Objectives of Training in Nuclear Medicine

2009

This document applies to those who begin training on or after July 1st, 2009.

(Please see also the “Policies and Procedures.”)

DEFINITION

Nuclear Medicine is a branch of medical practice concerned primarily with the use of unsealed radioactive sources in the study, diagnosis and treatment of disease. These sources may emit a variety of forms of radiation, including photons, positrons, negative beta particles, and alpha particles.

GOALS

Upon completion of training, a resident is expected to function independently as a Nuclear Medicine specialist with the ability to advise on, supervise, perform and interpret imaging and non-imaging diagnostic procedures, and to perform therapy with unsealed radioactive sources to a level of competence sufficient to function as a consultant physician. The resident must acquire communication skills, knowledge and technical skills, as well as a habit of lifelong learning.

The resident must have developed professional attitudes appropriate to a lifetime career in Nuclear Medicine and promote a team approach to the use of Nuclear Medicine in diagnosis and therapy.

Residents must demonstrate the requisite knowledge, skills, and attitudes for effective patient-centered care and service to a diverse population. In all aspects of specialist practice, the graduate must be able to address issues of gender, sexual orientation, age, culture, ethnicity and ethics in a professional manner.

NUCLEAR MEDICINE COMPETENCIES

At the completion of training, the resident will have acquired the following competencies and will function effectively as a:
Medical Expert

Definition:

As Medical Experts, specialists in Nuclear Medicine integrate all of the CanMEDS Roles, applying medical knowledge, clinical skills, and professional attitudes in their provision of patient-centered care. Medical Expert is the central physician Role in the CanMEDS framework.

Key and Enabling Competencies: Specialists in Nuclear Medicine are able to...

1. Function effectively as consultants, integrating all of the CanMEDS Roles to provide optimal, ethical and patient-centered medical care
   1.1. Perform a consultation in response to a request from another health care professional, and communicate assessments and recommendations in written and/or verbal form
      1.1.1. Advise the referring physician on the most appropriate investigation and/or sequence of investigations for the presenting clinical problem
      1.1.2. Obtain a history and perform a physical examination relevant to the consultation which is concise and sensitive to context and preferences, as appropriate
      1.1.3. Supervise the Nuclear Medicine investigation and administer and supervise pharmacological interventions as needed
      1.1.4. Analyse and interpret Nuclear Medicine studies (including positron emission tomography/computed tomography), incorporating clinical and biochemical information and results of other diagnostic imaging procedures to arrive at a diagnosis
      1.1.5. Develop and utilize a systematic method of reporting, integrating clinical and imaging information
      1.1.6. Undertake patient management and therapy utilizing unsealed sources of radiation
      1.1.7. Select medically appropriate investigative methods in a resource-effective and ethical manner
      1.1.8. Demonstrate effective clinical problem solving and judgment to address patient problems, including interpreting available data and integrating information to generate differential diagnoses and management plans
   1.2. Recognize emergent and urgent clinical situations or diagnostic results and convey information to the appropriate medical personnel
   1.3. Demonstrate effective use of all CanMEDS competencies relevant to Nuclear Medicine
   1.4. Identify and appropriately respond to relevant ethical issues arising in patient care
   1.5. Demonstrate the ability to effectively set priorities when faced with multiple patients and problems
   1.6. Demonstrate compassionate, patient-centered care
1.7. Demonstrate medical expertise in situations other than patient care, such as providing expert legal testimony or advising governments, as needed

2. **Establish and maintain clinical knowledge, skills and attitudes appropriate to Nuclear Medicine practice**

2.1. Apply knowledge of the clinical aspects and basic sciences, and the socio-behavioural issues, relevant to Nuclear Medicine

