AVANOS

CONTINUOUS ADDUCTOR CANAL & PERIARTICULAR NERVE BLOCK FOR TOTAL KNEE ARTHROPLASTY MATTHEWS' PLACEMENT GUIDE™

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The information provided herein is provided for educational purposes and represents the surgical techniques used by Dr. Matthews. Catheter placement is intended for guidance only and is subject to the individual expertise, experience and school-of-thought of the surgeon placing the catheter. Always refer to the drug manufacturer's prescribing information when administering any drug with the ON-Q* Pain Relief System. This protocol is not to be construed as a specific recommendation of Avanos Medical.

SAMPLE PROTOCOL

Drugs in Pump: Local anesthetic of physician's choice.

Overview: This insertional guide describes a technique of intraoperatively placing a catheter to provide a continuous adductor canal and periarticular nerve block for treatment of post-surgical pain in patients undergoing total knee arthroplasty (TKA).

The catheter can be inserted during a standard medial parapatellar, subvastus, or midvastus approach to TKA. After the implant components have all been installed, the vastus medialis oblique (VMO) muscle is retracted at the level of the patella to expose the medial intermuscular septum (layers of deep fascia) that is anterior and intimate to the adductor tendon. Blunt digital dissection and a straight-tipped pituitary rongeur are used to advance the catheter cephalad along the medial intermuscular septum, deep to the VMO, and in-line with the femoral shaft. The catheter is positioned within the medial intermuscular septum of the thigh, separating the vastus medialis oblique (VMO) and adductor muscles that form the muscular borders of the adductor canal. When performing a cemented implant, the catheter can be placed while the cement is curing without adding additional time to the operative procedure.

(Continued on Page 2)

CAUTIONS AND WARNINGS

- Patient may experience loss of motor control or feeling at and around the surgical area. Physician should instruct patient on appropriate measures to follow to avoid patient injury.
- Medications used with this system should be administered in accordance with instructions provided by the drug manufacturer. Surgeon is responsible for prescribing drug based on each patient's clinical status (e.g., age, body weight, disease state of patient, concomitant medication(s)).
- Vasoconstrictors such as epinephrine or adrenaline are not recommended for continuous infusions.
- 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.
- Refer to ON-Q* Pump Directions for Use for full instructions on using the ON-Q* Pain Relief System.

TOTAL KNEE ARTHROPLASTY

INSERTION TECHNIQUE

1 **Surgical approach:** The catheter can be inserted during a medial parapatellar, midvastus or subvastus approach to TKA. The medial parapatellar procedure is performed by incising the VMO beginning medially just above the patella and extending down to the tibial tubercle, leaving a cuff of capsular tissue on the patella for repair at closure. For the mid-vastus approach, the VMO is split in-line with the muscle fibers at the superior pole of the patella and then incised distally to the tibial tubercle. The subvastus approach to TKA begins with an incision below the VMO muscle and extends distally to the tibial tubercle. *(See Figure A)*

