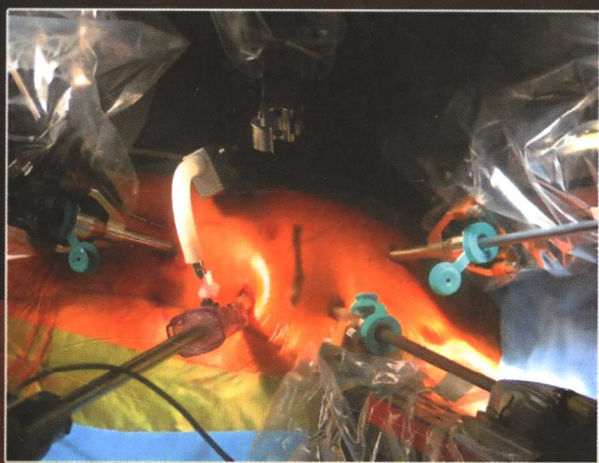



心血管手术和麻醉临床指南

Perioperative Care in Cardiac Anesthesia and Surgery



原著 Davy C.H. Cheng
Tirone E. David

主译 李立环 薛玉良 岳云

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译者 (按姓氏笔画排序)

王中 王晖 王广利 王永旺 王试福 王洪武

田芳龄 刘宇 刘扬 刘晓麟 许杰 张忱

李楠 李红梅 芮燕 辛连峰 陈瑛琦 周权

孟彤 罗颖 柳娟 赵聚钊 钟森 郭珊

郭树荣 高建东 温洪 程文莉 穆玉

校者 (按姓氏笔画排序)

于钦军 马雪 戈晓东 王中 刘明政 刘海涛

纪宏文 吴延 吴迪 吴安石 吴奇伟 李立环

岳云 赵秋华 敖虎山 薛玉良

主译助理 戈晓东

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地 址: 北京市丰台区方庄芳群园 3 区 3 号楼

邮 编: 100078

网 址: <http://www.pmph.com>

E - mail: pmph@pmph.com

购书热线: 010-67605754 010-65264830

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译者序

这本由加拿大著名心血管麻醉专家 Davy Cheng 教授编写的《心血管手术和麻醉临床指南》是特别奉献给青年医师的。我们将其译成中文算是圆了我们三人近 30 年的梦。

当年我们三个师兄弟都还是毛头小伙，在北京阜外医院师从国内著名心血管麻醉专家尚德延教授。那时我们手头只能得到一些油印的讲稿，再就是自己个人的读书笔记。当年学习的艰辛不堪回首。转眼我们都过了知天命之年。我们将此译著献给国内广大的年轻医师，希望年轻人在踏入医院大门之时，就能得到正确的指南，打下坚实的功底。如今恰逢天时、地利、人和，相信我们的青年医师一定会成长得更快，超越我们，成为未来优秀的专家。

值此书出版之际，感谢中国医学科学院北京阜外心血管病医院、天津泰达心血管病医院和首都医科大学附属北京朝阳医院麻醉科的同仁们为翻译此书做出的辛勤劳动。

李立环 薛玉良 岳 云

2006 年 10 月

前言

自从1953年体外循环成功应用以来的50年里，心脏麻醉和心脏外科蓬勃发展。在心脏外科的临床实践中，无论从深低温到常温还是微高温体外循环的调控，还是心肌保护液和氧合器等诸方面，均有很大的进展。外科操作和技术的进步促进了微创外科的发展，并保证了它的成功，例如非体外循环下的冠状动脉旁路移植术、机器人辅助的心脏手术、瓣膜手术、先天性心脏病和心脏移植。随着心脏外科的发展，心脏麻醉也从大剂量麻醉性镇痛药进展到麻醉性镇痛药——吸入麻醉所组成的平衡麻醉，包括使用安全有效的麻醉药物、区域麻醉和标准的快速通道恢复过程。围手术期心脏（如经食管超声心动图、主动脉外扫描）、脑（如脑电图、氧饱和度）以及凝血方面的监测也在持续发展。

现代心脏麻醉和手术的特点是经济、责任重并以循证医学为基础。我们的措施是入院当天手术、早期气管拔管、提高手术技术和加快病人恢复，从而缩短了ICU和普通病房住院的时间。

