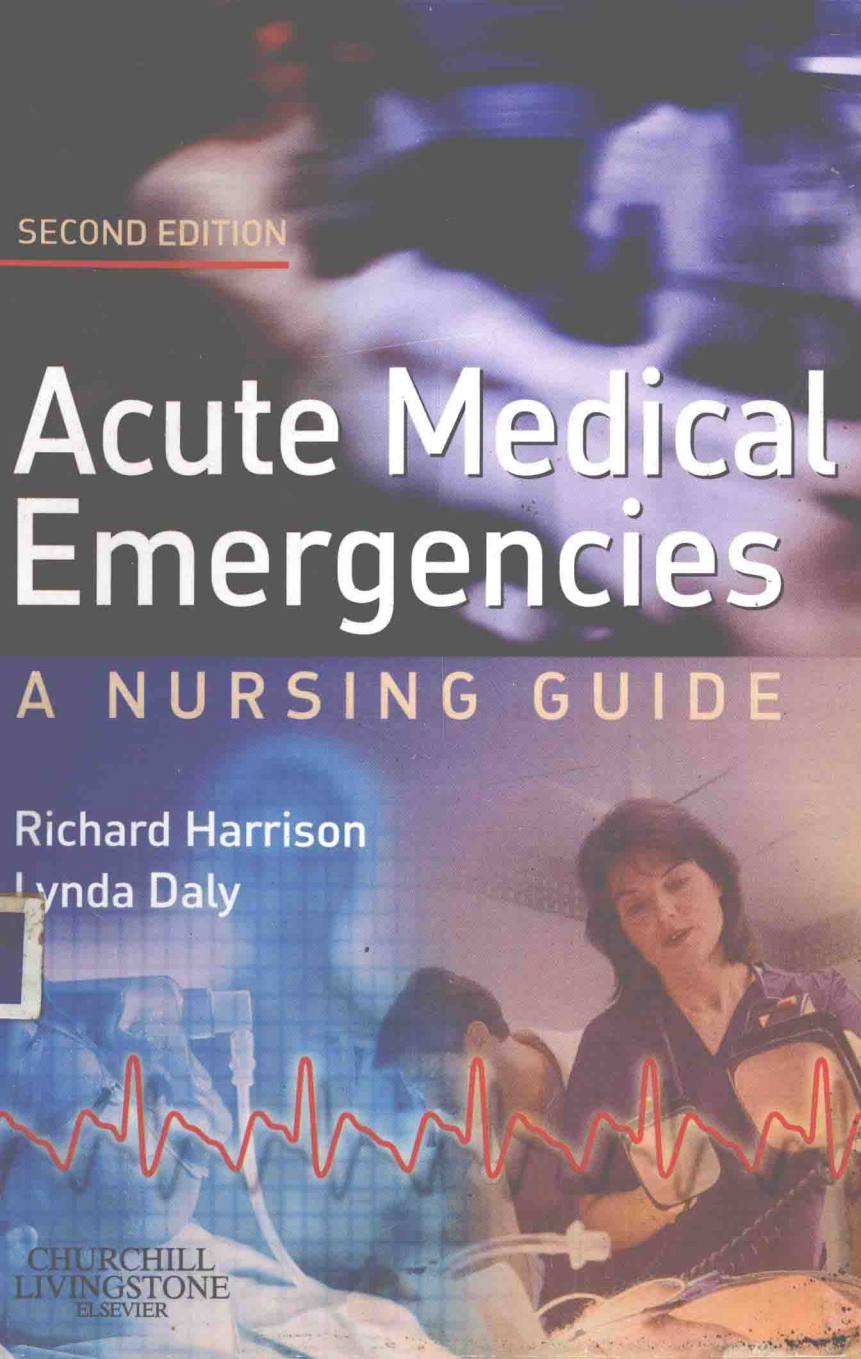
SECOND EDITION

Acute Medical Emergencies

A NURSING GUIDE

Richard Harrison
Lynda Daly



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Acute Medical Emergencies

A Nursing Guide

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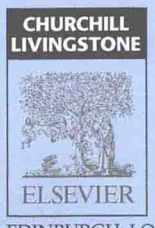

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Acute Medical Emergencies

To James, Estelle, Patrick and Desmond

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Preface

Nursing on the medical wards is becoming dominated by the increasing number of emergency admissions. The average sized district general hospital takes in upwards of thirty acute medical cases per day. This presents a major challenge to the staff and demands the highest level of clinical knowledge and clinical skill.

