

ABDOMEN PHANTOM

Age
Category

Adult

Body
Region

Abdomen

Target
Modality

CT

Diagnostic
Features

Low contrast
lesions

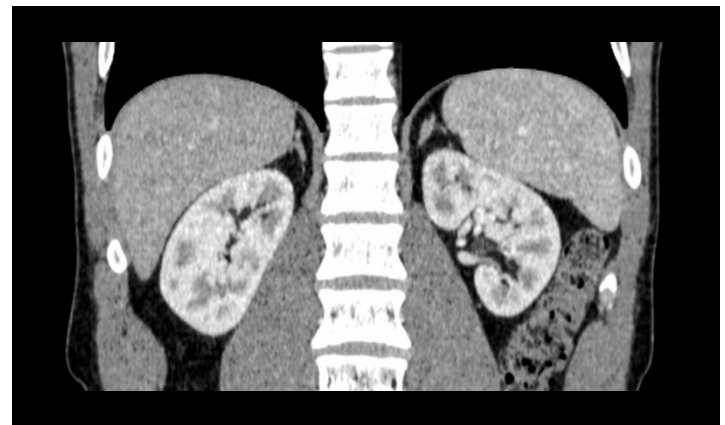


This abdomen phantom can be used in CT for evaluation of low-contrast lesions in the pancreas. It was designed to enable evaluation of diagnostic software, including AI tools.

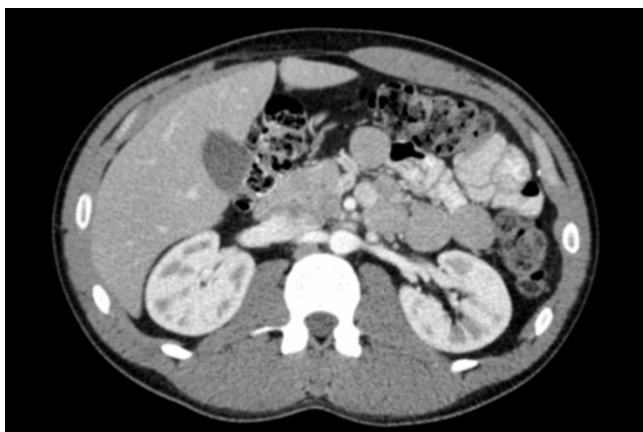
The phantom simulates a contrast medium enhanced abdomen in early portal venous phase and has 5 low-contrast pancreatic lesions.

The phantom provides a detailed and realistic simulation of soft and bone tissue, including small details such as lymph nodes. Air voids are filled with a cellulose-polymer composite of approx. -80 HU.

The phantom can be used for detection, segmentation and classification tasks and other common methods of image quality evaluation.



ABDOMEN PHANTOM



Specifications

Size	Approx. 268 x 189 x 149 mm
Weight	Approx. 5400 g
Base material	Cellulose-polymer composite
Optimal tube voltage	120 kVp (cf page 4) - adaptable upon request -

