ON-Q® Pain Relief System

For Continuous Peripheral Nerve Blocks

Nursing In-service
Introduction

**Purpose:** This in-service presentation is intended to familiarize the clinician with the ON-Q® Pain Relief System including Select-A-Flow® and ONDEMAND™ for continuous nerve block applications.

**Caution:** This in-service training does not replace the product Directions for Use (DFU). It is imperative that the clinician read and understand the product DFU. The DFU contains detailed product information, including important cautions, warnings and contraindications.
Introduction

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.myON-Q.com for product safety Technical Bulletins.
Objectives

At the completion of this inservice, the participant should be able to:

• Identify common continuous peripheral nerve blocks (CPNB)
• Identify components of ON-Q® pump with Select-A-Flow®
• Identify components of ON-Q® pump with ONDemand™
• Assess pump infusion status
• Identify signs and symptoms of local anesthetic toxicity and appropriate intervention
• List resources available for product support
What is ON-Q®?

Description

• ON-Q® is a brand of elastomeric pump that automatically delivers a continuous regulated flow of local anesthetic over multiple days.
• It is completely portable.
• The pump is connected to a catheter placed near a nerve for regional anesthesia and pain management.
• The ON-Q® pump is indicated to significantly reduce narcotic use and pain when compared to narcotic-only pain management.
ON-Q® for CPNB

- Potential Patient Benefits
  - Quicker return to normal
  - Reduced length of hospital stay
  - Significantly better pain relief than narcotics alone
  - Significantly less need for narcotics post-surgery
  - Higher patient satisfaction
Continuous Peripheral Nerve Block (CPNB)

- The abolition of painful impulses by temporarily interrupting the sensory nerve conductivity with local anesthetics.
- Local anesthetic can be delivered as a single injection or as a continuous infusion.
- Motor function may or may not be affected.
- The patient does not lose consciousness.
Nerve Block Applications

• Majority for orthopedic procedures
  – Increasing number on an outpatient basis

• Continuous Peripheral Nerve Block (CPNB)
  – Local anesthetic administered as a continuous infusion
  – Provides pain management after the surgical procedure.
  – ON-Q C-bloc pump functions as the medication delivery device

• Other Nerve Block Sites Include:
  – Intercostal and paravertebral for thoracotomy and rib fractures
  – Transversus Abdominus Plane (TAP) blocks for abdominal procedures
Orthopedic Procedures

Continuous Peripheral Nerve Block (CPNB)

• Knee surgery
  – ACL
  – Lateral release
  – Patella realignment
  – Meniscus repair

• Shoulder
  – Rotator cuff repair
  – Bankhart repairs
  – Subacromial decompression
  – Labrum tears

• Foot and Ankle
  – Bunionectomy
  – Triple arthrodesis
  – Achilles repair

• Total Joint Replacement
  – Hips
  – Knees

• Hand/Wrist
  – Carpal tunnel
  – ORIF
CPNB Catheter Placements

Upper Extremity Blocks

• Brachial Plexus Block
  – Used for shoulder, arm, hand procedures
  – Brachial plexus is a network of nerves originating in the upper spine and ending in the main nerves that control movement and sensation in the arm
  – Approaches (procedures)
    • Interscalene (shoulder/upper arm)
    • Supraclavicular (below the shoulder)
    • Infraclavicular (arm)
    • Axillary (elbow, hand, forearm)
CPNB Catheter Placements

Lower Extremity Block
• Approaches (procedures)
  – Lumbar plexus (hip, leg)
  – Femoral (Upper leg, knee)
  – Sciatic (posterior thigh and knee, foot and ankle)
  – Popliteal (foot and ankle)
CPNB Procedure

Overview

• Procedure performed by an anesthesiologist trained in regional anesthesia techniques

• Catheter placed near a nerve prior to surgery:
  – Anatomical landmarks used to establish location of block area
  – Ultrasound guidance may be used to locate nerve for more accurate block placement
  – Nerve stimulator device may also be used to identify location of the nerve.
    • Stimulator provides current to either a stimulating needle or catheter
    • Presence of an appropriate muscle twitch confirms correct location

• ON-Q® C-bloc® pump may be connected to nerve block catheter before, during or after surgery
ON-Q® C-bloc® Pump Models

- Fixed Flow Rate
- Select-A-Flow
- ONDEMAND
- ONDEMAND & Select-A-Flow
Fixed Flow Rate
Fixed Flow Rate

- Two models:
  - 400 ml volume x 5 ml/hr (3 day pump)
  - 400 ml volume x 10 ml/hr (2 day pump)
  - Maximum fill volume 550 ml for longer delivery time
- Offers simplicity, fixed flow rate.

