



# Update from The Joint Commission: Diagnostic Imaging

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# Objectives:

1. Review of The Joint Commission's diagnostic imaging standards effective 7/1/2015
2. Describe experience related to new/revised standards
3. Provide update on future imaging work by the Joint Commission





# The Joint Commission: Mission

To continuously improve health care for the public, **in collaboration with other stakeholders**, by evaluating health care organizations and inspiring them to excel in providing safe and effective care of the highest quality and value.



# Reminder


- **Accreditation requirements** – applicable to:
  - ✓ -accredited ambulatory care orgs,  
(including with ADI certification)
  - ✓ - hospitals that provide diagnostic  
imaging
- **Focus on MRI,CT, PET, NM**

# Reminder- Notes



This element of performance **does not apply to dental cone beam CT** radiographic imaging studies performed for diagnosis of conditions affecting the maxillofacial region or to obtain guidance for the treatment of such conditions.

This element of performance **does not apply to CT** systems used for **therapeutic radiation** treatment planning or delivery, or for calculating attenuation coefficients for **nuclear medicine studies**.



## Review of Diagnostic Imaging Standards Effective 7/1/2015

**Equipment that functions properly  
and a safe environment of care...**

## Standard EC.02.01.01

The organization manages safety and security risks

### EP 14:

Managing MR safety risks associated with –

- Patients: claustrophobia, anxiety, emotional distress
- Patients: urgent, emergent medical care
- Patients: medical implants, devices, metallic objects
- Ferromagnetic objects entering MRI environment
- Acoustic noise

## Standard EC.02.01.01

The organization manages safety and security risks

### EP 16:

Managing MR safety risks – the environment

- Restricting access: anyone not trained in safety or screened
- Restricted areas controlled, direct supervision trained staff
- Signage: potentially dangerous magnetic field,  
Magnet always on (if case)



## Standard EC.02.02.01

The organization manages risks related to hazardous materials and waste.

### EP 17:

Quarterly personnel dosimetry review

- Radiation safety officer, diagnostic medical physicist, health physicist
- Assess whether ALARA, below regulatory limits



## **Standard EC.02.04.01**

The organization manages medical equipment risks

### **EP 10**

Identifies quality control & maintenance activities to maintain image quality (CT, MRI, NM, PET); identifies frequency



## **Standard EC.02.04.03**

The organization inspects, tests, and maintains medical equipment

### **EP 15:**

Maintains quality of images produced (CT, MRI, NM, PET)

## Standard EC.02.04.03

The organization inspects, tests, and maintains medical equipment

### EP 17:

Measures CTDIvol: 4 protocols, verifies display 20%

- Adult Head, Adult Abdomen,  
Pediatric Head, Pediatric Abdomen
- Documentation: dates, results, verification

## Standard EC.02.04.03

The organization inspects, tests, and maintains medical equipment

### EP 19

Diagnostic CT: At least annually, performance evaluation: all listed tests

- Diagnostic Medical Physicist
- Accountable, may have assistance
- Documentation: dates, results, recommendations

## Standard EC.02.04.03

The organization inspects, tests, and maintains medical equipment

### EP 20

MRI: At least annually, performance evaluation: all listed tests

- Diagnostic Medical Physicist, MRI scientist
- Accountable, may have assistance
- Documentation: dates, results, recommendations

## Standard EC.02.04.03

The organization inspects, tests, and maintains medical equipment

### EP 21

NM: At least annually, performance evaluation: all listed tests

- Diagnostic Medical Physicist, Nuclear Medicine Physicist
- Accountable, may have assistance
- All image types produced
- Documentation: dates, results, recommendations

## Standard EC.02.04.03

The organization inspects, tests, and maintains medical equipment

### EP 22

PET: At least annually, performance evaluation: all listed tests

- Diagnostic Medical Physicist
- Accountable, may have assistance
- All image types produced
- Documentation: dates, results, recommendations



## Standard EC.02.04.03

The organization inspects, tests, and maintains medical equipment

### EP 23

Performance evaluation: image acquisition display monitors

- Diagnostic Medical Physicist
- MRI scientist (MRI only)
- Accountable, may have assistance
- Specific luminance measurements, resolution, spatial accuracy
- Documentation: dates, results, recommendations

## Standard EC.02.06.05

The organization manages its environment during demolition, renovation, or new construction to reduce risk to those in the organization

