



Dose Optimization for Stone Evaluation Practice Quality Improvement

Topic

Patients with suspected kidney stones can be successfully evaluated with low radiation dose CT protocols; however, literature indicates these CT protocols are underutilized.

Define a Measure to be Obtained

Median DLP for kidney stone CT exams.

Establish a Desired Measurement Target/Goal

Our goal is to reduce non-contrast kidney stone CT's median DLP to below our current facility median. Specifically, our goal is to reduce the facility's median kidney stone CT exam DLP by XX% of our current median.

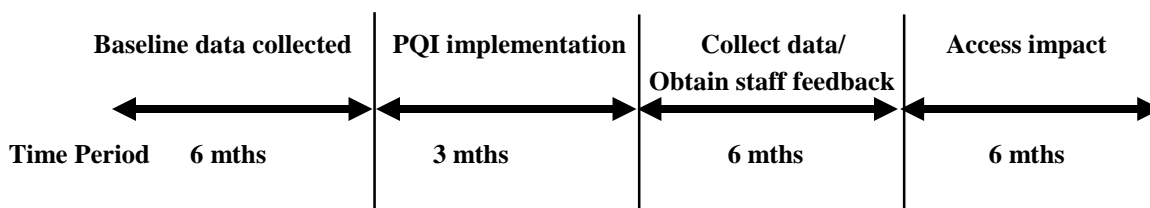
Please note: As the ability to implement low dose exams is limited on factors specific to the facility, radiologists, scanner technology available, and patient to be scanned (body habitus, presence of baseline scan, etc.), facilities should strive for a reduction percentage reasonably achievable.

Baseline Measurement Summary

1. Determine baseline median DLP of kidney stone CT exams _____ mGy*cm
2. Number of kidney stone CT exams collected? _____
3. Improvement DLP goal:

$$\text{Facility median DLP} \times (\% \text{ reduction}) = \text{Improvement DLP goal}$$

Timeline



Improvement Plan Implementation

- Identify/review/edit any existing kidney stone protocols for dose optimization. Review and implement DOSE recommended protocols as provided.
- Radiologist, technicians, and medical staff ordering CTs will complete RadIQ's Kidney Stone Modules, <http://www.radiq.org/>.
 - Optimizing Scan Protocol and Radiation Dose in Kidney Stone CT module focuses on different scan parameters affect radiation dose as well as how/when to use for kidney stone evaluation.
 - Interpretation of Low Dose Kidney Stone CT module is designed to familiarize the user with CT low dose images as well as images utilizing iterative reconstruction algorithms.
- Improve labeling for kidney stone CT by clinical indication as well as study descriptors labeled in DIR database and matched to correct RPID.
- Communicate to staff changes are being made to CT protocols to ensure proper ordering is done.
- Consider implementation of follow up kidney stone CT protocol for repeat evaluations.
- Determine appropriate time period for DLP reassessment (typically 6 months). Schedule a meeting mid-cycle to assess current status of changes, address challenges, and modify per facility feedback.

Mid-Cycle Assessment

1. Have all protocols been modified? Request feedback from staff on protocol changes, image quality, staff ordering issues, etc.
2. Have CT exams been properly labeled?
3. If follow up CT exam was established, is this being ordered properly?
4. What is the completion percentage of RadIQ by staff?

Post-Improvement Plan

1. Determine follow up median DLP of kidney stone CT exam _____ mGy*cm
2. Number of kidney stone CT exams collected? _____
3. Has reduction goal been successfully met?
4. Have all steps of the improvement plan have been successfully implemented? Identify barriers that exist.