



Adult Emergency Medicine at a Glance

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 **WILEY-BLACKWELL**

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Contents

Preface and acknowledgements	7
List of abbreviations	8
1 Life in the Emergency Department	10
2 Diagnosis	12
3 Shock and intravenous fluids	14
4 Imaging in the Emergency Department	16
5 Analgesia	18
6 Airway management and sedation	20
7 Blood gas analysis	22
8 Trauma: primary survey	24
9 Trauma: secondary survey	26
10 Major head and neck injury	28
11 Minor head and neck injury	30
12 Wounds	32
13 Burns	34
14 Hand injuries	36
15 Wrist and forearm injuries	38
16 Shoulder and elbow injuries	40
17 Back pain, hip and knee injuries	42
18 Tibia, ankle and foot injuries	44
19 Abdominal pain	46
20 Urology problems	48
21 Ear, nose, throat and dental problems	50
22 Eye problems	52
23 Obstetrics and gynaecology problems	54
24 Toxicology: general principles	56
25 Toxicology: specific poisons	58
26 Psychiatry: self-harm and capacity	60
27 Psychiatry: the disturbed patient	62
28 Observational medicine	64
29 Loss of function and independence	66
30 Syncope, collapse and falls	68
31 Slow heart rate	70
32 Fast heart rate	72
33 Cardiac arrest	74
34 Chest pain: cardiovascular	76
35 Chest pain: non-cardiovascular	78
36 Shortness of breath	80
37 Anaphylaxis	82
38 Sepsis	84
39 Endocrine emergencies	86
40 Gastroenterology	88
41 Headache	90
42 Stroke and transient ischaemic attack	92
43 Seizures	94
44 Hypothermia and hyperthermia	96
45 Pre-hospital medicine	98
46 Major incident	100
47 Chemical, biological, radiation, nuclear and explosive incidents	102
Case studies: questions	104
Case studies: answers	107
Index	113

Preface

Emergency Medicine has undergone a quiet revolution over the past twenty years due to a variety of factors that have changed the way medicine is practiced.

- Increasing demand and expectations of medical care.
- Reduction of junior doctors' hours.
- An ageing population.
- Fragmentation of out of hours care.
- Reduced hospital bed-stay.
- Sub-specialisation of inpatient medical and surgical practice.
- Litigation.

These factors have pushed expert decision-making towards the front door of the hospital so that the correct diagnosis and treatment start as soon as possible in the patient's journey. As other specialties have moved away from the acute assessment and treatment of patients, Emergency Medicine has expanded to fill the vacuum left, and in doing so has increased its realm of practice substantially.

Emergency Medicine is exciting and confronting, intimidating and liberating – it is the chance to exercise and hone your diagnostic and practical skills in a well-supervised environment.

Clinical staff who work in the ED have all been through the inevitable feelings of fear, uncertainty and doubt that come with the territory, and want you to experience the enjoyment and satisfaction of working in an area of medicine that is never boring.

When trainees start Emergency Medicine, it is often the first time they have seen patients before any other staff. To use a traditional analogy, they have seen plenty of needles, and may be very good at recognising them, but now they are faced with haystacks, in which may be hidden a variety of sharp shiny objects.

Medical textbooks usually describe topics by *anatomy* or *pathology* (needles), e.g. heart failure, which tends to assume the diagnostic process. In this book we have tried to organise topics by *presentation* (haystacks), e.g. 'short of breath', and have tried to articulate the key features that help us find the needles.

We are both great fans of the '*At a Glance*' series, and have enjoyed the challenge of combining the breadth of practice of adult Emergency Medicine with the concise nature of the '*At a Glance*' format. We hope you enjoy this book and find it useful as you explore this most dynamic area of medicine.

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In addition TH would like to thank: Professor Christopher Bulstrode who has been an inspiration and mentor and without

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JC would like to thank: All the people who have taught me along the way, particularly Trevor Jackson and Steven Pincus. My parents Ron and Christine for making everything possible, and my wife Kerry and sons Jesse and Flynn for making everything worthwhile.