2.1.1. Relevant anatomy, pathology, physiology and pathophysiology at all ages

2.1.2. Clinical aspects of disease relevant to Nuclear Medicine

2.1.2.1. Natural history and clinical manifestations of disease

2.1.2.2. Clinical management of these diseases

2.1.2.3. Diagnostic algorithms for evaluation of patients

2.1.2.4. Incorporation of Nuclear Medicine and other diagnostic imaging in diagnosis and treatment

2.1.3. Physics of radionuclides

2.1.3.1. Production of radionuclides

2.1.3.2. Principles of radioactive decay

2.1.3.3. Interaction with matter

2.1.3.4. Detection of radioactivity

2.1.4. Basic concepts, physics and instrumentation of Nuclear Medicine imaging equipment, including but not limited to:

2.1.4.1. Gamma cameras, for planar and Single Photon Emission Computed Tomography (SPECT)

2.1.4.2. Positron Emission Tomography (PET) scanners

2.1.4.3. Bone Mineral Densitometry equipment, particularly DEXA (Dual Energy X-ray Absorptiometry), but with reference to other equipment

2.1.4.4. X-Ray Computed Tomography

2.1.5. Physics and instrumentation of other radiation detection instruments utilized in measurement of activity and exposure, including but not limited to:

2.1.5.1. Dose calibrators

2.1.5.2. Gamma probes for sentinel node and other probe-guided surgery

2.1.5.3. Well counters

2.1.5.4. Liquid scintillation counting

2.1.5.5. Thermoluminescent dosimeters and other personnel monitors

2.1.5.6. Geiger counters
2.1.6. Principles behind other imaging modalities including, but not limited to:

2.1.6.1. Planar radiography
2.1.6.2. Ultrasound
2.1.6.3. Magnetic Resonance Imaging

2.1.7. Principles of Nuclear Medicine techniques and correlative modalities (sections 2.1.3 and 2.1.5) including their application to combined modalities, including anatomic localization, image registration and fusion, and attenuation correction

2.1.7.1. Basic principles of tomographic reconstruction
2.1.7.2. Anatomic localization
2.1.7.3. Image registration and fusion
2.1.7.4. Attenuation correction methods, including estimated and transmission-based

2.1.8. Principles and practical aspects of equipment quality control and testing, including the NEMA (National Electrical Manufacturers Association) standards as applied to Nuclear Medicine

2.1.9. Chemistry and radiopharmacy of single photon, positron-emitting and particle-emitting agents used for imaging, non-imaging studies, and therapy

2.1.9.1. Methods of labelling
2.1.9.2. Quality control of radiopharmaceutical production
2.1.9.3. Regulatory aspects of radiopharmacy, including transport of dangerous goods
2.1.9.4. A basic understanding of the requirements, both experimental and regulatory, for the development and utilization of novel agents

2.1.10. Basic principles of molecular imaging and therapy, including targeted imaging and therapy

2.1.11. Radiation safety and radiation protection applied to the safe use of radioisotopes and radiopharmaceuticals in clinical Nuclear Medicine practice: basic knowledge of these topics is required, as well as knowledge of resources and ability to access regulatory documents which apply to the practice of Nuclear Medicine

2.1.11.1. The principles of time, distance and shielding
2.1.11.2. The use of the ALARA (As Low as Reasonably Achievable) principle in the determination of radiopharmaceutical doses administered to patients
2.1.11.3. The use of the ALARA principle in limiting Nuclear Medicine staff exposures
2.1.11.4. Dose limits for workers and the public, including limits to pregnant workers, with an understanding of the development and evolution of these limits

2.1.11.5. Basic principles of packaging and transport of radiopharmaceuticals or radioisotopes as they apply to Nuclear Medicine

2.1.11.6. Practical aspects of response to incidents which may arise in the Nuclear Medicine department, including personnel or patient contamination or spills of radioactivity

