



TECHNICAL BULLETIN



Bupivacaine/Antibiotic Stability

Two different antibiotic-Bupivacaine mixtures were tested for stability in ON-Q pumps (270 ml volume X 2 ml/hr) by an outside laboratory (SCI – Los Angeles, CA). The following summarizes the results of this testing:

Note: This Technical Bulletin is provided as a reference and is not to be construed as I-Flow's specific recommendation of a Bupivacaine/antibiotic infusion protocol.

Bupivacaine/ Antibiotic Mixtures Tested

Bupivacaine/Ceftriaxone Solution (3.7 mg/ml antibiotic solution)*

Bupivacaine HCL, 0.5% - preservative free	(Sensorcaine-MPF, AstraZeneca)
Ceftriaxone Sodium, 1 gram vial	(Rocephin, Roche Laboratories)

Bupivacaine/ Cefazolin Solution ((3.7 mg/ml antibiotic solution)*

Bupivacaine HCL, 0.5% - preservative free	(Sensorcaine-MPF, AstraZeneca)
Cefazolin for Injection, 1 gram vial	(Apothecon)

*3.7 mg/ml is equivalent to 1 gram of antibiotic in 270 ml Bupivacaine solution

Procedure

Cefazolin was combined with 0.5% Bupivacaine at a concentration of 3.7 mg/ml. Ceftriaxone was also combined with 0.5% Bupivacaine at a concentration of 3.7 mg/ml. A 10 ml sample of each mixture was stored in a glass vial as the control. ON-Q pumps were filled with the antibiotic/Bupivacaine mixture and the infusion was initiated at room temperature at a flow rate of 2 ml/hr. Samples were collected at 0 time and after 24 hours, 48 hours, 72 hours and 96 hours of infusion time.

The collected samples were analyzed for Bupivacaine using Ultraviolet spectroscopy and analyzed for Ceftriaxone and Cefazolin by optical rotation.

Summary of Results

>95% of the control is the acceptability criterion that was used to confirm stability.

Compared to the control, Bupivacaine remained stable with no concentration or spectral changes over the 96 hour infusion. However, the concentration of neither antibiotic was equal to or greater than 95% of the control after 96 hours of infusion.

Using the above criteria (>95%) test results confirm stability of each antibiotic mixture at room temperature in ON-Q pumps infusing at 2 ml/hr up to the following time periods:

Bupivacaine/Ceftriaxone (3.7 mg/ml antibiotic solution) - 48 hours
Bupivacaine/Cefazolin (3.7 mg/ml antibiotic solution) – 72 hours

Please contact the Clinical Services Department at 800.448.3569 or 949-206-2700 if you have any questions regarding this information.

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