*Flow restrictor calibrated for skin temperature. Tape restrictor to skin. Avoid contact with ice/cold therapy.*
Select-A-Flow®
Select-A-Flow® Components

1 Rate changing key
   - Allows titration for optimal pain relief
   - Key is removable for tamper resistance

2 Plastic Cover
   - Tamper evident

3 Tie Wrap
   - Locks plastic cover to Select-A-Flow

Select-A-Flow controller should be outside of clothing, away from ice or cold therapy.
Select-A-Flow®

To Change Flow Rate

• Insert rate changing key into the dial
• Turn the dial until the new flow rate is selected
  – Make sure the selected flow rate is aligned in the window with the ml/hr mark on the Select-A-Flow

• Caution: Flow rate is unpredictable if it is dialed between rate settings.
Select-A-Flow

To Discourage Tampering

• Remove the rate-changing key from the dial by pulling the key straight out.
• Put the key in a safe place for later use.
• Close the cover over the Select-A-Flow dial.
• For increased tamper resistance, the cover may be locked to the Select-A-Flow control using the tie wrap.
Select-A-Flow®
Dual Site

- 600 ml volume pump with dual Select-A-Flow controls.
- Flow rate range 1-7 ml/hr per catheter site.
- Allows infusion from one pump through two nerve block catheter sites.
- Example CPNB applications:
  - Femoral and Sciatic
  - Femoral and Popliteal
In addition to a continuous flow rate, a bolus device allows a fixed bolus dose to be delivered on demand.

### Pump Model

<table>
<thead>
<tr>
<th>Pump Volume</th>
<th>Continuous Rate</th>
<th>Bolus Dose</th>
<th>Refill Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>400 ml (550 ml max)</td>
<td>5 ml/hr</td>
<td>5 ml</td>
<td>60 minutes</td>
</tr>
</tbody>
</table>

*ONDEMAND bolus device should be outside of clothing, away from ice or cold therapy.*
ONDEMAND™

To Give a Bolus

• Press down on the bolus button until it locks into place
• Bolus will be delivered and reservoir will start to refill
• Next full bolus is available when the orange refill indicator is at the top
• Pressing the bolus button before the end of the refill time will deliver a partial bolus dose
**WARNING:** If the button does not pop back up within 30 minutes, check the orange indicator on the side of the device and follow these instructions:

**Bolus refill indicator remains in lowermost position:**

*The button may be stuck which could result in maximum delivery (basal + bolus) to patient*

- Instruct patient to close tubing clamp.
- If button pops back up within 10 minutes, advise patient to open clamp and continue with infusion.
- If button remains stuck, patient may be receiving maximum dose delivery. Keep clamp closed and notify physician.
- Pump should be replaced if appropriate.

**Bolus refill indicator remains in the uppermost position:**

*Flow may be impeded due to an occlusion. Patient is not receiving infusion.*

- Check for tubing kinks, closed clamp.
- Ensure an unvented filter has not been added to the administration set.
- Verify patency of connected devices such as catheter according to your standard protocol.

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**Bolus Refill Indicator**
ONDEMAND™
& Select-A-Flow®
ONDEMAND™ & Select-A-Flow®

Allows bolus delivery and flow rate adjustment in one pump

**Models**

<table>
<thead>
<tr>
<th>1-7 ml/hr</th>
<th>2-14 ml/hr</th>
</tr>
</thead>
<tbody>
<tr>
<td>400 ml volume</td>
<td>400 ml volume</td>
</tr>
<tr>
<td>(550 ml max volume)</td>
<td>(550 ml max volume)</td>
</tr>
<tr>
<td>with</td>
<td>with</td>
</tr>
<tr>
<td>5 ml bolus</td>
<td>5 ml bolus</td>
</tr>
<tr>
<td>(60 min refill)</td>
<td>(30 min refill)</td>
</tr>
</tbody>
</table>
Monitoring the Infusion
Infusion Status

- A change in appearance and size of the pump may not be evident for more than 24 hours after surgery.
- Over time, outside bag on pump will become looser and creases will begin to form in the bag.
- As medication is delivered, pump balloon will gradually become smaller.

