sites 264
7.8 Measuring the weight and height of the patient 269
7.9 Feeding an adult patient 276
7.10 Nasogastric intubation with tubes using an internal guidewire or stylet 281
7.11 Removal of a nasogastric tube 287
7.12 Percutaneous endoscopically placed gastrostomy (PEG) tube care 288
7.13 Radiologically inserted gastrostomy (RIG) tube care 290
7.14 Removal of T-fasteners 290
7.15 Checking the balloon volume on a balloon gastrostomy 291
7.16 Jejunostomy feeding tube care 292
7.17 Enteral feeding tubes: administration of feed 294
7.18 Enteral feeding tubes: administration of medication 296
7.19 Enteral feeding tubes: unblocking 298
7.20 Blood product request 312
7.21 Blood sampling: pre-transfusion 313
7.22 Blood components: collection and delivery to the clinical area 314
7.23 Blood component administration 316

8 Patient comfort and end-of-life care 331

Overview 332

Personal hygiene 332

Eye care 340

Ear care 350

Mouth care 352

Pain 360

Pain management 366

Acupuncture 373

Epidural and intrathecal analgesia 376

Regional analgesia: local anaesthetic nerve blocks and infusions 388

Entonox administration 391

Management of ascites 396

End-of-life care 402
Care before death 403
Care after death (last offices) 413
Websites 421
References 421

Procedure guidelines for Chapter 8
8.1 Bedbathing a patient 337
8.2 Washing a patient's hair in bed 339
8.3 Eye swabbing 344
8.4 Eye irrigation 345
8.5 Artificial eye care: insertion 347
8.6 Artificial eye care: removal 347
8.7 Contact lens removal: hard lenses 348
8.8 Contact lens removal: soft lenses 349
8.9 Mouth care 357
8.10 Mouth care for the patient with dentures 359
8.11 Pain assessment 365
8.12 Acupuncture: preparation and administration 376
8.13 Epidural/intrathecal sensory blockade: assessment 381
8.14 Epidural/intrathecal exit site dressing change 382
8.15 Epidural/intrathecal catheter removal 383
8.16 Entonox administration 394
8.17 Abdominal paracentesis 399
8.18 Personal care after death 416

9 Respiratory care 431

Overview 432

Respiratory therapy 432

Oxygen therapy 434

Humidification 441

High-flow oxygen therapy 444

Continuous positive airway pressure 446

Chest drains 452

Tracheostomy and laryngectomy care 467
Tracheostomy: dressing change 475
Tracheostomy: suctioning 476
Tracheostomy: changing the inner cannula 479
Tracheostomy: tube change 481

Cardiopulmonary resuscitation 484
References 502

Procedure guidelines for Chapter 9
9.1 Oxygen therapy 438
9.2 Humidification for respiratory therapy 443
9.3 High-flow oxygen therapy 444
9.4 Continuous positive airway pressure 449
9.5 Chest drain: insertion 458
9.6 Chest drainage: suction 461
9.7 Chest drain: priming ambulatory chest drain bag 461
9.8 Chest drain: changing the bottle 462
9.9 Chest drain: removal 463
9.10 Tracheostomy: dressing change 475
9.11 Tracheostomy: suctioning a patient 478
9.12 Tracheostomy: inner cannula change 480
9.13 Tracheostomy: tube change 481
9.14 Cardiopulmonary resuscitation 498

Part Three Supporting the patient through the diagnostic process 507

10 Interpreting diagnostic tests 509

Overview 510

Diagnostic tests 510

Blood: obtaining samples from a peripheral vein (venepuncture) 514
Blood sampling from a central venous catheter 524
Arterial sampling 527
Blood tests 534
Blood cultures 535
Post-procedural considerations 539
Antimicrobial drug assay 540
Cerebrospinal fluid obtained by lumbar puncture 541
Semen collection 547
Cervical uterine smear (pap smear) 550
Specimen collection: swab sampling 557
Specimen collection: urine sampling 565
Specimen collection: faecal sampling 571
Specimen collection: respiratory tract secretion sampling 573
Specimen collection: pleural fluid 578
Endoscopic investigations 579
Gastroscopy 579
Colonoscopy 581
Cystoscopy 582
Liver biopsy 583
Radiological investigations: X-ray 585
Magnetic resonance imaging 586
Computed tomography 587
Websites 587
References 588

Procedure guidelines for Chapter 10
10.1 Venepuncture 519
10.2 Central venous access devices: taking a blood sample for vacuum sampling 525
10.3 Central venous access devices: taking a blood sample for syringe sampling 526
10.4 Arterial puncture: radial artery 530
10.5 Arterial blood gas sampling: arterial cannula 532
10.6 Blood cultures: peripheral (winged device collection method) 537
10.7 Blood cultures: central venous access device 538
10.8 Blood sampling: antimicrobial drug assay 541
10.9 Lumbar puncture 544
10.10 Semen collection 550
10.11 Cervical uterine smear using a wooden spatula 552
10.12 Cervical uterine smear using liquid-based cytology 554
10.13 Cervical uterine smear using an endocervical brush 555
10.14 Swab sampling: ear 558
10.15 Swab sampling: eye 559
10.16 Swab sampling: nose 559
10.17 Swab sampling: penis 560
10.18 Swab sampling: rectum 561
10.19 Swab sampling: skin 562
10.20 Swab sampling: throat 563
10.21 Swab sampling: vagina 564
10.22 Swab sampling: wound 564
10.23 Urine sampling: midstream specimen of urine: male 566
10.24 Urine sampling: midstream specimen of urine: female 567
10.25 Urine sampling: catheter specimen of urine (CSU) 568
10.26 Urine sampling: sampling from an ileal conduit 569
10.27 Urine sampling: 24-hour urine collection 570
10.28 Faecal sampling 572
10.29 Sputum sampling 574
10.30 Nasopharyngeal wash: syringe method 575
10.31 Nasopharyngeal wash: vacuum-assisted aspirate method 577

11 Observations 595

Overview 596
Observations 596
Pulse (heart rate) 597
Twelve-lead electrocardiogram (ECG) 604
Blood pressure 610
Respiration and pulse oximetry 618
Peak flow 630
Temperature 634
Urinalysis 640
Blood glucose 646
Neurological observations 652
References 665

Procedure guidelines for Chapter 11
11.1 Pulse measurement 602
11.2 Electrocardiogram 608
11.3 Blood pressure measurement (manual) 616
11.4 Respiratory assessment and pulse oximetry 627
11.5 Peak flow reading using a manual peak flow meter 632
11.6 Temperature measurement 638
11.7 Urinalysis: reagent strip procedure 644
11.8 Blood glucose monitoring 649
11.9 Neurological observations and assessment 662

Part Four Supporting the patient through treatment 673

12 Medicines management 675

Overview 676
Self-administration of medicines 687
Controlled drugs 690
Routes of administration 697
Oral administration 697
Topical administration 702
Transdermal administration 704
Rectal administration 705
Vaginal administration 706
Pulmonary administration 708
Ophthalmic administration 712
Nasal administration 716
Otic administration 717
Injections and infusions 719
Intra-arterial 728
Intra-articular 728
Intrathecal administration of medication 728
Intradermal injection 729
Subcutaneous injection 731
Subcutaneous infusion 733
Intramuscular injections 739
Intraosseous administration 743
Intravenous injections and infusions 747

Infiltration and extravasation 767
Infiltration 767
Extravasation 767
Websites 781
References 781