Diagnostic features

5 rod-shaped pancreatic lesions

Lesion height: 10.9 mm

Lesion diameter: 11 mm

Lesion edge: sharp

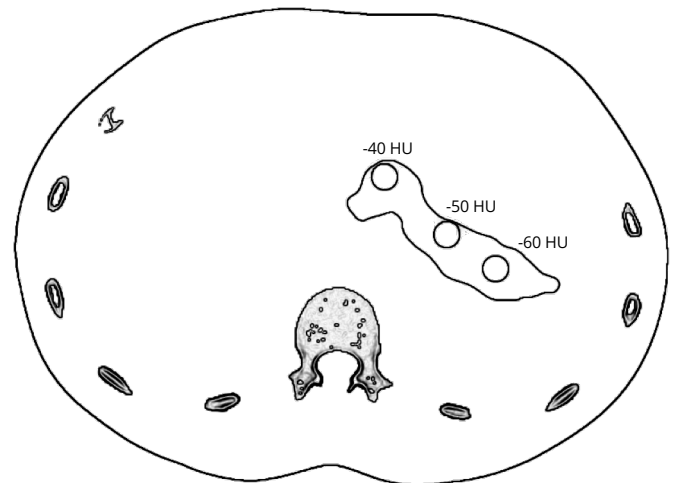
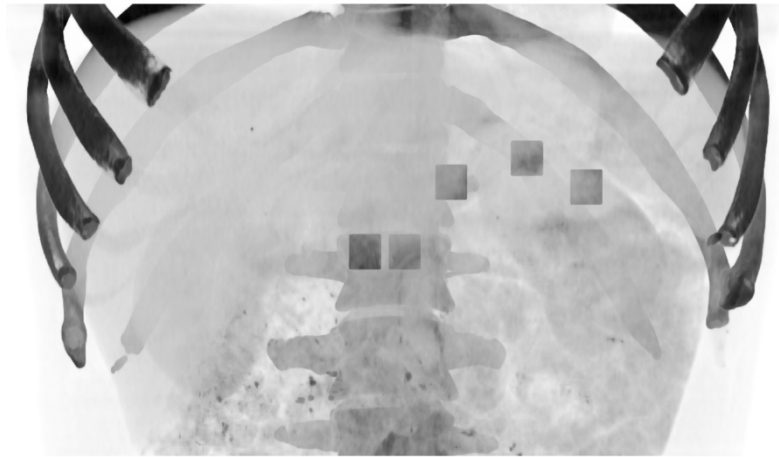
Lesion #	Position	Approx. contrast at 120 kVp
1	Head	-20 HU
2	Head	-30 HU
3	Neck	-40 HU
4	Body	-50 HU
5	Tail	-60 HU

Similar products

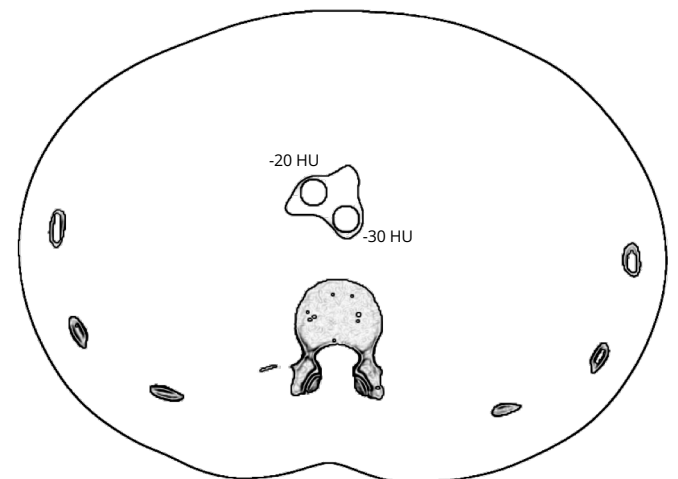
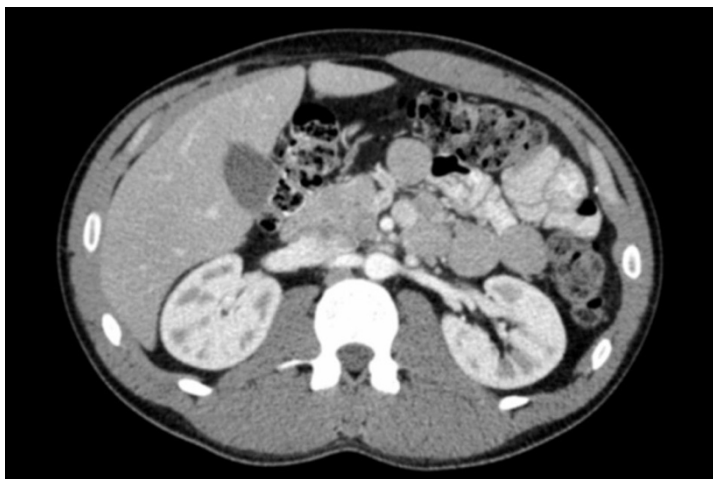
- Head phantom with brain lesions
- Abdomen phantoms with liver lesions
- Abdomen phantoms with pancreatic lesions
- Breast phantom with microcalcifications and breast mass

For more information visit
www.phantomx.de

ABDOMEN PHANTOM



Drawing indicates lesion contrast to surrounding pancreas tissue.