这本实用性手册描述了成年心脏病人的围手术期管理。尽管众多的作者对围手术期管理提供了很新的材料，但每一章都是经过精心编辑，以努力反映我们心脏队伍的集体观点。本手册根据最新的临床和科研资料，提供了关于心脏手术病人的最简洁、最具有针对性的实用信息。附录部分描述了关于管理此类病人的医嘱、医疗程序和指南。目前，这些附录在多伦多总医院和伦敦医学中心已成为心脏外科的常规。本手册的读者对象为心脏麻醉医师、心脏外科医师、实习医师、ICU护士、灌注师和其他相关人员。

Davy C. H. Cheng, MD

Tirone E. David, MD

致谢

所有编者感谢每一位作者对实习医师的教育和对心脏外科病人围手术期管理所作出的贡献。同时要感谢多伦多总医院 (Toronto General Hospital)、伦敦医学中心 (London Health Sciences Centre) 的心脏管理团队, 感谢他们在心脏麻醉、外科和恢复期管理方面为临床和科研进展所作出的贡献。感谢众多对本书的出版提供帮助的人们: 感谢 Lippincott Williams & Wilkins 出版公司的 Michelle LaPlante 和 Fran Murphy 编辑的帮助; 感谢多伦多总医院心血管重症监护病房主任 Linda Jussaume、重症护理主任 Pat Merrifield 和伦敦医学中心心脏外科恢复病房协调员 Mary Kroh, 提供术后指南和操作规程; 以及感谢伦敦医学中心的 Janet Martin 博士对心脏药理指南的贡献。最后, Cheng 博士要感谢他的管理助理 Jeanette Mikulic 在 Tirone David 博士办公室、作者和出版商之间辛劳的协调工作, 保证了大量章节的顺利完成和出版。

Davy C. H. Cheng, MD
Tirone E. David, MD

作者名单

Peter Allen, CPC, CCP
Clinical Partner
Cardiovascular Perfusion Program
Michener Institute for Applied
Health Science

Chief Perfusionist
Perioperative Services
St. Michaels Hospital
Toronto, Ontario, Canada

Neal H. Badner, MD, FRCPC
Associate Professor
Department of Anesthesia & Perioperative
Medicine
University of Western Ontario

Site Chief
Department of Anesthesia & Perioperative
Medicine, Victoria Hospital
London Health Sciences Centre
London, Ontario, Canada

Daniel Bainbridge, MD, FRCPC
Assistant Professor
Department of Anesthesia & Perioperative
Medicine
University of Western Ontario

Director
Perioperative Transesophageal
Echocardiography
Department of Anesthesia & Perioperative
Medicine

London Health Sciences Centre
London, Ontario, Canada

Atilio Barbeito, MD
Cardiothoracic Anesthesiology and Critical
Care Fellow
Department of Anesthesiology
Duke University Medical Center
Durham, North Carolina

Michael A. Borger, MD, PhD
Assistant Professor
Department of Surgery
University of Toronto

Staff Surgeon
Division of Cardiovascular Surgery
The Peter Munk Cardiac Centre
Toronto General Hospital
Toronto, Ontario, Canada

W. Douglas Boyd, MD
Associate Professor
Department of Surgery
University of South Florida College
of Medicine
Tampa, Florida

Chief
Division of Cardiothoracic Surgery
Director, Minimally Invasive and Robotic
Surgery
Cleveland Clinic Florida
Weston, Florida

Stephanie J. Brister, MD
Associate Professor
Department of Surgery
University of Toronto

Staff Surgeon
Division of Cardiovascular Surgery
The Peter Munk Cardiac Centre
Toronto General Hospital
Toronto, Ontario, Canada

Ronald J. Butler, MD, MSc, FRCPC
Associate Professor
Department of Anesthesia & Perioperative
Medicine

University of Western Ontario
Site Chief
Intensive Care Unit-University Hospital
London Health Sciences Centre
London, Ontario, Canada

Douglas A. Cameron, MD, FRCPC

Assistant Professor
Department of Medicine
University of Toronto

Cardiologist/Electrophysiologist

Department of Medicine
Toronto General Hospital
Toronto, Ontario, Canada

Lois K. Champion, MD, FRCPC

Associate Professor
Department of Anesthesia & Perioperative
Medicine

University of Western Ontario
Consultant Intensivist
London Health Sciences Centre
London, Ontario, Canada

