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日本原子力研究開発機構

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Dose Conversion Coefficients Calculated Using a Series of Adult Japanese Voxel Phantoms against External Photon Exposure

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This report presents a complete set of conversion coefficients of organ doses and effective doses calculated for external photon exposure using five Japanese adult voxel phantoms developed at the Japan Atomic Energy Agency (JAEA). At the JAEA, high-resolution Japanese voxel phantoms have been developed to clarify the variation of organ doses due to the anatomical characteristics of Japanese, and three male phantoms (JM, JM2 and Otoko) and two female phantoms (JF and Onago) have been constructed up to now. The conversion coefficients of organ doses and effective doses for the five voxel phantoms have been calculated for six kinds of idealized irradiation geometries from monoenergetic photons ranging from 0.01 to 10 MeV using EGS4, a Monte Carlo code for the simulation of coupled electron-photon transport. The dose conversion coefficients are given as absorbed dose and effective dose per unit air-kerma free-in-air, and are presented in tables and figures. The calculated dose conversion coefficients are compared with those of voxel phantoms based on the Caucasian and the recommended values in ICRP74 in order to discuss (1) variation of organ doses due to the body size and individual anatomy, such as the position and shape of organs, and (2) effect of posture on organ doses. The present report provides valuable data to study the influence of the body characteristics of Japanese upon the organ doses and to discuss developing reference Japanese and Asian phantoms.

Keywords: Japanese Voxel Phantoms, Dosimetry, Organ Dose, Effective Dose, Dose Conversion Coefficient, External Photon Exposure, Monte Carlo Code, EGS4

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成人日本人ボクセルファントムを用いて計算した光子外部照射に対する線量換算係数

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(2008 年 7 月 1 日受理)

本報告書は、日本原子力研究開発機構（原子力機構）で開発した 5 体の日本人成人ボクセルファントムを用いて計算した、光子外部照射に対する臓器吸収線量及び実効線量を与える換算係数をまとめたものである。原子力機構では、日本人の体格に起因する線量評価上の特徴を明らかにするために、これまでに成人男性 3 体（JM、JM2、Otoko）、成人女性 2 体（JF、Onago）の精密ボクセルファントムを開発した。これらの 5 体のファントムについて、各臓器の吸収線量及び実効線量を与える換算係数を、0.01 MeV から 10 MeV までの光子による 6 種類の理想的な照射条件において、電子-光子輸送計算モンテカルロコード EGS4 を用いて計算した。換算係数は、空気カーマあたりの吸収線量及び実効線量として、表及びグラフにまとめた。また、本研究で計算した換算係数を、コーカサス人に基づくボクセルファントムを用いて算出された換算係数や ICRP74 の推奨値と比較し、(1) 体格、臓器位置、形状等の解剖学的構造の違いに起因する臓器線量の変化、(2) 被ばく時の姿勢が臓器線量に及ぼす影響について検討した。本成果は、日本人の体格特性が線量評価に及ぼす影響を明らかにすると共に、日本人やアジア人を代表するリファレンスファントムを開発するための検討に極めて有用なものである。

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1. Introduction

Organ and tissue doses (hereafter referred to as organ doses) are fundamental quantities in estimating the risk to radiation exposure. Since the organ doses cannot be measured directly, dose conversion coefficients that relate a specified dosimetric quantity to organ doses have been used for external radiation exposure.[1,2] The dose conversion coefficients have been calculated using radiation transport codes in conjunction with computational human models.

The International Commission on Radiological Protection (ICRP) approved a new set of fundamental Recommendations (ICRP 2007)[3] on the radiation protection of man and environment against ionizing radiation on March, 2007. In the new Recommendations, the ICRP decided to use reference computational phantoms of adult male and female developed at Gesellschaft für Strahlen und Umweltforschung (GSF)[4] to evaluate organ doses and effective doses. These phantoms are made up of the aggregate of small rectangular block units called "voxel" (volume element) and are so-called "voxel phantom". The voxel phantom has the advantage that can represent the shape of organs more realistically compared with the previously-used MIRD type phantoms.[5] The reference computational phantoms will be used to calculate the organ doses for the evaluation of dose coefficients for external radiation field.

The reference computational phantoms of ICRP have been constructed on the basis of medical tomographic image data of adult volunteers in supine posture and the anatomical and physiological characteristics defined in the report of the ICRP Task Group on Reference Man.[6] It is practicable to provide a set of recommended dose conversion coefficients for standard exposure conditions using the reference computational phantoms for the purpose of radiation protection. However, it is of importance to clarify the variation of organ doses due to the difference in the body characteristics in order to confirm that the recommended dose conversion coefficients can reasonably represent the exposure in various physical characteristics. In selecting reference values, the ICRP used data on Western Europeans and North Americans because these populations have been well studied with respect to anatomy, body composition, and physiology. In the report, the ICRP also mentioned the reference values for height and body mass are higher than those reported for the various Asian populations, which share about 60 % of the world's population.[7] It is obvious that the body characteristics influence the organ doses. In addition, radiation exposure of workers and the public occurs when they are in various postures. The position and shape of organs are dependent on the posture, and these changes influence the organ doses.

Several studies have been made to identify the variation of organ doses using voxel phantoms of Asians developed from medical tomography image.[8-11] Saito et al.[8,9] developed the first Asian voxel phantoms, Otoko and Onago, using the computed tomography (CT) image data of Japanese adult male and female, and implemented the phantoms into the EGS4 code[12] to calculate organ doses by photon and electron exposures. The first Korean voxel phantom, KORMAN, was constructed by Lee et al.[10] from magnetic resonance (MR) image of a Korean adult male, and was applied to external photon and diagnostic radiation dosimetry calculation.[13] Nagaoka et al.[11] constructed Japanese adult male and female voxel phantoms to be used in electromagnetic field

dosimetry. These phantoms were implemented to a multi-particle Monte Carlo code, MCNPX,[14] to apply organ dose calculation for divers exposure conditions.[15] These studies have revealed that significant differences are found in the absorbed doses in several organs depending on the anatomy between Asian and Caucasian; the latter was used for the modeling of the reference computational phantoms of ICRP and the MIRD type phantom. It was also identified that discrepancies in the organ doses are found due to the body characteristics even in the voxel phantoms of Asian. As discussed in a previous study,[16] this is one of limitations of voxel phantoms since these phantoms have been constructed from tomographic data of one individual and the developed phantom reflects the body characteristics of the person.

At the Japan Atomic Energy Agency (JAEA), Japanese voxel phantoms have been developed to study the variation of organ doses due to the anatomical characteristics of Japanese. In addition to the previously developed Otoko[8] and Onago[9] phantoms, three high resolution Japanese voxel phantoms have been recently completed. These are the JM[17] (male), JM2[18] (male) and JF[9,19] (female) phantoms, whose voxel size is $0.98 \times 0.98 \times 1.0$ mm^3. The small voxel enables us to model more realistically the shape of small or thin organs and tissues than Otoko and Onago, whose voxel size is $0.98 \times 0.98 \times 10.0$ mm^3. The difference between JM and JM2 is the posture during the CT scanning; the CT images used for construction of JM2 were obtained in upright posture while those of JM were acquired in supine posture. Therefore, it is possible using JM and JM2 to study the difference in organ doses due to the change of posture.

In the present study, dose conversion coefficients have been calculated for external photon exposure using the five adult Japanese voxel phantoms developed at the JAEA. The objects of this study are 1) to present a complete set of the dose conversion coefficients for the five voxel phantoms, 2) to study the variation of organ doses due to the body size and individual anatomy, and 3) to clarify the effect of posture on organ doses.

2. JAEA Voxel Phantoms

2.1 Overview of the body characteristics of the JAEA voxel phantoms

Figure 2-1 shows the three dimensional views of the JAEA voxel phantoms, JM, JM2, JF, Otoko and Onago, used for dose calculation in the present study. Procedures for the construction and body characteristics of these phantoms have been described in detail elsewhere[8,9,17-19] but will be briefly outlined.

The voxel phantoms have been constructed using a method originally developed at the GSF[20,21] and modified by Saito et al.[8] from CT images of healthy Japanese adult volunteers. Air, soft tissues, lungs, adipose and bone, which have different densities, were automatically segmented on the basis of grey values of each tissue, because their grey values are much different from each other. On the other hand, most soft tissues are unable to be segmented by only the grey value data, because the grey values are very similar for most soft tissues. Therefore, the soft tissues were manually segmented using the image processing techniques such as erosion, dilation and filling holes. The unit voxel size of Otoko and Onago is $0.98 \times 0.98 \times 10.0$ mm^3, while that of JM, JM2 and JF is $0.98 \times 0.98 \times 1.0$ mm^3. Therefore, the shape of organs of the JM, JM2 and JF phantoms, even for small or complicated organs, such as thyroid and stomach, are more realistically reproduced as compared with Otoko and Onago.

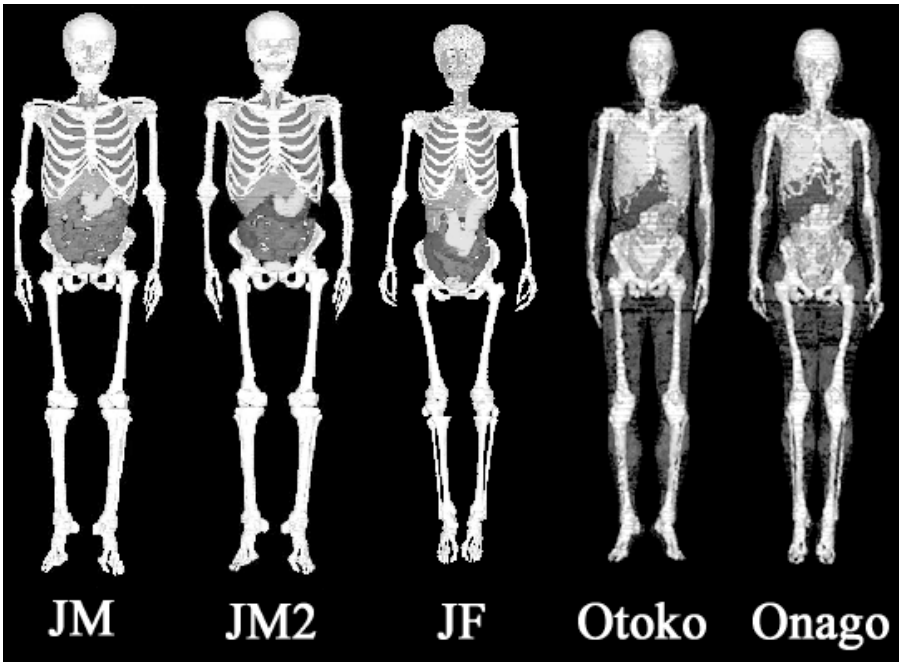

Figure 2-1 Three dimensional views of the JAEA voxel phantoms.

The CT images used for construction of Otoko, Onago, JM and JF were acquired in supine posture using a helical CT scanner (Toshiba Medical Systems Co. Ltd.). The CT data for JM2 were obtained in upright posture from the identical person with JM. The CT scans in upright posture were performed using a cone-beam CT scanner (Hitachi Ltd.). It is therefore possible using JM and JM2 to study difference in organ doses due to the change of posture.

Table 2-1 shows the physical characteristics of the JAEA voxel phantoms, along with averages[22] of adult Japanese. The voxel phantoms developed based on the Caucasian and used for the comparison of organ dose calculation are also presented. The Rex and Regina have been adopted by the ICRP as the reference computational phantoms representing the reference male and female, respectively.

The heights and weights of JM, JM2 and Otoko are close to those of the average Japanese male.[22] The body size of JF is smaller than the Japanese average values, while Onago has the body size above the average values. The height and weights of the JAEA voxel phantoms are smaller compared with those of the voxel phantoms based on the Caucasian.

The following 37 regions were segmented in addition to air regions in gastrointestinal and respiratory tracts for JM, JM2, Otoko, JF and Onago: adipose, adrenals, brain, breast, bronchi, esophagus, eyes, eye lenses, gall bladder content, gall bladder wall, heart content, heart wall, kidneys, liver, lower large intestine content, lower large intestine wall, lungs, pancreas, skin, spleen, muscle, ovaries, stomach content, stomach wall, small intestine content, small intestine wall, teeth, testes, thymus, thyroid, trachea, upper large intestine content, upper large intestine wall, urinary bladder content, urinary bladder wall, skeleton (containing cortical bone, trabecular bone and bone marrow) and uterus.

Table 2-1 Physical characteristics of the JAEA voxel phantoms.

Phantom	Race	Gender	Height (cm)	Weight (kg)	Posture
JM	Japanese	Male	171	65	Supine
JM2	Japanese	Male	171	65	Upright
Otoko	Japanese	Male	170	65	Supine
JF	Japanese	Female	152	44	Supine
Onago	Japanese	Female	161	57	Supine
Average		Male	170	64	Supine
Average		Female	155	52	Supine
Rex	Caucasian	Male	176	73	Supine
Regina	Caucasian	Female	163	60	Supine
Donna	Caucasian	Female	176	79	Supine
Helga	Caucasian	Female	170	81	Supine
Irene	Caucasian	Female	163	51	Supine
Golem	Caucasian	Male	176	69	Supine
VIP-Man	Caucasian	Male	186	104	Supine

2.2 Organ masses

Table 2-2 summarizes the organ masses of JM, JM2 and Otoko, along with the average values[22] of Japanese adult male. Since JM and JM2 were developed from the identical person, the masses of organs in both phantoms are consistent within 5 %. However, differences in the masses exist in the adipose, bronchi, heart and liver, and the maximum difference being 18 % is found in the bronchi. The reason for these differences is attributed mainly to subjective judgments of the phantom developers in the construction processes, such as segmentation and identification of organs and tissues. This is unavoidable, since all of the processes were not automated and the manual processing of images based on the anatomical information was required to segment most soft tissues. The image processing of soft tissues caused differences in organ masses between JM2 and JM.

The organ masses of the JM and JM2 phantoms agree with the Japanese averages[22] within 30 %, except for the adipose, bronchi, heart, bone marrow, and hard bone. The differences in the masses of bone marrow and hard bone are originated by the following reasons. It is difficult to segment and identify the complex structure of trabecular bone in the skeleton from the CT data. Therefore, the skeleton in JM, JM2 and Otoko is assumed to be a composite tissue consisting of hard bone and bone marrow, which have different densities. The ratios of hard bone and bone marrow in voxels of skeleton region are quantified on the basis of weight fractions of these tissues in each voxel estimated by interpolation from grey values.[8,17,20,21] The grey value thresholds were decided, so that the masses of bone marrow of JM, JM2 and Otoko are adjusted with the average mass (3.9 kg)[22] of Japanese adult male.

Significant differences in the organ masses in Otoko from the average values of Japanese adult male are found in small organs, such as the adipose, esophagus, eye lenses, gall bladder, spleen, thymus, and thyroid. It is considered that the large voxel size ($0.98 \times 0.98 \times 10.0$ mm^3) of Otoko has a limitation in modeling of the small or thin organs and tissues. The smaller voxel size ($0.98 \times 0.98 \times 1.0$ mm^3) employed in JM, JM2 and JF is therefore effective to improve the representation of such small and thin organs.

Table 2-3 presents the organ masses of JF and Onago with the average values[22] of Japanese adult female. In JF, the masses of brain, lower large intestine wall, skin and stomach wall agree with those of the Japanese averages within 5 %. However, the masses of several organs of JF are smaller than the averages of Japanese adult female, as expected from the small body size of JF indicated in Table 2-1. The body size of Onago is lager than the Japanese average values. In the thin or small organs, however, the masses are smaller compared with the Japanese average values due to the difficulty of modeling using the large voxels ($0.98 \times 0.98 \times 10.0$ mm^3). The masses of bone marrow in JF and Onago were adjusted by the same technique used for the male phantoms, and agree with the average values (3 kg)[22] of Japanese female within 10 %.

Table 2-2 Organ masses of the JAEA voxel phantoms (male) and the average Japanese adult male.

Organs and organ content	Mass (kg)			
	JM	JM2	Otoko	Japanese average
Adipose	19.490	20.552	14.149	11.000
Adrenals	0.011	0.012	0.021	0.014
Bladder content	0.112	0.112	0.019	0.100
Bladder	0.038	0.037	0.039	0.040
Bone marrow	3.734	3.728	3.680	3.900
Brain	1.704	1.704	1.470	1.470
Bronchi	0.009	0.011	0.025	0.026
Esophagus	0.037	0.035	0.016	0.040
Eyes	0.013	0.013	0.020	0.015
Eye lenses	0.0004	0.0004	0.0002	0.0004
Gall bladder content	0.010	0.011	—	0.050
Gall bladder	0.007	0.007	0.005	0.008
Hard bone	7.318	7.320	7.780	4.500
Heart content	0.388	0.354	—	0.400
Heart	0.529	0.501	0.476	0.380
Kidneys	0.265	0.263	0.266	0.320
Liver	1.304	1.400	1.190	1.600
Lower large intestine content	0.234	0.225	—	0.140
Lower large intestine	0.118	0.119	0.143	0.150
Lungs	1.549	1.603	1.550	1.200
Muscle	24.546	24.896	30.600	25.000
Pancreas	0.119	0.118	0.109	0.130
Skin	2.217	2.237	2.200	2.400
Small intestine content	0.316	0.205	—	0.350
Small intestine	0.431	0.425	0.691	0.590
Spleen	0.138	0.139	0.076	0.140
Stomach content	0.367	0.343	0.023	0.240
Stomach	0.124	0.122	0.123	0.140
Testes	0.037	0.037	0.027	0.037
Thymus	0.032	0.032	0.005	0.030
Thyroid	0.022	0.022	0.010	0.019
Trachea	0.010	0.010	0.009	0.009
Upper large intestine content	0.333	0.273	—	0.220
Upper large intestine	0.135	0.137	0.175	0.180

Table 2-3 Organ masses of the JAEA voxel phantoms (female) and the average Japanese adult female.

Organs and organ content	Mass (kg)		
	JF	Onago	Japanese average
Adipose	11.503	15.117	13.000
Adrenals	0.006	0.015	0.013
Bladder content	0.062	0.082	0.085
Bladder	0.020	0.024	0.030
Bone marrow	2.731	3.240	3.000
Brain	1.355	1.150	1.320
Breast	0.649	0.636	—
Bronchi	0.014	0.004	0.020
Esophagus	0.050	0.009	0.030
Eyes	0.015	0.023	0.012
Eye lenses	0.0008	0.0007	0.0003
Gall bladder content	0.002	—	0.038
Gall bladder	0.004	0.004	0.006
Hard bone	4.658	7.110	3.400
Heart content	0.366	—	0.300
Heart	0.280	0.476	0.320
Kidneys	0.213	0.265	0.280
Liver	1.179	1.470	1.400
Lower large intestine content	0.241	—	0.110
Lower large intestine	0.117	0.067	0.120
Lungs	1.245	0.996	0.910
Muscle	16.759	21.100	20.000
Ovaries	0.007	0.010	0.011
Pancreas	0.096	0.053	0.110
Skin	1.753	1.970	1.800
Small intestine content	0.172	—	0.270
Small intestine	0.381	0.735	0.450
Spleen	0.056	0.091	0.120
Stomach content	0.419	0.027	0.180
Stomach	0.106	0.099	0.110
Testes	—	—	—
Thymus	0.019	0.002	0.029
Thyroid	0.007	0.006	0.017
Trachea	0.017	0.006	0.007
Upper large intestine content	0.270	—	0.170
Upper large intestine	0.121	0.106	0.140
Uterus	0.048	0.152	0.070

2.3 Organ distance in JM2 and JM

Figure 2-2 is the view of the organs in the trunks of JM2 and JM. It is found that in the upright posture several organs such as the liver, stomach and small intestine move toward the legs due to gravity. On the other hand, the position of the bladder is not changed by posture, since it is supported by the pelvis at the bottom of the torso.

Table 2-4 shows the distances between the centers of gravity of several organs (referred to as organ distance) of the JM2 and JM phantoms. Making the position of the brain the reference point the adrenals, kidneys, liver, small intestine wall, stomach wall and pancreas were more than 10 mm further away in the leg direction in JM2 than in JM. On the other hand, the locations of esophagus, lungs, thymus and thyroid were hardly changed by change in posture, since these organs are connected with the surrounding organs. The bladder wall supported by the pelvis also was not lowered in the leg direction when in the upright position. It is expected from Table 2-4 that the organ doses are varied due to the change in their positions and shapes depending on postures.

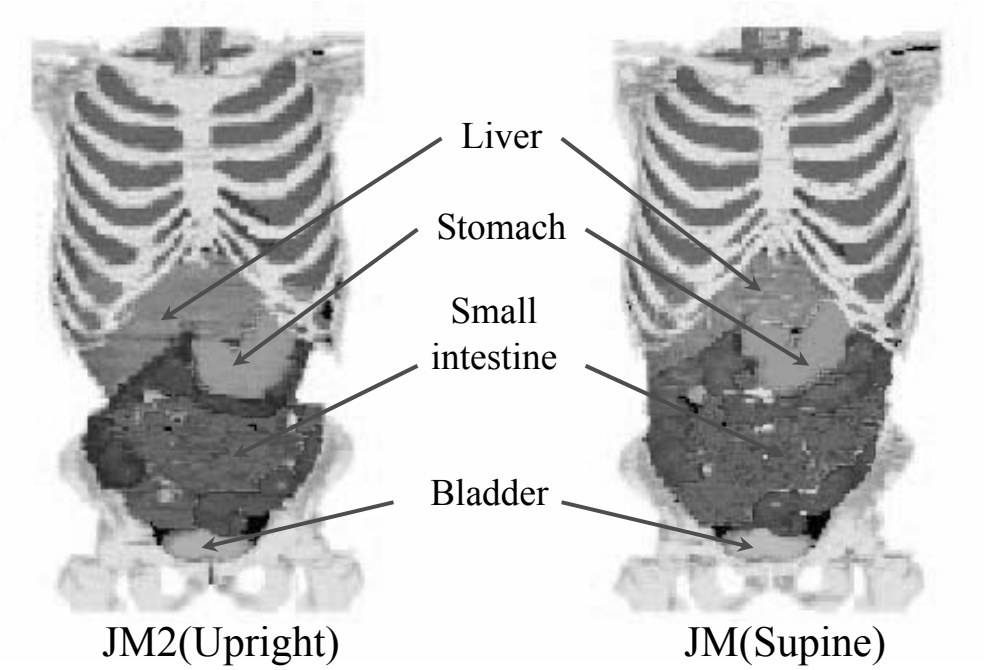

Figure 2-2 View of organs in the trunks of JM2 and JM.

Table 2-4 Distances between the centers of gravity of several organs in JM2 and JM.

Organ	Organ distance (mm)		Ratio of JM2 to JM
	JM2	JM	
Brain - adrenals	500	490	1.02
Brain - kidneys	563	544	1.03
Brain - liver	490	480	1.02
Brain - small intestine	642	630	1.02
Brain - stomach	526	512	1.03
Brain - pancreas	520	510	1.02
Brain - esophagus	318	322	0.99
Brain - lungs	351	355	0.99
Brain - thymus	298	296	1.01
Brain - thyroid	206	207	1.00
Brain - bladder	432	428	1.01
Brain - lower large intestine	713	710	1.00

2.4 Elemental compositions of organs and tissues

Table 2-5 shows elemental compositions of organs and tissues assigned to the JAEA voxel phantoms. Six kinds of materials having different elemental compositions and densities were used. The elemental composition and density of the soft tissues were obtained by averaging the compositions and densities of brain, gastrointestinal tract, heart, kidney, liver, ovary, pancreas, spleen, testis and thyroid.[21)]

Table 2-5 Elemental compositions of organs and tissues assigned to the JAEA voxel phantoms.

Element	Elemental compositions (percentage by mass)					
	Hard bone	Bone marrow	Muscle, adipose	Skin	Lungs	Soft tissues
H	4.720E+0	1.089E+1	1.048E+1	1.021E+1	1.021E+1	1.043E+1
C	1.443E+1	5.233E+1	2.302E+1	2.693E+1	1.001E+1	1.245E+1
N	4.200E+0	2.160E+0	2.340E+0	4.240E+0	2.800E+0	2.580E+0
O	4.461E+1	3.431E+1	6.324E+1	5.783E+1	7.596E+1	7.351E+1
Na		2.000E-1	1.300E-1	1.160E-2	1.900E-1	1.600E-1
Mg	2.200E-1	7.680E-4	1.500E-2	5.400E-3	7.400E-3	
P	1.050E+1	6.000E-2	2.400E-1	3.110E-2	8.100E-2	2.000E-1
S	3.100E-1	3.000E-2	2.200E-1	1.600E-1	2.300E-1	1.800E-1
Cl			1.400E-1	2.500E-1	2.700E-1	2.100E-1
K			2.100E-1	7.960E-2	2.000E-1	2.100E-1
Ca	2.099E+1	8.560E-4		1.460E-3	7.000E-3	1.000E-1
Ti		1.030E-6				
V		6.200E-5				
Fe		9.450E-4	6.290E-3		3.700E-2	1.000E-1
Cu	8.400E-5	7.380E-6				
Zn	9.970E-4	5.020E-5	3.230E-3	5.240E-4	1.000E-3	
Rb			5.690E-4	2.070E-7	3.700E-4	
Sr			3.370E-5	6.540E-6	5.900E-6	
Zr		7.380E-4	7.950E-4	1.920E-2		
Nb		5.310E-4				
Ag	1.460E-7	6.360E-5				
Sn		2.090E-6				
Te		6.500E-5				
I						1.000E-1
Au	2.730E-6					
Pb		2.480E-6	1.620E-5	2.800E-5	4.100E-5	
Density (g cm^{-3})	1.765	1.006	0.987	1.105	0.296	1.048

3. Dose Calculation

3.1 Code system

A system, UCPIXEL,[8] was used to the calculation of organ doses for external photon exposures. The UCPIXEL was developed on the basis of the EGS4 Monte Carlo code,[12] a general-purpose package for the coupled transport of photons and electrons in an arbitrary geometry for particles with energies from a few keV up to several TeV.

In the photon transport, photoelectric effect, coherent scattering, Compton scattering and pair production were considered. The primary and secondary photons were followed down to 1 keV. The secondary electrons produced from these photon interactions were tracked down to the kinetic energy of 5 keV; the Kerma Approximation was not applied. The Parameter Reduced Electron-Step Transport Algorithm (PRESTA) was adopted to optimize the step size of electron transport.

The cross-section data for photons were obtained from the PHOTX.[23,24] The stopping power of electrons was based on the ICRU Report 37.[25] These data were calculated using the EGS4 preprocessor, PEGS4.

3.2 Irradiation conditions

Idealized exposure conditions were simulated using parallel uniform photon irradiation from the following six geometries (Figure 3-1): anterior to posterior (AP), posterior to anterior (PA), left lateral (LLAT), right lateral (RLAT), rotational (ROT) and isotropic (ISO). Organ doses were calculated for incidence of monoenergetic photons ranging from 0.01 MeV to 10 MeV. The number of primary photons simulated in the EGS4 calculation was set to obtain fraction standard deviations of less than 5 % in the deposited energy of each target organ.

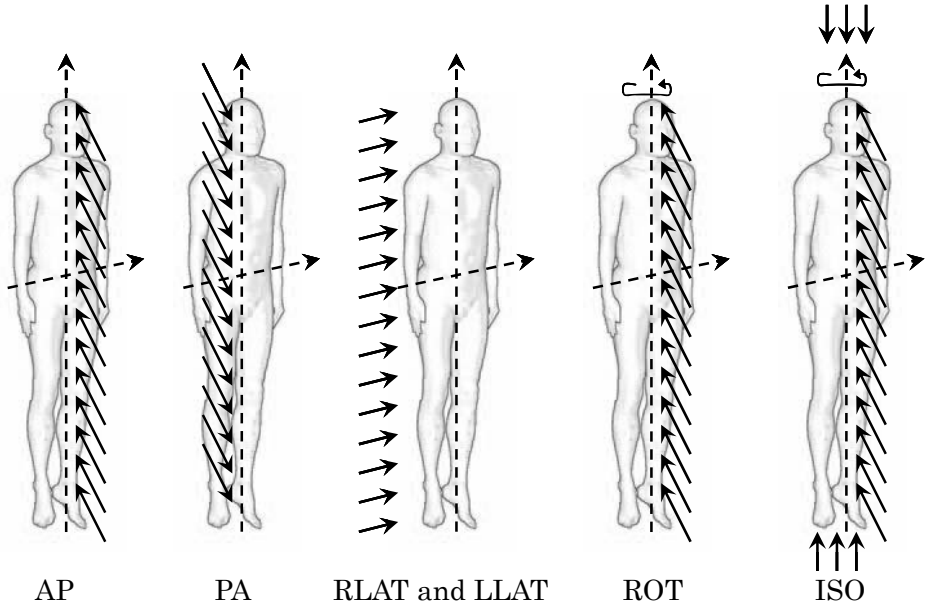

Figure 3-1 Irradiation geometries of the voxel phantoms.

3.3 Calculation of organ doses and effective doses

The absorbed doses of organs were computed by dividing the deposited energy in the organ by the organ's mass, and the effective doses based on the ICRP 1990 Recommendations[26] were obtained. The ICRP 2007 Recommendations[3] updated the organs and tissues and their tissue weighting factors that should be considered in the effective dose calculation, based upon more information on stochastic radiation effects on tissues and a broader concept of radiation detriment. In the JAEA voxel phantoms, salivary, lymphatic nodes, prostate and oral mucosa, which were taken into account in the ICRP 2007 Recommendations, were not segmented. Therefore, the effective dose was calculated according to the definition of the ICRP 1990 Recommendations. Table 3-1 shows the organs and the tissue weighting factors, w_T, that were used to evaluate the effective dose in the present study. Breast dose was not included for the calculation of the effective dose in the male phantoms (JM, JM2 and Otoko). The absorbed doses in organs and effective doses were normalized to air-kerma free-in-air, and the conversion coefficients are given by the unit Gy Gy^{-1} and Sv Gy^{-1}.

As discussed in Section 2.2, the complex structure of the skeleton could not be fully modeled from the CT data. Then, the radiation transport in the bone tissues was performed according to the methods developed at the GSF[20,21] and modified by Saito et al.,[8] in which the bone tissue was treated as the composite tissue "skeleton" consisting of bone marrow and hard bone. The total masses of bone marrow of the JAEA voxel phantoms were adjusted to the average values[22] in Japanese adult by optionally setting the grey value thresholds; specifically, it was assumed that 1) voxels with grey values below 800 are bone marrow only, 2) voxels with grey values between 800 and 2040 consist of a mixture of bone marrow and hard bone, and 3) voxels with grey values higher than 2040 are regarded as hard bone only. In the mixture regions of bone marrow and hard bone, the weight fraction of the bone tissues was calculated by interpolating from original grey values. The radiation transport simulation was made by sampling the material data for each voxel calculated on the basis of weight fractions of bone marrow and hard bone presented in Table 2-5.

Table 3-1 Tissue weighting factors.

Tissue or organ	Tissue weighting factors, w_T
Gonads (Ovary or Testis)	0.20
Bone marrow (red), Colon, Lung, Stomach	0.12
Bladder, Breast, Liver, Esophagus, Thyroid	0.05
Skin, Bone surface	0.01
Remainder (Adrenals, Brain, Upper large intestine, Small intestine, Kidney, Muscle, Pancreas, Spleen, Thymus, Uterus)	0.05

4. Results and Discussion

4.1 Tabulated data of dose conversion coefficients

This section presents a complete set of the calculated dose conversion coefficients for the JAEA voxel phantoms, JM, JM2, Otoko, JF and Onago. The dose conversion coefficients are given as absorbed dose and effective dose per unit air-kerma free-in-air, and are tabulated for 25 incident photon energies ranging from 0.01 MeV to 10 MeV for six irradiation geometries shown in Figure 3-1. The dose conversion coefficients recommended in ICRP74[1)] are listed in the tables and figures for comparison.

Table 4-1 – Table 4-23 and Figure 4-1 – Figure 4-23:
Organ dose per unit air-kerma in AP geometry
Table 4-24 and Figure 4-24:
Effective dose per unit air-kerma in AP geometry
Table 4-25 – Table 4-47 and Figure 4-25 – Figure 4-47:
Organ dose per unit air-kerma in PA geometry
Table 4-48 and Figure 4-48:
Effective dose per unit air-kerma in PA geometry
Table 4-49 – Table 4-71 and Figure 4-49 – Figure 4-71:
Organ dose per unit air-kerma in RLAT geometry
Table 4-72 and Figure 4-72:
Effective dose per unit air-kerma in RLAT geometry
Table 4-73 – Table 4-95 and Figure 4-73 – Figure 4-95:
Organ dose per unit air-kerma in LLAT geometry
Table 4-96 and Figure 4-96:
Effective dose per unit air-kerma in LLAT geometry
Table 4-97 – Table 4-119 and Figure 4-97 – Figure 4-119:
Organ dose per unit air-kerma in ROT geometry
Table 4-120 and Figure 4-120:
Effective dose per unit air-kerma in ROT geometry
Table 4-121 – Table 4-143 and Figure 4-121 – Figure 4-143:
Organ dose per unit air-kerma in ISO geometry
Table 4-144 and Figure 4-144:
Effective dose per unit air-kerma in ISO geometry

Table 4-1 Testes absorbed dose per unit air-kerma in AP geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.013	0.005	0.009	-	-	0.0292
0.015	0.176	0.128	0.137	-	-	0.195
0.02	0.477	0.415	0.424	-	-	0.503
0.03	1.022	0.974	1.004	-	-	1.093
0.04	1.431	1.399	1.457	-	-	1.506
0.05	1.710	1.688	1.741	-	-	1.767
0.06	1.827	1.805	1.908	-	-	1.908
0.08	1.884	1.872	1.894	-	-	1.953
0.1	1.724	1.733	1.824	-	-	1.855
0.15	1.526	1.602	1.633	-	-	1.631
0.2	1.452	1.465	1.543	-	-	1.497
0.3	1.333	1.365	1.375	-	-	1.366
0.4	1.347	1.277	1.283	-	-	1.303
0.5	1.236	1.244	1.269	-	-	1.265
0.6	1.219	1.218	1.206	-	-	1.238
0.8	1.165	1.166	1.182	-	-	1.202
1	1.143	1.168	1.164	-	-	1.177
1.5	1.164	1.085	1.164	-	-	-
2	1.117	1.138	1.082	-	-	1.119
3	1.068	1.042	1.099	-	-	-
4	0.971	0.943	0.985	-	-	1.071
5	0.864	0.906	0.932	-	-	-
6	0.744	0.807	0.852	-	-	1.043
8	0.652	0.685	0.729	-	-	1.023
10	0.523	0.633	0.618	-	-	1.004

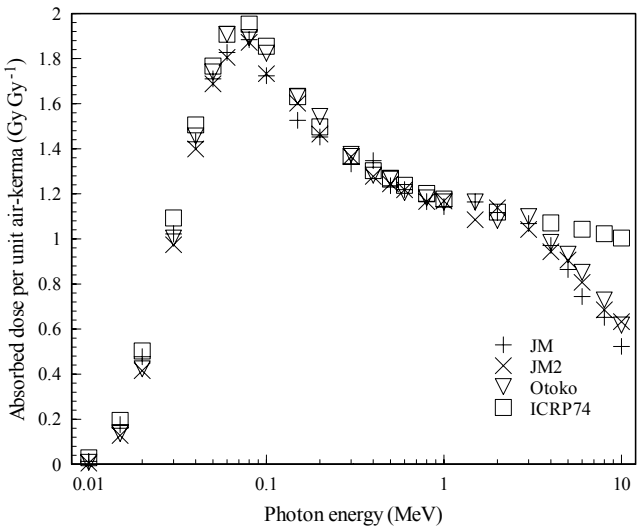

Figure 4-1 Testes absorbed dose per unit air-kerma in AP geometry.

Table 4-2 Bone (marrow) absorbed dose per unit air-kerma in AP geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.001	0.000	0.000	0.000	0.000	0.00029
0.015	0.004	0.004	0.004	0.003	0.004	0.0041
0.02	0.018	0.017	0.017	0.016	0.018	0.0144
0.03	0.106	0.104	0.102	0.103	0.108	0.070
0.04	0.287	0.283	0.272	0.281	0.285	0.211
0.05	0.506	0.498	0.480	0.500	0.499	0.400
0.06	0.701	0.692	0.668	0.697	0.684	0.573
0.08	0.924	0.914	0.889	0.929	0.911	0.768
0.1	1.002	0.992	0.970	1.013	0.986	0.822
0.15	1.013	1.003	0.996	1.034	1.008	0.808
0.2	0.995	0.985	0.983	1.011	0.994	0.783
0.3	0.977	0.970	0.968	0.972	0.977	0.761
0.4	0.978	0.971	0.967	0.951	0.975	0.755
0.5	0.976	0.971	0.964	0.934	0.976	0.756
0.6	0.981	0.972	0.971	0.931	0.975	0.761
0.8	0.981	0.978	0.974	0.931	0.975	0.774
1	0.986	0.978	0.972	0.937	0.976	0.787
1.5	0.991	0.987	0.982	0.949	0.980	-
2	1.002	1.000	0.990	0.964	0.991	0.833
3	1.014	1.010	1.003	0.978	1.000	-
4	1.020	1.016	1.007	0.979	1.005	0.877
5	1.013	1.015	1.011	0.982	1.005	-
6	1.005	1.006	1.003	0.973	0.994	0.900
8	0.970	0.974	0.972	0.943	0.966	0.916
10	0.945	0.945	0.949	0.913	0.937	0.927

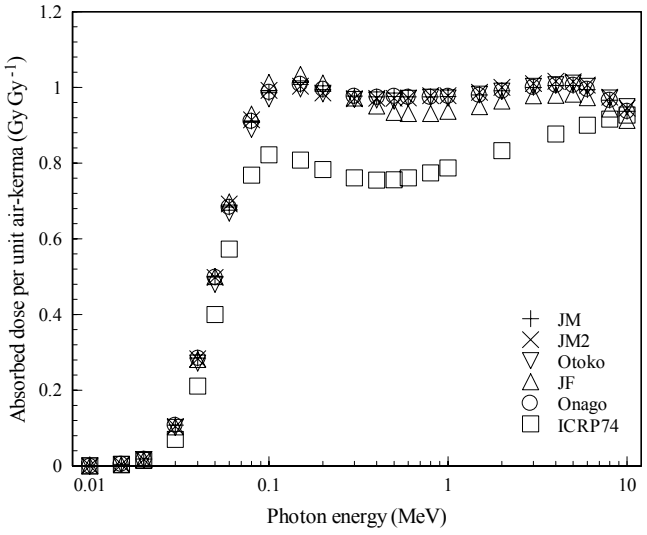

Figure 4-2 Bone (marrow) absorbed dose per unit air-kerma in AP geometry.

Table 4-3 Lower large intestine absorbed dose per unit air-kerma in AP geometry (Gy Gy^{-1}).

Energy	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.000	0.000	0.000	0.000	0.000	0.000
0.015	0.003	0.001	0.007	0.009	0.002	0.00034
0.02	0.031	0.016	0.067	0.050	0.044	0.0149
0.03	0.229	0.178	0.387	0.267	0.381	0.251
0.04	0.543	0.470	0.783	0.567	0.825	0.661
0.05	0.841	0.763	1.098	0.835	1.182	1.040
0.06	1.036	0.963	1.332	1.016	1.396	1.289
0.08	1.198	1.123	1.423	1.177	1.509	1.454
0.1	1.167	1.127	1.417	1.149	1.473	1.416
0.15	1.080	1.040	1.285	1.063	1.299	1.280
0.2	1.021	0.993	1.185	0.999	1.230	1.184
0.3	0.979	0.945	1.138	0.988	1.150	1.099
0.4	0.932	0.913	1.088	0.954	1.114	1.065
0.5	0.937	0.909	1.060	0.940	1.064	1.046
0.6	0.949	0.890	1.062	0.933	1.070	1.035
0.8	0.951	0.915	1.014	0.938	1.043	1.020
1	0.925	0.899	1.044	0.929	1.055	1.010
1.5	0.935	0.905	1.018	0.945	1.031	-
2	0.944	0.924	1.019	0.945	0.997	0.985
3	0.961	0.937	1.038	0.962	1.000	-
4	0.963	0.938	1.024	0.966	1.041	0.984
5	0.957	0.956	1.009	0.945	1.011	-
6	0.961	0.961	1.000	0.954	1.000	0.988
8	0.934	0.926	0.968	0.925	0.985	0.984
10	0.921	0.953	0.950	0.913	0.988	0.978

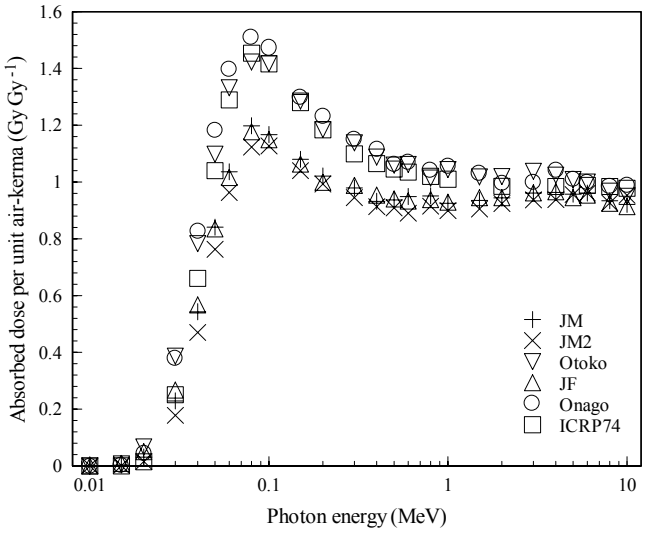

Figure 4-3 Lower large intestine absorbed dose per unit air-kerma in AP geometry.

Table 4-4 Lung absorbed dose per unit air-kerma in AP geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.000	0.000	0.000	0.000	0.000	0.000
0.015	0.002	0.002	0.003	0.004	0.002	0.00175
0.02	0.034	0.031	0.049	0.045	0.037	0.0304
0.03	0.302	0.295	0.361	0.320	0.301	0.297
0.04	0.686	0.676	0.760	0.689	0.661	0.693
0.05	1.008	0.991	1.077	0.985	0.963	1.023
0.06	1.213	1.187	1.262	1.154	1.154	1.223
0.08	1.324	1.308	1.364	1.252	1.269	1.331
0.1	1.293	1.281	1.332	1.232	1.241	1.291
0.15	1.189	1.170	1.208	1.137	1.149	1.164
0.2	1.119	1.111	1.144	1.069	1.102	1.101
0.3	1.070	1.062	1.089	1.030	1.046	1.044
0.4	1.046	1.038	1.057	1.012	1.029	1.021
0.5	1.027	1.024	1.044	1.003	1.017	1.009
0.6	1.023	1.017	1.031	1.003	1.004	1.003
0.8	1.012	1.008	1.024	1.001	1.005	0.997
1	1.001	0.998	1.016	0.994	1.000	0.995
1.5	1.007	1.006	1.018	1.001	0.999	-
2	1.012	1.008	1.021	1.003	1.006	0.991
3	1.016	1.022	1.023	1.011	1.021	-
4	1.027	1.025	1.031	1.017	1.017	0.985
5	1.030	1.033	1.034	1.024	1.022	-
6	1.026	1.027	1.027	1.011	1.023	0.980
8	1.011	1.009	1.009	0.994	1.000	0.975
10	0.995	0.995	0.984	0.979	0.993	0.971

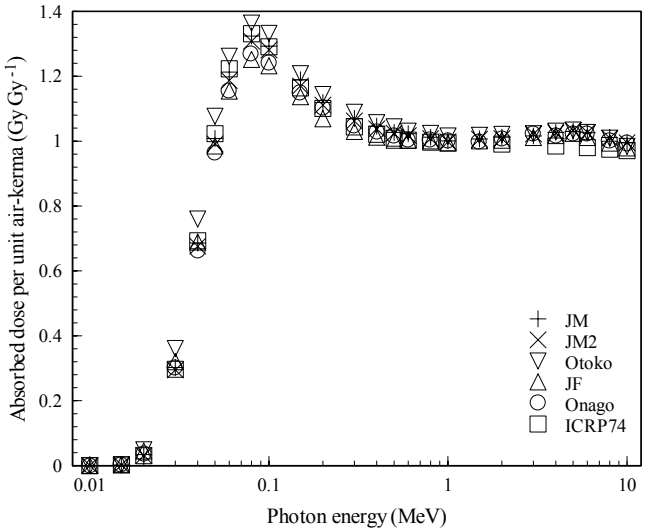

Figure 4-4 Lung absorbed dose per unit air-kerma in AP geometry.

Table 4-5 Stomach absorbed dose per unit air-kerma in AP geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.000	0.000	0.000	0.000	0.000	0.00001
0.015	0.006	0.005	0.000	0.047	0.001	0.00835
0.02	0.068	0.059	0.009	0.196	0.031	0.088
0.03	0.412	0.390	0.185	0.630	0.340	0.483
0.04	0.863	0.825	0.552	1.057	0.798	0.998
0.05	1.239	1.199	0.899	1.363	1.189	1.408
0.06	1.473	1.413	1.135	1.548	1.427	1.637
0.08	1.571	1.522	1.278	1.605	1.562	1.740
0.1	1.519	1.476	1.242	1.555	1.484	1.650
0.15	1.339	1.312	1.107	1.369	1.297	1.457
0.2	1.272	1.241	1.034	1.307	1.246	1.355
0.3	1.171	1.139	0.949	1.204	1.126	1.243
0.4	1.120	1.103	0.955	1.150	1.097	1.185
0.5	1.089	1.073	0.922	1.121	1.047	1.150
0.6	1.057	1.051	0.923	1.103	1.046	1.125
0.8	1.029	1.047	0.906	1.081	1.058	1.093
1	1.032	1.003	0.909	1.079	1.021	1.073
1.5	1.025	0.997	0.919	1.050	1.001	-
2	1.011	1.007	0.946	1.048	1.025	1.038
3	1.016	1.014	0.934	1.041	1.033	-
4	1.022	1.022	0.958	1.027	1.012	1.023
5	1.013	1.013	0.964	1.000	1.052	-
6	1.026	1.010	0.946	0.970	1.006	1.016
8	1.000	0.976	0.942	0.889	0.984	1.008
10	0.939	0.939	0.941	0.829	0.969	1.002

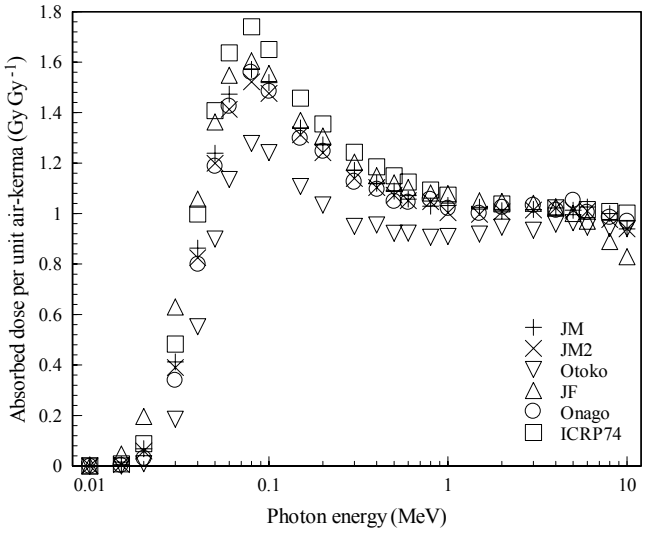

Figure 4-5 Stomach absorbed dose per unit air-kerma in AP geometry.

Table 4-6 Bladder absorbed dose per unit air-kerma in AP geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.000	0.000	0.000	0.000	0.000	0.000
0.015	0.002	0.001	0.000	0.000	0.002	0.00834
0.02	0.037	0.030	0.008	0.011	0.039	0.0895
0.03	0.281	0.260	0.164	0.190	0.335	0.474
0.04	0.652	0.601	0.483	0.519	0.748	0.970
0.05	0.952	0.945	0.816	0.869	1.092	1.377
0.06	1.208	1.238	1.054	1.146	1.355	1.622
0.08	1.375	1.357	1.287	1.279	1.532	1.732
0.1	1.380	1.377	1.301	1.319	1.521	1.656
0.15	1.277	1.246	1.203	1.148	1.404	1.458
0.2	1.170	1.186	1.152	1.103	1.305	1.336
0.3	1.087	1.091	1.081	1.040	1.165	1.231
0.4	1.035	1.056	1.030	1.017	1.092	1.182
0.5	1.026	1.014	1.017	1.054	1.056	1.151
0.6	1.028	0.999	1.007	1.028	1.072	1.130
0.8	0.981	1.025	1.003	0.986	1.066	1.102
1	1.004	1.007	1.005	0.998	1.029	1.084
1.5	1.017	0.986	1.000	0.952	1.043	-
2	0.995	0.968	0.978	1.012	1.052	1.041
3	0.989	0.984	0.978	1.005	1.068	-
4	0.976	1.031	0.998	0.956	1.021	1.015
5	1.030	0.981	0.997	0.969	1.012	-
6	1.018	1.007	0.990	0.995	1.045	1.000
8	0.991	1.010	0.975	0.960	0.995	0.986
10	0.941	0.935	0.943	0.981	1.006	0.973

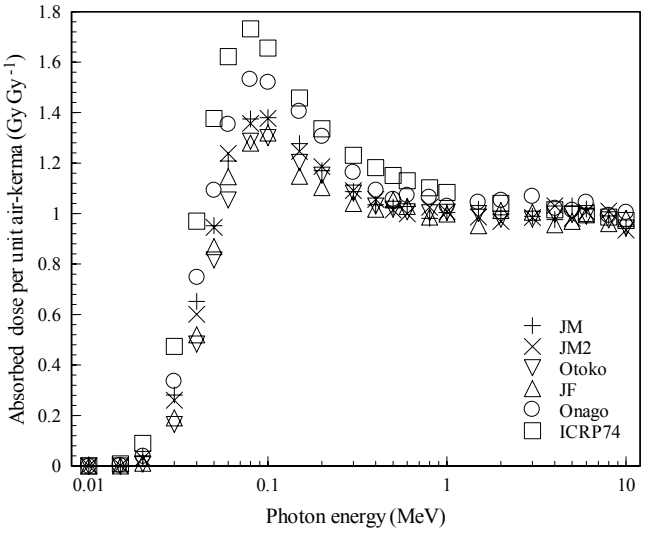

Figure 4-6 Bladder absorbed dose per unit air-kerma in AP geometry.

