**Indications for Emergent, Urgent, and Routine MRI at Meriter Hospital During After-Hours**

Purpose: To establish guidelines for medical staff regarding the criteria/appropriateness for both emergent, urgent, and routine MRI at Meriter Hospital during after-hours.

**Please note that the information contained in this document are guidelines, and any final decisions regarding emergent/urgent MRIs will require a discussion between the attending radiologist and ordering provider regarding the clinical necessity for MRI. After this discussion, the MRI can be triaged and protocolled appropriately.**

**Radiology Availability at Meriter Hospital**

* Radiologists are available on site at Meriter Hospital, 24 hours a day, 7 days a week, 365 days.
* **Any after-hours MRI should be discussed with the on-call Radiologist for appropriate triaging and protocolling.**
* Radiologist contact info: Call Reading room: x7-5945 or page directly via the paging operator.

**MRI Scanner and MRI Technologist Availability at Meriter Hospital**

* Two MRI scanners (3T, 1.5T) available on-site at Meriter (3rd floor Radiology department)
* Weekdays: MRI Technologists are available in-house at Meriter from 630 AM – 10 PM, then are available on-call from 10 PM – 630 AM.
* Weekends: MRI technologists are available in-house from 7 AM – 330 PM in house, and then available on call from 330 PM – 7 AM.
* Ideally, workflow will maximize MR imaging when MR techs are in house and save on-call cases for true emergencies.
* MRI Department Contact Info: x7-6655 (available during in-house hours) or page directly via operator (on-call).

**Emergent/Urgent/Routine MRI definitions:**

* **Emergent** MRI is defined as MRI that must occur STAT. During after-hours, this will potentially necessitate calling in the on-call MRI technologist inhouse to perform the MRI.
* **Urgent** MRI is defined as MRI that must occur at nearest availability to normal MRI staffing hours. This may necessitate rescheduling of routine out-patients/in-patients who are already on the MRI schedule.
* **Routine** MRI is defined as MRI that will occur at nearest availability to normal MRI staffing hours and availability in the schedule for MRI.
* **PLEASE NOTE:** **The following list is a “best-effort” attempt to document examples of emergent, urgent, and routine MRI, but there may be additional MRI exams and/or clinical scenarios that are not included on the list which should be triaged appropriately following a discussion with the on-call radiologist.**

**Emergent MRI (STAT) Indications: Needs to occur immediately, will affect clinical treatment/outcome**

Neuroradiology

* Encephalitis
* Suspected spinal epidural abscess
	+ Relevant symptomology includes back pain and fever.
* Traumatic Spinal Cord Injury or any spinal cord compression symptomology, including:
	+ Traumatic myelopathy with acute neurological deficits (ie burst fracture or epidural hematoma, etc)
	+ Compression caused by suspected tumor or infection
	+ Any symptomology that raises the possibility of cauda equina
	+ Any clinical scenarios where emergency treatment/intervention needs to be administered following MRI.
* Dural Sinus Thrombosis with intermediate CTV results

Cardiovascular

* None. Consider other modalities.

Abdominal Radiology

* MRCP for ascending cholangitis ONLY (only if emergent ERCP is planned). Please see ‘Urgent’ for other MRCP indications.

Musculoskeletal

* See spinal indications above.
* Otherwise, none. Consider other modalities.

**Urgent MRI (URGENT): To occur as soon normal MRI staffing hours resume (Weekdays: 630AM-11PM, Weekends 7AM-330PM)**

Neuroradiology

* Stroke
	+ For patients:
		- Where intravenous and/or endovascular treatment has been excluded with CTA Head and Neck with/without contrast and CT Perfusion (CTA HN+/- CTP).
		- Where MRI results will not change management or patient disposition.
		- Who are already admitted and receiving conservative management for stroke therapy.
	+ If the patient is pregnant, then CT stroke protocol should be followed.
* Carotid dissection or occlusion with MR dissection protocol (Consider CTA)

Cardiovascular Radiology

* Pulmonary MRA with Gadolinium (MRI contrast agent) for patients who cannot receive CTA (ex. iodine-based contrast allergy or diminished renal function).
* Pulmonary MRA for Pregnant Patients or any other patients specifically needing ferumoxtyol (iron-based MRI) contrast agent (ex. gadolinium contrast allergy)
* Lower extremity MRA for occlusion/claudication (recommend CTA)
* MRV to evaluate for venous thrombosis
* Cardiac MRI

Abdominal Radiology

* Acute appendicitis in pregnant patient (in potentially emergent scenarios, will require discussion between ordering provider and Radiologist)
* MRCP to evaluate for biliary obstruction/choledocholithiasis
* Appendicitis in non-pregnant patient/pediatric patient
* MRI to evaluate for renal obstruction/stone in a pregnant patient

Musculoskeletal Radiology

* Occult Hip Fracture (not detected on plain film or CT); ideally done as soon as possible
* Osteomyelitis (potential surgical intervention will determine whether or not case is expedited)

*For any general questions regarding this document, please contact Venkata (Vinny) Meduri at* *vmeduri@uwhealth.org**. Emergent questions regarding MRI should be directed to the in-house radiologist at Meriter Hospital.*

**References**

 “Indications for Emergency On-Call MR Imaging Studies. <https://radiology.duke.edu/wp-content/uploads/2012/11/Indications-for-Emergency-On-Call-MR-Imaging-STudies.pdf>

“Magnetic Resonance Imaging Utilization in an Emergency Department Observation Unit.” Sanchez-Brian, Y et al. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5576612/>

“The Utility of MRI in the Emergency Department.” A. Long, http://www.emdocs.net/utility-mri-emergency-department/, April 21, 2017.