MEMO

TO: YNHHS RADIOLOGY STAFF

SUBJECT: Patient’s Own Medication Delivery Devices for Self Administration

DATE: FEBRUARY 16, 2018

Situation:
Practitioners have inquired about clarification on the workflow for Radiology staff regarding patient’s own medication delivery devices for self administration during diagnostic radiology procedures.

Recommendation:
The Food and Drug Administration recommends the following guidance:

**Insulin pumps during CT Scans**
The presence of an insulin pump should not preclude the performance of an appropriate, medically indicated Computed Tomography (CT) scan.

- The probability that CT irradiation causes a device malfunction and an adverse event is extremely low. Only a small number of reports of adverse events during CT imaging of insulin pumps have been reported. However, there is little evidence that CT irradiation was the direct cause of these events.

Given the minimal risk, CT is safer for patients with devices of unknown magnetic resonance imaging (MRI) safety status. However, MRI may still be an option if an MR Conditional device matches conditions of the MR environment for safe use.

Recommendations for Physicians ordering CT scan:
- If the CT scan will cover the area over the insulin pump, discuss with the patient if the pump can be safely moved, attached to a different location, turned off and for how long, or if alternative diabetes management is required.

Recommendations for Radiologists and Radiologic Technologists:
- If the pump is tethered to a cannula and can be safely moved, work with the patient to move it to avoid direct exposure to the primary x-ray beam
- If the pump cannot be safely moved, ask the patient if it can be safely turned off during the CT scan and for how long.
  - Set a timer and remind the patient to turn their pump back on afterwards and to check it for proper function.
• If you cannot determine that the pump can be safely moved or turned off, use CT radiographs while setting up the CT scan to identify the pump location relative to the programmed scan range.
  o If possible, avoid including the insulin pump inside the scanning range. Confirm the required anatomic range with the supervising radiologist.
  o For CT procedures where the medical device is located within the programmed scan range and cannot be safely moved or turned off, minimize direct x-ray exposure to the electronics of the infusion pump by using the lowest dose consistent with the needed level of diagnostic image quality and a lower dose delivery rate.

• Imaging exams that would involve scanning directly over the electronics of the device for more than several seconds (i.e. CT perfusion exams or interventional procedures such as CT fluoroscopy), require additional care and should not be performed unless the device can be safely relocated or turned off. If moving or turning the insulin pump off is not possible and the scan is urgently needed, careful monitoring of the device during and after the procedure is required.

Reference: