MRAD 202 – Patient Care 2

Scheduling and Sequence of Diagnostic Imaging Exams

Scheduling the SAME patient for multiple diagnostic exams in one day:

Benefits include:

1. Decreasing the length of time the patient stays in the hospital waiting for tests to be performed equals a reduction in cost to the system and allows the hospital bed to be used by someone else.
2. Patient exam preparation is often similar for most Diagnostic Imaging (DI) tests so the **patient only has to be prepped once** compared to multiple times over several days. This is especially important for geriatric and pediatric patients. *Exam preps can affect the patient's overall health and can lead to dehydration due to fasting or cleansing enemas.*

Disadvantages include:

1. **Increased potential of miscommunication** occurring (human error), especially from the sequence perspective.
2. **Can be difficult to coordinate the exam times with the porters/units** . (E.g., patient is finished in CT but now is to be taken over to NM instead of being brought back to their unit/ward.)
3. **Variation in nurses'/unit clerks' knowledge and understanding** of the numerous DI exams.

Consequences if SEQUENCE of DI exams is incorrectly ordered:

1. Residue barium from gastrointestinal exams can cause complications/misinterpretations in urinary track exams.

2. Residue barium can also cause **artifacts** in U/S and CT exams. A CT exam can be very involved and if the sequence of exams is overlooked, there can be a **waste in time and effort and an unnecessary dose of radiation delivered.** Because CT is a significant dose, the exam is only performed if the benefits outweigh the risks.

3. Incorrect diagnosis of the scan itself, especially with certain types of NM exam. (E.g., if a patient receives on iodinated contrast agent PRIOR to a thyroid NM exam, then the patient MUST wait another 3 weeks to have the NM exam repeated because the iodine will skewer the results.)

4. Each institution has a procedure manual and standing orders to assist staff ordering the DI exams; however, inexperienced staff that doesn't understand the significance of the exam prep may not follow prep orders correctly. This lack of compliance can result in a "suboptimal" exam and even a misdiagnosis. (E.g., a patient who is unable to drink the oral contrast for a CT scan of the abdomen may require an NG tube insertion in order to visualize the bowels properly. This takes coordination with the patient's physician and the nursing staff.)

Reference for Scheduling Sequence of Exams:

- All radiographic examinations NOT requiring contrast media should be scheduled first
- Ultrasound examinations
- Nuclear scans of the liver or spleen
- Thyroid scans before iodinated contrast exams
- Iodinated contrast exams before barium exams
- Lower GI series (barium enema)
- Upper GI series (UGI or OS&D)
- Studies requiring the patient to be NPO should be scheduled early in the morning.

Note: See Ehrlich, R. A., & Coakes, D. M. (2016). *Patient care in radiography: With an introduction to medical imaging* (9th ed., p. 305). St. Louis, MO: Mosby Elsevier.

Which Patient Gets Scanned First?

Numerous patients are booked for the same exam at the same time. (E.g., there are four OS&Ds at 8:00 a.m. on the fluoro day sheet.)

Factors to consider when deciding who goes first:

1. Those who have been fasting. (Especially diabetic patients.)
2. ER patients
3. Pediatric and geriatric patients

As a technologist, when organizing your room here are some other things to consider:

- Mobility of patient. (I.e., are they ambulatory or a three-person transfer?)
- Ability to follow instructions. (E.g., English as a second language, or patient may have impaired hearing.)
- Is the patient accompanied by another health care professional? (E.g., a nurse from the ward.) With the exception of ICU, nurses in general have 4–6 patients to care for, so must have other nurses cover their patients while in the DI department. Please be considerate of this.