CLINICAL AUDIT OF PRE-PROCEDURE DOCUMENTATION FOR IMAGE-GUIDED PROCEDURES:

Implementation of a new tool for improving efficiency and patient safety

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**INTRODUCTION**

- American College of Radiology and Society of Interventional Radiologists published practice guidelines in 2009

  - Detailed recommendation for pre-procedure documentation in regard to image-guided procedures (e.g. biopsy, paracentesis, abscess drainage) by radiologists

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**CLINICAL AUDIT**

1. Select audit topic and Identify standards
2. Collect data on current practice
3. Compare to standards
4. Plan necessary change
5. Implement change
6. Re-audit
ACR/SIR PRACTICE GUIDELINES

• The plan for each procedure to be performed
• Indication for procedure and brief history
• Findings of targeted physical examination
• Relevant laboratory and other diagnostic findings
• Risk stratification, such as the American Society of Anesthesiologists Physical Status Classification
• Documentation of informed consent

RESULTS OF 1ST AUDIT

• Audit of pre-procedure documentation of 29 ultrasound-guided procedures performed within the Department of Radiology during a 4-week period in August 2013
  ➢ Poor quality of documentation, with overall adherence rate to the ACR/SIR guidelines of 8%

8/16/13 9:00 am

The patient is admitted to MedEase for ultrasound-guided liver biopsy for evaluation of a liver mass. PLT 298, INR 1.03 on 8/14/13. Patient not on any anti-coag medications. Informed consent obtained.

Resident Name and signature
REASONS FOR POOR RESULTS

• Residents could not afford to spend much time on pre-procedure documentation during a busy ultrasound rotation

• Residents were not fully aware of ACR/SIR guidelines

OBJECTIVES

• To improve the quality of pre-procedure documentation by two means

  1. By improving the efficiency of the work flow for residents

  2. By creating a proforma (in which most clinical information is auto-fed) within the EPIC (our electronic medical record system) for the pre-procedure documentation that collects all necessary items listed in the guidelines
METHODS

Topic: Pre-procedure documentation
Standard: ACR/SIR practice guidelines

Initial audit: August 2013
Data analysis: November 2013

Re-audit and data analysis:
March 2014

Use of the proforma in practice

Creation of an EPIC proforma

• Using 10 randomly selected procedures as ‘simulated requests’, we measured time taken to complete pre-procedure documentation, without and with the use of proforma:
  ➢ Three radiology residents performed ‘simulated clinical information collection’ and ‘simulated pre-procedure documentation’, both without and with using the new proforma
  ➢ Inter-observer variability assessment
    ➢ To prevent residents entering information by memory, the first session (without proforma) and the second session (with proforma) were held with 4 weeks time interval
METHODS

• One resident repeated the whole process, with 12 weeks time interval between sessions:
  ◆ Intra-observer variability assessment

• Without proforma:
  ➢ Open the patient’s medical record in EPIC (Electronic Medical Record)
  ➢ Manually search the necessary information
  ➢ Manually fill out paper ‘pre-procedure checklist’
  ➢ Discuss the action with the attending
  ➢ Type pre-procedure notes in free form in EPIC
• **With proforma:**
  - Open the patient’s medical record in EPIC

  [Image of patient's medical record in EPIC]

  **METHODS**

  • **Re-audit:**
    - Pre-procedure documentation of 33 ultrasound-guided procedures in a 4-week period in March 2014
    - Pre-procedure documentation entered using the proforma
    - Re-assessment of the adherence rate to the ACR/SIR guidelines
RESULTS

- Inter-observer variability

  ![Graph showing median time taken for information collection and preprocedure documentation](image)

  - Resident 1: 69% reduction (8 min 38 sec to 2 min 40 sec)
  - Resident 2: 65% reduction (8 min 1 sec to 2 min 35 sec)
  - Resident 3: 59% reduction

  No notable difference between two measurements

RESULTS

- Intra-observer variability
  - 1st session: 69% reduction
    - (8 min 38 sec to 2 min 40 sec)
  - 2nd session: 68% reduction
    - (8 min 1 sec to 2 min 35 sec)

  No notable difference between two measurements
RESULTS OF 2ND AUDIT

ADVERSE EVENTS

- **Without proforma:**
  - Delayed discharge due to post-liver biopsy pain (1 case)
  - Delayed discharge due to continued leak of ascitic fluid post-paracentesis (1 case)

- **With proforma:**
  - Due to miscommunication among staff, one case was about to be performed without the patient signing the written informed consent
  - Thanks to the proforma, a resident realized a lack of it and prevented an incident
  - None post-procedure
DISCUSSION

• Use of the new proforma improved both efficiency of work flow and quality of preprocedure documentation

• Improvements are a result of a completion of an audit process

• EPIC has been time consuming for physicians due to extensive need for documentation, but this type of tool might streamline workflow, leaving more time for bedside patient care

DISCUSSION

• Adverse events that occurred before the use of proforma could not have been prevented even if the proforma was available

• The proforma did prevent one potential incident
CONCLUSION

• Effective use of EPIC smartphrase can significantly improve the efficiency of workflow and quality of documentation of medical record in line with the available guidelines

• Patient safety may or may not be improved
  o *Due to very low rate of adverse events, a larger sample is needed for further evaluation regarding patient safety*

REFERENCES

• ACR–SIR practice guideline for the reporting and archiving of interventional radiology procedures (revised 2009)
  ➢ Available at http://www.acr.org/guidelines