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SPECIALTY STANDARDS DOCUMENTS HOW TO GUIDE

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Specialty Standards Documents
How To Guide

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What does a Nephrologist do?

What skills should a resident have as they enter into practice as an Orthopedic Surgeon?

What resources need to be in place at my institution before we can set up a training program in Pediatric Hematology/Oncology?

I completed a Pediatrics residency in another country - will Canada recognize my training?

Which doctors in Canada might be affected by a government decision to regulate out-of-hospital laser treatments?

The Royal College Specialty Suite

The Royal College specialty standards documents, referred to as the **specialty suite**, define the discipline. The documents contained within the suite describe the associated knowledge base and skill set, list the required clinical and academic experiences to obtain those competencies, state the expectations of a resident's performance at the successful completion of training, and outline the appropriate structure and organization of a training program in the discipline. The audience for the specialty suite includes residents in training, program directors, teachers and exam board members, as well as government and regulatory authorities.

The specialty suite consists of four discrete but inter-related documents:

- a) **Objectives of Training (OTR).** The OTR describes a discipline recognized by the Royal College and outlines the unique constellation of competencies needed to practice as a specialist in this discipline. The OTR opens with the formal definition of the discipline.
- b) **Final In-Training Evaluation Report (FITER).** The FITER is a summative evaluation tool that attests that the resident has met all of the competencies for the discipline as outlined in the OTR. The FITER is used to identify if a resident is qualified to sit the certification exam in anticipation of being able to proceed to independent practice.
- c) **Specialty Training Requirements (STR).** The STR outlines the required duration, content and sequence of training in the form of a rotation-based road map. A trainee who has successfully completed the STR should be able to demonstrate all of the competencies outlined in the OTR.
- d) **Specific Standards of Accreditation (SSA).** The SSA describes the requirements that the residency program must meet to achieve Royal College accreditation. Building upon the Royal College General Standards of Accreditation for Residency Programs (the "Blue Book"), the SSA outlines the specialty or subspecialty specific resources needed to provide adequate experiences for the trainee. It also identifies any specific administrative requirements, clinical, academic and scholarly content, and/or evaluation methods. A program that meets the requirements of the SSA will be able to provide the appropriate training as required by the STR.

The Role of Specialty Committees

The Royal College establishes specialty committees for each recognized discipline in Canada (specialty, subspecialty and area of focused competence). Among other things, the specialty committee is responsible for the creation, revision and ongoing maintenance of the document suite for that discipline.

Document templates have been developed that form the basis or starting point for each discipline's document. These templates have been written in conjunction with the applicable Royal College committee, such as the Assessment Committee for the FITER or the Accreditation Committee for the SSA. This process ensures conformity among the key elements of the document suite, as well as assuring that each document meets its intended purpose. It is the role of the specialty committee to individualize each document for the unique needs of its discipline.

The Purpose of this Handbook

This handbook was written to provide guidance to specialty committees as they perform the important work of defining their discipline and setting the related training and program standards for their discipline in Canada through the development and refinement of the document suite.

OBJECTIVES OF TRAINING REQUIREMENTS

The Objectives of Training Requirements (OTR) document describes the competencies that the resident must be able to demonstrate at the end of training.

- **Residents, teachers and supervisors** will use the OTR as a guide to plan teaching and learning.
- **Program directors** will ensure the resident rotations, as well as the academic and scholarly aspects of the program provide the resident with the necessary learning experiences to acquire the competencies outlined in the OTR.
- **Examination committees** will base their examinations on the content outlined in the OTR.
- **Governments and regulatory authorities** will rely on the OTR to define the discipline and its associated skills set.

The CanMEDS framework template serves as the foundation upon which the specialty committee builds the unique constellation of competencies needed to practice as a specialist in its discipline. The OTR should clearly indicate the **knowledge, skills** and **attitudes** of the specialist in the discipline, distinguishing him/her from those in other fields. It is written in a format that describes the competencies that are **observable by the end of training**; this provides the link to the FITER which attests to the resident's achievements. For most specialty committees, the OTR is the most important document, serving as the embodiment of the discipline.

In planning the creation or revision of the OTR, a useful exercise for the specialty committee may be to develop a list of the five to 10 major tasks of the practicing specialist. This process is meant to identify **the key activities** of the competent specialist. For example, a competent Nephrologist will evaluate, investigate and treat a patient presenting with abnormal renal function, and a competent Emergency Physician will provide acute care for undifferentiated serious illnesses and injuries. The list of major tasks can be used to help the specialty committee identify the underlying knowledge, skills and attitudes to be expressed within the seven CanMEDS Roles as competencies the resident must achieve for that discipline.

Format of the OTR

An OTR template is provided to each specialty committee to ensure that all disciplines follow a similar format in the development of their discipline's document.

The OTR begins with a brief definition of the discipline. This is followed by a Goals section that describes the overall goals of a training program in the discipline, and is written to express the level of proficiency expected upon completion of training. For subspecialties, this section will include a statement indicating the requirements for entry into the discipline and/or any prerequisite certifications.

The remainder of the OTR follows the format of the seven CanMEDS Roles to outline the competencies of the discipline.

1. Medical Expert Role
2. Communicator Role

3. Collaborator Role
4. Manager Role
5. Health Advocate Role
6. Scholar Role
7. Professional Role

Each section begins with the definition of the CanMEDS Role as applied to the discipline. Each Role has a number of “key competencies”; these are identical across all Royal College disciplines and define the common competencies of all specialists.

A specialty committee should not remove or modify a key competency without providing clear justification as to why it does not apply to its discipline. To emphasize their importance, the “key competencies” appear in bold in the OTR document identified by a number. Each “key competency” has been further defined into “enabling competencies” identified in the arrangement of the document by a corresponding sub-number. The specialty committee will adapt this OTR template to relate to the unique needs of the discipline by modifying, removing and/or adding to the enabling competencies or, more commonly, by providing further specific objectives that illustrate or expand upon the enabling competency.

Note that the **Medical Expert Role** is often considered to be the main distinction between one discipline and another because the knowledge base and procedural skill set of the discipline are outlined in this section of the OTR. The remaining or Intrinsic CanMEDS Roles may have greater commonality between disciplines; however the specialty committee must take care to adapt the CanMEDS framework to its unique needs. Failure to do so will result in a lack of guidance to the users of the document (residents, program directors, exam committees etc.) as they adapt the OTR to their specific purposes of learning, teaching and assessment.

Writing competency based learning objectives

Learning objectives provide an educational road map for the learner and the teacher¹. A good learning objective is specific and its achievement can be measured. Objectives are usually written to describe what the resident will be able to do at the end of the learning time frame; for competency based objectives, this time frame is the duration of training. Thus in the OTR, **the objectives are written to describe the performance of the resident at the end of training in the discipline.**

With the time frame already established as the end of training, the OTR objectives follow the formula: (action verb) + (observable behaviour).

The action verb may be one that indicates knowledge (eg. define, list, describe), psychomotor skill (eg. demonstrate, perform, diagnose) or an attitude (eg. reflect, consider, realize). Appendix 1 provides examples of verbs commonly used for formulating education objectives².

For competency based learning it is imperative that the statement be linked to an observable behaviour; one that can be witnessed and therefore assessed. Specialty committees should avoid using verbs such as “know”, “understand”, “appreciate” or “be aware of” which cannot be observed and therefore limit the assessment of the objective. Examples of well written objectives which include an observable behaviour include:

Knowledge:

Example taken from General Internal Medicine's OTR (2012):

2.1.4.2. Pulmonary Risk:

- 2.1.4.2.1. Identify risk factors affecting perioperative pulmonary risk
- 2.1.4.2.2. Describe the investigations relevant to assessing perioperative pulmonary risk
- 2.1.4.2.3. Describe evidence-based risk stratification models in the evaluation of perioperative pulmonary risk
- 2.1.4.2.4. Discuss optimal timing of the surgery and monitoring of the patient
- 2.1.4.2.5. Describe the management strategies necessary in the perioperative care of patients with pulmonary risk factors
- 2.1.4.2.6. Describe appropriate post-operative pulmonary risk factor management

Example taken from Vascular Surgery's OTR (2011)

- 2.1.1. Differentiate the patterns of disease, natural history, and responses to treatment of vascular disease in men and women and in different racial and cultural groups
- 2.1.2. Describe the operative and non-operative treatment options available to patients with vascular disease, including endovascular therapy
- 2.1.3. Provide a strategy for risk stratification and risk factor modification in patients with vascular disease

Performance:

Example taken from Anatomical Pathology's OTR (2013):

- 4.1. Demonstrate effective, appropriate, and timely performance of diagnostic procedures relevant to Anatomical Pathology
 - 4.1.1. Perform a complete adult and pediatric post-mortem examination, with appropriate full description and diagnosis at gross and microscopic levels
 - 4.1.2. Perform a complete forensic autopsy, including but not limited to toxicologic examination and the submission of specimens to the forensic sciences laboratory
 - 4.1.3. Interpret the findings of post-mortem examinations in the context of the relevant clinical history
 - 4.1.4. Prepare and diagnose frozen sections, including but not limited to the preparation of imprint cytology specimens
 - 4.1.5. Demonstrate appropriate dissection, description, and sampling of surgical specimens for routine and ancillary procedures
 - 4.1.6. Take high quality gross and microscopic photographs of specimens
 - 4.1.7. Demonstrate safe practices in the laboratory, frozen section room, and autopsy suite, to minimize occupational risk

Example taken from General Surgery's OTR (2010)

- 5.2. Demonstrate effective, appropriate, and timely performance of therapeutic procedures relevant to General Surgery
 - 5.2.1. Demonstrate the ability to
 - 5.2.1.1. Expose, resect, divert, cannulate, anastomose and repair as appropriate the alimentary tract including hepatobiliary system and pancreas

- 5.2.1.2. *Expose, resect and repair the spleen*
- 5.2.1.3. *Manage intraoperative life-threatening hemorrhage, through control of arteries and veins*
- 5.2.1.4. *Resect and preserve breast, axillary lymph nodes*
- 5.2.1.5. *Resect and preserve thyroid*
- 5.2.1.6. *Excise and repair hernias, and abdominal wall disorders*
- 5.2.1.7. *Manage operatively the critically injured patient including thoracostomy; surgical airway; central venous, peripheral venous and arterial access; and trauma laparotomy*
- 5.2.1.8. *Resect, reconstruct and preserve skin and soft tissues*

Medical Expert Role

The Medical Expert Role is the central physician Role in the CanMEDs framework. As Medical Experts, specialists integrate all of the CanMEDs Roles applying medical knowledge, clinical skills and professional attitudes in their provision of patient-centered care. This section of the OTR is typically the lengthiest portion of the document, particularly the second and fifth key competencies. These competencies, respectively, describe the **knowledge base** and list the **diagnostic** and **therapeutic procedural** skills of the discipline.

Function effectively as consultants, integrating all of the CanMEDs Roles to provide optimal, ethical and patient-centered medical care

This first key competency positions the Medical Expert Role as central to the CanMEDs framework. Other than indicating the discipline's name in section 1.2, this set of enabling competencies does not typically require any modification by the specialty committee.

Establish and maintain clinical knowledge, skills and attitudes appropriate to "XX"

The second key competency serves to outline the knowledge base of the discipline. This section deals with the demonstration of knowledge; therefore, the verbs used in these objectives will commonly include describe, state, list, define and summarize. Specialty committees may choose to define varying levels of knowledge in order to describe more or less advanced comprehension; approved definitions for levels of knowledge are found in Appendix 2.

Enabling competency 2.1 will expound upon the clinical, socio-behavioural and fundamental biomedical sciences relevant to the discipline. A careful balance must be drawn between providing adequate detail to guide teachers and learners without being so exhaustive as to recopy the major textbook of the discipline. The specialty committee may follow several approaches in creating this list:

- citing the relevant underlying basic and foundational sciences and how they relate to the discipline;
- listing the major clinical disorders of the discipline;
- grouping the knowledge elements of the discipline's major tasks.