Procedure guidelines for Chapter 12
12.1 Medication: self-administration 688
12.2 Medication: controlled drug administration 694
12.3 Medication: oral drug administration 701
12.4 Medication: topical applications 703
12.5 Medication: transdermal applications 704
12.6 Medication: vaginal administration 706
12.7 Medication: administration by inhalation using a metered dose inhaler 710
12.8 Medication: administration by inhalation using a nebulizer 711
12.9 Medication: eye administration 715
12.10 Medication: nasal drop administration 716
12.11 Medication: ear drop administration 718
12.12 Medication: single-dose ampoule: solution preparation 722
12.13 Medication: single-dose ampoule: powder preparation 723
12.14 Medication: multidose-vial: powder preparation using a venting needle 724
12.15 Medication: multidose vial: powder preparation using equilibrium method 726
12.16 Medication: injection administration 727
12.17 Medication: intradermal injection 729
12.18 Medication: subcutaneous injection 732
12.19 Medication: subcutaneous infusion of fluids 734
12.20 Medication: subcutaneous administration using a McKinley T34 syringe pump 736
12.21 Medication: intramuscular injection 741
12.22 Inserting an intraosseous needle 743
12.23 Removing an intraosseous needle 746
12.24 Medication: continuous infusion of intravenous drugs 757
12.25 Medication: intermittent infusion of intravenous drugs 760
12.26 Medication: injection (bolus or push) of intravenous drugs 763
12.27 Extravasation management: peripheral cannula 774
12.28 Extravasation: performing flush-out following an extravasation 776

13 Perioperative care 789

Overview 790

Pre-operative care 790
Patient information and education 797
Consent 798
Physical pre-operative preparation 799
Antiembolic stockings and prophylactic anticoagulation 800
Pre-operative fasting 804
Skin preparation 805
Marking skin for surgery 806
Pre-operative pregnancy testing 806
Prevention of toxic shock syndrome from tampon use 807
Latex sensitivity and allergy 807
Pre-operative theatre checklist 808

Intraoperative care 813
Intraoperative care: anaesthesia 813
Intraoperative care: theatre 816
Intraoperative care: post-anaesthetic care unit (PACU) 826

Post-operative care 833
Post-operative observations 834
Haemodynamic instability 834
Ineffective breathing pattern 835
Fluid balance 835
Surgical drains 836
Surgical wounds 851
Dressings for surgical wounds 851
Surgical wound complications 851
Urinary output and catheters 853
Bowel function 853
Nutrition 854
Post-operative pain 854
Immobility 854
Ongoing care on discharge 855
Websites 855
References 856

Procedure guidelines for Chapter 13
13.1 Step-by-step guide to measuring and applying antiembolic stockings 802
13.2 Pre-operative care: checking that the patient is fully prepared for surgery 811
13.3 Caring for the patient in the anaesthetic room 816
13.4 Operating theatre procedure: maintaining the safety of a patient while undergoing surgery 824
13.5 Handover in post-anaesthetic care unit: scrub nurse/ODP to recovery practitioner 827
13.6 Safe management of the patient in the PACU 829
13.7 Drainage systems: changing the dressing around the drain site for both open and closed drains 838
13.8 Closed drainage systems: changing a vacuum bottle 839
13.9 Wound drain removal: closed drainage system 841
13.10 Wound drain shortening for open drainage systems 843
13.11 Wound drain shortening for closed drainage systems 845

14 Vascular access devices: insertion and management 861

Overview 862

Vascular access devices 862

Peripheral cannulas 875

Midline catheters 890

Peripherally inserted central catheters 893
Removal of peripherally inserted central catheters 902

Short-term percutaneous central venous catheters (non-tunnelled) 904
Removal of short-term percutaneous central venous catheters (non-tunnelled) 909

Skin-tunnelled catheters 911

Implanted ports 915

Arterial cannulas 918
Removal of arterial cannula 923
References 925

Procedure guidelines for Chapter 14
14.1 Central venous catheter: insertion site dressing change 870
14.2 Vascular access devices: maintaining patency 872
14.3 Central venous access devices: unblocking an occlusion 872
14.4 Peripheral cannula insertion 881
14.5 Midline catheter insertion 891
14.6 PICC insertion using modified Seldinger technique with ultrasound 897

14.7 PICC removal 902
14.8 Short-term central venous catheter (non-cuffed/tunnelled) insertion into the internal jugular vein 906
14.9 Short-term central venous catheter (non-cuffed/tunnelled): removal 909
14.10 Central venous catheter (skin-tunnelled): surgical removal 912
14.11 Implanted ports: insertion and removal of non-coring needles 916
14.12 Arterial cannula insertion: preparation and setting up of monitoring set 921
14.13 Arterial cannula: removal 923

15 Wound management 935

Overview 936

Wounds 936

Pressure ulcers 946

Surgical wounds 954
Suturing 954
Removal of sutures or clips 960

Plastic surgery 961

Negative pressure wound therapy 962
Websites 965
References 965

Procedure guidelines for Chapter 15
15.1 Dressing a wound 945
15.2 Suturing a simple wound 956
15.3 Suture removal 960
15.4 Clip removal 961
15.5 Negative pressure wound therapy 964

Index 967

Foreword to the ninth edition

As the Chief Nurse of the Royal Marsden Hospital NHS Foundation Trust, and a contributor and clinical user of the manual for many years, it is a special pleasure and honour to be asked to introduce the ninth edition of *The Royal Marsden Manual of Clinical Nursing Procedures*. The manual is internationally renowned and used by nurses across the world to ensure their practice is evidence based and effective. As information becomes ever more available to the consumers of healthcare, it is essential that the manual is updated frequently so that it reflects the most current evidence to inform our clinical practice.

More than ever in 2015, nurses need to be able to assure the public, patients and their families that care is based on the best available evidence. As nurses seeking to improve our care, it is essential that we are able to critically analyse our judgements in the light of current knowledge. For all of us working with patients and their families, there is an imperative to question and renew our practice using the many sources of knowledge available to us. In the busy world of clinical practice in a ward, unit or in the community, it can be challenging to find time to search for the evidence and this is where *The Royal Marsden Manual of Clinical Nursing Procedures* is a real practical help.

As in the eighth edition, reviewing the evidence or sources of knowledge has been made more explicit with each level of evidence graded. This grading provides the reader with an understanding of whether the reference comes from a randomized controlled trial, national or international guidance, or from expert opinion. At its best, clinical nursing care is an amalgam of a sensitive therapeutic relationship coupled with effective care based on the best evidence that exists. Some areas of practice have attracted international research such as cardiopulmonary resuscitation and infection prevention and control; other areas of practice have not attracted such robust research and, therefore, it is more of a challenge to ensure evidence-based care. Each time a new edition of the manual is prepared we reflect on the gaps in research and knowledge; this provides the impetus to start developing new concept analyses and develop further research studies. In this new edition, the chapters have incorporated risk management, and legal and professional issues, as well as more guidelines for advanced nursing procedures, e.g. intraosseous injections. In addition, the procedures were tried out by the student nurses from Kingston University and St Georges University of London to ensure they worked in practice.

As you look at the list of contributors to the manual you will see that this edition has continued to be written by nurses who are expert and active in clinical practice. This has the double advantage of ensuring that this manual reflects the reality of practice, but also ensures that nurses at the Royal Marsden Hospital NHS Foundation Trust are frequently reviewing the evidence and reflecting upon their care.

