

## TO RIB OR DE-RIB, THAT IS THE QUESTION

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Given the large difference between mass attenuation factors for bone and muscle at low energies, the difference in efficiency calibration factors for phantoms with simulated ribs and without simulated ribs is thought to be significant. A series of lung measurements were made with the Lawrence Livermore National Laboratory torso phantom containing an Am-241/Eu-152 lung set with and without simulated ribs. For photon energies greater than 39keV and chest wall thicknesses greater than 3cm, no significant difference in efficiency calibration factors was observed between the torso phantom with simulated ribs and the phantom without simulated ribs. For photon energies below 39keV and chest wall thicknesses less than 3cm, a noticeable difference was observed between the efficiency calibration factors for measurements made on the two torso phantoms. Therefore, a simulated rib cage is needed for efficiency calibrations of low energy photons in people with small chest wall thicknesses in order to account for the presence of bone.