Example taken from Gynecologic Oncology's OTR (2008):

2.1. Apply knowledge of the clinical, socio-behavioural, and fundamental biomedical sciences relevant to the Gynecologic Oncology, including (but not limited to):

2.1.1. The embryology, anatomy, histology, genetic, and physiology of the female urogenital tract, the bowel, and the pelvis

- 2.1.2. *The biological behaviour and characteristics of malignant diseases of the vulva, vagina, cervix, uterine body, fallopian tube, ovary, and trophoblastic tumours*
- 2.1.3. *The epidemiology and etiology of cancer of the female genital tract*
- 2.1.4. *The classification, staging and natural evolution of genital cancer*
- 2.1.5. *The screening techniques used in gynecology, e.g. cervical and endometrial cytology as well as the principles of molecular oncology, epidemiology and genetics as they relate to hereditary cancer screening*

Example taken from Emergency Medicine's OTR (2008, Reviewed 2011):

2.3 Apply the basic scientific and clinical knowledge necessary to rapidly assess and manage patients with acute and/or undifferentiated illness or injury, ranging from life-threatening events to common minor presentations, including but not limited to:

2.3.1. The principles of Resuscitation and Critical Care Management

2.3.2. Trauma, including the following:

2.3.2.1. General concepts in the management of the traumatized patient

2.3.2.2. Injuries to the following areas / body systems:

2.3.2.2.1. Head

2.3.2.2.2. Face

2.3.2.2.3. Spine

2.3.2.2.4. Neck

2.3.2.2.5. Thorax

2.3.2.2.6. Abdomen

2.3.2.2.7. Genitourinary

2.3.2.2.8. Peripheral vascular

2.3.2.2.9. Orthopedic injuries and lesions

2.3.2.2.10. Soft tissue injuries

2.3.2.2.11. Violence and abuse

2.3.3. Acute medical and surgical disorders, including, but not limited to, the following cardinal presentations:

2.3.3.1. Head and neck

2.3.3.1.1. Diplopia

2.3.3.1.2. Dysphagia

2.3.3.1.3. Eye pain / Redness

2.3.3.1.4. Loss of hearing

2.3.3.1.5. Loss of vision

2.3.3.1.6. Rhinorrhea

2.3.3.1.7. Sore throat

2.3.3.1.8. Stridor

2.3.3.1.9. Tinnitus

2.3.3.2. Neurological

2.3.3.2.1. Altered mental status

2.3.3.2.2. Ataxia

2.3.3.2.3. Coma

2.3.3.2.4. Confusion

2.3.3.2.5. Decreased level of consciousness

2.3.3.2.6. Dizziness

2.3.3.2.7. Headache

Example taken from Pediatric Hematology/Oncology's OTR (2013)

2.1.5.1. Diagnosis and management of pediatric hematological disease

2.1.5.1.1. Disorders of hematopoiesis

2.1.5.1.1.1. Aplastic anemia

2.1.5.1.1.2. Red cell aplasia and polycythemia

2.1.5.1.1.3. Leukopenia and leukocytosis

2.1.5.1.1.4. Amegakaryocytic thrombocytopenia and thrombocytosis

2.1.5.1.2. Red cell disorders

2.1.5.1.2.1. Hemoglobinopathies

2.1.5.1.2.2. Red cell membrane defects

2.1.5.1.2.3. Red cell enzyme deficiencies

2.1.5.1.2.4. Nutritional anemias

2.1.5.1.2.5. Iron deficiency

2.1.5.1.2.6. Megaloblastic anemia

2.1.5.1.2.7. Dyserythropoiesis

2.1.5.1.2.8. Immune hemolytic anemia

2.1.5.1.3. White cell disorders

2.1.5.1.3.1. Lymphopenia and lymphocytosis

For disciplines in which quality care and patient safety initiatives are particularly well established, item 2.4 may need to be expanded to provide specific examples of the skill set required.

Example taken from Neuroradiology's OTR (2010, Ed Rev. 2012):

2.4. Contribute to the enhancement of quality care and patient safety in neuroradiology, integrating the available best evidence and best practices

2.4.1. Demonstrate knowledge of the hazards and potential complications of diagnostic and therapeutic neuroradiological procedures

2.4.2. Demonstrate knowledge of patient protection and safety with respect to the various imaging modalities and procedures in neuroradiology

Perform a complete and appropriate assessment of a patient

This section refers to the physician as a Medical Expert in the assessment of a patient problem. It moves beyond knowledge to address the skills and processes of clinical assessment; this is a skill set that cannot be assessed by a written exam. Instead, it requires some form of direct observation, such as an Objective Structured Clinical Examination (OSCE). For the laboratory disciplines, the "patient" may be a clinical specimen; for radiological disciplines, the "patient" may be an image. The enabling competencies may be further elaborated with objectives specific to the discipline's approach to the history, physical exam or investigation as related to the medical encounter.

Example taken from Neuropathology's OTR (2011):

3.1 Identify and explore issues to be addressed in examination of a surgical specimen or at post mortem

Example taken from Nephrology's OTR (2012)

3.5 Interpret the results of the following investigations in the context of the patient who presents with manifestations of renal disease

3.5.1. Measures of renal function

- 3.5.2. Serology
- 3.5.3. Urine microscopy
- 3.5.4. Other urine tests, including but not limited to electrolytes
- 3.5.5. Blood pressure data, including automated and ambulatory blood pressure monitoring
- 3.5.6. Renal imaging
- 3.5.7. Renal histology

Use preventive and therapeutic interventions effectively

Many disciplines will have common interventions which are not performed directly by the practitioner, but are ordered by the physician. This section will outline the specific interventions which the specialist must be able to appropriately select and use in the medical encounter.

The specialty committee should consider the role of preventive health in the discipline; examples may include screening, vaccination, radiation exposure minimization, or risk factor intervention. Therapeutic interventions may include such specialty specific skills as the writing of chemotherapy or dialysis orders, as well as skills with broader application such as the use of pharmacologic or biologic therapy.

Example taken from Nephrology's OTR (2012)

4.2. Demonstrate appropriate and timely application of preventive and therapeutic interventions relevant to Nephrology

- 4.2.1. Strategies for renal protection, including but not limited to control of blood pressure, minimization of proteinuria, and prevention of contrast nephrotoxicity*
- 4.2.2. Immunosuppression in patients with renal disease and management of its complications*
- 4.2.3. Plasmapheresis in patients with renal disease*
- 4.2.4. Hemodialysis*
- 4.2.5. Peritoneal dialysis*
- 4.2.6. Renal transplantation*
- 4.2.7. Strategies for management of complications of kidney disease, including but not limited to bone disease, anemia, growth delay, infection, and malnutrition*

Demonstrate proficient and appropriate use of procedural skills, both diagnostic and therapeutic

This section is particularly important for procedural specialties. Item 5.1 will list the diagnostic procedures relevant to practice. Item 5.2 will list the therapeutic procedures. Some disciplines may choose to distinguish between:

- the skills that all trainees must be required to perform independently (*i.e. skills that are commonly and frequently used in the discipline, and therefore it is expected that all graduates would be capable to perform*)
- the skills that the trainee has participated in and knows how to do but may not have performed independently in training (*i.e. skills that may be less commonly done in a generalist practice, and/or may require enhanced training to perform*)
- the skills that the trainee can describe, but not necessarily perform (*skills that are usually restricted to a highly specialized practice and/or require enhanced skills training*).

The verbs used to write these objectives will indicate performance; examples include demonstrate, inject, excise, reconstruct or perform.

Example taken from General Surgery's OTR (2010):

5.1. Demonstrate effective, appropriate, and timely performance of diagnostic procedures relevant to General Surgery including, but not limited to:

5.1.1. Upper gastrointestinal endoscopy

5.1.2. Colonoscopy

5.2. Demonstrate effective, appropriate, and timely performance of therapeutic procedures relevant to General Surgery

5.2.1. Demonstrate the ability to

5.2.1.1. Expose, resect, divert, cannulate, anastomose and repair as appropriate the alimentary tract including hepatobiliary system and pancreas

5.2.1.2. Expose, resect and repair the spleen

5.2.1.3. Manage intraoperative life-threatening hemorrhage, through control of arteries and veins

5.2.1.4. Resect and preserve breast, axillary lymph nodes

5.2.1.5. Resect and preserve thyroid

5.2.1.6. Excise and repair hernias, and abdominal wall disorders

5.2.1.7. Manage operatively the critically injured patient including thoracostomy; thoracotomy; surgical airway; central venous, peripheral venous and arterial access; and trauma laparotomy

5.2.1.8. Resect, reconstruct and preserve skin and soft tissues

Seek appropriate consultation from other health professionals, recognizing the limits of their own expertise

This key competency affirms the limits of the role of the specialist and, as a result, the responsibility of the specialist to recognize those limits of expertise and appropriately involve others in the medical encounter.

Example taken from Medical Oncology's OTR (2009; Ed. Rev. 2011):

6.1. Demonstrate insight into their own limitations of expertise in their care of cancer patients

6.2. Demonstrate effective, appropriate, and timely consultation of another health professional as needed for optimal multidisciplinary patient care during the diagnostic, therapeutic and palliative phases

6.3. Arrange appropriate follow-up care services for a patient and their family which includes but is not limited to referral to family physician, palliative care, home care services, psychological support, nutritional support and rehabilitation care

Communicator Role

The Communicator Role refers to all verbal, non-verbal and written communication competencies related to the medical encounter (i.e. patient, specimen, image). Communication not related to a specific medical encounter should not be included in this section; for example, speaking to the public about a general condition, presenting research work, or the communication that occurs during a teaching session; communication in these contexts is better placed in the Scholar Role.

The Communicator Role embraces five key competencies:

1. *Develop rapport, trust and ethical relationships with patients and families*
2. *Accurately elicit and synthesize relevant information and perspectives of patients and families, colleagues, and other professionals*
3. *Convey relevant information and explanations accurately to patients and families, colleagues and other professionals*
4. *Develop a common understanding on issues, problems and plans with patients, families, and other professionals to develop a shared plan of care.*
5. *Convey effective oral and written information about a medical encounter.*

In approaching this section, specialty committees might consider the discipline specific context of the medical encounter.

- *Does the discipline commonly address sensitive issues that require enhanced or unique communication skills?*
- *Is communication challenged by a patient population with unique set of disabilities, capacity issues and/or emotionally charged diagnoses?*
- *Does the nature of the discipline require communication about the medical encounter outside of the usual patient/family/health professional paradigm, such as may be seen in Forensic Psychiatry or Pathology?*
- *Are specialists in the discipline providing unique verbal or written reports related to the medical encounter such as radiology, pathology or medico-legal reports?*

Example taken from Adolescent Medicine's OTR (2013):

- 1.1. *Demonstrate a positive, non-judgmental attitude towards adolescents and their families*
- 1.2. *Recognize that being a good communicator is a core clinical skill for physicians, and that effective physician-adolescent communication can foster adolescent satisfaction, physician satisfaction, adherence and improved clinical outcomes*
- 1.3. *Establish positive, ethical therapeutic relationships with adolescents and their families that are characterized by understanding, trust, respect, honesty and empathy*
- 1.4. *Respect the adolescent's right to confidentiality, privacy and autonomy within a developmental context*
- 1.5. *Listen effectively*
- 1.6. *Be aware of and responsive to nonverbal cues*
- 1.7. *Communicate effectively with family members involved in the adolescent's health care where appropriate*
- 1.8. *Facilitate a structured clinical encounter effectively*
- 1.9. *Utilize various strategies, including but not limited to motivational interviewing and strengths-based interviewing, to engage the reluctant or ambivalent adolescent*

Example taken from Gynecological Reproductive Endocrinology and Infertility's OTR (2013):

- 3.1. *Deliver information to a patient and family, colleagues, and other professionals in a humane manner and in such a way that it is understandable and encourages discussion and participation in decision-making*

- 3.1.1. *Recognize that patients with endocrine dysfunction and infertility are faced with complex diagnoses and treatments that they may find hard to understand and explain to others*
- 3.1.2. *Recognize that those seeking infertility investigations often feel isolated and may prefer not to confide in friends and family*
- 3.1.3. *Demonstrate expertise in explaining diagnoses, rationale for treatment, and treatment protocols clearly, avoiding highly technical language*

Example taken from Forensic Pathology's OTR (2008; Ed. Rev. 2011):

- 5.1. *Maintain clear, concise, accurate and appropriate records (e.g., written or electronic) of forensic encounters and plans*
 - 5.1.1. *Communicate postmortem findings in an effective written and oral fashion*
- 5.2 *Present verbal reports of forensic encounters and plans effectively*
 - 5.2.1. *Describe the importance of communicating appropriately the information (opinions, conclusions) to police, coroners/medical examiners, and crown attorneys and lawyers, to minimize misunderstandings*
 - 5.2.2. *Demonstrate an understanding of the legal,*

Example taken from Forensic Psychiatry's OTR (2011):

- 5.4. *Prepare well-supported written medico-legal reports addressing the following civil or criminal issues:*
 - 5.4.1. *Fitness to stand trial*
 - 5.4.2. *Evaluation of criminal responsibility*
 - 5.4.3. *Review Board risk and treatment needs assessment reports for patients who are Not Criminally Responsible (NCR)*
 - 5.4.4. *Assessment of purposes of sentencing*
 - 5.4.5. *Risk assessment for future violent offences*
 - 5.4.6. *Determination of psychiatric disability*
 - 5.4.7. *Assessment of personal injury, including causation and damages*
 - 5.4.8. *Assessment of civil commitment for a Review Panel*
- 5.5. *Complete supervised expert testimony in criminal or civil Court proceedings or a mock trial*

Collaborator Role

The Collaborator Role is also focused on the medical encounter and encompasses two distinct sets of competencies related to working within a health care team.

Participate effectively and appropriately in an interprofessional health care team

In writing this section of the OTR, the specialty committee should consider the membership of the interprofessional team with whom their discipline interacts on a regular basis. The competent resident should be able to describe the skill set, as well as the roles and responsibilities of the other professionals required to successfully complete the medical encounter. The specialty committee might also consider discipline specific requirements for collaboration with other professionals, including but not limited to team meetings (e.g., tumour boards), relations within or between hospitals and/or different levels of care, regular interactions between community and specialist services, or other federal, provincial or regulatory agencies.

