ACRO Scope of Practice Document

I. ORGANIZATIONAL AND LEGAL STATEMENT

The American College of Radiation Oncology (ACRO) is a nonprofit professional organization whose primary purposes are to advance the science of radiation oncology, improve service to patients, study the socioeconomic aspects of the practice of radiation oncology, and provide information to and encourage continuing education for radiation oncologists, medical physicists, and persons practicing in allied professional fields.

As part of its mission, the American College of Radiation Oncology has developed a Practice Accreditation Program, consisting of standards for the practice of Radiation Oncology. Accreditation is a voluntary process in which professional peers identify standards indicative of a high quality practice in a given field, and which recognizes entities that meet these high professional standards.

Each standard in ACRO’s Practice Accreditation Program requires extensive peer review and the approval of the ACRO Standards Committee as well as the ACRO Board of Chancellors. The standards recognize that the safe and effective use of ionizing radiation requires specific training, skills and techniques as described in this document. The ACRO will periodically define new standards for radiation oncology practice to help advance the science of radiation oncology and to improve the quality of service to patients throughout the United States. Existing standards will be reviewed for revision or renewal as appropriate on their third anniversary or sooner, if indicated.

The ACRO standards are not rules, but rather attempts to define principles of practice that are indicative of high quality care in radiation oncology. It is important to note that the ACRO standards should not be deemed inclusive of all proper methods of care or exclusive of other methods of care reasonably directed to obtaining the same results. Similarly, the ACRO standards should not be considered a substitute for compliance with federal, state, and local laws and medical licensing board requirements. ACRO cannot, and does not, guarantee, warrant, endorse, or otherwise make representations with regard to the ability of any accredited practice or its practitioners or staff to perform adequately or to meet its patients’ needs. The ultimate judgment regarding the propriety of any specific procedure or course of conduct must be made by the Radiation Oncologist and medical physicist in light of all circumstances presented by the individual situation.

II. INTRODUCTION

Radiation Oncology is the independent field of medicine that deals with the therapeutic applications of radiant energy and its modifiers as well as the study and management of cancer and other diseases. ACRO believes that it is important to clearly define those qualified to practice Radiation Oncology and the scope of practice of Radiation Oncology
since the practice of Radiation Oncology by inappropriately trained individuals represents a potential threat to the public welfare.

III. STATEMENT OF BASIC RESPONSIBILITY

The basic responsibility of the Qualified Radiation Oncologist’s practice is to care for his/her patient to assure adequate medical outcome. This responsibility includes: evaluation of the patient, application of diagnostic, therapeutic and supportive care measures, advocacy for the patient, and end of life care. ACRO recognizes that there are a variety of means to accomplish these responsibilities.

This document defines a range of activities and expertise that fall within the spectrum of radiation oncology. This does not mean that every radiation oncologist will choose to practice the entire range of activities within our scope of practice. It is also noted that there are some areas that may be shared with colleagues.

IV. DEFINITIONS AND EXPLANATIONS

Radiation Oncology is also known as Therapeutic Radiology. Throughout this discussion the terms Radiation Oncology and Radiation Therapy will be used interchangeably.

V. PROFESSIONAL QUALIFICATIONS

A Radiation Oncologists must have (1) satisfactorily completed a ABR (American board of Radiology) accepted PGY-1 clinical year of training (2) satisfactorily completed a radiation oncology residency in an ACGME (American Council of Graduate Medical Education) approved program, or (3) be certified in radiation oncology or therapeutic radiology by the American Board of Radiology, the American Osteopathic Board of Radiology, or the Royal College of Physicians and Surgeons of Canada.