Most hospitals are meeting this challenge by concentrating resources in Acute Medical Units to which unselected medical patients of all ages are admitted – to be decanted elsewhere after a period, usually 24 hours, of assessment and intensive treatment. Their success depends on the way in which these very sick patients are handled in the first few, crucial hours after they arrive on the Unit. Much of the initial responsibility for this falls on the nurse, who is faced with a daunting flow of patients in terms of both medical complaints and immediate nursing needs. Pre-admission diagnostic labels vary from the specific – 'acute atrial fibrillation' – to the vague – 'off legs and cannot cope' – and the quality of additional information is often poor. From this onslaught of unselected and undiagnosed cases decisions will have to be made:

- Who needs urgent attention and what should this be?
- Who can move off the Unit?
- Who can go home?

To provide this service effectively, there is an increasing overlap between the roles of the nursing and medical teams and it is now becoming commonplace for nurse practitioners to be involved in the assessment, triage and initial management of acute medical admissions. This is a demanding task that requires a detailed understanding of acute medical illness – to make sense of the clinical features; to prioritise emergency treatment; to follow a rational and logical care plan; and, most importantly of all, to recognise the psychosocial demands that these illnesses place on the patients and their families.

The book targets this area of practice in an attempt to bridge the gap between a pure 'nursing' text and a 'medical guide' to emergency admissions. The book assumes that its readers, while already having expert nursing skills, require additional knowledge derived, in part, from the 'medical model' but which is also firmly rooted in the tradition of needs-based nursing. This book therefore aims to:

- describe the common emergency medical conditions

- explain the underlying disease mechanisms
- describe the assessment, observations and management in terms of the disease process
- emphasise the critical role of information gathering in the planning of rational care
- relate the nursing care to the underlying disease
- focus on events within the first 24 hours of admission
- use examples from our practice to put the theoretical information into a practical context

(In the text where patients are referred to as 'he' this should be understood to refer to both male and female patients.)

It is our view that the basis for effective patient care in the critical first 24 hours must be a clear understanding by the nurse of the underlying medical condition. Everything else follows on from this: a logical approach to initial assessment; appropriate monitoring: timely and effective emergency care; and the anticipation of potential complications. This book aims to support this process by actively informing nurses' clinical work and by acting as the catalyst in a reflective assessment of their existing practice.

Stockton on Tees 2001

Richard N. Harrison
Lynda Daly

Preface to the Second Edition

The Second Edition has been thoroughly revised to incorporate any significant changes in practice and the publication of new guidelines. Two new chapters have been added – an opening chapter that focuses on effective emergency assessment and resuscitation, and a final chapter on the growing threat of emerging new infections and of bioterrorism.

Stockton on Tees 2006

Richard N. Harrison
Lynda Daly

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Abbreviations

ABCDE	Mnemonic used for primary assessment (Airway, Breathing, Circulation, Disability, Exposure)
ACE	Angiotensin-converting enzyme
ACEI	Angiotensin-converting enzyme inhibitor
ADH	Antidiuretic hormone
ADL	Activities of Daily Living
AED	Accident & Emergency Department
AF	Atrial fibrillation
AIDS	Acquired immunodeficiency syndrome
ALS	Advanced life support
ALT	Alanine transaminase
AMI	Acute myocardial infarction
AMTS	Abbreviated mental test score
APPT	Activated partial thromboplastin time
ASO	Anti-streptolysin O
AST	Aspartate transaminase
AV node	Atrioventricular node
AVPU	Mnemonic for assessing consciousness level (Alert, Voice, Pain, Unresponsive)
bd	Twice a day
BLS	Basic life support
BMI	Body mass index
BNP	B-natriuretic peptide
BP	Blood pressure
CABG	Coronary artery bypass grafting
CCDC	Consultant for communicable disease control
CCF	Congestive cardiac failure
CCU	Coronary Care Unit
CJD	Creutzfeldt–Jakob disease
CK	Creatinine kinase
CNS	Central nervous system
CO_2	Carbon dioxide
COHb	Carboxyhaemoglobin
COPD	Chronic obstructive pulmonary disease
CPAP	Continuous positive airway pressure
CPR	Cardiopulmonary resuscitation
CRP	C-reactive protein
CSF	Cerebrospinal fluid
CT	Computed tomography
CTPA	CT pulmonary angiogram
CVA	Cerebrovascular accident
CVP	Central venous pressure
DC	Direct current (counter shock)
DIC	Disseminated intravascular coagulopathy
DIGAMI	Diabetic Mellitus, Insulin Glucose Infusion in Acute Myocardial Infarction
DKA	Diabetic ketoacidosis
DNAR	Do not attempt resuscitation
ECG	Electrocardiogram
ECT	Electroconvulsive therapy
EDTA	Ethylenediamine tetra-acetic acid