Table 4-7 Breast absorbed dose per unit air-kerma in AP geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	-	-	-	0.010	0.041	0.0223
0.015	-	-	-	0.134	0.228	0.186
0.02	-	-	-	0.373	0.498	0.465
0.03	-	-	-	0.854	0.968	0.958
0.04	-	-	-	1.204	1.305	1.296
0.05	-	-	-	1.433	1.530	1.522
0.06	-	-	-	1.547	1.652	1.644
0.08	-	-	-	1.571	1.679	1.670
0.1	-	-	-	1.522	1.627	1.600
0.15	-	-	-	1.391	1.468	1.449
0.2	-	-	-	1.307	1.383	1.361
0.3	-	-	-	1.236	1.287	1.264
0.4	-	-	-	1.185	1.244	1.214
0.5	-	-	-	1.163	1.218	1.184
0.6	-	-	-	1.144	1.184	1.164
0.8	-	-	-	1.130	1.169	1.138
1	-	-	-	1.116	1.143	1.123
1.5	-	-	-	1.101	1.107	-
2	-	-	-	1.087	1.060	1.101
3	-	-	-	1.030	0.977	-
4	-	-	-	0.980	0.900	1.084
5	-	-	-	0.909	0.819	-
6	-	-	-	0.855	0.727	1.068
8	-	-	-	0.741	0.619	1.055
10	-	-	-	0.640	0.530	1.042

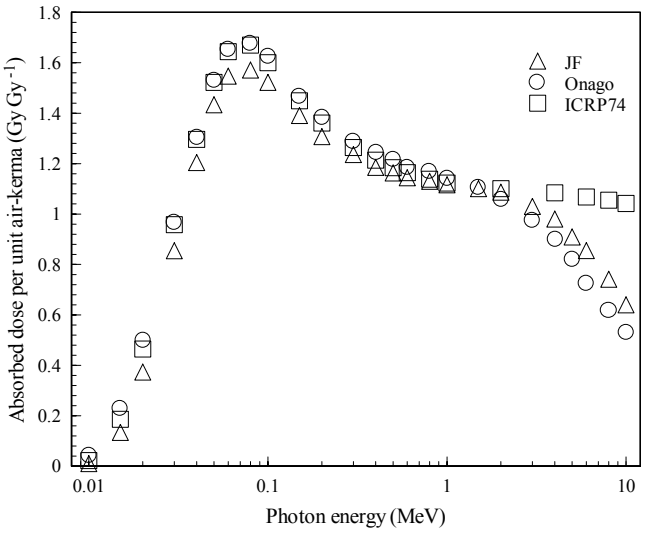

Figure 4-7 Breast absorbed dose per unit air-kerma in AP geometry.

Table 4-8 Ovaries absorbed dose per unit air-kerma in AP geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	-	-	-	0.000	0.000	0.000
0.015	-	-	-	0.000	0.000	0.000
0.02	-	-	-	0.001	0.000	0.000
0.03	-	-	-	0.067	0.058	0.158
0.04	-	-	-	0.271	0.249	0.511
0.05	-	-	-	0.522	0.485	0.846
0.06	-	-	-	0.667	0.705	1.072
0.08	-	-	-	0.999	0.937	1.262
0.1	-	-	-	1.068	0.942	1.282
0.15	-	-	-	0.985	0.866	1.185
0.2	-	-	-	0.925	0.886	1.106
0.3	-	-	-	0.893	0.841	1.017
0.4	-	-	-	0.953	0.862	0.972
0.5	-	-	-	0.842	0.864	0.948
0.6	-	-	-	0.893	0.866	0.934
0.8	-	-	-	0.893	0.882	0.921
1	-	-	-	0.856	0.849	0.918
1.5	-	-	-	0.834	0.901	-
2	-	-	-	0.875	0.872	0.936
3	-	-	-	0.953	0.973	-
4	-	-	-	0.992	0.934	0.981
5	-	-	-	0.929	0.903	-
6	-	-	-	0.928	0.945	1.013
8	-	-	-	0.894	0.919	1.037
10	-	-	-	0.942	1.007	1.056

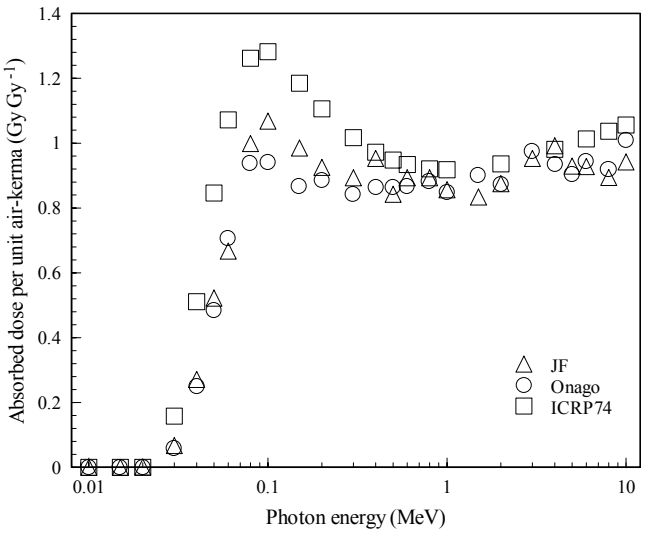

Figure 4-8 Ovaries absorbed dose per unit air-kerma in AP geometry.

Table 4-9 Liver absorbed dose per unit air-kerma in AP geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.000	0.000	0.000	0.000	0.000	0.000
0.015	0.002	0.002	0.004	0.007	0.001	0.00316
0.02	0.028	0.030	0.050	0.064	0.028	0.0418
0.03	0.261	0.269	0.360	0.383	0.262	0.318
0.04	0.651	0.660	0.793	0.798	0.642	0.732
0.05	1.009	1.014	1.159	1.133	0.983	1.094
0.06	1.240	1.244	1.378	1.324	1.210	1.321
0.08	1.367	1.362	1.482	1.424	1.341	1.446
0.1	1.354	1.353	1.426	1.385	1.306	1.403
0.15	1.214	1.205	1.274	1.247	1.178	1.261
0.2	1.133	1.122	1.192	1.171	1.105	1.176
0.3	1.056	1.056	1.105	1.105	1.037	1.094
0.4	1.020	1.014	1.066	1.066	1.005	1.056
0.5	1.000	0.994	1.042	1.038	0.987	1.034
0.6	0.998	0.989	1.028	1.029	0.979	1.022
0.8	0.976	0.985	1.011	1.023	0.967	1.008
1	0.968	0.972	1.007	1.017	0.969	1.002
1.5	0.975	0.973	1.000	1.008	0.965	-
2	0.984	0.982	0.997	1.011	0.979	1.002
3	0.987	0.982	1.014	1.020	0.984	-
4	0.991	0.993	1.009	1.016	0.990	1.006
5	1.003	0.994	1.013	1.005	0.980	-
6	0.986	0.986	1.003	1.012	0.983	1.003
8	0.975	0.983	0.972	0.960	0.960	0.998
10	0.946	0.949	0.949	0.924	0.943	0.994

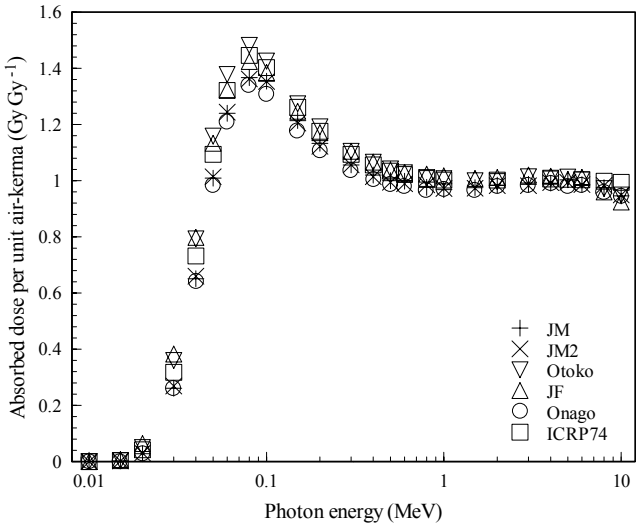

Figure 4-9 Liver absorbed dose per unit air-kerma in AP geometry.

Table 4-10 Esophagus absorbed dose per unit air-kerma in AP geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.000	0.000	0.000	0.000	0.000	0.00065
0.015	0.002	0.002	0.003	0.006	0.000	0.00643
0.02	0.023	0.021	0.025	0.039	0.013	0.0326
0.03	0.163	0.161	0.184	0.208	0.146	0.059
0.04	0.452	0.430	0.512	0.498	0.447	0.268
0.05	0.779	0.723	0.835	0.797	0.760	0.522
0.06	0.945	0.966	0.991	0.987	1.013	0.721
0.08	1.165	1.104	1.235	1.137	1.163	0.902
0.1	1.131	1.121	1.229	1.158	1.112	0.926
0.15	1.085	0.973	1.138	1.050	1.097	0.846
0.2	1.005	0.995	1.078	1.009	1.002	0.827
0.3	0.940	0.926	1.022	0.959	0.883	0.811
0.4	0.946	0.922	0.991	0.938	0.940	0.809
0.5	0.904	0.914	0.976	0.943	0.898	0.813
0.6	0.912	0.895	0.930	0.925	0.909	0.818
0.8	0.920	0.892	0.961	0.955	0.958	0.828
1	0.947	0.879	0.911	0.926	0.899	0.836
1.5	0.937	0.906	0.907	0.953	0.929	-
2	0.929	0.916	0.901	0.967	0.968	0.860
3	0.929	0.943	0.972	0.983	0.963	-
4	0.929	0.987	0.952	0.946	0.904	0.896
5	1.002	0.947	0.988	0.978	0.940	-
6	0.959	0.957	0.982	1.000	0.940	0.920
8	0.978	0.953	0.961	0.945	0.919	0.934
10	0.938	0.950	0.923	0.926	0.929	0.943

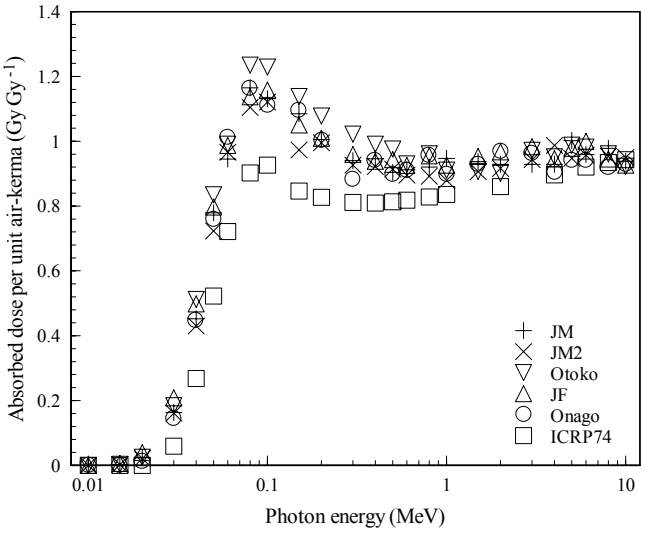

Figure 4-10 Esophagus absorbed dose per unit air-kerma in AP geometry.

Table 4-11 Thyroid absorbed dose per unit air-kerma in AP geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.000	0.000	0.000	0.006	0.001	0.00126
0.015	0.049	0.041	0.038	0.144	0.080	0.0962
0.02	0.278	0.249	0.248	0.455	0.340	0.358
0.03	0.822	0.793	0.794	0.988	0.882	0.910
0.04	1.242	1.210	1.215	1.311	1.242	1.355
0.05	1.512	1.510	1.553	1.546	1.493	1.670
0.06	1.649	1.639	1.662	1.707	1.673	1.846
0.08	1.736	1.684	1.758	1.833	1.668	1.938
0.1	1.704	1.633	1.787	1.704	1.695	1.873
0.15	1.575	1.513	1.575	1.558	1.477	1.674
0.2	1.420	1.475	1.423	1.427	1.375	1.543
0.3	1.411	1.352	1.324	1.363	1.399	1.410
0.4	1.295	1.301	1.276	1.307	1.352	1.354
0.5	1.268	1.245	1.218	1.175	1.267	1.324
0.6	1.258	1.208	1.248	1.202	1.198	1.302
0.8	1.124	1.168	1.120	1.182	1.139	1.269
1	1.167	1.192	1.145	1.156	1.202	1.244
1.5	1.090	1.139	1.104	1.165	1.298	-
2	1.156	1.101	1.128	1.061	1.207	1.166
3	1.130	1.092	1.082	1.007	1.140	-
4	1.180	1.159	1.106	1.027	1.036	1.093
5	1.026	1.075	1.089	0.943	1.067	-
6	1.021	1.034	1.030	0.869	0.889	1.053
8	0.928	0.894	0.945	0.682	0.733	1.026
10	0.736	0.804	0.766	0.603	0.632	1.007

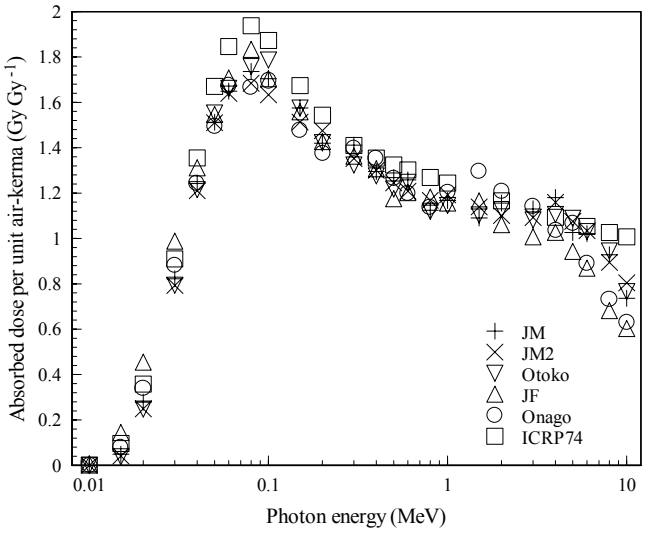

Figure 4-11 Thyroid absorbed dose per unit air-kerma in AP geometry.

Table 4-12 Skin absorbed dose per unit air-kerma in AP geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.251	0.251	0.248	0.255	0.253	0.235
0.015	0.403	0.406	0.400	0.409	0.405	0.377
0.02	0.497	0.502	0.496	0.505	0.500	0.488
0.03	0.661	0.666	0.660	0.670	0.665	0.654
0.04	0.823	0.826	0.818	0.827	0.825	0.808
0.05	0.962	0.966	0.955	0.961	0.963	0.944
0.06	1.065	1.058	1.047	1.056	1.059	1.040
0.08	1.134	1.133	1.124	1.125	1.134	1.109
0.1	1.139	1.135	1.130	1.132	1.150	1.097
0.15	1.105	1.105	1.097	1.106	1.110	1.050
0.2	1.078	1.077	1.073	1.080	1.081	1.022
0.3	1.030	1.056	1.047	1.060	1.056	0.992
0.4	0.994	1.029	1.022	1.033	1.037	0.978
0.5	0.957	0.997	0.997	1.003	1.008	0.972
0.6	0.922	0.969	0.967	0.977	0.976	0.970
0.8	0.855	0.907	0.906	0.905	0.910	0.970
1	0.794	0.848	0.841	0.842	0.850	0.972
1.5	0.695	0.734	0.736	0.725	0.734	-
2	0.636	0.671	0.671	0.659	0.677	0.984
3	0.573	0.595	0.598	0.587	0.605	-
4	0.536	0.556	0.557	0.546	0.559	0.991
5	0.514	0.527	0.531	0.522	0.534	-
6	0.496	0.503	0.510	0.504	0.511	0.989
8	0.465	0.472	0.477	0.468	0.478	0.986
10	0.445	0.452	0.456	0.445	0.454	0.982

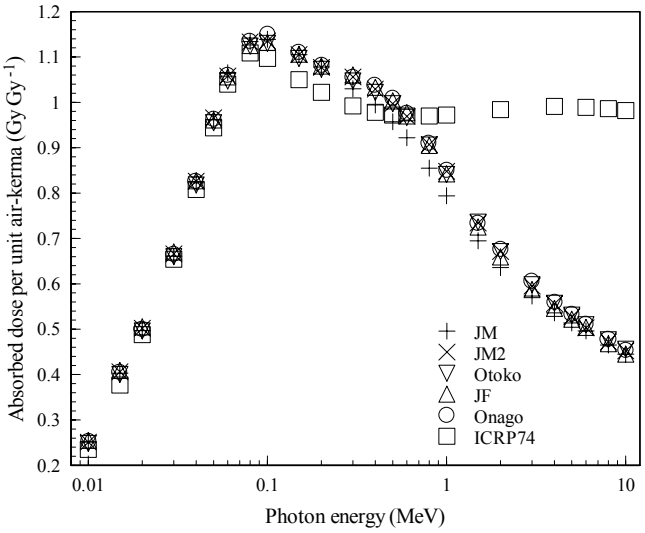

Figure 4-12 Skin absorbed dose per unit air-kerma in AP geometry.

Table 4-13 Bone (hard bone) absorbed dose per unit air-kerma in AP geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.003	0.001	0.001	0.002	0.002	0.00143
0.015	0.040	0.034	0.034	0.038	0.036	0.0247
0.02	0.190	0.176	0.172	0.191	0.180	0.101
0.03	1.065	1.033	0.990	1.076	1.028	0.537
0.04	2.444	2.400	2.321	2.449	2.372	1.257
0.05	3.520	3.479	3.402	3.511	3.434	1.884
0.06	3.905	3.876	3.825	3.882	3.825	2.185
0.08	3.407	3.381	3.381	3.354	3.356	2.083
0.1	2.655	2.643	2.655	2.610	2.630	1.757
0.15	1.655	1.647	1.668	1.627	1.644	1.268
0.2	1.296	1.289	1.311	1.285	1.297	1.074
0.3	1.056	1.053	1.070	1.067	1.063	0.938
0.4	0.977	0.968	0.988	1.000	0.987	0.892
0.5	0.931	0.929	0.946	0.968	0.947	0.873
0.6	0.917	0.909	0.926	0.954	0.927	0.866
0.8	0.902	0.895	0.914	0.939	0.914	0.863
1	0.895	0.888	0.903	0.931	0.906	0.866
1.5	0.894	0.888	0.905	0.931	0.910	-
2	0.899	0.898	0.911	0.936	0.916	0.885
3	0.905	0.904	0.917	0.941	0.924	-
4	0.906	0.910	0.916	0.939	0.923	0.912
5	0.901	0.904	0.917	0.934	0.923	-
6	0.888	0.894	0.907	0.924	0.908	0.928
8	0.858	0.865	0.878	0.889	0.882	0.938
10	0.833	0.838	0.853	0.861	0.853	0.947

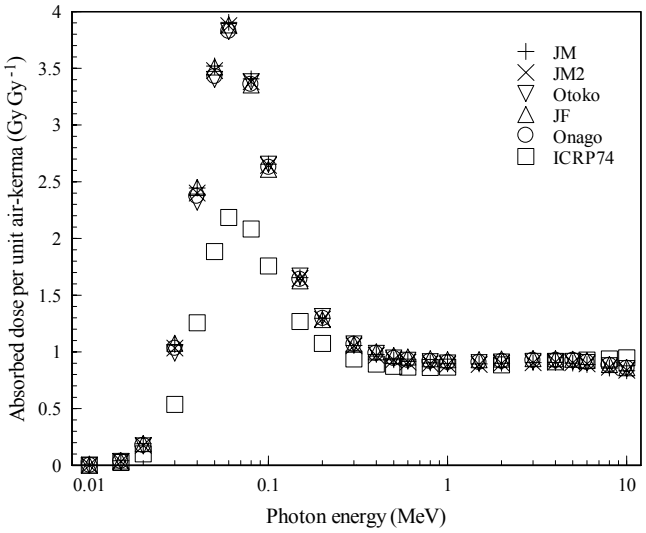

Figure 4-13 Bone (hard bone) absorbed dose per unit air-kerma in AP geometry.

Table 4-14 Adrenal absorbed dose per unit air-kerma in AP geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.000	0.000	0.000	0.000	0.000	-
0.015	0.000	0.000	0.000	0.000	0.000	-
0.02	0.000	0.000	0.000	0.005	0.000	-
0.03	0.052	0.050	0.050	0.170	0.034	-
0.04	0.263	0.256	0.256	0.506	0.186	-
0.05	0.534	0.517	0.486	0.884	0.387	-
0.06	0.808	0.796	0.683	1.124	0.557	-
0.08	0.972	0.954	0.853	1.131	0.725	-
0.1	0.918	0.985	0.819	1.193	0.772	-
0.15	0.869	0.835	0.836	1.131	0.706	-
0.2	0.827	0.813	0.750	1.077	0.722	-
0.3	0.839	0.783	0.759	1.039	0.689	-
0.4	0.751	0.785	0.704	1.002	0.717	-
0.5	0.807	0.720	0.743	0.984	0.712	-
0.6	0.763	0.851	0.735	0.968	0.720	-
0.8	0.870	0.783	0.782	0.898	0.728	-
1	0.784	0.849	0.760	0.928	0.729	-
1.5	0.830	0.862	0.827	1.032	0.776	-
2	0.863	0.902	0.814	1.017	0.804	-
3	0.877	0.896	0.795	0.872	0.870	-
4	1.000	0.925	0.896	0.943	0.848	-
5	0.865	0.962	0.907	0.996	0.873	-
6	0.881	0.902	0.878	0.963	0.850	-
8	0.938	0.877	0.941	0.943	0.863	-
10	0.959	0.947	0.940	1.019	0.904	-

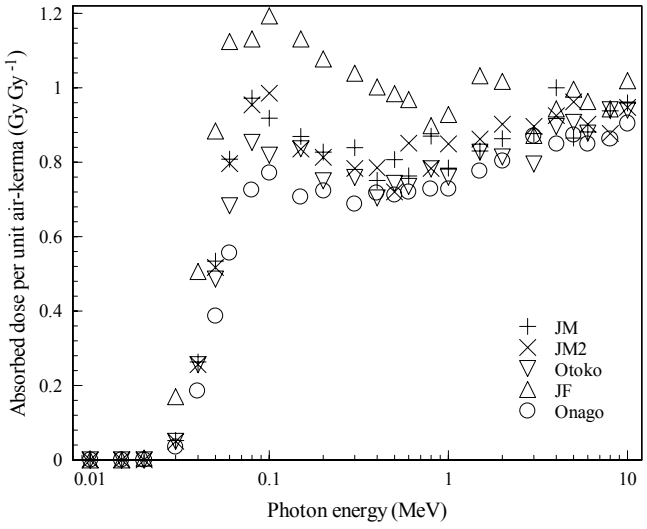

Figure 4-14 Adrenal absorbed dose per unit air-kerma in AP geometry.

Table 4-15 Brain absorbed dose per unit air-kerma in AP geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.000	0.000	0.000	0.000	0.000	-
0.015	0.000	0.000	0.000	0.000	0.000	-
0.02	0.001	0.001	0.001	0.001	0.000	-
0.03	0.045	0.043	0.040	0.045	0.019	-
0.04	0.213	0.207	0.204	0.215	0.147	-
0.05	0.426	0.419	0.424	0.427	0.349	-
0.06	0.597	0.584	0.603	0.597	0.525	-
0.08	0.746	0.743	0.761	0.752	0.716	-
0.1	0.789	0.781	0.811	0.799	0.773	-
0.15	0.779	0.778	0.794	0.794	0.778	-
0.2	0.770	0.765	0.783	0.792	0.775	-
0.3	0.769	0.769	0.787	0.789	0.776	-
0.4	0.778	0.776	0.792	0.806	0.784	-
0.5	0.783	0.782	0.792	0.811	0.789	-
0.6	0.796	0.792	0.799	0.820	0.804	-
0.8	0.811	0.809	0.825	0.841	0.822	-
1	0.829	0.827	0.835	0.850	0.827	-
1.5	0.869	0.858	0.862	0.882	0.857	-
2	0.880	0.883	0.884	0.907	0.891	-
3	0.910	0.906	0.907	0.925	0.914	-
4	0.934	0.923	0.925	0.935	0.926	-
5	0.943	0.933	0.934	0.949	0.941	-
6	0.940	0.937	0.940	0.957	0.943	-
8	0.932	0.931	0.933	0.944	0.938	-
10	0.927	0.928	0.943	0.927	0.935	-

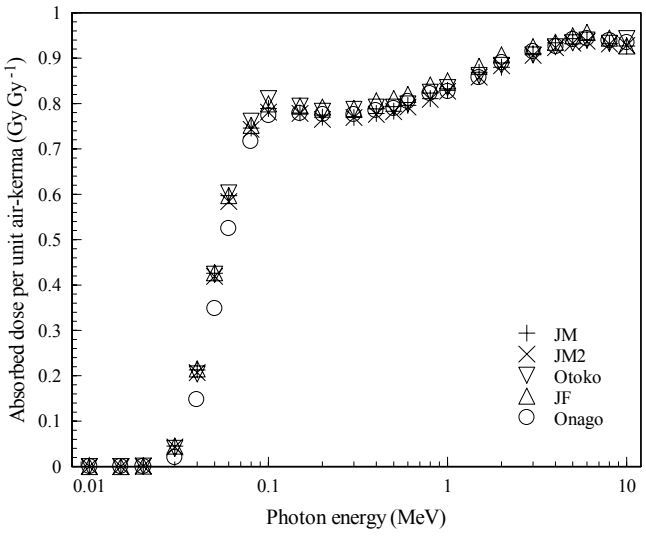

Figure 4-15 Brain absorbed dose per unit air-kerma in AP geometry.

Table 4-16 Upper large intestine absorbed dose per unit air-kerma in AP geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.000	0.000	0.000	0.001	0.000	-
0.015	0.006	0.005	0.017	0.052	0.004	-
0.02	0.065	0.060	0.146	0.222	0.069	-
0.03	0.424	0.409	0.661	0.713	0.473	-
0.04	0.875	0.859	1.166	1.151	0.951	-
0.05	1.240	1.222	1.546	1.447	1.327	-
0.06	1.454	1.440	1.749	1.611	1.518	-
0.08	1.573	1.563	1.802	1.684	1.623	-
0.1	1.521	1.509	1.738	1.598	1.573	-
0.15	1.343	1.336	1.509	1.455	1.404	-
0.2	1.266	1.266	1.414	1.355	1.309	-
0.3	1.176	1.162	1.289	1.263	1.195	-
0.4	1.132	1.119	1.231	1.210	1.146	-
0.5	1.072	1.094	1.198	1.170	1.114	-
0.6	1.090	1.079	1.159	1.161	1.105	-
0.8	1.058	1.056	1.134	1.145	1.086	-
1	1.039	1.037	1.128	1.109	1.054	-
1.5	1.032	1.045	1.084	1.089	1.048	-
2	1.010	1.057	1.079	1.085	1.054	-
3	1.036	1.036	1.081	1.066	1.058	-
4	1.026	1.025	1.063	1.040	1.037	-
5	1.049	1.011	1.062	0.996	1.022	-
6	1.014	1.016	1.050	0.975	1.026	-
8	0.984	0.984	0.968	0.887	1.001	-
10	0.945	0.962	0.905	0.814	0.957	-

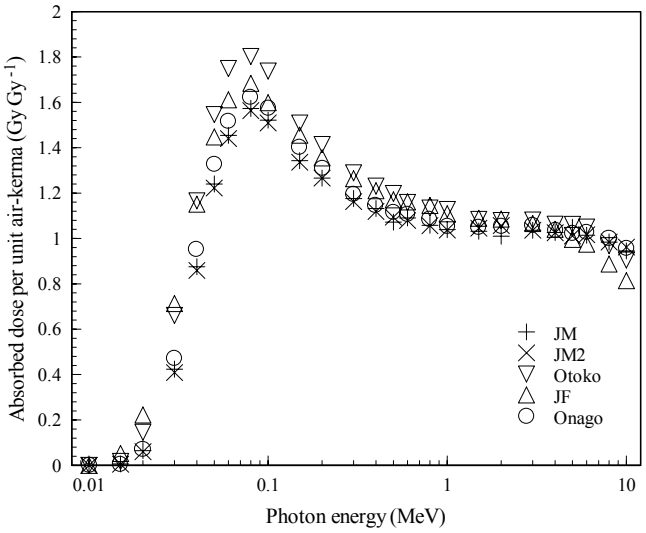

Figure 4-16 Upper large intestine absorbed dose per unit air-kerma in AP geometry.

Table 4-17 Small intestine absorbed dose per unit air-kerma in AP geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.000	0.000	0.000	0.000	0.000	-
0.015	0.003	0.002	0.004	0.011	0.000	-
0.02	0.042	0.035	0.064	0.085	0.030	-
0.03	0.340	0.330	0.464	0.469	0.327	-
0.04	0.774	0.767	0.948	0.918	0.767	-
0.05	1.147	1.139	1.331	1.258	1.136	-
0.06	1.385	1.371	1.561	1.464	1.360	-
0.08	1.507	1.521	1.685	1.574	1.491	-
0.1	1.468	1.474	1.614	1.513	1.464	-
0.15	1.309	1.315	1.440	1.362	1.295	-
0.2	1.213	1.225	1.335	1.272	1.214	-
0.3	1.122	1.134	1.240	1.180	1.124	-
0.4	1.090	1.080	1.180	1.131	1.081	-
0.5	1.059	1.068	1.146	1.108	1.058	-
0.6	1.045	1.036	1.120	1.084	1.049	-
0.8	1.029	1.025	1.097	1.072	1.032	-
1	1.026	1.011	1.079	1.055	1.011	-
1.5	1.008	1.004	1.054	1.042	1.006	-
2	1.012	1.002	1.043	1.041	1.007	-
3	1.006	1.017	1.044	1.024	1.024	-
4	1.013	1.017	1.042	1.034	1.002	-
5	1.007	0.997	1.046	1.017	1.016	-
6	1.006	1.000	1.030	1.006	0.993	-
8	0.979	0.988	1.004	0.982	0.993	-
10	0.961	0.968	0.975	0.947	0.971	-

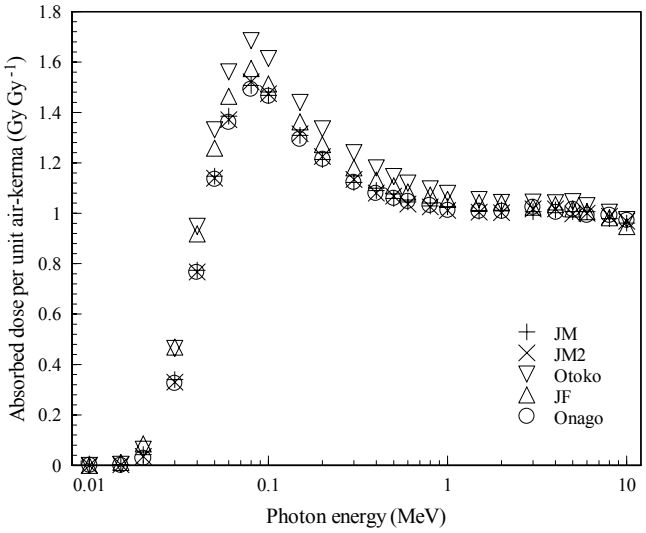

Figure 4-17 Small intestine absorbed dose per unit air-kerma in AP geometry.

Table 4-18 Kidney absorbed dose per unit air-kerma in AP geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.000	0.000	0.000	0.000	0.000	-
0.015	0.000	0.000	0.000	0.000	0.000	-
0.02	0.000	0.001	0.003	0.005	0.001	-
0.03	0.051	0.071	0.123	0.144	0.071	-
0.04	0.250	0.303	0.413	0.431	0.285	-
0.05	0.502	0.583	0.715	0.709	0.531	-
0.06	0.701	0.792	0.921	0.904	0.724	-
0.08	0.882	0.963	1.078	1.030	0.872	-
0.1	0.900	0.976	1.068	1.046	0.894	-
0.15	0.834	0.903	0.985	0.971	0.822	-
0.2	0.801	0.863	0.933	0.944	0.794	-
0.3	0.780	0.827	0.898	0.918	0.793	-
0.4	0.776	0.817	0.887	0.897	0.773	-
0.5	0.771	0.802	0.877	0.901	0.780	-
0.6	0.778	0.812	0.885	0.909	0.790	-
0.8	0.790	0.839	0.868	0.892	0.801	-
1	0.807	0.826	0.882	0.924	0.810	-
1.5	0.829	0.846	0.900	0.931	0.833	-
2	0.854	0.870	0.910	0.948	0.852	-
3	0.883	0.905	0.921	0.949	0.888	-
4	0.892	0.927	0.938	0.971	0.902	-
5	0.901	0.909	0.945	0.958	0.904	-
6	0.901	0.918	0.946	0.974	0.915	-
8	0.905	0.906	0.954	0.928	0.926	-
10	0.914	0.904	0.939	0.949	0.922	-

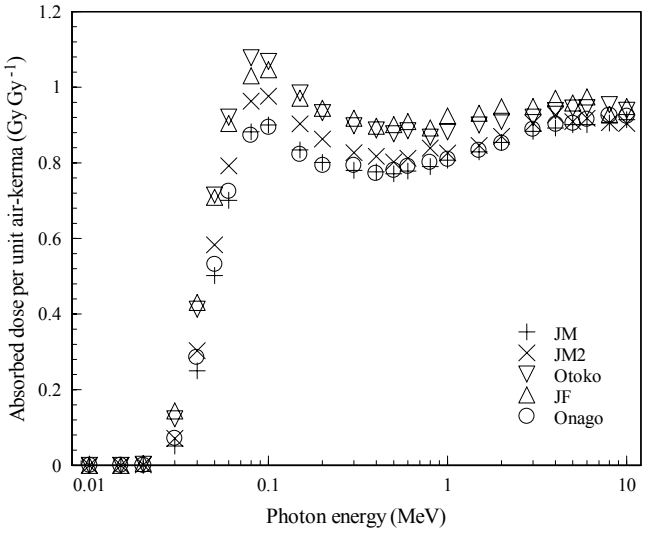

Figure 4-18 Kidney absorbed dose per unit air-kerma in AP geometry.

Table 4-19 Muscle absorbed dose per unit air-kerma in AP geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.003	0.003	0.002	0.004	0.003	-
0.015	0.033	0.030	0.028	0.040	0.028	-
0.02	0.116	0.109	0.101	0.125	0.099	-
0.03	0.368	0.359	0.325	0.374	0.337	-
0.04	0.642	0.634	0.577	0.641	0.609	-
0.05	0.875	0.867	0.799	0.865	0.845	-
0.06	1.026	1.021	0.950	1.008	1.003	-
0.08	1.130	1.125	1.067	1.111	1.114	-
0.1	1.127	1.121	1.078	1.112	1.116	-
0.15	1.062	1.057	1.030	1.059	1.057	-
0.2	1.024	1.018	0.997	1.024	1.020	-
0.3	0.989	0.982	0.968	0.993	0.984	-
0.4	0.974	0.967	0.955	0.982	0.971	-
0.5	0.963	0.960	0.947	0.973	0.963	-
0.6	0.961	0.956	0.947	0.971	0.958	-
0.8	0.963	0.958	0.948	0.969	0.959	-
1	0.960	0.956	0.949	0.970	0.960	-
1.5	0.968	0.963	0.957	0.978	0.965	-
2	0.974	0.970	0.966	0.984	0.971	-
3	0.977	0.975	0.970	0.982	0.976	-
4	0.969	0.969	0.964	0.970	0.971	-
5	0.957	0.958	0.954	0.957	0.963	-
6	0.937	0.942	0.934	0.935	0.946	-
8	0.894	0.900	0.892	0.891	0.911	-
10	0.857	0.865	0.859	0.854	0.877	-

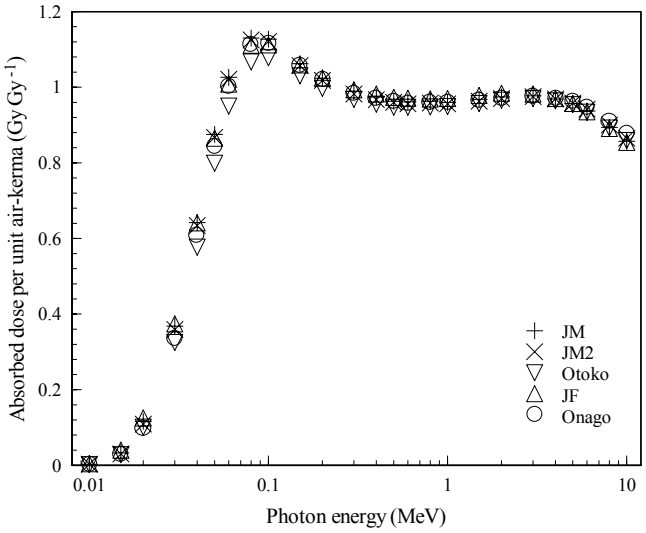

Figure 4-19 Muscle absorbed dose per unit air-kerma in AP geometry.

Table 4-20 Pancreas absorbed dose per unit air-kerma in AP geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.000	0.000	0.000	0.000	0.000	-
0.015	0.000	0.000	0.000	0.000	0.000	-
0.02	0.008	0.006	0.010	0.090	0.001	-
0.03	0.204	0.192	0.221	0.526	0.105	-
0.04	0.597	0.587	0.633	0.998	0.407	-
0.05	0.989	0.977	1.007	1.358	0.740	-
0.06	1.241	1.240	1.273	1.569	0.964	-
0.08	1.408	1.412	1.419	1.639	1.101	-
0.1	1.371	1.386	1.374	1.598	1.118	-
0.15	1.237	1.232	1.247	1.434	1.032	-
0.2	1.144	1.153	1.140	1.339	0.967	-
0.3	1.085	1.057	1.080	1.232	0.913	-
0.4	1.031	1.010	1.038	1.183	0.904	-
0.5	1.018	0.996	1.024	1.153	0.896	-
0.6	0.988	0.987	1.028	1.125	0.880	-
0.8	0.994	0.975	0.985	1.106	0.870	-
1	0.996	0.967	0.983	1.073	0.900	-
1.5	0.963	0.976	0.979	1.054	0.882	-
2	0.991	0.948	1.001	1.053	0.923	-
3	0.990	0.983	1.007	1.060	0.908	-
4	0.967	0.968	1.002	1.073	0.960	-
5	0.999	0.994	0.950	1.056	0.958	-
6	1.004	1.008	0.986	1.028	0.952	-
8	1.002	0.963	0.963	0.995	0.912	-
10	0.957	0.975	0.955	0.951	0.940	-

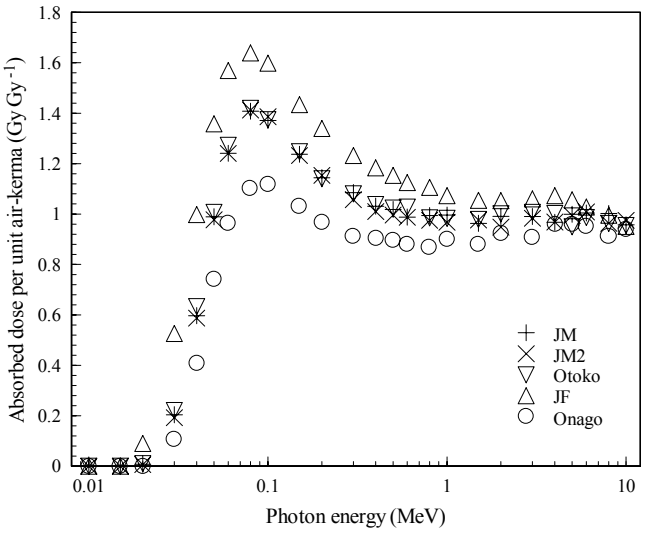

Figure 4-20 Pancreas absorbed dose per unit air-kerma in AP geometry.

Table 4-21 Spleen absorbed dose per unit air-kerma in AP geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.000	0.000	0.000	0.000	0.000	-
0.015	0.000	0.000	0.000	0.000	0.000	-
0.02	0.001	0.000	0.002	0.003	0.001	-
0.03	0.048	0.042	0.094	0.088	0.069	-
0.04	0.234	0.220	0.339	0.303	0.287	-
0.05	0.459	0.439	0.597	0.532	0.546	-
0.06	0.638	0.605	0.775	0.671	0.719	-
0.08	0.792	0.776	0.922	0.791	0.878	-
0.1	0.792	0.777	0.930	0.812	0.889	-
0.15	0.757	0.738	0.847	0.770	0.850	-
0.2	0.729	0.697	0.801	0.756	0.803	-
0.3	0.712	0.701	0.788	0.728	0.787	-
0.4	0.711	0.691	0.775	0.757	0.782	-
0.5	0.724	0.707	0.794	0.746	0.795	-
0.6	0.736	0.719	0.791	0.756	0.802	-
0.8	0.756	0.739	0.793	0.785	0.845	-
1	0.793	0.741	0.806	0.773	0.811	-
1.5	0.802	0.767	0.850	0.830	0.826	-
2	0.828	0.787	0.877	0.868	0.876	-
3	0.849	0.828	0.905	0.888	0.890	-
4	0.880	0.860	0.919	0.928	0.889	-
5	0.903	0.918	0.903	0.942	0.925	-
6	0.892	0.870	0.893	0.906	0.948	-
8	0.883	0.894	0.933	0.890	0.916	-
10	0.891	0.894	0.900	0.925	0.910	-

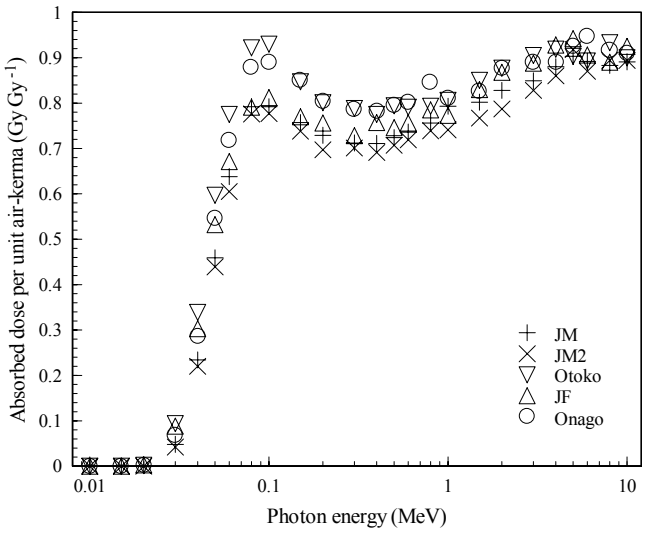

Figure 4-21 Spleen absorbed dose per unit air-kerma in AP geometry.

Table 4-22 Thymus absorbed dose per unit air-kerma in AP geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.000	0.000	0.000	0.000	0.000	0.000
0.015	0.001	0.001	0.000	0.000	0.000	0.0151
0.02	0.021	0.022	0.013	0.036	0.015	0.161
0.03	0.339	0.337	0.291	0.367	0.294	0.700
0.04	0.863	0.835	0.820	0.856	0.815	1.246
0.05	1.278	1.260	1.238	1.252	1.291	1.621
0.06	1.473	1.505	1.448	1.425	1.564	1.826
0.08	1.678	1.620	1.652	1.589	1.589	1.926
0.1	1.596	1.564	1.657	1.517	1.429	1.866
0.15	1.428	1.446	1.354	1.424	1.383	1.640
0.2	1.375	1.338	1.402	1.282	1.431	1.499
0.3	1.260	1.265	1.213	1.181	1.243	1.359
0.4	1.166	1.217	1.208	1.176	1.327	1.289
0.5	1.212	1.162	1.200	1.103	1.344	1.246
0.6	1.126	1.120	1.243	1.135	1.113	1.215
0.8	1.117	1.094	1.059	1.105	1.165	1.171
1	1.111	1.102	1.110	1.083	1.000	1.141
1.5	1.107	1.083	1.005	1.091	0.970	-
2	1.029	1.076	1.054	1.095	1.092	1.063
3	1.049	1.069	0.988	1.014	1.038	-
4	1.095	1.091	1.035	1.041	1.161	1.003
5	1.059	1.038	1.040	0.999	1.086	-
6	1.060	1.037	0.993	1.066	1.189	0.972
8	1.043	0.973	0.922	0.989	1.062	0.950
10	0.993	0.930	0.935	0.921	1.024	0.933

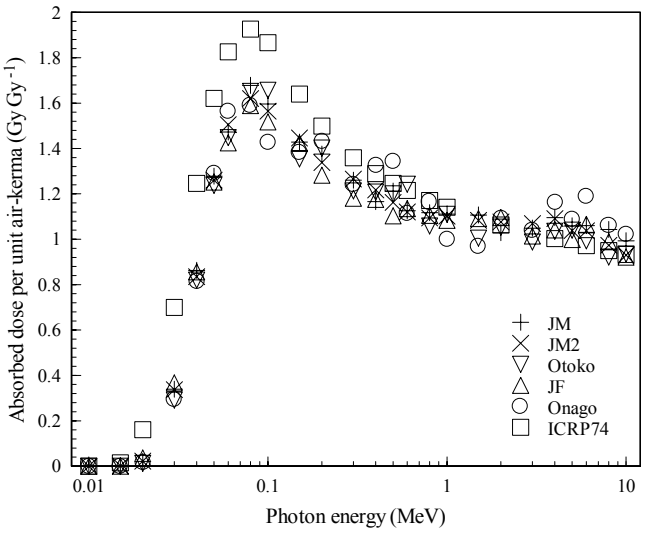

Figure 4-22 Thymus absorbed dose per unit air-kerma in AP geometry.

Table 4-23 Uterus absorbed dose per unit air-kerma in AP geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	-	-	-	0.000	0.000	0.000
0.015	-	-	-	0.000	0.000	0.00024
0.02	-	-	-	0.001	0.006	0.00133
0.03	-	-	-	0.090	0.170	0.217
0.04	-	-	-	0.351	0.510	0.606
0.05	-	-	-	0.654	0.859	0.966
0.06	-	-	-	0.897	1.095	1.209
0.08	-	-	-	1.073	1.277	1.381
0.1	-	-	-	1.091	1.253	1.376
0.15	-	-	-	1.026	1.163	1.224
0.2	-	-	-	0.958	1.098	1.126
0.3	-	-	-	0.923	1.030	1.032
0.4	-	-	-	0.885	0.996	0.988
0.5	-	-	-	0.924	0.976	0.965
0.6	-	-	-	0.906	0.984	0.952
0.8	-	-	-	0.892	0.964	0.941
1	-	-	-	0.906	0.979	0.937
1.5	-	-	-	0.931	0.959	-
2	-	-	-	0.904	0.974	0.929
3	-	-	-	0.941	0.967	-
4	-	-	-	0.936	0.994	0.915
5	-	-	-	0.925	0.978	-
6	-	-	-	0.973	0.969	0.902
8	-	-	-	0.894	0.975	0.893
10	-	-	-	0.943	0.963	0.885

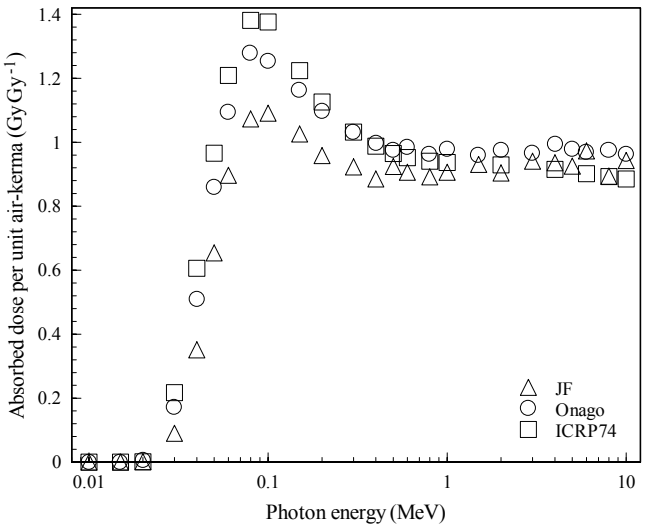

Figure 4-23 Uterus absorbed dose per unit air-kerma in AP geometry.

Table 4-24 Effective dose per unit air-kerma in AP geometry (Sv Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.005	0.004	0.004	0.004	0.005	0.00653
0.015	0.046	0.035	0.037	0.028	0.022	0.0402
0.02	0.144	0.126	0.130	0.097	0.073	0.122
0.03	0.441	0.419	0.433	0.338	0.310	0.416
0.04	0.785	0.758	0.785	0.646	0.639	0.788
0.05	1.073	1.048	1.076	0.922	0.935	1.106
0.06	1.248	1.225	1.260	1.098	1.144	1.308
0.08	1.362	1.334	1.360	1.257	1.287	1.433
0.1	1.314	1.299	1.339	1.254	1.267	1.394
0.15	1.197	1.190	1.217	1.149	1.155	1.256
0.2	1.130	1.125	1.146	1.086	1.119	1.173
0.3	1.064	1.058	1.069	1.038	1.043	1.093
0.4	1.041	1.021	1.030	1.023	1.028	1.056
0.5	1.007	1.001	1.012	0.985	1.014	1.036
0.6	1.001	0.986	0.996	0.989	0.998	1.024
0.8	0.975	0.976	0.977	0.983	0.997	1.010
1	0.970	0.966	0.974	0.970	0.983	1.003
1.5	0.973	0.949	0.970	0.964	0.993	-
2	0.967	0.963	0.958	0.975	0.984	0.992
3	0.960	0.950	0.965	0.988	1.002	-
4	0.945	0.940	0.946	0.988	0.987	0.993
5	0.922	0.925	0.935	0.965	0.978	-
6	0.894	0.904	0.912	0.955	0.969	0.993
8	0.856	0.854	0.864	0.904	0.930	0.991
10	0.795	0.825	0.818	0.888	0.931	0.990

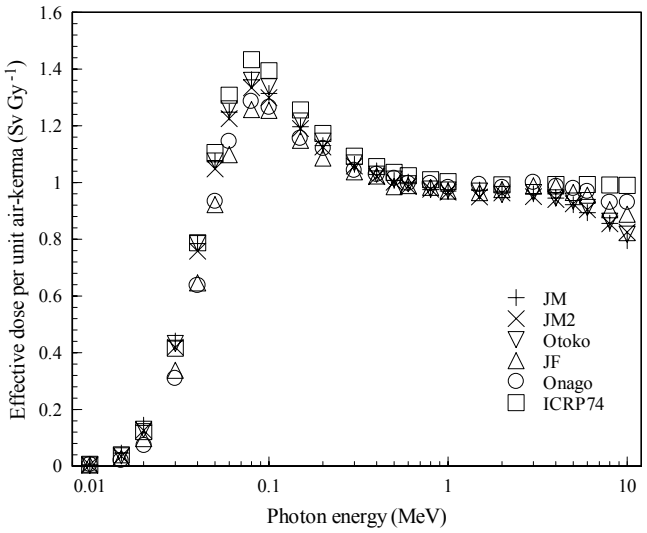

Figure 4-24 Effective dose per unit air-kerma in AP geometry.

Table 4-25 Testes absorbed dose per unit air-kerma in PA geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.000	0.000	0.000	-	-	0.000
0.015	0.007	0.004	0.000	-	-	0.000
0.02	0.025	0.015	0.008	-	-	0.000
0.03	0.087	0.066	0.095	-	-	0.0411
0.04	0.209	0.173	0.270	-	-	0.160
0.05	0.352	0.319	0.458	-	-	0.308
0.06	0.503	0.452	0.595	-	-	0.440
0.08	0.604	0.532	0.724	-	-	0.565
0.1	0.604	0.593	0.753	-	-	0.599
0.15	0.625	0.566	0.758	-	-	0.629
0.2	0.623	0.622	0.721	-	-	0.641
0.3	0.648	0.629	0.745	-	-	0.675
0.4	0.679	0.628	0.744	-	-	0.705
0.5	0.695	0.681	0.812	-	-	0.726
0.6	0.691	0.685	0.802	-	-	0.743
0.8	0.745	0.730	0.786	-	-	0.765
1	0.773	0.705	0.795	-	-	0.782
1.5	0.789	0.798	0.871	-	-	-
2	0.867	0.806	0.851	-	-	0.831
3	0.896	0.838	0.932	-	-	-
4	0.935	0.812	0.976	-	-	0.864
5	0.873	0.880	0.955	-	-	-
6	0.883	0.878	0.921	-	-	0.874
8	0.907	0.820	0.976	-	-	0.880
10	0.861	0.888	0.923	-	-	0.884

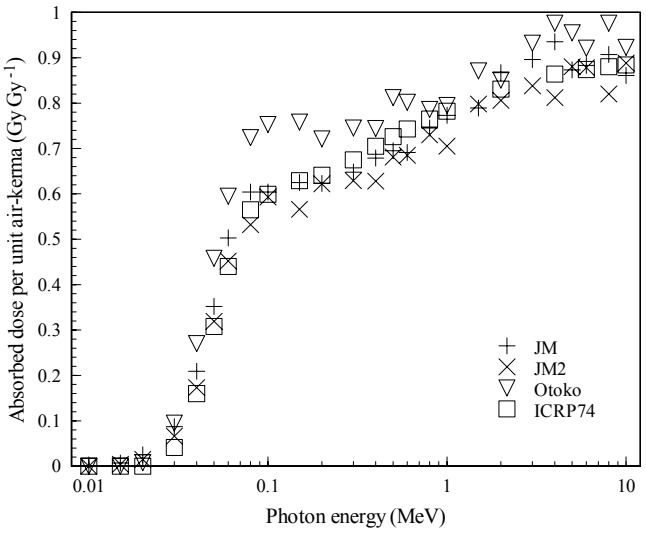

Figure 4-25 Testes absorbed dose per unit air-kerma in PA geometry.

Table 4-26 Bone (marrow) absorbed dose per unit air-kerma in PA geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.000	0.000	0.000	0.000	0.000	0.00048
0.015	0.002	0.001	0.002	0.002	0.002	0.00788
0.02	0.010	0.010	0.012	0.011	0.013	0.0316
0.03	0.089	0.088	0.096	0.086	0.095	0.171
0.04	0.267	0.265	0.270	0.252	0.266	0.450
0.05	0.489	0.486	0.484	0.467	0.478	0.772
0.06	0.693	0.686	0.676	0.664	0.671	1.037
0.08	0.928	0.921	0.906	0.903	0.896	1.302
0.1	1.003	1.002	0.991	0.993	0.980	1.347
0.15	1.025	1.021	1.012	1.014	1.004	1.254
0.2	1.009	1.006	1.000	0.995	0.992	1.175
0.3	0.991	0.987	0.985	0.959	0.977	1.088
0.4	0.988	0.982	0.980	0.937	0.971	1.043
0.5	0.988	0.985	0.978	0.927	0.971	1.017
0.6	0.989	0.991	0.982	0.922	0.975	1.000
0.8	0.992	0.993	0.984	0.927	0.975	0.983
1	0.993	0.994	0.981	0.931	0.973	0.974
1.5	1.001	1.001	0.992	0.943	0.985	-
2	1.012	1.010	1.000	0.960	0.997	0.968
3	1.024	1.023	1.011	0.976	1.006	-
4	1.030	1.028	1.018	0.985	1.013	0.980
5	1.036	1.034	1.024	0.991	1.017	-
6	1.028	1.027	1.024	0.987	1.015	0.992
8	1.010	1.007	1.004	0.976	0.994	1.001
10	0.987	0.993	0.983	0.959	0.977	1.007

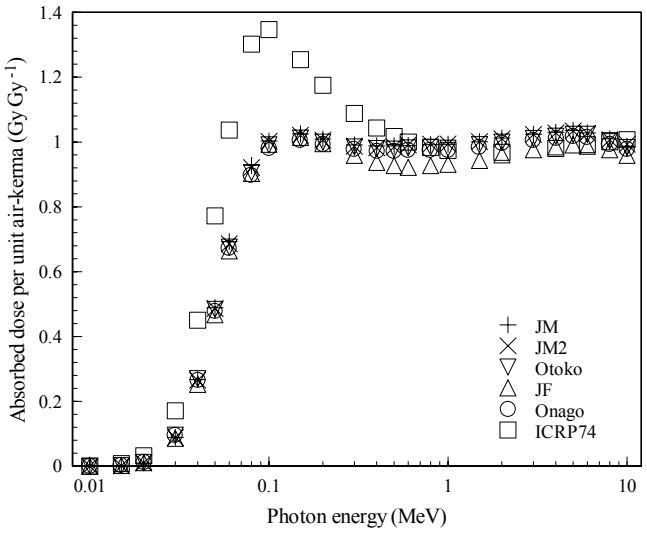

Figure 4-26 Bone (marrow) absorbed dose per unit air-kerma in PA geometry.

Table 4-27 Lower large intestine absorbed dose per unit air-kerma in PA geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.000	0.000	0.000	0.000	0.000	0.000
0.015	0.000	0.000	0.000	0.001	0.000	0.000
0.02	0.006	0.005	0.001	0.016	0.002	0.000
0.03	0.130	0.114	0.066	0.183	0.060	0.0655
0.04	0.393	0.372	0.260	0.474	0.230	0.295
0.05	0.681	0.646	0.484	0.762	0.450	0.581
0.06	0.877	0.865	0.656	0.959	0.628	0.805
0.08	1.083	1.054	0.831	1.128	0.796	1.006
0.1	1.075	1.061	0.870	1.111	0.825	1.036
0.15	1.017	0.998	0.839	1.058	0.778	0.963
0.2	0.962	0.956	0.827	1.015	0.799	0.912
0.3	0.920	0.895	0.810	0.968	0.747	0.873
0.4	0.922	0.898	0.810	0.947	0.790	0.860
0.5	0.899	0.882	0.811	0.951	0.781	0.857
0.6	0.890	0.896	0.812	0.934	0.797	0.858
0.8	0.895	0.889	0.845	0.937	0.802	0.863
1	0.907	0.869	0.850	0.918	0.813	0.870
1.5	0.907	0.912	0.860	0.930	0.843	-
2	0.905	0.915	0.862	0.929	0.869	0.887
3	0.920	0.920	0.917	0.968	0.898	-
4	0.947	0.923	0.903	0.956	0.893	0.901
5	0.943	0.951	0.929	0.963	0.878	-
6	0.950	0.947	0.939	0.970	0.906	0.908
8	0.962	0.938	0.915	0.947	0.908	0.912
10	0.935	0.931	0.913	0.935	0.904	0.915

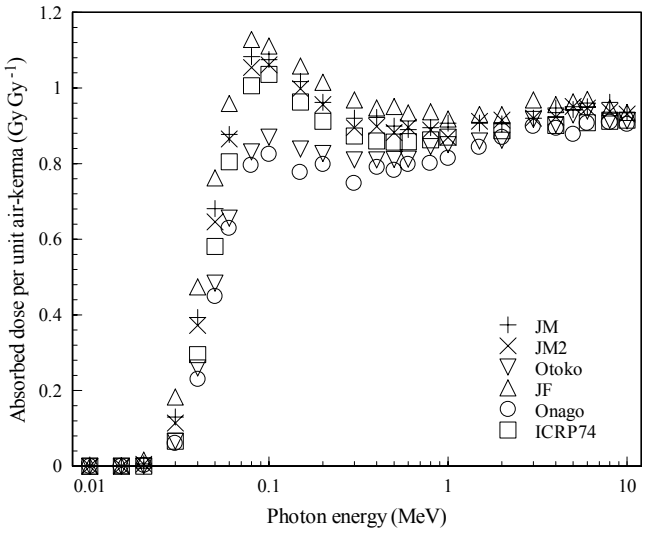

Figure 4-27 Lower large intestine absorbed dose per unit air-kerma in PA geometry.

Table 4-28 Lung absorbed dose per unit air-kerma in PA geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.000	0.000	0.000	0.000	0.000	0.000
0.015	0.000	0.001	0.000	0.003	0.000	0.00325
0.02	0.017	0.020	0.014	0.037	0.015	0.0482
0.03	0.216	0.234	0.207	0.287	0.219	0.360
0.04	0.556	0.584	0.547	0.637	0.570	0.780
0.05	0.865	0.894	0.858	0.934	0.894	1.117
0.06	1.078	1.098	1.065	1.122	1.100	1.319
0.08	1.214	1.241	1.202	1.231	1.257	1.435
0.1	1.205	1.238	1.194	1.217	1.247	1.397
0.15	1.119	1.150	1.115	1.147	1.163	1.264
0.2	1.072	1.090	1.070	1.102	1.118	1.195
0.3	1.033	1.057	1.030	1.057	1.065	1.130
0.4	1.014	1.025	1.017	1.040	1.050	1.101
0.5	0.995	1.016	0.996	1.023	1.031	1.084
0.6	0.992	1.010	0.991	1.022	1.021	1.074
0.8	0.992	1.003	0.992	1.017	1.016	1.061
1	0.984	1.001	0.984	1.017	1.015	1.054
1.5	0.996	1.000	0.989	1.016	1.001	-
2	0.999	1.014	0.996	1.023	1.016	1.038
3	1.003	1.012	1.001	1.027	1.020	-
4	1.011	1.012	1.013	1.030	1.012	1.024
5	1.016	1.027	1.011	1.029	1.037	-
6	1.017	1.020	1.005	1.027	1.032	1.013
8	1.008	1.008	1.003	1.021	1.022	1.005
10	1.003	1.007	1.008	1.002	1.017	0.999

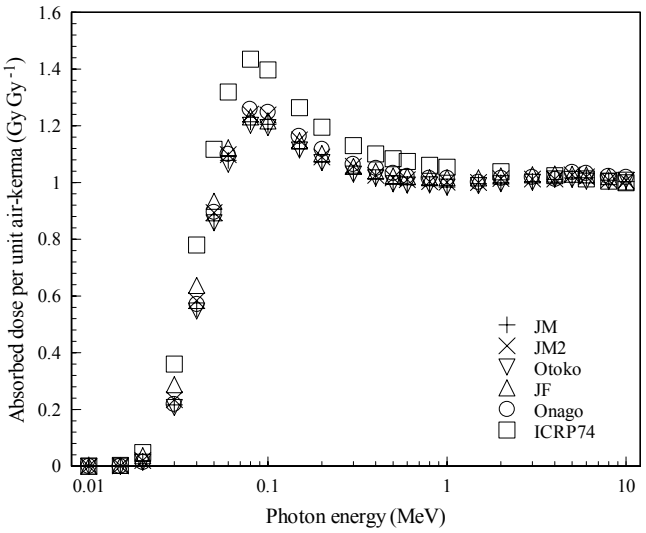

Figure 4-28 Lung absorbed dose per unit air-kerma in PA geometry.

Table 4-29 Stomach absorbed dose per unit air-kerma in PA geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.000	0.000	0.000	0.000	0.000	0.000
0.015	0.000	0.000	0.000	0.000	0.000	0.000
0.02	0.002	0.002	0.001	0.006	0.001	0.000
0.03	0.054	0.053	0.066	0.086	0.044	0.0489
0.04	0.208	0.206	0.280	0.258	0.204	0.230
0.05	0.409	0.397	0.528	0.451	0.413	0.459
0.06	0.565	0.542	0.736	0.585	0.576	0.643
0.08	0.733	0.721	0.896	0.748	0.754	0.801
0.1	0.750	0.723	0.906	0.758	0.778	0.815
0.15	0.732	0.706	0.887	0.745	0.749	0.771
0.2	0.695	0.694	0.843	0.744	0.727	0.747
0.3	0.687	0.691	0.805	0.751	0.715	0.738
0.4	0.697	0.696	0.820	0.741	0.734	0.742
0.5	0.705	0.708	0.814	0.749	0.745	0.748
0.6	0.697	0.713	0.807	0.772	0.755	0.755
0.8	0.745	0.739	0.839	0.783	0.749	0.768
1	0.747	0.762	0.831	0.801	0.802	0.780
1.5	0.791	0.795	0.866	0.826	0.810	-
2	0.805	0.820	0.880	0.862	0.829	0.827
3	0.827	0.847	0.883	0.890	0.873	-
4	0.870	0.859	0.912	0.906	0.861	0.863
5	0.855	0.879	0.917	0.901	0.883	-
6	0.879	0.879	0.924	0.911	0.910	0.874
8	0.868	0.866	0.917	0.893	0.866	0.880
10	0.883	0.870	0.881	0.900	0.890	0.883

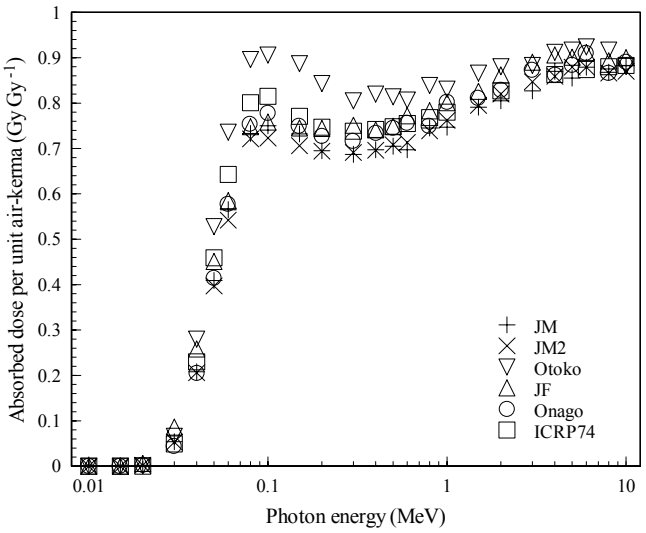

Figure 4-29 Stomach absorbed dose per unit air-kerma in PA geometry.

Table 4-30 Bladder absorbed dose per unit air-kerma in PA geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.000	0.000	0.000	0.000	0.000	0.000
0.015	0.000	0.000	0.000	0.000	0.000	0.000
0.02	0.000	0.000	0.001	0.002	0.000	0.000
0.03	0.046	0.043	0.074	0.114	0.050	0.0391
0.04	0.203	0.192	0.317	0.383	0.228	0.199
0.05	0.415	0.397	0.568	0.680	0.446	0.415
0.06	0.600	0.584	0.756	0.906	0.640	0.602
0.08	0.797	0.791	0.962	1.030	0.803	0.761
0.1	0.849	0.804	1.031	1.098	0.830	0.789
0.15	0.829	0.804	0.992	1.003	0.818	0.752
0.2	0.786	0.794	0.941	0.983	0.798	0.724
0.3	0.808	0.786	0.910	0.907	0.784	0.704
0.4	0.791	0.779	0.911	0.879	0.804	0.709
0.5	0.798	0.765	0.875	0.929	0.777	0.721
0.6	0.803	0.797	0.900	0.903	0.770	0.733
0.8	0.781	0.787	0.943	0.886	0.819	0.756
1	0.809	0.813	0.893	0.901	0.833	0.774
1.5	0.828	0.839	0.886	0.928	0.829	-
2	0.875	0.862	0.888	0.895	0.852	0.824
3	0.901	0.866	0.940	0.955	0.880	-
4	0.931	0.910	0.919	0.966	0.935	0.841
5	0.905	0.904	0.940	0.954	0.901	-
6	0.925	0.912	0.945	0.957	0.920	0.830
8	0.915	0.913	0.963	0.973	0.901	0.814
10	0.912	0.912	0.942	0.941	0.927	0.801

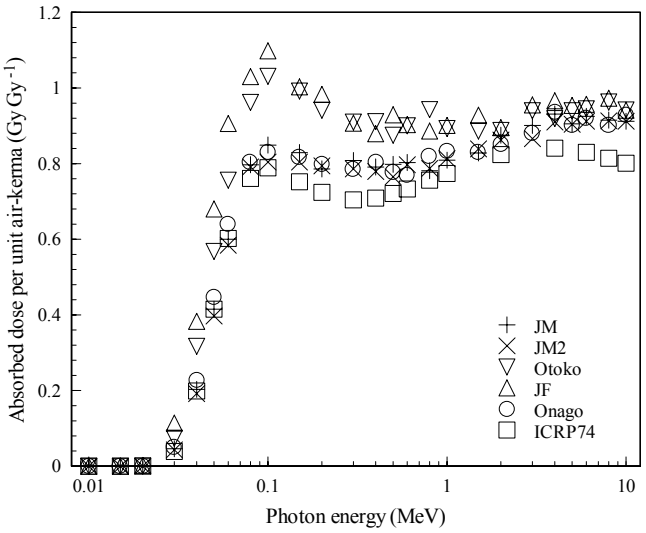

Figure 4-30 Bladder absorbed dose per unit air-kerma in PA geometry.

Table 4-31 Breast absorbed dose per unit air-kerma in PA geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	-	-	-	0.000	0.000	0.000
0.015	-	-	-	0.002	0.000	0.000
0.02	-	-	-	0.007	0.001	0.000
0.03	-	-	-	0.073	0.034	0.0489
0.04	-	-	-	0.230	0.157	0.181
0.05	-	-	-	0.402	0.314	0.328
0.06	-	-	-	0.523	0.434	0.439
0.08	-	-	-	0.636	0.563	0.545
0.1	-	-	-	0.673	0.601	0.574
0.15	-	-	-	0.683	0.620	0.600
0.2	-	-	-	0.698	0.631	0.625
0.3	-	-	-	0.719	0.660	0.663
0.4	-	-	-	0.745	0.686	0.693
0.5	-	-	-	0.763	0.707	0.717
0.6	-	-	-	0.783	0.724	0.737
0.8	-	-	-	0.815	0.752	0.767
1	-	-	-	0.823	0.778	0.791
1.5	-	-	-	0.861	0.822	-
2	-	-	-	0.889	0.852	0.863
3	-	-	-	0.914	0.874	-
4	-	-	-	0.928	0.892	0.905
5	-	-	-	0.929	0.899	-
6	-	-	-	0.933	0.891	0.911
8	-	-	-	0.904	0.885	0.911
10	-	-	-	0.917	0.898	0.911

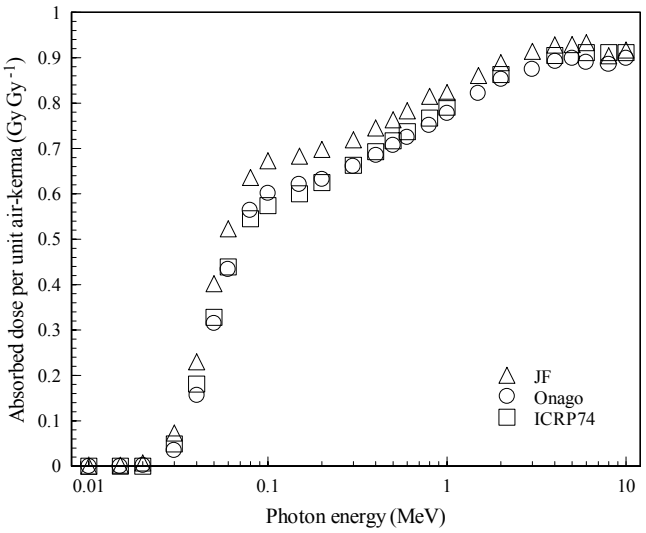

Figure 4-31 Breast absorbed dose per unit air-kerma in PA geometry.

Table 4-32 Ovaries absorbed dose per unit air-kerma in PA geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	-	-	-	0.000	0.000	0.000
0.015	-	-	-	0.000	0.000	0.000
0.02	-	-	-	0.010	0.006	0.000
0.03	-	-	-	0.215	0.178	0.0785
0.04	-	-	-	0.555	0.506	0.345
0.05	-	-	-	0.877	0.815	0.676
0.06	-	-	-	1.151	1.005	0.944
0.08	-	-	-	1.325	1.277	1.201
0.1	-	-	-	1.313	1.308	1.234
0.15	-	-	-	1.244	1.239	1.116
0.2	-	-	-	1.157	1.158	1.034
0.3	-	-	-	1.038	1.070	0.963
0.4	-	-	-	0.998	0.987	0.936
0.5	-	-	-	1.054	0.975	0.924
0.6	-	-	-	1.009	0.975	0.918
0.8	-	-	-	1.053	0.989	0.911
1	-	-	-	1.066	0.941	0.908
1.5	-	-	-	1.043	0.946	-
2	-	-	-	0.980	0.956	0.905
3	-	-	-	1.030	0.961	-
4	-	-	-	1.014	0.990	0.910
5	-	-	-	1.071	1.104	-
6	-	-	-	1.077	1.009	0.917
8	-	-	-	0.959	0.995	0.922
10	-	-	-	0.962	0.931	0.926

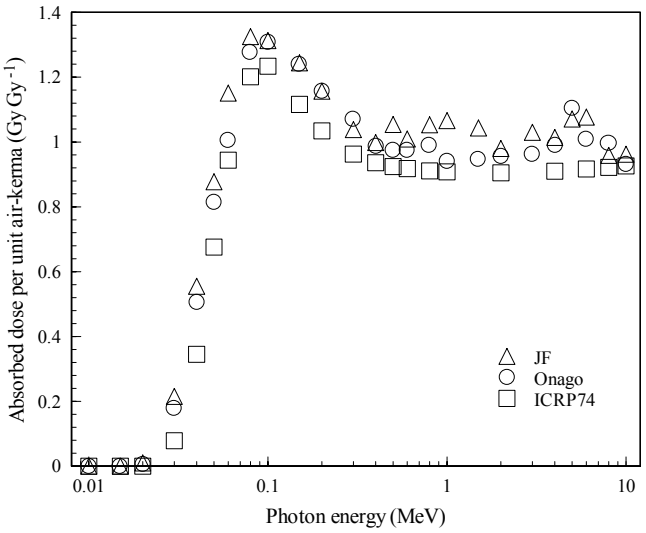

Figure 4-32 Ovaries absorbed dose per unit air-kerma in PA geometry.

Table 4-33 Liver absorbed dose per unit air-kerma in PA geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.000	0.000	0.000	0.000	0.000	0.000
0.015	0.000	0.000	0.000	0.000	0.000	0.00063
0.02	0.005	0.004	0.002	0.007	0.004	0.0109
0.03	0.101	0.091	0.059	0.113	0.094	0.159
0.04	0.326	0.303	0.227	0.333	0.317	0.448
0.05	0.574	0.545	0.434	0.567	0.570	0.737
0.06	0.764	0.738	0.602	0.735	0.761	0.934
0.08	0.927	0.890	0.765	0.882	0.928	1.083
0.1	0.952	0.909	0.781	0.899	0.954	1.077
0.15	0.896	0.862	0.755	0.855	0.898	0.992
0.2	0.854	0.825	0.728	0.824	0.858	0.942
0.3	0.830	0.803	0.721	0.811	0.835	0.901
0.4	0.826	0.801	0.726	0.811	0.829	0.887
0.5	0.815	0.795	0.737	0.809	0.830	0.882
0.6	0.824	0.803	0.743	0.812	0.827	0.881
0.8	0.829	0.816	0.761	0.826	0.839	0.882
1	0.845	0.827	0.778	0.845	0.851	0.886
1.5	0.871	0.844	0.807	0.865	0.864	-
2	0.881	0.874	0.836	0.881	0.887	0.910
3	0.902	0.889	0.863	0.911	0.910	-
4	0.903	0.903	0.872	0.922	0.914	0.931
5	0.925	0.919	0.893	0.925	0.923	-
6	0.918	0.910	0.879	0.926	0.921	0.935
8	0.919	0.919	0.877	0.919	0.922	0.934
10	0.912	0.900	0.884	0.928	0.921	0.933

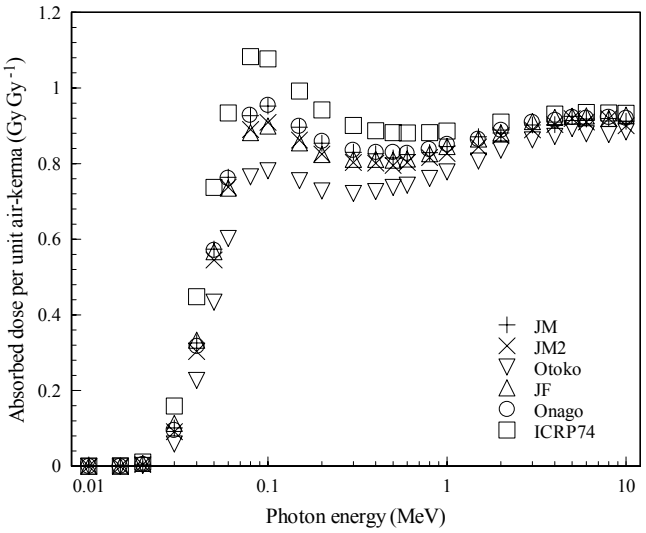

Figure 4-33 Liver absorbed dose per unit air-kerma in PA geometry.

Table 4-34 Esophagus absorbed dose per unit air-kerma in PA geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.000	0.000	0.000	0.000	0.000	0.000
0.015	0.000	0.000	0.000	0.000	0.000	0.000
0.02	0.000	0.001	0.000	0.001	0.001	0.000
0.03	0.038	0.042	0.039	0.057	0.052	0.0435
0.04	0.213	0.230	0.224	0.249	0.256	0.279
0.05	0.486	0.503	0.496	0.515	0.546	0.607
0.06	0.719	0.731	0.720	0.767	0.723	0.872
0.08	0.935	0.943	0.968	0.933	0.986	1.105
0.1	0.961	1.012	0.997	0.930	1.008	1.138
0.15	0.904	0.942	0.886	0.900	0.914	1.083
0.2	0.901	0.911	0.878	0.866	0.922	1.018
0.3	0.869	0.878	0.871	0.852	0.873	0.949
0.4	0.869	0.855	0.808	0.827	0.838	0.920
0.5	0.857	0.877	0.815	0.833	0.851	0.906
0.6	0.822	0.886	0.829	0.832	0.867	0.900
0.8	0.848	0.857	0.815	0.850	0.866	0.897
1	0.856	0.868	0.881	0.893	0.860	0.900
1.5	0.850	0.865	0.877	0.873	0.826	-
2	0.885	0.885	0.933	0.844	0.960	0.921
3	0.870	0.937	0.907	0.911	0.895	-
4	0.909	0.943	0.865	0.917	0.908	0.934
5	0.917	0.976	0.955	0.934	0.906	-
6	0.940	0.946	0.912	0.926	0.962	0.933
8	0.943	0.957	0.923	0.944	0.911	0.932
10	0.936	0.952	0.895	0.920	0.941	0.930

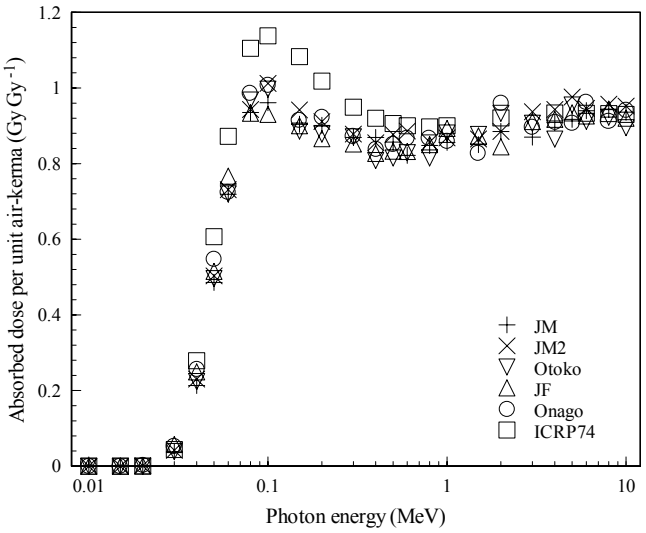

Figure 4-34 Esophagus absorbed dose per unit air-kerma in PA geometry.

Table 4-35 Thyroid absorbed dose per unit air-kerma in PA geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.000	0.000	0.000	0.000	0.000	0.000
0.015	0.000	0.000	0.000	0.000	0.000	0.000
0.02	0.000	0.000	0.000	0.001	0.000	0.000
0.03	0.025	0.027	0.024	0.035	0.023	0.0114
0.04	0.151	0.162	0.148	0.180	0.140	0.106
0.05	0.343	0.365	0.343	0.382	0.321	0.253
0.06	0.485	0.511	0.498	0.612	0.467	0.383
0.08	0.691	0.677	0.718	0.718	0.715	0.503
0.1	0.719	0.733	0.698	0.713	0.671	0.532
0.15	0.694	0.714	0.701	0.800	0.693	0.544
0.2	0.715	0.740	0.719	0.779	0.729	0.538
0.3	0.699	0.710	0.682	0.790	0.749	0.560
0.4	0.674	0.711	0.693	0.781	0.739	0.589
0.5	0.733	0.767	0.730	0.813	0.717	0.616
0.6	0.777	0.774	0.746	0.857	0.776	0.640
0.8	0.744	0.732	0.740	0.921	0.749	0.677
1	0.756	0.793	0.774	0.838	0.829	0.704
1.5	0.838	0.816	0.787	0.846	0.869	-
2	0.840	0.844	0.794	0.935	0.865	0.761
3	0.902	0.934	0.818	0.885	0.905	-
4	0.899	0.856	0.850	0.995	0.828	0.814
5	0.875	0.888	0.850	0.979	0.943	-
6	0.916	0.891	0.969	1.026	0.923	0.851
8	0.892	0.915	0.937	0.942	0.912	0.878
10	0.870	0.890	0.938	0.935	0.893	0.899

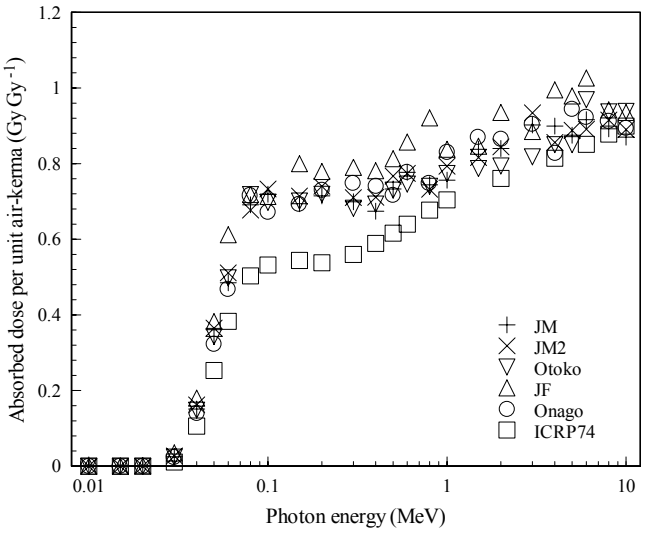

Figure 4-35 Thyroid absorbed dose per unit air-kerma in PA geometry.

Table 4-36 Skin absorbed dose per unit air-kerma in PA geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.242	0.243	0.239	0.243	0.238	0.237
0.015	0.372	0.374	0.371	0.378	0.372	0.377
0.02	0.455	0.462	0.458	0.467	0.460	0.487
0.03	0.616	0.623	0.620	0.633	0.626	0.648
0.04	0.779	0.785	0.780	0.792	0.791	0.796
0.05	0.914	0.921	0.916	0.929	0.929	0.929
0.06	1.013	1.010	1.009	1.015	1.020	1.025
0.08	1.082	1.088	1.077	1.085	1.099	1.096
0.1	1.093	1.098	1.087	1.097	1.104	1.083
0.15	1.059	1.066	1.056	1.070	1.071	1.046
0.2	1.039	1.041	1.031	1.050	1.045	1.020
0.3	0.990	1.014	1.009	1.035	1.027	0.987
0.4	0.960	0.994	0.988	1.006	1.006	0.973
0.5	0.930	0.964	0.958	0.980	0.981	0.967
0.6	0.890	0.935	0.932	0.942	0.947	0.966
0.8	0.829	0.877	0.871	0.883	0.884	0.967
1	0.777	0.818	0.812	0.822	0.825	0.970
1.5	0.681	0.717	0.717	0.715	0.728	-
2	0.633	0.666	0.659	0.655	0.669	0.984
3	0.578	0.601	0.604	0.593	0.609	-
4	0.551	0.561	0.565	0.560	0.573	0.995
5	0.529	0.540	0.545	0.538	0.550	-
6	0.514	0.521	0.528	0.520	0.531	0.995
8	0.491	0.491	0.498	0.490	0.501	0.994
10	0.474	0.475	0.481	0.473	0.484	0.992

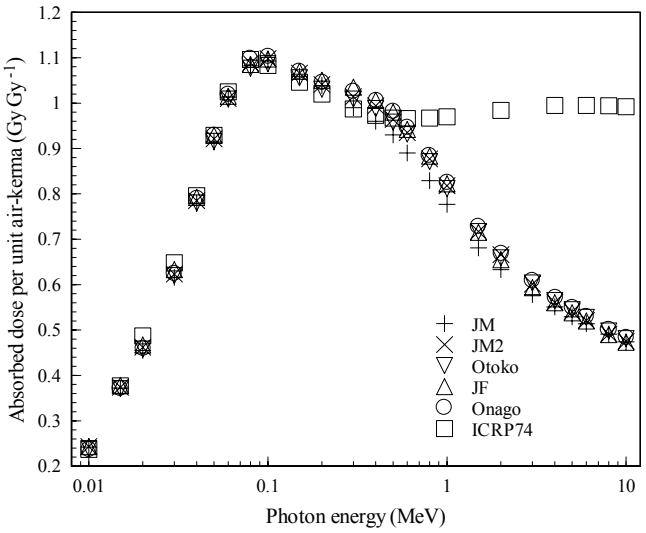

Figure 4-36 Skin absorbed dose per unit air-kerma in PA geometry.

Table 4-37 Bone (hard bone) absorbed dose per unit air-kerma in PA geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.001	0.000	0.000	0.001	0.000	0.00201
0.015	0.021	0.018	0.016	0.021	0.017	0.0335
0.02	0.132	0.125	0.113	0.136	0.117	0.132
0.03	0.944	0.931	0.862	0.950	0.889	0.694
0.04	2.330	2.314	2.171	2.311	2.218	1.572
0.05	3.453	3.443	3.266	3.399	3.305	2.297
0.06	3.883	3.876	3.714	3.807	3.737	2.617
0.08	3.428	3.426	3.329	3.331	3.327	2.452
0.1	2.683	2.692	2.638	2.606	2.617	2.040
0.15	1.669	1.674	1.655	1.625	1.642	1.448
0.2	1.309	1.312	1.297	1.286	1.297	1.216
0.3	1.065	1.066	1.060	1.065	1.061	1.048
0.4	0.983	0.979	0.975	1.000	0.984	0.987
0.5	0.941	0.937	0.935	0.966	0.944	0.959
0.6	0.919	0.920	0.916	0.952	0.925	0.943
0.8	0.904	0.902	0.901	0.935	0.911	0.929
1	0.899	0.895	0.900	0.930	0.908	0.924
1.5	0.901	0.898	0.899	0.931	0.909	-
2	0.905	0.903	0.907	0.938	0.915	0.929
3	0.913	0.912	0.917	0.944	0.926	-
4	0.920	0.920	0.920	0.949	0.933	0.947
5	0.918	0.922	0.928	0.949	0.938	-
6	0.911	0.912	0.921	0.942	0.932	0.960
8	0.891	0.891	0.906	0.920	0.909	0.971
10	0.867	0.873	0.884	0.898	0.888	0.980

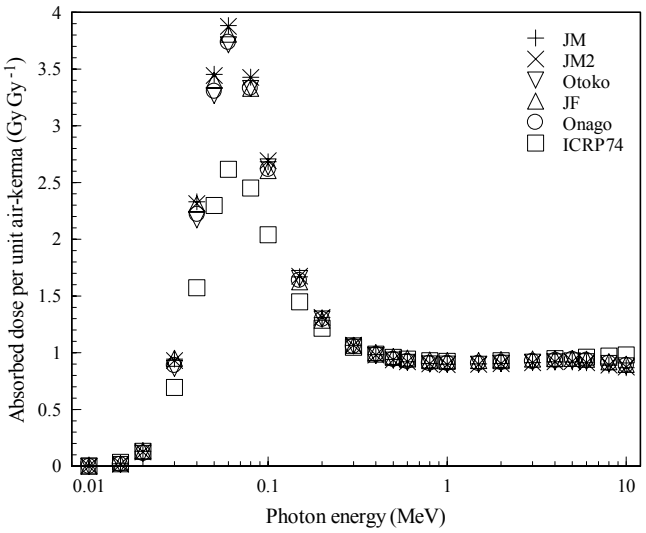

Figure 4-37 Bone (hard bone) absorbed dose per unit air-kerma in PA geometry.

Table 4-38 Adrenal absorbed dose per unit air-kerma in PA geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.000	0.000	0.000	0.000	0.000	-
0.015	0.000	0.000	0.000	0.000	0.000	-
0.02	0.002	0.001	0.011	0.001	0.023	-
0.03	0.111	0.088	0.234	0.069	0.286	-
0.04	0.385	0.343	0.637	0.283	0.671	-
0.05	0.710	0.644	0.966	0.516	1.042	-
0.06	0.969	0.963	1.150	0.808	1.286	-
0.08	1.072	1.092	1.386	0.968	1.423	-
0.1	1.269	1.162	1.320	0.971	1.456	-
0.15	1.107	1.113	1.210	0.978	1.316	-
0.2	1.072	1.089	1.192	0.884	1.234	-
0.3	1.003	1.022	1.088	0.892	1.156	-
0.4	0.963	0.980	0.995	0.838	1.140	-
0.5	0.957	0.906	1.001	0.863	1.083	-
0.6	0.910	0.970	0.969	0.936	1.054	-
0.8	0.973	1.022	0.968	0.935	1.031	-
1	0.952	0.977	1.003	0.924	1.071	-
1.5	1.055	0.965	0.980	0.898	1.025	-
2	1.012	0.935	1.000	0.859	0.990	-
3	1.008	0.919	0.962	0.977	0.974	-
4	1.006	1.051	0.992	1.045	1.062	-
5	1.013	0.951	1.062	0.979	0.968	-
6	0.967	0.987	1.011	0.898	1.026	-
8	0.939	0.967	0.975	0.940	0.943	-
10	0.988	0.972	1.029	0.963	1.006	-

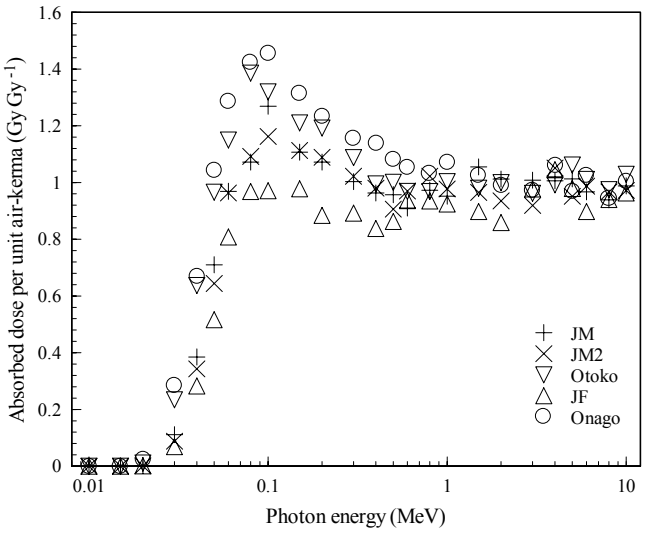

Figure 4-38 Adrenal absorbed dose per unit air-kerma in PA geometry.

Table 4-39 Brain absorbed dose per unit air-kerma in PA geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.000	0.000	0.000	0.000	0.000	-
0.015	0.000	0.000	0.000	0.000	0.000	-
0.02	0.000	0.000	0.001	0.001	0.000	-
0.03	0.050	0.049	0.054	0.067	0.024	-
0.04	0.255	0.250	0.258	0.300	0.175	-
0.05	0.503	0.497	0.506	0.563	0.403	-
0.06	0.687	0.687	0.698	0.754	0.595	-
0.08	0.855	0.853	0.856	0.914	0.787	-
0.1	0.891	0.889	0.889	0.939	0.835	-
0.15	0.868	0.862	0.869	0.918	0.838	-
0.2	0.851	0.847	0.845	0.896	0.836	-
0.3	0.839	0.830	0.846	0.885	0.824	-
0.4	0.842	0.837	0.845	0.882	0.828	-
0.5	0.847	0.841	0.838	0.881	0.835	-
0.6	0.852	0.847	0.849	0.889	0.841	-
0.8	0.867	0.859	0.865	0.888	0.858	-
1	0.870	0.873	0.881	0.908	0.859	-
1.5	0.898	0.891	0.898	0.927	0.885	-
2	0.912	0.907	0.919	0.936	0.905	-
3	0.936	0.939	0.935	0.967	0.935	-
4	0.951	0.950	0.953	0.970	0.949	-
5	0.969	0.948	0.961	0.972	0.957	-
6	0.963	0.958	0.964	0.969	0.960	-
8	0.953	0.951	0.952	0.972	0.958	-
10	0.938	0.950	0.951	0.944	0.951	-

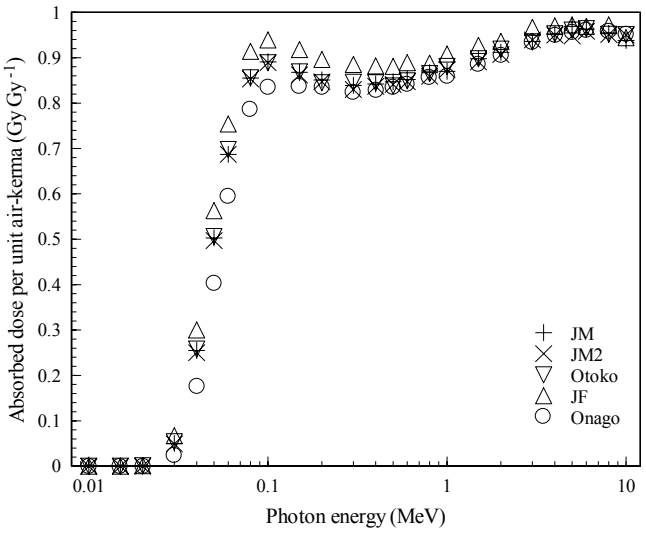

Figure 4-39 Brain absorbed dose per unit air-kerma in PA geometry.

Table 4-40 Upper large intestine absorbed dose per unit air-kerma in PA geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.000	0.000	0.000	0.000	0.000	-
0.015	0.000	0.000	0.000	0.000	0.000	-
0.02	0.001	0.001	0.000	0.002	0.000	-
0.03	0.054	0.038	0.014	0.051	0.031	-
0.04	0.211	0.175	0.095	0.182	0.165	-
0.05	0.407	0.359	0.226	0.349	0.343	-
0.06	0.561	0.526	0.352	0.476	0.492	-
0.08	0.737	0.675	0.512	0.622	0.659	-
0.1	0.762	0.714	0.536	0.683	0.692	-
0.15	0.736	0.688	0.560	0.674	0.695	-
0.2	0.727	0.703	0.549	0.670	0.662	-
0.3	0.723	0.688	0.563	0.682	0.690	-
0.4	0.715	0.696	0.602	0.686	0.693	-
0.5	0.750	0.714	0.606	0.714	0.698	-
0.6	0.743	0.724	0.626	0.733	0.709	-
0.8	0.774	0.727	0.669	0.754	0.746	-
1	0.774	0.769	0.678	0.752	0.770	-
1.5	0.821	0.799	0.745	0.799	0.813	-
2	0.853	0.825	0.757	0.844	0.823	-
3	0.859	0.854	0.802	0.858	0.864	-
4	0.867	0.844	0.839	0.893	0.866	-
5	0.884	0.884	0.851	0.895	0.885	-
6	0.890	0.885	0.864	0.873	0.878	-
8	0.892	0.882	0.849	0.894	0.890	-
10	0.887	0.874	0.856	0.881	0.886	-

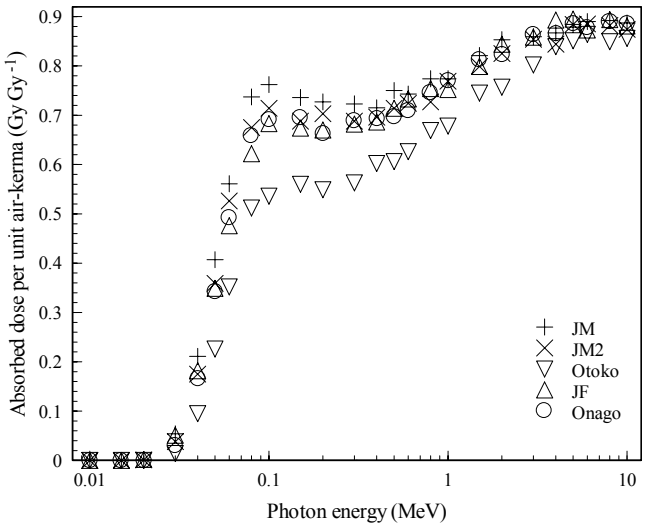

Figure 4-40 Upper large intestine absorbed dose per unit air-kerma in PA geometry.

Table 4-41 Small intestine absorbed dose per unit air-kerma in PA geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.000	0.000	0.000	0.000	0.000	-
0.015	0.000	0.000	0.000	0.000	0.000	-
0.02	0.000	0.000	0.000	0.000	0.000	-
0.03	0.026	0.015	0.015	0.024	0.037	-
0.04	0.146	0.110	0.108	0.137	0.179	-
0.05	0.334	0.274	0.274	0.315	0.382	-
0.06	0.502	0.437	0.431	0.485	0.565	-
0.08	0.684	0.624	0.614	0.664	0.759	-
0.1	0.734	0.668	0.668	0.731	0.795	-
0.15	0.721	0.669	0.677	0.726	0.785	-
0.2	0.707	0.656	0.670	0.712	0.759	-
0.3	0.700	0.659	0.680	0.716	0.756	-
0.4	0.707	0.666	0.688	0.729	0.765	-
0.5	0.716	0.684	0.694	0.735	0.766	-
0.6	0.737	0.692	0.711	0.746	0.777	-
0.8	0.747	0.716	0.739	0.768	0.791	-
1	0.758	0.733	0.759	0.773	0.806	-
1.5	0.801	0.751	0.795	0.813	0.836	-
2	0.830	0.796	0.816	0.840	0.864	-
3	0.854	0.832	0.848	0.858	0.884	-
4	0.864	0.852	0.867	0.881	0.907	-
5	0.877	0.870	0.879	0.894	0.895	-
6	0.893	0.878	0.886	0.898	0.904	-
8	0.874	0.861	0.876	0.896	0.906	-
10	0.885	0.870	0.882	0.897	0.900	-

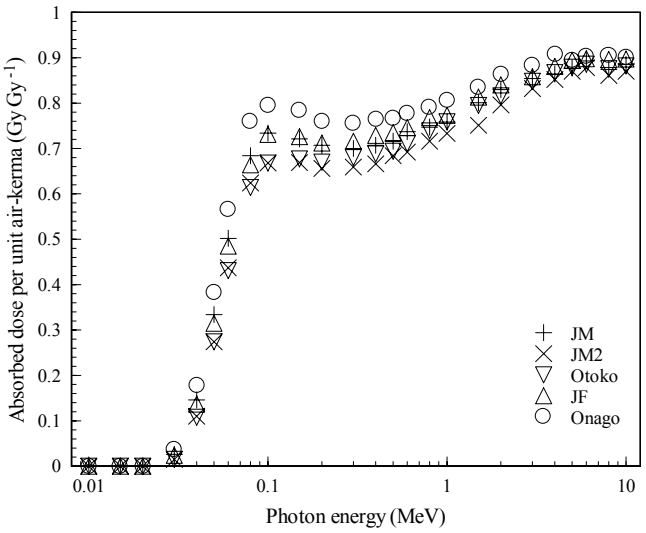

Figure 4-41 Small intestine absorbed dose per unit air-kerma in PA geometry.