Example taken from Physical Medicine and Rehabilitation's OTR (2008; Ed. Rev. 2011):

- 1.1. Describe clearly the specialist's roles and responsibilities to other professionals
- 1.2. Describe the roles and responsibilities of other professionals within the health care team
- 1.3. Recognize and respect the diversity of roles, responsibilities and competencies of other professionals in relation to their own
 - 1.3.1. Discuss the principles of interdisciplinary team functioning unique abilities of its members (including but not exclusive to Psychiatrists, other physicians, physiotherapists, occupational therapists, nurses, speech and language pathologists, psychologists, social workers, orthotists, prosthetists, and community health care workers) and the special relationship of the patient and family to the team
- 1.4. Work with others to assess, plan and provide integrated care for individual patients (or groups of patients)
- 1.5. Work with others to assess, plan, provide and review other tasks, such as research problems, educational work, program review or administrative responsibilities
- 1.6. Participate effectively in interprofessional team meetings, family conferences and discharge planning conferences
 - 1.6.1. Display behaviour in keeping with attitudes which value the unique professional contributions of the other health care professionals on the team

Work with other health professionals effectively to prevent, negotiate, and resolve interprofessional conflict.

This key competency addresses the quality of the interactions with the interprofessional team, focussing on the specialist's attitudes towards team members, recognition of his/her role in contributing to effective team functioning, as well as his/her skills with regard to addressing conflict. This competency is important to all disciplines, however the objectives may require adaptation with those disciplines where:

- the interprofessional team plays a major role in shared clinical decision making
- the team incorporates professions from outside the usual medical context
- the specialist plays a main role as Manager or gatekeeper of health resources

Example taken from Geriatric Medicine's OTR (2012):

- 2.1. Demonstrate a respectful attitude towards colleagues and members of an interprofessional team
- 2.2. Work with other professionals to prevent conflicts
 - 2.2.1. Demonstrate an understanding of the problems that may occur in a multidisciplinary/interprofessional team
- 2.3. Demonstrate abilities in conflict management and negotiation
- 2.4. Respect differences and address misunderstandings and limitations in other professionals
- 2.5. Recognize one's own differences, misunderstanding and limitations that may contribute to interprofessional tension
- 2.6. Reflect on interprofessional team function
 - 2.6.1. Demonstrate the skills needed to deal with a dysfunctional team

Example taken from Forensic Pathology's OTR (2008; Ed. Rev. 2011):

- 2.1. *Demonstrate a respectful attitude towards other colleagues and members of a medicolegal team*
- 2.2. *Demonstrate a multidisciplinary approach for a death investigation (scene investigation, postmortem examination, history, ancillary investigations) in collaboration with other members of the medicolegal team*
- 2.3. *Participate in death investigation team meetings when needed, demonstrating the ability to consider and respect the opinion of other team members*
- 2.4. *Work with other members of the medicolegal team to prevent conflicts*
- 2.5. *Employ collaborative negotiation to resolve conflicts*
- 2.6. *Respect differences and address misunderstandings and limitations in other members of the medicolegal team*
- 2.7. *Recognize one's own differences, misunderstanding and limitations that may contribute to medicolegal team tension*
- 2.8. *Demonstrate awareness of medicolegal death investigation as a collaborative effort between individuals and groups with different skills and experience working toward a common goal*

Example taken from Child and Adolescent Psychiatry's OTR (2011):

2. *Collaborate with community agencies, schools and other professionals working with children/adolescents with mental illness, and their families*
 - 2.1. *Demonstrate consistent and effective communication with primary care physicians to support, educate and provide consultation*
 - 2.2. *Identify appropriate community agencies, understand the role of various service providers, and facilitate regular communication to efficiently and effectively provide collaborative treatment planning and delivery*
 - 2.3. *Communicate with school personnel to obtain appropriate collateral information and develop a comprehensive evaluation and treatment plan to address mental health concerns recognizing illness impact on social and academic functioning.*
 - 2.4. *Demonstrate the skills to provide support, education and consultation to school personnel and other non-traditional mental health providers as relevant to a comprehensive biopsychosocial treatment plan*

Manager Role

The Manager Role moves beyond the medical encounter to describe the role of the specialist in the health care system. It includes competencies at the level of one's own practice, at the level of the health care organization, as well as at the level of the overall health care system.

The Manager Role emphasizes the responsibility of the specialist to participate in activities that benefit the overall system and/or organization beyond the individual patient; this includes cost-appropriate care and patient safety initiatives. The adaptation of this Role will be particularly important for those disciplines in which the specialist has a central role in managing resources that may include financial, human, technical or therapeutic.

The Manager Role has 4 key competencies:

- ***Participate in activities that contribute to the effectiveness of their health care organizations and systems***

- **Manage their practice and career effectively**
- **Allocate finite health care resources appropriately**
- **Serve in administration and leadership roles**

Example taken from Radiation Oncology's OTR (2012):

1. *Participate in activities that contribute to the effectiveness of their health care organizations and systems*

1.1. *Work collaboratively with others in their organizations*

1.1.1. *Explain the importance of shared responsibility for health care provision in a multidisciplinary and interprofessional setting, and in continuing care in the community*

1.2. *Participate in systematic quality process evaluation and improvement, including patient safety initiatives*

1.2.1. *Contribute to the enhancement of quality care and patient safety in*

Radiation Oncology, integrating the available best evidence and best practices

1.2.1.1. *Describe the process required for a facility to be accredited to use ionizing radiation, including the role of the Canadian Nuclear Safety*

Commission in ensuring patient and public safety during the therapeutic use of ionizing radiation

1.2.2. *Participate in audits, quality improvement, risk management, occurrence/incident reporting, and complaint management in a hospital and ambulatory setting*

1.2.3. *Define cost/benefit ratios, cost containment, effectiveness and efficiency as they relate to the choice of preventive or diagnostic/therapeutic interventions*

1.3. *Describe the structure and function of the health care system as it relates to Radiation Oncology, including the roles of physicians*

1.4. *Describe principles of health care financing, including physician remuneration, budgeting and organizational funding*

1.5. *Describe factors that need to be considered in planning for the population's needs for human and facility resources*

Example taken from General Pathology's OTR (2012):

2. *Manage their practice and career effectively*

2.1. *Set priorities and manage time to balance practice requirements, outside activities, and personal life*

2.2. *Manage a laboratory including:*

2.2.1. *The supervision and direction of the clinical biochemistry, clinical microbiological, and hematopathology laboratory at the level of the community or regional hospital*

2.2.2. *The direction of a hospital infection control program as it pertains to the role and utilization of the hospital laboratory*

2.2.3. *The supervision and clinical direction of a transfusion service in association with provincial and national blood agencies*

2.2.4. *The provision of consultation services regarding appropriate use of, and possible alternatives to, blood component therapy*

2.2.5. *The management of staffing and personnel*

2.2.6. *The supervision of budgeting (personnel, materials, capital equipment)*

2.2.7. *The supervision of workload measurements*

- 2.3. *Participate in hospital medical staff organization*
- 2.4. *Demonstrate working knowledge of funding structures for laboratories*
- 2.5. *Demonstrate working knowledge of laboratory management*
- 2.6. *Demonstrate working knowledge of principles of optimal laboratory utilization*
 - 2.6.1. *The management of equipment purchasing and selection*
- 2.7. *Implement processes to ensure personal practice improvement*
- 2.8. *Employ information technology appropriately for patient care*
 - 2.8.1. *Demonstrate working knowledge of laboratory information systems and components (hardware and software)*
 - 2.8.2. *Demonstrate awareness of and comply with personal privacy legislation and policy*
- 2.9. *Describe an approach to evaluating emerging technologies with a view to the possibility of integration in the laboratory*

Example taken from Radiation Oncology's OTR (2012):

- 3. *Allocate finite health care resources appropriately*
 - 3.1. *Recognize the importance of just allocation of health care resources, balancing effectiveness, efficiency and access with optimal patient care*
 - 3.1.1. *Discuss the advantages, disadvantages, and relative costs of prevention, screening and therapeutic cancer programs*
 - 3.1.2. *Compare the advantages, disadvantages and relative costs of care in different settings, including the role of the various forms of health care provision, including hospitals, regional cancer centres, ambulatory clinics, private offices, home care, chronic care and palliative care*
 - 3.1.3. *Avoid unnecessary investigations and hospitalization*

Example taken from Pain Medicine's OTR (2013):

- 4. *Serve in administration and leadership roles*
 - 4.1. *Chair or participate effectively in committees and meetings*
 - 4.2. *Lead or implement change in health care*
 - 4.3. *Plan relevant elements of health care delivery*
 - 4.3.1. *Describe the components of a safe, effective and efficient acute pain service; describe its impact on health resource utilization*
 - 4.3.2. *Describe the components of a safe, effective and efficient chronic non-cancer pain service; describe its impact on health resource utilization*
 - 4.3.3. *Describe the components of a safe, effective and efficient cancer pain and symptom management service; describe its impact on health resource utilization*

Health Advocate Role

The Health Advocate Role recognizes that specialists, because of their expertise, have the opportunity and therefore the responsibility to act on behalf of others. The practitioner's influence may be exerted at the level of the medical encounter, at the level of community the specialist serves, and at the level of the overall population served.

The key competencies within this role include:

- ***Respond to individual patient health needs and issues as part of patient care***
- ***Respond to the health needs of the communities that they serve***

- *Identify the determinants of health for the populations that they serve*
- *Promote the health of individual patients, communities, and populations*

The Health Advocate Role remains a challenge for many training programs and residents. The specialty committee has an important role to play by providing specific objectives to guide learners and teachers. This section should outline discipline related opportunities for advocacy at all levels. The specialty committee may wish to consider the following questions:

- *Which of the determinants of health are related to the specialist's expertise?*
- *What aspects of the individual patient's needs would benefit most from the use of a specialist's influence?*
- *Is there a described vulnerable or marginalized population affected by the conditions treated by the specialty?*
- *Are there existing organizations or activities related to the discipline through which the specialist can act at a community or population level?*

Example taken from General Internal Medicine's OTR (2012):

1.2.2. Implement preventive strategies including but not limited to immunization, cancer screening, and the management of osteoporosis

1.2.3. State mechanisms for determining assistance programs with medication funding

1.2.4. State potential avenues to pursue for assistance with funding for lifestyle change (fitness and nutrition)

1.2.5. Promote discussions about end of life care with patients and their families

1.2.6. Facilitate end of life care by advocating for services to patients who wish to remain in their homes

1.2.7. Develop techniques for, and knowledge of, mechanisms of interventions for long-term healthy behaviors and preventive health care including but not limited to smoking cessation, screening tests, immunization, exercise and nutrition

1.2.8. Describe the indications to restrict the ability to drive and when to request further assessments

Example taken from Plastic Surgery's OTR (2013):

1.1. Identify the health needs of an individual patient including, but not limited to:

1.1.1. Patients requiring contour surgery

1.1.1.1. Provide potential obesity counseling

1.1.1.2. Provide dietary counseling

1.1.1.3. Provide or promote exercise and life style counseling

1.1.2. Patients requesting facial rejuvenation surgery

1.1.2.1. Advise about proper use of sunscreen

1.1.2.2. Promote smoking cessation initiatives and provide support to patients trying to quit smoking

1.1.2.3. Provide psychological screening for patient with unrealistic expectations, or after a life changing event

1.1.3. Patients requiring breast surgery (reduction, augmentation, mastopexy)

1.1.3.1. Encourage regular self-examination

1.1.3.2. Promote mammography screening

1.1.3.3. Verify family history and other risk factors

Example taken from Plastic Surgery's OTR (2013):

3.2. Identify vulnerable or marginalized populations within those served and respond appropriately

3.2.1. Populations with low socioeconomic status who may be at risk for burn injury and child abuse

3.2.2. Newborns at risk of deformational plagiocephaly

3.2.3. Those with a family history of skin cancer or breast cancer

Example taken from Obstetrics and Gynecology's OTR (2013):

4.3. Identify points of influence in the health care system and its structure

4.3.1. Describe the important function and role of various professional organizations, including the Society of Obstetricians and Gynecologists of Canada (SOGC), in the support of Obstetricians and Gynecologists in this country and in the provision and maintenance of optimal health care for Canadian women

4.3.2. Participate in local, regional and national specialty associations, professional or scientific, to promote better health care for women

4.3.3. Provide direction to hospital administration regarding compliance with national clinical and surgical practice guidelines

Scholar Role

The Scholar Role frames residency within the continuum of medical education, ensuring the trainee has the skills to maintain competency throughout his or her career. The responsibility of the specialist to advance the field is also highlighted in the requirements to share one's expertise by teaching others, and to develop, disseminate and translate new knowledge and practices.

The key competencies of the Scholar are:

- *Maintain and enhance professional activities through ongoing learning*
- *Critically evaluate medical information and its sources, and apply this appropriately to practice decisions*
- *Facilitate the learning of patients, families, students, residents, other health professionals, the public and others*
- *Contribute to the development, dissemination, and translation of new knowledge and practices*

This section will include communication competencies that are not directly related to the medical encounter, including education sessions for other professionals, patients, families and/or the public. Research or scholarly presentations and collaborations would also fall under this rubric.

