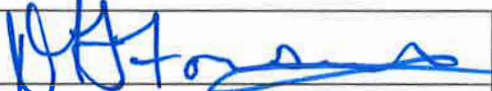

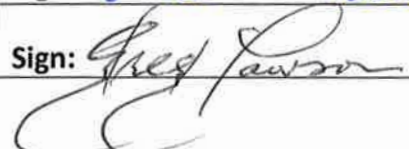




OFFICE OF LABORATORY ANIMAL CARE

STANDARD OPERATING PROCEDURE

SOP Number:	702	Sirona Dental Radiograph Machine	Revision #:	0
Date Effective:	6/1/18		Supersedes:	0

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PURPOSE

The purpose of this SOP is to outline the use of the Sirona Heliodont dental radiograph machine. This machine is used to produce diagnostic images of small research animals.

SCOPE

This SOP covers the procedures to be followed during the use of the Sirona Heliodont in NAF room 113 on the UC Berkeley campus.

RESPONSIBILITY

These duties are the responsibility of all users of the dental radiograph machine.

DEFINITIONS/ACRONYMS

- PPE: personal protective equipment
- RPM: radiation producing machine

PROCEDURE

1. All users must first go through radiation safety training and be listed in the lab's RUA. All user will be trained and added to the RUA prior to using the Sirona Heliodont dental x-ray machine.
2. Safety
 - a. Close both doors to NAF 113B when operating any RPM.
 - a. All operators will wear the assigned dosimeter.
 - b. All operators will stand behind the lead wall or don all appropriate PPE
 - i. Lead apron

- ii. Lead gloves
- iii. Thyroid shield
- iv. Lead safety glasses

3. Producing images

- a. Plug in Sirona Heliodont prior to use.
- b. Power on by using the rocker switch on the bottom of the control panel.
- c. Position the animal or body part on the x-ray table with dental film between animal or body part and x-ray table.
- d. Lower the x-ray tube head until it floats above the animal or body part intended for imaging. The head should be as close to contact with the subject as possible for a diagnostic image.
- e. Select a pre-programmed exposure. Remove manual release button from the side of control panel.
- f. Operator must be positioned behind lead shielded wall or door prior to depressing button.
- g. After image has been taken, remove dental film from table and develop per instructions on the mini dark room developer in 113A. (See Appendix A)

4. Accident procedures

- a. Notify Radiation Safety immediately of any of the following situations:
 - i. An interlock failure
 - ii. Unexpected personnel exposure
 - iii. Airborne radioactivity
 - iv. Loss of control, unauthorized use or theft of radiation machines
- b. In the event of an exposure
 - i. Shut down and secure the machine then call the appropriate agency.
 - ii. During business hours: Call EH&S main line at 510-642-3073
 - iii. After hours and on the weekends: call UCPD 510-642-3333
 - iv. Await further instructions from EH&S Radiation Safety on how to proceed.

5. Hazards

- a. Isoflurane anesthetic gas is used to keep subjects anesthetized during the imaging process.
- b. If Sirona Heliodont does not power up or operate as directed, cease all use and contact service provider. (TRIUS Inc. 510-887-2140) No other potential hazards have been identified in the process of small animal imaging.

6. Maintenance and removal

- a. All machine repairs will be performed by qualified personnel.
 - i. Interlocks will be tested and radiation leakage surveys will be performed before returning the machine to service.
 - ii. Beam alignment operations require specific authorization and/or supervision by EH&S.
- b. Machines that are moved from their current approved location require prior notification to EHS&S to verify that the new location is appropriate for use and change of registration with the State of California. Transfer, sale, or disposal of machines to another user or institution similarly requires notification to the State of California within 30 days.

REVISION HISTORY			
REVISION NUMBER	AUTHOR(S)	EFFECTIVE DATE	REVISION(S)

Appendix B

Process and Safety:

Process Steps	Safety Measures
1. Plug in Sirona Heliodent prior to use. Power on by using the rocker switch on the bottom of the control panel	Don appropriate dosimeter and protective lead equipment.
2. Position the animal or body part on the xray table with dental film between animal or body part and xray table.	
3. Lower the xray tube head until it floats above the animal or body part intended for imaging. The head should be as close to contact with the subject as possible for a diagnostic image.	
4. Select a pre-programmed exposure. Remove manual release button from the side of control panel. Operator must be positioned behind lead shielded wall or door prior to depressing button. After image has been taken, remove dental film from table and develop per instructions on the mini dark room developer in 113A.	Do not depress button until you are behind lead wall or door. All personnel must be behind lead wall or door prior to depressing button.

Appendix B
Training Documentation:

<u>Name (Printed)</u>	<u>Signature</u>	<u>Date</u>

<u>Name (Printed)</u>	<u>Signature</u>	<u>Date</u>