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
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- Objectives
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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

<table>
<thead>
<tr>
<th>Event</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial audit</td>
<td>September 2017</td>
</tr>
<tr>
<td>Data analysis (1st round)</td>
<td>September 2017</td>
</tr>
<tr>
<td>Creation of proforma</td>
<td>September 2017</td>
</tr>
<tr>
<td>Use of proforma in practice</td>
<td>October 2017 - April 2018</td>
</tr>
<tr>
<td>Re-audit and Data analysis (2nd round)</td>
<td>April 2018</td>
</tr>
</tbody>
</table>

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

PROFORMA: MSK/FLUOROSCOPY RADIOLGY PRE-PROCEDURE NOTE

PROCEDURE:

REQUESTING PHYSICIAN:

PATIENT'S AGE/SEX/PATIENT IDENTIFICATION:

HISTORY AND INDICATION:

PRIOR MEDICATIONS:

ALLERGIES:

PHYSICAL EXAM FINDINGS RELEVANT TO THE PROCEDURE:

ANTICONVULSANT MEDICATIONS:

HIT THE LAST MEDICATION TAKEN:

PRESPECTIVE DIAGNOSIS:

PHYSICAL EXAM:

HIGH RISK FOR MOVING? 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. A brain-dead patient whose organs are being removed for donor purposes

PLAN:

1. years old male/female who agreed to proceed with

[Signature of Patient]
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.