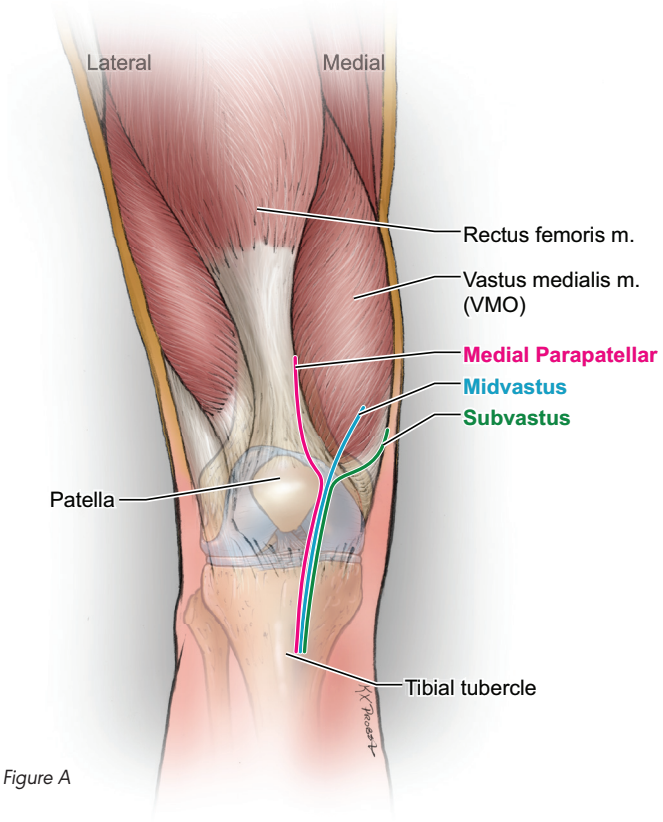

Figure A

2 **Exposure:** Identify adductor tubercle of the epicondyle of the femur. Retract the VMO with blunt retractors (Army/Navy) to expose both the anterior surface of the medial intermuscular septum and the catheter entry point. The medial intermuscular septum which serves as the floor for catheter placement, is readily visualized and lies just anterior to the adductor tendon. The adductor magnus tendon can be palpated beneath the medial intermuscular septum as it inserts onto the adductor tubercle. The catheter entry point is covered by thin layers of overlying fascia which may need to be bluntly dissected. Dissection may be made with blunt pituitary rongeur or digitally before catheter insertion. The VMO, the sartorious, and adductor muscles form the muscular borders of the adductor canal. *(See Figure B)*

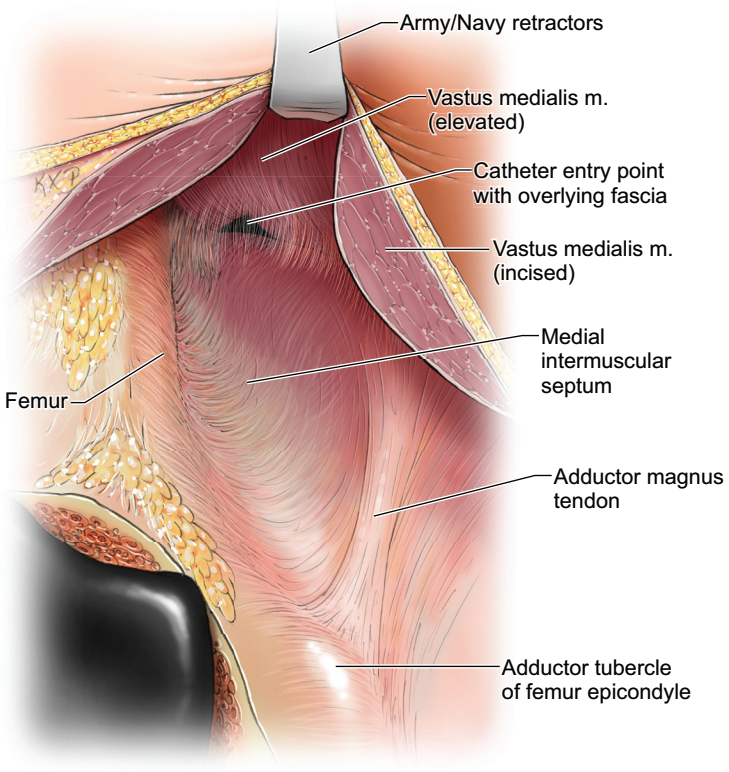

Figure B

These images are for general guidance only and not to be interpreted as precise anatomical illustration or construed as a specific recommendation of Avanos Medical.

TOTAL KNEE ARTHROPLASTY

3 **Catheter placement:** Placement of the catheter for a continuous block is performed by inserting the introducer needle and T-Peel sheath from the superior lateral aspect of the knee, just above the joint at the superior pole of the patella. The introducer needle and T-Peel sheath are passed under the rectus femoris tendon and into the surgical opening. The introducer needle is then removed leaving the T-Peel sheath in place. After flushing the ON-Q*catheter with normal saline, it is then passed through the T-Peel sheath and retrieved into the surgical opening. The T-Peel sheath is peeled away and discarded. *(See Figures B & C)*

