Coronary Tree Anthropomorphic Phantoms

CORONIX is a right dominant coronary tree vascular model that is available with or without stenosis

Reliability, Accuracy and Sensitivity!

Product Description

CORONIX, an anatomical model of a right-dominant coronary tree phantom, is designed to realistically and accurately mimic the complex geometries of the human coronary arteries. The 3-D vascular model, in which the true vessel diameters and lengths of the vascular tree are known, is available as a normal model or a model with stenosis.

The **CORONIX** model is manufactured using stereo-lithography which utilizes Computer Aided Design (CAD) and Computer Aided Manufacturing (CAM) techniques. A CAD model has been drawn from anatomical data collected by averaging one hundred in vivo coronarographies. From this numeric volume Computer Aided Manufacturing is performed and creates a rigid phantom through the polymerisation of a resin using an ultra violet laser.

CORONIX is an exact replica of its digital twin, which is the real right-dominant coronary arterial tree of the human being.

Applications

- Calibration of MRA, X-ray angiography and CTA.
- Single-photo-emission-computed-tomographic flow studies.
- Research & product development requiring geometrically accurate and complex vascular and lumens.
- Statistical Model for 2D and 3D reconstruction studies, labeling techniques or expert systems.
- Comparisons between finite-element modeling and *in vitro* measurements.
- Validation of endovascular techniques (i.e. measurements, positioning, simulations and assessments).
- Validation of different 3-D reconstruction or quantification algorithims (i.e. stenosis analysis, image segmentation analysis, image registration studies).
- Coronary arteriography quantification.

Features

- This rigid phantom is realistic and reproduces the exact anatomy of the human coronary tree.
- The entire coronary tree and optional stenosis are precisely manufactured to within 0.1 mm.
- Diameters of the inner lumen are distributed between 1 and 5 mm.
- The branches of the coronary tree can be filled with various contrast agents and other fluids.
- The phantom can be attached, by the aortic root, to a plastic cylinder reservoir; diameter of 13 cm and a height of 16 cm.
- It is well suited for 2D or 3D x-ray angiography when injected with iodinated solutions.
- Dynamic MR imaging is possible after injecting gadolinium chelates.
- Flux scintigraphy can be performed after injecting radioisotopes.
- Customer can specify the type and number of stenosis to be incorporated in the phantom.

SHELLEY MEDICAL IMAGING TECHNOLOGIES

Sales Office
157 Ashley Crescent, London, Ontario, CA, N6E 3P9
Phone: 1 (519) 690-0874 Fax: 1 (519) 690-0875
Email: bob.gravett@simutec.com Web: www.simutec.com

Service Centre
41 Coldwater Road, North York, Ontario, CA, M3B 1Y8
Phone: 1 (416) 447-6471 Fax: 1 (416) 447-9313
Email: service@simutec.com

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