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Specific Standards of Accreditation for Residency Programs in Cardiac Surgery

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INTRODUCTION

[Modified] The *Specific Standards of Accreditation for Residency Programs in Cardiac Surgery* are a national set of standards maintained by the Royal College, for the evaluation and accreditation of Cardiac Surgery residency programs. The standards aim to provide an interpretation of the *General Standards of Accreditation for Residency Programs* as they relate to the accreditation of residency programs in Cardiac Surgery, and to ensure these programs adequately prepare residents to meet the health care needs of their patient population(s), upon completion of training.

The standards include requirements applicable to residency programs and learning sites¹ and have been written in alignment with a standards organization framework, which aims to provide clarity of expectations, while maintaining flexibility for innovation.

[Modified] These standards are intended to be read in conjunction with the *General Standards of Accreditation for Residency Programs*, as well as the discipline-specific documents for Cardiac Surgery. In instances where the indicators reflected in the *General Standards of Accreditation for Residency Programs* have been modified within this document to reflect a discipline-specific expectation, the indicator as reflected in this document takes precedence.

¹ Note: The *General Standards of Accreditation for Institutions with Residency Programs* also include standards applicable to learning sites.

STANDARDS

DOMAIN: PROGRAM ORGANIZATION

The *Program Organization* domain includes standards focused on the structural and functional aspects of the residency program, which support and provide structure to meet the *General Standards of Accreditation for Residency Programs*. The Program Organization domain standards aim to:

- Ensure the organizational structure and personnel are appropriate to support the residency program, teachers, and residents;
- Define the high-level expectations of the program director and residency program committee(s); and
- Ensure the residency program and its structure are organized to meet and integrate the requirements for the education program; resources; learners, teachers and administrative personnel; and continuous improvement domains.

STANDARD 1: There is an appropriate organizational structure, leadership and administrative personnel to effectively support the residency program, teachers and residents.

Refer to Standard 1 and its various components within the *General Standards of Accreditation for Residency Programs*, in addition to elements, requirements, and indicators detailed below.

Element 1.1: The program director effectively leads the residency program.

Requirement(s)	Indicator(s)
1.1.3: The program director provides effective leadership for the residency program.	1.1.3.9: The program director sits on the Surgical Foundations curriculum committee of the university. [B1] ²

STANDARD 2: All aspects of the residency program are collaboratively overseen by the program director and the residency program committee.

² The brackets in red font at the end of each indicator provide a reference to language in the previous specific standards of accreditation for the discipline, based upon which the indicator was developed. This reference is provided to assist in the transition to the new template.

Refer to Standard 2 and its various components within the *General Standards of Accreditation for Residency Programs*.

DOMAIN: EDUCATION PROGRAM

The *Education Program* domain includes standards focused on the planning, design, and delivery of the residency program, with the overarching outcome to ensure that the residency program prepares residents to be competent to begin independent practice.

NOTE: Time-based residency programs are planned and organized around educational objectives linked to required experiences, whereas Competency Based Medical Education (CBME) residency programs are planned and organized around competencies required for practice. The Education Program domain standards in the General Standards of Accreditation for Residency Programs have been written to accommodate both.

STANDARD 3: Residents are prepared for independent practice.

Refer to Standard 3 and its various components within the *General Standards of Accreditation for Residency Programs*, in addition to elements, requirements, and indicators detailed below.

Element 3.1: The residency program’s educational design is based on outcomes-based competencies and/or objectives that prepare residents to meet the needs of the population(s) they will serve in independent practice.

Requirement(s)	Indicator(s)
3.1.1: Educational competencies and/or objectives are in place to ensure residents progressively meet all required standards for the discipline and address societal needs.	3.1.1.1 (modified)³: The educational objectives meet the specialty-specific requirements for Cardiac Surgery, as outlined in the Objectives of Training and the Specialty Training Requirements in Cardiac Surgery. [B2]

³ “(modified)” is used to identify where an indicator from the *General Standards of Accreditation for Residency Programs* has been included, with minor discipline-specific modification(s).

Element 3.2: The residency program provides educational experiences designed to facilitate residents' attainment of the outcomes-based competencies and/or objectives.

