**Documentation of Intra-articular Local Anaesthetic Joint Injections Audit**

**Descriptor:**

This audit assesses the documentation of the type, volume and dose of local anaesthetic (LA) and steroid or other agents used for image guided intra-articular joint injections.

**Background:**

Patient safety is paramount in the care that we provide for patients. The Royal College of Radiologists (RCR) and National Patient Safety Agency (NPSA) produced a modified radiological checklist which was initially introduced by World Health Organization (WHO) to encourage and maintain safety in patient centred care [1]. Furthermore, intra-articular joint injections are frequently performed with a combination of long-acting steroids and LA agents. Some questions have been raised regarding chondrotoxicity of certain LA agents and steroids which would result in accelerated degeneration of cartilage [2-7].

## The Cycle

**The standard:**

Clear documentation on the type, volume and concentration of LA agents used for intra-articular joint injections.

**Target:**

100% of documentations include the type, volume and concentration of LA agents

Lidocaine avoided as a local anaesthetic agent for intra-articular joint injections

## Assess local practice

**Indicators:**

All patients who had LA agents intra-articular joint injections

**Data items to be collected:**

1. Clear documentation of the use of LA agent

2. Name of LA agent used

3. Volume of LA agent used

4. Concentration of LA agent used

**Suggested number:**

To be re-audited with the same time snapshot.

**Suggestions for change if target not met:**

1. WHO patient safety checklist

2. Proformas for joint injections to encourage clear documentations

3. Departmental guidelines regarding the avoidance of selected LA agents and a reduction in concentration of suitable LA for intra-articular joint injections.

4. Use of a report macro with prompts for drug, concentration and volume.

**Resources:**

1. Generate a list of patients who had joint injections from RIS

2. Data analysis within 3 hours

**References:**

1. National Patient Safety Agency, The Royal College of Radiologists. WHO Surgical Safety Checklist: for radiological interventions only. <http://www.nrls.npsa.nhs.uk/resources/?entryid45=73612> (last accessed 12/11/10)
2. Stueber T, Karsten J, Stoetzer C, Leffler A. Differential cytotoxic properties of drugs used for intra articular injection on human chondrocytes: an experimental in vitro study. Eur J Anaesthesiol 2014; 31 (11): 640-645
3. Sherman S, James C, Stoker A, Cook C, Khazai R, Flood D, Cook J. In Vivo Toxicity of Local Anesthetics and Corticosteroids on Chondrocyte and Synoviocyte Viability and Metabolism.Cartilage 2015; 6 (2): 106-112
4. Chu CR, Coyle CH, Chu CT, et al. In vivo effects of single intra-articular injection of 0.5% bupivacaine on articular cartilage. J Bone Joint Surg Am 2010;92:599–608.
5. Dragoo JL, Braun HJ, Kim HJ, et al. The in vitro chondrotoxicity of single-dose local anesthetics. Am J Sports Med 2012;40:794–9
6. Jayaram P, Kennedy DJ, Yeh P, Dragoo J. Chondrotoxic Effects of Local Anesthetics on Human Knee Articular Cartilage: A Systematic Review. PM R. 2019 Apr;11(4):379-400. doi: 10.1002/pmrj.12007. Epub 2019 Mar 15. PMID: 30676699. <https://pubmed.ncbi.nlm.nih.gov/30676699/> (Accessed 12.7.22
7. Kreuz PC, Steinwachs M, Angele P. Single-dose local anesthetics exhibit a type-, dose-, and time-dependent chondrotoxic effect on chondrocytes and cartilage: a systematic review of the current literature. Knee Surg Sports Traumatol Arthrosc. 2018 Mar;26(3):819-830. doi: 10.1007/s00167-017-4470-5. Epub 2017 Mar 13. PMID: 28289821 . <https://pubmed.ncbi.nlm.nih.gov/28289821/> (Accessed 12.7.22)

**Submitted by:**

Dr Andrew Koo, Updated 2018 (P Mehrotra) and 2022 (D Remedios)

**Co-authors:**

Dr Daniel Fascia

**Published Date:**

Wednesday 24 June 2015

**Last Reviewed:**

Saturday 23 July 2022