

October 1, 2008

Equipment Standards

The following standards replace all previous versions and are effective October 1, 2008 for new sites requesting participation with CareCore National. For participating providers currently in CareCore National's Diagnostic Imaging Networks, these standards become effective at the close of business on March 31, 2009, as part of the re-credentialing process.

These standards are subject to annual review and will change as hardware and software technology evolves.

For CT, MRI, Nuclear Medicine, and Ultrasound equipment, accreditation by appropriate national organizations is a prerequisite. Specifically, for all these imaging modalities ACR accreditation is available, in addition AIUM is available for Ultrasound, and ICANL for Nuclear Medicine. IAC accreditation is recognized for CT and MRI.

Devices meeting ACR, ICANL or AIUM accreditation standards, but not meeting the equipment standards outlined below, may be retained for backup and overflow use consistent with the limitations outlined herein.

For questions or concerns regarding these standards, please contact CareCore National's Credentialing Department at 845-298-8155 extension 10190.

CT:

- ACR or IAC accreditation for all devices.
- 4 slices per rotation (minimum).
- Major software no greater than four (4) years old.
- Minimum 16 slices per rotation for Computed Tomographic Arteriography (CTA) of lower extremities.
- Minimum 64 slices per rotation for Coronary CTA.

Note: these standards also apply to any diagnostic CT studies performed on a PET/CT device.

CARDIAC CT AND CORONARY CT ANGIOGRAPHY:

- A multi-detector CT scanner capable of creating a minimum of 64 slices per gantry rotation is required.
- Complete gantry rotation should take no longer than 0.42 seconds.
- Tube heat capacity must allow for a single > 20 second acquisition.
- Minimum section thickness should be no greater than 1.0 mm.
- The CT scanner used for CTA must allow display and interpretation of the full 12 bits (from -1000 to 3095 Hounsfield units) of attenuation information.
- The display field of view must be sufficient to allow an assessment of the vasculature of interest, the end-organ, and adjacent tissues.
- For cardiac and some ascending aortic CTA, an ECG-gated acquisition should be performed that allows retrospective reconstruction of the scan volume at multiple phases through the cardiac cycle.
- A powered dual-head contrast medium injector that allows programming of both the volume and flow rate must be used for CTA examinations.
- An independent workstation capable of creating volume renderings or shaded-surface displays, maximal intensity projections, and multi-planar reformations must be available for CT examination analysis.
- The workstation should also allow the direct measurement of vascular dimensions and, when appropriate, path lengths and angles.
- All studies reconstructed must be saved in DICOM format with appropriate backup for a minimum of seven (7) years.

MRI:

- All MRI devices must be ACR or IAC accredited and DICOM compatible. Devices with field strength greater than 1.5T, and for which ACR and IAC accreditation is not yet available, will be accepted pending the availability of accreditation.
- Devices with field strength of less than 0.3T will not be permitted after July 1, 2007.
- Devices with field strengths of 0.30T through 0.6T and devices with field strength of 1T manufactured prior to December 31, 2001, will be limited to performing examinations of the brain, spine, knees and extremities. However, if the devices described above have gradient strengths of at least 20mT/meter and slew rates of at least 45T/meter/sec, they may apply to perform additional studies by submitting images demonstrating their current capacity to perform them at acceptable quality levels.
- 0.7T devices require ACR or IAC accreditation.
- Devices with field strengths of 1T or greater and manufactured after January 1, 2002, will be permitted to perform all examinations including angiographic and MRCP studies.
- Any 1.5T or greater device manufactured before January 1, 2002, must provide service records indicating maintenance of hardware at original standards and major software upgrades no more than three (3) years old.
- Any device to be used for breast MRI must be 1.5T or greater and have bilateral capabilities.
- All groups performing breast MRI must have the ability to perform MRI guided biopsies.
- Any device to be used for cardiac work must have EKG gating and at least eight (8) channel parallel processing.

NUCLEAR MEDICINE:

- ACR or ICANL accreditation for all devices.
- SPECT mandatory.
- Jaszczak Phantom acquisition every 6 months.
- For centers performing Cardiac Nuclear Imaging only, single head detectors are acceptable.
- For centers performing general SPECT studies, an existing single head is acceptable but for all new or replacement equipment dual detectors are required.
- Collimator requirements:
 - LEHR Low Energy – for high-resolution studies
 - Medium Energy – for Indium and Gallium studies
 - High Energy - for centers performing I131 whole body studies
- Quality assurance requirements:
 - Automatic integral and field uniformity (computed) < 5% SPECT
 - Center of Rotation (COR) and floods (computed) < 1-2 pixels
- Cardiac Nuclear Imaging requirements:
 - Quantitative analysis package
 - Gating
 - Ejection Fraction (EF) calculated
 - Motion correction, back filter projection reconstruction, or line spread function software

PET AND PET/CT:

- ACR or ICANL accreditation for all devices.
- Sodium iodide detector systems are unacceptable regardless of configuration.
- For current participating providers utilizing a PET only machine, fusion software, purchased or upgraded in the last two (2) years, must be available.
- New applicants requesting participation with CareCore National's Diagnostic Imaging Networks must utilize a PET/CT machine.
- For current participating providers utilizing PET/CT or new applicants requesting participation, facilities with PET/CT equipment older than five (5) years must submit yearly reports that the equipment is functioning per manufacturer's specifications.

BONE DENSITY:

- DEXA equipment capable of performing lumbar spine, hip, and forearm studies.
- New applicants requesting participation with CareCore National's Diagnostic Imaging Networks must have either fan beam or new pencil beam technology. If pencil beam technology is used the equipment must be manufactured after 2007. If new equipment is purchased by participating providers it must meet the same standards.
- Facilities must provide evidence of preventative maintenance performed by the manufacturer of the DEXA equipment at the intervals suggested by the manufacturer.

ULTRASOUND:

- All sites to be ACR or AIUM accredited
- Appropriate transducers to be available for examinations offered by the practice as follows:
 - 4MHz abdomen, renal, pelvic, OB aorta
 - Curved 7.0MHz pediatric abdomen, renal and pelvic
 - Linear 7.0MHz vascular
 - Linear 12MHz breast, thyroid, testicular
 - 8.0MHz endovaginal
 - 9.0 MHz endorectal
- For new applicants requesting participation with CareCore National's Diagnostic Imaging Networks, units must be less than seven (7) years old. If equipment is greater than seven (7) years old, equipment must conform to all manufacturer specifications and have the most current updated software appropriate for the types of patients seen at the practice. In addition, equipment must pass ACR or AIUM accreditation standards.