Vascular Surgery

(1) Introduction

Vascular surgery is a surgical subspecialty focusing on the diagnosis and treatment of patients with peripheral vascular disease, which includes arterial, venous and lymphatic problems. Typical patient problems would include the diagnosis and management of patients with ischemia attacks and strokes with carotid stenosis, abdominal aortic aneurysmal disease, patients with lower extremity peripheral vascular disease resulting in claudication, rest pain, and tissue ulceration. Another area of focus is the treatment of patients with chronic renal failure with respect to dialysis access procedures, specifically permanent catheter lines or the creation of arterial venous fistulas. The nature of patients with peripheral vascular disease tends to focus on the elderly with multi-system risk factor problems and is an excellent opportunity for exposure to surgical problems occurring in complicated medical patients.

Only candidates certified by the Royal College in General Surgery, Cardiac Surgery, Thoracic Surgery or Cardiothoracic Surgery may be eligible to undertake the examinations leading to a certificate of special competence in Vascular Surgery. (Please see the training requirements for those specialties.)

Specialty Training Requirements*

(These specialty training requirements apply to those who began training on or after 1 June 1998.) [Editorial revision, July 2002]

1) Royal College certification in General Surgery, Cardiac Surgery, Thoracic Surgery, or Cardiothoracic Surgery (see requirements for these specialties).

2) Two years of approved residency in a vascular surgery program or programs accredited by the Royal College, taken after completion of full residency training in the entry specialty.

3) This period must include:

   a) Fifteen months of senior residency in Vascular Surgery. Senior residency is defined as a period of time during which the resident is regularly entrusted with responsibility for pre-operative, operative, and post-operative care, including the most difficult problems in Vascular Surgery. The senior resident shall be in charge of a vascular surgery service. No other resident shall intervene between the senior resident and the attending staff surgeon.

   b) Nine months of residency in Vascular Surgery, that may include rotations in:
      i) Three months of senior resident training in a cardiac surgery program approved by the Royal College
      ii) Three months of senior resident training in a thoracic surgery program approved by the Royal College
      iii) Up to three months of residency in a non-invasive vascular laboratory
      iv) Three months vascular radiology or interventional cardiology
      v) Up to nine months of academic enrichment that may include but is not limited to research, or a university degree, diploma or certificate program, provided that the academic enrichment project is approved by a Canadian Vascular Surgery Residency Program Director before the academic enrichment is undertaken and is relevant to vascular surgery practice. The academic enrichment may be undertaken as part of another Royal College approved program providing the above criteria are met.
      vi) Further senior residency in clinical vascular surgery in a program approved by the Royal College for training in Vascular Surgery
      vii) Six months of other rotations approved in advance by the Vascular Surgery Residency Program Director
      viii) Three to six months of training in endovascular therapy.

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(2) **Vascular Surgery Programs across Canada**

**Certificate of Special Competence**

| University of British Columbia, Vancouver | University of Toronto, Toronto |
| University of Calgary, Calgary           | University of Ottawa, Ottawa   |
| University of Manitoba, Winnipeg        | McGill University, Montréal    |
| University of Western Ontario, London   | Université de Montréal, Montréal |
| McMaster University, Hamilton           | Université Laval, Québec       |

(3) **The University of Manitoba Program**

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In January 1996, the Vascular Surgery Service became a separate section allowing us to further consolidate and focus our efforts to provide optimal care and research in vascular surgery.

The overall goal of the Postgraduate Vascular Training Program at the University of Manitoba is to provide a comprehensive vascular surgery training program for postgraduate surgery residents and produce well trained vascular surgeons for Manitoba and other provinces in Canada. With a relatively stable population catchment of approximately 1.1 million and the vast majority of vascular surgery being performed in Winnipeg by University associated surgeons at the two teaching hospitals, the Training Program offers ample clinical exposure and opportunities for the Vascular Fellow in training. The Vascular Fellowship Training Program is primarily based at St. Boniface General Hospital. Abdominal aortic aneurysms, carotid artery disease, aorto-iliac, infrainguinal disease and hemoaccess dialysis procedures comprise the bulk of the clinical exposure, as well as opportunities for renal and visceral artery reconstruction. Regular audit and journal clubs also form part of the training program in addition to the weekly vascular rounds, which address basic and clinical vascular topics. There is opportunity for involvement in clinical vascular research studies as well as provision for attendance at local, national and international conferences.
Program information

The Vascular University Postgraduate Training Program functions as one program and carried out in the two major teaching hospitals in Winnipeg, primarily at the St. Boniface General Hospital, but also offers potential opportunities at the Health Sciences Centre. These two hospitals are responsible for the majority of vascular surgery done in the province. There are currently three GFT (geographically full-time) and one part-time University staff at St. Boniface General Hospital, and two full-time staff (geographic full-time GFT's) at the Health Sciences Centre. The Faculty has a broad and extensive clinical base with additional individual expertise in vascular non-invasive diagnosis (duplex ultrasound).