Requirement(s)	Indicator(s)
<p>3.2.1: The residency program's competencies and/or objectives are used to guide the educational experiences while providing residents with opportunities for increasing professional responsibility at each stage or level of training.</p>	<p>3.2.1.2 (modified): The educational experiences meet the speciality-specific requirements as outlined in the Objectives of Training and the Specialty Training Requirements in Cardiac Surgery. [B3]</p> <p>3.2.1.3 (modified): The educational experiences and supervision are appropriate for residents' stage or level of training, ability, and experience, for the management of cardiac patients. [B3]</p> <p>3.2.1.5: The educational experiences include operative experience, ultimately including the major procedures in the specialty, under appropriate supervision. [B3]</p> <p>3.2.1.6: The educational experiences include resident participation in consultations, both elective and emergency, on a continuing basis throughout training. [B4.3d]</p> <p>3.2.1.7: The educational experiences include opportunities for residents to develop expertise, under systematic supervision, in the initial management of all types of emergencies related to the specialty, including those presenting in the emergency department. [B4.4c]</p> <p>3.2.1.8: The educational experiences include opportunities to respond to emergencies and provide a consultative service under such conditions. [B4.4c]</p> <p>3.2.1.9 (exemplary): <i>The educational experiences include assignment to interdisciplinary clinics or centres that provide exposure to the respective roles of medical and surgical therapy, for the attainment of experience in the management of complex cardiac conditions.</i> [B4.3b]</p>
<p>3.2.2: The residency program uses a comprehensive curriculum plan, which is specific to the discipline and addresses all of the CanMEDS/CanMEDS-FM Roles.</p>	<p>3.2.2.7: The curriculum plan includes resident exposure to the process of systematic review of surgical results and complications, and opportunities to gain an understanding of the principles and practice of quality assurance/improvement (Leader). [B5.4]</p>

Element 3.4: There is an effective, organized system of resident assessment.

Requirement(s)	Indicator(s)
<p>3.4.2: There is a mechanism in place to engage residents in a regular discussion for review of their performance and progression.</p>	<p>3.4.2.6 (modified) (exemplary): <i>Residents are responsible for recording their learning and achievement of competencies and/or objectives for their discipline at each stage of training, including a validated record of all operative procedures in which the resident has participated, either as assistant or operating surgeon.</i> [B3]</p>

DOMAIN: RESOURCES

The *Resources* domain includes standards focused on ensuring resources are sufficient for the delivery of the education program and to ultimately ensure that residents are prepared for independent practice. The Resources domain standards aim to ensure the adequacy of the residency program's clinical, physical, technical, human and financial resources.

NOTE: In those cases where a university has sufficient resources to provide most of the training in Cardiac Surgery but lacks one or more essential elements, the program may still be accredited, provided that formal arrangements have been made to send residents to another accredited residency program for periods of appropriate prescribed training. [B4]

STANDARD 4: The delivery and administration of the residency program is supported by appropriate resources.

Refer to Standard 4 and its various components within the *General Standards of Accreditation for Residency Programs*, in addition to elements, requirements, and indicators detailed below.

Element 4.1: The residency program has the clinical, physical, technical, and financial resources to provide all residents with educational experiences needed to acquire all competencies.

Requirement(s)	Indicator(s)
4.1.1: The patient population is adequate to ensure that residents experience the breadth of the discipline.	4.1.1.3: The volume and diversity of patients available to the residency program are sufficient to support residents' acquisition of knowledge, skills, and attitudes relating to population aspects of age, gender, culture, and ethnicity, appropriate to Cardiac Surgery. [B4] 4.1.1.4: The residency program's clinical services provide an adequate volume of patients to give experience in all areas of Cardiac Surgery practice. [B4.2] 4.1.1.5: The volume of patients is sufficient to provide operative experience in each of the following areas: <ul style="list-style-type: none">• congenital heart disease;• valvular heart disease;• coronary artery disease;• conduction disorders requiring pacemakers;• surgery for thoracic and thoracoaortic disease; and• surgical treatment of end stage heart failure. [B4.2] 4.1.1.6: The volume and diversity of patients is sufficient to provide each resident with experience in major trauma to the thorax, including participation in the initial management of multiple injuries as a member of an interdisciplinary team. ⁴ [B4.2]

⁴ Such exposure may occur on General Surgery and emergency rotations.

4.1.1.7: The patient population provides an adequate volume and range of major general, thoracic, and peripheral vascular surgery for the resident to gain experience in those areas likely to be encountered in Cardiac Surgery patients, including thoracic surgery and its complications and concomitant cerebral vascular and peripheral vascular disease. [B4.2]

4.1.2: Clinical and consultative services and facilities are organized and adequate to ensure that residents experience the breadth of the discipline.