Example taken from Neuropathology's OTR (2011):

3. Educate and otherwise facilitate the learning of students, residents, physicians and other health care professionals

3.1. Apply the principles of learning to the medical education of students and health care professionals

3.2. Develop and select effective teaching strategies and content relevant to a medical audience

- 3.3. *Work collaboratively with other health care professionals to identify the educational needs and anticipated learning outcomes of a medical audience*
- 3.4. *Use a variety of techniques and effectively communicate with a specific medical audience*
 - 3.4.1. *Prepare and lecture on topics related to Neuropathology effectively*
 - 3.4.2. *Present Neuropathology in clinical and professional meetings effectively*
 - 3.4.3. *Target the level of teaching and techniques used to the audience*
- 3.5. *Listen and provide effective feedback to a medical professional or medical audience*
- 3.6. *Assess a teaching encounter (lecture, mentoring, individual), evaluate its effectiveness and suggest how it may have been improved*

Disciplines will vary in the requirement for the development, dissemination, and translation of new knowledge and practices; some may require participation, while others may require completion of a scholarly project. Standard wording has been developed to assist specialty committees in describing the desired level of involvement (see Appendix 3). Specialty committees must ensure that the wording of this requirement in the OTR matches that of the FITER.

Professional Role

In achieving the key competencies of the Professional Role, specialists demonstrate a commitment to:

- *their patients, profession and society through ethical practice*
- *their patients, profession and society through participation in profession-led regulation*
- *physician health and sustainable practice*

Specialty committees can adapt these competencies to their discipline by considering the unique ethical issues encountered in their practice.

- Disciplines working with vulnerable populations and/or sensitive issues may need to add specific objectives regarding patient confidentiality.
- The need to specify regulatory and legal obligations may be particularly important for those fields with a central role in the management of laboratories or radiation safety, as well as those fields in which contact with the legal system relating to the medical encounter is frequent.
- Personal health and sustainable practice are important for all physicians and surgeons; however the particular context of a discipline (eg. shift work, poor patient outcomes, and emotional stress) may highlight the need for achievement of unique coping competencies.

Example taken from Obstetrics and Gynecology's OTR (2013):

1.5. Recognize the principles and limits of patient confidentiality as defined by professional practice standards and the law

1.5.1. Demonstrate understanding of the medico-legal aspects of consent and confidentiality specific to pediatric and adolescent gynecology

Example taken from Pediatric Radiology's OTR (2009, Ed. Rev. 2012):

2. Demonstrate a commitment to their patients, profession and society through participation in profession-led regulation

- 2.1. Demonstrate knowledge and an understanding of the professional, legal and ethical codes of practice, including but not limited to the ALARA (As Low as Reasonably Achievable) principles for limitation of exposure to ionizing radiation

Example taken from Pain Medicine's OTR (2013)

2.2. Fulfil the regulatory and legal obligations required of current practice:

- 2.2.1. Prescription of opioids, specifically methadone
- 2.2.2. Prescription of medical marijuana

Example taken from Child Maltreatment Pediatrics' CTR (draft 2013)

3. Demonstrate a commitment to physician health and sustainable practice

- 3.1. Balance personal and professional priorities to ensure personal health and a sustainable practice, preventing, recognizing and responding to vicarious trauma, "burnout", and compassion fatigue in self and colleagues.

Conclusion

The OTR serves to distinguish one specialty from other disciplines, and acts as a guide to the specialty for many different groups of users. It should detail the differences between this discipline and all others, within the Medical Expert section, as well as all of the Intrinsic CanMEDS Roles. A well-written OTR forms the basis of the other documents in the document suite.

Checklist:

- Are the overall goals of a training program in the discipline, written to express the level of proficiency expected **upon completion of training?**
- Is the first word in every statement an action verb? Adjectives, if needed, belong later in the statement
- Is every objective linked to an observable behaviour? If the OTR is done well, the FITER should write itself!
- Are the five to 10 major tasks of the specialist in the discipline represented in the OTR?
- Have the Intrinsic CanMEDS Roles been adapted to the needs of the discipline? If there is a role that is essentially the same as the template, reflect on the unique context and/or patient population of the specialty
- Are the objectives in the Communicator Role and Collaborator Role related to the medical encounter?
- Does the OTR balance detail and specificity? It's a competency document not the index of a textbook!
- Does it allow flexibility for programs while still serving as an adequate road map for competency based education?
- If any key competency has been removed, is there a clear justification provided as to why it does not apply to its discipline?
- Does the STR allow the resident to achieve the competencies outlined in the OTR?
- Does the FITER list a behaviour that has not been required in the OTR?

FINAL IN-TRAINING EVALUATION REPORT

The Final In-Training Evaluation Report (FITER) attests that the resident has met all of the competencies for the discipline. Signed by the resident, program director and postgraduate dean, the FITER is an overall assessment of competence in the final year of training and projects that the resident is competent to practice safely as an independent consultant.

The FITER is completed by the program director on behalf of the Residency Program Committee. It is the summative evaluation tool used to document that the resident is qualified to sit the certification exam; in other words, it is the “ticket” to write the exam. Credentials agents at the Royal College will use the FITER to determine if training is complete. Members of the discipline’s Exam Committee may refer to the FITER to assist in deciding the status of borderline candidates; a well written, descriptive FITER can be critical in determining whether the candidate will pass.

As the FITER is completed while the resident is still in training, in advance of the final exam, it may be revoked by the program director due to concerns about resident performance at any time prior to the completion of training.

The FITER is intimately linked to the Objectives of Training (OTR), but is not merely a transposition of that document. Like the OTR, it includes competencies that are specific to the discipline and should be distinguishable from that of other disciplines. Like the OTR, it is written using terminology that is observable or measurable; each item in the FITER begins with a verb that describes an action that can be witnessed and assessed to meet essential markers of achievement. However, unlike the OTR, it is an overall assessment at the final year of training. Items in the FITER are selected from the comprehensive list in the OTR to demonstrate satisfactory achievement of the key or critical behaviours, skills and procedures of the competent specialist at the time of entry to independent practice. The items in the FITER must be contained within the OTR; as a summative assessment, the FITER cannot introduce new material or standards against which the resident’s competence is to be measured.

Format of the FITER

The FITER begins with a page used by all disciplines which indicates the Residency Program Committee’s decision regarding the resident’s overall competence and lists the sources of information used to reach this decision. There is a section for overall comments and space for the signatures of the program director, postgraduate dean and resident. The remainder of the document uses the format of the seven CanMEDS Roles, taking each in turn.

The Medical Expert section is divided into two parts. The first part assesses the resident in the competencies related to the knowledge base of the discipline as well as the assessment and management of the key disorders of the discipline. The second part deals with the procedural aspects of the discipline, documenting the resident’s competence in the performance of these skills; this is not the exhaustive list presented in the OTR, but instead a summary of the index procedures of the discipline i.e. those that are representative of other procedures.

Example taken from General Surgery's FITER (2010): PROCEDURES AND CLINICAL SKILLS

Demonstrates the ability to:

- a. Expose, resect, divert, cannulate, anastomose and repair as appropriate the alimentary tract including hepatobiliary system and pancreas*
- b. Expose, resect and repair the spleen*
- c. Manage intraoperative life-threatening hemorrhage, through control of arteries and veins*
- d. Resect and preserve breast and axillary lymph nodes*
- e. Resect and preserve thyroid*
- f. Excise and repair hernias and abdominal wall disorders*
- g. Manage operatively the critically injured patient including:*
 - endotracheal intubation*
 - surgical airway*
 - thoracostomy*
 - thoracotomy*
 - central venous, peripheral venous and arterial access*
 - trauma laparotomy*
- h. Resect, reconstruct and preserve skin and soft tissues*
- i. Performs diagnostic and therapeutic upper and lower gastrointestinal endoscopies and minimal access techniques effectively*

The Intrinsic Roles are likewise brief lists of the essential 3-8 competences as they relate to the discipline, drawn from the OTR. The FITER should include the competencies that are uniquely related to the discipline; a common criticism of the FITER is that it is too generic.

Examples taken from General Surgery's FITER (2010):

COLLABORATOR

- b. Works effectively with interprofessional teams in and outside of the operating room*

MANAGER

- e. Maintains an accurate and up to date log of surgical cases*

The Scholar Role will include an item linked to the discipline's requirements for the participation in or completion of a scholarly project as appropriate.

Example taken from Otolaryngology – Head and Neck Surgery's FITER (2011): SCHOLAR

- This resident has successfully participated in a scholarly project related to Otolaryngology – Head and Neck Surgery (yes / no)*

For guidance regarding the different levels of involvement in a scholarly project, please refer to *Scholarly project wording options* in Appendix 3.

In developing the FITER, the Specialty Committee must draw from but not duplicate the OTR. Selecting the key elements of the OTR that describe the competent resident at the completion of training will ensure that the FITER is summative and not comprehensive.

FITER checklist

- Is the first word in every statement an observable verb?
- If the OTR mandates participation or completion of a scholarly project, does the FITER Scholar Role have wording to match?
- Does the FITER include anything that is not in the OTR?

SPECIALTY TRAINING REQUIREMENTS

The Specialty Training Requirements (STR) document outlines the specific training curriculum for a resident in the form of a rotation-based roadmap. Following the curriculum as outlined allows the resident to meet the educational objectives of the discipline as summarized in the Objectives of Training Requirements (OTR). The rotations outlined in the STR form the basis of the resources required in the Specific Standards of Accreditation (SSA).

For graduates of non-Canadian residency programs applying for Royal College certification, the STR provides the list of required rotations to demonstrate equivalency to completion of a Royal College accredited training program. Royal College credentials agents will assess an applicant's training record using the standards of the discipline specific STR to determine eligibility for the certification exam.

The STR may begin with a preamble that describes its intentions. The majority of the document focuses on the “**Minimum Training Requirements**” which state the total duration, content and sequence of training required for certification.

The “**Notes**” section may clarify statements in the document and, if necessary, includes any exceptional or extraordinary clauses to the training requirements, including but not limited to reciprocity agreements with other jurisdictional Certification Boards.

A final summary concludes the document. The **summary** clearly states what is required for certification, such as any prerequisite requirements, successful completion of required rotations, any scholarly requirements and the certification examination.

Minimum Training Requirements

A statement providing the **required minimum duration of training** begins this section. It is further organized in a progressive fashion to indicate which rotations the resident must complete in order to progress to the next level of training, and may include mandatory, selective and elective rotations. This section is written succinctly; it is essentially a list of rotations with modifiers to describe the name of the rotation, minimum (and possibly maximum) duration in units of time, and a stepwise approach to indicate any required order of training.

The minimum training requirements carefully balance **flexibility** and **specificity**. **Flexibility** allows the trainee to pursue their own interests within the field and/or the program director to make best use of local resources. **Specificity** allows for clear delineation between one discipline and another, supports a high level of minimum standards for training across universities, and facilitates the work of Royal College credentials agents in assessing the files of candidates for access to Royal College exams.

Vacation time is not included or considered in the creation of the minimum training requirements. Duration and timing of vacation is defined by the resident/employer contract rather than the STR.

Considerations for the specialty committee

Months or 4-week Blocks

The unit of time used to define a rotation may be comprised of either a **month** or a **4 week block** (or multiples thereof); whichever is used, the total number of rotations must add up to the total duration of training. The use of blocks, rather than months, allows for 13, rather than 12, rotations per year. However, if all universities do not use the 4-week block system, the specialty committee must be careful in assigning mandatory minimum durations of training in order to avoid difficulties for those training programs with 12 month-long rotations. Whichever option the specialty committee chooses to apply, there must be consistency in its use throughout the STR document.

Mandatory, Selective or Elective

Training requirements can be characterised as **mandatory**, **selective** or **elective**.

- **Mandatory** rotations are those which all residents must complete.
- **Selective** rotations indicate that the resident has a *predefined list of choices* from which to complete a defined period of training. The resident is able to select which rotations are completed, but the STR defines the time allotment and limits the variety of rotations from which they may choose.
- An **elective** rotation gives the resident the *ability to choose any learning experience* of interest to them, with the approval of the program director.

A specialty committee providing a list of “selectives” as compared to elective time is therefore providing more direction and guidance to the program, resident and to the Credentials Unit staff member performing an assessment of training. Note that research rotations may be deemed as mandatory, selective or elective at the discretion of the specialty committee.

The complete list of rotations may include both minimum as well as maximum exposures to certain rotations. Most importantly, the total number of rotations (mandatory, selective and /or elective) described in the STR must match the total duration of training.

Longitudinal Experiences

Longitudinal experiences must be described in unit equivalents (such as a half-day clinic per week for the last year of training). An example would be “two months or longitudinal equivalent exposure to peri-operative assessment”.

Longitudinal experiences may be included at any stage of training, for any clinical or academic experience. They may be identified as mandatory, selective or elective rotations. In order to be quantified and included correctly in the total duration of training, they must be expressed as equivalent to a **month** or **block** unit of time.

