The slide features a vertical decorative bar on the left with three colored sections: teal at the top, maroon in the middle, and dark blue at the bottom. The Montefiore logo is positioned in the upper right, with the text 'THE UNIVERSITY HOSPITAL FOR ALBERT EINSTEIN COLLEGE OF MEDICINE' below it. The main title is centered in a large, bold, dark blue font. The speaker information is at the bottom in a smaller, italicized blue font.

Montefiore
THE UNIVERSITY HOSPITAL FOR
ALBERT EINSTEIN COLLEGE OF MEDICINE

Quality Improvement Report:

**Change Management Strategies Used
to Overcome Image Quality Concerns
While Implementing a CT Dose
Reduction Project**

RSNA National Meeting , Thu Nov 29 2018 12:15PM - 12:45PM ROOM QR Community, Learning Center

A J Erdfarb, MD; J Burns, MD; A H Schoenfeld, MS; T S Miller, MD; T L Levin, MD

Project: CT Scan Dose Reduction

Problem Statement:

- Q1 2016, Montefiore orbital CT scan technique resulted in CTDIvol values greater than national 75th percentile as reported on the ACR Dose Index Registry.

SMART Aim Statement

- Reduce CTDIvol from Orbital CT imaging to at or below the national median by Jan 2017.

Project: CT Scan Dose Reduction

Measures:

- Outcome Measure
 - CTDIvol per scan: Marker of radiation dose from each CT scan
- Process Measure
 - Technologist use of correct CT protocol and machine dose setting for each clinical Indication
- Balance Measure
 - Diagnostic Quality Assessment: Team review of case samples for each cycle to ensure diagnostic quality is not being compromised.
- Change Concepts (the easy part for this project)
 - Human Factors Engineering
 - Force Function and IT
- Program Lower Dose in CT Console



3

Change Management Strategy

How do some radiologists react when you tell them that you want to lower the CT dose?

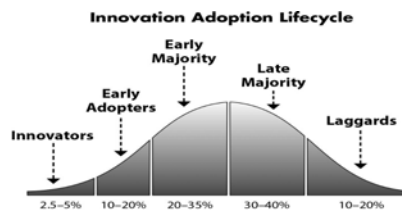


John Kotter

“Lowering doses will reduce our clinical quality!”

We encountered resistance to our proposed change.

Fortunately, we had a few enthusiastic innovators on our Neuroradiology team



Model developed by Everett M. Rogers

4

Change Management: CT Dose Reduction

1. Discuss with Innovator – ID low dose proxy exam

There were exams that were similar to the orbital CT, that used much lower doses – Facial Bone CT. Over time, a few patients had both exam types. We were able to search for them and display exams side-by-side. We demonstrated that lower dose exams did not prevent diagnosis. Keep in mind, although dose was lower than local standard, we were aiming for the national benchmark. We assumed that benchmark level was not too low for accurate diagnosis.

Smith AB, Dillon WP, Gould R, Wintermark M. Radiation Dose-Reduction Strategies for Neuroradiology CT Protocols. *AJNR Am J Neuroradiol*. 2007;28(9):1628-1632. doi:10.3174/ajnr.A0814.

5

Change Management: CT Dose Reduction

2. Get Buy-in from the team (10 Faculty)

- a. Show comparison (Use Data!)
- b. Small incremental change – “We can always go back.....”

We had our innovator group show the comparison to the division head, who understood and agreed with our plan – Leadership Buy-in is key.

We emphasized that we would make the change in small increments (10% dose change increments).

6

Change Management: CT Dose Reduction

3. Review Clinical Quality

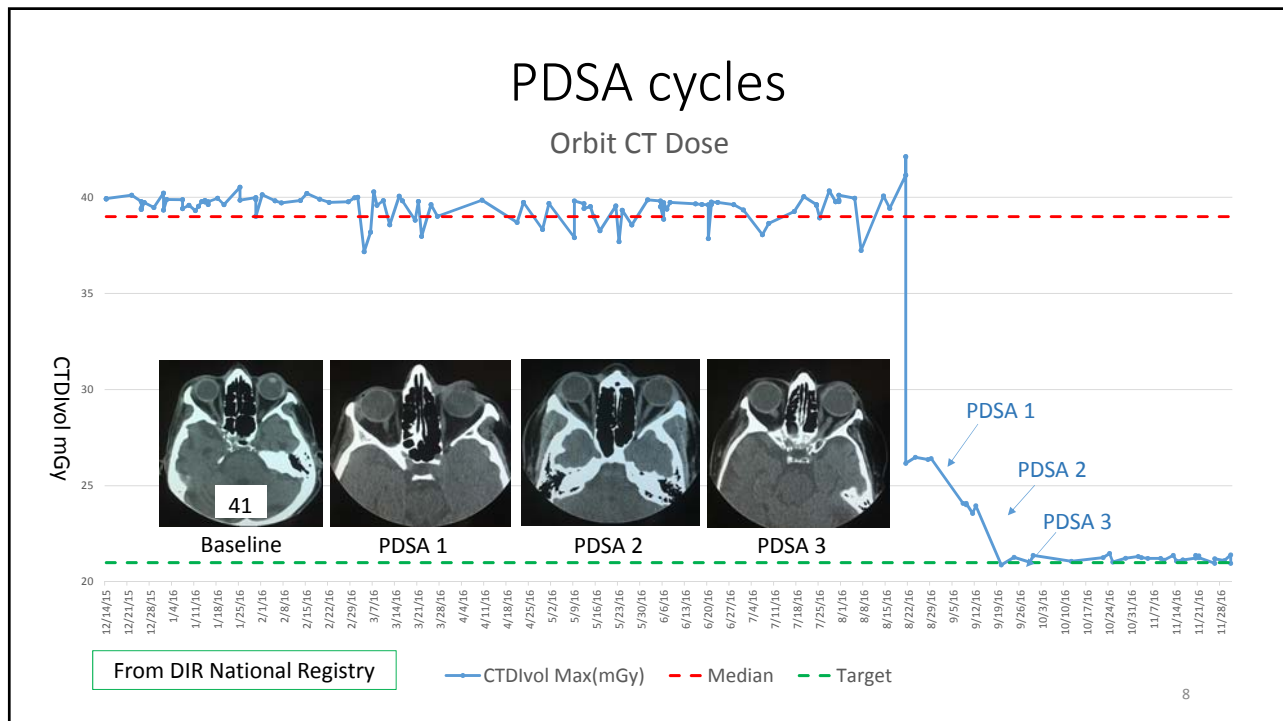
We implemented a clinical quality review panel that could roll back changes if they determined quality to be insufficient. Protocol adherence was verified. Images were assessed for objective markers – orbital fat visualization, bone integrity, lens visualization etc...

Elected neuroradiology exam quality review panel. Ad hoc team created for the project. (Includes resisters.)

Each was voted on a pass/fail basis. If passed, would continue dose reduction in next PDSA cycle.

Date	Number Reviewed	Clinical Quality Pass %	Correct Protocol on Machine %
8/30/2016	5	100%	100%
9/15/2016	5	100%	100%
10/15/2016	10	100%	100%

7



Change Management: CT Dose Reduction

4. Celebrate Success

Sow seeds for next group.

Team's work was celebrated at monthly departmental quality conference. Issue of future areas to be addressed was presented to the department.

9

In Conclusion.....

• Change Management Lessons Learned

- Leverage Innovators
- Bring On Opinion Leaders
- Change in Small Increments
 - Involve resistors in the process
- Use Data For Laggards

10