Davy C. H. Cheng, MD, MSc, FRCPC

Professor and Chair
Department of Anesthesia & Perioperative
Medicine

University of Western Ontario

Chief

Department of Anesthesia & Perioperative
Medicine

London Health Sciences Centre and
St. Joseph's Health Care

Medical Director

Cardiac Surgery Recovery Unit
London Health Sciences Centre
London, Ontario, Canada

Tirone E. David, MD, FRCSC

Professor
Department of Surgery
University of Toronto

Head

Division of Cardiovascular Surgery
The Peter Munk Cardiac Centre
Toronto General Hospital
Toronto, Ontario, Canada

Achal K. Dhir, MBBS, DA, FRCA

Assistant Professor
Department of Anesthesia & Perioperative
Medicine

University of Western Ontario

Consultant Anesthesiologist

Department of Anesthesia & Perioperative
Medicine

London Health Sciences Centre
London, Ontario, Canada

George N. Djaiani, MD, FRCA

Assistant Professor
Department of Anesthesia
University of Toronto

Staff Anesthesiologist

Cardiac Anesthesia and Intensive Care
Department of Anesthesia
Toronto General Hospital
Toronto, Ontario, Canada

Wojciech Dobkowski, MD, FRCPC

Associate Professor
Department of Anesthesia & Perioperative
Medicine

University of Western Ontario

Site Chief

Department of Anesthesia & Perioperative
Medicine, University Hospital
London Health Sciences Centre
London, Ontario, Canada

Shafiq Fazel, MD, MSc

Research Fellow
Department of Surgery
University of Toronto

Resident Physician

Division of Cardiac Surgery
Toronto General Hospital
Toronto, Ontario, Canada

**Christopher M. Feindel, MD, MHCM,
FRCSC**

Professor
Department of Surgery
University of Toronto

Medical Director
The Peter Munk Cardiac Centre
Toronto General Hospital
Toronto, Ontario, Canada

Stefan Fischer, MD, MSc

Fellow
Division of Thoracic Surgery
Toronto General Hospital
Toronto, Ontario, Canada

Thomas L. Higgins, MD, MBA

Associate Professor
Departments of Medicine and Anesthesiology
Baystate Medical Center/Tufts University
School of Medicine

Director
Adult Intensive Care Service
Departments of Medicine, Surgery, and
Anesthesiology
Baystate Medical Center
Springfield, Massachusetts

Charles W. Hogue, Jr., MD

Associate Professor
Department of Anesthesiology
Washington University School of Medicine
St. Louis, Missouri

Helen M. K. Holtby, MBBS, FRCPC

Assistant Professor
Department of Anesthesia
University of Toronto

Director
Cardiac Anesthesia
Hospital for Sick Children
Toronto, Ontario, Canada

Ivan Iglesias, MD

Assistant Professor
Department of Anesthesia & Perioperative
Medicine
University of Western Ontario

Consultant Anesthesiologist
Department of Anesthesia & Perioperative
Medicine
London Health Sciences Centre
London, Ontario, Canada

Keyvan Karkouti, MD, MSc, FRCPC

Assistant Professor
Departments of Anesthesia
& Health Policy, Management,
and Evaluation
University of Toronto

Staff Anesthesiologist
Department of Anesthesia
Toronto General Hospital
Toronto, Ontario, Canada,

Jacek M. Karski, MD

Associate Professor
Department of Anesthesia
University of Toronto

Director
Cardiac Anesthesia and Intensive Care
Department of Anesthesia
Toronto General Hospital
Toronto, Ontario, Canada

Rita Katznelson, MD

Assistant Professor
Department of Anesthesia
University of Toronto

Staff Anesthesiologist
Department of Anesthesia
Toronto General Hospital
Toronto, Ontario, Canada

Shaf Keshavjee, MD, MSc, FRCSC, FACS

Professor and Chair
Division of Thoracic Surgery
Department of Surgery
University of Toronto