A textbook devoted to improving and enhancing clinical practice needs to be alive to the clinical practitioner. You will see that this edition has continued the improvement in format, including many more figures and photographs to make the manual more effective in clinical care.

As I commend this ninth edition of *The Royal Marsden Manual of Clinical Nursing Procedures* to you, I am aware that it will be used in many different countries and settings. Having had the privilege of visiting and meeting nurses across the world I know that there are more commonalities than differences between us. The common theme is, of course, the need to ensure that we as nurses provide care that is individually and sensitively planned and that it is based on the best available evidence. *The Royal Marsden Manual of Clinical Nursing Procedures* is a wonderful resource for such evidence and I hope it will be widely used in all clinical settings across the world.

Finally, I would like to pay a warm tribute to the excellent work undertaken by the two editors, Lisa Dougherty and Sara Lister, and to all the nurses and allied health professionals at the Royal Marsden Hospital who have worked so hard on this ninth edition.

Dr Shelley Dolan
Chief Nurse
The Royal Marsden Hospital NHS Foundation Trust
Clinical Director
London Cancer Alliance

Acknowledgements

A book is a team effort and never more so than with this edition of *The Royal Marsden Manual of Clinical Nursing Procedures*.

Since the first edition was published in 1984, the range of procedures within the manual has grown in complexity, and the depth of the theoretical content underpinning them has increased considerably. Authors have, therefore, had to keep up-to-date with the ever-changing research evidence and write new, as well as update existing, material. This continues to be a collaborative task carried out by knowledgeable, expert nurses in partnership with members of the multidisciplinary team including pharmacists, physiotherapists, occupational therapists, dietitians, speech therapists, radiographers, anaesthetists, operating department practitioners and psychological care.

So, we must thank every member of the 'team' who has helped to produce this edition, for their time, effort and perseverance. An additional challenge has been to co-ordinate the increased number of contributors to each chapter. This responsibility has fallen to the lead chapter authors, so, for this, they deserve a special acknowledgement and thanks for their ability to integrate all the contributions and create comprehensive chapters.

We especially appreciate the work done by Anne Tibbles, Senior Lecturer Nursing, and the nursing students at Kingston University and St George's University of London, who reviewed all of the procedures used by students and gave us invaluable feedback on how they work in practice. We would also like to thank some other key people: Dale Russell and the library team of the David Adams Library at The Royal Marsden School of Cancer Nursing and Rehabilitation for their help and support in providing the references required by the authors and setting up the Endnote system; Stephen Millward and the medical photography team for all the new photographs; our families and friends who continue to encourage us, especially during the last two years – the time it takes to edit the manual; and, finally, our thanks go to Martin Davies, Magenta Styles, James Schultz, Tom Bates and Helen Harvey at Wiley-Blackwell for their advice and support in all aspects of the publishing process.

Lisa Dougherty
Sara Lister

List of contributors

Janice Barrett RN, BSc (Hons), PG Dip HE, MA
Sister, Critical Care Outreach
(Chapter 9: Respiratory care)

Helen Bass RGN, BSc (Hons) Nursing, MSc (Advancing Healthcare)
Lead Nurse, Clinical Education
(Chapter 8: Patient comfort and end-of-life care)

Helen Benson GPhC, MPharm (Hons), MSc
Associate Chief Pharmacist, Clinical Research and Development
(Chapter 12: Medicines management)

Louise Bisset Dip HE (Adult Nursing), BN (ICU)
Sister, Critical Care Outreach
(Chapter 9: Respiratory care)

Linda Bloomfield RGN, PG Cert, Dip HE (Nursing), DN Cert, OND
Discharge/Safeguarding Deputy
(Chapter 2: Assessment and discharge)

Grainne Brady BSc, Cert MRCSLT
Highly Specialist Speech and Language Therapist
(Chapter 7: Nutrition, fluid balance and blood transfusion)

Joanne Bull RN, MSc (Strategic Leadership and Expert Practice, Cancer), BN (Hons), Dip (Oncology)
Matron, Admissions and Preassessment, Clinical Assessment Unit, Outpatients and Rapid Diagnostic Assessment Centre
(Chapter 13: Perioperative care)

Nicholas Bultitude Registered ODP, BA (Hons), MSc (Healthcare Management)
Formerly, Divisional Operational Manager, Anaesthetics and Surgical Support
(Chapter 13: Perioperative care)

Maureen Carruthers RN, Dip (Oncology), BSc (Hons), MSc
Macmillan Matron, Palliative Care
(Chapter 8: Patient comfort and end-of-life care)

Suzanne Chapman MSc, BSc, RGN
Clinical Nurse Specialist, Pain Management
(Chapter 8: Patient comfort and end-of-life care)

Lydia Clark BA, BSc, Dip (Oncology)
Ward Sister
(Chapter 5: Elimination)

Michael Connolly MPhil, BSc, RGN
Consultant Nurse, Supportive and Palliative Care
(Chapter 4: Communication)

Jill Cooper MSc, DMS, DipCOT
Head Occupational Therapist
(Chapter 6: Moving and positioning)

Michelle Davies BSc (Hons), RD
Home Enteral Feeding/Community Dietitian
(Chapter 7: Nutrition, fluid balance and blood transfusion)

Andrew Dimech RN, BN, MSc (ICU), Dip (Oncology)
Head, Clinical Technical Services
(Chapter 10: Interpreting diagnostic tests)

Laura Dopson BSc (Hons), RGN, NMP
Clinical Nurse Specialist, Pain Management
(Chapter 8: Patient comfort and end-of-life care)

Lisa Dougherty OBE, RN, MSc, DClinP
Nurse Consultant, Intravenous Therapy
(Chapter 12: Medicines management; Chapter 14: Vascular access devices: insertion and management)

Andreia Fernandes RN, BSc, MSc
Clinical Nurse Specialist, Gynaecology Oncology
(Chapter 8: Patient comfort and end-of-life care; Chapter 10: Interpreting diagnostic tests)

Cathryn Forsythe RN, Dip HE, BSc (Hons)
Senior Staff Nurse, Critical Care
(Chapter 10: Interpreting diagnostic tests)

Sharon Giles BSc (Hons), MSc
MRI Research Radiographer
(Chapter 10: Interpreting diagnostic tests)

Rosie Goatley BSc (General Nursing, Intensive Care)
Sister, Critical Care Outreach
(Chapter 9: Respiratory care)

Keetje Gull BSc (Hons), MSc RGN
Sister, Critical Care Unit
(Chapter 14: Vascular access devices: insertion and management)

Amanda Gunning RGM
Lead Nurse, Stoma Care
(Chapter 5: Elimination)

Diz Hackman MSc, PG Dip (Physiotherapy)
Clinical Specialist Physiotherapist
(Chapter 6: Moving and positioning)

Ruth Hammond MSc (Advanced Cancer Practice) BSc (Adult Nursing)
Clinical Practice Educator
(Chapter 11: Observations)

Michael Hansford RMN, PG Dip (Counselling), MA (Counselling and Psychotherapy)
Staff Counsellor
(Chapter 4: Communication)

Zoe Hayman Registered Paramedic, Cert HE (Para Sci)
Resuscitation Lead
(Chapter 9: Respiratory care)

Nikki Hunter RN, BSc, MSc, MA
Complex Discharge Nurse
(Chapter 2: Assessment and discharge)

Kate Jones MCSP, HCPC, Dip (Physiotherapy), MSc
Clinical Specialist Physiotherapist
(Chapter 6: Moving and positioning)