Example taken from Neuropathology’s STR (2011):

3. *Minimum of two (2) years of approved residency training in Neuropathology, including:*
 - 3.1. *A minimum of three (3) months or equivalent longitudinal experience in pediatric Neuropathology*
 - 3.2. *A minimum of two (2) months or equivalent longitudinal experience in forensic (medico-legal) pathology (may be included in the Anatomical Pathology autopsy period)*

3.3. *A minimum of two (2) months or equivalent longitudinal experience in muscle and nerve Neuropathology*

Organization of the STR

Foundational Elements

The first grouping of requirements usually consists of the “foundational” elements of the discipline. These are the rotations that will *provide the basis upon which the trainee builds his/her knowledge and skills in the field*. Those disciplines for which Surgical Foundations training is a requirement will refer to that document at this point.

Example taken from Otolaryngology – Head and Neck Surgery’s STR (2011, Ed. Rev. 2013):

Two (2) years (26 blocks) of foundational training in surgery. This period is under the direction of the Otolaryngology - Head and Neck Surgery Program Director in collaboration with the Surgical Foundations program coordinator. This initial period of postgraduate training allows the acquisition of knowledge, skills and attitudes underlying the basics to the practice of surgery in general and preparatory to further training in Otolaryngology - Head and Neck Surgery (Please see Objectives for Surgical Foundations training).*

Additional Training Requirements

Subsequent sections list additional training requirements, often providing more flexibility in order to allow the resident the opportunity to choose rotational experiences that prepare them for their individual career goals. This may be done through the mechanism of selective or elective rotations. The specialty committee may choose to order this part of the document by post-graduate year (PGY) level to further guide training programs. The specialty committee may also choose to qualify a rotation to indicate a minimal level of responsibility such as “senior resident”.

Notes

The Notes section is used to clarify or provide a description of any element of the minimum training requirements. Examples may include a description of the required longitudinal experience or the specialty committee’s definition of a “senior resident” experience.

Example taken from Cardiac Surgery’s STR (2013):

Senior residency is defined as a period during which the resident is regularly entrusted with the responsibility for pre-operative, operative, and post-operative care. This must include the most difficult problems in adult Cardiac Surgery. This period of training occurs at the PGY4-6 level. No other resident, with the exception of the chief resident, shall intervene between the senior resident and the attending staff surgeon.

Chief resident is defined as a trainee in the final year of training with responsibilities that are at minimum, that of a senior resident. During this time the trainee must be responsible for resident call designation and may self-assign to surgical cases.

If the discipline has an agreement with another country’s certification board to accept the credentials of its certificants to each other’s examinations, this should be stated here along with

any other requirements for those applicants. This might include, but is not limited to licensure, completion of accredited training and/or practice requirements.

Example taken from Physical Medicine and Rehabilitation's STR (2008, Ed. Rev. 2011):

Candidates who have successfully completed four years of residency in an ACGME-accredited Physical Medicine & Rehabilitation program, and a fifth year of residency registered in and under the direction of an ACGME or Royal College accredited program in Physical Medicine & Rehabilitation, will be deemed to have fulfilled these residency training requirements.

Summary

The STR will end with a summary of the requirements for Royal College certification in the discipline. This will typically include successful completion of accredited training and successful completion of the certification examination. The specialty committee may also choose to include a scholarly requirement; participation in or completion of a scholarly project relevant to the discipline.

Example taken from Radiation Oncology's STR (2012):

Royal College certification in Radiation Oncology requires all of the following:

- 1. Successful completion of a 5-year Royal College accredited program in Radiation Oncology;*
- 2. Successful completion of the certification examination in Radiation Oncology;*
and
- 3. Successful completion of a minimum of one research project or scholarly project related to Radiation Oncology, as attested by the program director.*

Example taken from Cardiac Surgery's STR (2013):

Royal College certification in Cardiac Surgery requires all of the following:

- 1. Successful completion of the Royal College Surgical Foundations curriculum;*
- 2. Successful completion of the Royal College Surgical Foundations Examination;*
- 3. Successful completion of STR requirements in Cardiac Surgery;*
- 4. Successful completion of the certification examination in Cardiac Surgery;*
- 5. Successful completion of a scholarly project suitable for submission to a peer-reviewed journal as evidenced by a letter from the program director.*

The document template concludes with a statement indicating that the program, as outlined, is to be regarded as the minimum training requirements and that additional training, at the discretion of the program director, may be required to ensure clinical competence has been achieved.

Conclusion

The STR outlines the specific training requirements a resident will follow as they achieve the competencies required for entry to practice. The listed rotations form the minimum training requirements of the discipline; additional training may be required by the program director to ensure that clinical competence has been achieved.

STR Checklist:

- do the rotations add up to the total length of training?
- is there consistency in the use of blocks or months as the unit of time?
- are unit equivalents provided for longitudinal experiences?
- would the type and duration of training be easily understood by a non-medically trained individual?
- are vacations included? They shouldn't be!

SUBSPECIALTY TRAINING REQUIREMENTS

The Subspecialty Training Requirements (STR) document outlines the specific training curriculum for a resident in the form of a rotation-based roadmap. Following the curriculum as outlined allows the resident to meet the educational objectives of the discipline as summarized in the Objectives of Training Requirements (OTR). The rotations outlined in the STR form the basis of the resources required in the Specific Standards of Accreditation (SSA). For a subspecialty, the STR also cites the routes to entry for training in the discipline.

For graduates of non-Canadian residency programs applying for Royal College certification, the STR provides the list of required rotations to demonstrate equivalency to completion of a Royal College accredited training program. Royal College credentials agents will assess an applicant's training record using the standards of the discipline specific STR to determine eligibility for the certification exam.

The STR may begin with a preamble that describes its intentions. For subspecialty STRs, the next component is the section entitled "Eligibility Requirements" which specifies the necessary prerequisite training.

The majority of the document focuses on the "**Minimum Training Requirements**" which state the total duration, content and sequence of training required for certification.

The "**Notes**" section may clarify statements in the document and, if necessary, includes any exceptional or extraordinary clauses to the training requirements, including but not limited to reciprocity agreements with other jurisdictional Certification Boards.

A final summary concludes the document. This **summary** clearly states what is required for certification, such as any prerequisite requirements including but not limited to certification in the primary specialty, successful completion of required rotations, any scholarly requirements and the certification examination.

Eligibility Requirements

This section provides the requirements for enrolment in the subspecialty training program. Eligibility requirements may include Royal College certification or enrolment in and completion of a minimum duration of training in a program leading to certification in the base specialty. If the subspecialty has multiple routes of entry, these entry routes should be described and should include any minimum rotational requirements that the subspecialty deems necessary. This section should also clearly state the requirements for entry to the subspecialty examination; typically, certification in the entry discipline is required.

Example taken from adult Cardiology's STR (2013):

Royal College Certification in Internal Medicine or enrolment in a Royal College approved training program in Internal Medicine (see requirements for these qualifications). All candidates must be certified in their primary specialty in order to be eligible to write the Royal College certification examination in Adult Cardiology.

Example taken from adult Critical Care Medicine's STR (2011):

There are two routes of entry into adult Critical Care Medicine.

1. *Royal College Certification in Anesthesiology, Cardiac Surgery, Emergency Medicine, General Surgery, or Internal Medicine, or enrolment in a Royal College approved training program in one of these areas (see requirements for these qualifications). Three (3) years of one of these primary specialties must be completed prior to the entry into the Critical Care Medicine program.*

OR

2. *Entrance from other specialties may occur but must follow completion of the primary specialty training which must have included a minimum of:*
 - A. *Three (3) months in a general medical/surgical intensive care unit (ICU)*
 - B. *Fifteen (15) months of clinical rotations in Internal Medicine and / or General Surgery*

Minimum Training Requirements

A statement providing the **required minimum duration of training** begins this section. It is further organized in a progressive fashion to indicate which rotations the resident must complete in order to progress to the next level of training, and may include mandatory, selective and elective rotations. This section is written succinctly; it is essentially a list of rotations with modifiers to describe the name of the rotation, minimum (and possibly maximum) duration in units of time, and a stepwise approach to indicate any required order of training.

The minimum training requirements carefully balance **flexibility** and **specificity**. **Flexibility** allows the trainee to pursue their own interests within the field and/or the program director to make best use of local resources. **Specificity** allows for clear delineation between one discipline and another, supports a high level of minimum standards for training across universities and facilitates the work of Royal College credentials agents in assessing the files of candidates for access to Royal College exams.

Vacation time is not included or considered in the creation of the minimum training requirements. Duration and timing of vacation is defined by the resident/employer contract rather than the STR.

Considerations for the specialty committee

Months or 4-week Blocks

The unit of time used to define a rotation may be comprised of either a **month** or a **4-week block** (or multiples thereof); whichever is used, the total number of rotations must add up to the total duration of training. The use of blocks, rather than months, allows for 13, rather than 12, rotations per year. However, if all universities do not use the 4-week block system, the specialty committee must be careful in assigning mandatory minimum durations of training in order to avoid difficulties for those training programs with 12 month-long rotations. Whichever option the specialty committee chooses to apply, there must be consistency in its use throughout the STR document.

Mandatory, Selective, or Elective

Training requirements can be characterised as **mandatory**, **selective** or **elective**.

- **Mandatory** rotations are those which all trainees must complete.
- **Selective** rotations indicate that the resident has a *predefined list of choices* from which to complete a defined period of training. The resident is able to select which rotations are completed, but the STR defines the time allotment and limits the variety of rotations from which they may choose.
- An **elective** rotation gives the resident the *ability to choose any learning experience* of interest to them, with the approval of the program director.

A specialty committee providing a list of “selectives” as compared to elective time is therefore providing more direction and guidance to the program, resident and to the Credentials Unit staff member performing an assessment of training. Note that research rotations may be deemed as mandatory, selective or elective at the discretion of the specialty committee.

The complete list of rotations may include both minimum as well as maximum exposures to certain rotations. Most importantly, the summative number of rotations (mandatory, selective and/or elective) described in the STR must match the total duration of training.

Longitudinal Experiences

Longitudinal experiences must be described in unit equivalents (such as a half day clinic per week for the last year). An example would be “two months or longitudinal equivalent exposure to peri-operative assessment”.

Longitudinal experiences may be included at any stage of training, for any clinical or academic experience. They may be identified as mandatory, selective or elective rotations. In order to be quantified and included correctly in the total duration of training, they must be expressed as equivalent to a **month** or **block** unit of time.

Example taken from Geriatric Psychiatry’s STR (2011):

1.1. At least twelve (12) months, or equivalent, devoted to clinical training in core Geriatric Psychiatry, with a minimum of two months (2) or equivalent in each of the following settings:

1.1.1. Inpatient (includes inpatient work on psychiatric units or consultation to other inpatient settings)

1.1.2. Ambulatory care (includes outpatient clinics or day hospital settings)

1.1.3. Outreach visits at a patient’s place of residence (must include a long-term care component)

Each of these components may be organized in a longitudinal fashion, and must allow the resident to provide both consultations and ongoing care. There must be supervision by a psychiatrist with appropriate Geriatric Psychiatry expertise and knowledge.

Organization of the STR

Foundational Elements

The first grouping of requirements usually consists of the “foundational” elements of the discipline. These are the rotations that will *provide the basis upon which the trainee builds his/her knowledge and skills in the field.*

Additional Training Requirements

Subsequent sections list additional training requirements often providing more flexibility in order to allow the resident the opportunity to choose rotational experiences that prepare them for their individual career goals. This may be done through the mechanism of selective or elective rotations.

The specialty committee may choose to qualify a rotation to indicate a minimal level of responsibility such as “senior resident”.

Notes

The Notes section is used to clarify or provide a description of any element of the minimum training requirements. Examples may include a description of the required longitudinal experience or the specialty committee’s definition of a “senior resident” experience.

Example taken from Cardiac Surgery’s STR (2013):

Senior residency is defined as a period during which the resident is regularly entrusted with the responsibility for pre-operative, operative, and post-operative care. This must include the most difficult problems in adult Cardiac Surgery. This period of training occurs at the PGY4-6 level. No other resident, with the exception of the chief resident, shall intervene between the senior resident and the attending staff surgeon.

Chief resident is defined as a trainee in the final year of training with responsibilities that are at minimum, that of a senior resident. During this time the trainee must be responsible for resident call designation and may self-assign to surgical cases.

If the discipline has an agreement with another country’s certification board to accept the credentials of its certificants to each other’s examinations, this should be stated here along with any other requirements for those applicants. This might include, but is not limited to licensure, completion of accredited training and/or practice requirements.

Summary

The STR ends with a summary of the requirements for Royal College certification in the discipline. This will typically include prerequisite certification, successful completion of accredited subspecialty training and successful completion of the certification examination. The specialty committee may also choose to include a scholarly requirement: participation in or completion of a scholarly project relevant to the discipline.