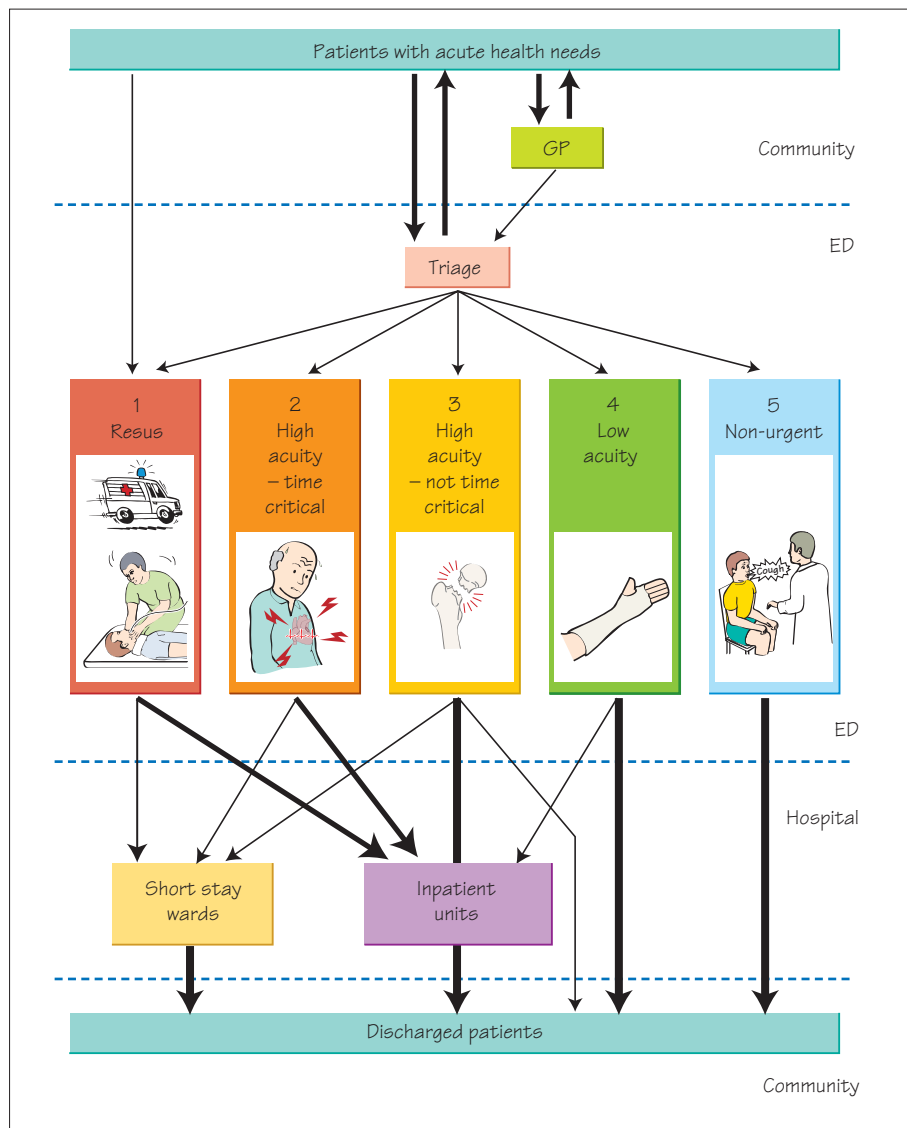
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List of abbreviations

AAA	abdominal aortic aneurysm	ED	Emergency Department
ABC	airway, breathing, circulation	EDTA	ethylene diamine tetraacetate
ABCD²	acronym to assess stroke risk in a patient with TIA	ELISA	enzyme-linked immunosorbent assay
ABCDE	airway, breathing, circulation, disability, exposure	ENT	ear, nose and throat
ABG	arterial blood gases	EPL	extensor pollicis longus
ACE	angiotensin-converting enzyme	ESR	erythrocyte sedimentation rate
ACh	acetylcholine	ETT	endotracheal tube
ACJ	acromioclavicular joint	FAST	acronym for focused abdominal sonography in trauma; also face, arm, speech, time to call ambulance
ACL	anterior cruciate ligament of knee	FB	foreign body
ACS	acute coronary syndrome	FBC/FBE	full blood count/examination
ACTH	adrenocorticotrophic hormone	FiO₂	fraction of inspired of oxygen (as %)
AD	aortic dissection	FFP	fresh frozen plasma
AF	atrial fibrillation	FOOSH	fall onto an outstretched hand
AIDS	acquired immunodeficiency syndrome	GA	general anaesthetic
AMT4	four-point abbreviated mental test score	GAβHS	group A β-haemolytic <i>Streptococcus</i>
AP	antero-posterior	GCS	Glasgow Coma Scale/Score
APL	abductor pollicis longus	GI	gastrointestinal
AV	arteriovenous; also atrioventricular	GP	general practitioner
AVN	atrioventricular node	H1N1	swine flu virus
AXR	abdominal X-ray	H5N1	avian flu virus
BDZ	benzodiazepine	HbA_{1c}	glycated (glycosylated) haemoglobin
BP	blood pressure	HCO₃⁻	bicarbonate ion
bpm	beats per minute	hCG	human chorionic gonadotrophin
CAGE	acronym for alcohol screening questions	HDU	high dependency unit
CAP	community-acquired pneumonia	HHS	hyperosmolar hyperglycaemic state
cAMP	cyclic adenosine monophosphate	HIV	human immunodeficiency virus
CBRNE	chemical, biological, radiological, nuclear, explosive	HOCM	hypertrophic obstructive cardiomyopathy
CK	creatinine kinase	HONK	hyperosmolar non-ketotic acidosis
CNS	central nervous system	HR	heart rate
CO	carbon monoxide	HVZ	herpes varicella zoster
COHb	carboxyhaemoglobin	IBS	irritable bowel syndrome
COPD	chronic obstructive pulmonary disease	ICP	intracranial pressure
CPAP	continuous positive airway pressure	ICU	intensive care unit
CPP	cerebral perfusion pressure	IgE	immunoglobulin E
CPR	cardiopulmonary resuscitation	IVDU	intravenous drug use
CRAO	central retinal artery occlusion	IVF	in vitro fertilisation
CRP	C-reactive protein	IVRA	intravenous regional anaesthesia
CRVO	central retinal vein occlusion	IVU	intravenous urogram
CT	computed tomography	JVP	jugular venous pressure
CTPA	CT pulmonary angiography	KUB	kidneys, ureters and bladder
CURB-65	confusion, urea, respiratory rate, blood pressure, age over 65 (acronym for pneumonia severity factors)	LA	local anaesthetic
CVP	central venous pressure	LCL	lateral collateral ligament of knee
CXR	chest X-ray; also unit for X-ray dose, 1 CXR ≈ 3 days' background radiation	LFT	liver function test
DIPJ	distal interphalangeal joint	LMP	last menstrual period
DKA	diabetic ketoacidosis	LNMP	last normal menstrual period
DM	diabetes mellitus	LOC	loss of consciousness
DSH	deliberate self-harm	LP	lumbar puncture
DUMBELS	diarrhoea, urination, miosis, bronchorrhoea/bron- chospasm, emesis, lacrimation, salivation (acronym for clinical effects of organophosphate poisoning)	LR	likelihood ratio
DVT	deep vein thrombosis	LRTI	lower respiratory tract infection
		MAOI	monoamine oxidase inhibitor
		MAP	mean arterial pressure
		MCL	medial collateral ligament of knee
		MCPJ	metacarpophalangeal joint
		MDI	metered dose inhaler

