Imaging Assistant, Magnetic Resonance

Certification and registration requirements for the Imaging Assistant, Magnetic Resonance are based on the results of a comprehensive practice analysis conducted by The American Registry of Radiologic Technologists (ARRT) staff and the Imaging Assistant, Magnetic Resonance Practice Analysis Committee. The practice analysis identifies job responsibilities typically required of an imaging assistant at entry into the profession. This document reflects the results of the practice analysis. The attached task inventory is the foundation for the clinical requirements and the content outline that, in turn, is the foundation for the content specifications.

Application to Clinical Competency Requirements

The purpose of the clinical requirements is to document that individuals have demonstrated competence performing the clinical activities fundamental to a particular discipline. Competent performance of these fundamental activities, in conjunction with mastery of the cognitive knowledge and skills as documented by the examination requirement, provides the basis for the acquisition of the full range of tasks typically required in a variety of settings. Demonstration of clinical competence means that the candidate has performed the task independently, consistently, and effectively during the course of his or her formal education.

An activity must appear on the task inventory to be considered for inclusion in the clinical requirements. The committee designated clinical activities that imaging assistants perform, or that they perform only in selected settings, as elective. The *Imaging Assistant, Magnetic Resonance Clinical Requirements* are on ARRT's website.

Completion of the clinical competency requirements will not involve the Imaging Assistant, Magnetic Resonance candidate to produce an image (e.g., protocol and parameter selection, data acquisition).

Application to Content Specifications

The purpose of the examination requirement is to assess whether individuals have obtained the knowledge and cognitive skills underlying the intelligent performance of the tasks typically required in the discipline for practice at entry level. The content specifications identify the knowledge areas underlying performance of the tasks on the task inventory. Every content category can be linked to one or more activities on the task inventory. Note that each activity on the task inventory is followed by a content category that identifies the section of the content specifications corresponding to that activity. The Imaging Assistant, Magnetic Resonance Content Specifications are on ARRT's website.

*The abbreviation "e.g.," is used to indicate that examples are listed in parenthesis, but that it is not a complete list of all possibilities.

Activity		**Content Categories** **PC** = Patient Care **S** = Safety **P** = Positioning and Anatomical Landmarking **FOQ** = Focus of Questions
1.	Demonstrate and promote professional and ethical behavior (e.g., confidentiality, regulation compliance).	PC.1.A.
2.	Verify that informed consent is obtained as necessary.	PC.1.A.
3.	Review the examination request to verify information is accurate, appropriate, and complete (e.g., patient history, clinical diagnosis, physician's order, coding).	PC.1.A.
4.	Verify the patient's identity.	PC.1.A.
5.	Use positioning aids, as needed, to enhance the examination and promote patient comfort and/or safety.	PC.1.A.
6.	Evaluate the patient's ability to understand and comply with requirements for the requested examination (e.g., need for medical interpreter, physical, sensory, or cognitive impairments).	PC.1.B.
7.	Manage interpersonal interactions in an effective manner.	PC.1.B.
8.	Communicate relevant information to appropriate members of the care team.	PC.1.B.
9.	Respond as appropriate to examination inquiries from the patient, patient's family, or authorized representative (e.g., scheduling delays, examination duration, other imaging disciplines).	PC.1.B.
10.	Explain examination instructions to the patient, the patient's family, or authorized representative (e.g., pre- and postprocedure).	PC.1.B.
11.	Explain and confirm the patient's preparation (e.g., diet restrictions, preparatory medications, allergies) prior to imaging.	PC.1.B.
12.	Obtain pertinent medical history.	PC.1.B.
13.	Establish and maintain communication with scanning technologist and patient.	PC.1.B., S.1.C.
14.	Use proper ergonomics and MRI appropriate patient transfer devices to promote patient and personnel safety.	PC.1.C.
15.	Monitor the patient's auxiliary medical equipment (e.g., IVs, oxygen).	PC.1.C.
16.	Document required information in the patient's medical record (e.g., images, contrast, adverse events).	PC.1.C.
17.	Notify appropriate personnel of adverse events or incidents (e.g., patient falls, burns, contrast reactions, wrong patient imaged).	PC.1.C.
18.	Assist other medical professionals as needed to provide optimal patient care.	PC.1.C.
19.	Obtain vital signs (e.g., pulse, blood pressure) when appropriate.	PC.1.C.
20.	Provide for patient safety, comfort, and privacy.	PC.1.C.
21.	Observe the patient after administration of a medication, (e.g., sedation medication) to detect adverse events.	PC.1.C.