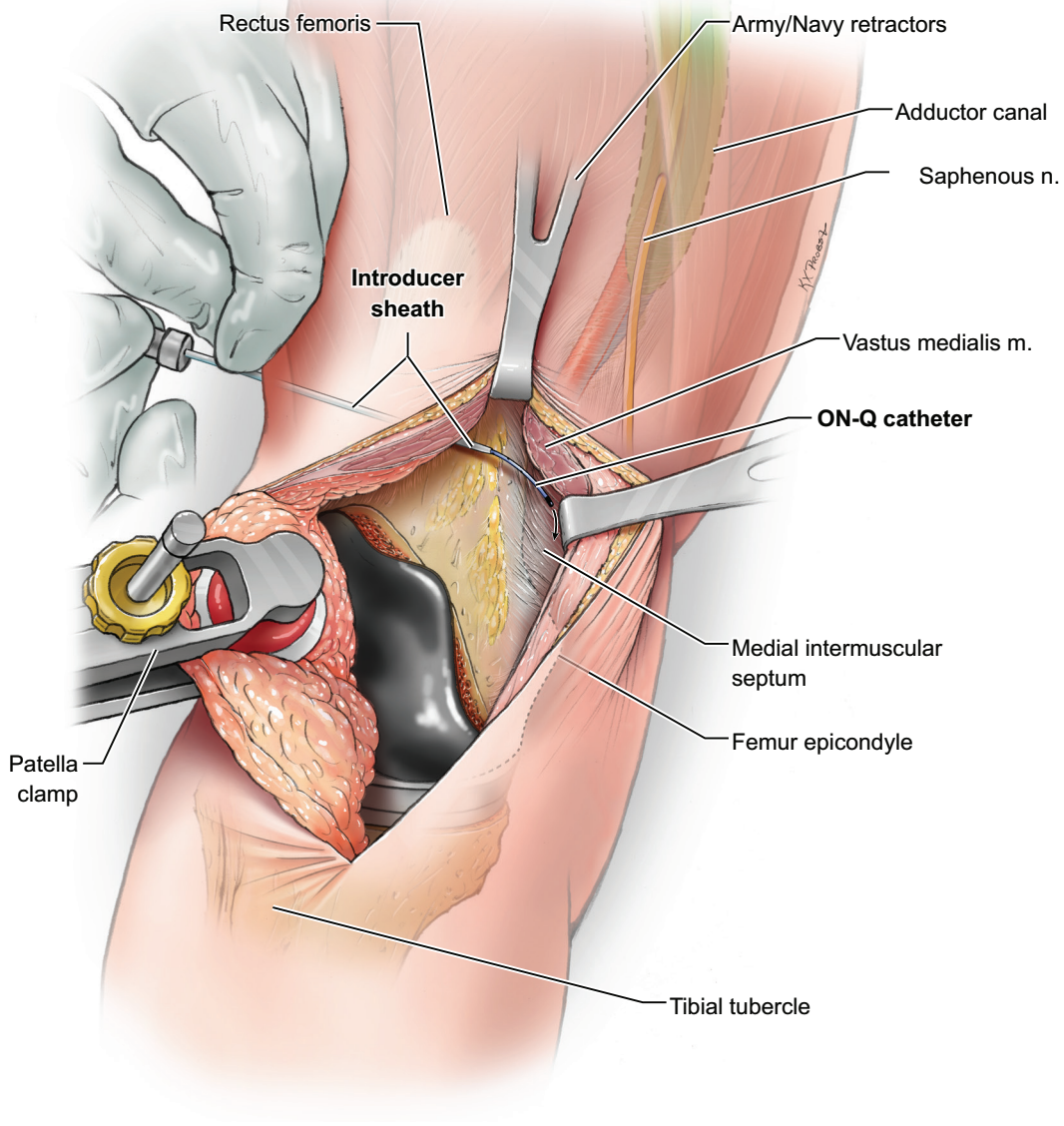

Figure C

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TOTAL KNEE ARTHROPLASTY

4 **Advancement of the catheter:** The distal end of the catheter is then grasped by an 8-inch blunt straight-tipped pituitary rongeur and advanced cephalad through the catheter entry point described in Step 2 and deep to the VMO along the anterior surface of the medial intermuscular septum. The end of the catheter is placed approximately 12-16 cm cephalad to the superior patella and within the medial intermuscular septum. Once the catheter is placed, the retractors are removed, the wound is irrigated and closed in the standard fashion of choice. *(See Figures D, E & F)*

