

INTERNATIONAL EDITION 1.0

The

PERFUSION
CRISIS
MANUAL

CPB Cardiopulmonary Bypass

ECMO Extracorporeal Membrane Oxygenation

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CPB PROTOCOLS

SECTION 1

SECTION 2

EMERGENCY PROCEDURES

ECMO PROTOCOLS

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The Perfusion Crisis Manual (The PCM) has been developed as a cognitive aid written in aviation checklist format to reduce cognitive load when managing time-critical events during cardiopulmonary bypass and ECMO. It is the third crisis manual in the Leeuwin Press series and is based on protocols developed at one of Australia's largest private adult cardiothoracic surgery centers. The individual topics have been authored by cardiac anesthesiologists and perfusionists with a collective experience of more than a century.

The protocols assume the availability of a second machine and were written with reference to specific tubing packs (manufactured by Livanova and Medtronic) and the Sorin S5 cardiopulmonary bypass machine. The ECMO protocols are based on the Maquet Cardiohelp system. Use of this crisis manual is specific to our institution and surgical practice so local idiosyncrasies in tubing pack configuration may require minor protocol modification but general principles remain valid.

All protocols have been simulation tested during the development process. As with The Anesthetic Crisis Manual (The ACM) and The Resuscitation Crisis Manual (The RCM), we emphasise it is not a substitute for experience, clinical acumen and regular simulation training, but hope The PCM proves to be a valuable support for those involved in perfusion.

Paul Sadleir

Steve Same

David Borshoff

Dedicated to Dr John Peacock

He was there at the beginning and educated all.

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**HEART &
GREAT VESSELS**

01

Aortic Dissection

02

Chamber Distension

03

Failed Cardioplegia Arrest

04

Massive Haemorrhage re-do sternotomy

05

Persistent Left Superior Vena Cava (PLSVC)

06

Persistent VF post X-clamp removal

07

Poor Venous Return

08

Premature Electrical Activity



**MONITORED
PARAMETERS**

09

Failure to Rewarm

10

Gaseous Microemboli

11

High Aortic Line Pressure

12

High Processed EEG

13

Hyperkalaemia

14

Hyperlactataemia

15

Hypotension

16

Low Cerebral Oximetry

17

Malignant Hyperthermia

18

CPB | CRISIS PROTOCOLS | SECTION 2

36

CPB | EMERGENCY PROCEDURES

37

ECMO | CRISIS PROTOCOLS