Example taken from Developmental Pediatrics’ STR (2013):

Royal College certification in Developmental Pediatrics requires all of the following:

1. *Royal College certification in Pediatrics;*
2. *Successful completion of a 2-year Royal College accredited program in Developmental Pediatrics;*
3. *Successful completion of a scholarly project related to research, education, or quality improvement activity in Developmental Pediatrics, as attested by the program director.*
4. *Successful completion of the certification examination in Developmental Pediatrics;*

The document template concludes with a statement indicating that the program as outlined is to be regarded as the minimum training requirements and that additional training, at the discretion of the program director, may be required to ensure clinical competence has been achieved.

Conclusion

The STR outlines the specific training requirements a resident will follow as they achieve the competencies required for entry to practice. The listed rotations form the minimum training requirements of the discipline; additional training may be required by the program director to ensure that clinical competence has been achieved.

STR Checklist:

- do the rotations add up to the total length of training?
- is there consistency in the use of blocks or months as the unit of time?
- are unit equivalents provided for longitudinal experiences?
- would the type and duration of training be easily understood by a non-medically trained individual?
- are vacations included? They shouldn't be!

SPECIFIC STANDARDS OF ACCREDITATION

The Royal College accredits Canadian residency programs to ensure the highest-quality medical education. The General Standards of Accreditation (GSA – also known as the "blue book") includes Canada-wide standards developed by the Royal College and its partners to evaluate and accredit residency programs sponsored by a university. The GSA consists of the A Standards (General Standards Applicable to the University and Affiliated Sites) as well as the B Standards (General Standards Applicable to All Residency Programs). The "blue book" delineates the common set of standards applied to every residency program in Canada.

The Specific Standards of Accreditation (SSA) document describes the requirements that the residency program must meet to achieve and maintain Royal College accreditation. This document supplements the Royal College General Standards of Accreditation (GSA) document with discipline specific information, particularly related to the resources required. A program that meets the SSA will provide the full spectrum of training requirements listed in the STR, either directly or by way of an inter-university affiliation. It follows then that a trainee successfully completing the requirements of the STR, in a program that meets the requirements of the SSA, should be able to attain the competencies outlined in the OTR as attested to in the FITER.

The specialty committees, as content experts, are well positioned to translate the OTR and STR documents into a description of accreditation requirements that can be used by programs, universities, affiliated institutions, accreditation surveyors and the Royal College Accreditation Committee to ensure that training programs meet the required standard. The specialty committee itself will often refer to the completed SSA when fulfilling its role in accreditation.

The use of the terms "must" and "should" has deliberate meaning in the GSA and SSA documents. Selection of the word "must" indicates a mandatory standard or level of achievement; one which the program must achieve at all times and under all circumstances. Use of the word "should" indicates an item that is strongly advised or encouraged but will not lead to a finding of weakness in the program if absent or lacking at the time of an accreditation review.

If required, the SSA will begin with a statement indicating that the accreditation of a program in the discipline requires that the university also sponsor an accredited program in a related discipline; for example, in order to host a program in Colorectal Surgery, a university must also have an accredited program in General Surgery.

The preamble that follows emphasizes that the SSA is to be read in conjunction with the GSA, OTR and STR. The SSA then follows the outline of the GSA addressing each "B" accreditation standard in turn. For some of the standards, the GSA may be sufficient; in that case, the specialty committee may simply refer to the applicable standard in the GSA.

Standard B1: Administrative Structure

"There must be an appropriate administrative structure for each residency program."

Typically the GSA sufficiently describes the required administrative structure of the program. Therefore this section in the SSA refers back to that resource. The specialty committee may

choose to specifically state the qualifications required of the program director: typically Royal College certification in the discipline.

*The program director **must** have Royal College certification in [INSERT (SUB)SPECIALTY], or equivalent qualifications acceptable to the Royal College.*

In addition, and as a means to better engage program directors, the specialty committees may feel it is important to require program director attendance during their committee meetings. This not only serves to ensure the program director is aware of key information pertinent to their program, but also to ensure they have input into key discussions during committee meetings. If so desired, the specialty committee may choose to include the following template wording into their SSA:

The program director or faculty designate must attend at least one Specialty Committee in [INSERT (SUB)SPECIALTY] meeting annually, in person or by teleconference.

Standard B2: Goals and Objectives

“There must be a clearly worded statement outlining the goals of the residency program and the educational objectives of the residents.”

This section typically refers the reader to the OTR and STR for discipline specific educational content, and to the GSA for the statement of how this information should be developed by the program.

Standard B3: Structure and Organization of the Program

“There must be an organized program of rotations and other educational experiences, both mandatory and elective, designed to provide each resident with the opportunity to fulfill the educational requirements and achieve competence in the specialty or subspecialty.”

This standard refers to the STR and, in the GSA, describes requirements for the program in interpreting the specialty or subspecialty-specific documents. As a result, this section in the SSA typically refers the reader back to the discipline specific OTR and STR.

Standard B4: Resources

“There must be sufficient resources including teaching faculty, the number and variety of patients, physical and technical resources, as well as the supporting facilities and services necessary to provide the opportunity for all residents in the program to achieve the educational objectives and receive full training as defined by the Royal College specialty training requirements.”

This section requires the specialty committee to adequately translate the specialty or subspecialty specific OTR and STR into appropriate standards for accreditation. This will be the lengthiest section of this document. This section addresses each of the listed resource categories in turn, providing descriptions of the required standards in adequate detail such that they are understood by a Royal College surveyor who is not an expert in the field.

Teaching Faculty. The standard, as it relates to teaching faculty, refers to the qualified teaching staff that must be available for the residency program in order to adequately teach, supervise and assess the residents. This section may specify the number of teaching staff to be present, but preferably will provide a minimum or broad description in order to not be too restrictive. If members with a specific skill set are required in order to train the resident in all aspects of the OTR and STR, this should be elaborated in this section.

Example taken from Otolaryngology-Head and Neck Surgery's SSA (2011, Ed. Rev. 2013):

There must be a sufficient number of qualified teaching staff to supervise residents at all levels and in all aspects of the specialty, and provide teaching in the basic and clinical sciences related to the specialty. Within the faculty there should be clinicians who are expertly and actively involved in each of the subspecialty domains of Otolaryngology - Head and Neck Surgery including head and neck surgery, pediatric otolaryngology, facial plastic and reconstructive surgery, rhinology, laryngology, otology, neurotology, and general otolaryngology. Faculty must also be involved in research and undergraduate teaching as well as postgraduate education.

Volume and Variety of Clinical Material Typically this section refers to the number and variety of patients as a description of the clinical material that the program must provide in order for the resident to attain and demonstrate competence in all aspects of the OTR. For residents in clinical disciplines, this will typically refer to patient volume and variety of presenting illness. For residents in other disciplines, such as diagnostic imaging or the laboratory specialties, this will refer to the volume and variety of imaging studies and laboratory specimens respectively. The volume of patients is typically described as sufficient to meet the educational needs of the residents. The specialty committee is only permitted to include specific numbers of patients, studies or samples if there is evidence linking the volume specified to the attainment of competence.

Clinical Example taken from Anesthesiology's SSA (2004, Ed. Rev. 2012):

There must be a sufficient number and variety of patients available to the program to provide each resident registered in the program with the opportunity to meet the following specific objectives:

- a. to permit residents to be exposed to the provision of Anesthesiology services across all age groups and over the full range of surgical, interventional, and diagnostic specialties including Cardiac Surgery, General Surgery, major head and neck surgery, multiple trauma, Neurosurgery, Obstetrics and Gynecology, Orthopedic Surgery, Ophthalmology, Otolaryngology, Plastic Surgery, Thoracic Surgery, Urology, and Vascular Surgery;*
- b. to provide for training in regional anesthesia and analgesia, diagnostic and therapeutic nerve blocks, and the management of pain;*
- c. to provide a broad experience for residents in consultations on the perioperative management of patients of all ages and physical status, in both elective and emergency situations, and in the fields of cardiorespiratory support and pain relief;*
- d. to provide experience in internal medicine and those subspecialties of particular importance to the Anesthesiologist. These may include Cardiology,*

Respirology, Neurology, Hematology, Nephrology, Endocrinology and Metabolism, Infectious Diseases, and Palliative Care.

- e. to provide opportunity for residents to manage critically ill patients in a variety of critical care settings embracing adult, pediatric and perinatal patients, including those who have sustained multiple trauma;*
- f. to provide broad training in anesthesiology for emergency operations of a major nature;*
- g. to provide training in the anesthetic management of patients for ambulatory surgery.*

Laboratory Example taken from Neuropathology's SSA (2011):

Laboratory training must be based on adequate resources to ensure full training for each resident in all areas of Neuropathology. The volume and variety of pathological material, laboratory space and equipment, and medical, scientific, and technical staff, must be satisfactory to the Specialty Committee of the Royal College in relation to each of the following components:

- a. Autopsy Neuropathology*
There must be an adequate number and scope of autopsies available to provide full training in gross autopsy techniques pertaining to the central and peripheral nervous system and skeletal muscle, histological techniques, and ancillary post-mortem techniques (e.g. microbiology, molecular genetics, biochemistry, etc). Instruction in post-mortem prosection must be provided under the direction of Neuropathologists, with particular reference to the removal and handling of the brain and spinal cord, peripheral nerve and skeletal muscle.
- b. Surgical Neuropathology*
There must be an adequate volume and range of surgically excised tissues to provide training in gross examination, dissection, and selection of appropriate blocks for histological study of lesions of the nervous system. Facilities must be available for intraoperative consultations (including frozen sections and smear preparations). The range of material must include central and peripheral nervous system neoplastic and non-neoplastic lesions, muscle biopsies, and nerve biopsies.
- c. Forensic Neuropathology*
There must be an adequate volume and scope of medicolegal autopsies, including paediatric forensic cases, to allow residents to obtain experience in the special issues and procedures that are associated with medicolegal autopsies.

Clinical Services specific to the specialty or subspecialty. This section delineates the clinical services and other resources that must be present in order for the trainee to achieve their educational objectives. Typically, this section is further subdivided into components describing the inpatient, ambulatory, consultation, community, intensive care unit and/or emergency room settings in which residents must have the opportunity to train. With the clinical material resource requirements previously outlined in the preceding section, the components in this

section will describe the physical (e.g. beds, clinic space) and/or organizational (e.g. specialized or longitudinal clinics, access to acute presentations of illness in the ICU or ER) requirements needed to meet the OTR.

Example taken from Orthopedic Surgery's SSA (2012):

There must be adequate resources and supervision for the resident to gain competencies in the care of patients in the following settings:

a. Inpatient

There must be adequate volume and variety of patients and appropriate clinical supervision of the inpatient clinical teaching unit to develop proficiency in:

- peri-operative care*
- management of post-operative complications*
- acute rehabilitation*
- discharge planning*
- inpatient consultations to other specialties*

There must be adequate operating room time and appropriate facilities to provide graded surgical responsibility for residents in the program.

b. Ambulatory

- i. Outpatient clinics or offices in which residents act as orthopedic consultants are essential in order for the residents to experience the outpatient management of common musculoskeletal conditions.*
- ii. Clinics must be structured so that the resident examines patients scheduled for elective reconstructive orthopedic surgery. Residents may not necessarily participate in every aspect of each individual patient's care, but should use the experience to learn those skills appropriate to pre-operative assessment.*
- iii. Clinics must be structured so that the resident examines patients receiving post-operative follow-up in order to become familiar with the routine post-operative management of reconstructive procedures, fractures, and complications of both elective and emergency surgery.*
- iv. Clinics must be structured so that the resident gains experience in specialized areas of Orthopedic Surgery, including participation in multidisciplinary, interprofessional clinics.*

c. Community Learning Experiences

Community orthopedic surgery may differ in scope and delivery from orthopedic surgery practiced in university centres, and therefore community-based rotations in orthopedic surgery are a mandatory requirement. Community experiences offered to Orthopedic Surgery residents must provide a learning environment with appropriate supervision, patient encounters, and

opportunities for assessment based on rotation specific objectives. This assumes administrative support and linkages with the university.

d. Intensive Care

Units organized for teaching are required to provide experience in the broad field of supportive care of critically ill and injured patients. The organization of the intensive care unit must be directed in part toward the management of trauma patients. Orthopedic Surgery residents rotating in these units must assume major responsibilities under appropriate supervision for management of these trauma patients.

e. Emergency Facilities

Emergency facilities are not necessary in all hospitals in which the residents have rotations. However, in those hospitals in which emergency departments are available, the resident must be responsible in a graded fashion for consultations. In addition, it is anticipated that Orthopedic Surgery residents will participate in the management of polytrauma patients seen in the emergency department.

For the diagnostic imaging or laboratory disciplines, this section will refer to the imaging services and laboratory components of the program respectively, including technical equipment if appropriate.

Supporting Services: Clinical, Diagnostic, Technical. This section outlines the additional services that must be present to support training in the field. This usually refers to the other clinical services with which the specialist liaises on a regular basis. It may also include any required diagnostic services, such as laboratory, pathology and/or diagnostic imaging services. Special educational facilities, such as a simulation lab, surgical skills lab and/or crisis resource simulation facilities would be included within this section. Some disciplines may also require the presence of specific technical services, such as information technology, or training in medical physics or laboratory management.