4.1.2.4: The residency program is organized into one or more clinical services, with each service having an adequate number of patients available for teaching. [B4.3]

4.1.2.5: The residency program has an integrated teaching service that provides access to pre-operative evaluation, and operative and post-operative care, with sustained clinical follow-up. [B4.3]

4.1.2.6: The residency program has access to organized clinics or other facilities to provide opportunities for pre-admission investigation and post-discharge follow-up. [B4.3b]

4.1.2.7: The residency program has access to an organized teaching service for the cardiac surgery of infants, children, and adults with congenital heart disease. [B4.3c]

4.1.2.8: The residency program has access to an active consultation service for the residents to gain experience in primary consultation on other services such as Cardiology, other branches of medicine, and other branches of surgery, including trauma. [B4.3d]

4.1.2.9: The residency program has access to adequate operating room time and appropriate facilities to provide increasing surgical responsibility for Cardiac Surgery residents. [B4.3a]

4.1.2.10 (exemplary): *Inpatient and outpatient clinical services are integrated in order to provide continuity of observation of patients both in and out of hospital.* [B4.3b]

4.1.5: There is appropriate liaison with other programs and teaching services to ensure that residents experience the breadth of the discipline.

4.1.5.2: The university sponsors a program in Surgical Foundations.

4.1.5.3: The residency program has appropriate liaison with services in other disciplines that relate to Cardiac Surgery.⁵ [B4.4a]

4.1.5.4: The residency program has access to facilities for all common diagnostic procedures associated with the practice of the specialty.⁶ [B4.4a]

4.1.5.5: The residency program has access to intensive care units organized for teaching, to provide residents with experience in the care of critically ill and injured patients in all age groups; the organization of these units admitting cardiac surgical patients enables residents to assume major responsibility under appropriate supervision. [B4.4b]

⁵ It is particularly important that the cardiac surgical services have a close relationship with a teaching cardiology service.

⁶ It is recommended that these include cardiac catheterization, angiography, echocardiography, and non-invasive studies of cardiac function and viability.

Element 4.2: The residency program has the appropriate human resources to provide all residents with the required educational experiences.

Requirement(s)	Indicator(s)
4.2.1: The number, credentials, competencies, and duties of the teachers are appropriate to teach the residency curriculum, supervise and assess trainees, contribute to the program, and role model effective practice.	4.2.1.1 (modified): The number, credentials, and competencies of the teachers are sufficient to provide the required clinical teaching, academic teaching, assessment, and feedback to residents, including teaching in the basic and clinical sciences related to Cardiac Surgery. [B4.1] 4.2.1.2 (modified): The number, credentials, and competencies of the teachers are sufficient to supervise residents at all levels and in all aspects of Cardiac Surgery, including when residents are on-call and when providing service to patients, as part of the residency program, outside of a learning site. [B4.1] 4.2.1.5: There are a sufficient number of teachers in Cardiac Surgery to provide adequate and continuous instruction and supervision of residents. [B4.1] 4.2.1.6: The program director is a Fellow of the Royal College (FRCSC). [B1] 4.2.1.7: The program director has Royal College certification in Cardiac Surgery. [B1]

DOMAIN: LEARNERS, TEACHERS, AND ADMINISTRATIVE PERSONNEL

The *Learners, Teachers, and Administrative Personnel* domain includes standards focused on supporting teachers, learners, and administrative personnel – “people services and supports”. The Learners, Teachers, and Administrative Personnel domain program standards aim to ensure:

- A safe and positive learning environment for all (i.e. residents, teachers, patients, and administrative personnel); and
- Value of and support for administrative personnel.

STANDARD 5: Safety and wellness is promoted throughout the learning environment.

Refer to Standard 5 and its various components within the *General Standards of Accreditation for Residency Programs*.

STANDARD 6: Residents are treated fairly and adequately supported throughout their progression through the residency program.

Refer to Standard 6 and its various components within the *General Standards of Accreditation for Residency Programs*.

STANDARD 7: Teachers effectively deliver and support all aspects of the residency program.

Refer to Standard 7 and its various components within the *General Standards of Accreditation for Residency Programs*.

STANDARD 8: Administrative personnel are valued and supported in the delivery of the residency program.

Refer to Standard 8 and its various components within the *General Standards of Accreditation for Residency Programs*.

DOMAIN: CONTINUOUS IMPROVEMENT

The *Continuous Improvement* domain includes standards focused on ensuring a culture of continuous improvement is present throughout the residency program, with the aim of ensuring continuous improvement of residency programs.

NOTE: To reinforce and create clarity with respect to the expectations related to continuous improvement, the Requirements under the Element mimic the continuous improvement cycle (Plan, Do, Study, Act).

STANDARD 9: There is continuous improvement of the educational experiences to improve the residency program and ensure residents are prepared for independent practice.

Refer to Standard 9 and its various components within the *General Standards of Accreditation for Residency Programs*.