TECHNICAL BULLETIN

ON-Q*
PAIN RELIEF SYSTEM

WHAT WE KNOW ABOUT CHONDROLYSIS TODAY

In recent years a number of papers have been published on the subject of chondrolysis. Early papers tended to focus on thermal capsulorraphy. In a paper published in the spring of 2004, Petty et al[1] reported on three case histories and offered several possible causes of the condition. In July 2006 Gomoll et al[2] reported on a possible connection of chondrolysis to continuous intra-articular infusion of bupivacaine based on studies performed on rabbit shoulders. More recently in August of 2007, Hansen et al[3] published a paper based on a retrospective review of 177 shoulder arthroscopies of 152 patients of the senior author. Hansen described postarthroscopic glenohumeral chondrolysis (PAGCL) in 12 shoulders of 10 patients that they suggest are related to the continuous intra-articular use of bupivacaine with epinephrine. It is noteworthy that Hansen reported that 104 of the patients had bupivacaine administered extra-articularly with no incidence of PAGCL in this group. Hansen summarized other possible causes of reported chondrolysis cases that have been identified in recent years by a variety of investigators. Some of the possible causes as presented in various papers, up to and including the most recent Hansen paper, are as follows:

- Thermal capsulorraphy [4,5]
- Radiofrequency treatment[6]
- Prominent hardware[7]
- Gentian Violet[8]
- Chlorhexidine[9]
- Methylmethacrylate[10]
- Intra-articular administration of bupivacaine with epinephrine[3]
- Intra-articular administration of bupivacaine[2,11]

Because of the vasoconstrictive properties of epinephrine, in 2003 to be proactive, I-Flow* incorporated the following warning regarding the use of epinephrine in its devices:

Vasoconstrictors such as Epinephrine are not recommended for continuous infusions.

In late 2006, in light of the possible connection between the use of bupivacaine in the intra-articular space and the onset of chondrolysis as suggested by the Gomoll paper, and in an abundance of caution, I-Flow* modified the ON-Q* DFU by adding the following warning:

> ***Avoid placing the catheter in joint spaces. Although there is no definitive established causal relationship, some literature has shown a possible association between continuous intra-articular infusions (particularly with bupivacaine) and the subsequent development of chondrolysis.***

ON-Q* Pain Management Systems are indicated for intra-operative applications, among other applications. The current literature raises concerns regarding intra-articular use. The attached bibliography is for your reference. **As always, the decision on how to treat the patient and what medications to administer belongs exclusively to the physician.**

If you have any further questions regarding this information please call the I-Flow* Clinical Department at:

800-444-2728 or **949-923-2400**

See references on next page.

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References:

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8. Shibata Y, Midorikawa K, Koga T, Honjo N. Naito M. Chondrolysis of the glenohumeral joint following a color test using gentian violet. *International Orthopaedics* 2001;25:401-403.
9. van Huyssten AL, Bracey DJ. Chlorhexidine and chondrolysis in the knee. *J Bone Joint Surg* 1999;81-B:995-6.
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There are inherent risks in all medical devices. Please refer to the product labeling for **Indications, Cautions, Warnings** and **Contraindications**. Failure to follow the product labeling could directly impact patient safety. Physician is responsible for prescribing and administering medications per instructions provided by the drug manufacturer. Refer to www.iflo.com for additional product safety *Technical Bulletins*.

For more information, please call 949.923.2400 or 800.444.2728 (USA)
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