2.1.11.7. The concept of relative risk as it applies to Nuclear Medicine and other imaging procedures

2.1.11.8. Basic principles of radiation dosimetry

2.1.11.9. Sources of current regulatory documents, including government agencies and their websites

2.1.12. Radiation biology pertinent to Nuclear Medicine

2.1.12.1. Cell survival with radiation exposure

2.1.12.2. Dose response and radiation sensitivity of tissues

2.1.12.3. Effects of radiation exposure, including early and late effects

2.1.13. Computer sciences and information technology in Nuclear Medicine

2.1.13.1. Image analysis

2.1.13.2. Quantitative methods

2.1.13.3. Parametric images

2.1.14. Application of normal databases in myocardial perfusion imaging, bone mineral density measurements, and other areas of Nuclear Medicine

2.1.15. Tracer kinetics and basic principles of tracer distribution modeling

2.1.16. Diagnostic use of radionuclides and radiopharmaceuticals for in vivo imaging, non-imaging and in vitro studies, including single photon imaging, positron emission tomography and other evolving Nuclear Medicine technologies

2.1.16.1. Principles of their use

2.1.16.2. Imaging techniques and protocols

2.1.16.3. Clinical indications for the procedures

2.1.16.4. Image interpretation, normal variation, and pitfalls

2.1.16.5. Modification of radiopharmaceutical biodistribution by patient medication and disease states, and the effect on images

2.1.16.6. On-going evaluation of image quality with troubleshooting to detect individual or systemic causes of artifact or poor image quality
2.1.17. Application of the principles described in 2.1.16 above to pediatric Nuclear Medicine imaging, with the addition of techniques or issues specific to the pediatric population, including:

2.1.17.1. Radiation dosimetry
2.1.17.2. Determination of administered activity
2.1.17.3. Positioning and image acquisition techniques such as restraint and conscious sedation
2.1.17.4. Interventional techniques including bladder catheterization, if appropriate
2.1.17.5. Normal appearances, normal variation, changes with age, effect of age on normal databases

2.1.18. Technical aspects, radiopharmaceutical choice, quality control, precision and accuracy of other quantitative in vivo measurements such as, but not limited to:

2.1.18.1. Measurement of Glomerular Filtration Rate
2.1.18.2. Blood volume determination
2.1.18.3. Thyroid uptake measurements

2.1.19. Therapeutic uses of radionuclides. This will include:

2.1.19.1. Indications, contraindications, therapeutic benefit, therapeutic alternatives, risks and adverse effects
2.1.19.2. Radiopharmaceutical choice and efficacy, calculations of administered dose, integrating knowledge of internal dosimetry, radiation protection and radiation safety
2.1.19.3. Treatment program and protocol development
2.1.19.4. Evaluation of the patient’s situation to determine whether they can be treated on an in-patient or out-patient basis
2.1.19.5. Patient follow-up
2.1.19.6. The procedures include but are not limited to the following:

2.1.19.6.1. The specialist must be proficient and safe in the use of Radioactive Iodine (RAI) for therapy of hyperthyroidism
2.1.19.6.2. The specialist must be proficient and safe in the use of Radioactive Iodine (RAI) for therapy of thyroid cancer
2.1.19.6.3. The specialist must understand the principles of radiation synovectomy, including suitable radionuclides
2.1.19.6.4. The specialist must understand the principles of palliative therapy of bone metastases, including suitable radionuclides
2.1.19.6.5. The specialist must understand the principles of other open source therapy available in Canada
2.1.20. Interventions in Nuclear Medicine, including but not limited to:

2.1.20.1. Knowledge and skill to supervise pharmacologic stress tests, including dipyridamole and dobutamine, and the ability to recognize contraindications to testing and patterns requiring urgent medical attention

2.1.20.2. Knowledge and skill to supervise exercise stress tests, and the ability to recognize contraindications to testing and patterns requiring urgent medical attention

2.1.20.3. Knowledge and skill to use pharmacologic agents or techniques to intentionally modify radiopharmaceutical distribution or excretion