The specialty committee may wish to specifically designate whether these supporting services must be teaching services as opposed to clinical services. Both designations offer the training program with the support required for delivery of health care, and provision of appropriate learning experiences to the trainees. A teaching service, by definition, includes learners in the discipline and therefore would allow for interaction between the two groups of learners in the programs. There may be instances when this learner interaction is desired or necessary to optimize training; however, this requirement essentially creates the need for an accredited training program in the supporting service.

Laboratory Example taken from Forensic Pathology's SSA (2011):

There must be access to:

- *a pathology laboratory with routine histology, special stains, immunohistology and electron microscopy*
- *a microbiology laboratory*
- *recognized units for the provision of special testing (e.g. toxicology centres, Royal Canadian Mounted Police Forensic Laboratories)*

- other forensic science laboratories (e.g. chemistry, biology including DNA)
- radiology facilities

The program must also ensure that residents are able to interact with toxicology laboratories and other laboratories or units in order to be able to interpret reports and test results.

The program must have access to appropriate radiological resources.

The program must have sufficient resources in pediatric pathology to allow residents to acquire knowledge of infant autopsy techniques and examination of placentas.

Standard B5: Clinical, Academic and Scholarly Content of the Program

“The clinical, academic and scholarly content of the program must be appropriate for university postgraduate education and adequately prepare residents to fulfill all of the CanMEDS Roles. The quality of scholarship in the program will, in part, be demonstrated by a spirit of enquiry during clinical discussion, at the bedside, in clinics or in the community, and in seminars, rounds and conferences. Scholarship implies an in-depth understanding of basic mechanisms of normal and abnormal states and application of current knowledge to practice. “

This section typically refers the reader to the OTR and STR for discipline specific educational content, and to the GSA for information on how this content should be developed by the program. The section continues on to examine each CanMEDS role in turn, always referring to the relevant GSA standard. Increasingly, the specialty committee may choose to add discipline specific requirements of the curriculum below the applicable CanMEDS Role.

Example taken from Otolaryngology-Head and Neck Surgery’s SSA (2011, Ed. Rev. 2013):

1. Medical Expert

In addition to the General Standards of Accreditation, the following requirements apply:

- *The program must include lectures and seminars, which may be interdisciplinary in nature, teaching rounds, special conferences, laboratory work assignments, technical demonstrations, and journal clubs. In addition to adequate experience with patients, the institution must provide a balanced teaching program. More structured teaching may be provided by an integrated university program, but regular otolaryngology teaching rounds and conferences, as well as combined conferences with diagnostic imaging, therapeutic radiology, surgical pathology, speech language pathology and audiology and vestibular function services, are essential features of teaching in each program.*
- *The program must include organized teaching in the basic sciences, in particular the relevant aspects of anatomy, histology, physiology, pathology, microbiology, biochemistry, and pharmacology, as well as specifically the physics of sound and the physiology of balance.*

Example taken from Anatomical Pathology's SSA (2010, Ed. Rev. 2013):

4. *Manager*

In addition to the General Standards of Accreditation, the following requirements apply:

- *The program must ensure teaching in laboratory management including quality assurance programs.*

Example taken from Pediatric Surgery's SSA (2012):

6. *Scholar*

In addition to the General Standards of Accreditation, the following requirements apply:

The program must provide residents with appropriate time, resources and supervision to complete a scholarly project suitable for presentations at a national/international meeting and/or suitable for submission to a peer-reviewed journal.

Standard B6: Assessment of Resident Performance

"There must be mechanisms in place to ensure the systematic collection and interpretation of assessment data on each resident enrolled in the program."

The GSA description of the required assessment of resident performance typically provides adequate detail for most disciplines, and therefore this section refers back to the GSA information. However, increasingly, specialty committees are mandating the use of and timing for specific assessment methods such as, but not limited to, a STACER (Standard Assessment of a Clinical Encounter Report). In those specific cases, those requirements are included in this section.

Example taken from Colorectal Surgery's SSA (2011):

In addition to the General Standards of Accreditation, the following requirements apply:

Each resident should keep a validated record of all operative procedures in which he or she has participated either as assistant or operating surgeon. Validation and monitoring is the responsibility of the Program Director.

Example taken from Developmental Pediatrics' SSA (2013):

In addition to the General Standards of Accreditation, the following requirements apply:

- *The in-training assessment process must include completion of a rotation specific In-training Evaluation Report (ITER) at the end of each rotation, with oral and written feedback. Programs must provide evidence of formative feedback to their resident on an annual basis, using structured tools, including but not limited to:*
 - o *structured oral assessment*
 - o *structured assessment of a clinical encounter report (STACER-like) assessment*
 - o *objective structured clinical examination (OSCE)*
 - o *portfolio*

- *The program director must meet with residents and document formative and summative feedback regarding the residents' performance every six months. The feedback must be based on all of the CanMEDS Roles.*

Example taken from Psychiatry's SSA (2009, Ed. Rev. 2013):

Please refer to Standard B6 in the General Standards of Accreditation for the interpretation of this standard.

In the PGY1, assessment will be conducted according to the usual procedures in the medical and surgical rotations. If more than 1 block of training is taken in psychiatry (STR 1.1.4-a-iv) separate documentation including specific goals and objectives must be used to document experiences in psychiatry, including an explanation of the contributions to the core experience if relevant.

The assessment in PGY2 focuses on basic knowledge and skills and assessment in PGY3 focuses on in-depth foundational knowledge and skills.

Assessment on any concurrent / longitudinal training requirement or arranged experience (psychotherapies, collaborative / shared care, addictions, research) will require separate documentation (e.g. Portfolio, log) from the concurrent rotational experiences and separate assessment pertinent to that experience. In-training Evaluation Reports (ITERs) must be provided for each concurrent and longitudinal training experience.

Assessment processes must include a process for conducting a Structured Assessment of Clinical Encounter Report (STACER) for each resident in the program.

Conclusion

The Specific Standards of Accreditation (SSA), together with the General Standards of Accreditation (GSA), set the requirements for the initiation and maintenance of Royal College accreditation for a residency program.

SSA Checklist:

- are all the rotations listed in the STR reflected in the resources that the program must provide?
- are there any specialty or subspecialty specific academic requirements that should be included here?
- are there any specialty or subspecialty specific assessment requirements that should be listed here?
- does the document balance the specificity of clinical patient volume with the flexibility for programs?
- would a program meeting these standards be able to provide training as outlined in the STR and OTR?

THE DOCUMENT PATHWAY

When a new suite of documents is being written, or one or more documents in a current suite require revision, the Specialties Unit at the Royal College coordinates and guides the specialty committee through the document pathway (see flow chart at end of chapter). The process begins with the specialty committee writing or revising the document(s), proceeds to review by the Office of Specialty Education and ends with approval by the Specialty Standards Review Committee (SSRC). Along the way, drafts are created, edited, revised, reviewed, revised and then edited, reviewed and revised again!

The people

The Specialties Unit exists to support the work of specialty committees. The *specialty administrator* will support 12-15 specialty committees (SC). S/he will usually be the SC's main contact at the Royal College and will assist the committee in tracking the progress of the documents through the process. The *document specialist* will assist in the preparation of the documents; this individual will not have specialty specific expertise, but has experience and skill in CanMEDs formatting, editing and revision. *Clinician educators* bring their medical education expertise to the review of the specialty suite ensuring that the documents use appropriate terminology, suitably comply with the templates, inter-relate properly, and meet the goal of fully describing the specialty or subspecialty.

The *specialty committee* has the central role in the creation and revision of the specialty suite. The committee members apply their expertise to ensure the documents are comprehensive and accurately depict the discipline. Throughout the document pathway, all versions of the documents are reviewed and any revisions or edits must be approved by the specialty committee.

The *specialty chair* has an important role in guiding the specialty committee through the document creation/revision process. There may be differing opinions on what to include, exclude, emphasize or illustrate. The specialty suite aims to reflect the spectrum of the discipline as practiced in Canada. Although there may be variation in opinion based on individual experience, the specialty committee is expected to reach consensus on the standards as written in the document suite.

The SSRC is responsible for the final review and approval of all specialty-specific documents. This committee was created in 2011 with the goals of improving consistency and efficiency in the document review process. Prior to the existence of the SSRC, the various documents within the specialty suite required approval by several different standing committees of the Office of Education. The Specific Standards of Accreditation (SSA) were the responsibility of the Accreditation Committee. The Credentials Committee oversaw the Objectives of Training (OTR) and the Specialty Training Requirements (STR). The Evaluation Committee reviewed the Final In-Training Evaluation Report (FITER). The document review process was lengthened while waiting for review at these various standing committees, and the inter-relatedness of the documents often required that a change suggested by one group led to a second review by another. With the creation of the SSRC, the individual items of a discipline's document suite are reviewed simultaneously, facilitating coordination of the related documents and accelerating the process of document suite approval. The SSRC is comprised of current or former members of the

standing committees as well as specialty committees. Its members are not invited for their content expertise in an individual discipline, but rather have experience in the development and use of specialty specific documents, and a strong interest in writing. The SSRC convenes on an ad hoc basis several times per year as needed. Approval by the SSRC is the final step in the document pathway.

The process

A need to amend specialty documents may occur due to a change in specialty status, changes in scope of practice within the specialty such as new technologies or procedures, changes in Royal College formats or standards, risk management issues or issues arising from a related discipline. Specialty committees are encouraged to review their documents on an annual basis to identify any need for revision.

When more than one of the specialty suite documents is being revised, it is preferable whenever possible for the documents to move through the pathway together. This provides the reviewers with the full context of the planned changes and, given the inter-relatedness of the documents, ensures that all needed changes are made.

The specialty committee prepares the initial version of the new document. Depending on the nature of the document or the required changes, they may be assisted by Royal College personnel; the document specialist can assist with changes related to format. Several cycles of revision may be required before the specialty committee is satisfied with the document(s).

A clinician educator (CE) reviews the document(s) once the specialty committee has agreed upon a version. It may be helpful to provide the CE with brief background information as to why the document(s) is/are being revised. As a reviewer external to the discipline, the CE provides a new perspective to the document review. The CE may identify inconsistencies, lack of clarity or assumptions that are not readily apparent to those enmeshed in the field. The CE will also provide comment on issues related to his/her medical education expertise including terminology and appropriate application of the CanMEDS Roles. Finally, the CE will ensure that the documents are meeting their defined purpose for the Royal College.

The specialty committee may be asked to provide further revisions following the clinician educator review. The SC may reject the proposed changes and provide rationale to the Royal College for that decision. Alternatively, and more commonly, the SC will make the proposed modifications and resubmit the revised documents. The SC chair is notified when the clinician educator approves the documents.

The SSRC meets at least monthly between September to May when documents are ready for review. With their expertise in accreditation, assessment and CanMEDS, the committee provides a thorough review of the document(s). The SSRC may decide the document(s) needs further revision, providing guidance to the SC on the changes required. Alternatively, the SSRC may perform edits and modifications which the document specialist incorporates into the document. In both these instances, the specialty committee will be asked to again review the document; the SC may disagree with the recommendations (providing a rationale for rejecting the decision), may make additional changes and/or may accept the suggested revisions. Ultimately,

both the specialty committee and the SSRC must approve in order for the document(s) to become official Royal College document(s).

