NATIONAL IMAGING ASSOCIATES, INC.*
RADIATION ONCOLOGY CODING GUIDELINE

Simulations	
CPT Codes: 77280, 77285, 77290	**Original Date:** April, 2011 **Last Review Date:** November,2021 **Last Revised Date:** January,2017 **Implementation Date:** January,2022

<u>Simulation Code: 77280, 77285, 77290</u>
Professional and Technical

A simulation is the process of determining and establishing the radiation therapy treatment portals to a specific treatment volume. The process includes determination of the treatment position, necessity and fabrication of immobilization and acquisition of the images and data necessary to develop the plan. There are three levels of simulation complexity:

77280 Simple; simulation of a single treatment area.
77285 Intermediate; simulation of two separate treatment areas.
77290 Complex; simulation of three or more treatment areas; or any number of treatment areas if any of the following are involved: particle, rotation or arc therapy, complex blocking, custom shielding blocks, brachytherapy simulation, hyperthermia probe verification, any use of contrast materials.

The level of complexity billed for each simulation service is determined by the number of treatment areas unless the additional items listed in the complex simulation descriptor are met. Many of these additional criterion typically occur after the initial simulation procedure is complete. The use of these criterion to elevate the complexity of an initial simulation precludes their ability to justify a separate computer aided field-setting simulation; therefore, computer aided field-setting simulations are not preauthorized.

Simulations may occur on multiple different types of equipment; i.e., treatment table, conventional simulator, CT based simulator, etc. Therefore, the simulation process may occur in many areas of the department and at different points within the course of treatment. The typical course of radiation therapy may require multiple simulations. This may involve a verification simulation on the onset of new treatment portals. Although multiple simulations may occur on a patient during a course of therapy, no more than one simulation should be reported on the same date of service with the exception of the brachytherapy simulations, which will allow two (2) simulations, if performed, for verification of source placement. Types of simulations are detailed below.

1. **Patient Initial Simulation (CPT® 77280, 77285, 77290)** – These simulations include establishment of the patient's treatment position (supine, prone, decubitus, arms akimbo, etc). It may also include the placement of reference marks to delineate the area to be treated and may or may not include the creation of custom immobilization devices (face masks, alphacradles, Vac-Lok™, etc) and gantry and table parameters. Items such as the use of contrast and the utilization of treatment devices may elevate the level of simulation to complex 77290. Initial simulations may occur on a

conventional simulator, CT based simulator or treatment table, as in the case of emergency and electron treatments.

2. **Verification Simulation (CPT® 77280)** – Verification simulations are coded as simple simulations only (CPT® 77280). This process includes verification of port blocking, isocenter is placed appropriately and the patient is in the proper treatment position. In order for this process to be complete, **all** ports must be filmed, reviewed and approved by a Radiation Oncologist prior to the start of the patient's treatment. IGRT is not necessary on the same date of service as verification simulation due to both services providing verification of isocenter placement and patient alignment.

Standards for Simulation Codes:
- Only one simulation charge is allowed per date of service with the exception of brachytherapy treatments delivered twice per day. This exception only applies IF the work is performed and documented and will be most likely to occur for breast brachytherapy.
- One (1) initial simulation (CPT® 77280-77290) may be approved per modality except for courses with IMRT planning. Initial simulations for IMRT planning are considered bundled into IMRT planning code CPT® 77301 and are not separately billable.
- Verification simulations are billable as simple simulations (CPT® 77280) only.
- For 2D and 3D treatments, one (1) verification simulation (CPT® 77280) may be approved per phase of treatment when IGRT is not authorized. If IGRT (CPT® 77387) is authorized for a particular phase of treatment, a verification simulation is not authorized for that phase.
- Verification simulations are not billable with IMRT courses of therapy.
- A verification simulation may be necessary prior to treatment to confirm the positioning of the isocenter as well as customized blocking and may be approved in addition IGRT for 3D if specifically requested and clinical rationale is provided.
- Only 1 verification simulation is allowed per phase of treatment.
- For HDR brachytherapy treatments, one (1) verification simulation (CPT® 77280) may be approved per treatment. Additional services may be requested and will be reviewed for medical necessity based on individual patient circumstances.

<u>**Sources:**</u>
The NIA Coding Standards are created and maintained by NIA and our contracted coding expert, Revenue Cycle Inc. based on our understanding of:
- American Medical Association (AMA) HCPCS definitions and intended use as noted within the AMA's published CodeManager® products
- Local and National Medicare Coverage Determinations (LCDs and NCDs)
- Office of the Inspector General (OIG) compliance standards
- National Correct Coding Initiative (NCCI) edits
- National Correct Coding Initiative (NCCI) Policy Manual
- Centers for Medicare and Medicaid Services (CMS) Internet Only Manuals (IOM).

NIA incorporated input from Revenue Cycle Inc. about accepted standards of care in radiation oncology, based on their review of sources such as the American Society of Therapeutic Radiation Oncology (ASTRO) coding guidelines and American College of Radiation Oncology (ACRO) practice management guide.