Resources

The program is primarily based at the St. Boniface General Hospital, which has a busy clinical Vascular Service, performing 900 - 1000 major vascular cases per year (including hemoaccess procedures). There are four vascular surgeons, including three full-time vascular surgeons and one additional surgeon primarily performing venous surgery. The Vascular Fellow is based solely on the Vascular Surgery Service, which functions on a designated Ward (4AS). The Vascular Surgery Service has 14 beds allotted with a 5 bed step-down unit. The Vascular Surgery Service is considered a separate service from General Surgery. The service is closely linked to the Interventional Angiography service. Interaction and discussion occur on a daily basis. There also exists a close relationship with the Ultrasound Department and formal exposure for the Fellow is currently available in both these areas. There is active ambulatory care facility where all vascular outpatients are assessed. A dedicated computer with internet and intranet access is provided for the Fellow in a combined resident resource room (Z3028). There is opportunity for exposure to thoracoabdominal aortic surgery, as well as basic clinical research at the St. Boniface Research Center. Although vascular trauma is very uncommon in Manitoba, opportunity for the Fellow to participate in the care of vascular surgery patients is also available at the Health Sciences Centre, the major trauma centre for Manitoba.

VASCULAR ROTATION - Specific Objectives
(St. Boniface General Hospital and Health Sciences Center)

These rotation-specific objectives have been developed with the purpose of defining the knowledge, skills and attitudes that will be expected of the Vascular Resident rotating through the Vascular Surgery Service. These objectives will be formally reviewed with the resident at the start of the rotation, quarterly or more often and at the end of the rotation.

The Royal College of Physicians and Surgeons has identified seven generic roles of specialist physicians which delineate a competency framework for postgraduate Vascular Surgery training programs (medical expert/clinical decision-maker, communicator, collaborator, manager, health advocate, scholar and professional; Skills for the new millennium: Report of the societal needs working group, CanMEDS 200 Project). These seven major roles outline the key competencies for the vascular surgeon as an independent consultant and are followed by specific objectives expected of the resident upon completion of the vascular training program. The objectives, in effect, are the learning contract between the Program and the Fellow and will form the basis of evaluation of both parties. Specific components or modules of instruction including objectives are incorporated in the various aspects of the program (journal club, vascular rounds, non-invasive rotation and research). Please refer to each of these sections separately for their specific objectives and details.

For a detailed and comprehensive outline of the complete vascular surgery program please visit our website at http://www.umanitoba.ca/faculties/medicine/units/surgery/vascular/postgrad/index.html
Format of the Comprehensive Objective Examination in Vascular Surgery**

Comprehensive objective examinations make it possible to obtain a more complete evaluation of the candidate's strengths and weaknesses. The important feature of comprehensive objective examinations is that candidates do not need to pass the written component in order to take the oral component. Success or failure is based on consideration of all components of the examination. The comprehensive objective examinations are considered a "whole" and cannot be fragmented. Candidates who are unsuccessful at this examination must, if within their period of eligibility, repeat all components of the examination.

a. **Written Component (one three-hour paper)**

Clinical vascular surgery, and clinically applied basic sciences - including pathology, anatomy, physiology, pharmacology and other appropriate basic sciences, with emphasis on their application to vascular surgery.

b. **Oral Clinical Component**

This component will be **two, approximately one-hour, oral clinical examinations** in Vascular Surgery conducted by a board consisting of Specialists in Vascular Surgery. Examiners will initiate a discussion on a topic which may be illustrated by the use of angiograms or slides of clinical situations. Usually fairly detailed information is provided to the candidate about the clinical situation presented. Basic science questions including pharmacology (as it pertains to vascular surgery), hemodynamic monitoring during surgery, pre- and post-operative assessment, and the hemodynamics of flow are considered an essential part of the examination.

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(4) **Vascular Surgery Physician’s Survey**

There are no Vascular Surgery Physician’s Survey results available at this time.

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Planning your future as a doctor in Manitoba