### EP 4

Medical physicist or health physicist conducts structural shielding design assessment to specify required radiation shielding

- CT, PET, NM
- Installation new, replacement existing
- Modification of rooms
- Not retroactive (7/1/2015)


## Standard EC.02.06.05

The organization manages its environment during demolition, renovation, or new construction to reduce risk to those in the organization

## EP 6

Prior to clinical use of room: Medical physicist or health physicist conducts radiation protection survey to verify adequacy of installed shielding

- CT, PET, NM
- Not retroactive (7/1/2015)



# Review of Diagnostic Imaging Standards Effective 7/1/2015

➤ **Qualified staff...**

## HR.01.02.05

The organization verifies staff qualifications

### EP. 19

Minimum qualifications for individuals performing diagnostic CT exams

Advanced level certification in CT ARRT, NMTCB **OR**

- State licensure CT + documented training
- Registration & certification radiography ARRT + documented training
- Certification NMT by ARRT, NMTCB + documented training

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## HR.01.02.05

The organization verifies staff qualifications

## EP. 20

Verifies and documents qualifications of diagnostic medical physicists who support CT services

Diagnostic medical physicists who support **CT services:**  
Board certification: diagnostic radiologic physics,  
radiologic physics by the **American Board of  
Radiology, or**

- Diagnostic Imaging Physics by the **American Board of Medical Physics, or**
- Diagnostic Radiological Physics by the **Canadian College of Physicists in Medicine, or ...**

### Verification & documentation of medical physicists qualifications...

...meet **all** of the following requirements:

- **Graduate degree:** physics, medical physics, biophysics, radiologic physics, medical health physics, or a closely related science/engineering discipline from an accredited college or university
- **College coursework** in: biological sciences (at least one course in biology/radiation biology and one course in anatomy, physiology, or similar topic related to the practice of medical physics
- **Documented experience** in a clinical CT environment conducting at least 10 CT performance evaluations under direct supervision of a board-certified medical physicist

## HR.01.05.03

Staff participate in ongoing education and training

## EP. 14

Verifies and documents technologists who perform diagnostic CT exams participate in annual training

- Radiation dose optimization techniques and tools
- Safe procedures for operation of types of CT equipment they use



## HR.01.05.03

Staff participate in ongoing education and training

## EP. 26

Technologists who perform diagnostic CT exams participate in education that prepares them to achieve advanced-level certification by January 1, 2018

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## HR.01.05.03

Staff participate in ongoing education and training

## EP. 25

Verifies and documents technologists who perform MRI exams participate in annual training

- Patient screening criteria: ferromagnetic items, medical implants, devices, NSF risk
- Patient, equipment positioning avoid thermal injury
- MRI safe, conditional equipment and supplies
- Response for patients requiring urgent, emergent care
- MRI system emergency shutdown procedures
- Patient hearing protection
- Patient management: claustrophobia, anxiety, emotional distress



# Review of Diagnostic Imaging Standards Effective 7/1/2015

➤ **Processes to ensure safety and efficiency...**

## Standard MM.06.01.01

The organization safely administers medication

### EP 13

Before administering diagnostic radiopharmaceutical verifies within 20% of prescribed dose or within range

## Standard PC.01.02.15

The organization provides for diagnostic testing

### EP 5

Documents radiation dose index (CTDIvol, DLP, SSDE) every diagnostic CT study, retrievable format

- Only applicable for systems capable of calculating and displaying radiation dose indices

## Standard PC.01.02.15

The organization provides for diagnostic testing

### EP 10

CT, MRI, PET, NM: Prior to exam verifies:  
Correct patient, imaging site, patient positioning  
CT only: correct imaging protocol, scanner  
parameters



## Standard PC.01.02.15

The organization provides for diagnostic testing

### EP 12

CT, MRI, PET, NM: considers patient age, recent imaging exams; most appropriate type of imaging exam



## Standard PC.01.03.01

The organization plans the patient's care

### EP 25

Establishes or adopts diagnostic CT imaging protocols

- Based on current standards of practice
- Addresses key criteria:
  - Clinical indication
  - Contrast administration
  - Age (ped or adult)
  - Patient size or body habitus
  - Expected radiation dose index range





## Standard PC.01.03.01

The organization plans the patient's care

### EP 26

Diagnostic CT imaging protocols reviewed and kept current

Input from:

- Interpreting physician
- Medical physicist
- Lead imaging technologist
- Adhere to current standards of practice
- Account for changes in CT equipment
- Reviewed in time frames identified by organization