Jon M. Knox RGN, Dip HE, BSc (Hons), PG Dip, RNIP, SCP
Advanced Nurse Practitioner, Plastics and Reconstructive Surgery
(Chapter 15: Wound management)

Sara Lister RN, PGDAE, BSc (Hons), MSc, MBACP
Head of Pastoral Care and Psychological Support
(Chapter 1: Introduction; Chapter 4: Communication)

Perrie Luke BSc (General Nursing, Intensive Care), Independent Nurse Prescriber
Sister, Critical Care Outreach
(Chapter 9: Respiratory care)

Jennifer Mackenzie RN, BN, Cert (Intensive Care)
Sister, Critical Care
(Chapter 10: Interpreting diagnostic tests)

Katharine Malhotra MSc (Rehabilitation), PG Cert (Clinical Education), BSc (Hons) (Physiotherapy)
Lecturer Practitioner, Allied Health
(Chapter 6: Moving and positioning)

Rebecca Martin RN, MSc, BSc (Hons), Independent Nurse Prescriber
Advanced Nurse Practitioner, Urology
(Chapter 5: Elimination; Chapter 13: Perioperative care)

Nuala McLaren BSc (General Nursing, Intensive Care)
Sister, Critical Care Outreach
(Chapter 9: Respiratory care)

Hayley McHugh BSc (Hons), RN, Cert (Intensive Care)
Senior Staff Nurse, Intensive Care
(Chapter 7: Nutrition, fluid balance and blood transfusion; Chapter 10: Interpreting diagnostic tests)

Wendy McSporran RGN, BSc (Hons), PG Dip
Transfusion Practitioner
(Chapter 7: Nutrition, fluid balance and blood transfusion)

Anita McWhirter GPhC, BSc (Hons), MSc
Pharmacy Clinical Services Manager
(Chapter 12: Medicines management)

Dee Mears DCR(R), DMS
CT Superintendent
(Chapter 10: Interpreting diagnostic tests)

Carolyn Moore MCSP, SRP
Superintendent Physiotherapist
(Chapter 6: Moving and positioning)

Philippa Nightingale BN, Nurse Practitioner
Senior Staff Nurse
(Chapter 2: Assessment and discharge)

Claire Nowell BSc (Hons), MSc
Senior Physiotherapist
(Chapter 6: Moving and positioning)

Scott Pollock Dip (Social Work), BA (Hons), MSc
Discharge and Vulnerable Adult Lead
(Chapter 2: Assessment and discharge; Chapter 4: Communication)

Tessa Renouf RN, MSc (Advanced Cancer Practice), BSc (Hons), Dip (Oncology)
Lead Sister, Admissions and Preassessment Unit
(Chapter 13: Perioperative care)

Justin Roe BA (Hons), PG Dip, MSc, PhD, Cert MRCSLT
Joint Head, Speech and Language Therapy and Allied Health Professions Researcher, Project Lead
(Chapter 4: Communication; Chapter 7: Nutrition, fluid balance and blood transfusion)

Lara Roskelly RN, Dip (General, Community Psychiatric Nursing and Midwifery), Dip (ICU), Independent Nurse Prescriber
Matron, Critical Care Outreach and Resuscitation
(Chapter 9: Respiratory care; Chapter 10: Interpreting diagnostic tests)

Janet Schmitt BSc (Hons), PG Cert (Ed), MSc
Neuro-therapy Manager
(Chapter 6: Moving and positioning; Chapter 9: Respiratory care)

Richard Schorstein RN, BSc, PG Dip, Nurse Practitioner
Matron/Nurse Practitioner
(Chapter 2: Assessment and discharge)

Clare Shaw PhD (Nutrition), BSc (Hons) (Nutrition), PG Dip (Dietetics)
Consultant Dietitian
(Chapter 7: Nutrition, fluid balance and blood transfusion)

Louise Soanes RGN/RSCN, BSc, MSc
Teenage Cancer Trust Nurse Consultant, Adolescents and Young Adults
(Chapter 10: Interpreting diagnostic tests)

Heather Spurgeon RN, BSc (Critical Care Nursing), MSc (Adult Critical Care)
Matron, Critical Care and Theatres
(Chapter 11: Observations)

Anna-Marie Stevens MSc, BSc (Hons), RN
Macmillan Nurse Consultant, Palliative Care
(Chapter 8: Patient comfort and end-of-life care)

Nicola Tinne MSc (Advanced Cancer Practice), BSc (Cancer Nursing), Dip HE (Nursing Studies), RGN
Formerly, Clinical Nurse Specialist, Head and Neck Cancers
(Chapter 15: Wound management)

Richard Towers RGN, BSc (Hons), MSc, Professional Doctorate Nursing
Lead Nurse Counsellor/Lecturer Practitioner
(Chapter 4: Communication)

Simon Tuddenham RN, BN (Hons), BA (Hons)
Staff Nurse, Critical Care
(Chapter 10: Interpreting diagnostic tests)

Vanessa Franklin Urbina MSc (Nutrition and Dietetics), RD
Senior Specialist Dietitian
(Chapter 7: Nutrition, fluid balance and blood transfusion)

Susan Vyoral BSc (Hons), RD
Dietitian
(Chapter 7: Nutrition, fluid balance and blood transfusion)

Victoria Ward RN, BN (Hons), MSc
Matron/Nurse Practitioner
(Chapter 2: Assessment and discharge)

Paul Weaving BSc, RGN, MSc
Formerly, Associate Director, Infection Prevention and Control
(Chapter 3: Infection prevention and control)

Alexandra West-Oram MSc, BSc (Hons), PG Dip (Ed), RN, RT
Programme Leader, The Royal Marsden School
(Chapter 5: Elimination)

Catherine Wilson PhD, MSc, BSc (Hons), PG Dip (Ed), RN, Dip HE (Palliative Care), Cert Oncology Nursing
Interim Head of School, Royal Marsden School
(Chapter 4: Communication)

Barbara Witt RN
Nurse, Phlebotomist
(Chapter 10: Interpreting diagnostic tests)

Luv Wootton BSc (General Nursing, Intensive Care)
Sister, Critical Care Outreach
(Chapter 9: Respiratory care)

Lynn Worley RGN, RMN, BSc (Hons) (Cancer Practice)
Clinical Nurse Specialist, Plastic Surgery and Tissue Viability
(Chapter 15: Wound management)

The authors and Wiley Blackwell are hugely grateful to the nursing staff and students at Kingston University and St George's University London for their help in the development of this edition.

Nursing staff

Cathy Chia RN, RM, RMN, Cert Ed, BSc (Hons), MSc
Senior Lecturer, Simulated Learning and Clinical Skills

Karen Elliott RN, BSC (Hons), PGCE
Senior Lecturer, Simulated Learning and Clinical Skills

Terry Firth RN, BA (Hons), RNT
Senior Lecturer, Simulated Learning and Clinical Skills.