Table 4-42 Kidney absorbed dose per unit air-kerma in PA geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.000	0.000	0.000	0.000	0.000	-
0.015	0.000	0.000	0.000	0.000	0.000	-
0.02	0.009	0.004	0.009	0.019	0.017	-
0.03	0.205	0.138	0.204	0.277	0.273	-
0.04	0.573	0.435	0.560	0.661	0.674	-
0.05	0.921	0.749	0.887	0.981	1.030	-
0.06	1.178	0.985	1.116	1.194	1.257	-
0.08	1.344	1.167	1.277	1.320	1.435	-
0.1	1.336	1.203	1.254	1.308	1.386	-
0.15	1.233	1.087	1.166	1.203	1.269	-
0.2	1.172	1.049	1.115	1.152	1.188	-
0.3	1.082	0.995	1.034	1.075	1.125	-
0.4	1.050	0.979	1.007	1.062	1.090	-
0.5	1.030	0.962	1.002	1.052	1.057	-
0.6	1.023	0.952	0.984	1.037	1.037	-
0.8	0.995	0.954	0.987	1.007	1.023	-
1	0.976	0.943	0.989	1.004	1.030	-
1.5	0.978	0.949	0.980	1.004	1.023	-
2	0.983	0.955	0.976	0.993	1.024	-
3	0.974	0.967	0.991	1.007	1.007	-
4	0.974	0.970	0.998	1.015	1.013	-
5	0.991	0.957	0.983	1.015	1.011	-
6	0.987	0.970	0.993	1.006	1.003	-
8	0.973	0.964	0.977	0.995	1.002	-
10	0.962	0.966	0.980	0.976	0.977	-

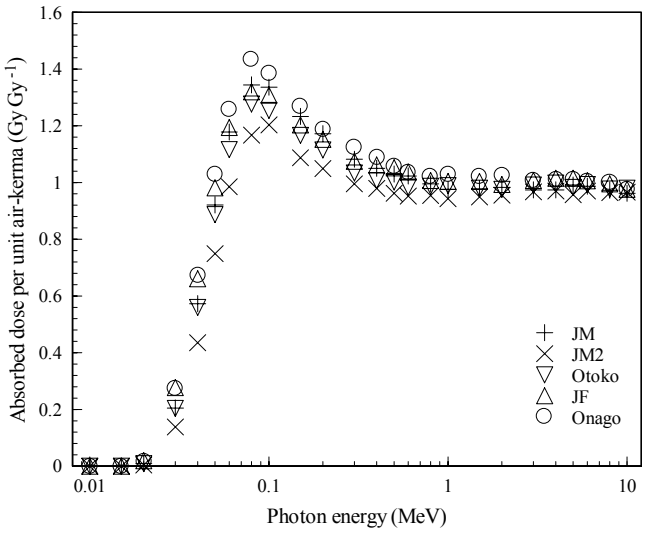

Figure 4-42 Kidney absorbed dose per unit air-kerma in PA geometry.

Table 4-43 Muscle absorbed dose per unit air-kerma in PA geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.004	0.003	0.003	0.005	0.005	-
0.015	0.036	0.033	0.032	0.047	0.037	-
0.02	0.128	0.122	0.115	0.156	0.125	-
0.03	0.417	0.407	0.376	0.465	0.408	-
0.04	0.714	0.705	0.651	0.763	0.703	-
0.05	0.953	0.946	0.878	0.992	0.943	-
0.06	1.104	1.098	1.030	1.132	1.099	-
0.08	1.204	1.199	1.142	1.223	1.203	-
0.1	1.193	1.189	1.143	1.210	1.194	-
0.15	1.119	1.114	1.083	1.140	1.123	-
0.2	1.073	1.070	1.045	1.097	1.080	-
0.3	1.029	1.026	1.006	1.054	1.036	-
0.4	1.009	1.005	0.989	1.032	1.014	-
0.5	0.997	0.993	0.977	1.021	1.002	-
0.6	0.991	0.987	0.973	1.013	0.997	-
0.8	0.988	0.985	0.971	1.009	0.993	-
1	0.986	0.983	0.970	1.005	0.989	-
1.5	0.986	0.983	0.975	1.004	0.989	-
2	0.994	0.989	0.980	1.005	0.993	-
3	0.990	0.991	0.980	1.001	0.992	-
4	0.984	0.984	0.974	0.989	0.982	-
5	0.970	0.969	0.962	0.970	0.971	-
6	0.950	0.949	0.942	0.944	0.952	-
8	0.902	0.904	0.897	0.890	0.906	-
10	0.859	0.861	0.857	0.839	0.865	-

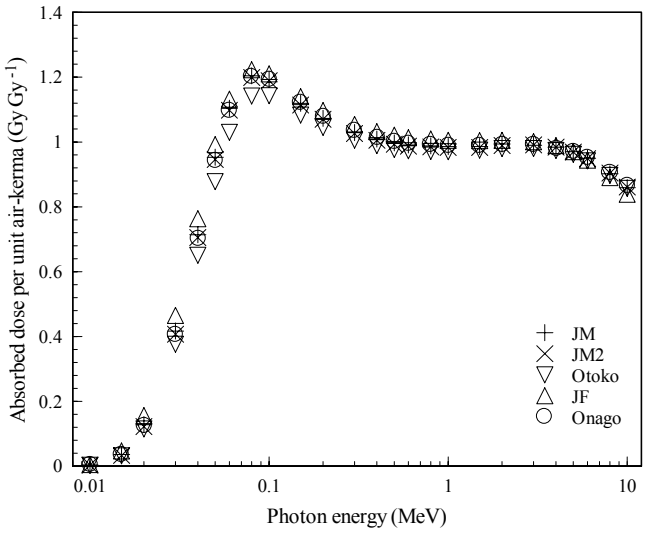

Figure 4-43 Muscle absorbed dose per unit air-kerma in PA geometry.

Table 4-44 Pancreas absorbed dose per unit air-kerma in PA geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.000	0.000	0.000	0.000	0.000	-
0.015	0.000	0.000	0.000	0.000	0.000	-
0.02	0.001	0.000	0.000	0.001	0.001	-
0.03	0.040	0.027	0.041	0.044	0.076	-
0.04	0.195	0.161	0.204	0.178	0.316	-
0.05	0.420	0.370	0.424	0.372	0.590	-
0.06	0.608	0.571	0.625	0.543	0.797	-
0.08	0.802	0.775	0.796	0.722	1.035	-
0.1	0.862	0.809	0.831	0.743	1.048	-
0.15	0.820	0.787	0.799	0.765	0.990	-
0.2	0.765	0.752	0.783	0.754	0.930	-
0.3	0.763	0.736	0.762	0.755	0.865	-
0.4	0.752	0.747	0.773	0.749	0.889	-
0.5	0.761	0.744	0.770	0.766	0.900	-
0.6	0.759	0.755	0.759	0.780	0.868	-
0.8	0.813	0.771	0.794	0.782	0.867	-
1	0.797	0.786	0.798	0.824	0.872	-
1.5	0.834	0.812	0.836	0.822	0.890	-
2	0.826	0.825	0.854	0.855	0.906	-
3	0.874	0.867	0.884	0.881	0.912	-
4	0.871	0.895	0.907	0.923	0.905	-
5	0.870	0.908	0.902	0.910	0.919	-
6	0.900	0.894	0.889	0.899	0.917	-
8	0.866	0.898	0.921	0.898	0.939	-
10	0.902	0.886	0.867	0.899	0.934	-

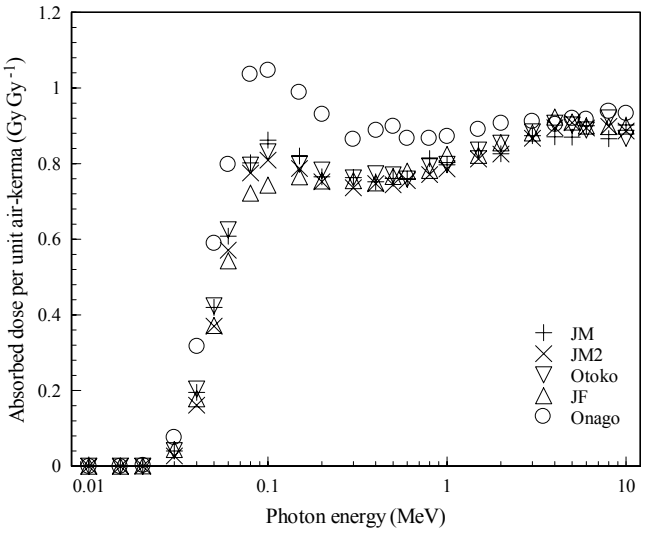

Figure 4-44 Pancreas absorbed dose per unit air-kerma in PA geometry.

Table 4-45 Spleen absorbed dose per unit air-kerma in PA geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.000	0.000	0.000	0.000	0.000	-
0.015	0.001	0.001	0.000	0.002	0.000	-
0.02	0.037	0.028	0.015	0.061	0.016	-
0.03	0.382	0.342	0.250	0.476	0.261	-
0.04	0.849	0.802	0.651	0.942	0.675	-
0.05	1.226	1.178	0.998	1.263	1.039	-
0.06	1.455	1.413	1.218	1.420	1.269	-
0.08	1.572	1.532	1.323	1.559	1.403	-
0.1	1.532	1.484	1.331	1.472	1.400	-
0.15	1.371	1.353	1.224	1.322	1.259	-
0.2	1.293	1.260	1.159	1.259	1.196	-
0.3	1.188	1.173	1.117	1.201	1.106	-
0.4	1.164	1.121	1.050	1.140	1.087	-
0.5	1.110	1.084	1.038	1.099	1.049	-
0.6	1.087	1.085	1.040	1.084	1.063	-
0.8	1.072	1.048	1.023	1.065	1.040	-
1	1.063	1.046	1.022	1.043	1.046	-
1.5	1.035	1.020	1.004	1.045	1.011	-
2	1.054	1.044	1.004	1.048	1.009	-
3	1.023	1.020	1.006	1.094	0.998	-
4	1.038	1.013	1.021	1.031	1.003	-
5	1.048	1.050	1.007	1.048	1.034	-
6	1.013	1.026	1.023	1.023	0.988	-
8	1.001	0.974	0.990	0.997	0.988	-
10	0.974	0.988	0.979	0.947	0.974	-

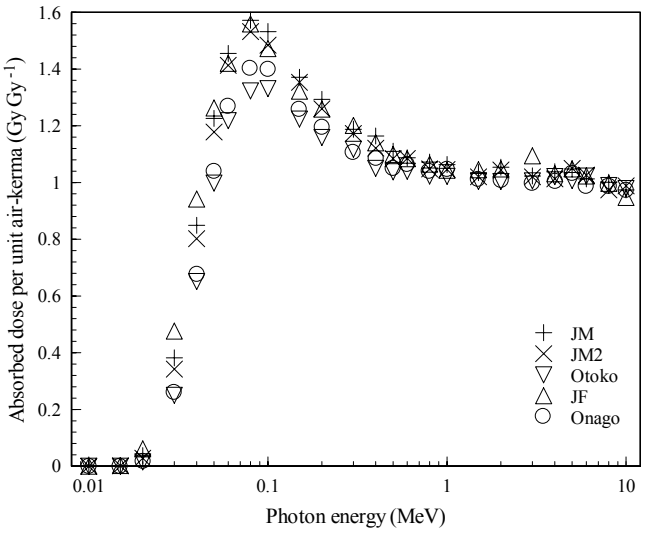

Figure 4-45 Spleen absorbed dose per unit air-kerma in PA geometry.

Table 4-46 Thymus absorbed dose per unit air-kerma in PA geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.000	0.000	0.000	0.000	0.000	0.000
0.015	0.000	0.000	0.000	0.000	0.000	0.000
0.02	0.000	0.000	0.000	0.000	0.000	0.00009
0.03	0.019	0.023	0.028	0.031	0.022	0.00762
0.04	0.124	0.128	0.165	0.155	0.108	0.0887
0.05	0.281	0.300	0.371	0.327	0.319	0.223
0.06	0.435	0.447	0.554	0.488	0.433	0.347
0.08	0.581	0.576	0.738	0.650	0.642	0.463
0.1	0.624	0.609	0.771	0.623	0.677	0.487
0.15	0.575	0.596	0.745	0.607	0.604	0.505
0.2	0.554	0.563	0.652	0.610	0.682	0.498
0.3	0.567	0.579	0.740	0.602	0.501	0.489
0.4	0.572	0.601	0.719	0.601	0.694	0.496
0.5	0.602	0.594	0.782	0.603	0.554	0.510
0.6	0.616	0.603	0.739	0.639	0.738	0.525
0.8	0.664	0.596	0.734	0.692	0.677	0.553
1	0.659	0.651	0.787	0.677	0.779	0.577
1.5	0.708	0.705	0.787	0.737	0.511	-
2	0.761	0.705	0.713	0.732	0.684	0.645
3	0.749	0.751	0.845	0.739	0.871	-
4	0.811	0.839	0.795	0.836	0.821	0.715
5	0.865	0.825	0.820	0.850	0.875	-
6	0.845	0.868	0.808	0.848	0.851	0.758
8	0.872	0.851	0.821	0.832	0.726	0.789
10	0.881	0.853	0.890	0.881	0.849	0.813

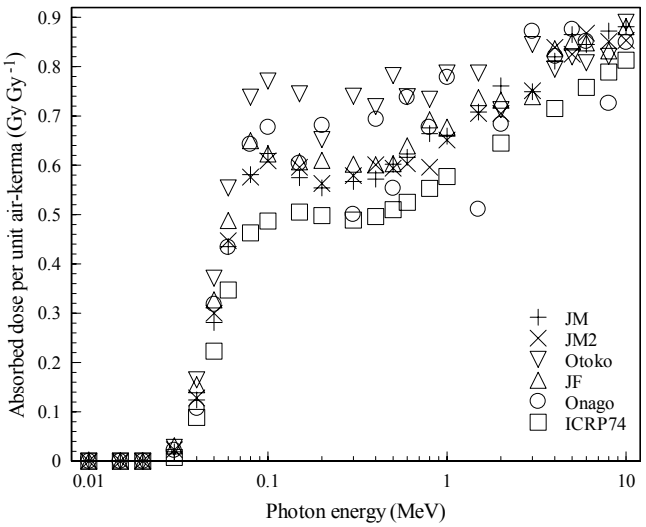

Figure 4-46 Thymus absorbed dose per unit air-kerma in PA geometry.

Table 4-47 Uterus absorbed dose per unit air-kerma in PA geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	-	-	-	0.000	0.000	0.000
0.015	-	-	-	0.000	0.000	0.000
0.02	-	-	-	0.009	0.001	0.000
0.03	-	-	-	0.220	0.066	0.070
0.04	-	-	-	0.601	0.287	0.309
0.05	-	-	-	0.955	0.556	0.594
0.06	-	-	-	1.222	0.780	0.814
0.08	-	-	-	1.383	0.988	1.025
0.1	-	-	-	1.339	1.011	1.054
0.15	-	-	-	1.209	0.956	0.973
0.2	-	-	-	1.165	0.915	0.910
0.3	-	-	-	1.068	0.894	0.866
0.4	-	-	-	1.043	0.866	0.857
0.5	-	-	-	1.047	0.880	0.854
0.6	-	-	-	1.011	0.861	0.853
0.8	-	-	-	0.968	0.860	0.853
1	-	-	-	1.004	0.858	0.854
1.5	-	-	-	0.995	0.872	-
2	-	-	-	0.977	0.896	0.862
3	-	-	-	1.003	0.907	-
4	-	-	-	0.960	0.933	0.868
5	-	-	-	1.022	0.938	-
6	-	-	-	0.974	0.952	0.867
8	-	-	-	0.970	0.928	0.863
10	-	-	-	0.971	0.919	0.859

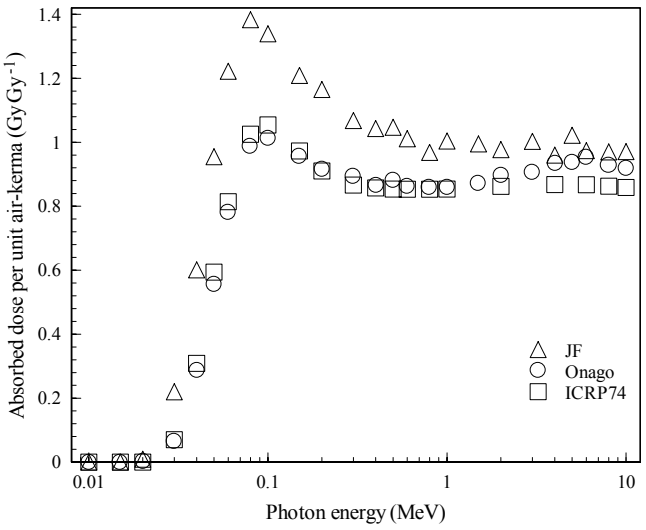

Figure 4-47 Uterus absorbed dose per unit air-kerma in PA geometry.

Table 4-48 Effective dose per unit air-kerma in PA geometry (Sv Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.003	0.003	0.003	0.003	0.003	0.00248
0.015	0.007	0.006	0.006	0.007	0.006	0.00586
0.02	0.021	0.019	0.016	0.024	0.017	0.0181
0.03	0.121	0.116	0.113	0.176	0.132	0.128
0.04	0.322	0.314	0.323	0.441	0.371	0.370
0.05	0.544	0.534	0.550	0.707	0.628	0.640
0.06	0.717	0.703	0.721	0.909	0.809	0.846
0.08	0.867	0.847	0.876	1.060	1.002	1.019
0.1	0.875	0.870	0.894	1.063	1.020	1.030
0.15	0.840	0.826	0.861	1.019	0.970	0.959
0.2	0.812	0.813	0.831	0.983	0.941	0.915
0.3	0.799	0.796	0.817	0.931	0.905	0.880
0.4	0.800	0.787	0.811	0.911	0.891	0.871
0.5	0.799	0.798	0.821	0.928	0.883	0.869
0.6	0.796	0.803	0.821	0.919	0.889	0.870
0.8	0.811	0.809	0.827	0.935	0.893	0.875
1	0.821	0.809	0.830	0.935	0.897	0.880
1.5	0.838	0.839	0.852	0.940	0.903	-
2	0.861	0.852	0.856	0.938	0.923	0.901
3	0.875	0.870	0.884	0.965	0.936	-
4	0.897	0.867	0.897	1.008	0.941	0.918
5	0.883	0.892	0.904	0.979	0.971	-
6	0.888	0.885	0.898	0.983	0.958	0.924
8	0.886	0.867	0.900	0.945	0.940	0.927
10	0.867	0.873	0.883	0.936	0.927	0.929

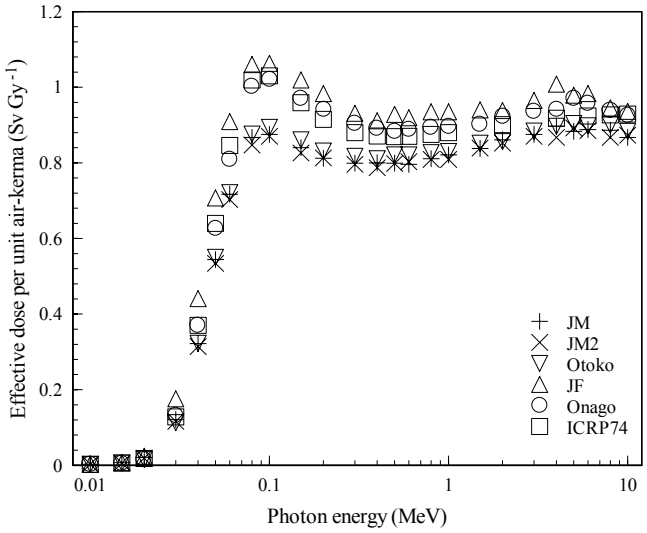

Figure 4-48 Effective dose per unit air-kerma in PA geometry.

Table 4-49 Testes absorbed dose per unit air-kerma in RLAT geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.000	0.000	0.000	-	-	0.000
0.015	0.012	0.006	0.000	-	-	0.000
0.02	0.051	0.034	0.002	-	-	0.000
0.03	0.168	0.127	0.037	-	-	0.023
0.04	0.309	0.248	0.129	-	-	0.105
0.05	0.419	0.362	0.222	-	-	0.198
0.06	0.475	0.460	0.320	-	-	0.264
0.08	0.572	0.524	0.398	-	-	0.339
0.1	0.600	0.569	0.415	-	-	0.372
0.15	0.608	0.552	0.444	-	-	0.392
0.2	0.619	0.574	0.447	-	-	0.422
0.3	0.620	0.607	0.511	-	-	0.457
0.4	0.677	0.629	0.506	-	-	0.480
0.5	0.714	0.645	0.557	-	-	0.503
0.6	0.735	0.698	0.589	-	-	0.527
0.8	0.760	0.692	0.635	-	-	0.572
1	0.749	0.768	0.668	-	-	0.607
1.5	0.860	0.760	0.684	-	-	-
2	0.856	0.841	0.766	-	-	0.703
3	0.896	0.839	0.769	-	-	-
4	0.873	0.888	0.777	-	-	0.776
5	0.870	0.877	0.834	-	-	-
6	0.862	0.927	0.822	-	-	0.807
8	0.835	0.865	0.834	-	-	0.822
10	0.811	0.821	0.774	-	-	0.833

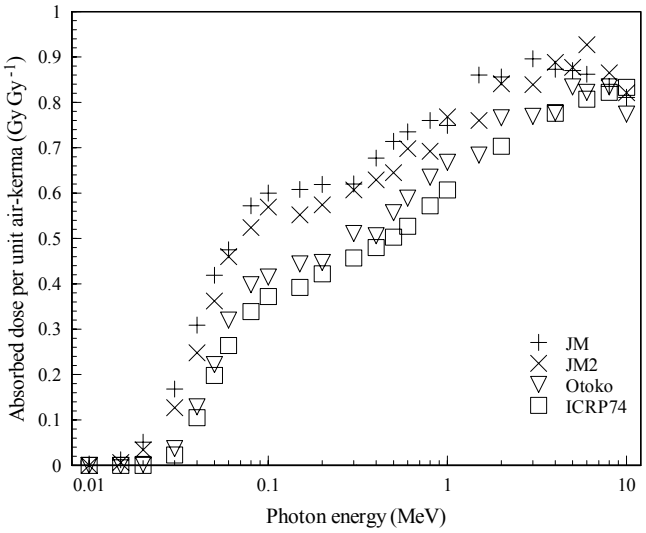

Figure 4-49 Testes absorbed dose per unit air-kerma in RLAT geometry.

Table 4-50 Bone (marrow) absorbed dose per unit air-kerma in RLAT geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.000	0.000	0.000	0.000	0.000	0.000
0.015	0.001	0.001	0.001	0.001	0.001	0.00197
0.02	0.006	0.005	0.007	0.005	0.006	0.00904
0.03	0.048	0.047	0.049	0.046	0.049	0.0585
0.04	0.142	0.141	0.136	0.139	0.140	0.175
0.05	0.265	0.263	0.249	0.262	0.258	0.323
0.06	0.378	0.378	0.358	0.380	0.370	0.456
0.08	0.523	0.519	0.491	0.531	0.510	0.603
0.1	0.578	0.577	0.547	0.594	0.568	0.643
0.15	0.607	0.606	0.579	0.629	0.605	0.635
0.2	0.613	0.611	0.589	0.638	0.610	0.629
0.3	0.627	0.625	0.601	0.643	0.626	0.622
0.4	0.644	0.642	0.618	0.640	0.642	0.627
0.5	0.662	0.661	0.633	0.646	0.659	0.637
0.6	0.680	0.676	0.651	0.657	0.677	0.647
0.8	0.705	0.701	0.674	0.685	0.699	0.667
1	0.725	0.722	0.697	0.708	0.718	0.686
1.5	0.766	0.763	0.737	0.749	0.758	-
2	0.797	0.796	0.771	0.779	0.790	0.753
3	0.840	0.840	0.814	0.824	0.830	-
4	0.865	0.863	0.843	0.845	0.854	0.819
5	0.878	0.881	0.861	0.866	0.872	-
6	0.882	0.884	0.866	0.869	0.874	0.851
8	0.878	0.879	0.862	0.865	0.872	0.872
10	0.869	0.872	0.852	0.857	0.867	0.889

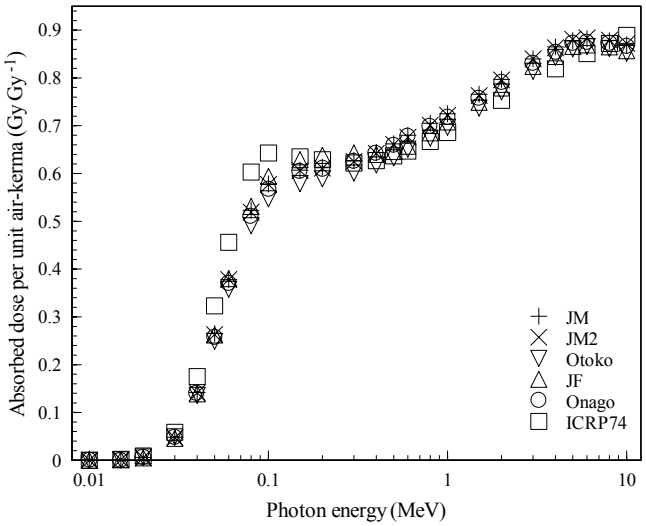

Figure 4-50 Bone (marrow) absorbed dose per unit air-kerma in RLAT geometry.

Table 4-51 Lower large intestine absorbed dose per unit air-kerma in RLAT geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.000	0.000	0.000	0.000	0.000	0.000
0.015	0.000	0.000	0.000	0.000	0.000	0.000
0.02	0.000	0.000	0.000	0.000	0.000	0.000
0.03	0.011	0.010	0.005	0.012	0.006	0.0306
0.04	0.064	0.058	0.034	0.064	0.043	0.133
0.05	0.141	0.141	0.086	0.138	0.109	0.263
0.06	0.211	0.223	0.147	0.212	0.165	0.370
0.08	0.298	0.307	0.222	0.295	0.239	0.467
0.1	0.334	0.341	0.247	0.324	0.260	0.484
0.15	0.345	0.351	0.263	0.347	0.292	0.462
0.2	0.368	0.362	0.287	0.359	0.299	0.459
0.3	0.382	0.392	0.310	0.387	0.335	0.471
0.4	0.408	0.410	0.348	0.416	0.369	0.486
0.5	0.432	0.435	0.375	0.443	0.387	0.501
0.6	0.450	0.448	0.410	0.462	0.427	0.516
0.8	0.481	0.491	0.463	0.501	0.479	0.544
1	0.532	0.530	0.475	0.534	0.497	0.570
1.5	0.589	0.596	0.565	0.606	0.575	-
2	0.641	0.617	0.617	0.644	0.641	0.658
3	0.687	0.685	0.684	0.699	0.693	-
4	0.726	0.721	0.701	0.735	0.728	0.733
5	0.732	0.748	0.749	0.764	0.748	-
6	0.762	0.752	0.752	0.779	0.781	0.765
8	0.771	0.776	0.753	0.784	0.771	0.783
10	0.795	0.780	0.772	0.797	0.787	0.797

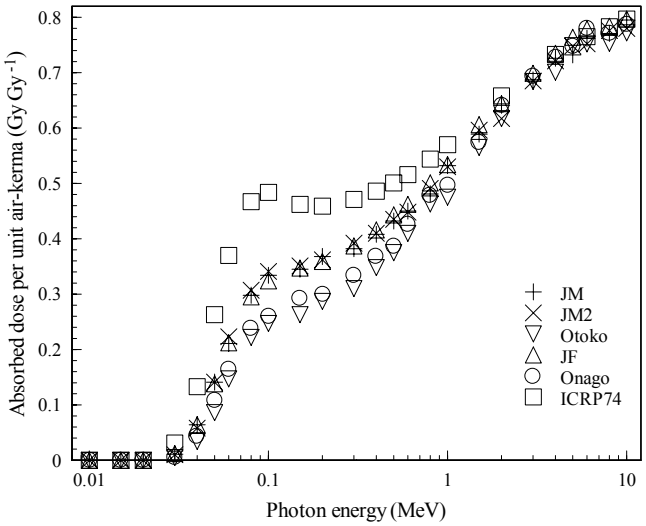

Figure 4-51 Lower large intestine absorbed dose per unit air-kerma in RLAT geometry.

Table 4-52 Lung absorbed dose per unit air-kerma in RLAT geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.000	0.000	0.000	0.000	0.000	0.000
0.015	0.000	0.000	0.001	0.001	0.000	0.00009
0.02	0.005	0.004	0.010	0.012	0.002	0.00037
0.03	0.060	0.058	0.097	0.102	0.049	0.0759
0.04	0.187	0.184	0.246	0.266	0.167	0.246
0.05	0.325	0.323	0.392	0.424	0.302	0.425
0.06	0.429	0.430	0.495	0.534	0.404	0.552
0.08	0.521	0.517	0.575	0.623	0.496	0.641
0.1	0.535	0.533	0.581	0.626	0.511	0.642
0.15	0.516	0.523	0.572	0.616	0.511	0.607
0.2	0.520	0.516	0.565	0.611	0.510	0.596
0.3	0.531	0.536	0.576	0.620	0.525	0.597
0.4	0.553	0.555	0.596	0.640	0.548	0.610
0.5	0.566	0.572	0.613	0.657	0.565	0.625
0.6	0.582	0.587	0.628	0.667	0.582	0.639
0.8	0.617	0.618	0.660	0.697	0.615	0.664
1	0.641	0.647	0.682	0.717	0.638	0.686
1.5	0.698	0.697	0.731	0.763	0.690	-
2	0.733	0.741	0.772	0.804	0.732	0.764
3	0.785	0.791	0.812	0.840	0.780	-
4	0.817	0.817	0.842	0.868	0.812	0.829
5	0.840	0.843	0.859	0.892	0.844	-
6	0.857	0.860	0.873	0.900	0.860	0.852
8	0.860	0.865	0.879	0.902	0.880	0.863
10	0.870	0.873	0.876	0.908	0.885	0.870

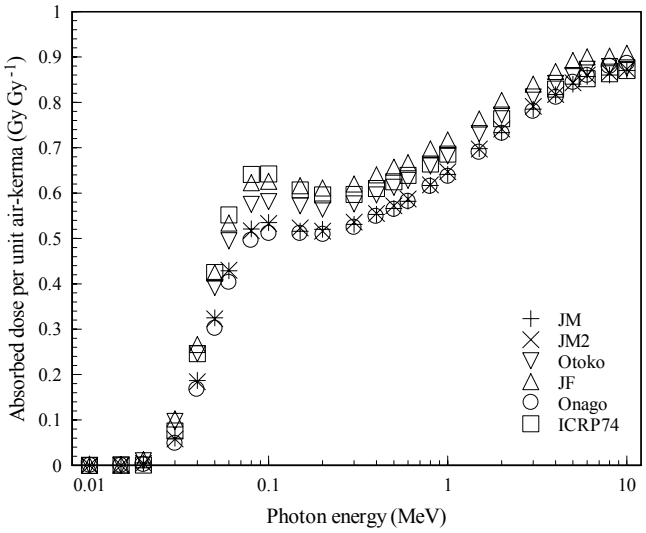

Figure 4-52 Lung absorbed dose per unit air-kerma in RLAT geometry.

Table 4-53 Stomach absorbed dose per unit air-kerma in RLAT geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.000	0.000	0.000	0.000	0.000	0.000
0.015	0.000	0.000	0.000	0.000	0.000	0.000
0.02	0.001	0.000	0.000	0.006	0.000	0.00021
0.03	0.028	0.019	0.006	0.069	0.011	0.00119
0.04	0.112	0.088	0.053	0.187	0.075	0.0223
0.05	0.214	0.181	0.135	0.308	0.171	0.0641
0.06	0.309	0.263	0.214	0.394	0.245	0.110
0.08	0.385	0.338	0.299	0.489	0.331	0.167
0.1	0.420	0.362	0.324	0.501	0.365	0.191
0.15	0.419	0.381	0.341	0.525	0.381	0.207
0.2	0.431	0.387	0.356	0.550	0.392	0.223
0.3	0.452	0.428	0.378	0.559	0.425	0.252
0.4	0.463	0.441	0.409	0.587	0.450	0.281
0.5	0.505	0.474	0.437	0.629	0.489	0.307
0.6	0.512	0.491	0.459	0.633	0.511	0.332
0.8	0.568	0.528	0.510	0.682	0.549	0.374
1	0.593	0.560	0.542	0.679	0.580	0.411
1.5	0.632	0.648	0.608	0.744	0.634	-
2	0.690	0.677	0.664	0.781	0.692	0.533
3	0.745	0.732	0.694	0.828	0.766	-
4	0.766	0.768	0.765	0.855	0.770	0.639
5	0.773	0.773	0.793	0.861	0.809	-
6	0.790	0.798	0.810	0.854	0.808	0.686
8	0.810	0.801	0.812	0.867	0.813	0.713
10	0.812	0.803	0.819	0.858	0.826	0.734

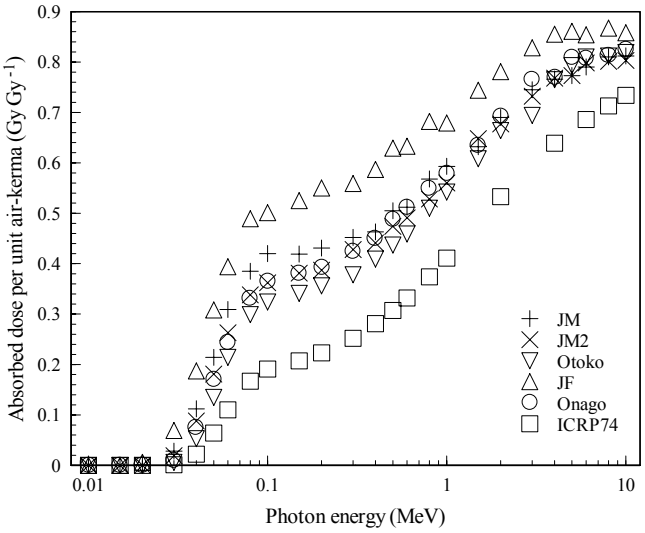

Figure 4-53 Stomach absorbed dose per unit air-kerma in RLAT geometry.

Table 4-54 Bladder absorbed dose per unit air-kerma in RLAT geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.000	0.000	0.000	0.000	0.000	0.000
0.015	0.000	0.000	0.000	0.000	0.000	0.000
0.02	0.001	0.001	0.000	0.000	0.000	0.000
0.03	0.031	0.026	0.004	0.008	0.013	0.0254
0.04	0.124	0.110	0.038	0.055	0.065	0.121
0.05	0.245	0.231	0.115	0.133	0.164	0.250
0.06	0.338	0.339	0.196	0.218	0.238	0.358
0.08	0.455	0.437	0.304	0.294	0.330	0.450
0.1	0.484	0.459	0.341	0.374	0.376	0.476
0.15	0.507	0.491	0.402	0.368	0.379	0.474
0.2	0.494	0.486	0.426	0.371	0.422	0.466
0.3	0.513	0.496	0.436	0.381	0.432	0.499
0.4	0.512	0.537	0.453	0.385	0.454	0.524
0.5	0.535	0.555	0.466	0.446	0.444	0.542
0.6	0.547	0.541	0.507	0.473	0.492	0.559
0.8	0.612	0.620	0.540	0.494	0.501	0.592
1	0.638	0.639	0.575	0.526	0.558	0.620
1.5	0.670	0.656	0.634	0.563	0.618	-
2	0.731	0.697	0.692	0.617	0.631	0.710
3	0.753	0.744	0.740	0.676	0.700	-
4	0.793	0.770	0.737	0.714	0.729	0.783
5	0.845	0.811	0.793	0.703	0.740	-
6	0.812	0.797	0.819	0.777	0.787	0.812
8	0.836	0.833	0.784	0.769	0.757	0.828
10	0.812	0.797	0.789	0.758	0.755	0.838

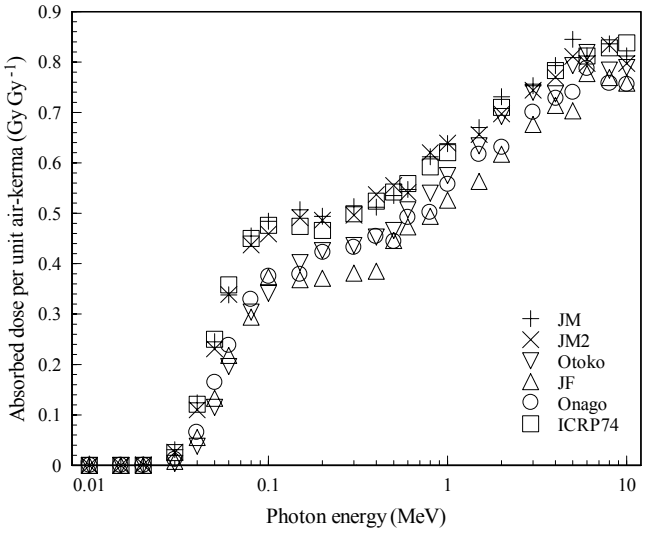

Figure 4-54 Bladder absorbed dose per unit air-kerma in RLAT geometry.

Table 4-55 Breast absorbed dose per unit air-kerma in RLAT geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	-	-	-	0.003	0.008	0.00513
0.015	-	-	-	0.044	0.058	0.0451
0.02	-	-	-	0.143	0.148	0.128
0.03	-	-	-	0.372	0.344	0.333
0.04	-	-	-	0.559	0.503	0.507
0.05	-	-	-	0.694	0.621	0.634
0.06	-	-	-	0.776	0.687	0.724
0.08	-	-	-	0.828	0.742	0.773
0.1	-	-	-	0.819	0.748	0.771
0.15	-	-	-	0.779	0.719	0.755
0.2	-	-	-	0.772	0.715	0.747
0.3	-	-	-	0.767	0.710	0.756
0.4	-	-	-	0.767	0.720	0.766
0.5	-	-	-	0.776	0.729	0.774
0.6	-	-	-	0.791	0.745	0.782
0.8	-	-	-	0.804	0.765	0.799
1	-	-	-	0.818	0.775	0.814
1.5	-	-	-	0.846	0.808	-
2	-	-	-	0.869	0.830	0.866
3	-	-	-	0.886	0.838	-
4	-	-	-	0.878	0.819	0.907
5	-	-	-	0.854	0.823	-
6	-	-	-	0.840	0.803	0.921
8	-	-	-	0.808	0.764	0.927
10	-	-	-	0.757	0.723	0.931

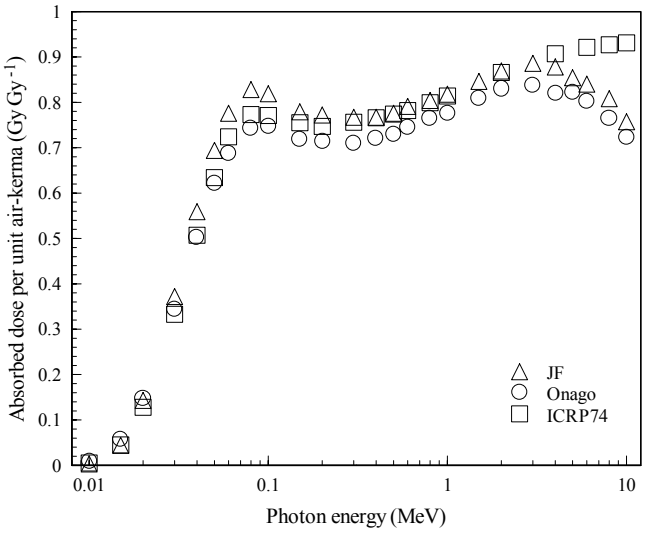

Figure 4-55 Breast absorbed dose per unit air-kerma in RLAT geometry.

Table 4-56 Ovaries absorbed dose per unit air-kerma in RLAT geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	-	-	-	0.000	0.000	0.000
0.015	-	-	-	0.000	0.000	0.000
0.02	-	-	-	0.000	0.000	0.000
0.03	-	-	-	0.008	0.008	0.00963
0.04	-	-	-	0.052	0.057	0.0996
0.05	-	-	-	0.130	0.128	0.234
0.06	-	-	-	0.249	0.228	0.345
0.08	-	-	-	0.351	0.316	0.453
0.1	-	-	-	0.374	0.333	0.479
0.15	-	-	-	0.421	0.391	0.470
0.2	-	-	-	0.372	0.371	0.478
0.3	-	-	-	0.377	0.417	0.491
0.4	-	-	-	0.433	0.420	0.501
0.5	-	-	-	0.480	0.407	0.511
0.6	-	-	-	0.446	0.456	0.522
0.8	-	-	-	0.529	0.528	0.542
1	-	-	-	0.478	0.524	0.559
1.5	-	-	-	0.584	0.606	-
2	-	-	-	0.571	0.642	0.624
3	-	-	-	0.714	0.687	-
4	-	-	-	0.626	0.726	0.696
5	-	-	-	0.696	0.709	-
6	-	-	-	0.719	0.734	0.740
8	-	-	-	0.747	0.771	0.772
10	-	-	-	0.814	0.779	0.796

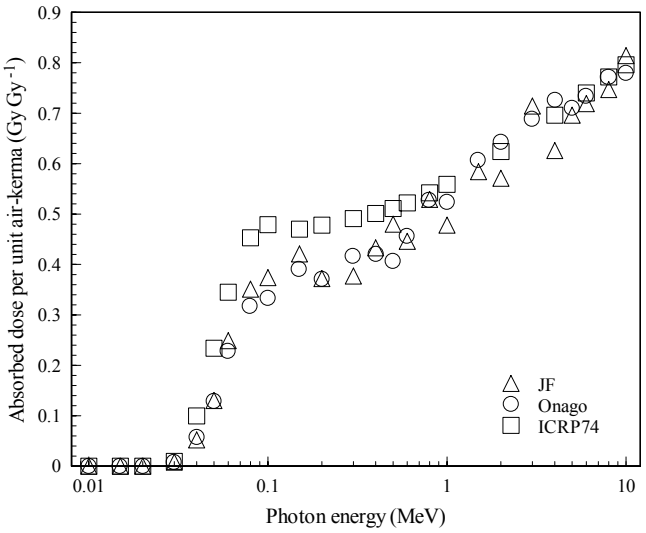

Figure 4-56 Ovaries absorbed dose per unit air-kerma in RLAT geometry.

Table 4-57 Liver absorbed dose per unit air-kerma in RLAT geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.000	0.000	0.000	0.000	0.000	0.000
0.015	0.000	0.000	0.001	0.003	0.001	0.00015
0.02	0.009	0.009	0.018	0.036	0.013	0.00285
0.03	0.122	0.125	0.202	0.241	0.154	0.142
0.04	0.359	0.362	0.510	0.533	0.419	0.427
0.05	0.597	0.602	0.787	0.781	0.673	0.711
0.06	0.765	0.773	0.961	0.929	0.839	0.902
0.08	0.885	0.890	1.065	1.025	0.959	1.032
0.1	0.891	0.894	1.063	1.019	0.962	1.019
0.15	0.830	0.829	0.989	0.946	0.896	0.940
0.2	0.806	0.804	0.949	0.917	0.868	0.899
0.3	0.784	0.779	0.922	0.897	0.853	0.865
0.4	0.789	0.781	0.920	0.888	0.845	0.854
0.5	0.792	0.786	0.910	0.885	0.841	0.851
0.6	0.795	0.785	0.906	0.895	0.849	0.852
0.8	0.818	0.808	0.919	0.899	0.856	0.859
1	0.821	0.822	0.923	0.902	0.870	0.868
1.5	0.858	0.846	0.947	0.920	0.898	-
2	0.871	0.873	0.956	0.940	0.914	0.906
3	0.904	0.895	0.961	0.958	0.925	-
4	0.913	0.909	0.966	0.969	0.938	0.934
5	0.927	0.924	0.984	0.968	0.954	-
6	0.931	0.921	0.969	0.964	0.946	0.940
8	0.927	0.908	0.956	0.937	0.934	0.943
10	0.906	0.907	0.941	0.921	0.928	0.945

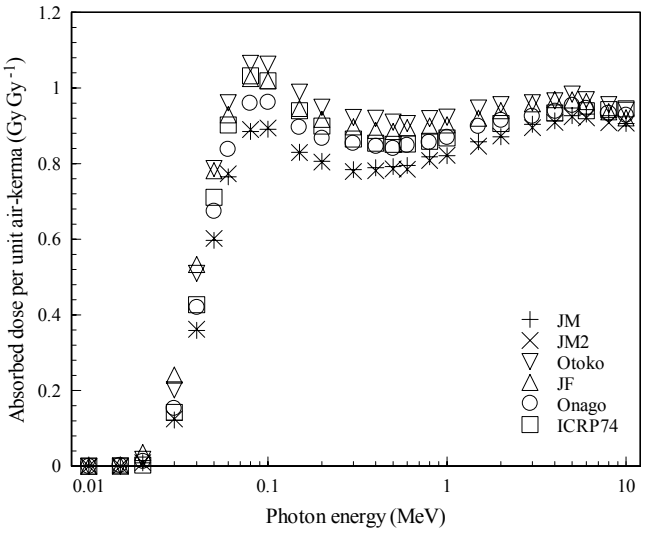

Figure 4-57 Liver absorbed dose per unit air-kerma in RLAT geometry.

Table 4-58 Esophagus absorbed dose per unit air-kerma in RLAT geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.000	0.000	0.000	0.000	0.000	0.000
0.015	0.000	0.000	0.000	0.000	0.000	0.000
0.02	0.001	0.001	0.001	0.005	0.000	0.00015
0.03	0.025	0.025	0.032	0.076	0.013	0.0321
0.04	0.101	0.105	0.134	0.233	0.078	0.149
0.05	0.208	0.212	0.266	0.400	0.195	0.298
0.06	0.306	0.335	0.415	0.521	0.274	0.419
0.08	0.428	0.435	0.501	0.648	0.390	0.572
0.1	0.467	0.464	0.492	0.665	0.429	0.603
0.15	0.449	0.469	0.521	0.666	0.461	0.599
0.2	0.471	0.482	0.522	0.680	0.462	0.597
0.3	0.481	0.495	0.565	0.677	0.489	0.604
0.4	0.503	0.497	0.581	0.708	0.533	0.619
0.5	0.531	0.518	0.566	0.741	0.526	0.637
0.6	0.539	0.553	0.578	0.729	0.573	0.653
0.8	0.582	0.596	0.654	0.744	0.572	0.682
1	0.598	0.604	0.659	0.767	0.596	0.704
1.5	0.645	0.671	0.725	0.830	0.615	-
2	0.693	0.687	0.714	0.828	0.757	0.772
3	0.719	0.786	0.799	0.894	0.722	-
4	0.780	0.788	0.856	0.919	0.822	0.830
5	0.772	0.858	0.861	0.919	0.783	-
6	0.820	0.796	0.901	0.899	0.816	0.856
8	0.819	0.800	0.802	0.900	0.865	0.868
10	0.838	0.834	0.845	0.872	0.871	0.875

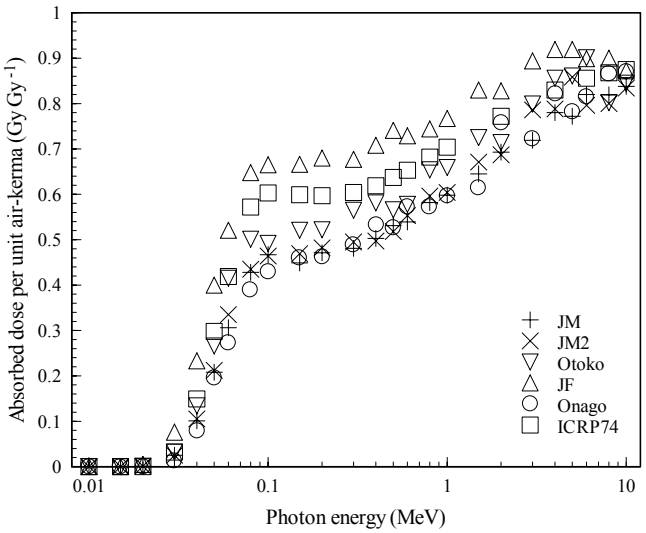

Figure 4-58 Esophagus absorbed dose per unit air-kerma in RLAT geometry.

Table 4-59 Thyroid absorbed dose per unit air-kerma in RLAT geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.000	0.000	0.000	0.000	0.000	0.000
0.015	0.002	0.002	0.000	0.006	0.004	0.00211
0.02	0.042	0.038	0.004	0.080	0.063	0.0543
0.03	0.261	0.234	0.037	0.411	0.327	0.335
0.04	0.492	0.429	0.102	0.691	0.586	0.650
0.05	0.657	0.603	0.190	0.867	0.733	0.892
0.06	0.775	0.706	0.238	0.966	0.876	1.062
0.08	0.871	0.824	0.366	1.095	1.033	1.179
0.1	0.874	0.828	0.362	1.074	1.008	1.188
0.15	0.877	0.799	0.365	1.192	1.033	1.131
0.2	0.852	0.807	0.347	1.098	0.943	1.091
0.3	0.885	0.834	0.351	1.056	0.950	1.059
0.4	0.833	0.766	0.383	1.002	1.019	1.057
0.5	0.867	0.798	0.394	1.015	1.031	1.063
0.6	0.894	0.790	0.411	1.072	0.932	1.069
0.8	0.862	0.826	0.427	1.122	1.046	1.076
1	0.878	0.849	0.444	1.028	0.979	1.081
1.5	0.927	0.844	0.502	1.084	1.072	-
2	0.996	0.889	0.562	1.095	0.981	1.093
3	0.933	0.956	0.590	1.000	0.996	-
4	0.967	0.917	0.605	1.101	1.039	1.075
5	0.979	0.924	0.716	1.110	1.010	-
6	1.023	0.902	0.723	1.067	1.047	1.052
8	0.877	0.924	0.771	0.979	0.966	1.036
10	0.939	0.899	0.730	0.950	0.976	1.023

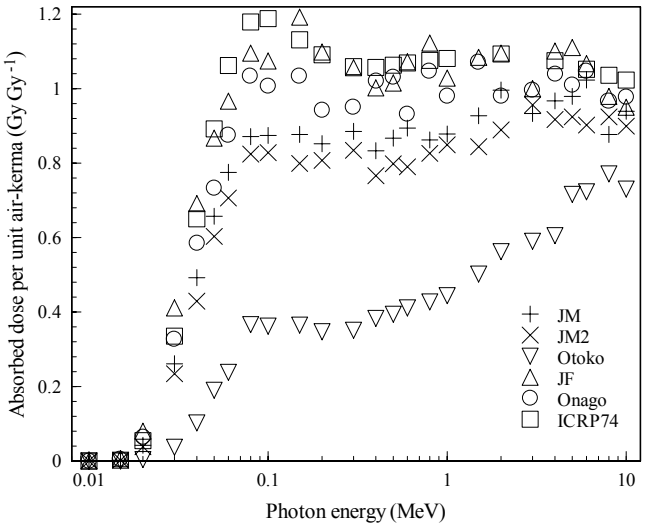

Figure 4-59 Thyroid absorbed dose per unit air-kerma in RLAT geometry.