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22.	Verify a time-out is performed as necessary.	PC.1.C.
23.	Recognize and communicate the need for prompt medical attention.	PC.1.C.
24.	Recognize the need for and initiate emergency care (e.g., evacuate the patient from Zone IV, call a code, initiate CPR) as needed.	PC.1.C., PC.1.E.
25.	Apply physiological devices as needed (e.g., ECG (electrocardiogram) leads, PG (peripheral gating), respiratory trigger).	PC.1.C.
26.	Use sterile or aseptic technique when indicated.	PC.1.D.
27.	Clean, disinfect, or sterilize facilities and equipment.	PC.1.D.
28.	Practice Standard Precautions.	PC.1.D.
29.	Follow environmental protection standards for the handling and disposing of biohazardous materials (e.g., sharps, blood, body fluids).	PC.1.D.
30.	Follow appropriate transmission-based precautions.	PC.1.D.
31.	Follow environmental protection standards for handling hazardous materials (e.g., cleaning materials, disinfectants).	PC.1.D., PC.1.D.
32.	Review information to prepare appropriate contrast type and dosage (e.g., IV, oral contrast).	PC.1.E.
33.	Perform and/or assist with venipuncture.	PC.1.E.
34.	Prepare and/or activate power injector.	PC.1.E.
35.	Prior to the administration of a contrast agent, determine if the patient is at risk for an adverse reaction.	PC.1.E.
36.	Assess the patient after administration of a contrast agent to detect adverse events.	PC.1.E.
37.	Maintain controlled access to Zone III and Zone IV to ensure safety of patients, visitors, and hospital personnel.	S.1.A.
38.	Screen the patient for contraindications to MR imaging.	S.1.A.
39.	Manage unique patient considerations (e.g., pregnancy, claustrophobia, large body habitus, pediatric).	S.1.A.
40.	Understand the roles of MR Medical Director, MR Safety Officer, MR Safety Expert, and how to contact these personnel.	S.1.A.
41.	Perform safe handling of imaging coils and other imaging equipment.	S.1.B.
42.	Provide hearing protection to the patient and others in Zone IV.	S.1.B.
43.	Perform routine visual safety check of Zone III and Zone IV for MR Unsafe objects.	S.1.C.
44.	Screen persons entering Zone III or Zone IV for safety contraindications.	S.1.C.
45.	Perform proper start-up and shutdown of equipment.	S.1.C.
46.	Perform proper setup for equipment quality control (QC) testing.	S.1.C.

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47.	Inspect equipment to ensure it is operable and safe (e.g., coils, cables, door seals).	S.1.C.
48.	Notify appropriate personnel of equipment malfunctions and potential repairs as needed.	S.1.C.
49.	Select optimal imaging coils.	S.1.C.
50.	Monitor scan room conditions (e.g., cryogen levels, temperature, humidity).	S.1.C., S.1.C.
51.	Confirm exam completion with scanning technologist.	S.1.C.
52.	Maintain communication with the patient during exam.	S.1.C.
53.	Secure MR Unsafe and Conditional equipment in Zone III and Zone IV. (e.g., tether, locked storage).	S.1.C.
54.	Follow precautions/procedures for alternative MR environments (e.g., point-of-care MRI, mobile).	S.1.C.
55.	Recognize and respond to equipment-based emergencies (e.g., fire, quench) as needed.	S.1.C.
56.	Report safety events and near-misses according to FDA regulations and local policies.	S.1.C.
57.	Store, transfer, or retrieve images to/from data storage devices (e.g., PACS, DICOM).	S.1.C.
Position the patient with appropriate coil for the following types of scans:		
	Head and Neck	
58.	Brain (e.g., pituitary, IAC, orbits, MR angiogram (MRA), MR venogram (MRV))	P.1.A.
59.	Temporomandibular joints (TMJs)	P.1.A.
60.	Neck (e.g., soft tissue, MRA, MRV)	P.1.A.
	Spine	
61.	Cervical	P.1.B.
62.	Thoracic	P.1.B.
63.	Lumbar	P.1.B.
64.	Sacrum-coccyx	P.1.B.
	Breast	
65.	Breast (e.g., screening, implant rupture)	P.2.A.
	Thorax	
66.	Chest (noncardiac)	P.2.B.

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67.	Chest (cardiac)	P.2.B.
68.	Brachial plexus	P.2.B.
	Abdomen	
69.	Abdomen (e.g., liver, MRCP, pancreas, kidneys)	P.2.C.
	Abdomen/Pelvis	
70.	Abdomen/pelvis (e.g., MR enterography, MR urography, MRA, MRV)	P.2.C., P.2.D.
	Pelvis	
71.	Soft tissue pelvis (e.g., female and male)	P.2.D.
72.	Bony pelvis (e.g., sacroiliac (SI) joints)	P.2.D.
	Musculoskeletal	
73.	Wrist	P.3.A.
74.	Hand	P.3.A.
75.	Fingers (thumb and nonthumb)	P.3.A.
76.	Elbow	P.3.A.
77.	Shoulder	P.3.A.
78.	Hip	P.3.A.
79.	Knee	P.3.A.
80.	Ankle	P.3.A.
81.	Foot/toes	P.3.A.
82.	Long bones (upper extremity, lower extremity)	P.3.B.