## **Standard PI.01.01.01**

The organization collects data to monitor performance

### **EP 46**

MRI exam patient thermal injuries

### **EP 47**

- Ferromagnetic objects unintentionally enter MRI room
- Injuries from ferromagnetic objects in MRI room



## **Standard PI.02.01.01**

The organization compiles and analyzes data

### **EP 6**

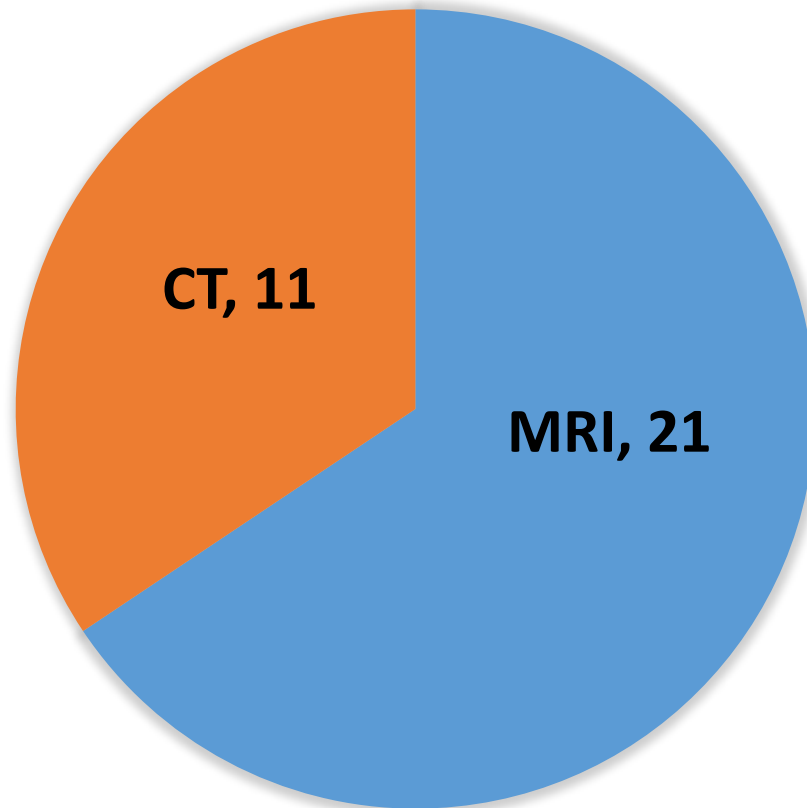
Reviews & analyzes incidents radiation dose index exceeded expected dose index range; compare to external benchmarks