Table 4-60 Skin absorbed dose per unit air-kerma in RLAT geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.152	0.152	0.140	0.152	0.148	0.142
0.015	0.249	0.251	0.227	0.250	0.245	0.252
0.02	0.313	0.318	0.288	0.316	0.310	0.343
0.03	0.424	0.431	0.396	0.430	0.420	0.472
0.04	0.533	0.540	0.503	0.540	0.528	0.578
0.05	0.626	0.637	0.595	0.636	0.622	0.669
0.06	0.699	0.703	0.659	0.702	0.686	0.738
0.08	0.759	0.771	0.727	0.766	0.753	0.796
0.1	0.776	0.785	0.741	0.784	0.773	0.805
0.15	0.773	0.782	0.742	0.787	0.771	0.795
0.2	0.772	0.780	0.741	0.783	0.771	0.789
0.3	0.759	0.780	0.742	0.788	0.774	0.787
0.4	0.748	0.776	0.744	0.784	0.768	0.791
0.5	0.739	0.766	0.737	0.778	0.761	0.797
0.6	0.725	0.751	0.726	0.765	0.752	0.805
0.8	0.697	0.723	0.701	0.734	0.722	0.819
1	0.663	0.691	0.669	0.700	0.693	0.833
1.5	0.608	0.636	0.615	0.638	0.631	-
2	0.576	0.605	0.584	0.602	0.600	0.879
3	0.549	0.568	0.554	0.568	0.567	-
4	0.532	0.546	0.537	0.550	0.551	0.910
5	0.521	0.536	0.529	0.534	0.543	-
6	0.513	0.524	0.522	0.527	0.528	0.917
8	0.496	0.503	0.503	0.509	0.513	0.920
10	0.485	0.491	0.493	0.496	0.501	0.921

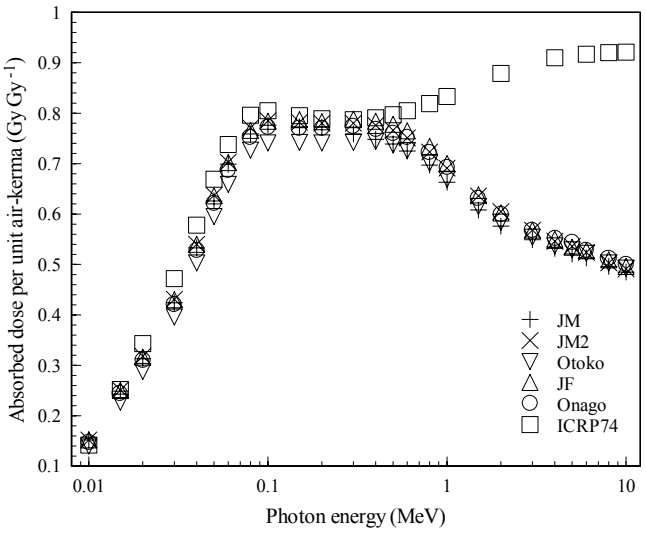

Figure 4-60 Skin absorbed dose per unit air-kerma in RLAT geometry.

Table 4-61 Bone (hard bone) absorbed dose per unit air-kerma in RLAT geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.001	0.001	0.001	0.001	0.001	0.00163
0.015	0.025	0.021	0.022	0.022	0.023	0.0218
0.02	0.122	0.113	0.113	0.112	0.111	0.0884
0.03	0.656	0.638	0.611	0.620	0.609	0.422
0.04	1.482	1.460	1.380	1.423	1.396	0.928
0.05	2.154	2.135	2.016	2.089	2.053	1.344
0.06	2.417	2.402	2.274	2.357	2.327	1.526
0.08	2.142	2.136	2.034	2.100	2.091	1.432
0.1	1.689	1.688	1.618	1.661	1.663	1.206
0.15	1.078	1.078	1.041	1.064	1.073	0.883
0.2	0.869	0.866	0.840	0.866	0.864	0.763
0.3	0.734	0.732	0.712	0.742	0.738	0.685
0.4	0.693	0.692	0.674	0.713	0.703	0.666
0.5	0.680	0.678	0.659	0.706	0.690	0.663
0.6	0.678	0.675	0.663	0.708	0.689	0.666
0.8	0.685	0.681	0.666	0.717	0.699	0.676
1	0.693	0.690	0.681	0.728	0.707	0.690
1.5	0.721	0.721	0.707	0.753	0.734	-
2	0.742	0.744	0.733	0.778	0.763	0.749
3	0.777	0.774	0.765	0.811	0.791	-
4	0.793	0.794	0.789	0.827	0.809	0.808
5	0.801	0.805	0.798	0.835	0.820	-
6	0.799	0.802	0.798	0.836	0.818	0.837
8	0.787	0.790	0.789	0.822	0.809	0.856
10	0.772	0.776	0.777	0.809	0.795	0.870

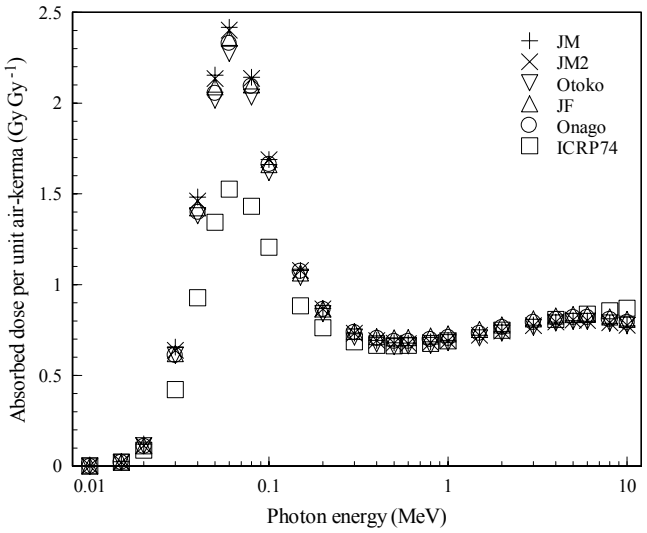

Figure 4-61 Bone (hard bone) absorbed dose per unit air-kerma in RLAT geometry.

Table 4-62 Adrenal absorbed dose per unit air-kerma in RLAT geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.000	0.000	0.000	0.000	0.000	-
0.015	0.000	0.000	0.000	0.000	0.000	-
0.02	0.000	0.000	0.001	0.001	0.000	-
0.03	0.009	0.012	0.059	0.069	0.015	-
0.04	0.073	0.091	0.223	0.248	0.086	-
0.05	0.158	0.200	0.427	0.431	0.197	-
0.06	0.262	0.314	0.554	0.655	0.277	-
0.08	0.396	0.384	0.642	0.714	0.410	-
0.1	0.429	0.457	0.693	0.713	0.410	-
0.15	0.399	0.434	0.616	0.728	0.387	-
0.2	0.395	0.420	0.642	0.767	0.407	-
0.3	0.415	0.420	0.616	0.754	0.420	-
0.4	0.393	0.399	0.615	0.766	0.434	-
0.5	0.427	0.479	0.645	0.744	0.475	-
0.6	0.420	0.465	0.641	0.737	0.448	-
0.8	0.453	0.486	0.698	0.752	0.510	-
1	0.465	0.496	0.733	0.855	0.494	-
1.5	0.547	0.603	0.726	0.918	0.571	-
2	0.632	0.639	0.726	0.909	0.651	-
3	0.644	0.694	0.815	0.863	0.675	-
4	0.665	0.731	0.834	0.923	0.710	-
5	0.699	0.761	0.872	1.007	0.688	-
6	0.745	0.748	0.848	0.871	0.739	-
8	0.723	0.712	0.827	0.962	0.781	-
10	0.758	0.758	0.817	0.935	0.837	-

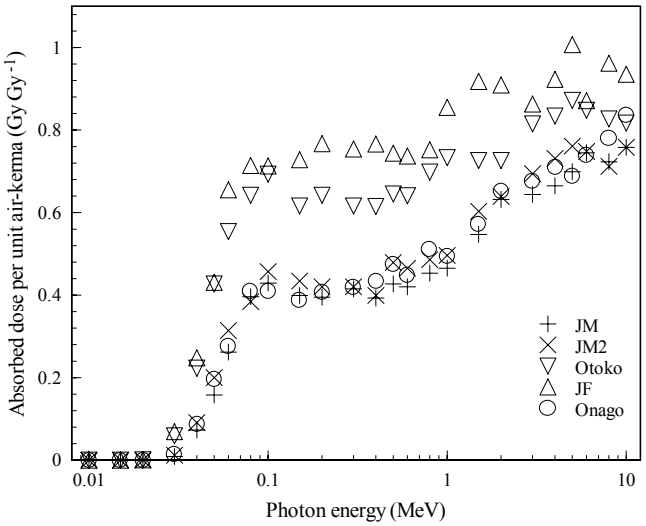

Figure 4-62 Adrenal absorbed dose per unit air-kerma in RLAT geometry.

Table 4-63 Brain absorbed dose per unit air-kerma in RLAT geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.000	0.000	0.000	0.000	0.000	-
0.015	0.000	0.000	0.000	0.000	0.000	-
0.02	0.001	0.001	0.001	0.001	0.000	-
0.03	0.068	0.065	0.060	0.062	0.035	-
0.04	0.293	0.287	0.269	0.277	0.209	-
0.05	0.551	0.541	0.518	0.524	0.448	-
0.06	0.739	0.730	0.708	0.708	0.646	-
0.08	0.900	0.894	0.865	0.864	0.837	-
0.1	0.931	0.925	0.899	0.891	0.881	-
0.15	0.906	0.898	0.880	0.882	0.879	-
0.2	0.890	0.877	0.865	0.865	0.869	-
0.3	0.867	0.860	0.846	0.858	0.856	-
0.4	0.872	0.866	0.853	0.848	0.862	-
0.5	0.869	0.864	0.855	0.859	0.860	-
0.6	0.877	0.870	0.859	0.857	0.867	-
0.8	0.887	0.879	0.878	0.879	0.876	-
1	0.894	0.892	0.886	0.885	0.886	-
1.5	0.912	0.914	0.911	0.915	0.907	-
2	0.931	0.928	0.921	0.933	0.920	-
3	0.944	0.949	0.950	0.947	0.951	-
4	0.966	0.952	0.959	0.958	0.959	-
5	0.963	0.979	0.952	0.966	0.966	-
6	0.958	0.969	0.963	0.972	0.969	-
8	0.954	0.965	0.953	0.957	0.968	-
10	0.946	0.942	0.949	0.942	0.958	-

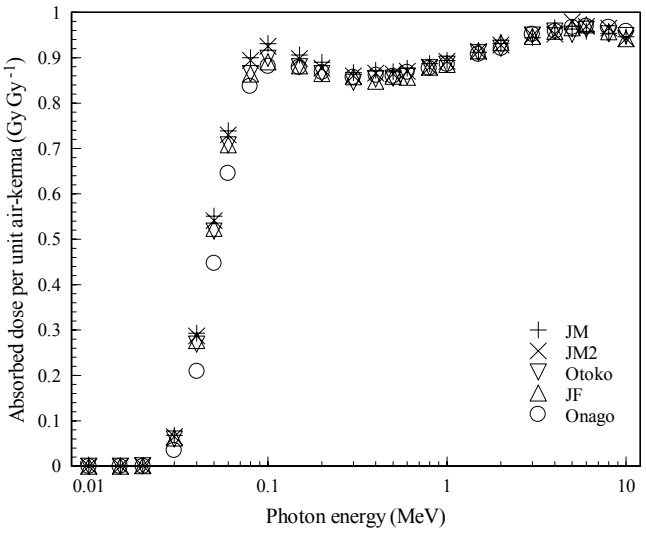

Figure 4-63 Brain absorbed dose per unit air-kerma in RLAT geometry.

Table 4-64 Upper large intestine absorbed dose per unit air-kerma in RLAT geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.000	0.000	0.000	0.000	0.000	-
0.015	0.001	0.002	0.000	0.005	0.000	-
0.02	0.021	0.023	0.005	0.046	0.008	-
0.03	0.179	0.190	0.076	0.234	0.100	-
0.04	0.427	0.445	0.218	0.462	0.257	-
0.05	0.651	0.673	0.356	0.648	0.413	-
0.06	0.814	0.811	0.460	0.753	0.510	-
0.08	0.892	0.940	0.556	0.857	0.593	-
0.1	0.893	0.952	0.568	0.865	0.630	-
0.15	0.844	0.888	0.570	0.840	0.594	-
0.2	0.826	0.846	0.560	0.816	0.592	-
0.3	0.808	0.824	0.587	0.818	0.610	-
0.4	0.816	0.846	0.609	0.813	0.614	-
0.5	0.819	0.847	0.628	0.814	0.641	-
0.6	0.821	0.828	0.653	0.835	0.648	-
0.8	0.831	0.847	0.674	0.855	0.695	-
1	0.856	0.867	0.702	0.877	0.698	-
1.5	0.875	0.905	0.755	0.884	0.764	-
2	0.901	0.911	0.793	0.896	0.813	-
3	0.923	0.930	0.830	0.917	0.821	-
4	0.927	0.958	0.839	0.920	0.831	-
5	0.949	0.951	0.882	0.926	0.855	-
6	0.950	0.945	0.865	0.924	0.867	-
8	0.922	0.926	0.863	0.906	0.872	-
10	0.925	0.909	0.858	0.894	0.858	-

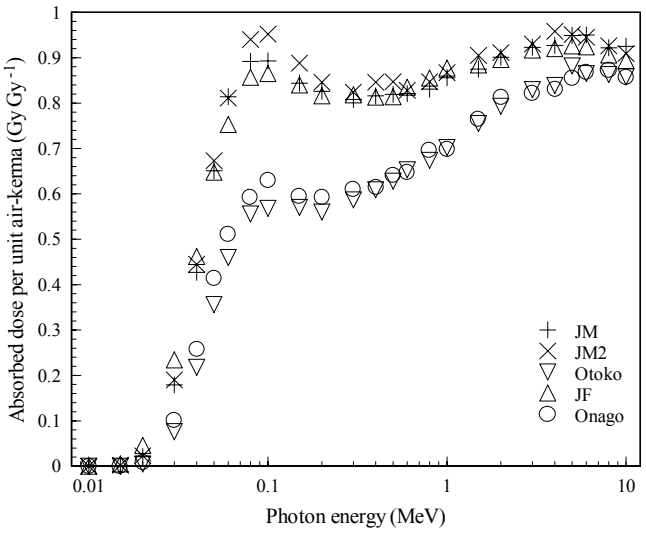

Figure 4-64 Upper large intestine absorbed dose per unit air-kerma in RLAT geometry.

Table 4-65 Small intestine absorbed dose per unit air-kerma in RLAT geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.000	0.000	0.000	0.000	0.000	-
0.015	0.000	0.000	0.000	0.000	0.000	-
0.02	0.005	0.005	0.002	0.006	0.002	-
0.03	0.071	0.079	0.052	0.077	0.055	-
0.04	0.215	0.236	0.188	0.216	0.193	-
0.05	0.366	0.401	0.341	0.367	0.348	-
0.06	0.483	0.525	0.450	0.477	0.470	-
0.08	0.583	0.619	0.569	0.577	0.585	-
0.1	0.604	0.648	0.589	0.598	0.596	-
0.15	0.594	0.627	0.582	0.608	0.590	-
0.2	0.591	0.627	0.582	0.607	0.600	-
0.3	0.603	0.629	0.599	0.621	0.610	-
0.4	0.622	0.645	0.617	0.643	0.633	-
0.5	0.628	0.661	0.629	0.662	0.639	-
0.6	0.650	0.676	0.653	0.665	0.668	-
0.8	0.676	0.713	0.686	0.706	0.697	-
1	0.708	0.734	0.701	0.734	0.715	-
1.5	0.766	0.780	0.755	0.768	0.768	-
2	0.778	0.813	0.781	0.806	0.798	-
3	0.827	0.840	0.824	0.831	0.836	-
4	0.850	0.862	0.844	0.863	0.870	-
5	0.860	0.865	0.877	0.872	0.874	-
6	0.869	0.890	0.873	0.884	0.883	-
8	0.866	0.885	0.871	0.874	0.877	-
10	0.857	0.881	0.867	0.882	0.871	-

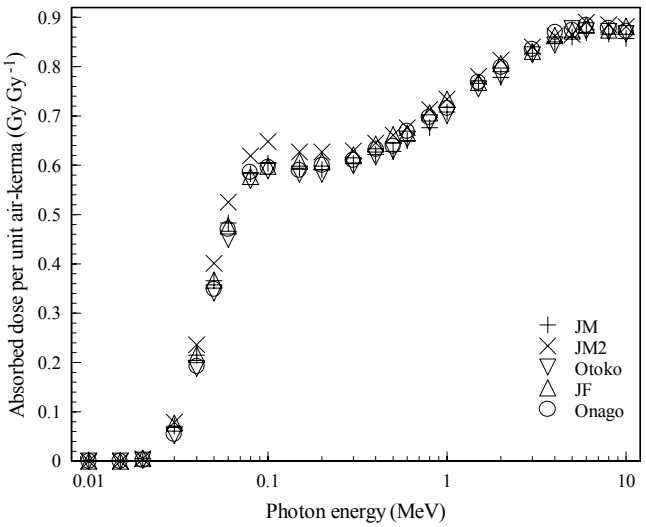

Figure 4-65 Small intestine absorbed dose per unit air-kerma in RLAT geometry.

Table 4-66 Kidney absorbed dose per unit air-kerma in RLAT geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.000	0.000	0.000	0.000	0.000	-
0.015	0.000	0.000	0.000	0.000	0.000	-
0.02	0.000	0.001	0.005	0.004	0.001	-
0.03	0.021	0.036	0.092	0.072	0.039	-
0.04	0.104	0.149	0.254	0.214	0.144	-
0.05	0.229	0.294	0.412	0.366	0.264	-
0.06	0.347	0.410	0.525	0.492	0.366	-
0.08	0.427	0.515	0.613	0.575	0.458	-
0.1	0.463	0.527	0.633	0.596	0.474	-
0.15	0.428	0.513	0.604	0.579	0.457	-
0.2	0.414	0.496	0.586	0.562	0.450	-
0.3	0.406	0.494	0.587	0.569	0.452	-
0.4	0.422	0.498	0.587	0.587	0.461	-
0.5	0.437	0.515	0.608	0.599	0.480	-
0.6	0.448	0.521	0.613	0.603	0.498	-
0.8	0.470	0.558	0.644	0.625	0.517	-
1	0.493	0.578	0.673	0.662	0.536	-
1.5	0.546	0.626	0.698	0.709	0.598	-
2	0.595	0.658	0.732	0.737	0.640	-
3	0.643	0.700	0.785	0.771	0.696	-
4	0.677	0.751	0.809	0.808	0.735	-
5	0.710	0.761	0.824	0.837	0.741	-
6	0.720	0.772	0.836	0.838	0.760	-
8	0.723	0.782	0.838	0.821	0.788	-
10	0.750	0.781	0.830	0.853	0.782	-

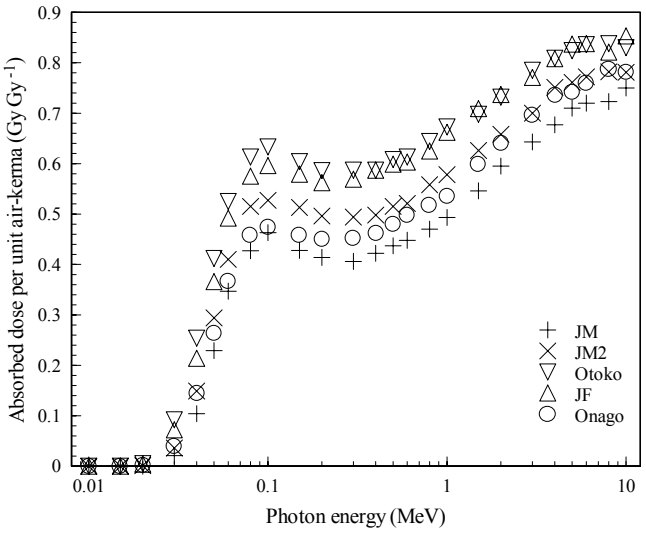

Figure 4-66 Kidney absorbed dose per unit air-kerma in RLAT geometry.

Table 4-67 Muscle absorbed dose per unit air-kerma in RLAT geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.002	0.002	0.001	0.002	0.002	-
0.015	0.019	0.018	0.016	0.020	0.016	-
0.02	0.060	0.058	0.054	0.065	0.053	-
0.03	0.190	0.188	0.167	0.204	0.175	-
0.04	0.340	0.340	0.300	0.358	0.321	-
0.05	0.473	0.474	0.420	0.491	0.452	-
0.06	0.567	0.567	0.507	0.581	0.544	-
0.08	0.640	0.643	0.584	0.654	0.621	-
0.1	0.653	0.654	0.599	0.667	0.634	-
0.15	0.638	0.639	0.593	0.658	0.626	-
0.2	0.632	0.633	0.590	0.654	0.622	-
0.3	0.637	0.636	0.595	0.661	0.629	-
0.4	0.647	0.646	0.606	0.673	0.640	-
0.5	0.658	0.658	0.619	0.684	0.653	-
0.6	0.669	0.669	0.633	0.696	0.667	-
0.8	0.695	0.692	0.656	0.718	0.689	-
1	0.715	0.711	0.675	0.738	0.710	-
1.5	0.752	0.750	0.717	0.776	0.749	-
2	0.781	0.779	0.750	0.805	0.780	-
3	0.812	0.814	0.784	0.833	0.813	-
4	0.828	0.830	0.804	0.847	0.829	-
5	0.837	0.835	0.811	0.852	0.839	-
6	0.835	0.833	0.812	0.847	0.838	-
8	0.818	0.819	0.796	0.833	0.825	-
10	0.803	0.804	0.784	0.812	0.811	-

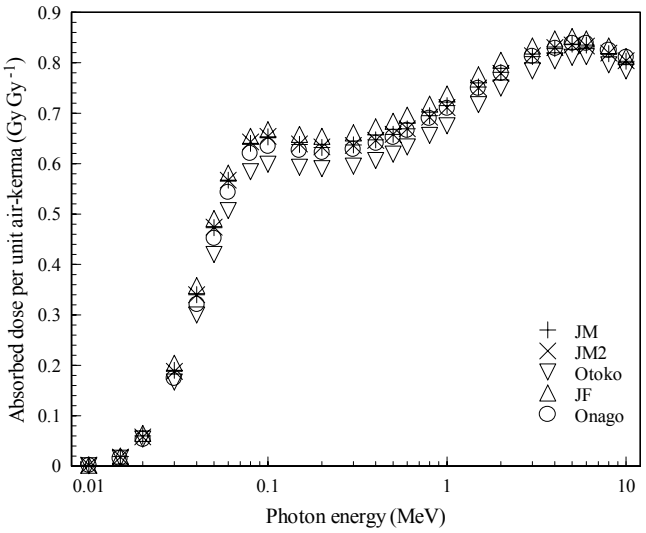

Figure 4-67 Muscle absorbed dose per unit air-kerma in RLAT geometry.

Table 4-68 Pancreas absorbed dose per unit air-kerma in RLAT geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.000	0.000	0.000	0.000	0.000	-
0.015	0.000	0.000	0.000	0.000	0.000	-
0.02	0.000	0.000	0.000	0.003	0.000	-
0.03	0.021	0.026	0.015	0.103	0.009	-
0.04	0.119	0.137	0.096	0.301	0.068	-
0.05	0.253	0.295	0.217	0.489	0.167	-
0.06	0.368	0.413	0.314	0.644	0.247	-
0.08	0.460	0.541	0.426	0.740	0.365	-
0.1	0.497	0.571	0.443	0.753	0.400	-
0.15	0.489	0.547	0.461	0.723	0.381	-
0.2	0.489	0.542	0.461	0.718	0.406	-
0.3	0.500	0.552	0.480	0.723	0.424	-
0.4	0.526	0.573	0.500	0.756	0.452	-
0.5	0.545	0.592	0.518	0.760	0.477	-
0.6	0.551	0.623	0.547	0.778	0.487	-
0.8	0.614	0.637	0.590	0.798	0.525	-
1	0.631	0.665	0.612	0.822	0.540	-
1.5	0.678	0.721	0.672	0.842	0.620	-
2	0.726	0.761	0.745	0.890	0.653	-
3	0.796	0.793	0.755	0.907	0.717	-
4	0.797	0.827	0.809	0.909	0.751	-
5	0.788	0.837	0.824	0.910	0.739	-
6	0.856	0.857	0.829	0.923	0.758	-
8	0.838	0.847	0.834	0.919	0.780	-
10	0.839	0.872	0.843	0.925	0.799	-

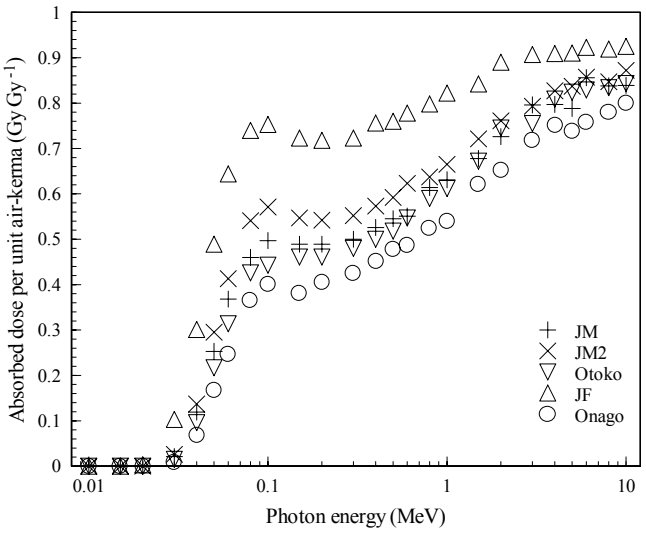

Figure 4-68 Pancreas absorbed dose per unit air-kerma in RLAT geometry.

Table 4-69 Spleen absorbed dose per unit air-kerma in RLAT geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.000	0.000	0.000	0.000	0.000	-
0.015	0.000	0.000	0.000	0.000	0.000	-
0.02	0.000	0.000	0.000	0.000	0.000	-
0.03	0.001	0.001	0.001	0.003	0.001	-
0.04	0.012	0.014	0.016	0.022	0.014	-
0.05	0.042	0.047	0.050	0.057	0.048	-
0.06	0.074	0.082	0.089	0.110	0.089	-
0.08	0.126	0.141	0.156	0.167	0.148	-
0.1	0.141	0.172	0.167	0.189	0.161	-
0.15	0.155	0.171	0.186	0.206	0.173	-
0.2	0.161	0.184	0.195	0.212	0.188	-
0.3	0.183	0.201	0.231	0.232	0.213	-
0.4	0.206	0.228	0.258	0.261	0.227	-
0.5	0.221	0.237	0.284	0.274	0.261	-
0.6	0.244	0.262	0.321	0.297	0.280	-
0.8	0.273	0.285	0.352	0.353	0.313	-
1	0.306	0.319	0.398	0.388	0.338	-
1.5	0.362	0.380	0.457	0.436	0.398	-
2	0.410	0.441	0.517	0.505	0.436	-
3	0.469	0.472	0.589	0.548	0.531	-
4	0.533	0.522	0.626	0.578	0.570	-
5	0.582	0.565	0.654	0.656	0.602	-
6	0.599	0.595	0.673	0.642	0.619	-
8	0.632	0.624	0.693	0.676	0.650	-
10	0.619	0.618	0.701	0.705	0.660	-

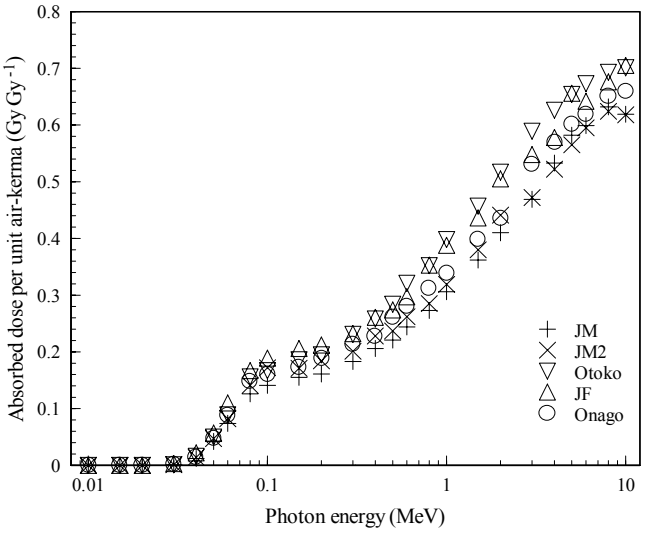

Figure 4-69 Spleen absorbed dose per unit air-kerma in RLAT geometry.

Table 4-70 Thymus absorbed dose per unit air-kerma in RLAT geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.000	0.000	0.000	0.000	0.000	0.000
0.015	0.000	0.000	0.000	0.000	0.000	0.000
0.02	0.000	0.000	0.000	0.003	0.000	0.000
0.03	0.031	0.031	0.018	0.102	0.026	0.0308
0.04	0.140	0.141	0.080	0.309	0.099	0.151
0.05	0.264	0.274	0.175	0.495	0.261	0.302
0.06	0.368	0.390	0.306	0.632	0.321	0.415
0.08	0.480	0.477	0.366	0.700	0.449	0.523
0.1	0.516	0.498	0.310	0.728	0.449	0.530
0.15	0.511	0.536	0.389	0.734	0.546	0.536
0.2	0.516	0.524	0.387	0.738	0.460	0.549
0.3	0.532	0.554	0.393	0.794	0.580	0.580
0.4	0.571	0.592	0.415	0.789	0.712	0.606
0.5	0.597	0.584	0.432	0.811	0.647	0.628
0.6	0.634	0.629	0.464	0.836	0.635	0.646
0.8	0.636	0.634	0.488	0.848	0.660	0.675
1	0.676	0.681	0.530	0.814	0.760	0.700
1.5	0.786	0.731	0.638	0.913	0.804	-
2	0.826	0.804	0.726	0.947	0.736	0.779
3	0.861	0.823	0.680	0.894	0.673	-
4	0.868	0.862	0.772	0.908	0.951	0.840
5	0.840	0.871	0.817	0.951	0.943	-
6	0.859	0.862	0.806	0.957	0.999	0.861
8	0.852	0.862	0.851	0.963	0.777	0.872
10	0.859	0.833	0.776	0.931	1.010	0.880

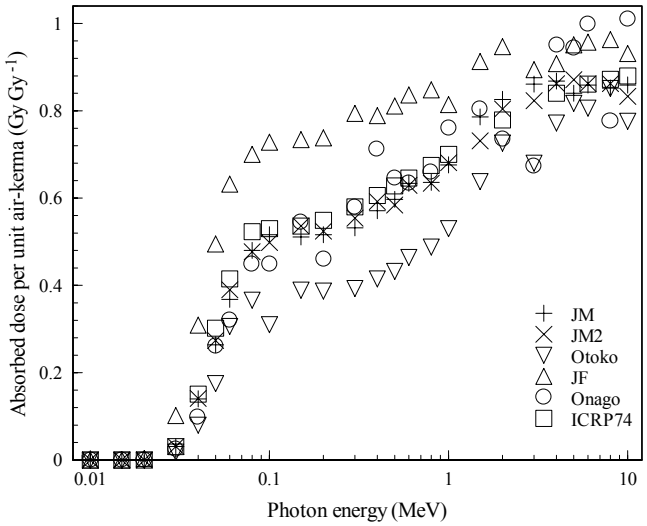

Figure 4-70 Thymus absorbed dose per unit air-kerma in RLAT geometry.

Table 4-71 Uterus absorbed dose per unit air-kerma in RLAT geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	-	-	-	0.000	0.000	0.000
0.015	-	-	-	0.000	0.000	0.000
0.02	-	-	-	0.000	0.000	0.000
0.03	-	-	-	0.008	0.008	0.00817
0.04	-	-	-	0.056	0.064	0.085
0.05	-	-	-	0.141	0.166	0.201
0.06	-	-	-	0.213	0.267	0.303
0.08	-	-	-	0.331	0.371	0.412
0.1	-	-	-	0.381	0.411	0.431
0.15	-	-	-	0.369	0.417	0.439
0.2	-	-	-	0.372	0.422	0.440
0.3	-	-	-	0.380	0.441	0.450
0.4	-	-	-	0.399	0.460	0.462
0.5	-	-	-	0.446	0.466	0.477
0.6	-	-	-	0.437	0.490	0.494
0.8	-	-	-	0.475	0.522	0.529
1	-	-	-	0.532	0.545	0.561
1.5	-	-	-	0.582	0.609	-
2	-	-	-	0.624	0.637	0.667
3	-	-	-	0.685	0.709	-
4	-	-	-	0.709	0.730	0.742
5	-	-	-	0.742	0.768	-
6	-	-	-	0.753	0.750	0.765
8	-	-	-	0.771	0.781	0.775
10	-	-	-	0.748	0.791	0.782

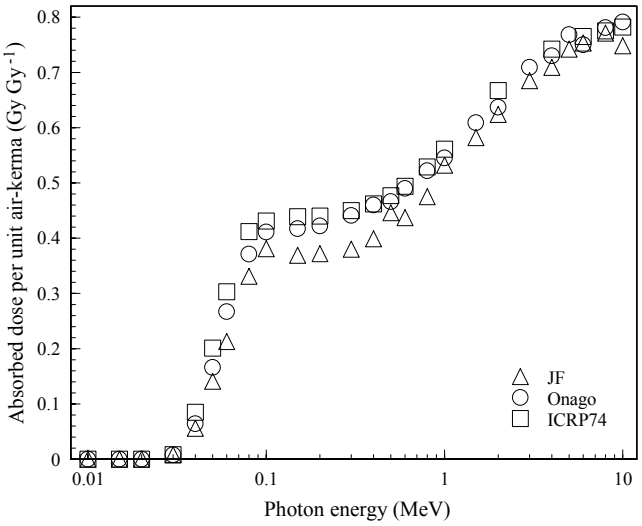

Figure 4-71 Uterus absorbed dose per unit air-kerma in RLAT geometry.

Table 4-72 Effective dose per unit air-kerma in RLAT geometry (Sv Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.002	0.002	0.001	0.002	0.002	0.00172
0.015	0.006	0.005	0.004	0.007	0.007	0.005499
0.02	0.021	0.017	0.010	0.023	0.019	0.0151
0.03	0.093	0.081	0.058	0.104	0.076	0.0782
0.04	0.213	0.193	0.155	0.230	0.179	0.205
0.05	0.334	0.315	0.263	0.357	0.295	0.345
0.06	0.423	0.415	0.355	0.462	0.391	0.455
0.08	0.515	0.498	0.439	0.559	0.485	0.554
0.1	0.538	0.522	0.454	0.576	0.504	0.571
0.15	0.532	0.515	0.461	0.588	0.517	0.551
0.2	0.541	0.523	0.463	0.575	0.510	0.549
0.3	0.544	0.542	0.485	0.578	0.531	0.557
0.4	0.565	0.545	0.499	0.597	0.551	0.570
0.5	0.591	0.571	0.521	0.624	0.559	0.585
0.6	0.601	0.590	0.542	0.627	0.582	0.600
0.8	0.634	0.615	0.578	0.668	0.623	0.628
1	0.649	0.648	0.599	0.666	0.635	0.651
1.5	0.700	0.682	0.644	0.726	0.692	-
2	0.732	0.721	0.689	0.747	0.729	0.728
3	0.769	0.757	0.722	0.802	0.769	-
4	0.783	0.785	0.746	0.807	0.797	0.796
5	0.792	0.799	0.780	0.830	0.806	-
6	0.802	0.810	0.785	0.836	0.821	0.827
8	0.796	0.802	0.783	0.835	0.827	0.846
10	0.795	0.792	0.774	0.840	0.831	0.860

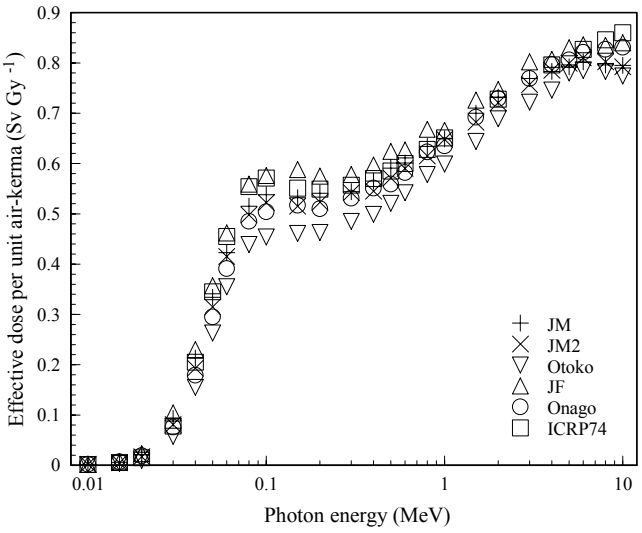

Figure 4-72 Effective dose per unit air-kerma in RLAT geometry.

Table 4-73 Testes absorbed dose per unit air-kerma in LLAT geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.000	0.000	0.000	-	-	0.000
0.015	0.008	0.003	0.000	-	-	0.000
0.02	0.036	0.020	0.002	-	-	0.000
0.03	0.139	0.098	0.032	-	-	0.023
0.04	0.259	0.205	0.111	-	-	0.105
0.05	0.382	0.320	0.197	-	-	0.198
0.06	0.440	0.407	0.260	-	-	0.264
0.08	0.543	0.515	0.362	-	-	0.339
0.1	0.538	0.477	0.362	-	-	0.372
0.15	0.587	0.515	0.378	-	-	0.392
0.2	0.596	0.522	0.412	-	-	0.422
0.3	0.650	0.563	0.436	-	-	0.457
0.4	0.655	0.615	0.506	-	-	0.480
0.5	0.685	0.624	0.489	-	-	0.503
0.6	0.717	0.653	0.547	-	-	0.527
0.8	0.731	0.690	0.576	-	-	0.572
1	0.750	0.697	0.643	-	-	0.607
1.5	0.804	0.772	0.689	-	-	-
2	0.846	0.789	0.733	-	-	0.703
3	0.880	0.884	0.758	-	-	-
4	0.872	0.883	0.796	-	-	0.776
5	0.842	0.901	0.814	-	-	-
6	0.889	0.839	0.830	-	-	0.807
8	0.826	0.859	0.820	-	-	0.822
10	0.816	0.826	0.827	-	-	0.833

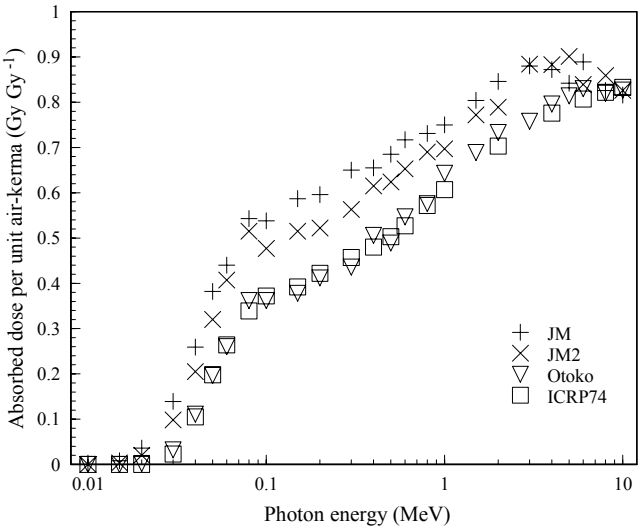

Figure 4-73 Testes absorbed dose per unit air-kerma in LLAT geometry.

Table 4-74 Bone (marrow) absorbed dose per unit air-kerma in LLAT geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.000	0.000	0.000	0.000	0.000	0.000
0.015	0.001	0.001	0.001	0.001	0.001	0.00197
0.02	0.005	0.005	0.007	0.005	0.006	0.00904
0.03	0.048	0.048	0.048	0.045	0.049	0.0585
0.04	0.143	0.141	0.135	0.136	0.141	0.175
0.05	0.265	0.263	0.246	0.256	0.259	0.323
0.06	0.380	0.373	0.352	0.372	0.372	0.456
0.08	0.517	0.518	0.485	0.519	0.513	0.603
0.1	0.575	0.576	0.542	0.582	0.571	0.643
0.15	0.605	0.603	0.574	0.621	0.606	0.635
0.2	0.613	0.606	0.582	0.626	0.615	0.629
0.3	0.623	0.622	0.596	0.629	0.628	0.622
0.4	0.642	0.639	0.614	0.633	0.647	0.627
0.5	0.658	0.657	0.626	0.644	0.661	0.637
0.6	0.671	0.671	0.646	0.654	0.677	0.647
0.8	0.705	0.697	0.672	0.680	0.701	0.667
1	0.721	0.719	0.692	0.699	0.718	0.686
1.5	0.762	0.761	0.732	0.741	0.758	-
2	0.797	0.792	0.766	0.774	0.793	0.753
3	0.838	0.837	0.812	0.818	0.835	-
4	0.864	0.864	0.840	0.843	0.855	0.819
5	0.877	0.877	0.857	0.862	0.872	-
6	0.882	0.883	0.863	0.869	0.879	0.851
8	0.878	0.878	0.859	0.863	0.873	0.872
10	0.870	0.876	0.856	0.859	0.865	0.889

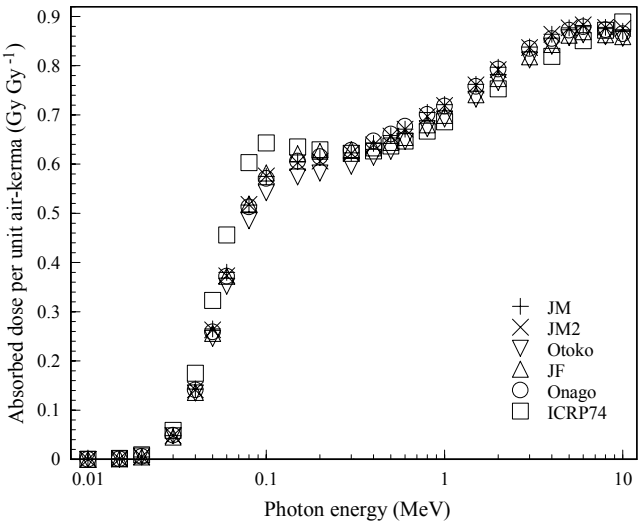

Figure 4-74 Bone (marrow) absorbed dose per unit air-kerma in LLAT geometry.

Table 4-75 Lower large intestine absorbed dose per unit air-kerma in LLAT geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.000	0.000	0.000	0.000	0.000	0.000
0.015	0.000	0.000	0.001	0.001	0.002	0.000
0.02	0.009	0.006	0.022	0.015	0.031	0.000
0.03	0.110	0.097	0.207	0.099	0.254	0.0281
0.04	0.295	0.279	0.462	0.250	0.562	0.141
0.05	0.482	0.475	0.687	0.410	0.835	0.292
0.06	0.619	0.600	0.840	0.528	1.019	0.419
0.08	0.743	0.735	0.937	0.640	1.123	0.529
0.1	0.753	0.757	0.953	0.654	1.080	0.550
0.15	0.723	0.716	0.902	0.655	1.044	0.532
0.2	0.704	0.683	0.849	0.653	0.984	0.520
0.3	0.694	0.683	0.825	0.649	0.959	0.523
0.4	0.700	0.711	0.825	0.672	0.925	0.536
0.5	0.706	0.704	0.833	0.659	0.937	0.551
0.6	0.737	0.720	0.831	0.687	0.956	0.565
0.8	0.735	0.753	0.848	0.724	0.945	0.591
1	0.759	0.768	0.869	0.717	0.950	0.614
1.5	0.788	0.794	0.877	0.775	0.962	-
2	0.827	0.815	0.887	0.785	0.967	0.694
3	0.837	0.838	0.918	0.857	0.983	-
4	0.876	0.865	0.939	0.848	0.991	0.765
5	0.876	0.886	0.942	0.892	0.987	-
6	0.874	0.886	0.930	0.882	0.989	0.797
8	0.891	0.877	0.925	0.847	0.960	0.816
10	0.880	0.888	0.926	0.867	0.954	0.830

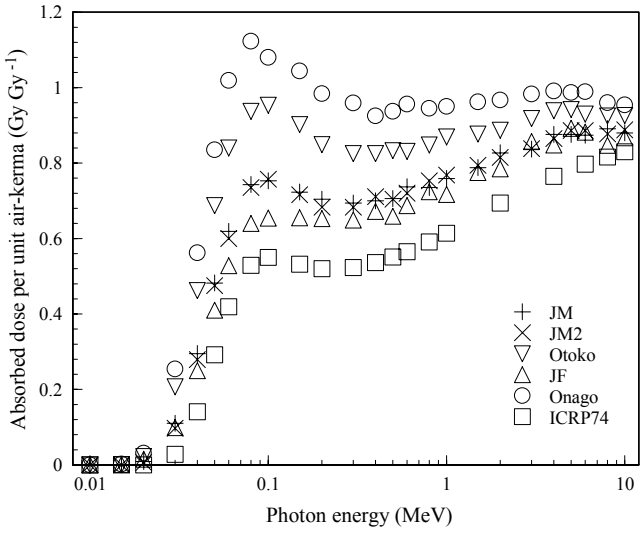

Figure 4-75 Lower large intestine absorbed dose per unit air-kerma in LLAT geometry.

Table 4-76 Lung absorbed dose per unit air-kerma in LLAT geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.000	0.000	0.000	0.000	0.000	0.000
0.015	0.000	0.000	0.001	0.003	0.000	0.00009
0.02	0.007	0.006	0.013	0.016	0.002	0.00037
0.03	0.072	0.067	0.103	0.118	0.043	0.0759
0.04	0.207	0.200	0.254	0.292	0.150	0.246
0.05	0.352	0.345	0.401	0.455	0.279	0.425
0.06	0.458	0.447	0.504	0.568	0.384	0.552
0.08	0.547	0.540	0.583	0.649	0.474	0.641
0.1	0.562	0.557	0.597	0.660	0.489	0.642
0.15	0.541	0.541	0.578	0.640	0.490	0.607
0.2	0.540	0.536	0.576	0.634	0.490	0.596
0.3	0.553	0.551	0.589	0.639	0.505	0.597
0.4	0.569	0.564	0.603	0.656	0.528	0.610
0.5	0.584	0.588	0.626	0.673	0.549	0.625
0.6	0.605	0.604	0.641	0.687	0.568	0.639
0.8	0.638	0.632	0.668	0.713	0.593	0.664
1	0.657	0.662	0.696	0.736	0.624	0.686
1.5	0.704	0.714	0.746	0.781	0.684	-
2	0.750	0.752	0.773	0.811	0.726	0.764
3	0.793	0.794	0.826	0.856	0.773	-
4	0.823	0.836	0.849	0.876	0.813	0.829
5	0.849	0.853	0.871	0.891	0.829	-
6	0.863	0.857	0.874	0.907	0.848	0.852
8	0.871	0.874	0.880	0.908	0.863	0.863
10	0.871	0.880	0.889	0.908	0.860	0.870

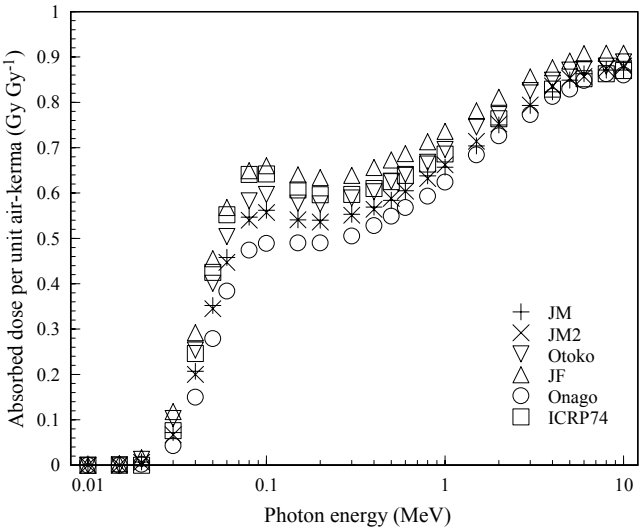

Figure 4-76 Lung absorbed dose per unit air-kerma in LLAT geometry.

Table 4-77 Stomach absorbed dose per unit air-kerma in LLAT geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.000	0.000	0.000	0.000	0.000	0.000
0.015	0.000	0.001	0.000	0.005	0.000	0.00014
0.02	0.009	0.016	0.005	0.053	0.007	0.00486
0.03	0.148	0.201	0.151	0.320	0.166	0.149
0.04	0.418	0.517	0.476	0.632	0.496	0.431
0.05	0.663	0.797	0.778	0.882	0.800	0.705
0.06	0.849	0.953	0.990	1.013	0.975	0.885
0.08	0.953	1.086	1.106	1.128	1.110	1.008
0.1	0.954	1.068	1.089	1.107	1.113	1.002
0.15	0.885	0.992	1.006	1.032	1.045	0.933
0.2	0.874	0.974	0.970	1.003	0.994	0.889
0.3	0.834	0.938	0.949	0.982	0.947	0.854
0.4	0.851	0.916	0.943	1.001	0.971	0.846
0.5	0.852	0.921	0.922	0.974	0.934	0.847
0.6	0.867	0.923	0.920	0.967	0.934	0.852
0.8	0.873	0.919	0.946	0.976	0.957	0.863
1	0.883	0.945	0.959	0.979	0.971	0.874
1.5	0.897	0.943	0.971	0.978	0.956	-
2	0.922	0.949	0.971	0.996	0.990	0.902
3	0.927	0.949	0.965	1.008	0.981	-
4	0.928	0.974	1.015	1.015	0.979	0.915
5	0.940	0.982	0.972	0.984	0.981	-
6	0.937	0.978	0.990	1.008	0.986	0.918
8	0.948	0.966	0.962	0.933	0.958	0.923
10	0.928	0.951	0.947	0.925	0.979	0.927

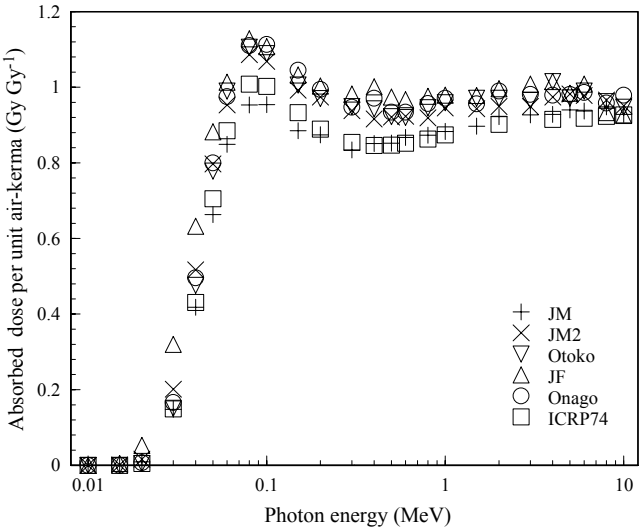

Figure 4-77 Stomach absorbed dose per unit air-kerma in LLAT geometry.

