

THE

MOET

COURSE MANUAL

Managing Obstetric
Emergencies and Trauma

Revised Third Edition

EDITED BY

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AND

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Dedication

Richard Johanson 1957–2002



This book is dedicated to the memory of Richard Johanson, who died on 20 February 2002, before he could see this work come to fruition.

‘It’s never too late to be what you might have been’

George Eliot

This quotation had meaning for Richard – it was posted on his study wall.

Richard had two major aims in obstetrics – to avoid unnecessary intervention but to apply urgent skilled intervention when needed and he had a gift for both. He wanted interventions to be based on the best evidence available and for there to be good audit to check that the correct processes were being followed. His experience in Stoke and overseas had given him the skills to achieve these aims. His drive was for simple emergency protocols to save the lives of mothers and babies. This led to his leadership in practice and education in labour ward emergencies.

Initially he organised structured training for life-threatening obstetric emergencies in the West Midlands and in 1997 he and Charles Cox were the inspiration for developing the 'Managing Obstetric Emergencies and Trauma' (MOET) course, aimed at senior obstetricians and anaesthetists. A modified MOET course was taken overseas where he introduced ideas and protocols with tact and efficiency.

He worked closely with midwives in research and in the implementation of labour ward guidelines. He organised national meetings dealing with childbirth and worked with the National Childbirth Trust and Baby Lifeline, again to promote safer childbirth without over-medicalisation. The foundation of his research charity 'Childbirth without Fear' aims to continue to improve the care of women during childbirth.

Richard will be remembered by many, particularly by his trainees. His boundless enthusiasm and generosity with his time, ideas and academic work meant that there was a queue to work with him. The publication problem would be solved and the trainee would have a nationally respected mentor who continued to take an interest in their career.

Perhaps instinctively feeling that time was precious led him to achieve so much so quickly. Much of it was due to the intellectual sparking between him and his anaesthetist wife, Charlotte. They demonstrated the teamwork that is part of the philosophy of MOET.

'To see a human being reveal really exceptional qualities one must be able to observe his activities over many years. If these activities are completely unselfish; if the idea motivating them is unique in its magnanimity; if it is quite certain that they have never looked for any reward; and if in addition they have left visible traces on the world – then one may say, without fear of error, that one is in the presence of an unforgettable character.'

[Jean Giono, from a short story called *The Man Who Planted Trees*]

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Updates

The material within this book will be updated on a 5-yearly cycle. However, practice and advice may change in the interim period. We will post any changes on the ALSG website, so we advise that you visit the website regularly to check for updates (url: www.alsg.org – go to the MOET page). The website will provide you with a new page to download and replace the existing page in your book.

Online feedback

It is important to ALSG that the contact with our providers continues after a course is completed. We now contact everyone 6 months after the course has taken place, asking for online feedback. This information is then used whenever the course is updated, to ensure that MOET provides optimum training to its participants.

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The chapters on resuscitation have been informed by the new international guidelines produced by an evidence-based process from the collaboration of many international experts under the umbrella of the International Liaison Committee on Resuscitation (ILCOR) 2015.

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Finally, we would like to thank, in advance, those of you who will attend the Managing Obstetric Emergencies and Trauma (MOET) course; no doubt you will have much constructive critique to offer and we welcome your feedback.

Abbreviations

ABG	arterial blood gases
ACE	angiotensin-converting enzyme
AED	automated external defibrillator
AFE	amniotic fluid embolism
ALS	advanced life support
ALSG	Advanced Life Support Group
ALSO	Advanced Life Support in Obstetrics
ALT	alanine aminotransferase
AMPLE	allergies; medication; previous medical history; last meal; events and environments related to the injury
APTT	activated partial thromboplastin time
ARDS	adult respiratory distress syndrome
AS	anal sphincter
AST	aspartate aminotransferase
AVPU	a lert; responding to v oice; only responding to p ain; u nresponsive
BLS	basic life support
BMI	body mass index
BP	blood pressure
CC	chest compressions
CEMACH	Confidential Enquiry into Maternal and Child Health
CEMD	Confidential Enquiries into Maternal Deaths
CESDI	Confidential Enquiry into Stillbirths and Deaths in Infancy
CI	confidence interval
CMACE	Centre for Maternal and Child Enquiries
CMV	cytomegalovirus
CNST	Clinical Negligence Scheme for Trusts
CPP	cerebral perfusion pressure
CPR	cardiopulmonary resuscitation
CRP	C-reactive protein
CRT	capillary refill time