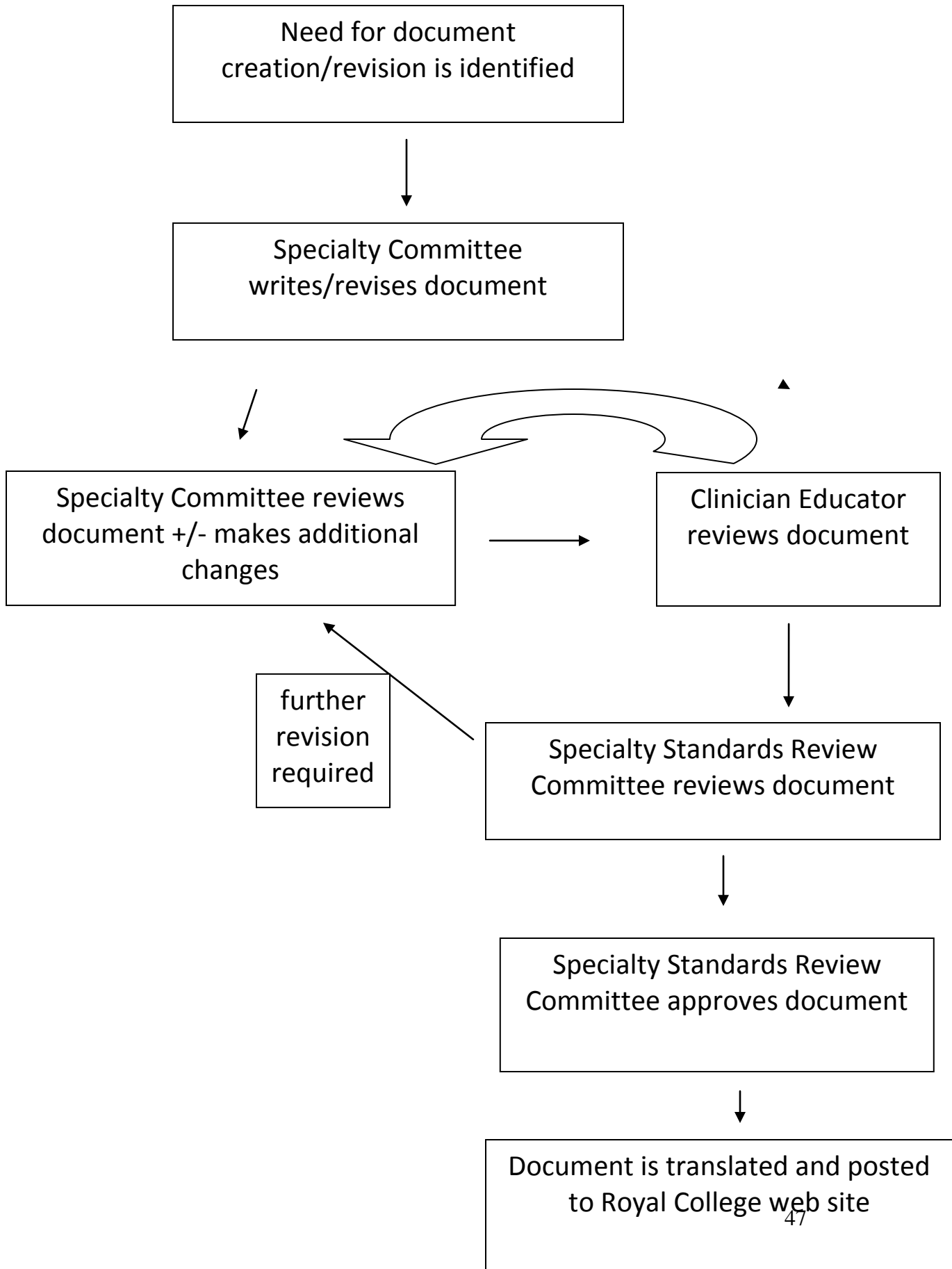
Once a document has received both SC and SSRC approval, the English version is finalized and prepared for translation. Translation is arranged by the Royal College; internal comparative reading is done post translation and, if required, a francophone member of the specialty committee is asked to review specific sections and/or respond to questions from the translator to finalize the French version.

Finally, the revised English and French documents are posted on the Royal College website including a date that any changes may take effect so as not to disadvantage residents already in training. This date is determined based on the desired date of the specialty committee and the documents' timely progression through the document review process. This ensures that all program directors are supportive of the date and have enough notification that the changes are coming to ensure they can make any adaptations to the residency program as needed.

The timeline

The duration of the document review process is highly variable depending on the nature of the revision/creation of a new field, the frequency of the specialty committee meetings to work on the documents and the workload of the staff assisting at the Royal College. With the creation of the SSRC, the wait for meetings of various standing committees has been abolished. On average however, specialty committees can expect that the revision of a suite of documents may take 12-18 months.

The process and timelines can be viewed schematically in Appendix 4 *Ideal Timeline for Document Review Process*.



FINAL NOTES

CanMEDS Roles are always capitalized

The name of a recognized discipline is always capitalized

The name of a service is not capitalized

Names of diseases, procedures, tests etc. are written out in full the first time used and acronyms used in subsequent references

eg. The Neurosurgery program provides a neurosurgery service.

REFERENCES

1. Sherbino J, Frank JR, editors. *Educational design: a CanMEDS guide for the health professions*. Ottawa: Royal College of Physicians and Surgeons; 2011.
2. Royal College of Physicians and Surgeons of Canada. (2014). Retrieved February 4, 2014 from http://www.royalcollege.ca/portal/page/portal/rc/common/documents/cpd_accreditation/verbs_educational_objectives_e.pdf taken from: *Continuing medical education: a primer*, Rosof, A. B., & Felch, W.C. Copyright © 1992 by Praeger. Reproduced with permission of Greenwood Publishing Group, Inc., Westport, CT.

Appendices

1. List of verbs for formulating educational objectives
2. Approved wording reference sheet
3. Scholarly project wording options

List of Verbs for Formulating Educational Objectives

The following verbs have been found to be effective in formulating educational objectives:

1. Those that communicate knowledge:

Information:

cite indicate recite state write	identify read select update	quote repeat trace draw	relate tell describe point	tabulate define name record	count list recognize summarize
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Comprehension:

assess demonstrate estimate express	contrast estimate interpret predict	distinguish interpret review compute	interpolate review translate discuss	restate classify compare extrapolate	associate describe differentiate report
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Application:

apply examine order review use	employ operate restate treat develop	match report translate demonstrate locate	relate solve complete interpret prescribe	sketch choose interpolate predict select	calculate illustrate practice schedule utilize
--	--	---	---	--	--

Analysis:

analyze debate distinguish measure	criticize differentiate inventory	diagram inspect separate	infer separate contrast	question contract detect	appraise deduce experiment
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Synthesis:

arrange create integrate prescribe	construct generalize prepare validate	formulate plan specify compose	organize propose combine document	produce collect detect	assemble design manage
---	--	---	--	------------------------------	------------------------------

Evaluation:

appraise decide judge revise	critique grade recommend	evaluate rate test	rank select compare	score choose estimate	assess determine measure
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2. Those that impart skills:

demonstrate integrate project	hold measure empathize	massage write palpate	pass diagram record	visualize internalize listen	diagnose operate
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3. Those that convey attitudes:					
acquire modify	exemplify realize	plan revise	reflect	transfer	consider
These words are better avoided:					
Those that are often used but are open to many interpretations:					
appreciate	have faith in	know	learn	understand	believe



Approved wording for Specialty Standards Documents - Reference Sheet

Objectives of Training (OTR) template:

Definition section:

Definition of "family"

(To be added just above "Definition" on page one.)

(NOTE: Throughout this document, the word "family" will be used to indicate the patient's defined family unit, including but not limited to caregivers, legal guardians, and substitute decision-makers.)

Competencies section:

Definitions of levels of knowledge:

(To be introduced under the "Competencies" heading, prior to beginning the Medical Expert section.)

Basic knowledge

A level of knowledge sufficient to recognize, identify, or describe basic principles.

Working knowledge

A level of knowledge sufficient for the clinical management of a condition without necessarily being able to fully explain the underlying principles, and/or knowledge of an approach or technique sufficient to counsel and recommend it without having personally achieved mastery of that approach or technique.

Advanced knowledge

A broad and deep level of knowledge, from basic science to clinical application, including the ability to apply the scientific literature, adapting and extrapolating as required, sufficient to independently manage a problem or apply an approach or technique in the area.

Expert knowledge

An enhanced level of advanced knowledge that enables management of patients with complex co-morbidities, treatment resistance, and/or rare conditions.

Professional Role:

2. Demonstrate a commitment to their patients, profession, and society through participation in profession-led regulation.

- 2.1. Demonstrate knowledge and understanding of professional, legal, and ethical codes of practice
 - 2.1.1. Abide by accepted guidelines on ethical interactions with industry, especially the pharmaceutical and device manufacturing industries, with respect to research, education, and clinical care

Specialty Training Requirements (STR) template:

Definition of senior resident:

NOTE: Senior residency is defined as a year in which the resident is regularly entrusted with the responsibility for pre-operative, operative, and post-operative care, including the most difficult problems in General Surgery. The senior resident shall be in charge of a general surgical unit. The senior resident shall be directly responsible to the attending staff surgeons in the general surgical unit.

Specific Standards of Accreditation (SSA) template:

STANDARD B1: ADMINISTRATIVE STRUCTURE

There must be an appropriate administrative structure for each residency program.

Please refer to Standard B1

The program director or faculty designate must attend at least one Specialty Committee in [INSERT (SUB)SPECIALTY NAME] meeting annually, in person or by teleconference.

Final In-Training Evaluation Report (FITER) template:

[Not applicable.]

REFERENCE SHEET

Created – Office of Specialty Education – December 2013

Revised – Specialty Standards Review Committee – February 2014



Wording for Scholarly Project Requirements - Reference Sheet

In June 2013, SSRC members agreed that two options should be made available to specialty committees, differentiating between *completion of (level I)* and *participation in (level II)* a scholarly project. (The committee agreed that the phrase “**undertakes a scholarly project**” is adequate for use in current specialty standards documents.)

To clearly delineate expectations related to scholarly activities, SSRC subsequently approved the following wording options for **Objectives of Training (OTR)** documents:

Level I

Complete a scholarly research, quality assurance, or educational project relevant to [INSERT (SUB)SPECIALTY NAME] that is suitable for peer-reviewed publication or presentation at an academic meeting.

Level II

Participate in a scholarly research, quality assurance, or educational project relevant to [INSERT (SUB)SPECIALTY NAME], demonstrating primary responsibility for [AT LEAST ONE] of the following elements of the project:

- Development of the hypothesis, which must include a comprehensive literature review
- Development of the protocol for the scholarly project
- Preparation of a grant application
- Development of the research ethics proposal
- Interpretation and synthesis of the results

The same options are applicable to the other standards documents as follows:

Specialty Training Requirements (STR) template:

NOTES:

...

Royal College certification in [INSERT SUBSPECIALTY NAME] requires all of the following:

1. ...
2. ...
3. Completion of [OR participation in] a scholarly research, quality assurance, or educational project relevant to [INSERT SUBSPECIALTY NAME];

Specific Standards of Accreditation (SSA) template:

STANDARD B5: Clinical, Academic, and Scholarly Content of the Program

...

6. Scholar

In addition to the *General Standards of Accreditation*, the following requirements apply:

- The program must provide residents with appropriate resources, time, and supervision to complete [or participate in] a scholarly research, quality assurance, or educational project.

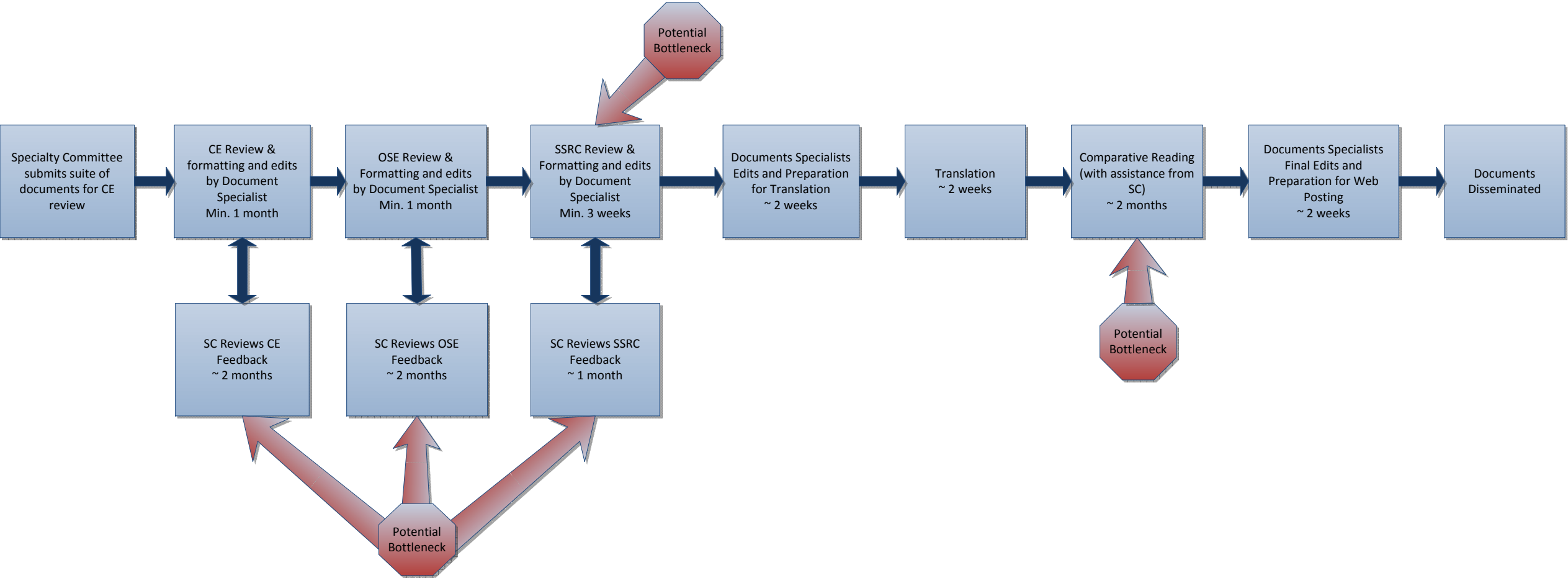
Final In-Training Evaluation Report (FITER) template:

Scholar

...

Completes [or participates in] a scholarly research, quality assurance, or educational project relevant to [INSERT SUBSPECIALTY NAME] _Yes _No

Ideal Timeline for Document Review Process



← Ideal timeline = 11.25 Months →

Please note that these are all minimum timeframes listed for the various steps in the document review process. There are many factors that can impact how quickly or slowly documents progress through the various stages. The Specialties Unit is committed to supporting each discipline in moving the documents through the process as efficiently as possible.