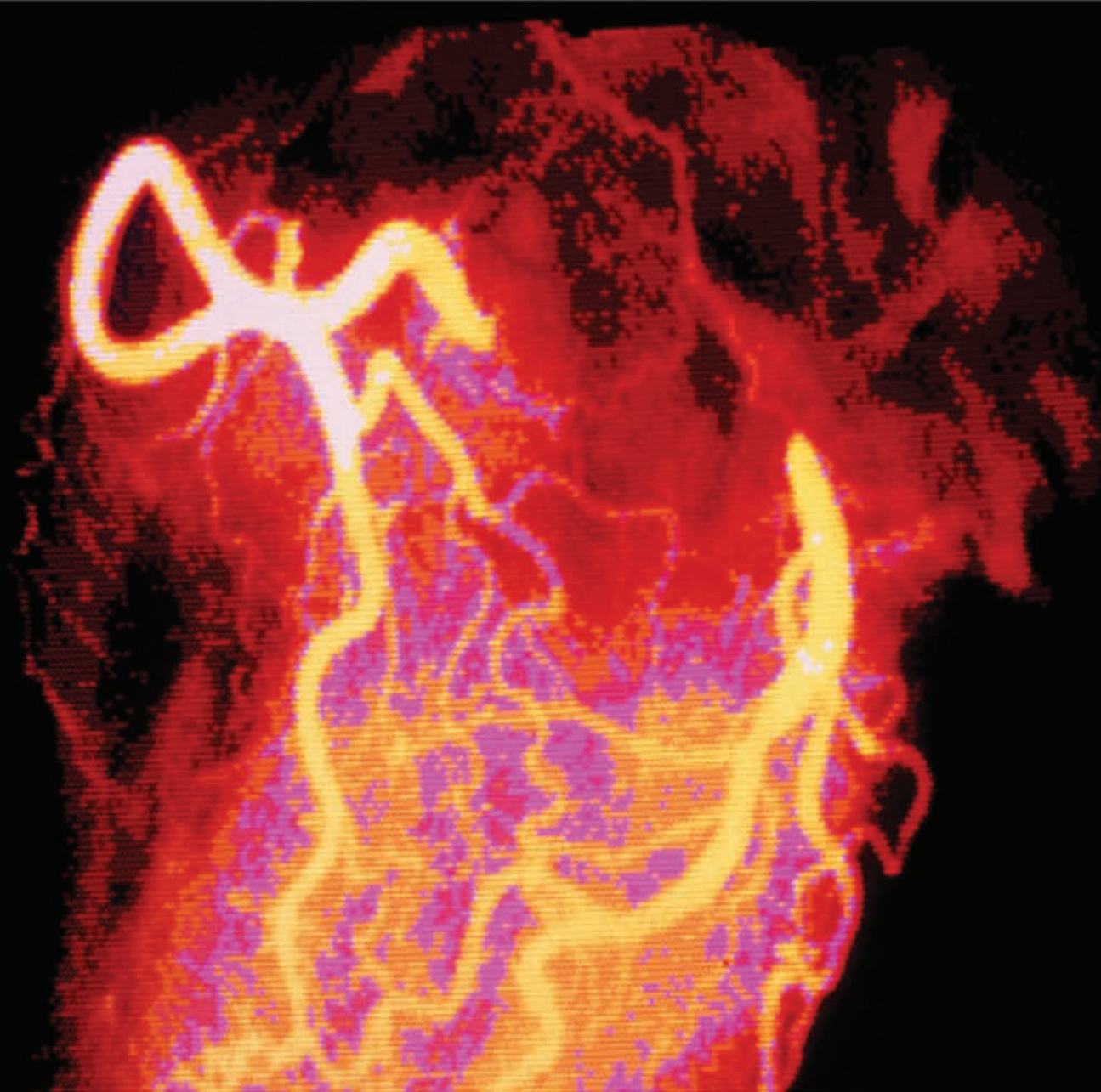


# ABC<sub>of</sub> Interventional Cardiology

SECOND EDITION

Ever D. Grech



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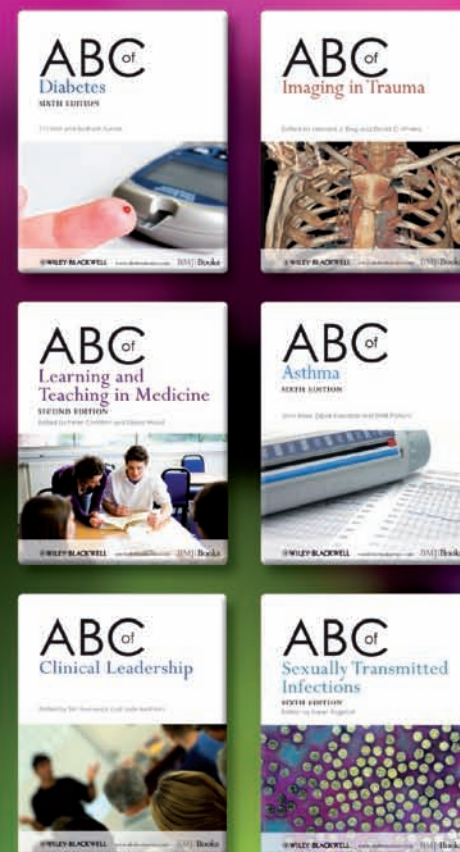
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# Interventional Cardiology

**Second Edition**

*Ever D. Grech*

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 **WILEY-BLACKWELL**  
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# Preface

It is only 33 years since the first percutaneous transluminal coronary angioplasty (PTCA) was carried out by the pioneering Swiss radiologist Andreas Greuntzig in Zurich, heralding the dawn of interventional cardiology. In this short time, interventional cardiology has overcome many limitations and undergone major evolutionary changes – most notably the development of the intra-coronary stent and more explicitly the drug-eluting stent. Across the world, many thousands of patients now safely undergo percutaneous coronary intervention everyday and the numbers continue to grow. In many countries, the numbers far exceed surgical bypass operations.

Although at first, PTCA was indicated only as treatment for chronic stable angina caused by a discrete, easily accessible lesion in a single coronary artery, this has now progressed enormously to encompass complex multi-lesion and multi-vessel disease. Moreover, percutaneous coronary intervention has now become widely used in the management of acute coronary syndromes (which principally include ‘heart attacks’) with definite benefits in terms of morbidity and mortality. The effectiveness and safety of these procedures has undoubtedly been enhanced by the adjunctive use of new anti-platelet and anti-thrombotic agents, and newer drugs are being evaluated. As drug-eluting stents address the Achilles’ heel of angioplasty and stents – restenosis – the huge increase in percutaneous coronary procedures seen over recent years is likely to continue.

As the indications increase and more patients are treated, so inevitably do the demands on healthcare budgets. Although percutaneous intervention is expensive, this burden must be weighed