VI. SPECIFICS OF TRAINING AND PRACTICE

In order to achieve effective patient care the Radiation oncologist must have a broad base of knowledge and skills. Further the radiation oncologist is an essential participant in modern oncologic treatment and should be allowed to use that base of knowledge and those skills he or she posses. Training in the field of radiation oncology should initially be obtained through formal postgraduate medical education. Additional training may be obtained through continuing medical education, preceptorship, mini-sabbatical, practice and other recognized methods of education. Training in the field of radiation oncology includes the following:

A. General medical training including but not limited to:
   1. The ability to perform patient evaluations including patient histories and physical examinations
   2. The use of diagnostic modalities
3. The use of gastrointestinal, genitourinary and intravascular access.
4. General supportive care including administration of medications and IV fluids
5. General symptom management
6. Nutritional support
7. Inpatient care
8. Management of pain
9. Palliative and end of life care

B. Specialized training in:
   1. Clinical oncology including:
      a. Head and neck neoplasms
      b. Central nervous system neoplasms
      c. Thoracic neoplasms
      d. Gastrointestinal neoplasms
      e. Genitourinary neoplasms
      f. Gynecologic neoplasms
      g. Skeletal neoplasms
      h. Skin neoplasms
      i. Hematologic and lymphatic neoplasms
      j. Breast neoplasms
      k. Pediatric neoplasms
      l. Bone and soft tissue neoplasms
      m. Benign disorders treatable with radiant energy
      n. Palliation
      o. Biostatistics

   2. Physics of radiation oncology including:
      a. Basic radiation physics
      b. Atomic and nuclear structure
      c. Radioactive decay
      d. Properties and production of particulate and electromagnetic radiation
      e. Measurement of radiant energy
      f. Interactions of electromagnetic radiation with matter
      g. Interactions of particulate radiation with matter
      h. Characteristics of photon beams
      i. Dosimetry of photon beams
      j. Dosimetry of electron beams
      k. Physics of clinically used radioisotopes
      l. Brachytherapy
      m. Advance treatment planning for external beam radiation therapy
      n. Quality assurance
      o. Radiation protection

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3. Radiation biology including:
   a. Terminology and techniques of molecular biology
   b. Basic cellular biology
   c. Basic cancer biology
   d. Interaction of radiant energy with matter
   e. DNA damage
   f. Chromosomal and chromatid aberrations
   g. Mammalian cell radiosensitivity
   h. Cell survival curves
   i. Quantitative normal tissue systems
   j. Solid tumor systems
   k. The oxygen effect
   l. Repair of radiation damage
   m. Linear energy transfer
   n. Cell and tissue kinetics
   o. Time-Dose and fractionation
   p. Predictive assays
   q. Remembered dose
   r. Alternative radiation modalities
   s. Chemotherapeutic agents used as adjuvants with radiation
   t. Radiosensitizers and bioreductive drugs
   u. Protectors
   v. Hyperthermia
   w. Gene therapy
   x. Normal tissue effects
   y. Radiophysiology of human tissues
   z. Total body irradiation
   aa. Radiation carcinogenesis
   bb. Heritable effects of radiation
   cc. Radiation effects in the developing embryo and fetus
   dd. Cataracts
   ee. Radiation protection

4. Pharmacologic modifying, adjunctive and supportive agents including:
   a. Radiation protectants
   b. Radiation sensitizers and bioreductive agents
   c. Photosensitizers
   d. Hormonal agents
   e. Cytotoxic agents
   f. Biologic agents
   g. Immunologic agents
   h. Pain medications
   i. Antiemetics
   j. General medications
5. Treatment planning, technique and delivery of treatment including:
   a. Anatomy
   b. Tumor localization
   c. External beam planning and treatment
   d. Brachytherapy planning and treatment
   e. Use of unsealed radioisotope therapy including radioimmunoglogulins
   f. Combined modality treatment

VII. SUMMARY

Radiation oncology is the only physician specialty specifically trained in the complex radiobiologic interactions that occur during the administration of radiotherapeutic treatment to patients. In addition, the radiation oncologist is in a unique position to formulate strategies to improve therapeutic response to treatment, assess treatment-related side effects and relieve or prevent treatment-related side effects or injury. Further, the Radiation Oncologist must be an active participant during the patient care process since the Radiation Oncologist is ultimately responsible for care of the patient receiving radiotherapeutic treatment.

VIII. REFERENCES

A. American Board of Radiology, 2002.
B. American College of Medical Physics, Scope of Practice of Medical Physics, 2000.