

**Interventional Cardiology:
A portfolio of research pertaining to
femoral sheath removal practices and
patient education**

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Portfolio Structure and Overview

This doctoral portfolio contains three separate research projects, that although presented as separate reports, are all related to one area of interest—interventional cardiology. The research sought to identify effective femoral sheath removal practices after interventional cardiac procedures and determine patient’s perceptions of the education they receive prior to and after interventional procedures.

The portfolio is divided into 6 main sections:

Section 1—the introduction to this portfolio begins with an overview of the content and structure of the portfolio. The background section situates the area of research interest—interventional cardiology. This begins with a review of the historical development of cardiology, with a particular focus on the development and refinement of the invasive diagnostic and therapeutic modalities of angiography, cardiac catheterisation and angioplasty. This is followed by a general description of the complications associated with cardiac catheterisation. This section of the portfolio concludes with a discussion pertaining to the role of the nurse in interventional cardiology.

Section two—This section of the portfolio is a report on the first study: a systematic review entitled ‘The effectiveness of mechanical compression devices in attaining haemostasis after removal of a femoral sheath following femoral artery cannulation for cardiac interventional procedures: A systematic review’. The aim of this systematic review was to summarise the best available evidence on the effectiveness of mechanical compression devices used to obtain haemostasis after femoral sheath removal following cardiac interventional procedures. The systematic review has highlighted the lack of quality research in this area. However, the systematic review does highlight particular compression techniques used to attain haemostasis after femoral sheath removal. This information may assist cardiac nurses to make informed decisions about particular devices and techniques used in clinical practice.

Section three—reports on the second study in the portfolio: ‘A randomised controlled

trial comparing the use of manual versus mechanical compression to obtain haemostasis following coronary angiography'. This study was designed to compare two techniques, manual compression and a mechanical compression device—QuicKlamp™, used to achieve haemostasis at the groin puncture site following femoral arterial sheath removal in patients who had undergone coronary angiography. The purpose of this study was to determine which, if any, compression technique was effective and safe for femoral sheath removal. The findings demonstrate that QuicKlamp™ mechanical compression is a safe alternative to manual compression for attaining haemostasis after femoral sheath removal.

Section four—provides a report on the third research study that investigates patients' perceptions of cardiac education prior to and following percutaneous transluminal coronary angioplasty (PTCA) and/or intracoronary stent. This interpretive study was designed to identify the current educational strategies used to inform and prepare cardiac patients for PTCA and/or intracoronary stent procedures; identify whether patients scheduled for PTCA and/or intracoronary stent procedures were educated about the events that would occur in the postoperative recovery period; and, ascertain whether PTCA and/or intracoronary stent patients received information about cardiac rehabilitation programs prior to discharge from hospital. The findings demonstrate that not all patients are adequately educated before cardiac interventional procedures, and therefore deficiencies exist in their understanding about the procedure. In addition, gaps were identified in the type of information patients receive prior to discharge from hospital pertaining to follow-up care and lifestyle changes.

Section five—This section of the portfolio summarises the three pieces of research and provides recommendations for future nursing research in this area.

Section six—The final section of the portfolio contains copies of peer reviewed publications which have to date been generated from this portfolio.