

Triple Modality 3D Abdominal Phantom

- Suitable for CT, MRI and Ultrasound
- Assess image fusion algorithms
- Test new equipment
- Optimize imaging protocols
- Improve performance of freehand abdominal biopsies



A Versatile Tool for Interventional Training

The Triple Modality 3D Abdominal Phantom is constructed of a self-healing formulation of Zerdine^{®1} that allows multiple biopsy insertions with minimal needle tracking, and is ideal for demonstrating image-guided navigation technologies.

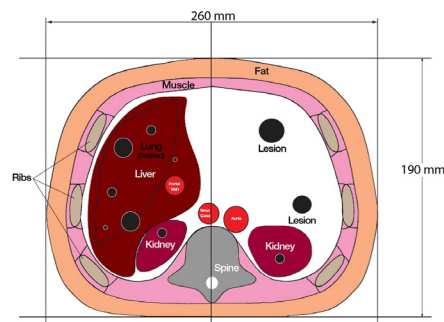
Abdominal imaging is useful for diagnosing disease and monitoring treatments. Our phantom is representative of a small adult abdomen and can be imaged under CT, MR and ultrasound. This feature makes the phantom a useful tool for applications such as image fusion studies; imaging protocol developments; scan technique training; and system testing, validation and demonstration.

Anthropomorphic Internal Structures

The phantom simulates the abdomen from approximately the thorax vertebrae (T9/T10) to the lumbar vertebrae (L2/L3) using simplified anthropomorphic geometry. The solid polymer background gel will not leak when punctured.*

Internal structures include the liver, the portal vein, two partial kidneys, a partial lung, the abdominal aorta, the vena cava, a simulated spine and six ribs. The liver has six lesions and the kidneys each have one lesion.

A muscle layer and outside fat layer surround these structures and plastic end caps make the phantom durable enough for extended scanning. Blood vessels have CT contrast added to provide enhanced auto registration in image fusion applications.

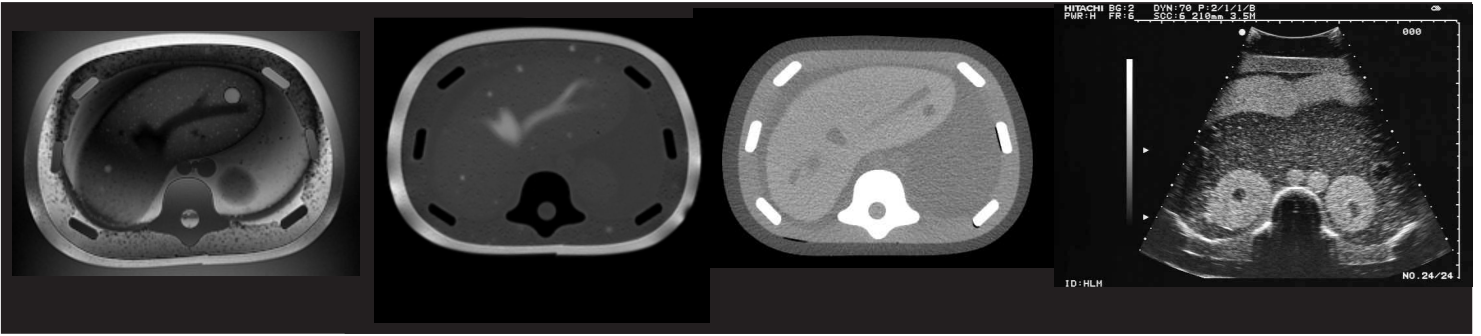


¹US Patent #5196343

*NOTE: Some permanent tracking may be evident if debris and air bubbles are entrained in the gel during the biopsy procedure. To extend the lifetime of the phantom, the use of higher gauge needles that have been wetted and de-aired prior to insertion is recommended.

Phantom In Use

The Triple Modality 3D Abdominal Phantom can be imaged using ultrasound, CT and MR.



MRI Fiesta image

MRI T1 image

CT image

Ultrasound image

Specifications

Dimensions	26 cm x 19 cm x 12.5 cm (10.2" x 7.5" x 4.9")
Weight	11 lbs (5 kg)
Materials	Housing: ABS Outer Fat Layer: Z-Skin™ elastomer Hard Tissue: Epoxy Resin Lungs: Epoxy Resin Other Soft Tissue: Zerdine® gel
Internal Organs	(1) Liver with six lesions (2) Kidneys with one lesion each (1) Spine (1) Partial lung (1) Portal Vein (1) Vena Cava (1) Aorta (6) Ribs Surrounding Soft Tissue with two lesions

Items Included with the Triple Modality 3D Abdominal Phantom

Quantity	Description
1	Triple Modality 3D Abdominal Phantom
1	Carry Case
1	User guide

Items Included with Model 057A-35

Quantity	Description
1	Triple Modality 3D Abdominal Phantom
1	CT DICOM Data Set (Serial number specific, 1.5 mm slice thickness @ 120 kvp)
1	Carry Case
1	User guide