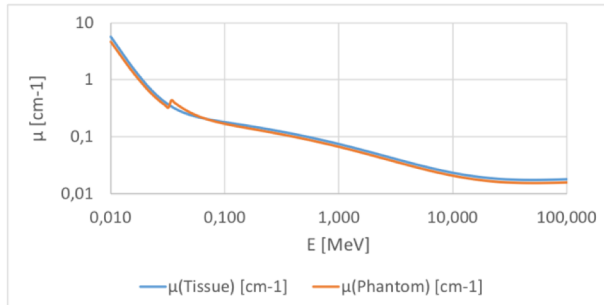
Drawing indicates lesion contrast to surrounding pancreas tissue.

ABDOMEN PHANTOM

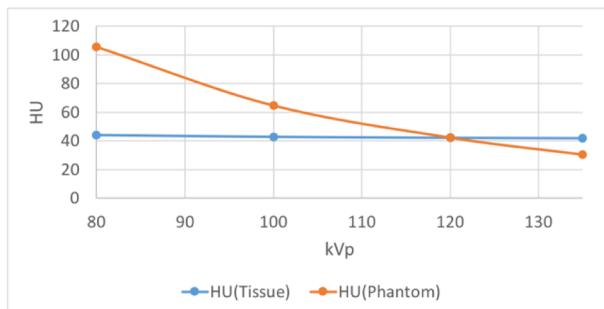
Attenuation properties

Soft Tissue

Linear attenuation coefficients [cm^{-1}] (calculated)

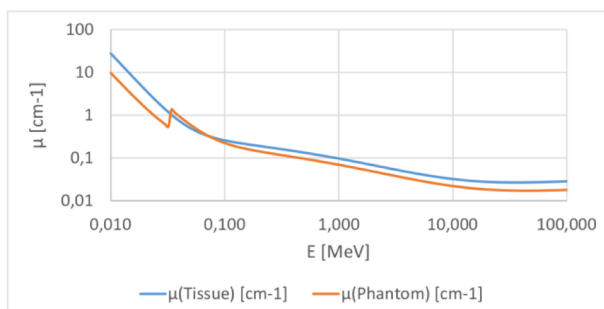


Hounsfield units (calculated)

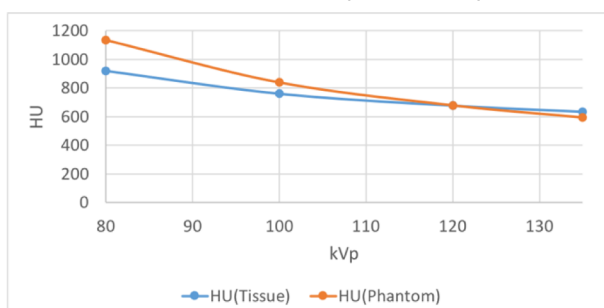


Bone Tissue

Linear attenuation coefficients [cm^{-1}] (calculated)



Hounsfield units (calculated)



Tissue Reference: Woodard HQ, White DR. The composition of body tissues. Br J Radiol. 1986.

General indications

- The phantom is made of a cellulose-polymer composite material with properties similar to hardwood. If handled carefully, it will last a long time.
- The phantom is coated with a protective layer. If the protective layer is undamaged, the phantom can be cleaned using a damp cloth (water or mild detergent).
- Protect from direct sunlight.
- Maintain a storage temperature of 10 °C to 30 °C. If the phantom is exposed to temperatures below -10 °C or above 45 °C, it can be severely damaged.
- The phantom is not equipped for dose measurements with dosimeters and it is not suited for material characterization with dual energy CT.
- The phantom is not certified as medical device.
- Abdominal air voids are filled with cellulose-polymer composite of approx. -80 HU.
- Lesion contrasts can slightly vary due to the anatomical phantom structure.

Phantom based on modified data, originally from Roth H, et al. (2015). A new 2.5 D representation for lymph node detection in CT [Data set]. The Cancer Imaging Archive. licensed under CC BY 3.0.