

Video Article

# Erratum: Establishment and Characterization of UTI and CAUTI in a Mouse Model

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## Abstract

An erratum was issued for: [Establishment and Characterization of UTI and CAUTI in a Mouse Model](#). The Protocol section has been updated.

The ethics statement has been updated from:

Ethics statement: The Washington University Animal Studies Committee approved all mouse infections and procedures as part of protocol number 20120216, which was approved 01/11/2013 and expires 01/11/2016. Overall care of the animals was consistent with The guide for the Care and Use of Laboratory Animals from the National Research Council and the USDA Animal Care Resource Guide. Euthanasia procedures are consistent with the "AVMA guidelines for the Euthanasia of Animals 2013 edition."

to:

Ethics statement: The Washington University Animal Studies Committee approved all mouse infections and procedures as part of protocol number 20150226, which expires 12/10/2018. Overall care of the animals was consistent with The Guide for the Care and Use of Laboratory Animals from the National Research Council and the USDA Animal Care Resource Guide. Euthanasia procedures are consistent with the "AVMA guidelines for the Euthanasia of Animals 2013 edition."

Step 3 has been updated from:

### 3. Bacterial Inoculation

- Clean the workstation with 70% ethanol and cover area with absorbent paper (or use sterile flow hood).
- Draw up to 0.9 ml of the prepared bacterial inoculum into a 1 ml (TB) syringe (remove air bubbles). Attach a prepared sterile inoculation needle with PE10 tubing, onto the syringe containing the inoculum, then sterily trim the polyethylene tubing.  
NOTE: Leave 1 mm of tubing above the tip of the needle to avoid puncturing the bladder.
- Cut a 1 inch square piece of parafilm and put a dab of surgical lubricant (approximately the size of a dime) on top.
- Anesthetize female C3H/HeN mice by putting them in a 32 ounce glass jar containing a tea-infuser ball with cotton balls soaked with 3 ml of isoflurane or vaporizer chamber (following manufactures protocol) until unconscious but still breathing normally (1 breath/sec).  
NOTE: Some IACUC committees do not approve the use of a jar or vaporizer. Please follow the indication of the IACUC committee of your institution.  
NOTE: If glass jar with tea-ball and/or nose cone with isoflurane-soakd cotton balls are used, the animal must be carefully observed to avoid anesthetic overdose and death. The advantage of using a vaporizer and anesthesia chamber is that it provides controlled isoflurane administration that avoids accidental overdoses. CAUTION: Isoflurane is an inhalation anesthetic. Use in a well-ventilated area and minimize inhalation.
- Remove the mouse from the jar/vaporizer and place it on its back on a paper towel and spread the legs.
- Cover the nose of the mouse with a nose cone (a tube connected to the vaporizer that provides a controlled isoflurane dose that comes equipped on some vaporizer units) or 50 ml conical tube with a cotton ball containing a small amount (approximately 1-2 ml) of isoflurane.
- Gently palpitate the bladder to induce urination and ensure a voided bladder. Wipe the periurethral area with 100% ethanol wipe. Dab the inoculation needle/syringe, point first, into the surgical lubricant.
- Inoculate each mouse with 50  $\mu$ l of the bacteria solution by inserting the inoculation needle transurethrally, approximately 12 mm, and pressing down on the syringe plunger gently to dispense the inoculum into the bladder gently (10  $\mu$ l/sec). Remove the inoculation needle from the mouse.  
NOTE: Immediate return of inoculum at the urethral opening when beginning to inoculate indicates improper or incomplete insertion of the needle.
- Remove the mouse from nose cone and return it to its cage. Repeat steps 3.3-3.8 for each mouse. When/if switching inoculum conditions/strains, dispose of the syringe and inoculation needle in an approved sharps container and start again step 3.2.  
NOTE: Inoculation with uropathogenic organisms generally does not cause severe pain symptoms. However, in rare instances, administering large doses of pathogens may cause fever, reduction in food and water intake and abnormal behavior. Animal health should be monitored throughout the experiment. If overt pain symptoms are notice, an analgesic, such as Buprenorphine (0.05–0.1 mg/kg given subcutaneously), can be applied. Procedures should be in accordance with each institution's IACUC.

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### 3. Bacterial Inoculation

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NOTE: Leave 1 mm of tubing above the tip of the needle to avoid puncturing the bladder.
3. Cut a 1 inch square piece of parafilm and put a dab of surgical lubricant (approximately the size of a dime) on top.
4. Anesthetize female C3H/HeN mice by putting them in a vaporizer chamber (following manufactures protocol) until unconscious but still breathing normally (1 breath/sec).  
NOTE: Some IACUC committees do not approve the use of a vaporizer. Please follow the indication of the IACUC committee of your institution.  
CAUTION: Isoflurane is an inhalation anesthetic. Use in a well-ventilated area and minimize inhalation.
5. Remove the mouse from the vaporizer and place it on its back on a paper towel and spread the legs.
6. Cover the nose of the mouse with a nose cone (a tube connected to the vaporizer that provides a controlled isoflurane dose that comes equipped on some vaporizer units) to maintain anesthetization.
7. Gently palpitate the bladder to induce urination and ensure a voided bladder. Wipe the periurethral area with 100% ethanol wipe. Dab the inoculation needle/syringe, point first, into the surgical lubricant.
8. Inoculate each mouse with 50  $\mu$ l of the bacteria solution by inserting the inoculation needle transurethrally, approximately 12 mm, and pressing down on the syringe plunger gently to dispense the inoculum into the bladder gently (10  $\mu$ l/sec). Remove the inoculation needle from the mouse.  
NOTE: Immediate return of inoculum at the urethral opening when beginning to inoculate indicates improper or incomplete insertion of the needle.
9. Remove the mouse from nose cone and return it to its cage. Repeat steps 3.3-3.8 for each mouse. When/if switching inoculum conditions/strains, dispose of the syringe and inoculation needle in an approved sharps container and start again step 3.2.  
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## Protocol

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5. Remove the mouse from the jar/vaporizer and place it on its back on a paper towel and spread the legs.
6. Cover the nose of the mouse with a nose cone (a tube connected to the vaporizer that provides a controlled isoflurane dose that comes equipped on some vaporizer units) or 50 ml conical tube with a cotton ball containing a small amount (approximately 1-2 ml) of isoflurane.
7. Gently palpitate the bladder to induce urination and ensure a voided bladder. Wipe the periurethral area with 100% ethanol wipe. Dab the inoculation needle/syringe, point first, into the surgical lubricant.
8. Inoculate each mouse with 50  $\mu$ l of the bacteria solution by inserting the inoculation needle transurethrally, approximately 12 mm, and pressing down on the syringe plunger gently to dispense the inoculum into the bladder gently (10  $\mu$ l/sec). Remove the inoculation needle from the mouse.

NOTE: Immediate return of inoculum at the urethral opening when beginning to inoculate indicates improper or incomplete insertion of the needle.

9. Remove the mouse from nose cone and return it to its cage. Repeat steps 3.3-3.8 for each mouse. When/if switching inoculum conditions/strains, dispose of the syringe and inoculation needle in an approved sharps container and start again step 3.2.

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## Disclosures

No conflicts of interest declared.