Pump appearance after approximately 24 hours
End of Infusion

- Depending on size and volume of pump, infusion typically lasts 2-5 days.
- Infusion is complete when delivery time has passed and pump is no longer inflated.
- A hard tube will still be present in the middle of the pump.
- Dispose according to your institution's protocol.

Contact physician for catheter removal instructions
Accessories/Patient Instructions

- **Disposable Carrying Case**
  - The pump is completely portable
  - Patients can wear the ON-Q C-bloc pump in a convenient fashion such as around the waist, over the shoulder or around the neck

- **Patient Guidelines**
  - Included with each pump
Checklist

Follow these 5 simple checks:

- Keep clamp(s) open
- Tubing is not kinked
- Filter is not taped or covered
- Flow Controller
  - *Fixed Flow Rate Restrictor* – taped to skin, away from cold therapy
  - *Select-A-Flow® and ONDEMAND™* - outside of clothing, away from cold therapy
- Flow Rate (Select-A-Flow®)
  - Verify flow rate, making sure the flow setting is aligned with the ml/hr mark on the face of the Select-A-Flow®
Patient Monitoring
Patient Monitoring

- Assess pain and sensory/motor function.
- Assess catheter site for redness, drainage, leaking.
- Maintain transparent dressing.
- Avoid injury due to sensory/motor loss.
  - Educate patient on proper measures to take to avoid injury
  - Protect limb with sling
  - Use crutches or walker for weight bearing
  - Take care when placing warm or cold items on extremity
- Assess for signs/symptoms of local anesthetic toxicity.
Patient Monitoring

• When assessing pain, ask patient location of pain to differentiate between operative site pain and other types of pain.
• ON-Q® pump will reduce or eliminate pain around the operative area, as part of a multi-modal approach to post-op pain management.
• Administer post-op pain medications as needed.
Patient Monitoring

Signs and Symptoms of Local Anesthetic Toxicity

Caution Close tubing clamp to stop infusion and report any of the following to physician:

- Dizziness, light headedness
- Blurred vision
- Ringing, buzzing in ears
- Metal taste in mouth
- Numbness/tingling around mouth, fingers or toes
- Drowsiness
- Confusion
Discharge Instructions

Follow physician’s instructions, keeping in mind the following:

• Do not drive or operate machinery
• Keep catheter site clean and dry
• Protect the limb
• Do not allow weight bearing on affected limb
• Instruct patient and caregiver on signs of local anesthetic toxicity and infections
• Instruct patient how to turn off the pump
• Provide a 24-hour contact number for emergencies and medical advice
• Ensure patient has ON-Q Patient Guidelines
• Follow physician’s instructions for catheter removal
Frequently Asked Questions
Can the pump be refilled?

- No, refilling the ON-Q® pump is not recommended.
- The ON-Q® pump is single use and should not be refilled.
Can Patients Shower with the ON-Q® pump?

• Refer to physician’s orders for patient bathing or showering
• Pump and catheter site should be protected from water
What should I do if my patient continues to complain of pain?

- Check the tubing for kinks
- Make sure clamps are open
- Check to be sure the Select-A-Flow® dial is set to the ordered flow rate, and not Ø or between settings
- Make sure the catheter is in place and has not been dislodged
- Administer pain medications as ordered
- Contact physician if patient’s pain continues
Product Support
Product Support

• I-FLOW 24-Hour Product Support Hotline
  – Available to Patients and Clinicians 24/7
    800.444.2728

• Customer Service
  – Sales Information
  – Product Literature
    800.448.3569
Product Support

- **Websites**
  
  www.myON-Q.com

- **Support Materials**
  - Directions for Use
  - Technical Bulletins
  - Patient Guidelines
  - Clinical Bibliography

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Thank You!