

## RSD NUCLEAR MEDICINE PHANTOMS

RSD Nuclear Medicine Phantoms serve a critical role in Nuclear Medicine and Science. These realistic test subjects allow for testing and research advancement for applications where patients cannot serve or should not serve.

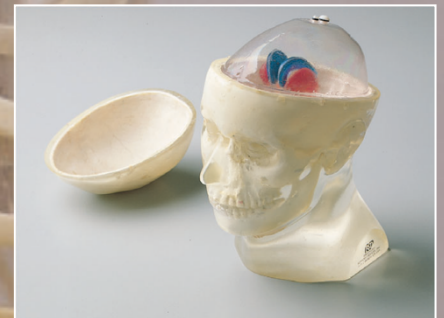
The Heart/Thorax Phantom is ideal for evaluation of detectability, extent and severity of myocardial infarcts in patients. This Phantom also provides valid assessment of mammoscintigraphy techniques.

The Striatal Phantom optimizes quantitative imaging in patients, using PET or SPECT.

Both phantoms test reconstruction techniques, non-uniform attenuation and scatter correction methods using different radionuclides under realistic conditions.



RS-800T Heart/Thorax Phantom - Disassembled



RS-900T Striatal Head Phantom

## Repeatable. Durable. Necessary.

Radiology Support Devices, Inc., represents over 30 years of product customization, development, and testing to deliver the finest human-equivalent radiological subjects. As the original standard, our phantoms have proven to be consistent and reliable devices that endure the most rigorous use.

SIZE*	Male ART
HEIGHT	175 cm   5 ft 9 in
WEIGHT	73.5 kg   162 lbs

\*Sectional size equivalent

MATERIAL	DENSITY (g/cc)
RSD CORTICAL BONE	1.18
RSD TRABECULAR BONE	1.17

RSD CORTICAL BONE					
Energy (MeV)	mean HU	Calculated $\mu$	$\mu$ (ICRU 44)	% difference	Ratio
00.08	1365	0.4345	0.4280	0.0151	0.9851
00.10	1048	0.3496	0.3562	0.0184	1.0188
00.12	0977	0.3211	0.3274	0.0191	1.0195
00.14	0902	0.2932	0.2986	0.0180	1.0184
00.20	--	0.2511	0.2513	0.0009	1.0009
00.30	--	0.2155	0.2137	0.0084	0.9916
00.60	--	0.1596	0.1598	0.0011	1.0011
00.80	--	0.1403	0.1402	0.0010	0.9990
01.00	--	0.1274	0.1261	0.0106	0.9895
02.00	--	0.0883	0.0885	0.0017	1.0017
03.00	--	0.0611	0.0625	0.0229	1.0235
06.00	--	0.0512	0.0525	0.0246	1.0253
08.00	--	0.0468	0.0474	0.0120	1.0121
10.00	--	0.0446	0.0444	0.0039	0.9962
15.00	--	0.0410	0.0409	0.0016	0.9984
20.00	--	0.0393	0.0397	0.0102	1.0103

RSD SPONGIOSA					
Energy (MeV)	mean HU	Calculated $\mu$	$\mu$ (ICRU 44)	% difference	Ratio
00.08	551	0.2849	--	--	--
00.10	515	0.2586	--	--	--
00.12	439	0.2337	--	--	--
00.14	318	0.1541	--	--	--

#### Linear Attenuation Data:

Monte Carlo simulation was used to calculate linear attenuation coefficients as a function of beam. Monte Carlo results were validated with linear attenuation coefficients derived from Hounsfield Unit measurements at discrete energy levels. RSD Phantom material linear attenuation data was compared to NIST data using ICRU Report 44 compositions of human tissues. NIST data was interpolated when necessary.

## MODEL NUMBERS:

RS-800T	HEART/THORAX PHANTOM (includes all items listed)
RS-801	THORACIC CAVITY (with bottom plate)
RS-803	PERFUSABLE LUNGS (one pair)
RS-804	HEART (with two hollow defects in myocardial wall, standard or custom size)
RS-805	LIVER SHELL
RS-806	CHEST OVERLAY
RS-807	REMOVABLE BREAST (with set of five tumors)
RS-809	TUMOR SUPPORT RODS (set of ten threaded nylon)
RS-810	FILLABLE MARKERS (set of five)
RS-811	TUMOR ONLY (with rod sizes: 3, 6, 9, 12, and 15m)

RS-900	STRIATAL HEAD PHANTOM (without Brain Shell)
RS-900T	STRIATAL HEAD PHANTOM (with Transparent Brain Shell and Striatum)
RS-901T	TRANSPARENT BRAIN SHELL (with Striatum)