against bypass surgery which is significantly more costly and multi-drug therapy which would be required over many years.

Although percutaneous coronary intervention has held centre stage in cardiology, major in-roads have also been made in non-coronary areas. Transcatheter valvular treatments – including actual new valve implantation, closure devices and ethanol septal ablation – have become effective and safe alternatives to surgery, as have paediatric interventional procedures. A greater understanding of cardiac electrophysiology and heart failure has led to important advances in the treatment of arrhythmias and resynchronisation therapy. Pacemakers, implantable cardioverter defibrillators (ICD) and cardiac resynchronisation therapy (CRT) are benefiting ever larger numbers of patients both in terms of life quality and mortality.

Where are we heading? This is perhaps the biggest question in the minds of many interventional cardiologists. New ideas and technology generated by industry, coupled with high levels of expertise, are fuelling advances in almost all areas of interventional cardiology. The next decade promises many new (and possibly unexpected) developments in this exciting and restless field of medicine.

In writing this book, I have endeavoured to present broad (and sometimes complex) aspects of interventional cardiology in a clear, concise and balanced manner. To this end, I have concentrated on an easy-to-read style of text, avoiding jargon and exhaustive detail where possible and supplemented with many images and graphics.

Ever D. Grech  
Sheffield

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Finally, my enduring gratitude goes to my wife Lisa and our children Alexander and Frances for their unfailing encouragement, patience and love.

# List of Abbreviations

CTO	Chronic total occlusion
HRT	Hormone replacement therapy
IVUS	Intravascular ultrasound
LAD	Left anterior descending (artery)
LCx	Left circumflex (artery)
Non-STEMI	Non-ST segment elevation myocardial infarction
PCI	Percutaneous coronary intervention
RCA	Right coronary artery
STEMI	ST segment elevation myocardial infarction