

## Purpose and Summary

This protocol describes the guidelines for an MRI scan intended for the creation of Ricoh 3D for Healthcare Breast Anatomic Models.

## Important

Use of this scanning protocol as a guideline will result in a more anatomic accurate model.

## Preparation of the Patient

- Remove any non-fixed metal prosthesis or jewelry that might interfere with the region to be scanned.
- Non-metal dentures may be worn during the scan.
- Make the patient comfortable and instruct not to move during the procedure. Normal breathing is acceptable but any other movement, such as tilting and/or turning the head, can cause motion artifacts that compromise the reconstructed images, requiring the patient to be rescanned.

## Reconstruction of the Images

- Reconstruct the images with using nearly isotropic voxels.
- Save the images in uncompressed standard DICOM format.
- Choose appropriate image modality during export of images. Non-corresponding modality can be a reason for rejection of images.

## MRI Scanning Instructions

- All slices must have the same field of view, reconstruction center, and table height.
- Scan each slice in the same direction.

## Patient Positioning

- Allow prone positioning of the patient, with breasts in the breast coil, and to allow adequate space for the patient's torso in the magnet bore position.

## MRI Scanning Parameters

Breast	
<b>Scanner Type</b>	Preferred on 1.5T
<b>Scan Mode</b>	With contrast if looking at an enhancement. Preferably 3D volumetric scans.
<b>Collimation</b>	Slice thickness: 1.25 mm or smaller Slice increment: contiguous slices only (no overlap) slice increment $\leq$ slice thickness
<b>Field of View (FOV)</b>	Fit to patient.
<b>Matrix</b>	Use a 512 x 512 matrix
<b>Voxels</b>	Nearly isotropic voxels (not standard)