Suchita Hathiramani MCSP, BSc, MSC, FHEA
Senior Lecturer, Simulated Learning and Clinical Skill

Francina Hyatt RN, Dip N, BSC (Hons)
Senior Lecturer, Simulated Learning and Clinical Skills

Jo Low
Clinical Skills Laboratory Manager

Tracey Marshall RN, BSc (Hons)
Nutrition Specialist Nurse, St George's Hospital

Barry Pearse RN, BA (Hons), PGCE
Senior Lecturer, Simulated Learning and Clinical Skills

Hazel Ridgers RN, DipHE, BA (Hons), MA
Senior Lecturer, Simulated Learning and Clinical Skills

Susan Rush RN, MSC, RNT
Associate Professor, Simulated Learning and Clinical Skills

Annie Spalton RN, Dip N, RNT
Senior Lecturer, Simulated Learning and Clinical Skills

Anne Tibbles TD, MSc, MA, PG Dip, PGCE, BSc (Hons), Dip N (Lond), RN
Senior Lecturer, Simulated Learning and Clinical Skills

Student cohorts

Diploma in Nursing students: September 10 and February 11

BSc Nursing students: September 11 and September 12

PG Dip Nursing students: February 12 and September 12

List of abbreviations

AAC	augmentive or alternative communication
AAGBI	Association of Anaesthetists of Great Britain and Ireland
ABG	arterial blood gas
ABPM	ambulatory blood pressure monitoring
AD	autonomic dysreflexia
ADH	antidiuretic hormone
ADR	adverse drug reaction
A&E	accident and emergency
AED	automated external defibrillator
AIDS	acquired immune deficiency syndrome
ALARP	as low as reasonably practicable
ALS	advanced life support
ALT	alanine aminotransferase
ANH	acute normovolaemic haemodilution
ANP	atrial natriuretic peptide
ANS	autonomic nervous system
ANTT	aseptic non-touch technique
AP	alkaline phosphatase/anteroposterior/alternating pressure
APTR	activated partial thromboplastin ratio
ARDS	adult respiratory distress syndrome
ART	assisted reproductive techniques
ASA	American Society of Anesthesiologists
AST	aspartate aminotransferase
AT	anaerobic threshold
AV	atrioventricular
AVPU	alert, verbal, pain, unresponsive
BAL	bronchoalveolar lavage
BIA	bio-electrical impedance analysis
BiPAP	bilevel positive airway pressure
BLS	basic life support
BME	black and minority ethnic
BMI	body mass index
BNF	British National Formulary
BP	blood pressure
BSE	bovine spongiform encephalopathy
CAUTI	catheter-associated urinary tract infection
CCU	coronary care unit
cfu	colony-forming unit
CHG	chlorhexidine gluconate
CJD	Creutzfeldt–Jakob disease
CLP	continuous low pressure
CMV	cytomegalovirus
CNCP	chronic non-cancer pain
CNS	central nervous system
CO	cardiac output
COAD	chronic obstructive airways disease
COPD	chronic obstructive pulmonary disease
CPAP	continuous positive airway pressure
CPET	cardiopulmonary exercise testing
CPNB	continuous peripheral nerve block
CPR	cardiopulmonary resuscitation
CRP	C-reactive protein
CSF	cerebrospinal fluid
CSP	Chartered Society of Physiotherapy
CSU	catheter specimen of urine
CT	computed tomography
CTZ	chemoreceptor trigger zone
CVA	cerebrovascular accident
CVAD	central venous access device
CVC	central venous catheter
CVP	central venous pressure
CXR	chest X-ray
DBE	deep breathing exercises
DIC	disseminated intravascular coagulation
DKA	diabetic ketoacidosis
DM	diabetes mellitus
DMSO	dimethylsulphoxide
DNA	did not attend
DNAR	do not attempt resuscitation
DPI	dry powder inhaler
DRE	digital rectal examination
DRF	digital removal of faeces
DVT	deep vein thrombosis
EBN	evidence-based nursing
EBP	evidence-based practice
ECF	extracellular fluid
ECG	electrocardiogram
ECM	extracellular matrix
EDTA	ethylenediamine tetra-acetic acid
ELISA	enzyme-linked immunosorbent assay
EMR	endoscopic mucosal resection
ENT	Ear, Nose and Throat
ESD	endoscopic submucosal dissection
ESR	erythrocyte sedimentation rate
ETT	endotracheal tube
EU	European Union
EWS	early warning scoring
FBC	full blood count
FEES	fibreoptic endoscopic evaluation of swallowing
FFP	fresh frozen plasma
FRC	functional residual capacity
FVC	forced vital capacity
FWB	fully weight bearing
GCS	Glasgow Coma Scale
GFR	glomerular filtration rate
GGT	gamma-glutamyl transpeptidase
GI	gastrointestinal
GMC	General Medical Council
GM-CSF	granulocyte macrophage-colony stimulating factor
GSL	general sales list medicine
GTN	glyceryl trinitrate
HBPM	home blood pressure monitoring
HBV	hepatitis B virus
HCA	healthcare assistant
HCAI	healthcare-associated infection
HCP	healthcare professional
HCV	hepatitis C virus
HDU	high-dependency unit
HEPA	high-efficiency particulate air
HFEA	Human Fertilisation and Embryology Authority
HFOT	high-flow oxygen therapy
HIV	human immunodeficiency virus
HLA	human leucocyte antigen
HME	heat and moisture exchanger
HOCF	Home Oxygen Consent Form

HOOF Home Oxygen Ordering Form
HPA Health Protection Agency
HPV human papillomavirus
HR heart rate
HSE Health and Safety Executive
HTLV human T cell leukaemia/lymphoma virus
IAD incontinence-associated dermatitis
IASP International Association for the Study of Pain
IBCT incorrect blood component transfused
IC inspiratory capacity
ICF intracellular fluid
ICP intracranial pressure
ICS intraoperative cell salvage
ICSI intracytoplasmic sperm injection
IM intramuscular
INR international normalized ratio
IO intraosseous
IPCT infection prevention and control team
ISC intermittent self-catheterization
ITDD intrathecal drug delivery
ITU intensive therapy unit
IV intravenous
JVP jugular venous pressure
LA local anaesthetic
LBC liquid-based cytology
LCT long-chain triglyceride
LMA laryngeal mask airway
LMN lower motor neurone
LOS lower oesophageal sphincter
LPA Lasting Power of Attorney
MAOI monoamine oxidase inhibitor
MAP mean arterial pressure
MAR medicines administration record
MC&S Microscopy, Culture and Sensitivity
MCT medium-chain triglyceride
MDA Medical Devices Agency
MDI metered dose inhaler
MDT multidisciplinary team
MESA microepididymal sperm aspiration
MET medical emergency team
MHRA Medicines and Healthcare Products Regulatory Agency
MI myocardial infarction
MIC minimum inhibitory concentration
MMP matrix metalloprotease
MPQ McGill Pain Questionnaire
MRC Medical Research Council
MRI magnetic resonance imaging
MRSA meticillin-resistant *Staphylococcus aureus*
MS multiple sclerosis
MSCC metastatic spinal cord compression
MSU midstream urine
MUAC mid upper arm circumference
MUST Malnutrition Universal Screening Tool
NAT nucleic acid testing
NBM nil by mouth
NEWS National Early Warning Score
NG nasogastric
NHS National Health Service
NHSCSP NHS cervical screening programme
NIPEE non-invasive positive end-expiration
NIV non-invasive ventilation
NMC Nursing and Midwifery Council
NMDA N-methyl-D-aspartate
NPC National Prescribing Centre
NPSA National Patient Safety Agency
NPWT negative pressure wound therapy
NRAT Norgine Risk Assessment Tool
NRS numerical rating scale
NSAID non-steroidal anti-inflammatory drug
NWB non-weight bearing
ODP operating department practitioner
OGD oesophagogastroduodenoscopy
OSCE objective structured clinical examination
OT occupational therapist
OTC over the counter
P pharmacy-only medicine
PACU post-anaesthetic care unit
PAD pre-operative autologous donation
PART patient-at-risk team
PCA patient-controlled analgesia
PCEA patient-controlled epidural analgesia
PDPH post-dural puncture headache
PE pulmonary embolus
PEA pulseless electrical activity
PEEP positive end-expiratory pressure
PEF peak expiratory flow
PEG percutaneous endoscopically placed gastrostomy
PEP post-exposure prophylaxis
PESA percutaneous epididymal sperm aspiration
PGD Patient Group Direction
PHCT primary healthcare team
PHN post-herpetic neuralgia
PICC peripherally inserted central cannula
PN parenteral nutrition
PNS peripheral nervous system
POA pre-operative assessment
POCT point-of-care testing
POM prescription-only medicine
PONV post-operative nausea and vomiting
PPE personal protective equipment
PRBC packed red blood cell
PrP prion protein
PSCC primary/benign spinal cord compression
PT physiotherapist
PTFE polytetrafluoroethylene
PUO pyrexia of unknown origin
PVC polyvinyl chloride
PWB partially weight bearing
PWO partial withdrawal occlusion
RA right atrium
RAS reticular activating system
RBC red blood cell
RCN Royal College of Nursing
RCT randomized controlled trial
RFID radiofrequency identification tag
RIG radiologically inserted gastrostomy
RNI reference nutrient intake
RSV respiratory syncytial virus
SA sinoatrial
SaBTO Safety of Blood, Tissues and Organs
SAP Single Assessment Process
SARS severe acute respiratory syndrome
SBAR Situation, Background, Assessment, Recommendation
SC subcutaneous
SCC spinal cord compression
SCI spinal cord injury
SGA subjective global assessment
SHOT Serious Hazards of Transfusion
SIMV synchronized intermittent mandatory ventilation
SIRS systemic inflammatory response syndrome
SIU spinal injuries unit
SL semi-lunar
SLT speech and language therapist
SMBG self-monitoring of blood glucose
SNRI serotonin-norepinephrine reuptake inhibitor
SOP Standard Operating Procedure
SPa suprapubic aspirate
SSRI selective serotonin reuptake inhibitor

