

<b>Place name of Medical Policy:</b> Shoulder Infusion Pump			
<b>Prepared by:</b>	Leela Rangaswamy M.D.	<b>Established Date:</b>	TBD
<b>Specialty:</b>	Orthopedic Surgery	<b>Reviewed Date:</b>	07/06/17
<b>Referral Number:</b>	847372		

**POLICY**

- Not recommended. There is insufficient evidence to conclude that direct infusion is as effective as or more effective than conventional pre- or postoperative pain control using oral, intramuscular or intravenous measures. Pain pump catheters that are intra-articular and use bupivacaine with epinephrine are also associated with postarthroscopic glenohumeral chondrolysis.
- Pain pumps have not been shown to be either necessary or effective. They should not be considered as a first line of treatment after shoulder surgery.

**SUPPORTING DOCUMENTATION**

ODG Shoulder (updated 05/12/17)-Online version  
 Postoperative pain pump  
 Not recommended.

Three recent moderate quality RCTs did not support the use of pain pumps. Before these studies, evidence supporting the use of ambulatory pain pumps existed primarily in the form of small case series and poorly designed, randomized, controlled studies with small populations. Much of the available evidence has involved assessing efficacy following orthopedic surgery, specifically, shoulder and knee procedures. A surgeon will insert a temporary, easily removable catheter into the shoulder joint that is connected to an automatic pump filled with anesthetic solution. This "pain pump" was intended to help considerably with postoperative discomfort, and is removed by the patient or their family 2 or 3 days after surgery. There is insufficient evidence to conclude that direct infusion is as effective as or more effective than conventional pre- or postoperative pain control using oral, intramuscular or intravenous measures. (Barber, 2002) (Quick, 2003) (Harvey, 2004) (Cigna, 2005) (Cho, 2007)  
 Recent studies: Three recent RCTs did not support the use of these pain pumps. This study neither supports nor refutes the use of infusion pumps. (Banerjee, 2008) This study concluded that infusion pumps did not significantly reduce pain levels. (Ciccone, 2008) This study found no difference between interscalene block versus continuous subacromial infusion of a local anesthetic with regard to efficacy, complication rate, or cost. (Webb, 2007)  
 Adverse reactions: A small case series (10 patients) concluded that use of intra-articular pain pump catheters eluting bupivacaine with epinephrine appear highly associated with post arthroscopic glenohumeral chondrolysis (PAGCL), and therefore intra-articular pain pump catheters should be avoided until further investigation. (Hansen, 2007) On the other hand, a retrospective study of 583 patients concluded that subacromial pain pumps used for arthroscopic shoulder procedures are safe in the short-term. (Busfield, 2008)

**REFERENCE(S)**

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