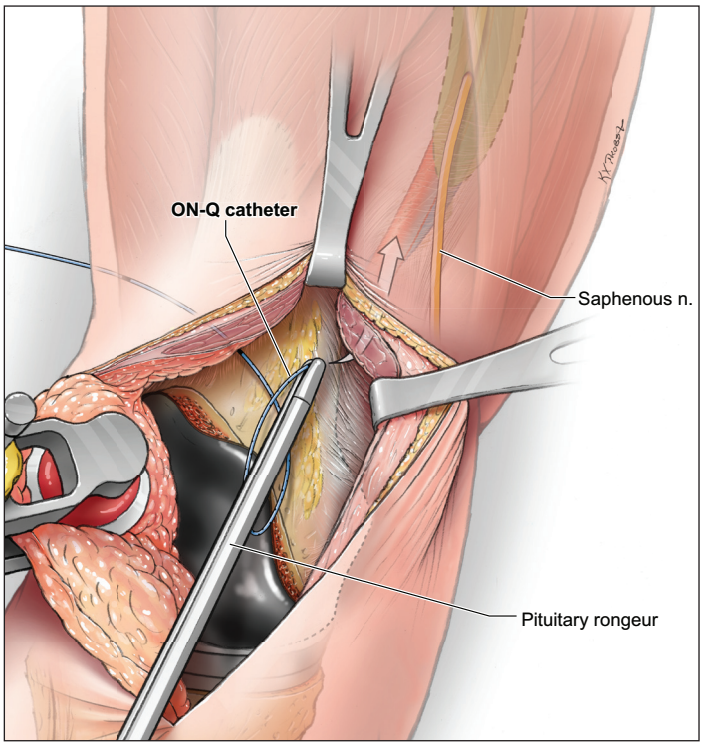

Figure D

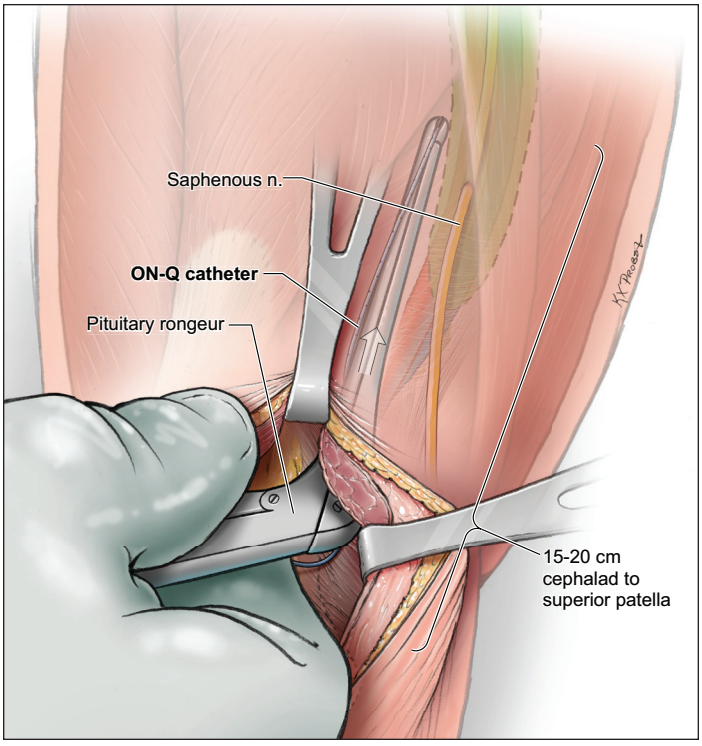

Figure E

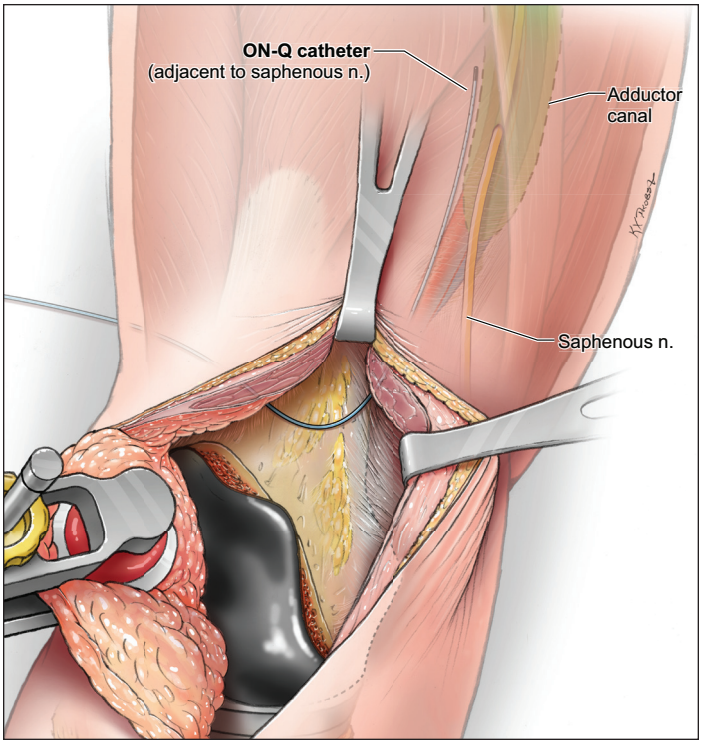

Figure F

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5 **Catheter securement:** After wound closure, approximately 3-4 cm of the catheter is coiled and secured with Steri-Strips™ and Tegaderm™. *(See Figure G)*

6 **Post-operative catheter initiation:** After placement of the catheter, a bolus dose of local anesthetic and periarticular nerve block can be performed along with a capsular injection. Ensure the tubing clamp on the ON-Q* Pain Relief System is open. The flow rate dial is initially set and may be adjusted according to the physician's preference.