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CS	caesarean section
CSE	combined spinal/epidural anaesthesia
CSF	cerebrospinal fluid
CT	computed tomography
CTG	cardiotocography
CTPA	computed tomography pulmonary angiogram
CVP	central venous pressure
CVVH	continuous venovenous haemofiltration
CXR	chest radiograph
DIC	disseminated intravascular coagulation
DPL	diagnostic peritoneal lavage
DVT	deep vein thrombosis
EAS	external anal sphincter
ECG	electrocardiogram
ECMO	extracorporeal membrane oxygen
ECV	external cephalic version
ESICM	European Society of Intensive Care Medicine
EWS	early warning score
FAST	focused assessment sonography in trauma
FBC	full blood count
FDPs	fibrin/fibrinogen degradation products
F _E CO ₂	end tidal carbon dioxide
FFP	fresh frozen plasma
FHR	fetal heart rate
GCS	Glasgow Coma Scale
GIC	Generic Instructor Course
GMC	General Medical Council
GTT	glucose tolerance test
Hb	haemoglobin
HbA ₁ C	glycated haemoglobin
hCG	human chorionic gonadotrophin
HDU	high-dependency unit
HELLP	haemolysis; elevated liver enzymes; low platelets
HAS	Human Albumin Solution

HOCM	hypertrophic obstructive cardiomyopathy
IAS	internal anal sphincter
ICP	intracranial pressure
ICU	intensive care unit
ILCOR	International Liaison Committee on Resuscitation
IO	intraosseous
IPPV	intermittent positive pressure ventilation
ISF	International Sepsis Forum
IV	intravenous
LDH	lactate dehydrogenase
LDL	low-density lipoprotein
LFT	liver function test
LMA	laryngeal mask airway
LMWH	low-molecular-weight heparin
LSCS	lower segment caesarean section
MAP	mean arterial pressure
MEOWS	modified early obstetric warning system
MI	myocardial infarction
MIST	mechanism of injury; injuries already identified; symptoms and signs; treatment already received
MMR	maternal mortality rate
MOET	Managing Obstetric Emergencies and Trauma
MRI	magnetic resonance imaging
mRNA	messenger RNA
MRSA	methicillin-resistant <i>Staphylococcus aureus</i>
MSSU	mid-stream sample of urine
MSV	Mauriceau–Smellie–Viet
NICE	National Institute for Health and Clinical Excellence
NNT	number needed to treat
OASIS	obstetric anal sphincter injuries
ONS	Office for National Statistics
OR	odds ratio
OVD	operative vaginal delivery
PaO ₂	Arterial concentration of oxygen

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PCI	percutaneous coronary intervention
PDS	polydiaxanone
PE	pulmonary embolism
PEA	pulseless electrical activity
PET	pre-eclamptic toxaemia
PIH	pregnancy-induced hypertension
PND	postnatal depression
PPH	postpartum haemorrhage
PRECOG	Pre-eclampsia Community Guideline
PT	prothrombin time
PVL	Panton–Valentine leucocysin
RCOG	Royal College of Obstetricians and Gynaecologists
rhAPC	recombinant human activated protein C
ROSC	return of spontaneous circulation
RR	relative risk
SADS	sudden adult death syndrome
SBAR	situation; background; assessment; recommendation
SCCM	Society of Critical Care Medicine
SHOTS	Serious Hazards of Transfusion Scheme
SIRS	systemic inflammatory response syndrome
SI	Système International d’unités
SSRIs	selective serotonin reuptake inhibitors
U&E	urea and electrolytes
UKOSS	United Kingdom Obstetric Surveillance System
V/Q	ventilation/perfusion
VE	vaginal examination
VF	ventricular fibrillation
VT	ventricular tachycardia
VTE	venous thromboembolism
WBC	white blood cell
WHO	World Health Organization