

High Patient Call-back Rates in Diagnostic Ultrasound



Meghna Chadha, MD, MBBS

Nicholas A. Lewis, MD

Osama Ali, MD

Pinky Sharma, MD

Chaitanya Ahuja, MD



School of Medicine

Wayne State University-Detroit Medical Center

Department of Radiology



Introduction



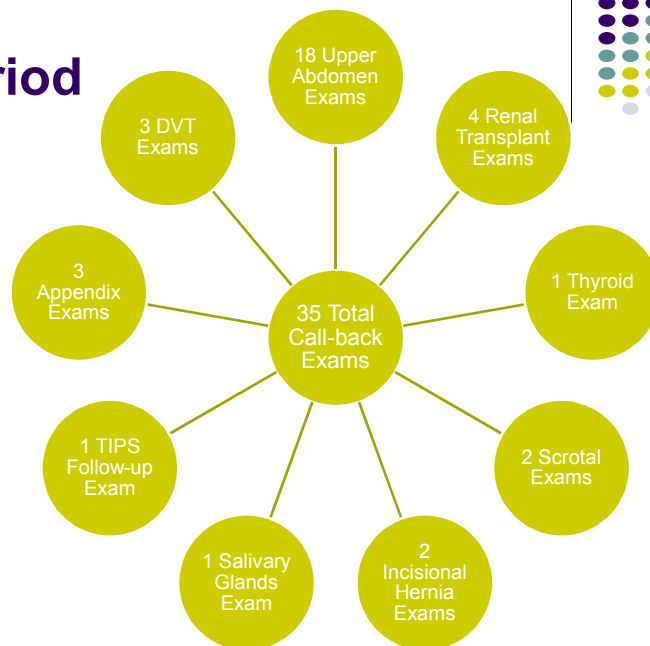
- We identified a problem in the ultrasound department of our busy inner-city hospital with an excess number of exams that required patients to be called back and rescanned
- To analyze the cause of this problem, Dr. Chadha was appointed as the quality officer of the ultrasound department

Methods



- “Call-back” was defined as reexamination of a patient after he/she had left the department due to an incomplete or inadequate initial ultrasound exam
- The number of call-back ultrasound exams was tracked at Detroit Receiving Hospital over a 6 month period (03/1/2011 – 08/30/2012)
- All ultrasound exams performed during this period were included in our calculation of call-back, including inpatient, outpatient, and emergency department patients
- A log book of all call-back exams was maintained by the sonographers in the department

Pre-Intervention: Initial 6-month period



Analyzing the Problem



- Several meetings with the lead sonographer, ultrasound manager, and all ultrasound technologists were held to identify root causes of the high call-back rate
- Five root causes were identified, as follows...

Root Causes of the High Call-Back Rate



1. Not all sonographers were comfortable or familiar with some infrequently performed exams, such as TIPS follow-up, Renal Transplant follow-up, and Appendix
2. Variability in documentation of sonographer's findings, due to lack of a standard worksheet
3. Variability of staff radiologist expectations
4. No inpatient staff radiologist available after hours for questions
5. No reference material was available to sonographers

Intervention: Lectures



- A curriculum of weekly lectures was developed for the sonographers, and presented by staff radiologists over a 6 month period
- Departmental protocols for each type of exam were revised and reinforced through the lecture series

Intervention: Lectures



- The following topics were covered in detail through the lecture series
 - First trimester imaging
 - Ultrasound evaluation of the transplant kidney
 - Ultrasound evaluation of TIPS
 - Ultrasound of the thyroid gland
 - Ultrasound for acute testicular pain
 - Ultrasound of hepatic vasculature
 - Ultrasound evaluation of focal hepatic masses
 - Ultrasound for hepatic trauma
 - Ultrasound of incisional hernia
 - Ultrasound of the pancreas
 - Ultrasound for suspected appendicitis
 - Ultrasound of the spleen

Intervention: Staff Review



- A policy was instituted requiring staff radiologists covering the Emergency Department in the evening shift (3pm – 11pm) and overnight shift (4pm – 7am) to review ultrasound exams with the sonographer for quality assessment and completeness
- All exams were reviewed by telephone with a staff radiologist prior to releasing the patient from the ultrasound department

Intervention: Quality Assurance



- A monthly quality assurance meeting was set up, hosted by one of the staff radiologists and the lead sonographer, providing individual feedback and critique for each sonographer
- Difficult cases were discussed as a group

Intervention: Worksheet Standardization



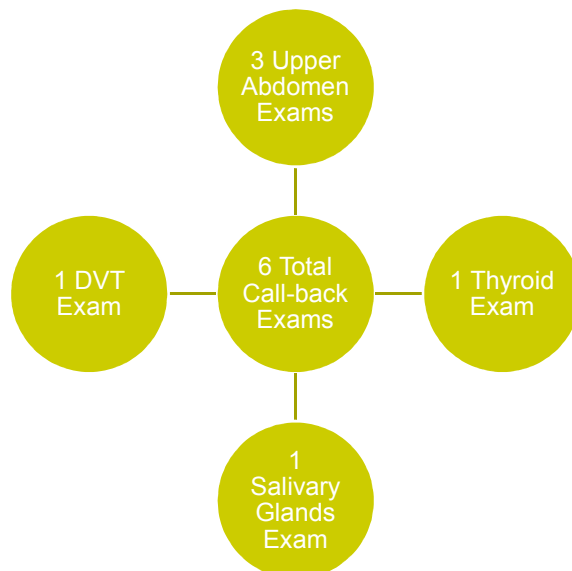
- A standardized worksheet was devised for each type of ultrasound exam, with specific fields, in an effort to reduce inter-sonographer variability in documentation of findings
- Prior to this implementation, there were only a few specific worksheets and one general worksheet with free form text boxes rather than specific fields

Intervention: Reference Materials



- A reference guide published by the American Institute of Ultrasound in Medicine (AIUM) was made available to all sonographers in the department, with specific descriptions of how to perform each different type of exam

Post-intervention: 6-month follow-up period



Results



- The total number of ultrasound exams performed in the initial 6 month period (March 2012 – August 2012) was 6,384
 - Initial Call-back Rate: $35/6,384 = 0.50\%$
- The total number of exams was performed during the post-intervention 6 month follow-up period was comparable, at 6,492
 - Post-Intervention Call-back Rate: $6/6,492 = 0.09\%$

Conclusion



- We demonstrated measurable quality improvement in our ultrasound department, as evidenced by a reduction in the rate of call-back exams from 0.50% to 0.09% in the 6 month period following our multi-faceted intervention
- This verified our hypothesis that the call-back rate of diagnostic ultrasound exams could be positively impacted through a multi-faceted systematic approach without negatively impacting patient throughput in our busy ultrasound department