Director

Toronto Lung Transplant Program

Head

Division of Thoracic Surgery
Toronto General Hospital
Toronto, Ontario, Canada

Bob Kiaii, MD, FRCSC

Assistant Professor
Department of Surgery
University of Western Ontario

Director

Minimally Invasive and Robotic Cardiac
Surgery

Department of Surgery
London Health Sciences Centre
London, Ontario, Canada

Igor E. Konstantinov, MD, PhD

Research Fellow
Department of Surgery
University of Toronto

Clinical Fellow

Division of Cardiovascular Surgery
Hospital for Sick Children
Toronto, Ontario, Canada

Patrick C. Lee, MD, FACS

Associate Professor
Department of Surgery
Tufts University School of Medicine

Chief

Trauma & Emergency Surgical Services
Department of Surgery
Baystate Health System
Springfield, Massachusetts

**Susan C. M. Lenkel-Kerwin, MD, FRCPC,
FACP, FACC, FCCP**

Professor
Department of Medicine
University of Toronto

Senior Cardiology Consultant

Division of Cardiology
Department of Medicine
Toronto General Hospital
Toronto, Ontario, Canada

Janet Martin, BScPhm, RPh, PharmD

Lecturer
Department of Physiology
& Pharmacology
University of Western Ontario

Coordinator

Pharmacy Services
London Health Sciences Centre
London, Ontario, Canada

R. Scott McClure, MD

Resident Physician
Department of Surgery
University of Western Ontario
London, Ontario, Canada

Karen McRae, MDCM, FRCP

Assistant Professor
Department of Anesthesia
University of Toronto

Co-Director

Anesthesia for Thoracic Surgery and Lung
Transplantation

Department of Anesthesia
Toronto General Hospital
Toronto, Ontario, Canada

Alan H. Menkis, MD, FRCSC

Professor & Chair
Department of Cardiac Surgery
University of Manitoba

Medical Director

Department of Cardiac Sciences Program
St. Boniface General Hospital
Winnipeg, Manitoba, Canada

Lynda L. Mickleborough, MD, FRCSC

Professor Emeritus
Department of Surgery
University of Toronto
Toronto, Ontario, Canada

John M. Murkin, MD, FRCPC

Professor
Department of Anesthesia & Perioperative
Medicine
University of Western Ontario

Director

Cardiac Anesthesiology
Department of Anesthesia & Perioperative
Medicine
London Health Sciences Centre
London, Ontario, Canada

Patricia Murphy, BSc, MD, FRCPC

Associate Professor
Department of Anesthesia
University of Toronto

Clinical Director

Cardiac Anesthesia
Department of Anesthesia
Toronto General Hospital
Toronto, Ontario, Canada

Richard J. Novick, MD, MSc, FRCSC, FACS

Professor
Department of Surgery
University of Western Ontario

Chief/Chair

Division of Cardiac Surgery
London Health Sciences Centre
London, Ontario, Canada

Christopher A. Palin, MA, MBBS, FRCA

Specialist Registrar
Department of Anesthesia
Royal Brompton Hospital
London, United Kingdom

Jonathan Prychitko, MD

Anesthesia Resident
Department of Anesthesia &
Perioperative Medicine
University of Western Ontario
London, Ontario, Canada

Fiona E. Ralley, BSc, MBChB, FFA

Professor
Department of Anesthesia & Perioperative
Medicine
University of Western Ontario

Director

Perioperative Blood Conservation Program
Consultant Anesthesiologist
Department of Anesthesia & Perioperative
Medicine
London Health Science Centre
London, Ontario, Canada

Vivek Rao, MD, PhD

Associate Professor
Alfredo and Teresa DeGasperi Chair in Heart
Failure Surgery
Department of Surgery
University of Toronto

Director

Cardiac Transplantation
Division of Cardiovascular Surgery
The Peter Munk Cardiac Centre
Toronto General Hospital
Toronto, Ontario, Canada

Steve K. Singh, MD

Resident
Department of Surgery
University of Toronto
Toronto, Ontario, Canada

Peter Slinger, MD, FRCPC

Professor
Department of Anesthesia
University of Toronto

Staff Anesthesiologist
Department of Anesthesia
Toronto General Hospital
Toronto, Ontario, Canada

