Portable Extremity Radiographs

Background:

- On occasion, patients cannot be evaluated in the Radiology Suite (ED or Main) for evaluation of extremity trauma.
- For these patients, portable extremity radiography is sometimes necessary to complete the tertiary survey.
- Portable extremity radiographs are often of poor or non-diagnostic quality owing to the non-standardized projections and technique used on the floor (generator strength, lack of auto exposure, grid cutoff). Additionally, radiology technologists are required to spend extended time on the hospital floor (staffing issue). Radiology technologists are therefore encouraged to minimize the amount of portable extremity radiography.
- This prop osal aims to clarify indications and scope of portable extremity radiography for trauma in order to allow timely diagnosis of fractures (index case as per HMC MQIC report Jan 2017).

Issues:

1. Indications: portable extremity radiographs should be ordered very sparingly and only if the patient is unable to travel to radiology for a prolonged time.
2. Communication: When standard extremity radiographs are ordered in a patient, who is unable to travel for a prolonged period of time, new orders should be placed for portable screening exams to compete the tertiary survey (avoid missing fractures).
3. Scope: portable extremity radiographs will always be limited screening exams (1 or 2 views) and do not replace diagnostic full series for operative planning.

Proposed solutions:

1. Portable exams on the floor will be considered if the patient is unable to travel to radiology for more than 72 hrs after admission to ED (3 days) or if direct communication between provider teams has occurred (resident to resident).
2. Diagnostic orders should not be changed to portable; instead, new orders should be placed. For ICU patients, ICU team will place new portable requisitions based on consultant recommendation (ortho). For communication, a comment in the order would be helpful that the purpose of these radiographs is for completion of the tertiary survey. This assumes that the diagnostic images (Radiology Main) will be performed when the patient is able to travel to Radiology unless the ordering team cancels the diagnostic imaging series in Radiology.
3. If standard extremity radiograph orders (Main) remain uncompleted for more than 3 days, technologists will directly communicate with the orthopedic service (ARNP, PA,

or MD). "Hi Dr. X. We found that your patient Y has not been able to travel to radiology for the last 3 days. Do you need a tertiary survey? If yes, please place new orders for portables of tertiary survey." This conversation will be documented in RIS comments by tech. If technologists have questions, they are encouraged to clarify with the radiologist on service (ED or MSK).

4. The Radiology Technologist will directly communicate with the Orthopedic Provider. It is the responsibility of the Ortho Team to coordinate with ICU team regarding placement of new portable xray requisitions.
5. Portable exams will be overview screening exams only (1 or 2 views, no obliques or special views). Longbones will be exposed as overviews (e.g. whole femur on one plate) and dedicated joint radiographs will not be obtained (e.g. "femur screening" instead of "hip", "femur", "knee").

Implementation:

- Radiology technologists: Gayden to brief Main, ED
- Radiologists: Linnau to brief Emergency Radiology and MSK radiology, Radiology Residents
- Ortho: Kleweno and Beingessner to brief Ortho Teams and residents.
- Distributed to Dr McIntire (MQIC) on 5/17/17
- Presented at Critical Care Council on 6/1/2017

Stakeholders:

- Orthopedics: Conor Kleweno, Daphne Beingessner
- Radiology: Jamie Gayden, Ken Linnau