SV	stroke volume
SVC	superior vena cava
swg	standard wire gauge
TACO	transfusion-associated cardiac overload
TA-GVHD	transfusion-associated graft-versus-host disease
TB	tuberculosis
TCA	tricyclic antidepressant
TED	thromboembolic deterrent
TENS	transcutaneous electrical nerve stimulation
TESE	testicular sperm extraction
TIVA	total intravenous anaesthesia
TPI	*Treponema pallidum* immobilization
TRALI	transfusion-related acute lung injury
TSE	transmissible spongiform encephalopathy
TSS	toxic shock syndrome
TTO	to take out
TURBT	transurethral resection of bladder tumour
TURP	transurethral resection of prostate
UMN	upper motor neurone
UTI	urinary tract infection
VAD	vascular access device
VAP	ventilator-associated pneumonia
VAT	Venous Assessment Tool
VBG	venous blood gas
vCJD	variant Creutzfeldt–Jakob disease
VDRL	Venereal Disease Research Laboratory
VEGF	vascular endothelial growth factor
VF	ventricular fibrillation
VPF	vascular permeability factor
V/Q	ventilation/perfusion
VT	ventricular tachycardia
VTE	venous thromboembolism
WBC	white blood cell
WBIT	wrong blood in tube
WHO	World Health Organization
WOB	work of breathing
WR	Wassermann reaction

Quick reference to the procedure guidelines

Abdominal examination 32
Abdominal paracentesis 399
Acupuncture: preparation and administration 376
Arterial blood gas sampling: arterial cannula 532
Arterial cannula insertion: preparation and setting up of monitoring set 921
Arterial cannula: removal 923
Arterial puncture: radial artery 530
Artificial eye care: insertion 347
Artificial eye care: removal 347
Aseptic technique example: changing a wound dressing 78
Assisting the patient to walk 220
Bedbathing a patient 337
Blood component administration 316
Blood components: collection and delivery to the clinical area 314
Blood cultures: central venous access device 538
Blood cultures: peripheral (winged device collection method) 537
Blood glucose monitoring 649
Blood pressure measurement (manual) 616
Blood product request 312
Blood sampling: antimicrobial drug assay 541
Blood sampling: pre-transfusion 313
Cardiopulmonary resuscitation 498
Cardiovascular examination 28
Care of a patient who is vomiting 135
Care of the patient during bladder irrigation 164
Caring for the patient in the anaesthetic room 816
Central venous access devices: taking a blood sample for syringe sampling 526
Central venous access devices: taking a blood sample for vacuum sampling 525
Central venous access devices: unblocking an occlusion 872
Central venous catheter (skin-tunnelled): surgical removal 912
Central venous catheter: insertion site dressing change 870
Cervical uterine smear using a wooden spatula 552
Cervical uterine smear using an endocervical brush 555
Cervical uterine smear using liquid-based cytology 554
Checking the balloon volume on a balloon gastrostomy 291
Chest drain: changing the bottle 462
Chest drain: insertion 458
Chest drain: priming ambulatory chest drain bag 461
Chest drain: removal 463
Chest drainage: suction 461
Clip removal 961
Closed drainage systems: changing a vacuum bottle 839
Commencing bladder irrigation 162
Commode use: assisting a patient 143
Contact lens removal: hard lenses 348
Contact lens removal: soft lenses 349
Continent urinary diversion stoma: self-catheterization 172
Continuous positive airway pressure 449
Digital rectal examination 186
Digital removal of faeces 188
Donning a sterile gown and gloves: closed technique 73
Donning sterile gloves: open technique 71
Drainage systems: changing the dressing around the drain site for both open and closed drains 838
Dressing a wound 945
Early mobilization of the patient in bed 243
Electrocardiogram 608
Enema administration 181
Enteral feeding tubes: administration of feed 294
Enteral feeding tubes: administration of medication 296
Enteral feeding tubes: unblocking 298
Entonox administration 394
Epidural/intrathecal catheter removal 383
Epidural/intrathecal exit site dressing change 382
Epidural/intrathecal sensory blockade: assessment 381
Extravasation management: peripheral cannula 774
Extravasation: performing flush-out following an extravasation 776
Eye irrigation 345
Eye swabbing 344
Faecal sampling 572
Feeding an adult patient 276
Fluid input: measurement 259
Fluid output: measuring output from drains 262
Fluid output: monitoring output from bowels 263
Fluid output: monitoring output from gastric outlets, nasogastric tubes, gastrostomy 263
Fluid output: monitoring output from stoma sites 264
Fluid output: monitoring/measuring output if the patient is catheterized 261
Fluid output: monitoring/measuring output if the patient is not catheterized 261
Hand decontamination using alcohol handrub 63
Hand washing 61
Handover in post-anaesthetic care unit: scrub nurse/ODP to recovery practitioner 827
High-flow oxygen therapy 444
Humidification for respiratory therapy 443
Implanted ports: insertion and removal of non-coring needles 916
Inserting an intraosseous needle 743
Insertion of a nasogastric (NG) drainage tube 137
Jejunostomy feeding tube care 292
Log rolling for suspected/confirmed cervical spinal instability 237
Log rolling for suspected/confirmed thoracolumbar spinal instability 242
Lumbar puncture 544
Measuring the weight and height of the patient 269
Medication: administration by inhalation using a metered dose inhaler 710
Medication: administration by inhalation using a nebulizer 711
Medication: continuous infusion of intravenous drugs 757
Medication: controlled drug administration 694
Medication: ear drop administration 718
Medication: eye administration 715
Medication: injection (bolus or push) of intravenous drugs 763
Medication: injection administration 727