2.1.20.4. Technical skills to enable the performance of imaging and non-imaging procedures and the delivery of therapy. The procedures include (but are not limited to) venipuncture and lumbar puncture

2.1.21. Bone Mineral Density measurements:

2.1.21.1. Physics and physiology of bone density measurement

2.1.21.2. Quality assurance of DEXA equipment

2.1.21.3. Osteoporosis diagnosis and treatment

2.1.21.4. Effects of age, race and other factors on definition of normal

2.1.21.5. Influence of equipment type and variability

2.1.21.6. Interpretation of results and utilization in risk assessment

2.1.22. Complementary and correlative roles of other diagnostic tests for Nuclear Medicine

2.1.23. Fundamentals of clinical epidemiology, including biostatistics and medical decision analysis as they apply to Nuclear Medicine tests

2.2. Recognize and appropriately manage emergency conditions

2.3. Apply lifelong learning skills of the Scholar Role to implement a personal program to keep up-to-date, and enhance professional and medical competence

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

3. Demonstrate proficiency in the appropriate use of therapeutic procedures, as described above

3.1. Review or discuss the procedure with the patient and their family

3.2. Ensure informed consent is obtained for therapy

3.3. Document and ensure appropriate distribution of reports or summaries of procedures and their outcomes

3.4. Ensure adequate follow-up of patients is arranged
4. Recognize the limits of one’s own expertise and seek consultation from other health professionals when appropriate

4.1. Demonstrate insight into their own limitations of expertise or knowledge

4.2. Demonstrate effective, appropriate, and timely consultation of another health professional as needed for optimal patient care

**Communicator**

*Definition:*

As *Communicators*, specialists in Nuclear Medicine effectively facilitate the doctor-patient relationship and the dynamic exchanges that occur before, during, and after the medical encounter.

**Key and Enabling Competencies: Specialists in Nuclear Medicine are able to...**

1. Develop rapport, trust, and ethical relationships with patients, families, and health care professionals

   1.1. Recognize that being a good communicator is a core clinical skill for physicians, and that effective communication with patients and associated staff can foster satisfaction for patients, physicians, and staff, and will result in high quality patient care and improved clinical outcomes

   1.2. Establish positive relationships with patients and their families, and with colleagues and associated staff, that are characterized by understanding, trust, respect, honesty and empathy

   1.3. Identify and explore problems to be addressed from a patient encounter, including the patient’s context, responses, concerns, and preferences

   1.4. Identify, explore, and address problems encountered with associated staff and colleagues

   1.5. Respect patient confidentiality, privacy and autonomy

2. Communicate image findings and interpretation, and therapy plans, to referring physicians

   2.1. Elicit necessary clinical data and other test results from referring physicians and patients or family to appropriately tailor examinations

   2.2. Synthesize clinical and imaging information to aid in diagnosis and patient management

   2.3. Provide a descriptive assessment of procedure findings verbally and in written reports

   2.4. Tailor verbal and written reports to include relevant findings and interpretation while addressing the clinical question

   2.5. Recognize unexpected results and ensure timely transmission of this information
2.6. Provide a written summary of consultations and treatments

3. **Provide guidance to associated staff to enable optimal imaging and treatment**
   3.1. Communicate acquired information to administrative and technical staff to maintain quality of imaging
   3.2. Work with technical and ancillary staff to address patient issues and ensure appropriate medical care
   3.3. Guide and teach staff in order to solve clinical or imaging challenges

4. **Convey relevant information and explanations accurately to patients and families, colleagues, and other professionals**
   4.1. 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
   4.2. Demonstrate an understanding of relative risk as it applies to radiation exposure and be able to utilize the concept in discussions of investigations and treatment
   4.3. Offer advice about risk and benefit of procedures and treatments when appropriate
   4.4. Respect diversity and difference, including but not limited to the impact of gender, religion and cultural beliefs on decision-making
   4.5. Address challenging communication issues effectively, such as obtaining informed consent, delivering bad news, and addressing anger, confusion and misunderstanding