Table 4-78 Bladder absorbed dose per unit air-kerma in LLAT geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.000	0.000	0.000	0.000	0.000	0.000
0.015	0.000	0.000	0.000	0.000	0.000	0.000
0.02	0.000	0.000	0.000	0.000	0.000	0.000
0.03	0.021	0.019	0.004	0.009	0.019	0.0254
0.04	0.092	0.085	0.036	0.060	0.088	0.121
0.05	0.193	0.187	0.109	0.145	0.198	0.250
0.06	0.286	0.284	0.200	0.223	0.340	0.358
0.08	0.397	0.363	0.300	0.344	0.406	0.450
0.1	0.424	0.424	0.350	0.340	0.424	0.476
0.15	0.454	0.419	0.374	0.367	0.452	0.474
0.2	0.425	0.427	0.400	0.401	0.448	0.466
0.3	0.466	0.441	0.438	0.380	0.478	0.499
0.4	0.479	0.469	0.455	0.396	0.527	0.524
0.5	0.506	0.491	0.479	0.416	0.538	0.542
0.6	0.554	0.518	0.503	0.439	0.573	0.559
0.8	0.550	0.547	0.554	0.451	0.584	0.592
1	0.608	0.576	0.555	0.520	0.612	0.620
1.5	0.657	0.636	0.660	0.575	0.697	-
2	0.676	0.673	0.660	0.606	0.692	0.710
3	0.713	0.734	0.724	0.657	0.747	-
4	0.775	0.768	0.758	0.663	0.768	0.783
5	0.801	0.789	0.781	0.734	0.789	-
6	0.839	0.803	0.793	0.740	0.836	0.812
8	0.850	0.790	0.747	0.752	0.820	0.828
10	0.810	0.789	0.799	0.747	0.857	0.838

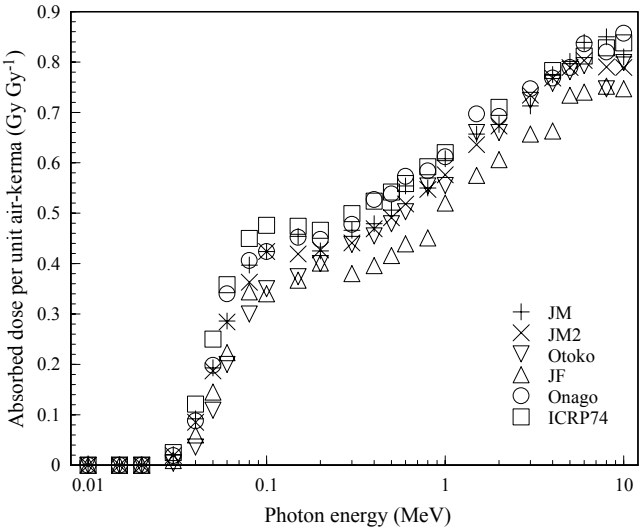

Figure 4-78 Bladder absorbed dose per unit air-kerma in LLAT geometry.

Table 4-79 Breast absorbed dose per unit air-kerma in LLAT geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	-	-	-	0.003	0.008	0.00513
0.015	-	-	-	0.047	0.057	0.0451
0.02	-	-	-	0.153	0.151	0.128
0.03	-	-	-	0.394	0.362	0.333
0.04	-	-	-	0.582	0.530	0.507
0.05	-	-	-	0.719	0.652	0.634
0.06	-	-	-	0.801	0.735	0.724
0.08	-	-	-	0.842	0.780	0.773
0.1	-	-	-	0.843	0.780	0.771
0.15	-	-	-	0.806	0.760	0.755
0.2	-	-	-	0.783	0.749	0.747
0.3	-	-	-	0.782	0.741	0.756
0.4	-	-	-	0.781	0.748	0.766
0.5	-	-	-	0.782	0.754	0.774
0.6	-	-	-	0.791	0.765	0.782
0.8	-	-	-	0.814	0.781	0.799
1	-	-	-	0.821	0.794	0.814
1.5	-	-	-	0.851	0.828	-
2	-	-	-	0.880	0.837	0.866
3	-	-	-	0.896	0.851	-
4	-	-	-	0.888	0.843	0.907
5	-	-	-	0.862	0.825	-
6	-	-	-	0.847	0.802	0.921
8	-	-	-	0.812	0.772	0.927
10	-	-	-	0.743	0.725	0.931

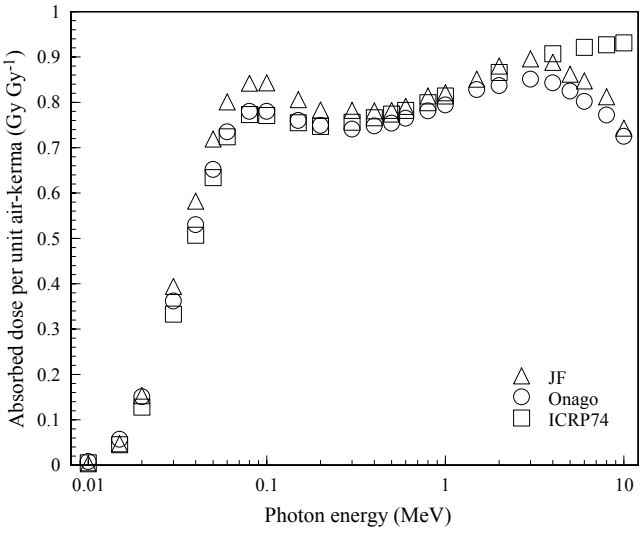

Figure 4-79 Breast absorbed dose per unit air-kerma in LLAT geometry.

Table 4-80 Ovaries absorbed dose per unit air-kerma in LLAT geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	-	-	-	0.000	0.000	0.000
0.015	-	-	-	0.000	0.000	0.000
0.02	-	-	-	0.000	0.000	0.000
0.03	-	-	-	0.006	0.008	0.00963
0.04	-	-	-	0.044	0.059	0.0996
0.05	-	-	-	0.132	0.134	0.234
0.06	-	-	-	0.198	0.208	0.345
0.08	-	-	-	0.307	0.341	0.453
0.1	-	-	-	0.334	0.369	0.479
0.15	-	-	-	0.340	0.389	0.470
0.2	-	-	-	0.340	0.384	0.478
0.3	-	-	-	0.386	0.394	0.491
0.4	-	-	-	0.374	0.442	0.501
0.5	-	-	-	0.413	0.405	0.511
0.6	-	-	-	0.463	0.449	0.522
0.8	-	-	-	0.462	0.516	0.542
1	-	-	-	0.488	0.541	0.559
1.5	-	-	-	0.526	0.582	-
2	-	-	-	0.595	0.549	0.624
3	-	-	-	0.697	0.716	-
4	-	-	-	0.681	0.738	0.696
5	-	-	-	0.705	0.691	-
6	-	-	-	0.726	0.749	0.740
8	-	-	-	0.792	0.752	0.772
10	-	-	-	0.755	0.764	0.796

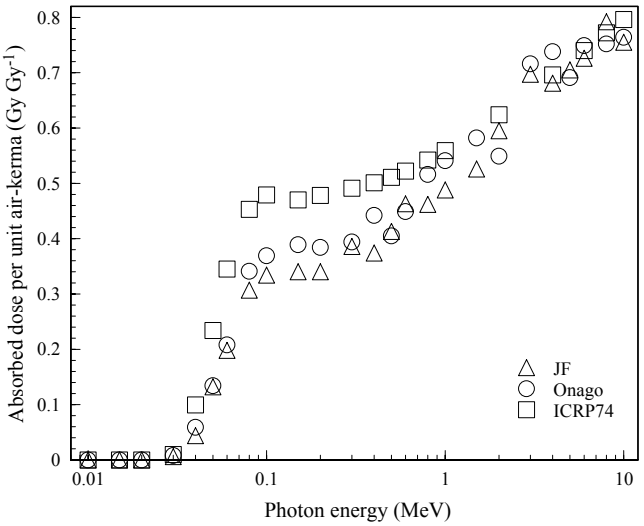

Figure 4-80 Ovaries absorbed dose per unit air-kerma in LLAT geometry.

Table 4-81 Liver absorbed dose per unit air-kerma in LLAT geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.000	0.000	0.000	0.000	0.000	0.000
0.015	0.000	0.000	0.000	0.001	0.000	0.000
0.02	0.000	0.000	0.001	0.007	0.000	0.000
0.03	0.019	0.019	0.030	0.068	0.015	0.003
0.04	0.085	0.088	0.122	0.196	0.080	0.028
0.05	0.177	0.182	0.233	0.333	0.173	0.0723
0.06	0.253	0.265	0.323	0.434	0.253	0.119
0.08	0.342	0.350	0.413	0.517	0.344	0.180
0.1	0.368	0.375	0.433	0.539	0.366	0.198
0.15	0.374	0.381	0.434	0.538	0.377	0.213
0.2	0.385	0.390	0.442	0.543	0.391	0.226
0.3	0.407	0.406	0.471	0.560	0.416	0.251
0.4	0.436	0.436	0.493	0.585	0.442	0.277
0.5	0.454	0.455	0.512	0.600	0.468	0.301
0.6	0.475	0.478	0.535	0.621	0.490	0.324
0.8	0.513	0.518	0.577	0.653	0.530	0.364
1	0.541	0.544	0.604	0.681	0.562	0.399
1.5	0.605	0.600	0.660	0.738	0.622	-
2	0.655	0.642	0.703	0.768	0.669	0.520
3	0.708	0.703	0.757	0.815	0.722	-
4	0.731	0.736	0.788	0.835	0.758	0.626
5	0.756	0.755	0.811	0.847	0.779	-
6	0.767	0.767	0.812	0.860	0.795	0.671
8	0.776	0.784	0.821	0.857	0.796	0.695
10	0.781	0.785	0.826	0.845	0.810	0.713

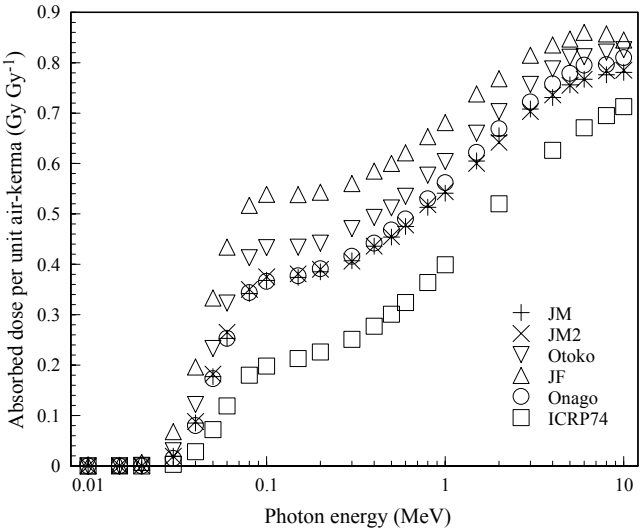

Figure 4-81 Liver absorbed dose per unit air-kerma in LLAT geometry.

Table 4-82 Esophagus absorbed dose per unit air-kerma in LLAT geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.000	0.000	0.000	0.000	0.000	0.000
0.015	0.000	0.000	0.000	0.000	0.000	0.000
0.02	0.001	0.001	0.001	0.005	0.001	0.00005
0.03	0.036	0.033	0.029	0.092	0.032	0.0499
0.04	0.150	0.133	0.137	0.277	0.137	0.188
0.05	0.311	0.270	0.270	0.458	0.280	0.362
0.06	0.430	0.378	0.382	0.613	0.404	0.510
0.08	0.539	0.519	0.487	0.699	0.531	0.650
0.1	0.546	0.532	0.525	0.752	0.565	0.662
0.15	0.570	0.511	0.511	0.709	0.536	0.654
0.2	0.567	0.527	0.566	0.715	0.523	0.650
0.3	0.579	0.550	0.559	0.720	0.550	0.659
0.4	0.594	0.552	0.568	0.741	0.591	0.681
0.5	0.605	0.587	0.582	0.763	0.575	0.702
0.6	0.601	0.597	0.605	0.767	0.645	0.719
0.8	0.639	0.633	0.664	0.796	0.652	0.746
1	0.694	0.646	0.679	0.794	0.670	0.767
1.5	0.705	0.701	0.732	0.817	0.678	-
2	0.764	0.748	0.767	0.873	0.808	0.825
3	0.783	0.776	0.810	0.913	0.839	-
4	0.819	0.817	0.848	0.880	0.870	0.864
5	0.862	0.887	0.851	0.921	0.852	-
6	0.839	0.836	0.810	0.916	0.851	0.878
8	0.854	0.876	0.860	0.907	0.812	0.888
10	0.856	0.829	0.870	0.943	0.791	0.896

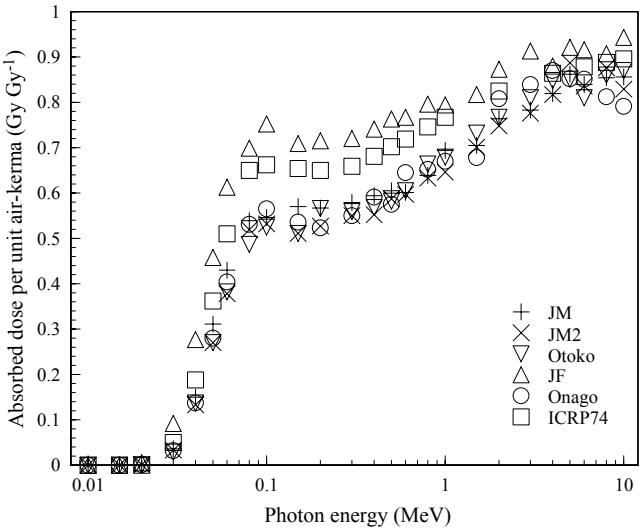

Figure 4-82 Esophagus absorbed dose per unit air-kerma in LLAT geometry.

Table 4-83 Thyroid absorbed dose per unit air-kerma in LLAT geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.000	0.000	0.000	0.000	0.000	0.000
0.015	0.001	0.001	0.000	0.006	0.006	0.00211
0.02	0.020	0.021	0.004	0.072	0.088	0.0543
0.03	0.156	0.155	0.040	0.397	0.447	0.335
0.04	0.328	0.315	0.110	0.686	0.728	0.650
0.05	0.477	0.478	0.208	0.883	0.931	0.892
0.06	0.592	0.580	0.290	0.982	1.056	1.062
0.08	0.685	0.665	0.348	1.133	1.055	1.179
0.1	0.723	0.697	0.358	1.139	1.129	1.188
0.15	0.713	0.659	0.374	1.025	1.171	1.131
0.2	0.693	0.702	0.353	1.111	1.097	1.091
0.3	0.727	0.659	0.375	1.022	1.059	1.059
0.4	0.772	0.675	0.377	1.006	1.084	1.057
0.5	0.740	0.673	0.437	1.013	1.021	1.063
0.6	0.754	0.736	0.389	1.013	1.123	1.069
0.8	0.757	0.758	0.434	1.091	1.087	1.076
1	0.843	0.748	0.443	1.072	1.023	1.081
1.5	0.835	0.803	0.510	0.997	1.091	-
2	0.858	0.856	0.537	1.076	1.056	1.093
3	0.913	0.849	0.662	1.064	0.987	-
4	0.887	0.876	0.732	1.138	1.158	1.075
5	0.931	0.900	0.717	1.108	1.009	-
6	0.940	0.883	0.732	0.980	1.107	1.052
8	0.967	0.856	0.782	1.000	0.958	1.036
10	0.878	0.927	0.770	0.956	0.970	1.023

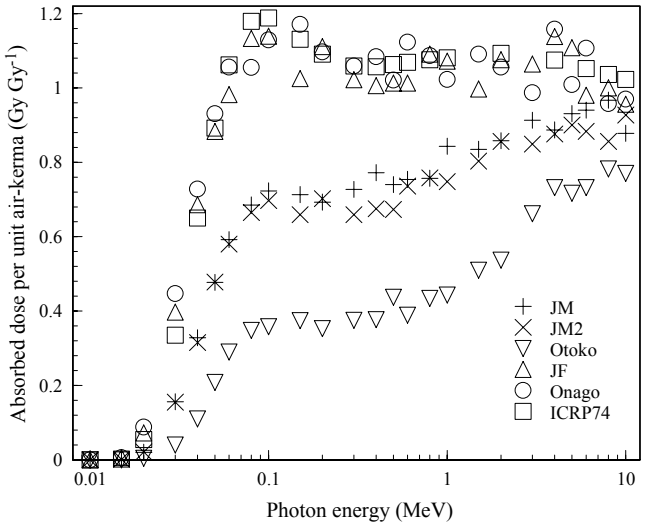

Figure 4-83 Thyroid absorbed dose per unit air-kerma in LLAT geometry.

Table 4-84 Skin absorbed dose per unit air-kerma in LLAT geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.150	0.151	0.139	0.152	0.146	0.142
0.015	0.246	0.248	0.225	0.252	0.242	0.252
0.02	0.310	0.314	0.285	0.319	0.306	0.343
0.03	0.421	0.426	0.393	0.433	0.417	0.472
0.04	0.529	0.533	0.497	0.543	0.528	0.578
0.05	0.624	0.627	0.590	0.638	0.622	0.669
0.06	0.692	0.695	0.653	0.699	0.687	0.738
0.08	0.758	0.755	0.712	0.773	0.753	0.796
0.1	0.772	0.776	0.736	0.786	0.774	0.805
0.15	0.775	0.773	0.735	0.788	0.776	0.795
0.2	0.772	0.769	0.733	0.789	0.769	0.789
0.3	0.754	0.772	0.739	0.793	0.776	0.787
0.4	0.746	0.767	0.738	0.785	0.771	0.791
0.5	0.735	0.758	0.734	0.777	0.763	0.797
0.6	0.725	0.746	0.725	0.767	0.754	0.805
0.8	0.691	0.719	0.694	0.734	0.723	0.819
1	0.664	0.686	0.663	0.697	0.692	0.833
1.5	0.605	0.632	0.612	0.640	0.635	-
2	0.574	0.598	0.586	0.604	0.604	0.879
3	0.548	0.565	0.553	0.570	0.573	-
4	0.530	0.544	0.540	0.549	0.553	0.910
5	0.519	0.532	0.530	0.539	0.542	-
6	0.511	0.520	0.519	0.527	0.527	0.917
8	0.496	0.502	0.506	0.509	0.515	0.920
10	0.486	0.491	0.495	0.499	0.498	0.921

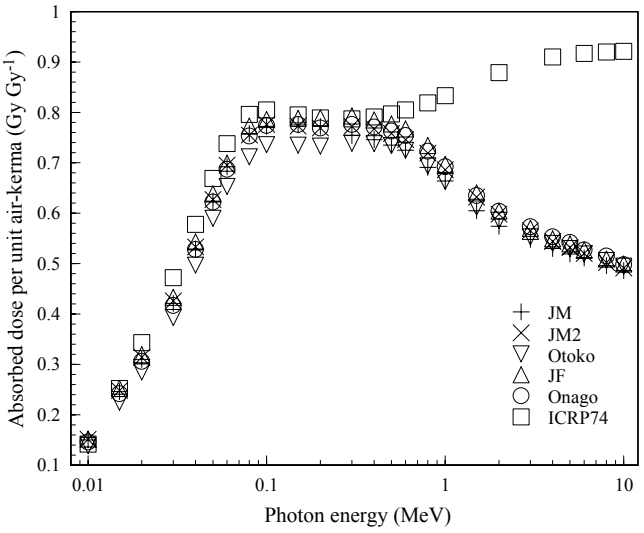

Figure 4-84 Skin absorbed dose per unit air-kerma in LLAT geometry.

Table 4-85 Bone (hard bone) absorbed dose per unit air-kerma in LLAT geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.001	0.001	0.001	0.001	0.001	0.00163
0.015	0.025	0.021	0.021	0.023	0.023	0.0218
0.02	0.121	0.113	0.110	0.112	0.112	0.0884
0.03	0.650	0.635	0.599	0.614	0.612	0.422
0.04	1.465	1.447	1.357	1.407	1.400	0.928
0.05	2.127	2.114	1.981	2.064	2.061	1.344
0.06	2.388	2.378	2.240	2.327	2.336	1.526
0.08	2.109	2.117	2.005	2.067	2.098	1.432
0.1	1.667	1.671	1.592	1.634	1.668	1.206
0.15	1.066	1.068	1.025	1.051	1.074	0.883
0.2	0.856	0.858	0.830	0.855	0.869	0.763
0.3	0.724	0.725	0.705	0.736	0.740	0.685
0.4	0.687	0.687	0.670	0.707	0.703	0.666
0.5	0.672	0.672	0.654	0.699	0.691	0.663
0.6	0.669	0.667	0.655	0.700	0.690	0.666
0.8	0.678	0.675	0.664	0.712	0.697	0.676
1	0.685	0.687	0.674	0.721	0.710	0.690
1.5	0.716	0.712	0.703	0.751	0.735	-
2	0.740	0.737	0.729	0.776	0.760	0.749
3	0.773	0.771	0.762	0.807	0.794	-
4	0.787	0.791	0.783	0.824	0.809	0.808
5	0.794	0.797	0.795	0.835	0.819	-
6	0.797	0.798	0.800	0.832	0.822	0.837
8	0.785	0.787	0.789	0.821	0.807	0.856
10	0.773	0.778	0.778	0.808	0.792	0.870

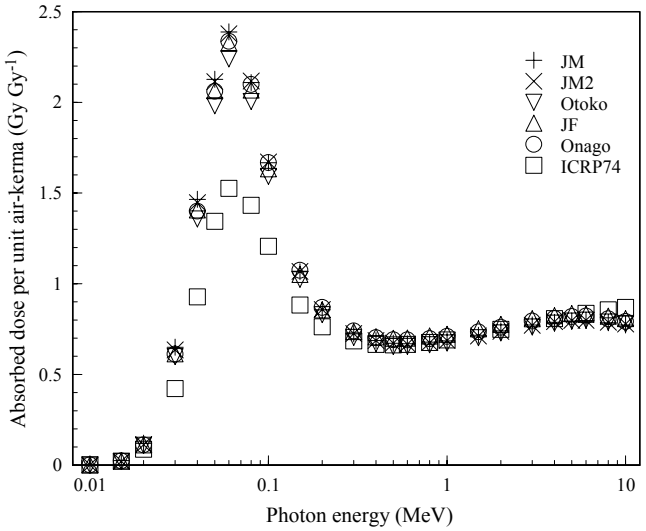

Figure 4-85 Bone (hard bone) absorbed dose per unit air-kerma in LLAT geometry.

Table 4-86 Adrenal absorbed dose per unit air-kerma in LLAT geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.000	0.000	0.000	0.000	0.000	-
0.015	0.000	0.000	0.000	0.000	0.000	-
0.02	0.000	0.000	0.000	0.000	0.000	-
0.03	0.017	0.011	0.026	0.047	0.015	-
0.04	0.107	0.074	0.115	0.193	0.087	-
0.05	0.231	0.183	0.216	0.367	0.197	-
0.06	0.351	0.259	0.320	0.469	0.301	-
0.08	0.486	0.433	0.420	0.569	0.379	-
0.1	0.490	0.433	0.415	0.641	0.416	-
0.15	0.471	0.427	0.406	0.605	0.402	-
0.2	0.495	0.454	0.425	0.614	0.424	-
0.3	0.458	0.457	0.437	0.679	0.419	-
0.4	0.483	0.452	0.452	0.689	0.423	-
0.5	0.522	0.470	0.449	0.661	0.448	-
0.6	0.523	0.463	0.489	0.654	0.485	-
0.8	0.552	0.479	0.528	0.757	0.482	-
1	0.577	0.554	0.547	0.753	0.500	-
1.5	0.611	0.563	0.581	0.782	0.573	-
2	0.679	0.614	0.656	0.851	0.636	-
3	0.717	0.677	0.756	0.868	0.680	-
4	0.726	0.680	0.785	0.933	0.727	-
5	0.744	0.803	0.746	0.894	0.789	-
6	0.842	0.767	0.789	0.947	0.804	-
8	0.777	0.730	0.815	0.923	0.764	-
10	0.791	0.790	0.815	0.870	0.791	-

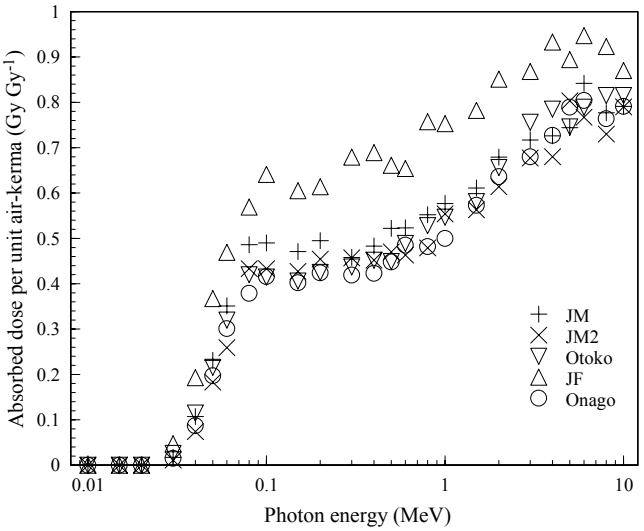

Figure 4-86 Adrenal absorbed dose per unit air-kerma in LLAT geometry.

Table 4-87 Brain absorbed dose per unit air-kerma in LLAT geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.000	0.000	0.000	0.000	0.000	-
0.015	0.000	0.000	0.000	0.000	0.000	-
0.02	0.000	0.000	0.000	0.000	0.000	-
0.03	0.069	0.067	0.059	0.064	0.035	-
0.04	0.296	0.290	0.270	0.283	0.207	-
0.05	0.558	0.547	0.520	0.531	0.446	-
0.06	0.742	0.740	0.705	0.717	0.645	-
0.08	0.907	0.900	0.874	0.877	0.835	-
0.1	0.935	0.933	0.896	0.899	0.883	-
0.15	0.910	0.900	0.882	0.887	0.870	-
0.2	0.890	0.889	0.865	0.866	0.865	-
0.3	0.873	0.869	0.849	0.862	0.853	-
0.4	0.869	0.867	0.853	0.861	0.855	-
0.5	0.874	0.868	0.853	0.867	0.856	-
0.6	0.879	0.878	0.859	0.869	0.862	-
0.8	0.885	0.878	0.874	0.882	0.872	-
1	0.894	0.887	0.886	0.890	0.893	-
1.5	0.918	0.912	0.910	0.916	0.908	-
2	0.935	0.932	0.923	0.938	0.923	-
3	0.949	0.951	0.943	0.954	0.942	-
4	0.961	0.960	0.947	0.965	0.959	-
5	0.965	0.960	0.967	0.959	0.965	-
6	0.975	0.965	0.959	0.961	0.963	-
8	0.955	0.952	0.949	0.962	0.973	-
10	0.946	0.944	0.952	0.941	0.957	-

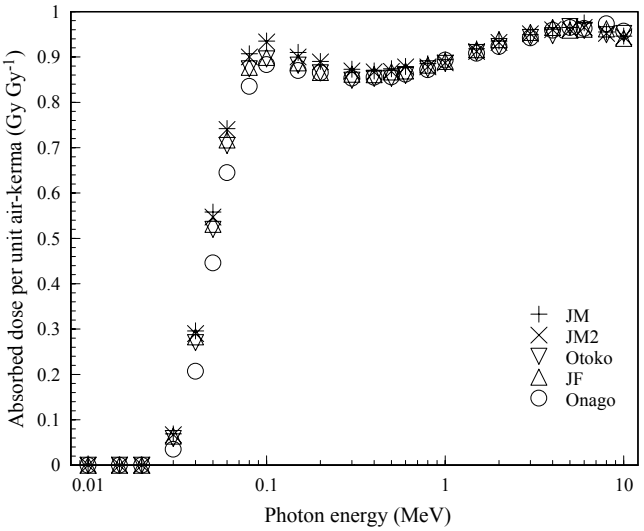

Figure 4-87 Brain absorbed dose per unit air-kerma in LLAT geometry.

Table 4-88 Upper large intestine absorbed dose per unit air-kerma in LLAT geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.000	0.000	0.000	0.000	0.000	-
0.015	0.000	0.000	0.001	0.003	0.001	-
0.02	0.006	0.004	0.019	0.032	0.022	-
0.03	0.081	0.076	0.191	0.160	0.213	-
0.04	0.207	0.210	0.446	0.309	0.487	-
0.05	0.332	0.347	0.668	0.438	0.708	-
0.06	0.431	0.438	0.805	0.514	0.852	-
0.08	0.497	0.548	0.889	0.602	0.956	-
0.1	0.511	0.541	0.888	0.591	0.940	-
0.15	0.501	0.539	0.837	0.604	0.890	-
0.2	0.505	0.537	0.813	0.595	0.849	-
0.3	0.520	0.546	0.817	0.620	0.827	-
0.4	0.532	0.566	0.813	0.637	0.839	-
0.5	0.545	0.571	0.806	0.642	0.857	-
0.6	0.576	0.596	0.823	0.665	0.847	-
0.8	0.600	0.637	0.842	0.693	0.863	-
1	0.628	0.656	0.858	0.722	0.880	-
1.5	0.692	0.718	0.875	0.777	0.884	-
2	0.709	0.729	0.902	0.800	0.914	-
3	0.772	0.781	0.933	0.830	0.927	-
4	0.786	0.801	0.940	0.849	0.948	-
5	0.817	0.826	0.945	0.869	0.944	-
6	0.811	0.823	0.933	0.872	0.940	-
8	0.815	0.819	0.914	0.850	0.924	-
10	0.833	0.840	0.913	0.851	0.918	-

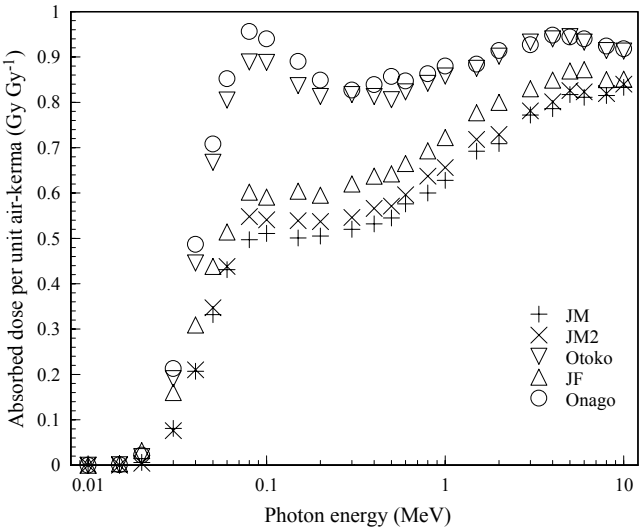

Figure 4-88 Upper large intestine absorbed dose per unit air-kerma in LLAT geometry.

Table 4-89 Small intestine absorbed dose per unit air-kerma in LLAT geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.000	0.000	0.000	0.000	0.000	-
0.015	0.000	0.000	0.000	0.000	0.000	-
0.02	0.006	0.004	0.003	0.004	0.005	-
0.03	0.093	0.073	0.063	0.077	0.102	-
0.04	0.275	0.240	0.211	0.226	0.303	-
0.05	0.461	0.426	0.370	0.385	0.503	-
0.06	0.601	0.568	0.491	0.503	0.643	-
0.08	0.718	0.682	0.599	0.610	0.754	-
0.1	0.728	0.695	0.619	0.627	0.766	-
0.15	0.704	0.680	0.614	0.621	0.749	-
0.2	0.692	0.669	0.615	0.630	0.730	-
0.3	0.688	0.666	0.631	0.640	0.725	-
0.4	0.703	0.690	0.644	0.661	0.746	-
0.5	0.723	0.704	0.663	0.675	0.750	-
0.6	0.727	0.720	0.679	0.680	0.760	-
0.8	0.756	0.733	0.715	0.711	0.789	-
1	0.776	0.759	0.728	0.740	0.796	-
1.5	0.811	0.798	0.769	0.780	0.833	-
2	0.837	0.818	0.808	0.819	0.863	-
3	0.863	0.859	0.848	0.858	0.889	-
4	0.892	0.875	0.866	0.871	0.907	-
5	0.900	0.893	0.871	0.883	0.905	-
6	0.897	0.900	0.883	0.883	0.916	-
8	0.893	0.893	0.872	0.887	0.901	-
10	0.902	0.892	0.871	0.891	0.910	-

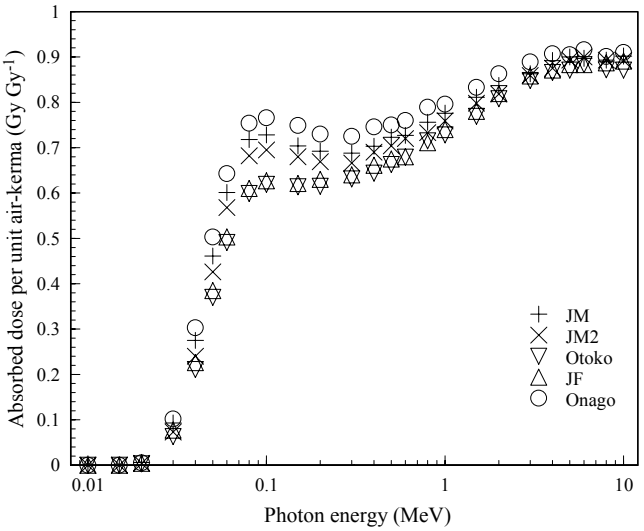

Figure 4-89 Small intestine absorbed dose per unit air-kerma in LLAT geometry.

Table 4-90 Kidney absorbed dose per unit air-kerma in LLAT geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.000	0.000	0.000	0.000	0.000	-
0.015	0.000	0.000	0.000	0.000	0.000	-
0.02	0.000	0.000	0.006	0.002	0.000	-
0.03	0.016	0.021	0.109	0.058	0.029	-
0.04	0.090	0.108	0.296	0.187	0.137	-
0.05	0.201	0.234	0.480	0.327	0.272	-
0.06	0.300	0.337	0.609	0.433	0.395	-
0.08	0.395	0.444	0.686	0.517	0.491	-
0.1	0.415	0.479	0.708	0.545	0.507	-
0.15	0.393	0.453	0.673	0.530	0.496	-
0.2	0.388	0.442	0.656	0.527	0.480	-
0.3	0.389	0.452	0.645	0.538	0.478	-
0.4	0.407	0.464	0.651	0.540	0.501	-
0.5	0.422	0.486	0.664	0.564	0.517	-
0.6	0.439	0.494	0.675	0.576	0.529	-
0.8	0.458	0.533	0.687	0.617	0.560	-
1	0.477	0.559	0.715	0.641	0.586	-
1.5	0.539	0.606	0.745	0.678	0.646	-
2	0.586	0.640	0.780	0.701	0.675	-
3	0.641	0.714	0.817	0.761	0.739	-
4	0.680	0.739	0.840	0.794	0.759	-
5	0.717	0.746	0.869	0.810	0.788	-
6	0.729	0.786	0.867	0.822	0.794	-
8	0.718	0.792	0.853	0.806	0.810	-
10	0.753	0.795	0.855	0.825	0.811	-

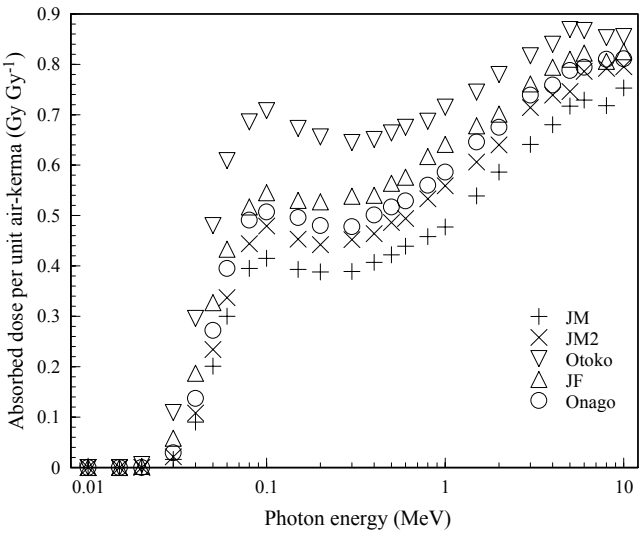

Figure 4-90 Kidney absorbed dose per unit air-kerma in LLAT geometry.

Table 4-91 Muscle absorbed dose per unit air-kerma in LLAT geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.002	0.002	0.001	0.002	0.002	-
0.015	0.018	0.017	0.016	0.020	0.017	-
0.02	0.058	0.056	0.053	0.065	0.054	-
0.03	0.186	0.184	0.166	0.205	0.177	-
0.04	0.336	0.336	0.297	0.360	0.324	-
0.05	0.470	0.470	0.415	0.493	0.457	-
0.06	0.562	0.562	0.500	0.584	0.549	-
0.08	0.636	0.639	0.576	0.657	0.628	-
0.1	0.648	0.648	0.590	0.668	0.641	-
0.15	0.635	0.634	0.586	0.658	0.632	-
0.2	0.627	0.628	0.583	0.654	0.626	-
0.3	0.633	0.632	0.589	0.661	0.631	-
0.4	0.643	0.642	0.601	0.673	0.643	-
0.5	0.653	0.653	0.614	0.683	0.656	-
0.6	0.668	0.665	0.626	0.698	0.669	-
0.8	0.691	0.687	0.650	0.721	0.692	-
1	0.709	0.707	0.671	0.739	0.711	-
1.5	0.748	0.747	0.713	0.778	0.749	-
2	0.776	0.776	0.745	0.804	0.779	-
3	0.810	0.812	0.783	0.834	0.813	-
4	0.828	0.827	0.800	0.848	0.830	-
5	0.835	0.834	0.808	0.852	0.837	-
6	0.833	0.833	0.808	0.847	0.837	-
8	0.818	0.817	0.796	0.829	0.823	-
10	0.803	0.805	0.782	0.812	0.810	-

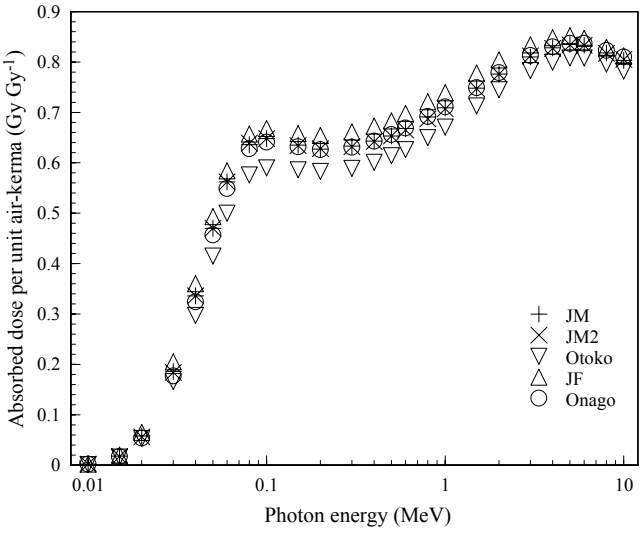

Figure 4-91 Muscle absorbed dose per unit air-kerma in LLAT geometry.

Table 4-92 Pancreas absorbed dose per unit air-kerma in LLAT geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.000	0.000	0.000	0.000	0.000	-
0.015	0.000	0.000	0.000	0.000	0.000	-
0.02	0.000	0.000	0.002	0.007	0.000	-
0.03	0.044	0.038	0.088	0.130	0.056	-
0.04	0.210	0.188	0.330	0.356	0.252	-
0.05	0.408	0.376	0.574	0.557	0.487	-
0.06	0.554	0.528	0.755	0.696	0.661	-
0.08	0.693	0.668	0.882	0.799	0.796	-
0.1	0.704	0.690	0.888	0.828	0.841	-
0.15	0.683	0.666	0.821	0.800	0.795	-
0.2	0.665	0.644	0.804	0.779	0.753	-
0.3	0.674	0.655	0.781	0.782	0.764	-
0.4	0.692	0.672	0.795	0.817	0.730	-
0.5	0.704	0.690	0.808	0.807	0.748	-
0.6	0.712	0.698	0.824	0.820	0.759	-
0.8	0.736	0.727	0.810	0.850	0.779	-
1	0.758	0.739	0.843	0.873	0.814	-
1.5	0.792	0.777	0.889	0.937	0.837	-
2	0.818	0.806	0.897	0.922	0.861	-
3	0.870	0.859	0.893	0.919	0.931	-
4	0.871	0.892	0.933	0.960	0.937	-
5	0.916	0.889	0.913	0.951	0.895	-
6	0.878	0.899	0.931	0.951	0.904	-
8	0.877	0.903	0.928	0.949	0.906	-
10	0.897	0.906	0.925	0.946	0.890	-

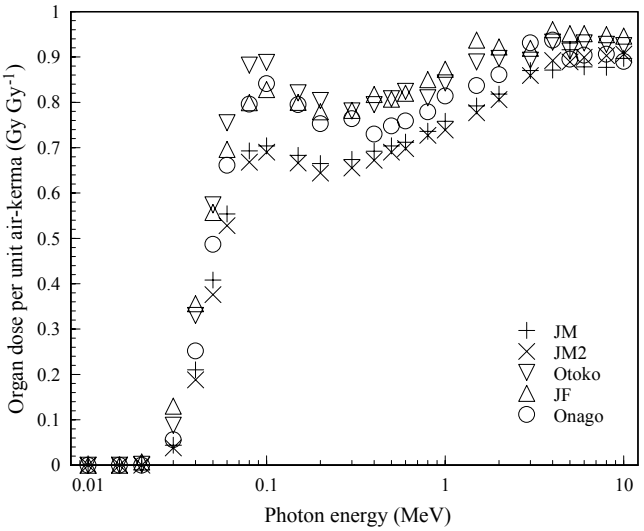

Figure 4-92 Pancreas absorbed dose per unit air-kerma in LLAT geometry.

Table 4-93 Spleen absorbed dose per unit air-kerma in LLAT geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.000	0.000	0.000	0.000	0.000	-
0.015	0.000	0.000	0.002	0.002	0.000	-
0.02	0.002	0.002	0.031	0.015	0.005	-
0.03	0.062	0.056	0.265	0.130	0.098	-
0.04	0.247	0.238	0.612	0.354	0.323	-
0.05	0.467	0.453	0.924	0.582	0.576	-
0.06	0.652	0.612	1.100	0.715	0.755	-
0.08	0.762	0.757	1.236	0.813	0.891	-
0.1	0.772	0.734	1.246	0.812	0.871	-
0.15	0.702	0.678	1.111	0.747	0.804	-
0.2	0.661	0.647	1.056	0.723	0.790	-
0.3	0.643	0.620	1.039	0.715	0.748	-
0.4	0.647	0.637	1.011	0.703	0.775	-
0.5	0.646	0.633	0.993	0.711	0.752	-
0.6	0.671	0.637	0.984	0.749	0.766	-
0.8	0.677	0.676	0.997	0.741	0.789	-
1	0.703	0.693	0.976	0.748	0.786	-
1.5	0.729	0.730	1.008	0.782	0.819	-
2	0.787	0.749	0.980	0.819	0.845	-
3	0.823	0.798	1.005	0.841	0.876	-
4	0.866	0.834	1.008	0.919	0.876	-
5	0.854	0.874	1.025	0.864	0.909	-
6	0.853	0.867	0.991	0.900	0.907	-
8	0.861	0.864	0.977	0.880	0.927	-
10	0.853	0.872	0.914	0.925	0.912	-

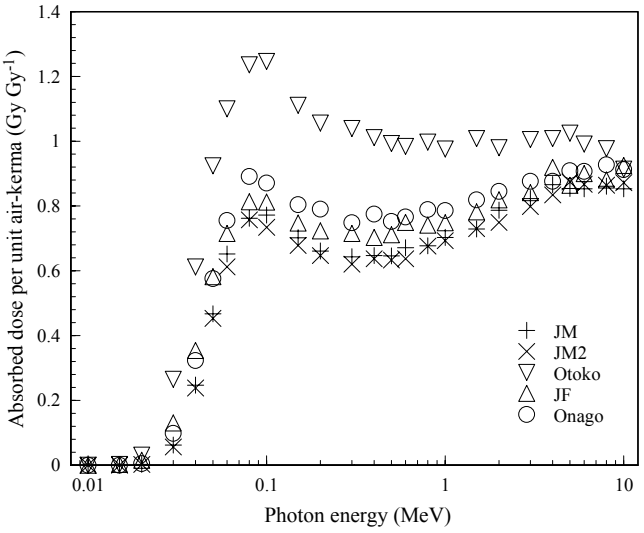

Figure 4-93 Spleen absorbed dose per unit air-kerma in LLAT geometry.

Table 4-94 Thymus absorbed dose per unit air-kerma in LLAT geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.000	0.000	0.000	0.000	0.000	0.000
0.015	0.000	0.000	0.000	0.000	0.000	0.000
0.02	0.001	0.001	0.000	0.005	0.001	0.000
0.03	0.039	0.044	0.016	0.126	0.035	0.0308
0.04	0.173	0.179	0.089	0.362	0.172	0.151
0.05	0.317	0.327	0.203	0.555	0.300	0.302
0.06	0.469	0.440	0.300	0.709	0.366	0.415
0.08	0.550	0.567	0.401	0.810	0.531	0.523
0.1	0.586	0.569	0.422	0.837	0.648	0.530
0.15	0.586	0.563	0.412	0.779	0.517	0.536
0.2	0.588	0.608	0.424	0.814	0.653	0.549
0.3	0.643	0.619	0.442	0.865	0.628	0.580
0.4	0.671	0.659	0.500	0.867	0.694	0.606
0.5	0.648	0.704	0.469	0.844	0.728	0.628
0.6	0.679	0.687	0.559	0.885	0.623	0.646
0.8	0.729	0.750	0.560	0.856	0.617	0.675
1	0.754	0.739	0.645	0.935	0.833	0.700
1.5	0.792	0.802	0.644	0.931	0.959	-
2	0.827	0.854	0.726	0.916	0.804	0.779
3	0.872	0.893	0.619	0.960	0.770	-
4	0.903	0.890	0.787	0.989	0.842	0.840
5	0.886	0.877	0.663	0.991	0.948	-
6	0.924	0.895	0.802	0.952	0.921	0.861
8	0.930	0.864	0.910	0.912	0.937	0.872
10	0.941	0.896	0.843	0.963	0.906	0.880

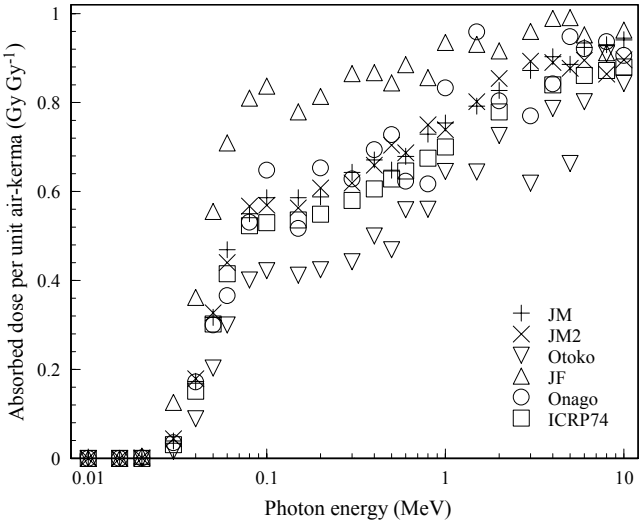

Figure 4-94 Thymus absorbed dose per unit air-kerma in LLAT geometry.

Table 4-95 Uterus absorbed dose per unit air-kerma in LLAT geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	-	-	-	0.000	0.000	0.000
0.015	-	-	-	0.000	0.000	0.000
0.02	-	-	-	0.000	0.000	0.000
0.03	-	-	-	0.007	0.006	0.00817
0.04	-	-	-	0.054	0.049	0.085
0.05	-	-	-	0.135	0.133	0.201
0.06	-	-	-	0.219	0.222	0.303
0.08	-	-	-	0.324	0.310	0.412
0.1	-	-	-	0.354	0.343	0.431
0.15	-	-	-	0.349	0.374	0.439
0.2	-	-	-	0.347	0.371	0.440
0.3	-	-	-	0.370	0.392	0.450
0.4	-	-	-	0.397	0.416	0.462
0.5	-	-	-	0.428	0.431	0.477
0.6	-	-	-	0.434	0.467	0.494
0.8	-	-	-	0.463	0.505	0.529
1	-	-	-	0.485	0.520	0.561
1.5	-	-	-	0.561	0.583	-
2	-	-	-	0.608	0.630	0.667
3	-	-	-	0.685	0.696	-
4	-	-	-	0.672	0.731	0.742
5	-	-	-	0.769	0.730	-
6	-	-	-	0.736	0.782	0.765
8	-	-	-	0.764	0.777	0.775
10	-	-	-	0.741	0.779	0.782

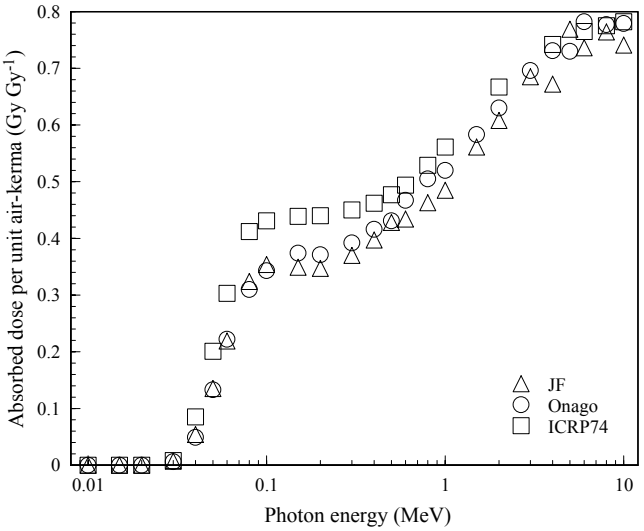

Figure 4-95 Uterus absorbed dose per unit air-kerma in LLAT geometry.