Medication: intermittent infusion of intravenous drugs 760
Medication: intradermal injection 729
Medication: intramuscular injection 741
Medication: multidose vial: powder preparation using equilibrium method 726
Medication: multidose-vial: powder preparation using a venting needle 724
Medication: nasal drop administration 716
Medication: oral drug administration 701
Medication: self-administration 688
Medication: single-dose ampoule: powder preparation 723
Medication: single-dose ampoule: solution preparation 722
Medication: subcutaneous administration using a McKinley T34 syringe pump 736
Medication: subcutaneous infusion of fluids 734
Medication: subcutaneous injection 732
Medication: topical applications 703
Medication: transdermal applications 704
Medication: vaginal administration 706
Midline catheter insertion 891
Mouth care 357
Mouth care for the patient with dentures 359
Moving from sitting to standing: assisting the patient 219
Nasogastric intubation with tubes using an internal guidewire or stylet 281
Nasopharyngeal wash: syringe method 575
Nasopharyngeal wash: vacuum-assisted aspirate method 577
Negative pressure wound therapy 964
Nephrostomy tube: removal of locking pigtail drainage system 169
Nephrostomy tube: weekly dressing and bag change 167
Neurological observations and assessment 662
Operating theatre procedure: maintaining the safety of a patient while undergoing surgery 824
Oxygen therapy 438
Pain assessment 365
Peak flow reading using a manual peak flow meter 632
Penile sheath application 145
Percutaneous endoscopically placed gastrostomy (PEG) tube care 288
Peripheral cannula insertion 881
Personal care after death 416
PICC insertion using modified Seldinger technique with ultrasound 897
PICC removal 902
Positioning for suspected/confirmed cervical spinal instability: pelvic twist to right 240
Positioning the neurological patient with tonal problems 233
Positioning the patient to maximize V/Q matching for widespread pathology in a self-ventilating patient 227
Positioning the patient to maximize V/Q matching with unilateral lung disease in a self-ventilating patient 226
Positioning the patient: in a chair/wheelchair 218
Positioning the patient: lying down to sitting up 216
Positioning the patient: side-lying 215
Positioning the patient: sitting in bed 214
Positioning the patient: supine 213
Positioning the pre-operative and post-operative amputation patient 247
Positioning the unconscious patient or patient with an airway in supine 222
Positioning the unconscious patient or patient with an airway in side-lying 224
Positioning to maximize the drainage of secretions 230
Pre-operative care: checking that the patient is fully prepared for surgery 811
Protective isolation: entering the isolation room 88
Protective isolation: preparing the room 87
Pulse measurement 602
Putting on and removing a disposable apron 66
Putting on and removing a disposable mask or respirator 67
Putting on and removing non-sterile gloves 64
Putting on or removing goggles or a face shield 68
Radiologically inserted gastrostomy (RIG) tube care 290
Removal of a nasogastric tube 138
Removal of a nasogastric tube 287
Removal of T-fasteners 290
Removing an intraosseous needle 746
Respiratory assessment and pulse oximetry 627
Respiratory examination 25
Safe disposal of foul, infected or infested linen 92
Safe management of the patient in the PACU 829
Semen collection 550
Short-term central venous catheter (non-cuffed/tunnelled) insertion into the internal jugular vein 906
Short-term central venous catheter (non-cuffed/tunnelled): removal 909
Slipper bedpan use: assisting a patient 142
Source isolation: entering the isolation room 84
Source isolation: leaving the isolation room 85
Source isolation: preparing an isolation room 83
Source isolation: transporting infected patients outside the source isolation area 86
Sputum sampling 574
Step-by-step guide to measuring and applying antiembolic stockings 802
Stoma bag change 195
Stoma bridge or rod removal 196
Stoma siting 193
Suppository administration 184
Surgical scrub technique 69
Suture removal 960
Suturing a simple wound 956
Swab sampling: ear 558
Swab sampling: eye 559
Swab sampling: nose 559
Swab sampling: penis 560
Swab sampling: rectum 561
Swab sampling: skin 562
Swab sampling: throat 563
Swab sampling: vagina 564
Swab sampling: wound 564
Temperature measurement 638
Tracheostomy: dressing change 475
Tracheostomy: inner cannula change 480
Tracheostomy: suctioning a patient 478
Tracheostomy: tube change 481
Urinalysis: reagent strip procedure 644
Urinary catheter bag: emptying 158
Urinary catheter removal 159
Urinary catheterization: female 153
Urinary catheterization: intermittent self-catheterization patient guidance: male 156
Urinary catheterization: intermittent self-catheterization patient guidance: female 157
Urinary catheterization: male 151
Urine sampling: 24-hour urine collection 570

Urine sampling: catheter specimen of urine (CSU) 568
Urine sampling: midstream specimen of urine: female 567
Urine sampling: midstream specimen of urine: male 566
Urine sampling: sampling from an ileal conduit 569
Vascular access devices: maintaining patency 872
Venepuncture 519
Washing a patient's hair in bed 339
Wound drain removal: closed drainage system 841
Wound drain shortening for closed drainage systems 845
Wound drain shortening for open drainage systems 843

How to use your manual

Features contained within your manual

The **overview page** gives a summary of the topics covered in each part.

Part Two

Supporting the patient with human functioning

Chapters

4 Communication 97
5 Elimination 133
6 Moving and positioning 207
7 Nutrition, fluid balance and blood transfusion 253
8 Patient comfort and end-of-life care 331
9 Respiratory care 431

Every chapter begins with a **list of procedures** found within the chapter.

Chapter 3

Infection prevention and control

Procedure guidelines

3.1 Hand washing 61
3.2 Hand decontamination using alcohol handrub 63
3.3 Putting on and removing non-sterile gloves 64
3.4 Putting on and removing a disposable apron 66
3.5 Putting on and removing a disposable mask or respirator 67
3.6 Putting on or removing goggles or a face shield 68
3.7 Surgical scrub technique 69
3.8 Donning sterile gloves: open technique 71
3.9 Donning a sterile gown and gloves: closed technique 73
3.10 Aseptic technique example: changing a wound dressing 78
3.11 Source isolation: preparing an isolation room 83
3.12 Source isolation: entering the isolation room 84
3.13 Source isolation: leaving the isolation room 85
3.14 Source isolation: transporting infected patients outside the source isolation area 86
3.15 Protective isolation: preparing the room 87
3.16 Protective isolation: entering the isolation room 88
3.17 Safe disposal of foul, infected or infested linen 92

The Royal Marsden Manual of Clinical Nursing Procedures: Professional Edition, Ninth Edition. Edited by Lisa Dougherty and Sara Lister

© 2015 The Royal Marsden NHS Foundation Trust. Published 2015 by John Wiley & Sons, Ltd.