5. **Interact with the public, local advisory personnel and regulatory agencies to address procedural issues**
   5.1. Present information to the public or media about a medical, radiation safety or regulatory issue, when appropriate
   5.2. Demonstrate the ability to provide sophisticated information about radiation safety, relative risk, or applicable regulations, at a knowledge or education-appropriate level in order to promote understanding of the issues and the discipline
   5.3. Communicate with appropriate local or national bodies, when necessary, to deal with issues as they arise

**Collaborator**

**Definition:**

As *Collaborators*, specialists in Nuclear Medicine effectively work within a health care team to achieve optimal patient care.
Key and Enabling Competencies: Specialists in Nuclear Medicine are able to...

1. Participate effectively and appropriately in an interprofessional health care team, while recognizing and resolving interpersonal conflicts
   1.1. Work with others to provide appropriate diagnostic investigations and guide patient management
   1.2. Demonstrate understanding of the specialist’s roles and responsibilities and those of other professionals within the health care team, and respect the work of each in these roles
   1.3. Demonstrate understanding of the scope of practice and be aware of training requirements of associated personnel, including technologists, physicists, and radiopharmacists
   1.4. Demonstrate a respectful attitude towards other colleagues and members of an interprofessional team
   1.5. Recognize and respect the diversity of roles, responsibilities and competencies of other professionals. Learn to appreciate the way these differences may contribute to interpersonal tension and how this may be resolved
   1.6. Respect team ethics and confidentiality
   1.7. Demonstrate leadership in a health care team

Manager

Definition:

As Managers, specialists in Nuclear Medicine are integral participants in health care organizations, organizing sustainable practices, making decisions about allocating resources, and contributing to the effectiveness of the health care system.

Key and Enabling Competencies: Specialists in Nuclear Medicine are able to...

1. Manage the functions and operation of a Nuclear Medicine department
   1.1. Work with administrators and staff to provide safe health care services relevant to clinical needs
   1.2. Administer and oversee the operation of a Nuclear Medicine laboratory including the supervision of a quality control program for equipment and radiopharmaceuticals
   1.3. Adapt or develop imaging schedules to address changes in health resources
   1.4. Develop imaging protocols to ensure procedures are performed optimally in order to obtain maximum diagnostic information
   1.5. Consult established guidelines and incorporate recommendations into protocols as appropriate
   1.6. Work with staff to deal with staffing, interpersonal, management and patient care issues
1.7. Recognize and address quality control issues or work with appropriate ancillary personnel to address them

1.8. Work with staff to ensure patient and technologist safety, including radiation safety

2. **Understand the function of radiation safety committees and participate in radiation safety activities**
   
   2.1. Recognize the organizational aspects of radiation safety committees in the institution, region and provincially and nationally
   
   2.2. Demonstrate the capability to assume responsibility for, or to advise on, radiation safety within the department or hospital, or at a regional or provincial level, if required

3. **Be involved in, and understand the process of equipment purchase and testing**
   
   3.1. Demonstrate awareness of the factors affecting the lifetime of equipment and recognize the need for replacement or additional equipment
   
   3.2. Demonstrate awareness of the process of equipment acquisition
   
   3.3. Identify and evaluate options to choose the most appropriate equipment for the clinical requirements
   
   3.4. Describe the principles of acceptance testing and other evaluation to ensure that both technical and clinical needs are met by the equipment

4. **Manage their practice and career effectively**
   
   4.1. Set priorities and manage time to balance patient care, practice requirements, research, outside activities and personal life
   
   4.2. Demonstrate awareness of financial, budgetary, and human resource issues in managing a Nuclear Medicine service or practice
   
   4.3. Implement processes to ensure personal practice improvement

5. **Be able to participate in activities that contribute to the effectiveness of their health care organizations and systems**
   
