



Memorandum: **Moderate Conscious Sedation for MRI**

To: Section Chiefs, Department of Radiology, University of Wisconsin-Madison

From: Scott Reeder, MD, PhD; Michael Tuite, MD

Sedation is an important procedure performed as part of many MRI exams in the Department of Radiology. The purpose of this memorandum is to outline the Department's procedure for moderate conscious sedation for patients undergoing MRI.

Sedation can take several forms, including:

1. **Minimal sedation or anxiolysis** through the use of oral anxiolytic agents, is typically prescribed by the patient's referring physician, and taken prior to the MRI exam, to reduce anxiety. Although cognitive function and coordination may be impaired, ventilatory and cardiovascular functions are unaffected, no special monitoring beyond what is normally performed for all patients undergoing MRI is needed. Those patients with a history of sleep apnea and taking opiates, may require additional monitoring use pulse oximetry if they also take oral anxiolytics prior to their MRI exam (please see https://www.radiology.wisc.edu/fileShelf/forReferring/MRI_UseOfPulseOximeters.pdf).
2. **Moderate conscious sedation (also known as "conscious sedation")** is appropriate for those patients undergoing MRI who require a level of sedation beyond minimal sedation. Moderate conscious sedation is defined as a pharmacologically induced, minimally depressed level of consciousness, to level 3-4 on the Ramsay Sedation Scale. Importantly, moderate conscious sedation requires supervision by a physician who is trained and credentialed in the use of moderate conscious sedation. Moderate conscious sedation falls within the scope of radiology practice.
3. **Deep conscious sedation and general anesthesia** are performed by anesthesiologists or other physicians specifically trained to perform these procedures. These procedures are beyond the scope of radiology practice and this memorandum.

The following procedures for moderate conscious sedation should be followed for those sections interpreting MRI studies:

1. Moderate conscious sedation is only performed at the Clinical Sciences Center (CSC) and the American Family Children's Hospital (AFCH), but not at Research Park (RP). Moderate conscious sedation is available only during regular weekday working hours, although exceptions can be made depending on staffing availability, and at the attending radiologist's discretion.
2. Each Clinical Section is responsible for ensuring that staff (faculty or non-ACGME fellow) who are trained and credentialed in moderate conscious sedation are available to supervise this procedure.
3. A member of the MRI nursing staff is required to monitor the patient during entire procedure and cannot be interrupted or distracted by other duties.
4. The same MRI nurse will also perform all pre-procedure documentation and history. The MRI nurse must notify the attending physician prior to the procedure of the pending sedation procedure.
5. A radiologist must verify the nursing history and directly assess the patient, including a targeted physical exam. The radiologist should also participate in the required time out. Please note that it is not necessary for the supervising attending to perform the pre-procedure assessment and time-out, both of which can be performed by a resident or fellow. Further, it is not necessary for a radiologist to be present during the sedation procedure. However, the attending radiologist must be available and able to respond rapidly, including coming to the MRI suite to assess the patient, should an unforeseen



complication arise. It is not appropriate for the attending radiologist to supervise moderate conscious sedation from an off-site location.

6. Conscious sedation for MRI is performed almost exclusively using IV midazolam (typically ~0.1mcg/kg), but can be supplemented with IV fentanyl at the supervising attending's discretion.
7. The attending physician must be available to sign the Radiology Sedation Nursing Flow sheet (UW form #4000073), which must be signed in two locations: i) bottom of page one (attestation regarding physical exam), and ii) at the bottom of page 2 (medication orders and intra-procedure monitoring).
8. All orders for patient monitoring and IV medication are contained on the Radiology Sedation Nursing Flow sheet. Currently, there is no need for radiologists to enter orders on Healthlink to perform MRI with moderate conscious sedation. Please note that order sets are currently being considered and may be required in the future.
9. Please document in the technique section of your report that moderate conscious sedation was performed as part of the MRI examination. The following verbiage is suggested and is appropriate documentation for moderate conscious sedation. The quantity of drug administered to the patient will be found on Healthlink, under the Notes section of Chart Review (note type = Procedures). This note will identify the total dose of drug administered during the procedure and the duration of the sedation procedure. For your convenience, this template is available under the global powerscribe templates as "MRI Conscious Sedation":

"After evaluation of the patient, Moderate Conscious Sedation was induced to level 3-4 using a total of <_> mg midazolam that was administered by the trained independent observer nurse for <_> minutes during the MRI examination, under the supervision of the performing physician."

Thank you for your assistance in making moderate conscious sedation with MRI as safe and straightforward as possible. Please direct any questions to Scott Reeder (sreeder@uwhealth.org, pager 6713) or Mike Tuite (mtuite@uwhealth.org, pager 4167)