MI	myocardial infarction	RoSC	return of spontaneous circulation
MR	magnetic resonance	SAH	subarachnoid haemorrhage
N₂O	nitrous oxide	SAN	sinoatrial node
NAC	<i>N</i> -acetylcysteine	SARS	severe acute respiratory syndrome
NICE	National Institute for Health and Clinical Excellence	SDH	subdural haematoma
NIV	non-invasive ventilation	SoB	short(ness) of breath
NNT	number needed to treat	SOCRATES	acronym for pain history
NNH	number needed to harm	SOL	space-occupying lesion
#NoF	fractured neck of femur	SSRI	selective serotonin reuptake inhibitor
NSAID	non-steroidal anti-inflammatory drug	STD	sexually transmitted disease
NSTEMI	non-ST segment elevation myocardial infarction	STEMI	ST segment elevation myocardial infarction
OD	overdose	STI	sexually transmitted infection
OP	organophosphate	SVT	supraventricular tachycardia
OPG	oral pantomogram	TBSA	total body surface area
ORIF	open reduction and internal fixation	TCA	tricyclic antidepressant
PA	postero-anterior	TFT	thyroid function test
PCL	posterior cruciate ligament of knee	TIA	transient ischaemic attack
PE	pulmonary embolism	TIMI	thrombolysis in myocardial infarction
PEA	pulseless electrical activity	TMT	tarsometatarsal
PEF	peak expiratory flow	tPA	tissue plasminogen activator
PEFR	peak expiratory flow rate	U + E	urea and electrolytes
PID	pelvic inflammatory disease	UA	unstable angina
PPCI	primary percutaneous coronary intervention	URTI	upper respiratory tract infection
PPI	proton pump inhibitor	UTI	urinary tract infection
PPM	permanent pacemaker	VBG	venous blood gases
PR	per rectum	VF	ventricular fibrillation
PT	prothrombin time	V/Q	ventilation/perfusion
PV	per vaginam	VT	ventricular tachycardia
RA	regional anaesthesia	VVS	vasovagal syncope
RBBB	right bundle branch block	WCC	white cell count

1 Life in the Emergency Department



This chapter describes the way the Emergency Department operates, and some of the unwritten rules. The prevalence of Emergency Department-based drama generates plenty of misconceptions about what occurs in the Emergency Department. For instance, it is generally inadvisable to say 'stat' at the end of one's sentences, and neither of the authors has been mistaken for George Clooney!

What happens when a patient arrives at the Emergency Department?

Alert phone

Also known as the 'red phone' or sometimes 'the Bat-phone', this is the dedicated phone line that the ambulance service uses to pre-

warn the Emergency Department of incoming patients likely to need resuscitation.

Triage

The concept of triage comes from military medicine – doing the most good for the most people. This ensures the most effective use of limited resources, and that the most unwell patients are seen first.

Nurses rather than doctors are usually used to perform the triage because doctors tend to start treating patients. Systems of rapid assessment and early treatment by senior medical staff can be effective, but risk diverting attention from the most ill patients.