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USE OF NEW PROFORMA FOR PRE-PROCEDURE DOCUMENTATION FOR ULTRASOUND AND FLUOROSCOPY GUIDED MUSCULOSKELETAL RADIOLOGY INTERVENTIONAL PROCEDURES IMPROVES ADHERENCE TO ACR/SIR PRACTICE GUIDELINES

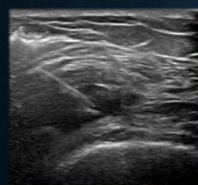
A QUALITY IMPROVEMENT PROJECT BASED ON PDSA CYCLE

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DISCLOSURES

- Elaine Gould – Consultant, Endo Pharmaceuticals Inc.
- No other author disclosures

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- Introduction - what is PDSA cycle?
- Objectives
- Methods
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- Discussion
- Conclusion

PLAN-DO-STUDY-ACT

Select audit topic and Identify standards



Collect data on current practice



Compare to standards



Plan necessary change

Re-audit



Implement change



INTRODUCTION

- American College of Radiology and Society of Interventional Radiologists published revised practice guidelines in 2014
 - Available at <http://www.acr.org/guidelines>
 - Detailed recommendation for pre-procedure documentation in regard to image-guided procedures by radiologists
 - 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

PERTINENT INFORMATION BEFORE PROCEDURE

- Name of procedure
- Procedure site
- Laterality (Right or left, if relevant)
- Requesting physician
- History and indication
- Prior imaging (Date and findings)
- Physical examination findings
- Use of anticoagulation medications
- Allergies
- Labs (Platelet counts and INR with dates)
- Informed Consent
- ASA Status
- Plan for the Procedure



Fig 1. US guided knee joint steroid injection

RESULTS OF 1ST AUDIT

- Audit of pre-procedure documentation of randomly selected 50 ultrasound or fluoroscopy-guided procedures (steroid/anesthetic injections to joints, bursae and tendon sheaths, cyst aspiration, joint aspiration, arthrogram injection) performed within the Department of Radiology **MSK Section** between October 2016 and September 2017
- Poor quality of documentation
- Mean score per case = 3/13
- Overall adherence to the ACR/SIR guidelines of 13.3%
 - More specifically, none of the cases had preprocedure documentation of history and indication, prior imaging, physical exam findings, anticoagulation medications, allergies, labs (platelet counts and INR), and ASA status.
- There was incomplete documentation of other items listed earlier.
- Reasons for poor results:
 - Lack of awareness regarding ACR/SIR guidelines
 - Lack of a tool to help document required information efficiently and systematically

PURPOSE

- To improve the quality of pre-procedure documentation and improve adherence to ACR/SIR practice guidelines for preprocedure documentation prior to US- or fluoroscopy-guided MSK procedures in the MSK section of our Radiology department

METHODS

Retrospective Chart Review
Obtained IRB Exemption

Initial audit	September 2017
Data analysis (1 st round)	September 2017
Creation of proforma	September 2017
Use of proforma in practice	October 2017 - April 2018
Re-audit and Data analysis (2 nd round)	April 2018

PROFORMA

- Created using a template as a Word Document
- Can be copied and pasted into EMR
- Does not need to be as detailed and comprehensive as that already available in IR section
- US and Fluoro-guided procedures done in MSK section is usually minimally invasive
- Need for simpler but sufficient proforma

MUSCULOSKELETAL RADIOLOGY PRE-PROCEDURE NOTE

PROCEDURE:
SITE/SIDE:

REQUESTING PHYSICIAN:
HISTORY AND INDICATION: [] years old male/female presenting with _____

PRIOR IMAGING:
Date: _____
Findings: _____

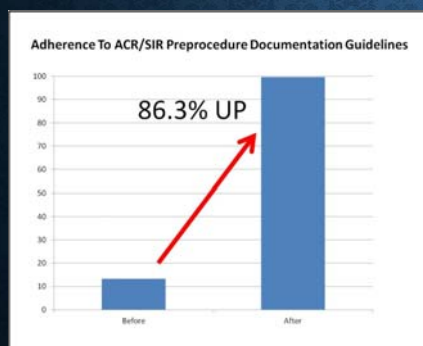
PHYSICAL EXAM FINDINGS RELEVANT TO THE PROCEDURE: _____

ANTICOAG MEDICATIONS:
>>IF YES, LAST HELD WHEN?: _____
ALLERGIES:
>>Specifically, steroid, Lidocaine, Marcaine, Omnipaque
LABS (date): _____
Platelet count _____
INR _____
High risk for bleeding? Yes/No _____

CONSENT: Consent obtained from _____
ASA STATUS:
1 - Normal healthy patient
2 - Patient with mild systemic disease
3 - Patient with severe systemic disease
4 - Patient with severe systemic disease that is a constant threat to life
5 - A moribund patient who is not expected to survive without procedure
6 - Declared brain-dead patient whose organ are being removed for donor purposes

PLAN:
[] years old male/female who agreed to proceed with
Plan discussed with Attending Radiologist Dr. _____

RESULTS OF 2ND AUDIT



- All 13 items correctly recorded in 34 of 36 cases
- 12 items were recorded in the remaining 2 cases
 - in which wrong dates of prior imaging were recorded
- Overall adherence to the ACR/SIR guidelines of 99.6%

DISCUSSION

BEFORE:

- No direct preprocedure documentation into EMR
- All information (including time out sheet and consent) was only available in RIS as scanned documents
- No documented evidence in EMR that we actually checked pertinent clinical information prior to procedure

AFTER:

- Direct preprocedure documentation into EMR
- Clearly documented evidence that we actually checked pertinent clinical information prior to procedure, easily viewable by anyone without the need for referring to RIS
- Time out sheet and consent form still available in RIS as scanned documents

CONCLUSION

- Utilizing the new proforma in EMR has significantly improved quality of preprocedure documentation.
- This improvement is a result of a completion of Plan-Do-Study-Act cycle as advocated by the American Board of Radiology.
- Improving quality of pre-procedure documentation and making it almost 100% adherent to available guidelines can improve patient safety by stratifying risks and identifying potentially preventable adverse events.