Bruce D. Spiess, MD, FAHA

Vice Chair of Anesthesiology
Director of VCURES
Director of Research
Department of Anesthesiology
Virginia Commonwealth University
Medical Center
Richmond, Virginia

**Mark Stafford-Smith, MD,
CM, FRCPC**

Associate Professor
Department of Anesthesiology
Duke University and Duke University
Medical Center
Durham, North Carolina

Ravi Taneja, MBBS, MD, FFARCSI, FRCA

Assistant Professor
Departments of Anesthesia & Perioperative
Medicine
University of Western Ontario

Consultant Anesthesiologist
and Intensivist
Department of Anesthesia & Perioperative
Medicine
Cardiac Surgery Recovery Unit
London Health Sciences Centre
London, Ontario, Canada

Glen S. Van Arsdell, MD

Associate Professor
Department of Surgery
University of Toronto

Head
Division of Cardiovascular Surgery
Hospital for Sick Children
Toronto, Ontario, Canada

Annette Vegas, MD, FRCPC

Assistant Professor
Department of Anesthesia
University of Toronto

Staff Anesthesiologist
Department of Anesthesia
Toronto General Hospital
Toronto, Ontario, Canada

Richard D. Weisel, MD, FRCSC

Professor and Chairman
Division of Cardiac Surgery
Department of Surgery
University of Toronto
Staff Surgeon and Director
Toronto General Research Institute
Division of Cardiovascular Surgery
The Peter Munk Cardiac Centre
Toronto General Hospital
Toronto, Ontario, Canada

William G. Williams, MD

Professor
Department of Surgery
University of Toronto
Staff Surgeon
Division of Cardiac Surgery
Department of Surgery
Hospital for Sick Children
Toronto, Ontario, Canada

Terrence M. Yau, MD, MSc

Associate Professor
Department of Surgery
University of Toronto
Director of Research
Division of Cardiovascular Surgery
Toronto General Hospital
Toronto, Ontario, Canada

Raymond Yee, BMDSc, MD

Professor
Department of Medicine
University of Western Ontario
Director
Arrhythmia Service
Department of Cardiology
London Health Sciences Centre
London, Ontario, Canada

缩写词

2,3-DPG	2,3-二磷酸甘油
AAA	腹主动脉瘤
ABG	动脉血气
ACAS	无症状颈动脉粥样硬化研究
ACB	主动脉冠状动脉旁路移植术
ACC	美国心脏病学院
ACE	肾素-血管紧张素转换酶
ACEI	肾素-血管紧张素转换酶抑制剂
ACLS	高级心脏生命支持
ACST	无症状颈动脉外科试验
ACT	激活凝血时间
ACTH	促肾上腺皮质激素
ADH	抗利尿激素
ADP	二磷酸腺苷
AF	房颤
AHA	美国心脏协会
AI	主动脉瓣关闭不全
AMVF	二尖瓣前叶
ANP	心房利钠肽
AoEDP	主动脉舒张末压
APS	急性生理评分
AR	主动脉瓣反流
ARDS	急性呼吸窘迫综合征
ARF	急性肾衰竭
AS	主动脉瓣狭窄
ASA	美国麻醉医师协会
ASAc	乙酰水杨酸
ASD	房间隔缺损
ASE	美国超声协会
ATⅢ	抗凝血酶Ⅲ
ATN	急性肾小管坏死
ATP	三磷酸腺苷

AV	房室的
AVR	主动脉瓣置换
BAV	主动脉瓣两瓣化
BCPS	双向心肺分流
BHACAS	跳动心脏与心脏停搏的对比研究
BIS	双频指数
bid	一日两次
BiVAD	双室辅助装置
BLT	双侧肺移植
BNP	B-型利钠多肽
BP	血压
BSA	体表面积
BT	Blalock-Taussig
BUN	血尿素氮
BVS	双室支持
CABG	冠状动脉旁路移植术
CAD	冠状动脉疾病
cAMP	环单磷酸腺苷
CAPD	连续腹膜透析
CASH	Hamburg 心脏停搏研究
CAVHD	连续动-静脉血液透析
CBC	全血计数
CBF	脑血流
CCU	冠心病监护病房
CEA	颈动脉内膜剥脱术
cGMP	环单磷酸鸟苷
CHD	充血性心脏病
CHF	充血性心衰
CI	心脏指数
CIDS	加拿大埋藏式除颤器研究
CK	肌酸激酶
CK-MB	肌酸激酶同工酶
CMV	巨细胞病毒
CNS	中枢神经系统
CO	心输出量
COPD	慢性阻塞性肺疾病
COX	环氧化酶
CPAP	连续正压通气