   5.1. Work collaboratively with others in their organizations to enhance patient care
   
   5.2. Demonstrate awareness of the structure and function of the health care system, including the roles of physicians, and population-based approaches to health care services, and their implications for Nuclear Medicine
   
   5.3. Demonstrate awareness of principles of health care financing, including physician remuneration, budgeting and organizational funding
   
   5.4. Demonstrate awareness of how medical resources are made available on the basis of demographic data and the effect on Nuclear Medicine practice
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6. **Allocate finite health care resources appropriately**
   6.1. Recognize the importance of just allocation of health care resources, balancing effectiveness, efficiency and access with optimal patient care
   6.2. Work to integrate Nuclear Medicine services in algorithms and guidelines leading to appropriate patient management and resource utilization

7. **Work with government and regulatory bodies and national specialty societies to ensure the delivery of high quality Nuclear Medicine service**
   7.1. Demonstrate understanding of the role of regulatory agencies in the clinical practice of Nuclear Medicine, including the Canadian Nuclear Safety Commission (CNSC) and Health Canada
   7.2. Recognize issues which may impact on the ability to provide Nuclear Medicine services and consult with local and, as appropriate, provincial or national personnel to provide feedback and seek advice
   7.3. Work with specialty organizations to achieve and maintain high standards of patient care in the profession
   7.4. Work with local, provincial and, if appropriate, national regulatory personnel, either individually or through specialty societies, to establish and maintain the overall professional quality of service, focusing on patient care, while respecting regulatory requirements
   7.5. Work with licensing agencies to ensure that credentials required for practice are appropriate to training

**Health Advocate**

**Definition:**

As *Health Advocates*, specialists in Nuclear Medicine responsibly use their expertise and influence to advance the health and well-being of individual patients, communities, and populations.

**Key and Enabling Competencies: Specialists in Nuclear Medicine are able to...**

1. **Promote the safe use of radionuclides for diagnosis and treatment**
   1.1. Demonstrate the ability to explain the risks and benefits of Nuclear Medicine procedures and therapy, and implement this understanding in the choice of imaging tests or treatment
   1.2. Develop and maintain knowledge of relative risks and benefits in order to educate other professionals and groups about the utility of Nuclear Medicine
   1.3. Participate in discussions, rounds, or patient conferences in order to share knowledge and provide feedback about the appropriate utilization of Nuclear Medicine procedures in the context of other investigative options
   1.4. Demonstrate awareness of the role of Nuclear Medicine procedures in patient care algorithms and promote their integration into the algorithms
1.5. Provide critical evaluations of diagnostic or therapeutic procedures using radionuclides
1.6. Work to limit unnecessary radiation exposure to patients and staff
1.7. Utilize the ALARA principle and explain the principle and its application to patient safety and occupational exposure

2. Respond to the health needs and issues of individual patients and the communities in which they live
2.1. Identify the health needs of individual patients and communities as they are relevant to Nuclear Medicine practice
2.2. Identify opportunities for advocacy, health promotion and disease prevention with individuals and communities to whom they provide care, in particular with reference to PET imaging, non-invasive cardiac imaging, radionuclide therapy of thyroid diseases, and other open-source therapy
2.3. Demonstrate awareness of issues affecting the delivery of Nuclear Medicine services
2.4. Demonstrate understanding of the role of the specialty societies and their work with regulatory and government bodies, and the public, to advance the appropriate utilization of the modality

3. Identify the determinants of health for the populations that they serve, and promote the health of individual patients, communities, and populations
3.1. Identify the determinants of health of the populations, including barriers to access to care and resources, and describe an approach to implement change, particularly with cancer and cardiac disease
3.2. Identify vulnerable or marginalized populations within those served and respond appropriately
3.3. Demonstrate awareness of how public policy impacts on the ability of the populations served to access Nuclear Medicine, especially radiation safety and radiopharmaceutical development and production policy and regulation
3.4. Demonstrate understanding of the ethical and professional issues inherent in health advocacy, including the possibility of conflict with the role of manager or gatekeeper
3.5. Describe the role of the medical profession in advocating collectively for health and patient safety, with particular attention to medical utilization of radioactive materials

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Scholar

Definition:

As Scholars, specialists in Nuclear Medicine demonstrate a lifelong commitment to reflective learning, as well as the creation, dissemination, application and translation of medical knowledge.