Caution: *Silver has not been evaluated for use in direct proximity with large neurovascular bundles.*

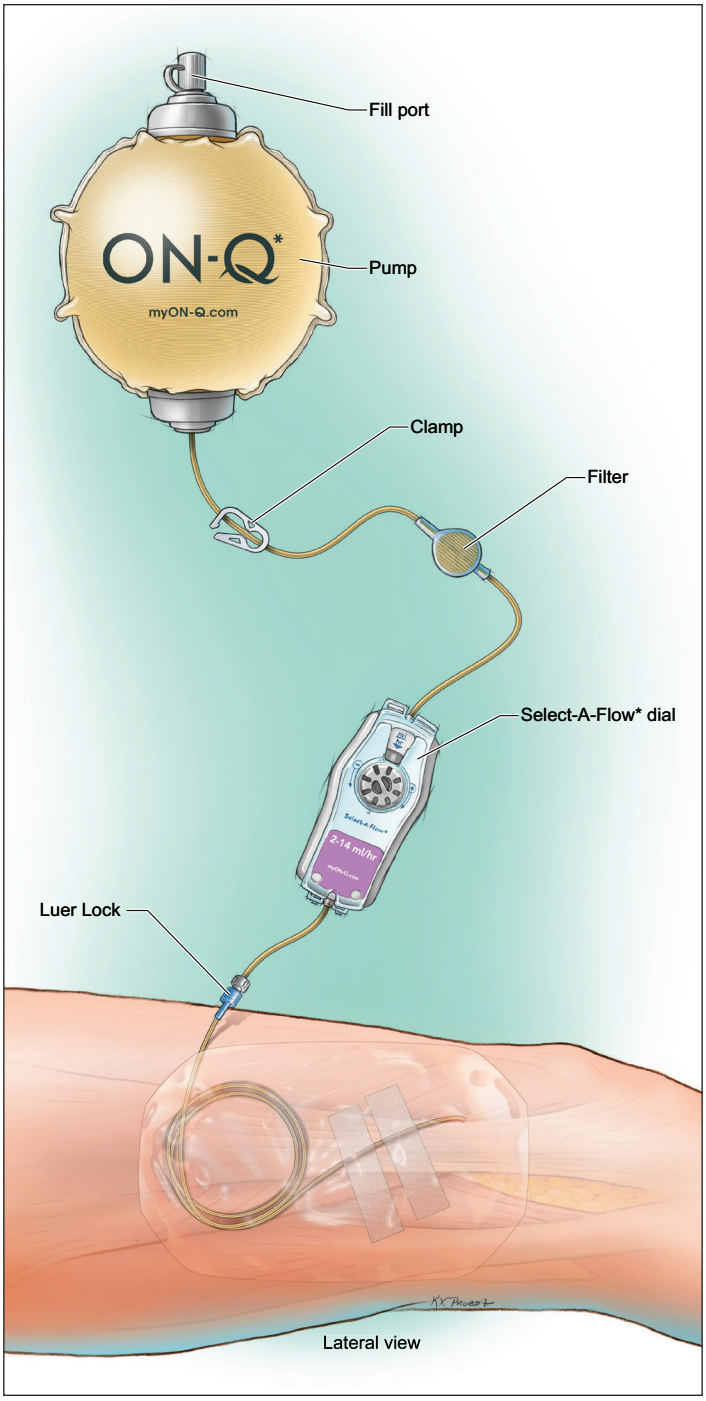

Figure G

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INDICATIONS FOR USE

- The ON-Q* pump is intended to provide continuous and/or intermittent delivery of medication (such as local anesthetics or narcotics) to or around surgical wound sites and/or close proximity to nerves for preoperative, perioperative and postoperative regional anesthesia and/or pain management. Routes of administration include: intraoperative site, perineural, percutaneous, and epidural.
- ON-Q* is intended to significantly decrease pain and narcotic use when used to deliver local anesthetics to or around surgical wound sites, or close proximity to nerves, when compared to narcotic only pain management.

CONTRAINDICATIONS

- ON-Q* is not intended for blood, blood products, lipids, fat emulsions, or Total Parenteral Nutrition (TPN).
- ON-Q* is not intended for intravascular delivery.

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.avanospainmanagement.com** for additional product safety Technical Bulletins.

For more information please visit: avanospainmanagement.com
Call 800-448-3569 in the United States and Canada.

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