

<b>SOP No:</b>	<b>AHP 56</b>
<b>SUBJECT</b>	<b>Fluorescent/bioluminescence imaging of live rodents</b>
<b>REASON FOR USE:</b>	<b>Bioluminescence is a technology that allows for the noninvasive study of ongoing biological processes in small laboratory animals.</b>
<b>POLICY:</b>	<b>This procedure must be performed by an experienced operator.</b>
<b>PRECAUTIONS:</b>	<b>Gloves, mask, long-sleeve gown, closed in shoes. As it is difficult to sanitize/sterilize imaging equipment which may consequently impact on the pathogen free status of the animal , it is essential that prior to the commencement of the project , it has been ascertained by discussion with the animal facility manager, to which animal holding facility the animal can be returned . Travel arrangements to the machine and between the original and subsequent holding facilities must also be in place. Using a diet with Low fluorescence and taking the animal of feed the night before may improve image quality. Using nude mice or removing hair improves imaging quality. Care must be taken when returning recovering mice to the animal facility.</b>
<b>EQUIPMENT:</b>	<b>Isoflurane Fluorescence/Bioluminescence imager Anaesthetic machine Spray bottle of 70% Ethanol or similar agent Heating Pad Cage or transport box Small animal clippers Hair removal gel</b>
<b>PROCEDURE:</b>	<b>1. Transport animals by approved means (See <a href="#">AHT 28b</a> and <a href="#">AHT 28 c</a>) to the pre-imaging holding facility or direct to imaging room. 2. Ensure surface areas have been cleaned. 3. Place animal in anesthetising chamber. Note: depending on the system, more than one animal can be imaged simultaneously. 4. Induce anaesthesia with isoflurane at a dose of 3-5% in the closed chamber</b>

5. Remove hair from the area of the animal by clipping and use of hair remover.
6. Move animals onto the heated imaging stage with nose in the nose cone, and maintain anaesthesia (~2% Iso).
7. Start imaging. Monitor the animals through the images on the screen.
8. Once images are acquired (max. duration 10 minutes), remove animals directly to a heated cage with access to feed and water and monitor recovery.
9. Clean down machine and work area. Ensure isoflurane and oxygen are switched off.

**RECOMMENDATIONS:**

**DATE ISSUED:** 28 April 2010

**REVISED:**

**REFERENCES**

1. Roncali E., Savinaud M., Levrey O., Rogers KL., Maitrejean; S and Tavitian B (2008). New device for real-time bioluminescence imaging in moving rodents. *Journal of Biomedical Optics* 13(05), 054035.