Table 4-96 Effective dose per unit air-kerma in LLAT geometry (Sv Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.002	0.002	0.001	0.002	0.002	0.00172
0.015	0.005	0.004	0.004	0.007	0.007	0.00549
0.02	0.019	0.016	0.013	0.030	0.024	0.0155
0.03	0.104	0.100	0.091	0.139	0.125	0.0904
0.04	0.249	0.245	0.235	0.293	0.287	0.241
0.05	0.397	0.396	0.381	0.445	0.449	0.405
0.06	0.502	0.501	0.489	0.550	0.569	0.528
0.08	0.599	0.605	0.580	0.652	0.671	0.628
0.1	0.609	0.609	0.591	0.666	0.685	0.641
0.15	0.604	0.595	0.588	0.646	0.676	0.620
0.2	0.604	0.591	0.585	0.645	0.655	0.615
0.3	0.616	0.598	0.590	0.647	0.653	0.615
0.4	0.629	0.617	0.609	0.655	0.674	0.623
0.5	0.640	0.627	0.614	0.665	0.666	0.635
0.6	0.661	0.645	0.630	0.684	0.694	0.647
0.8	0.676	0.670	0.658	0.705	0.718	0.670
1	0.700	0.686	0.683	0.719	0.733	0.691
1.5	0.734	0.728	0.722	0.750	0.767	-
2	0.768	0.753	0.744	0.787	0.783	0.757
3	0.796	0.798	0.780	0.837	0.834	-
4	0.812	0.816	0.806	0.843	0.860	0.813
5	0.819	0.834	0.817	0.857	0.847	-
6	0.832	0.820	0.821	0.859	0.869	0.836
8	0.822	0.823	0.817	0.856	0.855	0.850
10	0.812	0.817	0.819	0.848	0.853	0.859

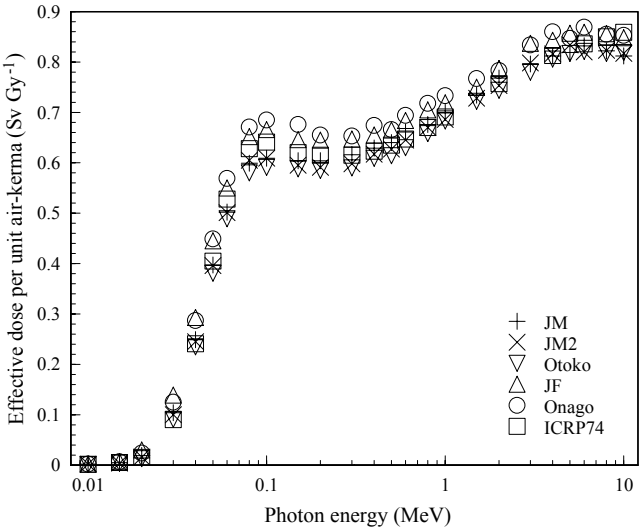

Figure 4-96 Effective dose per unit air-kerma in LLAT geometry.

Table 4-97 Testes absorbed dose per unit air-kerma in ROT geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.004	0.001	0.002	-	-	0.00744
0.015	0.061	0.042	0.039	-	-	0.0571
0.02	0.181	0.150	0.133	-	-	0.160
0.03	0.422	0.393	0.360	-	-	0.381
0.04	0.629	0.605	0.574	-	-	0.593
0.05	0.789	0.766	0.779	-	-	0.763
0.06	0.873	0.844	0.875	-	-	0.863
0.08	0.915	0.925	0.962	-	-	0.946
0.1	0.932	0.960	0.929	-	-	0.934
0.15	0.876	0.859	0.867	-	-	0.866
0.2	0.833	0.829	0.863	-	-	0.831
0.3	0.852	0.798	0.805	-	-	0.794
0.4	0.818	0.803	0.832	-	-	0.781
0.5	0.841	0.812	0.788	-	-	0.779
0.6	0.828	0.801	0.838	-	-	0.780
0.8	0.871	0.823	0.828	-	-	0.789
1	0.831	0.833	0.845	-	-	0.799
1.5	0.875	0.873	0.850	-	-	-
2	0.917	0.850	0.874	-	-	0.848
3	0.871	0.891	0.907	-	-	-
4	0.840	0.894	0.853	-	-	0.895
5	0.864	0.920	0.932	-	-	-
6	0.817	0.819	0.879	-	-	0.916
8	0.765	0.815	0.815	-	-	0.930
10	0.716	0.759	0.803	-	-	0.940

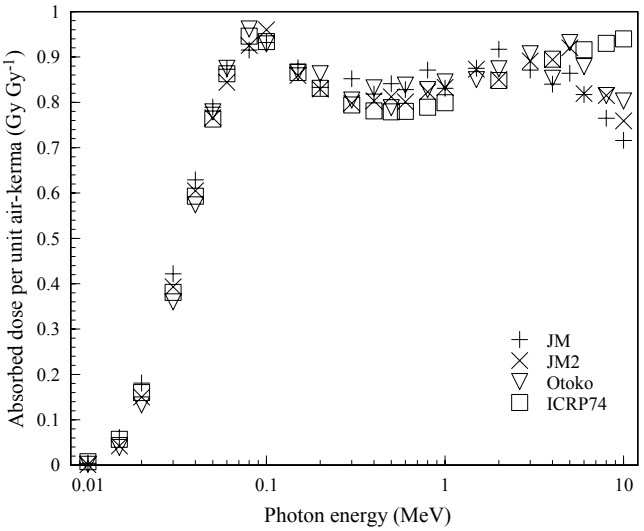

Figure 4-97 Testes absorbed dose per unit air-kerma in ROT geometry.

Table 4-98 Bone (marrow) absorbed dose per unit air-kerma in ROT geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.000	0.000	0.000	0.000	0.000	0.000
0.015	0.002	0.002	0.002	0.002	0.002	0.00409
0.02	0.011	0.010	0.012	0.010	0.012	0.0167
0.03	0.080	0.079	0.081	0.078	0.082	0.0932
0.04	0.228	0.225	0.223	0.224	0.227	0.262
0.05	0.415	0.411	0.401	0.408	0.404	0.473
0.06	0.580	0.578	0.559	0.577	0.568	0.660
0.08	0.783	0.775	0.756	0.789	0.769	0.856
0.1	0.858	0.850	0.832	0.867	0.837	0.900
0.15	0.876	0.871	0.862	0.896	0.868	0.866
0.2	0.873	0.867	0.857	0.886	0.865	0.835
0.3	0.869	0.862	0.854	0.866	0.860	0.804
0.4	0.873	0.868	0.859	0.856	0.867	0.792
0.5	0.883	0.874	0.867	0.850	0.869	0.789
0.6	0.887	0.884	0.876	0.853	0.881	0.790
0.8	0.902	0.896	0.883	0.862	0.894	0.797
1	0.911	0.907	0.895	0.869	0.897	0.806
1.5	0.930	0.928	0.915	0.895	0.920	-
2	0.952	0.945	0.933	0.912	0.936	0.845
3	0.972	0.969	0.954	0.938	0.951	-
4	0.984	0.979	0.973	0.949	0.971	0.887
5	0.986	0.992	0.978	0.954	0.981	-
6	0.984	0.985	0.974	0.956	0.973	0.911
8	0.967	0.968	0.957	0.935	0.953	0.927
10	0.943	0.943	0.939	0.922	0.935	0.940

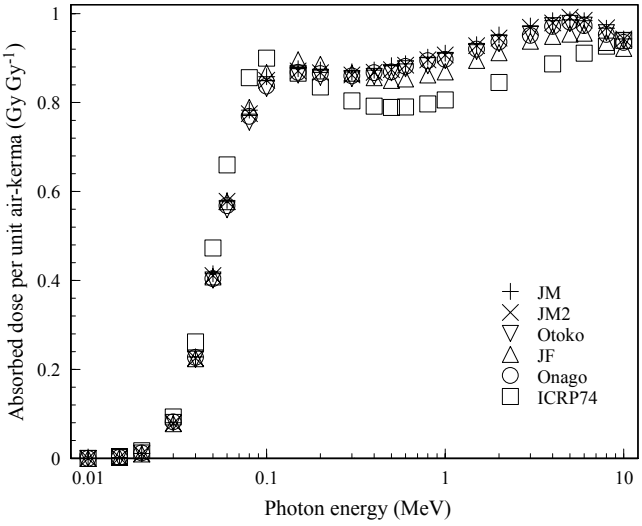

Figure 4-98 Bone (marrow) absorbed dose per unit air-kerma in ROT geometry.

Table 4-99 Lower large intestine absorbed dose per unit air-kerma in ROT geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.000	0.000	0.000	0.000	0.000	0.000
0.015	0.001	0.000	0.002	0.003	0.001	0.00011
0.02	0.012	0.007	0.023	0.021	0.018	0.00047
0.03	0.126	0.101	0.163	0.148	0.169	0.0945
0.04	0.336	0.299	0.381	0.361	0.402	0.319
0.05	0.555	0.521	0.595	0.578	0.634	0.566
0.06	0.703	0.686	0.752	0.734	0.794	0.748
0.08	0.845	0.825	0.889	0.893	0.924	0.902
0.1	0.870	0.846	0.886	0.879	0.901	0.907
0.15	0.812	0.799	0.839	0.842	0.868	0.842
0.2	0.787	0.773	0.801	0.809	0.821	0.812
0.3	0.771	0.757	0.778	0.793	0.797	0.789
0.4	0.767	0.760	0.767	0.800	0.811	0.780
0.5	0.780	0.744	0.774	0.795	0.807	0.778
0.6	0.787	0.747	0.792	0.804	0.806	0.780
0.8	0.795	0.772	0.790	0.801	0.794	0.790
1	0.794	0.784	0.834	0.820	0.850	0.800
1.5	0.827	0.823	0.841	0.860	0.824	-
2	0.852	0.865	0.867	0.865	0.854	0.838
3	0.868	0.878	0.885	0.910	0.901	-
4	0.884	0.884	0.896	0.901	0.899	0.868
5	0.899	0.905	0.924	0.905	0.906	-
6	0.900	0.896	0.890	0.919	0.901	0.879
8	0.889	0.900	0.887	0.898	0.922	0.884
10	0.908	0.887	0.881	0.901	0.905	0.888

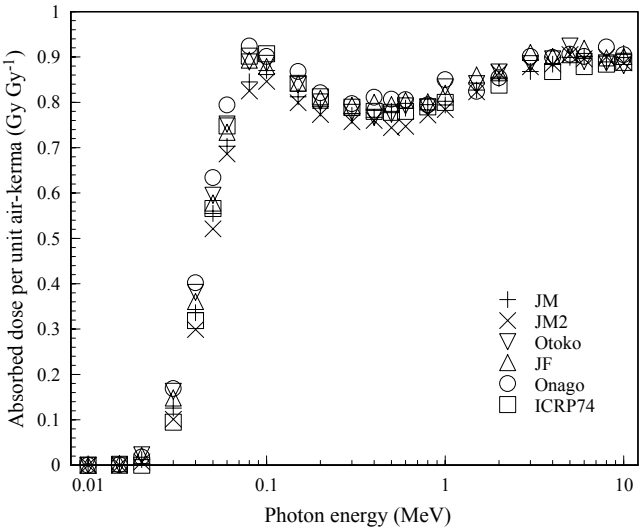

Figure 4-99 Lower large intestine absorbed dose per unit air-kerma in ROT geometry.

Table 4-100 Lung absorbed dose per unit air-kerma in ROT geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.000	0.000	0.000	0.000	0.000	0.000
0.015	0.001	0.001	0.001	0.002	0.001	0.00111
0.02	0.015	0.015	0.020	0.026	0.013	0.0163
0.03	0.165	0.166	0.189	0.210	0.155	0.200
0.04	0.423	0.428	0.458	0.488	0.409	0.498
0.05	0.664	0.670	0.702	0.728	0.649	0.762
0.06	0.832	0.834	0.860	0.876	0.812	0.932
0.08	0.946	0.948	0.971	0.979	0.936	1.039
0.1	0.938	0.951	0.965	0.973	0.933	1.018
0.15	0.889	0.891	0.906	0.925	0.891	0.936
0.2	0.855	0.863	0.875	0.897	0.864	0.895
0.3	0.836	0.846	0.855	0.874	0.837	0.862
0.4	0.833	0.842	0.847	0.874	0.842	0.856
0.5	0.833	0.841	0.847	0.874	0.844	0.858
0.6	0.840	0.849	0.849	0.876	0.847	0.861
0.8	0.844	0.859	0.858	0.888	0.860	0.869
1	0.859	0.868	0.870	0.891	0.869	0.877
1.5	0.879	0.884	0.890	0.914	0.890	-
2	0.891	0.906	0.910	0.935	0.910	0.907
3	0.922	0.929	0.934	0.947	0.927	-
4	0.944	0.950	0.945	0.967	0.949	0.927
5	0.960	0.970	0.959	0.976	0.965	-
6	0.954	0.958	0.966	0.971	0.958	0.932
8	0.946	0.959	0.960	0.970	0.962	0.936
10	0.952	0.954	0.950	0.958	0.958	0.939

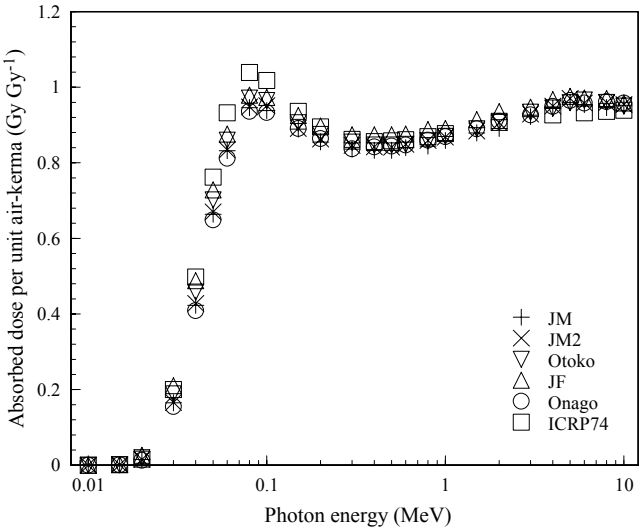

Figure 4-100 Lung absorbed dose per unit air-kerma in ROT geometry.

Table 4-101 Stomach absorbed dose per unit air-kerma in ROT geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.000	0.000	0.000	0.000	0.000	0.000
0.015	0.001	0.001	0.000	0.013	0.000	0.00182
0.02	0.020	0.019	0.003	0.068	0.010	0.0249
0.03	0.166	0.165	0.098	0.281	0.136	0.169
0.04	0.406	0.407	0.327	0.538	0.376	0.422
0.05	0.639	0.639	0.568	0.755	0.630	0.674
0.06	0.794	0.777	0.724	0.894	0.794	0.844
0.08	0.929	0.912	0.895	0.993	0.925	0.972
0.1	0.919	0.915	0.879	0.990	0.920	0.962
0.15	0.866	0.842	0.812	0.926	0.837	0.874
0.2	0.821	0.803	0.783	0.895	0.814	0.835
0.3	0.786	0.795	0.771	0.870	0.798	0.810
0.4	0.777	0.789	0.751	0.855	0.786	0.803
0.5	0.792	0.782	0.764	0.848	0.778	0.803
0.6	0.793	0.793	0.779	0.873	0.795	0.804
0.8	0.812	0.795	0.793	0.864	0.789	0.810
1	0.810	0.812	0.779	0.878	0.821	0.819
1.5	0.831	0.832	0.810	0.880	0.863	-
2	0.853	0.862	0.857	0.920	0.855	0.865
3	0.884	0.874	0.864	0.937	0.890	-
4	0.894	0.890	0.893	0.938	0.896	0.907
5	0.904	0.918	0.868	0.936	0.919	-
6	0.890	0.886	0.900	0.917	0.924	0.921
8	0.901	0.893	0.902	0.888	0.910	0.928
10	0.875	0.879	0.881	0.865	0.921	0.934

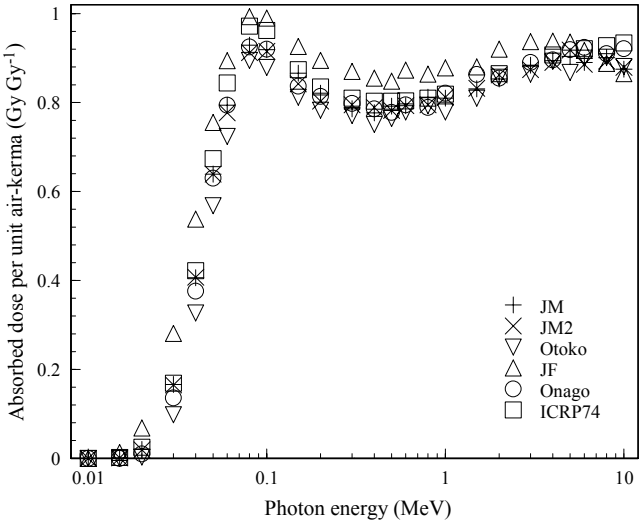

Figure 4-101 Stomach absorbed dose per unit air-kerma in ROT geometry.

Table 4-102 Bladder absorbed dose per unit air-kerma in ROT geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.000	0.000	0.000	0.000	0.000	0.000
0.015	0.000	0.000	0.000	0.000	0.000	0.0014
0.02	0.009	0.008	0.002	0.004	0.009	0.0184
0.03	0.102	0.092	0.059	0.078	0.106	0.157
0.04	0.278	0.256	0.222	0.273	0.304	0.389
0.05	0.481	0.468	0.421	0.489	0.504	0.620
0.06	0.663	0.623	0.617	0.634	0.665	0.790
0.08	0.805	0.782	0.767	0.835	0.850	0.922
0.1	0.846	0.785	0.787	0.820	0.828	0.922
0.15	0.793	0.776	0.771	0.815	0.798	0.841
0.2	0.794	0.752	0.757	0.768	0.776	0.803
0.3	0.764	0.750	0.726	0.763	0.772	0.777
0.4	0.733	0.724	0.742	0.766	0.777	0.772
0.5	0.749	0.755	0.751	0.796	0.756	0.774
0.6	0.759	0.752	0.736	0.753	0.765	0.778
0.8	0.787	0.764	0.769	0.788	0.811	0.790
1	0.820	0.748	0.794	0.812	0.787	0.802
1.5	0.825	0.780	0.822	0.828	0.839	-
2	0.855	0.808	0.870	0.833	0.807	0.849
3	0.867	0.872	0.864	0.871	0.859	-
4	0.881	0.867	0.856	0.845	0.903	0.898
5	0.895	0.878	0.884	0.900	0.897	-
6	0.904	0.927	0.870	0.934	0.885	0.920
8	0.887	0.905	0.870	0.904	0.898	0.932
10	0.909	0.886	0.894	0.923	0.876	0.940

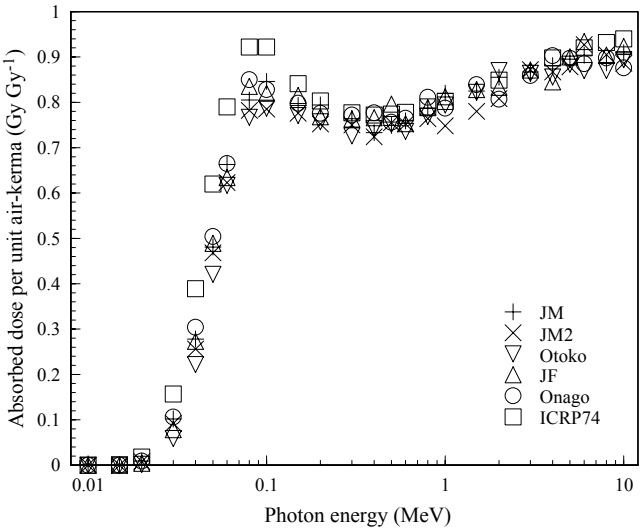

Figure 4-102 Bladder absorbed dose per unit air-kerma in ROT geometry.

Table 4-103 Breast absorbed dose per unit air-kerma in ROT geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	-	-	-	0.004	0.014	0.00869
0.015	-	-	-	0.056	0.087	0.0747
0.02	-	-	-	0.168	0.203	0.198
0.03	-	-	-	0.424	0.431	0.449
0.04	-	-	-	0.643	0.627	0.655
0.05	-	-	-	0.812	0.786	0.811
0.06	-	-	-	0.910	0.893	0.909
0.08	-	-	-	0.974	0.963	0.971
0.1	-	-	-	0.967	0.952	0.958
0.15	-	-	-	0.928	0.916	0.912
0.2	-	-	-	0.899	0.891	0.875
0.3	-	-	-	0.886	0.864	0.851
0.4	-	-	-	0.877	0.865	0.851
0.5	-	-	-	0.875	0.861	0.854
0.6	-	-	-	0.886	0.876	0.858
0.8	-	-	-	0.891	0.880	0.865
1	-	-	-	0.900	0.897	0.872
1.5	-	-	-	0.916	0.903	-
2	-	-	-	0.925	0.897	0.902
3	-	-	-	0.927	0.888	-
4	-	-	-	0.916	0.872	0.923
5	-	-	-	0.911	0.851	-
6	-	-	-	0.874	0.809	0.927
8	-	-	-	0.809	0.760	0.929
10	-	-	-	0.763	0.737	0.930

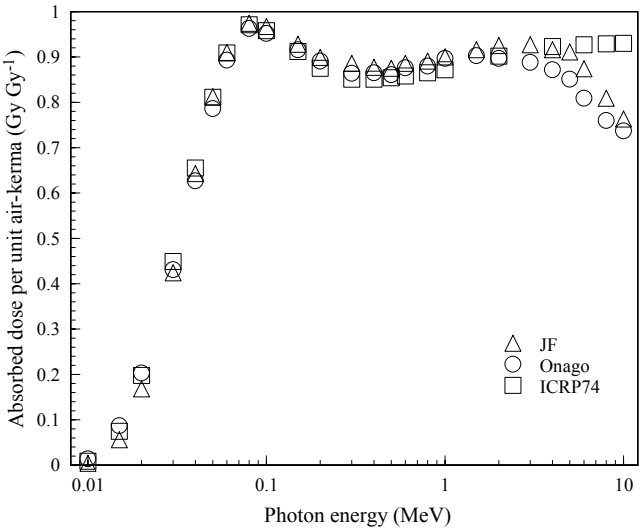

Figure 4-103 Breast absorbed dose per unit air-kerma in ROT geometry.

Table 4-104 Ovaries absorbed dose per unit air-kerma in ROT geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	-	-	-	0.000	0.000	0.000
0.015	-	-	-	0.000	0.000	0.000
0.02	-	-	-	0.002	0.002	0.000
0.03	-	-	-	0.062	0.059	0.066
0.04	-	-	-	0.239	0.207	0.277
0.05	-	-	-	0.454	0.430	0.527
0.06	-	-	-	0.620	0.596	0.723
0.08	-	-	-	0.737	0.771	0.901
0.1	-	-	-	0.758	0.862	0.926
0.15	-	-	-	0.795	0.789	0.882
0.2	-	-	-	0.784	0.770	0.841
0.3	-	-	-	0.787	0.757	0.810
0.4	-	-	-	0.789	0.776	0.796
0.5	-	-	-	0.712	0.748	0.789
0.6	-	-	-	0.769	0.754	0.786
0.8	-	-	-	0.867	0.766	0.787
1	-	-	-	0.731	0.814	0.793
1.5	-	-	-	0.747	0.811	-
2	-	-	-	0.829	0.810	0.833
3	-	-	-	0.916	0.852	-
4	-	-	-	0.938	0.875	0.891
5	-	-	-	0.874	0.940	-
6	-	-	-	0.894	0.839	0.926
8	-	-	-	0.886	0.921	0.949
10	-	-	-	0.882	0.870	0.966

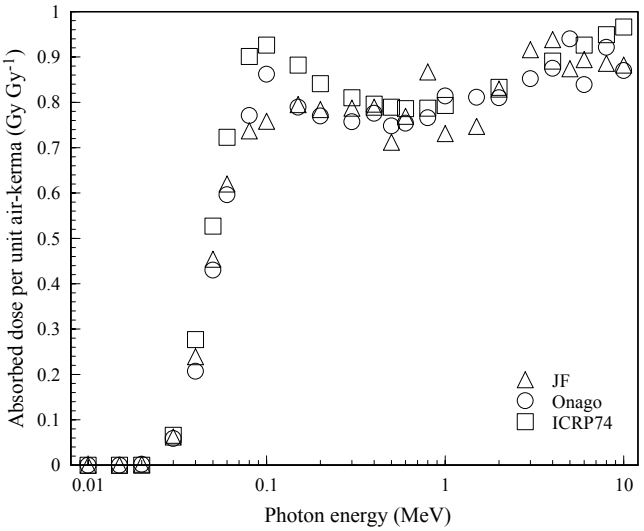

Figure 4-104 Ovaries absorbed dose per unit air-kerma in ROT geometry.

Table 4-105 Liver absorbed dose per unit air-kerma in ROT geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.000	0.000	0.000	0.000	0.000	0.000
0.015	0.001	0.001	0.001	0.003	0.000	0.00091
0.02	0.011	0.011	0.017	0.028	0.011	0.0139
0.03	0.130	0.131	0.158	0.198	0.133	0.159
0.04	0.365	0.362	0.404	0.461	0.368	0.420
0.05	0.604	0.600	0.640	0.704	0.607	0.674
0.06	0.777	0.769	0.810	0.862	0.780	0.846
0.08	0.907	0.897	0.929	0.969	0.912	0.970
0.1	0.914	0.910	0.918	0.965	0.913	0.959
0.15	0.849	0.844	0.854	0.898	0.851	0.887
0.2	0.814	0.805	0.814	0.869	0.820	0.847
0.3	0.786	0.776	0.790	0.840	0.796	0.806
0.4	0.782	0.773	0.782	0.831	0.790	0.795
0.5	0.782	0.776	0.789	0.837	0.789	0.796
0.6	0.788	0.782	0.793	0.838	0.794	0.800
0.8	0.794	0.786	0.802	0.849	0.808	0.811
1	0.805	0.796	0.814	0.860	0.813	0.822
1.5	0.830	0.829	0.836	0.879	0.843	-
2	0.859	0.849	0.856	0.899	0.863	0.861
3	0.885	0.874	0.889	0.928	0.892	-
4	0.892	0.892	0.901	0.927	0.908	0.892
5	0.905	0.899	0.916	0.930	0.916	-
6	0.911	0.906	0.913	0.933	0.911	0.902
8	0.907	0.890	0.903	0.909	0.904	0.906
10	0.898	0.889	0.900	0.904	0.896	0.909

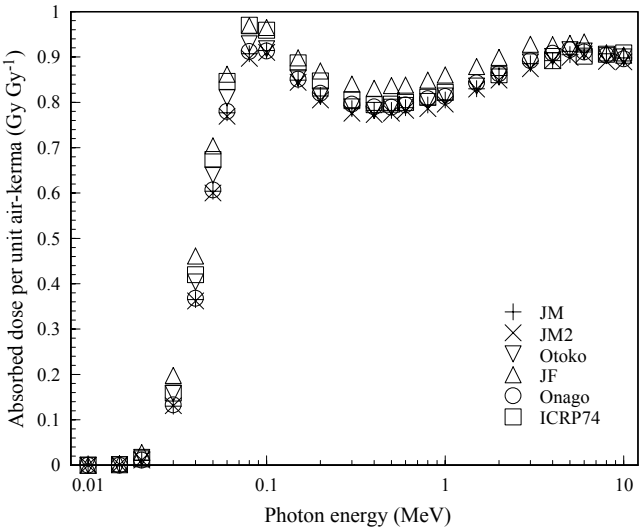

Figure 4-105 Liver absorbed dose per unit air-kerma in ROT geometry.

Table 4-106 Esophagus absorbed dose per unit air-kerma in ROT geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.000	0.000	0.000	0.000	0.000	0.000
0.015	0.000	0.000	0.000	0.001	0.000	0.000
0.02	0.005	0.005	0.004	0.012	0.004	0.000
0.03	0.074	0.077	0.075	0.121	0.078	0.0507
0.04	0.251	0.254	0.274	0.345	0.275	0.237
0.05	0.485	0.477	0.489	0.601	0.512	0.479
0.06	0.683	0.661	0.722	0.751	0.694	0.679
0.08	0.863	0.833	0.851	0.902	0.858	0.858
0.1	0.878	0.881	0.857	0.956	0.833	0.885
0.15	0.794	0.820	0.839	0.894	0.835	0.840
0.2	0.808	0.802	0.799	0.876	0.828	0.805
0.3	0.765	0.797	0.779	0.851	0.790	0.772
0.4	0.769	0.822	0.819	0.857	0.798	0.766
0.5	0.804	0.805	0.744	0.828	0.828	0.771
0.6	0.817	0.782	0.843	0.839	0.795	0.779
0.8	0.821	0.840	0.781	0.858	0.841	0.798
1	0.831	0.842	0.866	0.855	0.858	0.815
1.5	0.843	0.882	0.897	0.925	0.812	-
2	0.900	0.897	0.828	0.931	0.879	0.869
3	0.908	0.873	0.895	0.943	0.920	-
4	0.880	0.889	0.905	0.931	0.850	0.914
5	0.879	0.923	0.926	0.964	0.934	-
6	0.895	0.901	0.906	0.937	0.894	0.936
8	0.896	0.941	0.873	0.935	0.914	0.950
10	0.901	0.926	0.920	0.958	0.915	0.961

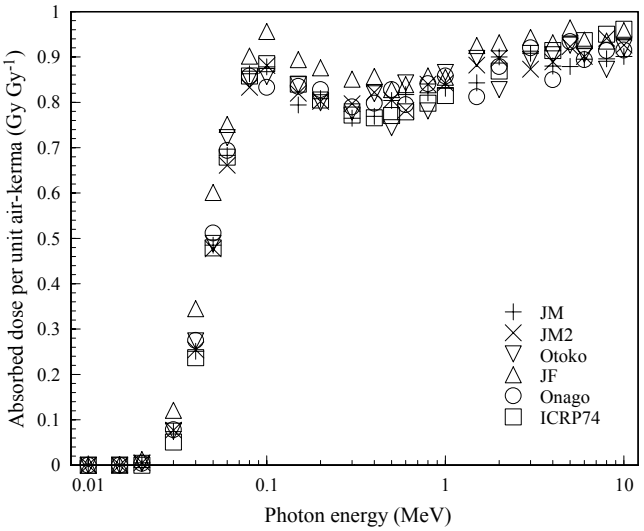

Figure 4-106 Esophagus absorbed dose per unit air-kerma in ROT geometry.

Table 4-107 Thyroid absorbed dose per unit air-kerma in ROT geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.000	0.000	0.000	0.000	0.000	0.00029
0.015	0.012	0.010	0.010	0.040	0.022	0.0227
0.02	0.084	0.076	0.075	0.166	0.125	0.121
0.03	0.328	0.311	0.295	0.461	0.408	0.409
0.04	0.572	0.557	0.501	0.726	0.629	0.718
0.05	0.783	0.773	0.748	0.913	0.842	0.968
0.06	0.937	0.916	0.843	1.057	0.953	1.122
0.08	1.018	1.009	0.978	1.158	1.161	1.234
0.1	1.014	1.056	0.962	1.180	1.068	1.229
0.15	1.019	0.992	0.861	1.146	1.013	1.161
0.2	0.953	0.981	0.836	1.077	0.993	1.109
0.3	0.921	0.882	0.881	1.067	1.014	1.055
0.4	0.927	0.875	0.860	1.048	1.023	1.031
0.5	0.833	0.898	0.827	1.006	1.014	1.021
0.6	0.871	0.895	0.819	1.000	0.979	1.019
0.8	0.895	0.904	0.824	1.057	0.980	1.023
1	0.914	0.901	0.845	1.143	0.974	1.031
1.5	0.912	1.007	0.895	0.953	0.989	-
2	0.897	0.949	0.867	1.066	1.026	1.054
3	0.895	0.950	0.876	0.989	1.031	-
4	0.917	0.972	0.886	1.001	0.934	1.066
5	0.936	0.969	0.902	1.103	0.964	-
6	0.903	0.937	0.849	0.999	0.838	1.066
8	0.905	0.922	0.916	0.885	0.968	1.064
10	0.874	0.903	0.837	0.841	0.791	1.064

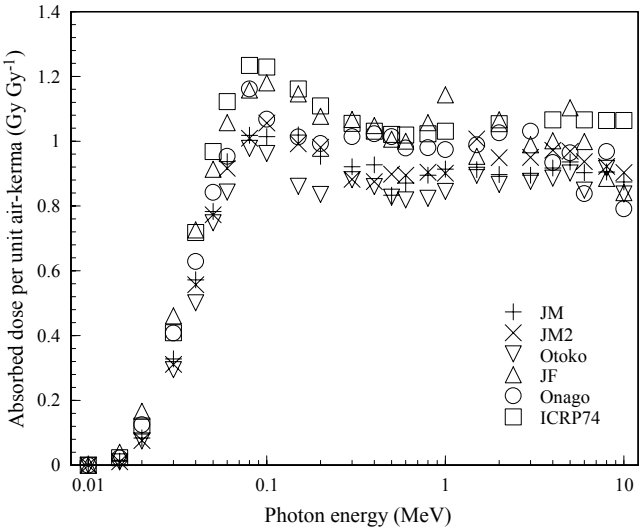

Figure 4-107 Thyroid absorbed dose per unit air-kerma in ROT geometry.

Table 4-108 Skin absorbed dose per unit air-kerma in ROT geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.210	0.212	0.210	0.212	0.207	0.200
0.015	0.334	0.339	0.334	0.340	0.331	0.331
0.02	0.414	0.421	0.415	0.423	0.412	0.433
0.03	0.554	0.562	0.558	0.569	0.554	0.581
0.04	0.693	0.700	0.699	0.710	0.696	0.714
0.05	0.816	0.821	0.817	0.831	0.817	0.830
0.06	0.898	0.904	0.905	0.913	0.903	0.911
0.08	0.973	0.974	0.974	0.985	0.974	0.981
0.1	0.984	0.984	0.980	1.001	0.987	0.977
0.15	0.961	0.965	0.959	0.976	0.965	0.948
0.2	0.946	0.944	0.942	0.967	0.953	0.926
0.3	0.908	0.937	0.928	0.951	0.938	0.904
0.4	0.890	0.918	0.911	0.937	0.925	0.899
0.5	0.861	0.899	0.898	0.916	0.906	0.900
0.6	0.840	0.876	0.878	0.894	0.884	0.903
0.8	0.789	0.826	0.826	0.843	0.833	0.909
1	0.739	0.781	0.776	0.790	0.786	0.916
1.5	0.664	0.696	0.691	0.702	0.705	-
2	0.616	0.648	0.644	0.648	0.650	0.939
3	0.570	0.590	0.591	0.588	0.596	-
4	0.548	0.562	0.562	0.561	0.570	0.953
5	0.531	0.539	0.542	0.543	0.550	-
6	0.517	0.526	0.525	0.527	0.536	0.953
8	0.491	0.497	0.502	0.501	0.508	0.952
10	0.479	0.484	0.486	0.482	0.491	0.950

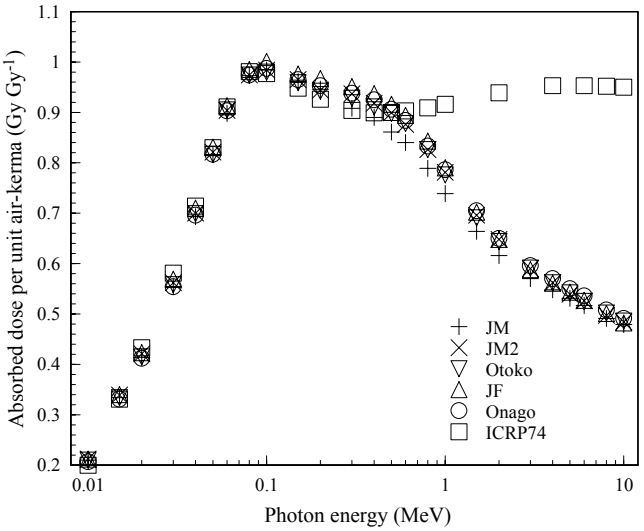

Figure 4-108 Skin absorbed dose per unit air-kerma in ROT geometry.

Table 4-109 Bone (hard bone) absorbed dose per unit air-kerma in ROT geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.002	0.001	0.001	0.001	0.001	0.00161
0.015	0.029	0.024	0.024	0.027	0.026	0.0266
0.02	0.149	0.139	0.134	0.146	0.138	0.107
0.03	0.885	0.864	0.822	0.876	0.837	0.539
0.04	2.069	2.044	1.956	2.049	1.977	1.218
0.05	3.015	2.996	2.893	2.986	2.906	1.793
0.06	3.367	3.358	3.266	3.339	3.271	2.057
0.08	2.959	2.952	2.914	2.920	2.902	1.941
0.1	2.324	2.322	2.296	2.283	2.290	1.628
0.15	1.455	1.462	1.453	1.435	1.446	1.175
0.2	1.155	1.151	1.147	1.149	1.153	1.002
0.3	0.956	0.954	0.952	0.965	0.957	0.879
0.4	0.888	0.885	0.888	0.911	0.896	0.840
0.5	0.857	0.853	0.859	0.885	0.867	0.826
0.6	0.843	0.840	0.845	0.881	0.855	0.821
0.8	0.840	0.834	0.839	0.879	0.850	0.821
1	0.837	0.834	0.839	0.872	0.850	0.826
1.5	0.846	0.843	0.847	0.883	0.861	-
2	0.859	0.856	0.863	0.891	0.874	0.858
3	0.873	0.873	0.878	0.910	0.888	-
4	0.885	0.882	0.888	0.917	0.896	0.893
5	0.880	0.886	0.893	0.916	0.902	-
6	0.874	0.876	0.886	0.913	0.894	0.911
8	0.852	0.858	0.866	0.888	0.872	0.927
10	0.829	0.832	0.844	0.868	0.852	0.939

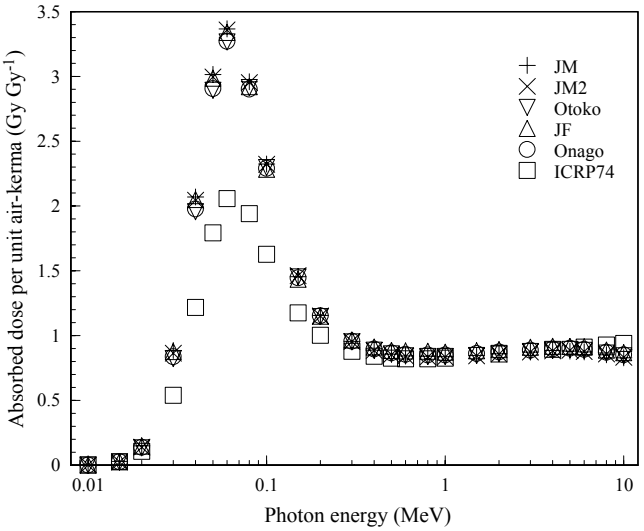

Figure 4-109 Bone (hard bone) absorbed dose per unit air-kerma in ROT geometry.

Table 4-110 Adrenal absorbed dose per unit air-kerma in ROT geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.000	0.000	0.000	0.000	0.000	-
0.015	0.000	0.000	0.000	0.000	0.000	-
0.02	0.000	0.000	0.004	0.001	0.005	-
0.03	0.047	0.041	0.101	0.079	0.095	-
0.04	0.220	0.200	0.332	0.293	0.289	-
0.05	0.426	0.406	0.572	0.525	0.545	-
0.06	0.607	0.566	0.744	0.649	0.678	-
0.08	0.838	0.792	0.824	0.857	0.857	-
0.1	0.816	0.856	0.875	0.898	0.822	-
0.15	0.814	0.760	0.795	0.930	0.822	-
0.2	0.754	0.780	0.746	0.861	0.762	-
0.3	0.739	0.718	0.773	0.775	0.769	-
0.4	0.751	0.707	0.750	0.827	0.799	-
0.5	0.784	0.759	0.753	0.825	0.765	-
0.6	0.787	0.734	0.764	0.778	0.797	-
0.8	0.772	0.766	0.776	0.821	0.814	-
1	0.781	0.783	0.819	0.819	0.819	-
1.5	0.761	0.773	0.827	0.842	0.854	-
2	0.870	0.790	0.835	0.828	0.835	-
3	0.887	0.851	0.875	0.900	0.927	-
4	0.878	0.758	0.883	0.896	0.924	-
5	0.898	0.991	0.884	0.950	0.950	-
6	0.929	0.909	0.892	0.954	0.876	-
8	0.888	0.900	0.895	0.914	0.952	-
10	0.919	0.875	0.900	0.959	0.909	-

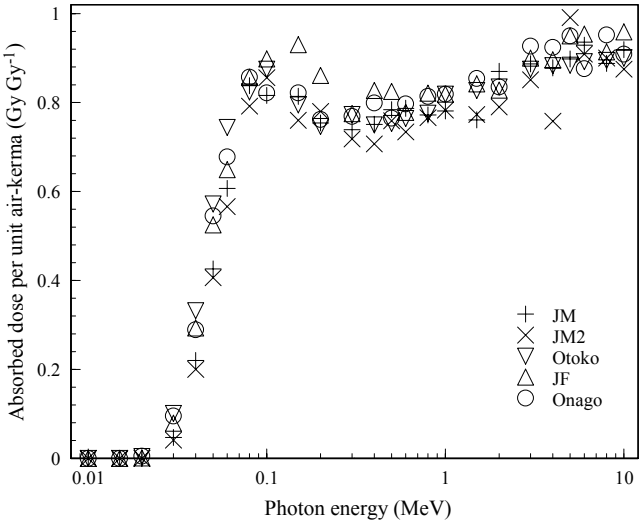

Figure 4-110 Adrenal absorbed dose per unit air-kerma in ROT geometry.

Table 4-111 Brain absorbed dose per unit air-kerma in ROT geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.000	0.000	0.000	0.000	0.000	-
0.015	0.000	0.000	0.000	0.000	0.000	-
0.02	0.001	0.001	0.001	0.001	0.000	-
0.03	0.058	0.056	0.053	0.060	0.028	-
0.04	0.265	0.258	0.249	0.269	0.185	-
0.05	0.506	0.501	0.491	0.512	0.410	-
0.06	0.690	0.687	0.673	0.688	0.603	-
0.08	0.854	0.847	0.839	0.848	0.794	-
0.1	0.886	0.882	0.878	0.884	0.849	-
0.15	0.862	0.869	0.855	0.866	0.845	-
0.2	0.853	0.845	0.838	0.849	0.833	-
0.3	0.843	0.839	0.829	0.847	0.831	-
0.4	0.837	0.833	0.836	0.847	0.838	-
0.5	0.843	0.842	0.835	0.850	0.837	-
0.6	0.849	0.845	0.842	0.856	0.835	-
0.8	0.866	0.862	0.860	0.871	0.858	-
1	0.876	0.874	0.874	0.882	0.869	-
1.5	0.898	0.899	0.889	0.903	0.890	-
2	0.921	0.911	0.913	0.916	0.921	-
3	0.935	0.933	0.936	0.944	0.932	-
4	0.953	0.953	0.949	0.956	0.952	-
5	0.960	0.951	0.961	0.957	0.954	-
6	0.962	0.963	0.952	0.965	0.954	-
8	0.948	0.949	0.944	0.951	0.959	-
10	0.947	0.948	0.941	0.939	0.954	-

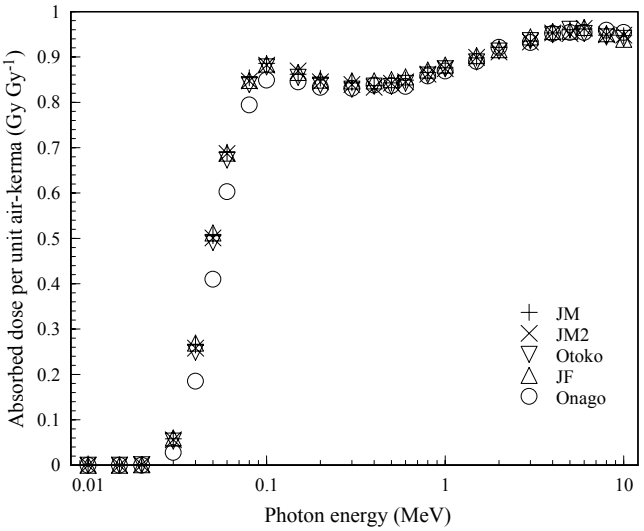

Figure 4-111 Brain absorbed dose per unit air-kerma in ROT geometry.

Table 4-112 Upper large intestine absorbed dose per unit air-kerma in ROT geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.000	0.000	0.000	0.000	0.000	-
0.015	0.002	0.002	0.004	0.015	0.001	-
0.02	0.024	0.021	0.043	0.076	0.024	-
0.03	0.184	0.173	0.245	0.291	0.197	-
0.04	0.425	0.411	0.494	0.530	0.448	-
0.05	0.660	0.649	0.708	0.725	0.677	-
0.06	0.803	0.798	0.850	0.867	0.835	-
0.08	0.915	0.914	0.939	0.977	0.934	-
0.1	0.929	0.930	0.934	0.949	0.937	-
0.15	0.867	0.863	0.889	0.886	0.887	-
0.2	0.818	0.819	0.854	0.876	0.836	-
0.3	0.804	0.783	0.805	0.844	0.821	-
0.4	0.783	0.787	0.808	0.848	0.809	-
0.5	0.794	0.782	0.812	0.841	0.810	-
0.6	0.807	0.799	0.805	0.842	0.821	-
0.8	0.805	0.812	0.831	0.852	0.813	-
1	0.823	0.839	0.836	0.863	0.842	-
1.5	0.850	0.838	0.853	0.884	0.844	-
2	0.865	0.853	0.873	0.920	0.877	-
3	0.868	0.887	0.896	0.922	0.893	-
4	0.928	0.904	0.915	0.925	0.906	-
5	0.920	0.912	0.918	0.922	0.919	-
6	0.923	0.915	0.906	0.913	0.921	-
8	0.912	0.910	0.900	0.876	0.921	-
10	0.903	0.892	0.876	0.859	0.905	-

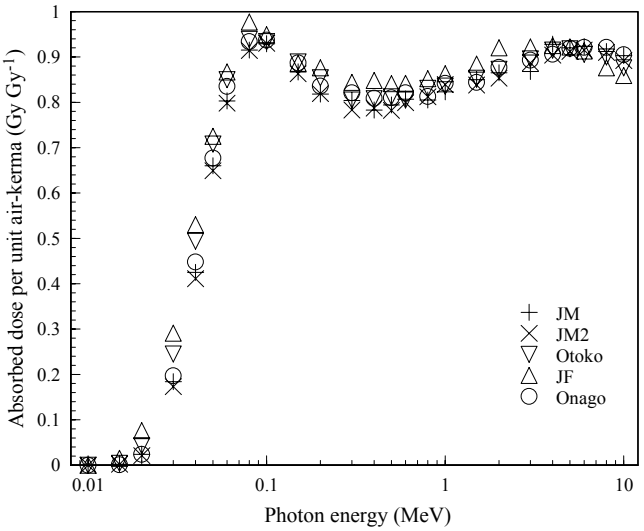

Figure 4-112 Upper large intestine absorbed dose per unit air-kerma in ROT geometry.

Table 4-113 Small intestine absorbed dose per unit air-kerma in ROT geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.000	0.000	0.000	0.000	0.000	-
0.015	0.001	0.000	0.001	0.003	0.000	-
0.02	0.013	0.011	0.017	0.025	0.009	-
0.03	0.132	0.124	0.157	0.170	0.128	-
0.04	0.351	0.338	0.381	0.389	0.357	-
0.05	0.578	0.560	0.595	0.603	0.591	-
0.06	0.744	0.724	0.757	0.768	0.758	-
0.08	0.881	0.870	0.886	0.886	0.891	-
0.1	0.890	0.879	0.891	0.897	0.909	-
0.15	0.836	0.815	0.843	0.847	0.861	-
0.2	0.800	0.787	0.817	0.822	0.822	-
0.3	0.774	0.766	0.785	0.802	0.797	-
0.4	0.771	0.772	0.780	0.793	0.795	-
0.5	0.776	0.773	0.790	0.799	0.790	-
0.6	0.788	0.772	0.791	0.803	0.794	-
0.8	0.798	0.784	0.794	0.827	0.808	-
1	0.799	0.794	0.808	0.838	0.830	-
1.5	0.827	0.817	0.837	0.850	0.850	-
2	0.854	0.854	0.856	0.878	0.871	-
3	0.887	0.869	0.878	0.900	0.889	-
4	0.892	0.886	0.909	0.911	0.910	-
5	0.894	0.906	0.911	0.918	0.920	-
6	0.903	0.905	0.903	0.921	0.917	-
8	0.898	0.897	0.900	0.898	0.907	-
10	0.889	0.896	0.894	0.898	0.914	-

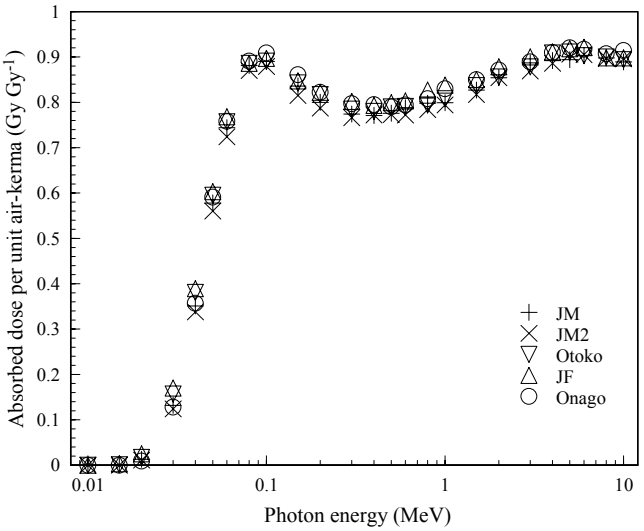

Figure 4-113 Small intestine absorbed dose per unit air-kerma in ROT geometry.