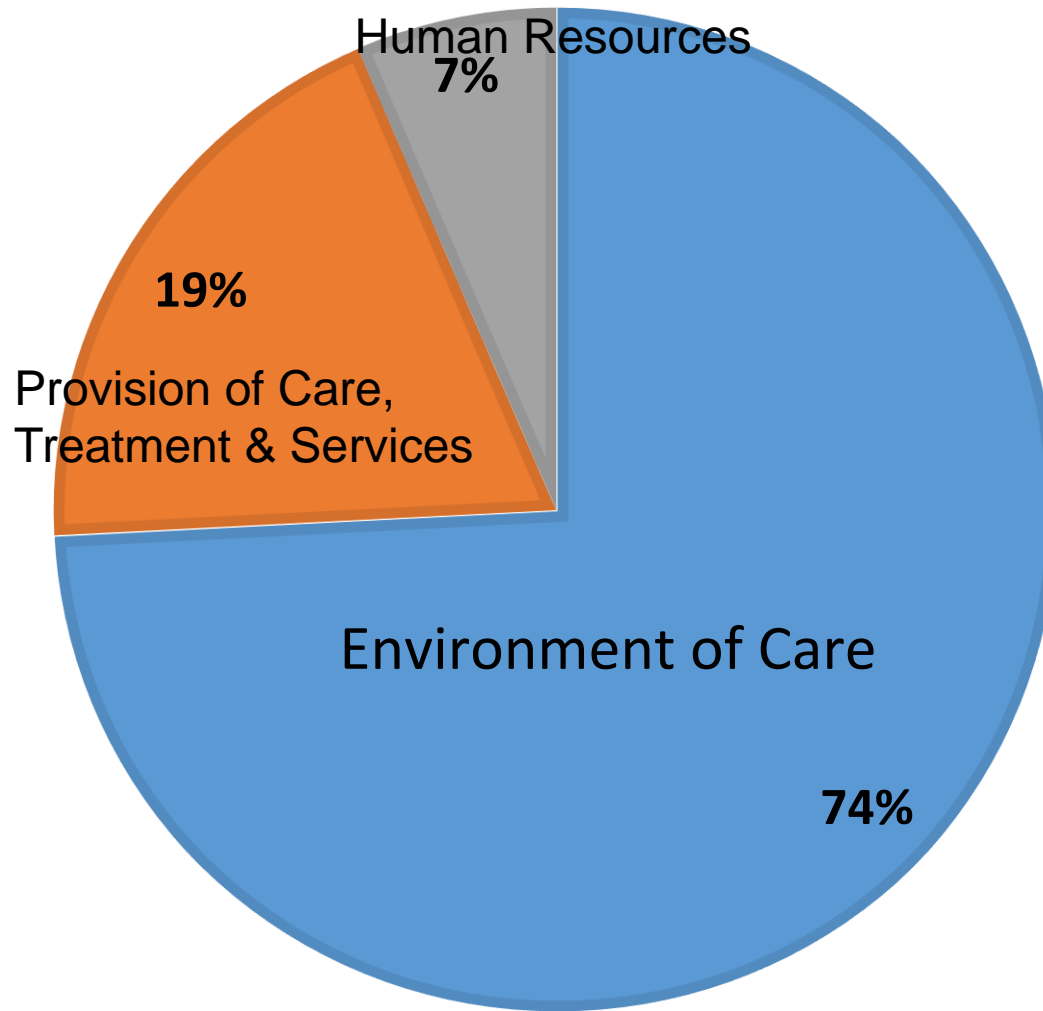
## ■ How Are We Doing?

**Data from RFIs tabulated  
7/1/2015-12/31/2015  
Hospitals and Critical Access  
Hospitals**

## REQUIREMENT FOR IMPROVEMENT BY MODALITY



## CHAPTER RFI BREAKDOWN



# Examples of Items that were scored

**EC.02.01.01 EP 14:**

**Managing MR safety risks**

**Fire extinguishers  
Ferrous materials**



## EC.02.01.01 EP 16

*Restricting access...to magnet room & area preceding; control & supervision; signage*

### **Access:**

- **Accessible from public area**
- **Unsecured door**
- **No staff screening**

### **Signage:**

- **“Magnet is always on” missing**





## EC.02.04.01 EP 10/15

Manages medical equipment risks - IDs QC and maintenance activities CT, PET, MRI, NM; identifies how often conducted

### **CT:**

- **Org policy specifies daily**
  - **dates missed, no follow up when outside of org specified control limits**

### **MRI:**

- **Org policy specifies weekly**
  - **dates missed**



## EC.02.04.03 EPs 19-22

Annual performance evaluations of CT, MRI, Nuclear Med, and PET imaging equipment...

Organization policy :Annual evaluation on CT  
Evaluation performed >13 mos

# FYI: Another EP to consider

## HR.01.05.03

Staff participate in ongoing education and training.

**EP.1 Staff participate in ongoing education and training to maintain or increase their competency. Staff participation is documented**

EP.14 CT techs: dose optimization, equipment operation

EP.25 MRI techs: safe practices in MRI environment

No documented skills evaluation CT, MRI, IV, radiation safety



## PC.01.02.15 EP 10

Prior to conducting CT, MRI, PET, NM exam verify  
Correct: patient, imaging site, pt. position  
CT only: correct protocol, scanner parameters

No evidence of verification seen



## PC.01.03.01 EP 25

Establishes or adopts CT protocols; clinical indication, contrast administration, age (ped or adult), patient size and body habitus, **expected dose index range**

Protocols don't contain all elements  
No evidence protocols based on current standards of practice

## PC.01.03.01 EP. 26

CT protocols are reviewed and kept current, adhere to current standards of practice, account for changes in CT imaging equipment, time frame identified by organization

- Observation: Documented protocol not followed
- Org Policy: biannual review – last review 4 years ago
- Inadequate policy:
  - No time frame for review
  - No date for last review
  - No process for review



# Future Joint Commission Work in Imaging



## Research Underway

- Qualifications of Individuals Interpreting CT
- Fluoroscopy
- Will not be addressing cone beam CT
- Radiology assistants
- Other standards



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# Questions?