Your manual is full of **photographs, illustrations and tables**

Principles Table 4.8 Communicating with a depressed person

Principle	Rationale
Initiate the conversation, develop rapport. Develop a person-centred communication style.	Good communication is essential to assess and individualize support (NICE 2009a, **C**).
Show understanding, caring and acceptance of behaviours, including tears or anger.	Accepting the patient as they are without attempting to block or contain their emotions helps them to express their feelings accurately. **E**
Encourage patient to identify their own abilities or strategies for coping with the situation.	Promote self-efficacy. **E**

Problem-solving table 4.2 Prevention and resolution (Principles table 4.8)

Problem	Cause	Prevention	Action
Patient expresses ideas of self-harm or taking their own life.	Low mood, depression.	Assess for risk: this can be as simple as remarking upon the person's low mood and asking them if they have ever thought of hurting themselves. Explore any expressions of suicidal ideas for intention to act. This can be achieved by asking if the patient has a plan. Crucially you will also need to explore what stops the patient from acting and what changes might cause them to act. If you consider the patient is at risk, explain to them that you need to refer them for further support.	If you have any concerns that the patient is at risk, follow the procedure of your organization. This may include contacting psychiatric liaison services or other psychological support.

Box 4.8 Managing the patient with depression: NICE guidance, step 1

Key questions

1 During the last month, have you often been bothered by:
- feeling down, depressed or hopeless?
- having little interest or pleasure in doing things?

2 How long have you felt like this for?

If the patient answers 'yes' to question 1 and the time scale is longer than 2 weeks, it is important that a referral is made for further assessment by a healthcare professional with clinical competence in managing depression, such as a clinical psychologist or a registered mental health nurse, so they can determine if the patient has been bothered by 'feelings of worthlessness, poor concentration or thoughts of death' (NICE 2009a, p.4).

Other questions should assess for the following

- Other physical health problems that may be significantly affecting their mood such as uncontrolled pain, sleep disruption, excessive nausea and vomiting, physical limitations on their independence or body image disturbance.
- A history of psychological illness such as depression.
- A consideration of the medication the patient is taking, specifically medication for mental health problems. Have they been able to take it and absorb it or have they had any digestive issues?
- Social support for the patient: who else is around to support the person, are they isolated?

Source: Adapted from NICE (2009a).

Anger, aggression and violence management

Definition

Anger is an emotional state experienced as the impulse to behave in order to protect, defend or attack in response to a threat or challenge. Of itself, anger is not classifed as an emotional disorder. This emotional state may range in intensity from mild irritation to intense fury and rage and becomes a problem when it is associated with poor impulse control.

Related theory

Nurses may be exposed to anger and aggression. Poor communication is frequently a precursor to aggressive behaviour (Duxbury and Whittington 2005). Aggression and abuse tend to be discussed synonymously in the literature and are reported to occur with some frequency in nursing (McLaughlin et al. 2009). Anger is felt or displayed when someone's annoyance or irritation has increased to a point where they feel or display extreme displeasure. Verbal aggression is the expression of anger via hostile language; this language causes offence and may result in physical assault. Verbal abuse may actually be experienced as worse than a minor physical assault (Adams and Whittington 1995).

Whatever the cause of anger or conflict, people can behave in a number of challenging ways and with varying degrees of resistance to social and hospital rules. People may simply refuse to comply with a request or may behave more aggressively, for example by pushing someone aside (without intent to harm) or by deliberately striking out at others. Mental capacity issues should be considered when assessing the causes of aggressive behaviours.

When patients do feel anger, they may feel too depleted by experiences of disease and treatment to express it (Bowes et al. 2002).

For some people, anger may be the least distressing emotion to display. Sometimes helplessness, sadness and loss are far harder to explore and show to others. Anger therefore can be a way of controlling intimacy and disclosure, but it can escalate to threatening, abusive or violent behaviour.

Evidence-based approaches

Prevention is the most effective method of managing anger; that is, diffusing stressful or difficult interactions before they become a crisis. Understanding why angry or challenging behaviour occurs can be helpful in establishing a comprehensive approach to prevention. NHS Protect (2013) proposes a framework for explaining challenging behaviour. This includes considering:

- *historical factors:* such as substance and alcohol abuse
- *current presentation:* diagnosis, physical factors such as pain
- *triggers or antecedents:* which include environmental factors such as other agitated individuals, busy or noisy areas and situational factors such as inconsistent staff attitude, time of day. Figure 4.6 presents this in more detail.

In some instances, challenging or difficult behaviour can be seen to be related to underlying stress and difficulty in a person's situation. Anger, aggression and violence may have 'biological, psychological, social and environmental roots' (Krug 2002, p.25). People frequently get angry when they feel they are not being heard or when their control of a situation and self-esteem are compromised. Institutional pressures can influence healthcare professionals to act in controlling ways and may contribute to patients' angry responses (Gudjonsson et al. 2004). Patients are often undergoing procedures that threaten them and they may consequently feel vulnerable and react aggressively as a result (NHS Protect 2013). Another source of anger can be when personal beliefs in the form of rules are broken by others. We therefore need to strive to be aware of individual and cultural values and work with them to avoid frustration and upset.

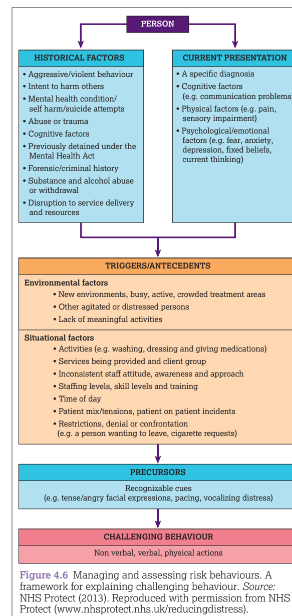

Figure 4.6 Managing and assessing risk behaviours. A framework for explaining challenging behaviour. *Source:* NHS Protect (2013). Reproduced with permission from NHS Protect (www.nhsprotect.nhs.uk/reducingdistress).

People also can become angry when they feel that they have not been communicated with honestly or are misled about treatments and their outcomes. To prevent people's frustration escalating into anger or worse, health professionals need to ensure that they are communicating openly, honestly and frequently (NHS Protect 2013).

Some patients may appear or sound aggressive when they are not intending to be and the nurse must therefore use good judgement to clarify their behaviour in these instances. Nurses need to be aware of their own boundaries and capabilities when dealing with challenging or abusive situations.

Threats, uncertainty and disempowerment may predispose people to anger, and living with and being treated for any serious condition can be sufficiently threatening and disempowering (NHS Protect 2013).

Legal and professional issues

Nurses may be inclined to accept aggressive behaviour as part of the job (McLaughlin et al. 2009) due to being encouraged to be caring, compassionate and accepting of others. Despite this, nurses have the right to work without feeling intimidated or threatened and should not tolerate verbal or physical abuse, threats or assault. Personal comments, sarcasm and innuendo are all unacceptable.

Employers have a responsibility to adhere to Management of Health and Safety at Work Regulations (HM Government 2000, NHS Protect 2013). This involves providing a safe environment for people to work in and one that is free from threats and abuse. With any physical assault, the police should be involved.

Pre-procedural considerations

Assessment

Box 4.9 lists signs indicating that people may be angry. It is necessary to engage people sensitively and carefully to attempt to help them whilst maintaining a safe environment for all.

Evidence-based approaches

It is frequently possible to engage with and manage some of the underlying features without endangering anyone. People who are behaving aggressively probably do not normally act that way and may apologize when helped.

Talking down or de-escalation of situations where someone is being non-compliant can be achieved with careful assessment

Box 4.9 Warning signs that a patient is angry

- Tense, angry facial signs, restlessness and increased volume of speech
- Prolonged eye contact and a refusal to communicate
- Unclear thought process, delusions or hallucinations
- Verbal threats and reporting angry feelings