



KEY TRIALS IN CARDIOTHORACIC SURGERY

Edited by

Ghaith Isam Qsous, Malcolm Will
and Vipin Zamvar



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This book is a concise summary of the most important clinical trials in cardiac and thoracic surgery. The focus is on how evidence-based decision-making has helped to shape modern practice and guidelines. The key trials are described, and an overview of their impact provided.

Much research has been undertaken to study the efficacy of different drugs, techniques, and treatment strategies in cardiothoracic surgery. As a result, many randomised controlled trials have been published which discuss a wide variety of topics with the intention of improving current practice and patient care. This volume presents a selection of the key trials and assesses their impact. Compact and easy to read, the distillation of core information will enable the reader to understand the importance of the key papers that have influenced best practices across operating theatres, clinics, multi-disciplinary meetings, and inpatient management.

Including full summaries of more than 30 trials and reflecting the clinical scenarios encountered in everyday practice by cardiothoracic surgeons, this concise volume is written for both the trainee and more experienced members of the surgical team.



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***And whatever you do, whether in word or deed,
do it all in the name of the Lord Jesus, giving
thanks to God the Father through him.***

Colossians 3:17

To my late father, who gives me strength and perseverance.

To my mother, for her support and prayers.

*To my beloved wife and daughter (Reem and Zeina),
for being in my life and for your support.*

Ghaith

*This book is dedicated to my three beautiful daughters, Gracie,
Izzy and Erin, my partner, parents and siblings for their
endless support and love, and to all the patients I have had
the privilege of meeting and from whom I learned so much!*

Malcolm

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*And to my daughters, Neba and Nikita,
for the joy they bring to my life.*

Vipin



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Preface

Cardiothoracic surgery is an evolving specialty and an expanding field. Over the last few years, much research has been undertaken to study the efficacy of different drugs, techniques, and treatment strategies with the intention of improving current practice and therefore patient care. Accordingly, many randomised controlled trials have been published, discussing a variety of topics across both cardiac and thoracic surgery.

At the same time, modern medical practice in general has become heavily evidence-based, and decision-making has switched focus from a foundation in individual expert opinion to strong evidence and trials. Alongside this change, patients have been encouraged to become more involved in their own care as part of a shared decision-making model.

This book aims to summarise the landmark trials in cardiac and thoracic surgery which have helped to shape modern practice and guidelines. We tried to include the trials which have impacted accepted best practices across operating theatres, clinics, multi-disciplinary meetings, and inpatient management. Each trial's summary is based around a clinical scenario one might readily encounter during the daily life of a cardiothoracic surgeon, and where applicable, we have highlighted the recommendation from related guidelines in order to provide a complete summary. We therefore hope it will be useful for daily practice by any registrars, residents, or new consultants.

This book is not a replacement for the original papers which provide more extensive explanations and details. Each chapter

contains references for further reading and greater in-depth study. Therefore, we expect this book to be especially useful in providing an overview for registrars preparing for their exams.

To the best of the authors' knowledge the information within this book is accurate at the time of writing. We welcome constructive feedback from any clinicians, particularly in the field of cardiothoracic surgery. For correspondence please contact: gaithgsous@hotmail.com

Disclosure: the author royalties from this publication are being donated to the charity "My Heart". This charity provides support and services for children living with Down Syndrome, in Jordan. For more information, please visit: myheartjo.org

I would like to thank all the contributors who produced excellent efforts to summarise and review the trials. Special thanks must go to Mr Malcolm Will and Mr Vipin Zamvar, the consultants who not only gave me great support and guidance to create this book but also had significant input in their own right.

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It has been a year since I started this project. As a middle-grade registrar with only three years' experience in the specialty and English as a second language, it has been a long, exhausting journey, spending many nights and hundreds of hours in preparation for this book '*Key Trials in Cardiothoracic Surgery*'. This idea came around while I was studying and experiencing difficulty in identifying and collecting all necessary information and trial data from multiple resources. Hereby, I decided to write this book with the aim to help cardiothoracic registrars worldwide to prepare for exams and improve the shared decision process with patients utilising evidence-based decisions.

Firstly, I would like to thank Taylor & Francis Group for believing and supporting me in publishing this book. Specifically, I would like to thank Miranda Bromage and Meeta Singh for their patience, support, and professionalism.

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Ghaith Isam Qsous

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CHAPTER 1

Lung Cancer Screening

NATIONAL LUNG SCREENING TRIAL (NLST)

Ghaith Qsous, Maan Amayreh, and Malcolm Will

You are a senior thoracic surgery registrar and giving an introduction lecture to new junior doctors in the department. You were speaking about importance of lung cancer screening and its impact on survival. Which trial did you use to in your presentation?

Q. *What is the first randomized controlled trial about lung cancer screening?*

A. The National Lung Screening Trial (NLST).

Q. *What are the important points in the national lung screening trial (NLST)?*

A. The following are the important points in the NLST [1]:

- This trial compared the use of low-dose CT (LDCT) (26,722 participants) with the use of chest radiography (CXR) (26,732 participants). Both groups were well matched.
- There were three screenings performed within 1 year. The duration of follow-up was around 6.5 years. More than 92% of participants were compliant with the programme.