Key and Enabling Competencies: Specialists in Nuclear Medicine are able to...

1. Apply lifelong learning skills to implement a personal program in order to maintain clinical competence. Critically evaluate medical information and its sources, and integrate new methods, techniques and procedures into practice

   1.1. Identify gaps in knowledge and expertise and demonstrate the ability to pose a scholarly question

      1.1.1. Access and interpret the evidence, consult relevant medical literature and critically appraise research methodology and conclusions

      1.1.2. Describe the principles of research and scholarly inquiry, including ethics of clinical research

      1.1.3. Select and apply appropriate methods to address the question

      1.1.4. Consult with other physicians and health professionals in a collegial manner

      1.1.5. Integrate new learning into practice

      1.1.6. Evaluate the impact of any change in practice, which may include conducting a personal practice audit

      1.1.7. Identify areas for further research

      1.1.8. Document the learning process

   1.2. Maintain current knowledge of technical, regulatory and radiopharmaceutical developments in order to consider their integration in practice

2. Teach patients, families, the public, students, residents, and health professionals, as appropriate

   2.1. Collaboratively identify the learning needs and desired learning outcomes of others

   2.2. Select effective teaching strategies and content to facilitate learning

      2.2.1. Demonstrate an understanding of, and the ability to apply, the principles of adult learning

      2.2.2. Demonstrate an understanding of preferred learning methods in dealing with students, residents, and colleagues

   2.3. Develop effective lectures or presentations, and assess the impact of these presentations

   2.4. Provide effective feedback to others to improve teaching skills
2.5. Incorporate ethical principles in teaching

**Professional**

**Definition:**

As *Professionals*, specialists in Nuclear Medicine are committed to the health and well-being of individuals and society through ethical practice, profession-led regulation, and high personal standards of behaviour.

**Key and Enabling Competencies: Specialists in Nuclear Medicine are able to...**

**1. Function as a professional in caring for patients and dealing with associates**

1.1. Recognize that patient care is the primary function of the service, and work to ensure that this is the goal of those working in the service

1.2. Practice autonomously and independently as a consultant, aware of and continuously working to address gaps in knowledge or skill, in order to provide safe and current care

1.2.1. Evaluate personal abilities, knowledge and skills continually and demonstrate awareness of personal limitations of professional competence

1.2.2. Use continued learning and the experience of others to maintain and improve the personal and technical quality of the imaging and therapeutic services

1.3. Adopt specific strategies to explore and resolve interpersonal difficulties in professional relationships

**2. Demonstrate a commitment to their patients, profession, and society through ethical practice**

2.1. Exhibit appropriate behaviors in practice, including honesty, integrity, commitment, compassion, respect and altruism

2.2. Recognize and respond appropriately to ethical issues encountered in practice

2.3. Recognize and work to resolve conflicts of interest

2.4. Demonstrate understanding of the requirements for patient confidentiality as defined by professional practice standards and the law

2.5. Maintain appropriate relations with patients

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

3.1. Demonstrate knowledge and an understanding of the professional, legal and ethical codes of practice

3.2. Fulfill the regulatory and legal obligations required of current practice
3.3. Participate in peer review

4. **Demonstrate a commitment to physician health and sustainable practice**

   4.1. Balance personal and professional priorities to ensure personal health and a sustainable practice

   4.2. Strive to heighten personal and professional awareness and insight

   4.3. Be attentive to signs of distress in colleagues or associated staff and provide guidance and advice, as appropriate