EMD	Electromechanical dissociation
ENT	Ear, Nose and Throat
EPAP	Expiratory positive airway pressure
ERCP	Endoscopic retrograde cholangio-pancreatogram
EWS	Early Warning Score
FBC	Full blood count
FFP	Fresh frozen plasma
GBH	Gamma-hydroxybutyric acid
GCS	Glasgow Coma Score
GI	Gastrointestinal
GKI	Glucose-potassium-insulin infusion
GTN	Glyceryl trinitrate
Hb	Haemoglobin
HbA_{1c}	Glycated haemoglobin
HBeAg	Hepatitis B e antigen
HBsAg	Hepatitis B surface antigen
HBV	Hepatitis B virus
HCO_3	Bicarbonate
HCV	Hepatitis C virus
HDU	High Dependency Unit
HIV	Human immunodeficiency virus
HONK	Hyperosmolar non-ketotic diabetic coma
HR	Heart rate
HUS	Haemolytic uraemic syndrome
ICD	Implantable cardioverter-defibrillator
ICP	Intracranial pressure
IDDM	Insulin-dependent diabetes mellitus (i.e. Type I)
INR	International normalised ratio (test of clotting)
IPAP	Inspiratory positive airway pressure
ITU	Intensive Therapy Unit
i.v.	Intravenous
JVP	Jugular venous pressure
KCCT	Kaolin cephalin clotting time
KCl	Potassium chloride
LFT	Liver function test
LP	Lumbar puncture
LTOT	Long-term oxygen therapy
LVF	Left ventricular failure
MCV	Mean corpuscular volume (size of the red cell)
MDAC	Multiple-dose activated charcoal
MDMA	3,4-Methylenedioxymeth-amphetamine
MDTB	Multi-drug-resistant tuberculosis
MEWS	Modified Early Warning Score
MRC	Medical Research Council
MRI	Magnetic resonance imaging
MRSA	Methicillin-resistant *Staphylococcus aureus*
MSU	Mid-stream urine
MTS	Mental test score
NAPQI	*N*-acetyl-*p*-benzoquinoneimine
NG	Nasogastric
NIDDM	Non-insulin-dependent diabetes (i.e. Type II)
NIV	Non-invasive ventilation
NSAIDs	Non-steroidal anti-inflammatory drugs
NYHA	New York Heart Association
od	Once a day

PACI	Partial anterior circulation infarct
PCI	Percutaneous coronary intervention
pCO_2	Carbon dioxide level (partial pressure)
PCR	Polymerase chain reaction
PE	Pulmonary embolism
PEA	Pulseless electrical activity
PERL	Pupils are equal and react to light
PFR	Peak flow rate
pH	A measure of acidity (low pH – high acidity)
PND	Paroxysmal nocturnal dyspnoea
pO_2	Oxygen level (partial pressure)
p.r.n.	As required
PT	Prothrombin time
PVC	Polyvinyl chloride
qds	Four times a day
RR	Respiratory rate
rt-PA	Recombinant tissue plasminogen activator
SA node	Sinoatrial node
SARS	Severe acute respiratory syndrome
SCD	Sudden cardiac death
SHO	Senior House Officer
SRSV	Small round-structured virus
SSRI	Selective serotonin re-uptake inhibitor
TACI	Total anterior circulation infarct
TB	Tuberculosis
tds	Three times a day
TIA	Transient ischaemic attack
TIPS	Transjugular intrahepatic portosystemic shunt
U&E	Urea and electrolytes
UTI	Urinary tract infection
VF	Ventricular fibrillation
VHF	Viral haemorrhagic fever
V/Q	Ventilation perfusion (isotope lung scan)
VT	Ventricular tachycardia
WCC	White cell count
WKS	Wernicke-Korsakov syndrome

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CHAPTER 1

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