CPB	心肺旁路, 体外循环
CPR	心肺复苏
CRT	心脏再同步治疗
CSF	脑脊液
CSRU	心脏外科恢复病房
CT	计算机断层扫描
CTOPP	加拿大生理性起搏试验
CUSUM	累计总数
CVA	脑血管事件
CVICU	心血管重症监护病房
CVP	中心静脉压
CVVHD	连续性静-静脉血液透析
CXR	胸部 X 线片
DC	直流电
DDAVP	脱氨-D-精氨酸-血管加压素
DFT	除颤器起始值
DHCA	深低温和停循环
DIC	弥散性血管内凝血
DKA	糖尿病酮症酸中毒
DLCO	肺一氧化碳弥散能力系数
DLT	双腔套管
DNA	脱氧核苷酸
DPG	二磷酸甘油
DVT	深静脉血栓
ECASA	肠溶阿司匹林
ECG	心电图
ECMO	体外膜肺氧合
EDA	舒张末横断面积
EDP	舒张末压
EEA	早拔管麻醉
EEG	脑电图
EF	射血分数
ELISA	酶联免疫吸附分析
EMI	电磁干扰
ESHF	终末期心衰
ETT	气管内导管
ETVC	气管内置管通气
FAC	部分面积变化

FDA	食品药品监督管理局
FDG	氟脱氧葡萄糖
FEV	用力呼气量
FEV ₁	一秒用力呼气量
FFP	新鲜冰冻血浆
FTCA	快通道心脏麻醉
FTT	发育不良
GFR	肾小球滤过率
GI	胃肠
HATT	肝素有关的血小板减少症和血栓形成
Hb	血红蛋白
HCA	低温停循环
HCT	红细胞比容
HDR	肝素剂量反应
HIPA	肝素诱导的血小板激活
HIT	肝素诱导的血小板减少症
HIV	人类免疫缺陷病毒
HLA	人类白细胞抗原
HLHS	左心发育不良综合征
HOCM	肥厚性阻塞型心肌病
HPT	肝素鱼精蛋白滴定
HR	心率
HTN	高血压
IABP	主动脉内球囊泵
ICD	埋藏式心脏转复除颤器
ICU	重症监护病房
ID	感染性疾病
IDDM	胰岛素依赖型糖尿病
IHD	缺血性心脏病
IHSS	特发性肥厚型主动脉瓣下狭窄
IMA	内乳动脉
INR	国际标准比率
IPF	特发性肺纤维化
IPPV	间断性正压通气
ISHLT	国际心脏和肺移植协会
IT	鞘内
ITA	胸内动脉
IVC	下腔静脉

IVS	室间隔
KIU	激肽释放酶抑制单位
LAD	左前降支
LAP	左心房压
LBBB	左束支传导阻滞
LED	发光二极管
LITA	左胸内动脉
LM	左主干
LMWH	低分子量肝素
LOS	住院时间
LPD	低钾右旋糖酐
LSVC	左上腔静脉
LVAD	左心室辅助装置
LVEDP	左心室舒张末压
LVEDV	左心室舒张末容量
LVEF	左心室射血分数
LVF	左心室功能
LVH	左心室肥厚
LVOT	左心室流出道
LVR	肺容量减少
MADIT	多中心自动除颤器置入试验
MAO	单胺氧化酶
MAP	平均动脉压
MH	恶性高热
MI	心肌梗死
MIDCAB	微创冠状动脉旁路移植术
MIRAMVR	微创机器人辅助二尖瓣置换
MMS	Mini-Mental 状态
MPS	心肌保护系统
MR	二尖瓣反流
MRA	磁共振血管造影
MRI	磁共振成像
MRSA	耐甲氧西林葡萄球菌
MS	二尖瓣狭窄
MVP	二尖瓣脱垂
MVR	二尖瓣置换
MVV	最大自主通气
NAPA	N-乙酰普鲁卡因酰胺