1. Introduction

1.1 X-Ray equipment, if not properly used, may cause injury. The GE eXplore Locus SP utilizes a radiation emitting x-ray source and complies with US and Canadian cabinet x-ray standards which allow the system to be safely operated without additional x-ray shielding.

1.2 Use of the Locus SP (MS) scanner is restricted to individuals that have had documented safety, operation, and maintenance training of the scanner by a facility technician (Joseph Umoh). If necessary, animal technicians execute procedures related to animal preparation and decontamination of the area in compliance with local policies from *The University of Western Ontario Council for Animal Care* (UCAC).

1.3 This standard scanning procedure must be complied regardless of any additional equipment that is used or of any extended procedures (supporting SOPs) that are followed.

2. Standard Scanning Procedure

2.1 Since specimens are contained in a sample holder of one form or another, the operator should not have to wear any personal protective equipment, and should not be concerned or worried about becoming infected, exposed, or ill. It is the responsibility of a member of the research group that is having their specimens scanned to inform the dangers associated with the specimen to the operator before any scans may take place.

2.2 The specimen to be scanned must be immobilized during the scanning process. If any movement occurs during scanning, the image will be blurred, rendering the scan useless.

2.3 A calibration object must be included with a specimen for every scan so that all scans can be calibrated in Hounsfield units.

2.4 Make every effort to position the specimen so that it is close to the proper field of view when you first put it in the scanner. It is possible to make some adjustments to the position of the specimen after the scanner door is closed, but it is better to place it as close as possible to the correct position initially.

To place the specimen in the scanner:

2.4.1 Place the specimen vial on the specimen tube. It is positioned correctly when it is attached firmly at the base.

Caution: *Do not, under any circumstances use excessive force. The specimen tube is in a very precise position, and forces greater than 5lbs may push it out of alignment. If the specimen vial does not snap into place, reposition it and try again.*

2.4.2 Place the equalization bath on top of the specimen vial.
Important: Be sure to use the equalization bath that fits the vial you are using. Both the specimen vial and equalization bath should snap into place.

2.4.3 Select the filter you want by reaching inside the scanner and turning the filter wheel to the correct position.

2.4.4 Shut the scanner door.

2.5 A qualified individual must do handling of the specimen. If there is no risk level associated with the handling of the specimen, the responsibility may be delegated to the RS control console operator. If this is the case, the operator must clean his/her hands before resuming the use of the RS control console.

2.6 Perform scan. Operator must follow *SOP#xxx: MS Scanner Acquisition and Reconstruction*.

2.7 Once the scan has been completed, the specimen may be removed from the scanner.