Table 4-114 Kidney absorbed dose per unit air-kerma in ROT geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.000	0.000	0.000	0.000	0.000	-
0.015	0.000	0.000	0.000	0.000	0.000	-
0.02	0.003	0.002	0.006	0.010	0.007	-
0.03	0.084	0.074	0.125	0.164	0.125	-
0.04	0.290	0.273	0.374	0.427	0.360	-
0.05	0.519	0.508	0.618	0.664	0.604	-
0.06	0.702	0.691	0.800	0.832	0.769	-
0.08	0.853	0.834	0.922	0.977	0.903	-
0.1	0.862	0.874	0.922	0.970	0.904	-
0.15	0.813	0.807	0.865	0.911	0.861	-
0.2	0.791	0.776	0.830	0.876	0.827	-
0.3	0.764	0.756	0.802	0.862	0.806	-
0.4	0.768	0.756	0.788	0.866	0.805	-
0.5	0.762	0.765	0.796	0.867	0.802	-
0.6	0.768	0.761	0.797	0.859	0.811	-
0.8	0.761	0.782	0.812	0.857	0.817	-
1	0.787	0.788	0.822	0.868	0.833	-
1.5	0.812	0.822	0.854	0.904	0.864	-
2	0.837	0.843	0.863	0.919	0.867	-
3	0.854	0.860	0.899	0.943	0.898	-
4	0.871	0.881	0.893	0.926	0.898	-
5	0.897	0.892	0.919	0.953	0.909	-
6	0.895	0.871	0.919	0.917	0.927	-
8	0.892	0.899	0.905	0.929	0.908	-
10	0.881	0.879	0.890	0.933	0.899	-

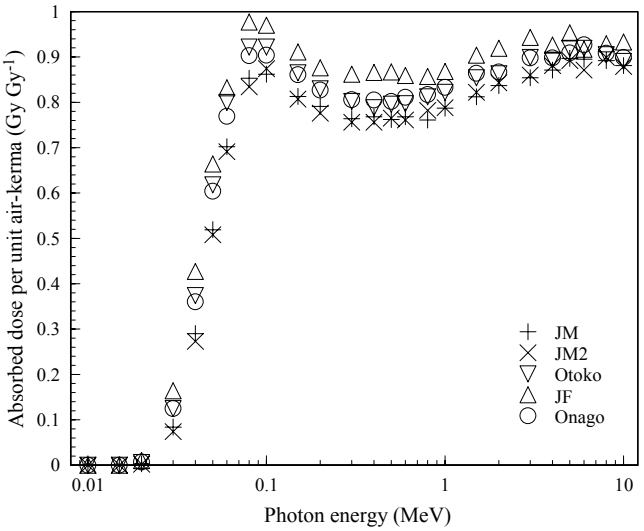

Figure 4-114 Kidney absorbed dose per unit air-kerma in ROT geometry.

Table 4-115 Muscle absorbed dose per unit air-kerma in ROT geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.003	0.002	0.002	0.003	0.003	-
0.015	0.028	0.025	0.025	0.033	0.026	-
0.02	0.097	0.091	0.088	0.110	0.088	-
0.03	0.313	0.305	0.289	0.341	0.297	-
0.04	0.548	0.541	0.509	0.579	0.530	-
0.05	0.745	0.740	0.699	0.774	0.729	-
0.06	0.875	0.870	0.828	0.900	0.862	-
0.08	0.966	0.962	0.932	0.989	0.962	-
0.1	0.970	0.967	0.940	0.991	0.967	-
0.15	0.924	0.919	0.905	0.951	0.924	-
0.2	0.896	0.891	0.883	0.927	0.897	-
0.3	0.875	0.872	0.864	0.905	0.880	-
0.4	0.870	0.866	0.859	0.900	0.872	-
0.5	0.869	0.865	0.859	0.898	0.874	-
0.6	0.872	0.867	0.861	0.901	0.876	-
0.8	0.881	0.877	0.871	0.909	0.884	-
1	0.886	0.885	0.878	0.915	0.891	-
1.5	0.905	0.901	0.896	0.931	0.907	-
2	0.919	0.916	0.912	0.942	0.921	-
3	0.930	0.928	0.926	0.947	0.932	-
4	0.930	0.931	0.927	0.945	0.933	-
5	0.926	0.924	0.920	0.938	0.929	-
6	0.911	0.912	0.907	0.921	0.919	-
8	0.878	0.881	0.874	0.880	0.889	-
10	0.847	0.850	0.844	0.850	0.860	-

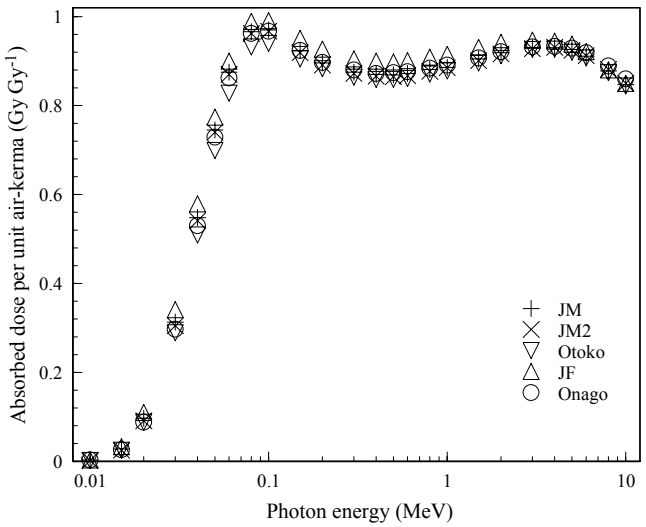

Figure 4-115 Muscle absorbed dose per unit air-kerma in ROT geometry.

Table 4-116 Pancreas absorbed dose per unit air-kerma in ROT geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.000	0.000	0.000	0.000	0.000	-
0.015	0.000	0.000	0.000	0.002	0.000	-
0.02	0.002	0.001	0.002	0.025	0.001	-
0.03	0.075	0.070	0.084	0.205	0.060	-
0.04	0.280	0.267	0.301	0.463	0.255	-
0.05	0.521	0.504	0.542	0.704	0.504	-
0.06	0.694	0.698	0.726	0.853	0.687	-
0.08	0.834	0.835	0.870	0.999	0.857	-
0.1	0.882	0.851	0.857	1.001	0.849	-
0.15	0.808	0.804	0.808	0.916	0.841	-
0.2	0.774	0.770	0.766	0.900	0.785	-
0.3	0.750	0.745	0.763	0.876	0.759	-
0.4	0.740	0.756	0.765	0.866	0.752	-
0.5	0.745	0.742	0.769	0.884	0.751	-
0.6	0.749	0.754	0.774	0.878	0.783	-
0.8	0.753	0.759	0.778	0.890	0.773	-
1	0.773	0.766	0.784	0.880	0.791	-
1.5	0.799	0.807	0.793	0.903	0.796	-
2	0.837	0.822	0.853	0.918	0.852	-
3	0.855	0.853	0.864	0.938	0.910	-
4	0.873	0.886	0.884	0.937	0.887	-
5	0.876	0.876	0.895	0.958	0.885	-
6	0.869	0.886	0.904	0.952	0.916	-
8	0.909	0.891	0.915	0.937	0.924	-
10	0.919	0.874	0.880	0.937	0.925	-

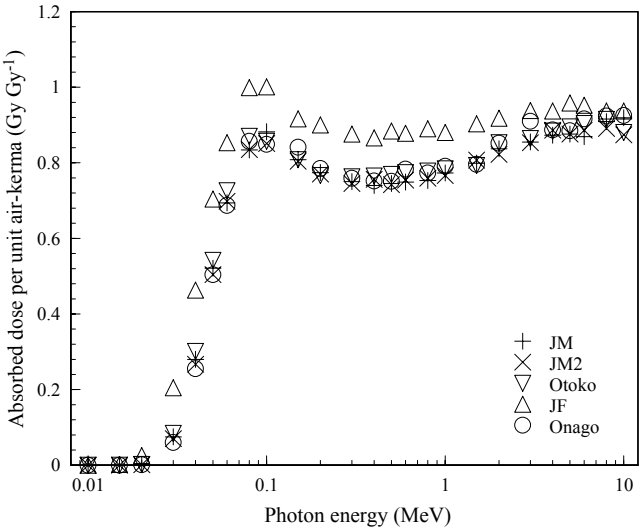

Figure 4-116 Pancreas absorbed dose per unit air-kerma in ROT geometry.

Table 4-117 Spleen absorbed dose per unit air-kerma in ROT geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.000	0.000	0.000	0.000	0.000	-
0.015	0.000	0.000	0.000	0.002	0.000	-
0.02	0.013	0.010	0.011	0.033	0.008	-
0.03	0.155	0.139	0.147	0.241	0.129	-
0.04	0.402	0.381	0.398	0.522	0.375	-
0.05	0.640	0.619	0.646	0.754	0.622	-
0.06	0.813	0.788	0.811	0.898	0.790	-
0.08	0.915	0.937	0.895	0.963	0.933	-
0.1	0.930	0.909	0.913	0.996	0.913	-
0.15	0.878	0.852	0.856	0.891	0.871	-
0.2	0.823	0.812	0.814	0.853	0.817	-
0.3	0.795	0.776	0.796	0.848	0.800	-
0.4	0.790	0.783	0.806	0.847	0.811	-
0.5	0.791	0.778	0.760	0.855	0.783	-
0.6	0.793	0.794	0.772	0.862	0.805	-
0.8	0.792	0.781	0.803	0.866	0.803	-
1	0.818	0.814	0.805	0.877	0.799	-
1.5	0.823	0.834	0.840	0.888	0.853	-
2	0.857	0.873	0.851	0.893	0.868	-
3	0.853	0.877	0.875	0.970	0.927	-
4	0.902	0.890	0.899	0.954	0.896	-
5	0.906	0.894	0.935	0.953	0.907	-
6	0.916	0.885	0.896	0.917	0.925	-
8	0.919	0.903	0.907	0.912	0.893	-
10	0.905	0.928	0.888	0.900	0.922	-

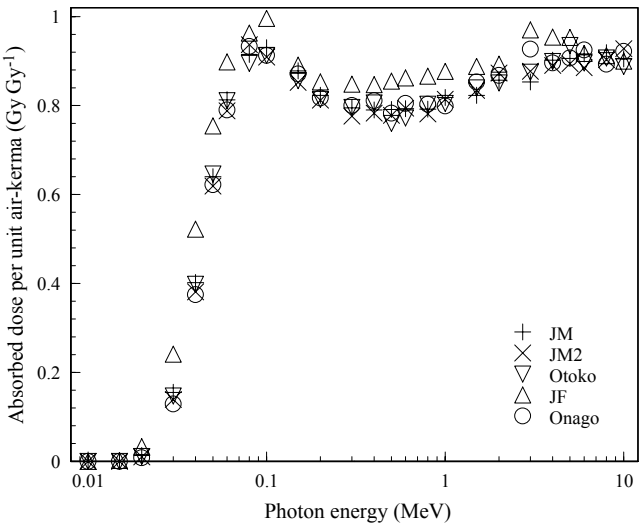

Figure 4-117 Spleen absorbed dose per unit air-kerma in ROT geometry.

Table 4-118 Thymus absorbed dose per unit air-kerma in ROT geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.000	0.000	0.000	0.000	0.000	0.000
0.015	0.000	0.000	0.000	0.001	0.000	0.00299
0.02	0.007	0.008	0.003	0.018	0.007	0.0422
0.03	0.122	0.127	0.104	0.182	0.133	0.224
0.04	0.356	0.372	0.342	0.439	0.343	0.482
0.05	0.589	0.594	0.562	0.678	0.619	0.710
0.06	0.741	0.755	0.731	0.839	0.719	0.853
0.08	0.876	0.882	0.882	0.993	0.867	0.964
0.1	0.900	0.899	0.878	0.937	0.850	0.974
0.15	0.863	0.848	0.855	0.910	0.829	0.901
0.2	0.810	0.812	0.789	0.890	0.969	0.863
0.3	0.794	0.844	0.868	0.858	0.895	0.846
0.4	0.779	0.798	0.703	0.897	0.770	0.840
0.5	0.802	0.808	0.790	0.847	0.929	0.836
0.6	0.823	0.807	0.848	0.861	0.888	0.834
0.8	0.829	0.820	0.932	0.893	0.893	0.831
1	0.813	0.849	0.807	0.861	0.850	0.832
1.5	0.857	0.852	0.807	0.898	0.818	-
2	0.835	0.890	0.860	0.924	0.816	0.850
3	0.883	0.858	0.814	0.907	0.985	-
4	0.919	0.899	1.022	0.988	0.954	0.883
5	0.933	0.892	0.951	0.945	0.899	-
6	0.922	0.921	0.888	0.895	1.008	0.905
8	0.943	0.917	0.979	0.938	1.020	0.920
10	0.908	0.910	0.840	0.919	0.854	0.932

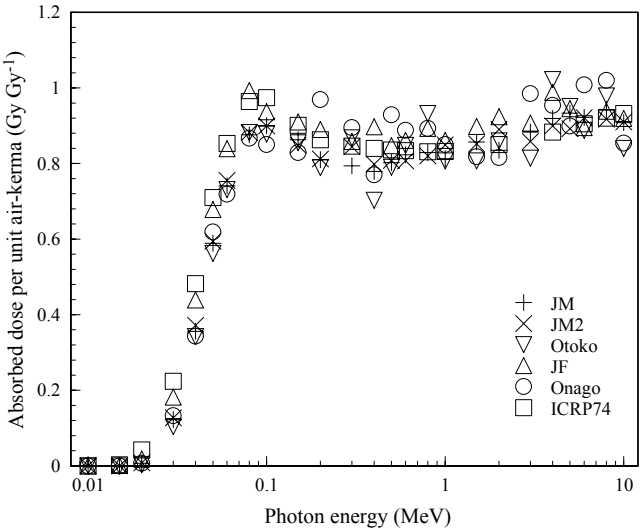

Figure 4-118 Thymus absorbed dose per unit air-kerma in ROT geometry.

Table 4-119 Uterus absorbed dose per unit air-kerma in ROT geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	-	-	-	0.000	0.000	0.000
0.015	-	-	-	0.000	0.000	0.000
0.02	-	-	-	0.002	0.001	0.000
0.03	-	-	-	0.078	0.064	0.0759
0.04	-	-	-	0.284	0.241	0.283
0.05	-	-	-	0.517	0.459	0.524
0.06	-	-	-	0.692	0.634	0.708
0.08	-	-	-	0.827	0.797	0.862
0.1	-	-	-	0.849	0.828	0.874
0.15	-	-	-	0.811	0.784	0.811
0.2	-	-	-	0.778	0.750	0.772
0.3	-	-	-	0.764	0.750	0.743
0.4	-	-	-	0.743	0.761	0.739
0.5	-	-	-	0.761	0.736	0.742
0.6	-	-	-	0.799	0.759	0.747
0.8	-	-	-	0.786	0.773	0.759
1	-	-	-	0.819	0.767	0.769
1.5	-	-	-	0.834	0.818	-
2	-	-	-	0.865	0.835	0.798
3	-	-	-	0.897	0.874	-
4	-	-	-	0.863	0.877	0.826
5	-	-	-	0.911	0.889	-
6	-	-	-	0.928	0.889	0.844
8	-	-	-	0.933	0.873	0.855
10	-	-	-	0.913	0.889	0.864

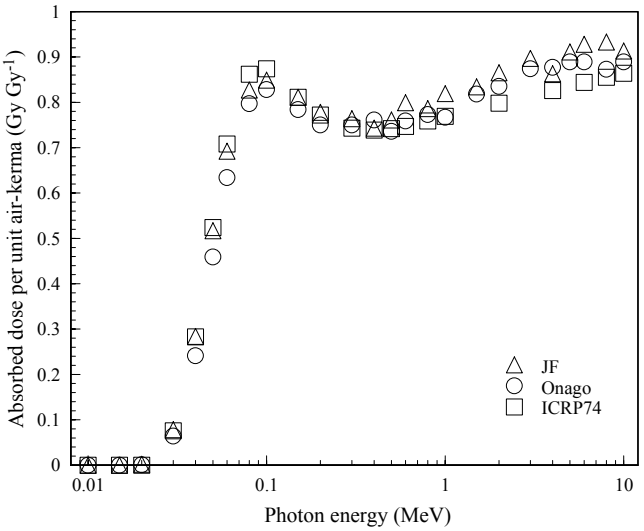

Figure 4-119 Uterus absorbed dose per unit air-kerma in ROT geometry.

Table 4-120 Effective dose per unit air-kerma in ROT geometry (Sv Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.003	0.003	0.003	0.003	0.003	0.00326
0.015	0.018	0.014	0.014	0.013	0.011	0.0153
0.02	0.059	0.051	0.048	0.045	0.034	0.0462
0.03	0.209	0.199	0.192	0.193	0.162	0.191
0.04	0.420	0.409	0.403	0.419	0.373	0.426
0.05	0.623	0.612	0.614	0.639	0.599	0.661
0.06	0.762	0.747	0.755	0.791	0.759	0.828
0.08	0.870	0.863	0.875	0.916	0.904	0.961
0.1	0.880	0.882	0.869	0.923	0.914	0.960
0.15	0.831	0.822	0.819	0.895	0.864	0.892
0.2	0.801	0.795	0.796	0.867	0.839	0.854
0.3	0.786	0.773	0.772	0.850	0.821	0.824
0.4	0.775	0.772	0.774	0.846	0.826	0.814
0.5	0.781	0.773	0.764	0.826	0.819	0.812
0.6	0.784	0.774	0.783	0.841	0.822	0.814
0.8	0.801	0.788	0.785	0.868	0.830	0.821
1	0.799	0.796	0.800	0.852	0.852	0.831
1.5	0.822	0.826	0.817	0.863	0.862	-
2	0.845	0.835	0.835	0.897	0.873	0.871
3	0.850	0.856	0.855	0.926	0.902	-
4	0.852	0.865	0.856	0.931	0.905	0.909
5	0.864	0.882	0.876	0.929	0.930	-
6	0.851	0.854	0.860	0.925	0.898	0.925
8	0.835	0.850	0.846	0.901	0.918	0.934
10	0.820	0.827	0.832	0.892	0.888	0.941

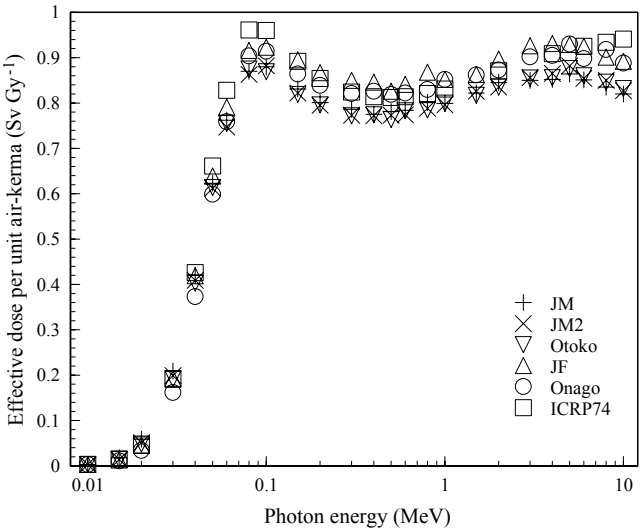

Figure 4-120 Effective dose per unit air-kerma in ROT geometry.

Table 4-121 Testes absorbed dose per unit air-kerma in ISO geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.005	0.002	0.003	-	-	0.00559
0.015	0.060	0.044	0.034	-	-	0.0446
0.02	0.165	0.139	0.110	-	-	0.138
0.03	0.377	0.351	0.305	-	-	0.337
0.04	0.556	0.534	0.487	-	-	0.516
0.05	0.703	0.672	0.641	-	-	0.661
0.06	0.796	0.774	0.729	-	-	0.754
0.08	0.821	0.798	0.806	-	-	0.815
0.1	0.862	0.808	0.771	-	-	0.792
0.15	0.776	0.769	0.727	-	-	0.744
0.2	0.758	0.722	0.752	-	-	0.720
0.3	0.737	0.714	0.700	-	-	0.710
0.4	0.750	0.720	0.714	-	-	0.712
0.5	0.754	0.737	0.718	-	-	0.717
0.6	0.769	0.742	0.761	-	-	0.725
0.8	0.769	0.766	0.768	-	-	0.742
1	0.772	0.766	0.735	-	-	0.757
1.5	0.829	0.824	0.771	-	-	-
2	0.805	0.809	0.792	-	-	0.799
3	0.848	0.825	0.807	-	-	-
4	0.826	0.808	0.785	-	-	0.843
5	0.787	0.813	0.834	-	-	-
6	0.775	0.803	0.841	-	-	0.868
8	0.713	0.714	0.769	-	-	0.883
10	0.674	0.744	0.730	-	-	0.893

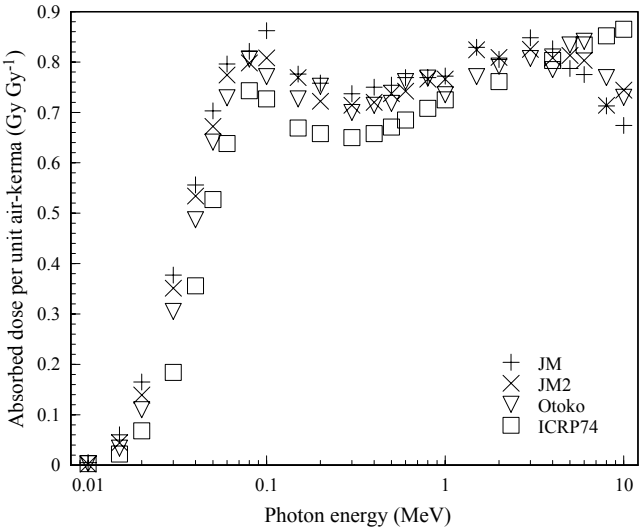

Figure 4-121 Testes absorbed dose per unit air-kerma in ISO geometry.

Table 4-122 Bone (marrow) absorbed dose per unit air-kerma in ISO geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.000	0.000	0.000	0.000	0.000	0.00014
0.015	0.002	0.002	0.002	0.001	0.002	0.00311
0.02	0.009	0.008	0.011	0.008	0.011	0.0136
0.03	0.062	0.061	0.066	0.062	0.066	0.0733
0.04	0.181	0.179	0.180	0.179	0.182	0.211
0.05	0.332	0.329	0.323	0.330	0.327	0.385
0.06	0.470	0.468	0.456	0.471	0.461	0.539
0.08	0.638	0.633	0.619	0.649	0.627	0.698
0.1	0.702	0.696	0.687	0.718	0.693	0.729
0.15	0.727	0.723	0.715	0.748	0.724	0.706
0.2	0.728	0.722	0.717	0.747	0.730	0.689
0.3	0.733	0.728	0.722	0.745	0.734	0.669
0.4	0.745	0.742	0.733	0.740	0.744	0.665
0.5	0.758	0.752	0.746	0.740	0.755	0.668
0.6	0.774	0.767	0.758	0.744	0.765	0.674
0.8	0.795	0.789	0.779	0.769	0.787	0.690
1	0.810	0.805	0.796	0.777	0.803	0.705
1.5	0.847	0.841	0.826	0.813	0.834	-
2	0.868	0.863	0.854	0.837	0.860	0.762
3	0.898	0.893	0.888	0.872	0.889	-
4	0.913	0.916	0.908	0.892	0.906	0.821
5	0.932	0.927	0.920	0.902	0.918	-
6	0.931	0.931	0.917	0.903	0.921	0.852
8	0.924	0.921	0.911	0.892	0.911	0.873
10	0.905	0.912	0.901	0.884	0.900	0.889

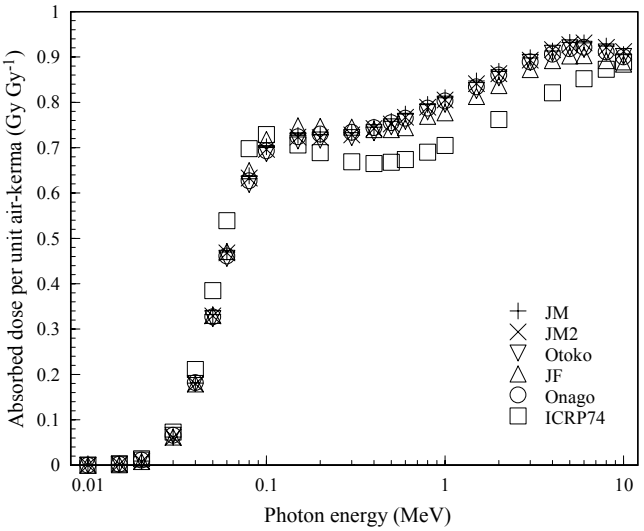

Figure 4-122 Bone (marrow) absorbed dose per unit air-kerma in ISO geometry.

Table 4-123 Lower large intestine absorbed dose per unit air-kerma in ISO geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.000	0.000	0.000	0.000	0.000	0.000
0.015	0.000	0.000	0.001	0.002	0.000	0.00009
0.02	0.008	0.004	0.014	0.015	0.011	0.00008
0.03	0.086	0.070	0.117	0.110	0.121	0.0619
0.04	0.243	0.220	0.282	0.277	0.298	0.224
0.05	0.414	0.386	0.453	0.450	0.476	0.411
0.06	0.541	0.520	0.561	0.576	0.609	0.553
0.08	0.651	0.629	0.682	0.692	0.700	0.673
0.1	0.676	0.665	0.684	0.706	0.719	0.677
0.15	0.639	0.626	0.659	0.677	0.684	0.640
0.2	0.631	0.609	0.638	0.654	0.653	0.614
0.3	0.604	0.602	0.627	0.657	0.659	0.603
0.4	0.627	0.611	0.637	0.658	0.643	0.606
0.5	0.632	0.615	0.644	0.675	0.655	0.614
0.6	0.645	0.634	0.655	0.689	0.666	0.623
0.8	0.671	0.642	0.667	0.696	0.700	0.643
1	0.676	0.680	0.695	0.718	0.714	0.662
1.5	0.709	0.695	0.727	0.739	0.714	-
2	0.759	0.743	0.777	0.770	0.788	0.729
3	0.785	0.759	0.798	0.825	0.800	-
4	0.821	0.800	0.797	0.836	0.834	0.788
5	0.839	0.823	0.824	0.851	0.857	-
6	0.839	0.823	0.832	0.858	0.858	0.811
8	0.845	0.821	0.851	0.850	0.846	0.825
10	0.829	0.833	0.849	0.851	0.858	0.834

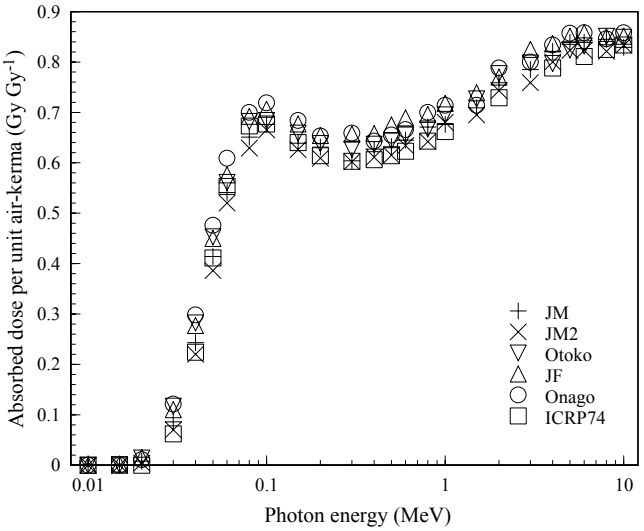

Figure 4-123 Lower large intestine absorbed dose per unit air-kerma in ISO geometry.

Table 4-124 Lung absorbed dose per unit air-kerma in ISO geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.000	0.000	0.000	0.000	0.000	0.000
0.015	0.000	0.000	0.001	0.002	0.000	0.00058
0.02	0.010	0.010	0.013	0.019	0.009	0.010
0.03	0.124	0.125	0.140	0.164	0.119	0.141
0.04	0.333	0.337	0.355	0.396	0.327	0.375
0.05	0.536	0.537	0.556	0.604	0.529	0.592
0.06	0.672	0.678	0.690	0.738	0.671	0.727
0.08	0.775	0.780	0.787	0.832	0.778	0.817
0.1	0.778	0.783	0.791	0.829	0.787	0.806
0.15	0.740	0.742	0.744	0.791	0.755	0.749
0.2	0.723	0.727	0.730	0.777	0.740	0.725
0.3	0.713	0.716	0.718	0.768	0.729	0.712
0.4	0.719	0.722	0.725	0.775	0.740	0.714
0.5	0.727	0.730	0.730	0.778	0.743	0.720
0.6	0.732	0.736	0.740	0.794	0.751	0.728
0.8	0.755	0.760	0.758	0.806	0.771	0.744
1	0.772	0.774	0.776	0.818	0.783	0.760
1.5	0.807	0.805	0.812	0.844	0.820	-
2	0.824	0.837	0.831	0.870	0.849	0.815
3	0.864	0.866	0.864	0.897	0.877	-
4	0.878	0.883	0.881	0.916	0.900	0.861
5	0.905	0.906	0.904	0.933	0.915	-
6	0.910	0.914	0.903	0.937	0.919	0.878
8	0.912	0.911	0.912	0.938	0.917	0.886
10	0.910	0.909	0.907	0.931	0.923	0.893

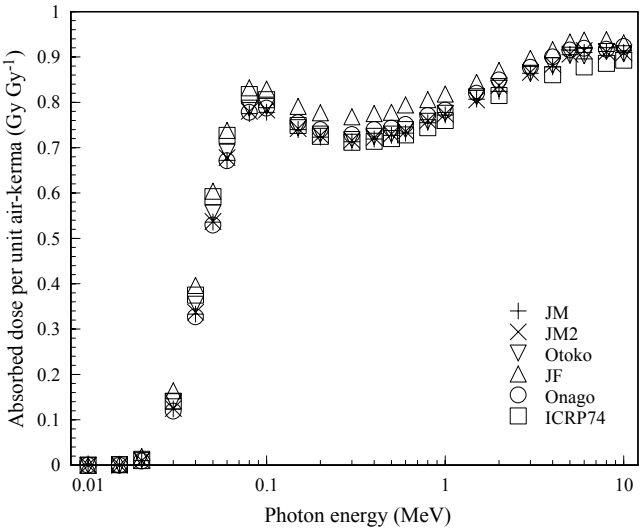

Figure 4-124 Lung absorbed dose per unit air-kerma in ISO geometry.

Table 4-125 Stomach absorbed dose per unit air-kerma in ISO geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.000	0.000	0.000	0.000	0.000	0.000
0.015	0.001	0.001	0.000	0.008	0.000	0.00107
0.02	0.012	0.012	0.002	0.047	0.006	0.0132
0.03	0.116	0.116	0.069	0.207	0.097	0.122
0.04	0.303	0.303	0.241	0.409	0.281	0.314
0.05	0.480	0.486	0.435	0.583	0.474	0.505
0.06	0.625	0.638	0.582	0.699	0.609	0.641
0.08	0.729	0.705	0.692	0.784	0.707	0.738
0.1	0.717	0.725	0.703	0.777	0.722	0.739
0.15	0.685	0.672	0.647	0.741	0.683	0.688
0.2	0.652	0.644	0.640	0.720	0.672	0.667
0.3	0.640	0.647	0.621	0.708	0.658	0.644
0.4	0.640	0.644	0.630	0.705	0.654	0.647
0.5	0.636	0.653	0.627	0.712	0.664	0.656
0.6	0.653	0.650	0.644	0.721	0.657	0.665
0.8	0.682	0.687	0.681	0.733	0.684	0.681
1	0.689	0.689	0.687	0.754	0.723	0.697
1.5	0.743	0.720	0.730	0.790	0.736	-
2	0.765	0.774	0.758	0.815	0.792	0.768
3	0.801	0.788	0.812	0.859	0.817	-
4	0.821	0.828	0.818	0.867	0.821	0.824
5	0.843	0.834	0.832	0.877	0.837	-
6	0.829	0.844	0.825	0.865	0.858	0.837
8	0.833	0.847	0.831	0.856	0.857	0.843
10	0.839	0.840	0.823	0.830	0.850	0.848

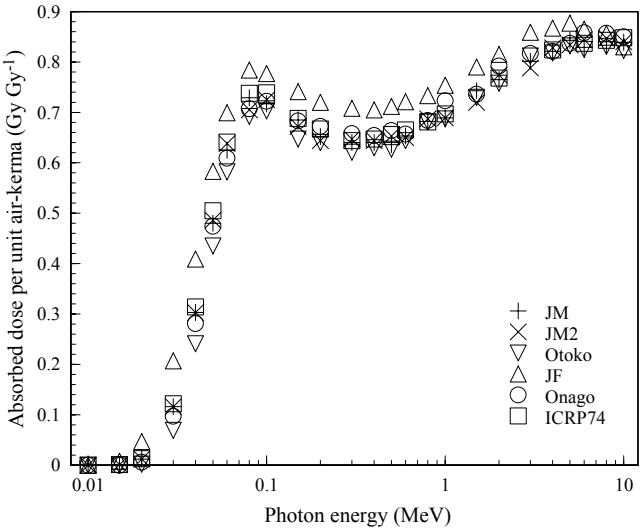

Figure 4-125 Stomach absorbed dose per unit air-kerma in ISO geometry.

Table 4-126 Bladder absorbed dose per unit air-kerma in ISO geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.000	0.000	0.000	0.000	0.000	0.000
0.015	0.000	0.000	0.000	0.000	0.000	0.00081
0.02	0.005	0.004	0.001	0.002	0.006	0.0114
0.03	0.069	0.059	0.036	0.052	0.076	0.111
0.04	0.196	0.184	0.150	0.199	0.229	0.286
0.05	0.361	0.340	0.303	0.372	0.388	0.465
0.06	0.494	0.465	0.432	0.534	0.520	0.599
0.08	0.619	0.584	0.550	0.630	0.650	0.698
0.1	0.609	0.645	0.613	0.658	0.652	0.704
0.15	0.608	0.613	0.597	0.643	0.652	0.661
0.2	0.594	0.589	0.572	0.614	0.608	0.629
0.3	0.595	0.576	0.568	0.637	0.608	0.606
0.4	0.612	0.608	0.593	0.638	0.654	0.609
0.5	0.605	0.618	0.591	0.673	0.644	0.619
0.6	0.633	0.621	0.602	0.658	0.663	0.632
0.8	0.629	0.651	0.646	0.692	0.662	0.657
1	0.679	0.668	0.645	0.695	0.688	0.680
1.5	0.706	0.708	0.675	0.729	0.713	-
2	0.733	0.731	0.731	0.770	0.769	0.750
3	0.780	0.791	0.779	0.836	0.788	-
4	0.821	0.784	0.770	0.831	0.815	0.801
5	0.833	0.811	0.838	0.850	0.855	-
6	0.814	0.822	0.813	0.841	0.836	0.819
8	0.839	0.833	0.843	0.840	0.833	0.830
10	0.818	0.830	0.806	0.882	0.843	0.839

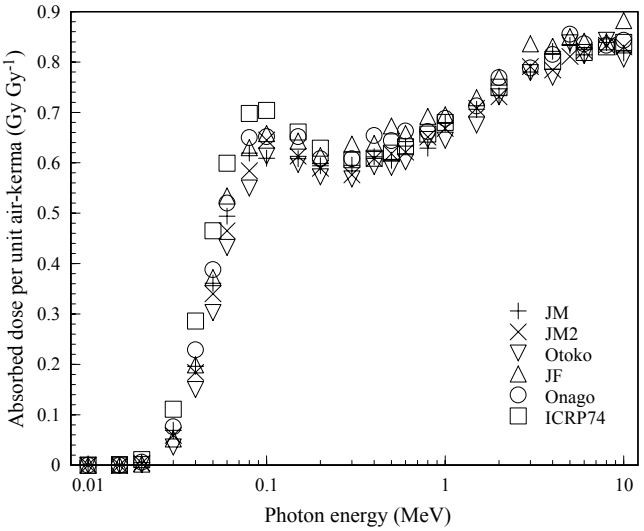

Figure 4-126 Bladder absorbed dose per unit air-kerma in ISO geometry.

Table 4-127 Breast absorbed dose per unit air-kerma in ISO geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	-	-	-	0.003	0.011	0.00763
0.015	-	-	-	0.043	0.069	0.0664
0.02	-	-	-	0.139	0.168	0.183
0.03	-	-	-	0.371	0.376	0.423
0.04	-	-	-	0.573	0.554	0.615
0.05	-	-	-	0.725	0.696	0.752
0.06	-	-	-	0.816	0.788	0.836
0.08	-	-	-	0.878	0.845	0.883
0.1	-	-	-	0.870	0.852	0.874
0.15	-	-	-	0.836	0.816	0.829
0.2	-	-	-	0.815	0.795	0.813
0.3	-	-	-	0.802	0.787	0.795
0.4	-	-	-	0.811	0.787	0.794
0.5	-	-	-	0.820	0.791	0.798
0.6	-	-	-	0.820	0.801	0.804
0.8	-	-	-	0.837	0.818	0.815
1	-	-	-	0.849	0.823	0.826
1.5	-	-	-	0.870	0.837	-
2	-	-	-	0.878	0.850	0.865
3	-	-	-	0.905	0.857	-
4	-	-	-	0.895	0.844	0.897
5	-	-	-	0.883	0.829	-
6	-	-	-	0.861	0.807	0.906
8	-	-	-	0.803	0.761	0.909
10	-	-	-	0.780	0.723	0.911

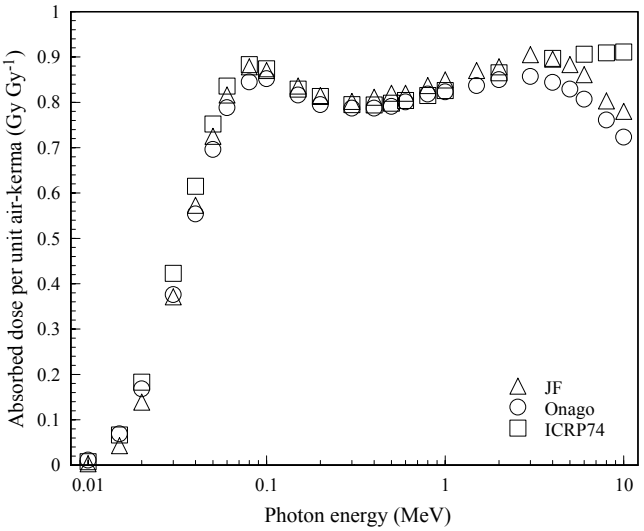

Figure 4-127 Breast absorbed dose per unit air-kerma in ISO geometry.

Table 4-128 Ovaries absorbed dose per unit air-kerma in ISO geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	-	-	-	0.000	0.000	0.000
0.015	-	-	-	0.000	0.000	0.000
0.02	-	-	-	0.001	0.001	0.000
0.03	-	-	-	0.047	0.041	0.0351
0.04	-	-	-	0.187	0.163	0.191
0.05	-	-	-	0.343	0.316	0.383
0.06	-	-	-	0.492	0.434	0.520
0.08	-	-	-	0.661	0.552	0.653
0.1	-	-	-	0.607	0.559	0.666
0.15	-	-	-	0.617	0.617	0.609
0.2	-	-	-	0.576	0.610	0.588
0.3	-	-	-	0.612	0.604	0.586
0.4	-	-	-	0.620	0.610	0.599
0.5	-	-	-	0.651	0.643	0.614
0.6	-	-	-	0.651	0.678	0.627
0.8	-	-	-	0.685	0.678	0.650
1	-	-	-	0.669	0.671	0.668
1.5	-	-	-	0.738	0.690	-
2	-	-	-	0.758	0.720	0.719
3	-	-	-	0.827	0.759	-
4	-	-	-	0.793	0.794	0.769
5	-	-	-	0.918	0.789	-
6	-	-	-	0.891	0.831	0.799
8	-	-	-	0.890	0.850	0.820
10	-	-	-	0.808	0.886	0.836

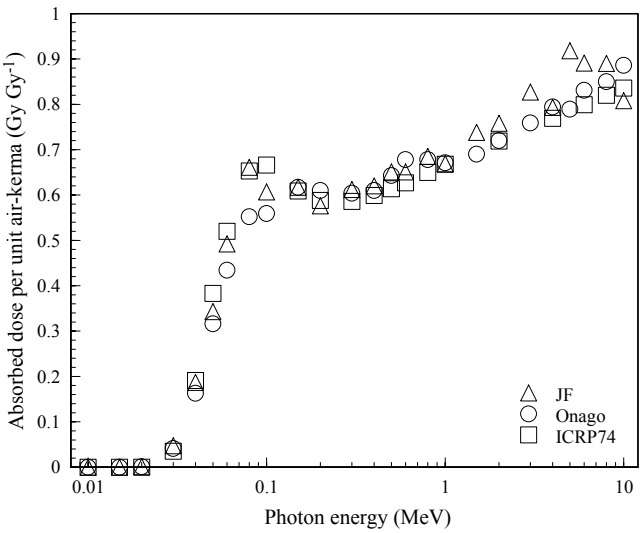

Figure 4-128 Ovaries absorbed dose per unit air-kerma in ISO geometry.

Table 4-129 Liver absorbed dose per unit air-kerma in ISO geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.000	0.000	0.000	0.000	0.000	0.000
0.015	0.000	0.000	0.001	0.002	0.000	0.00046
0.02	0.006	0.007	0.011	0.019	0.007	0.00762
0.03	0.088	0.091	0.115	0.147	0.093	0.109
0.04	0.261	0.266	0.306	0.353	0.272	0.305
0.05	0.447	0.450	0.495	0.547	0.462	0.502
0.06	0.588	0.592	0.634	0.678	0.601	0.641
0.08	0.699	0.697	0.730	0.777	0.712	0.744
0.1	0.706	0.701	0.729	0.772	0.718	0.742
0.15	0.663	0.663	0.685	0.730	0.680	0.690
0.2	0.637	0.638	0.661	0.707	0.662	0.667
0.3	0.629	0.634	0.652	0.702	0.648	0.654
0.4	0.637	0.635	0.654	0.703	0.656	0.656
0.5	0.647	0.643	0.664	0.708	0.664	0.663
0.6	0.655	0.653	0.671	0.723	0.671	0.672
0.8	0.677	0.672	0.689	0.733	0.693	0.690
1	0.696	0.690	0.707	0.756	0.708	0.708
1.5	0.730	0.726	0.743	0.787	0.745	-
2	0.757	0.758	0.766	0.808	0.776	0.772
3	0.792	0.793	0.814	0.845	0.811	-
4	0.821	0.818	0.830	0.874	0.831	0.820
5	0.841	0.832	0.847	0.874	0.846	-
6	0.845	0.832	0.843	0.883	0.857	0.832
8	0.847	0.847	0.855	0.867	0.857	0.836
10	0.846	0.849	0.841	0.862	0.856	0.837

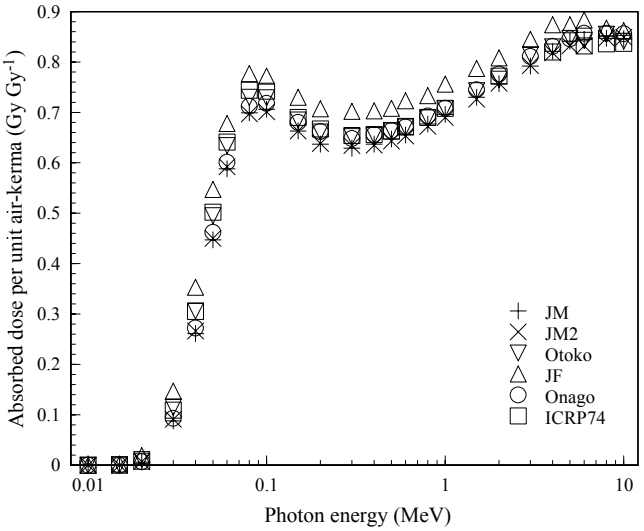

Figure 4-129 Liver absorbed dose per unit air-kerma in ISO geometry.

Table 4-130 Esophagus absorbed dose per unit air-kerma in ISO geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.000	0.000	0.000	0.000	0.000	0.000
0.015	0.000	0.000	0.000	0.000	0.000	0.000
0.02	0.003	0.003	0.002	0.007	0.003	0.000
0.03	0.045	0.050	0.053	0.083	0.051	0.0314
0.04	0.181	0.187	0.198	0.256	0.204	0.165
0.05	0.353	0.368	0.382	0.452	0.391	0.341
0.06	0.491	0.511	0.553	0.591	0.565	0.487
0.08	0.662	0.611	0.641	0.705	0.670	0.638
0.1	0.680	0.683	0.693	0.755	0.681	0.665
0.15	0.653	0.650	0.656	0.713	0.654	0.643
0.2	0.636	0.642	0.650	0.729	0.660	0.611
0.3	0.647	0.640	0.628	0.703	0.640	0.607
0.4	0.642	0.653	0.638	0.717	0.681	0.624
0.5	0.655	0.682	0.679	0.721	0.643	0.642
0.6	0.666	0.656	0.672	0.733	0.693	0.656
0.8	0.705	0.695	0.703	0.757	0.710	0.680
1	0.715	0.733	0.713	0.762	0.710	0.698
1.5	0.768	0.733	0.753	0.807	0.789	-
2	0.774	0.801	0.774	0.820	0.766	0.754
3	0.823	0.796	0.852	0.856	0.812	-
4	0.820	0.846	0.829	0.888	0.902	0.804
5	0.830	0.860	0.860	0.891	0.834	-
6	0.838	0.837	0.893	0.868	0.849	0.830
8	0.833	0.863	0.858	0.866	0.911	0.847
10	0.874	0.844	0.846	0.866	0.897	0.861

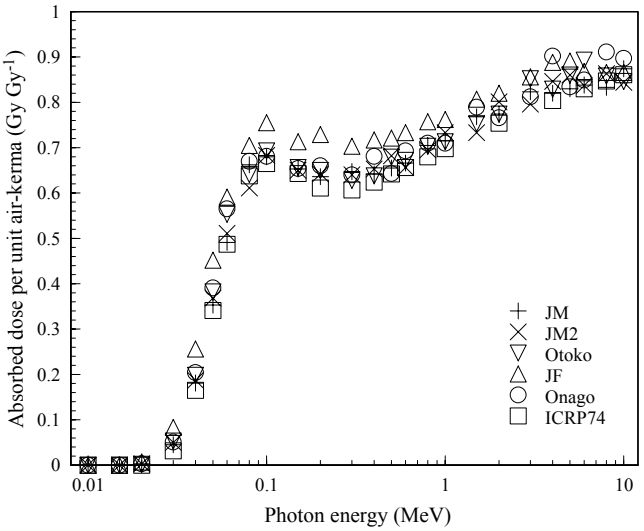

Figure 4-130 Esophagus absorbed dose per unit air-kerma in ISO geometry.

Table 4-131 Thyroid absorbed dose per unit air-kerma in ISO geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.000	0.000	0.000	0.000	0.000	0.00012
0.015	0.006	0.005	0.005	0.022	0.011	0.00969
0.02	0.046	0.042	0.042	0.093	0.070	0.051
0.03	0.198	0.188	0.186	0.278	0.251	0.206
0.04	0.370	0.363	0.366	0.463	0.414	0.409
0.05	0.534	0.519	0.520	0.607	0.601	0.592
0.06	0.644	0.670	0.652	0.703	0.668	0.715
0.08	0.706	0.740	0.702	0.777	0.813	0.818
0.1	0.782	0.731	0.697	0.829	0.799	0.817
0.15	0.743	0.690	0.734	0.820	0.760	0.773
0.2	0.717	0.719	0.694	0.804	0.738	0.752
0.3	0.720	0.736	0.707	0.719	0.780	0.739
0.4	0.702	0.707	0.684	0.786	0.720	0.741
0.5	0.704	0.721	0.722	0.787	0.780	0.748
0.6	0.729	0.723	0.713	0.814	0.778	0.754
0.8	0.706	0.724	0.718	0.770	0.744	0.766
1	0.764	0.730	0.765	0.790	0.866	0.777
1.5	0.780	0.841	0.824	0.893	0.796	-
2	0.809	0.810	0.820	0.861	0.775	0.819
3	0.849	0.850	0.860	0.881	0.918	-
4	0.853	0.844	0.839	0.896	0.905	0.870
5	0.839	0.891	0.872	0.913	0.852	-
6	0.896	0.896	0.910	0.853	0.896	0.901
8	0.890	0.924	0.922	0.908	0.858	0.920
10	0.867	0.870	0.833	0.822	0.888	0.935

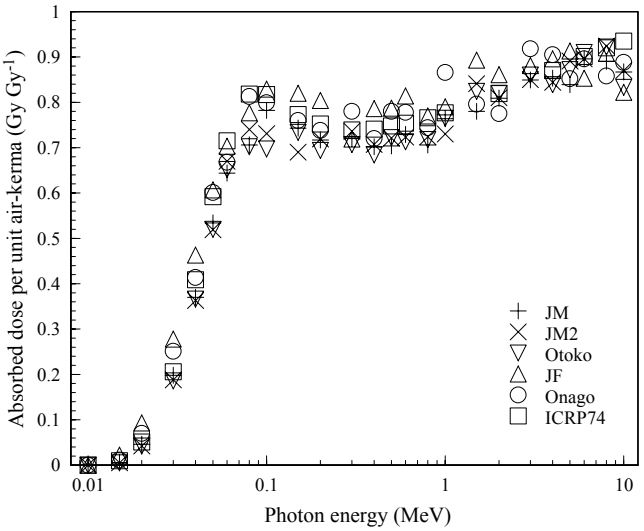

Figure 4-131 Thyroid absorbed dose per unit air-kerma in ISO geometry.

Table 4-132 Skin absorbed dose per unit air-kerma in ISO geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.178	0.168	0.171	0.178	0.167	0.172
0.015	0.302	0.296	0.295	0.306	0.291	0.303
0.02	0.382	0.381	0.378	0.388	0.374	0.407
0.03	0.510	0.514	0.511	0.522	0.507	0.544
0.04	0.631	0.636	0.636	0.646	0.631	0.658
0.05	0.738	0.738	0.740	0.750	0.739	0.758
0.06	0.813	0.810	0.813	0.823	0.811	0.828
0.08	0.878	0.875	0.873	0.888	0.877	0.886
0.1	0.888	0.891	0.888	0.904	0.890	0.885
0.15	0.873	0.876	0.872	0.893	0.879	0.865
0.2	0.862	0.862	0.861	0.881	0.867	0.850
0.3	0.837	0.857	0.853	0.878	0.858	0.835
0.4	0.823	0.847	0.843	0.869	0.852	0.832
0.5	0.804	0.831	0.833	0.855	0.841	0.833
0.6	0.785	0.815	0.815	0.835	0.828	0.837
0.8	0.743	0.781	0.775	0.796	0.789	0.847
1	0.701	0.742	0.739	0.755	0.751	0.857
1.5	0.636	0.668	0.666	0.678	0.679	-
2	0.597	0.630	0.627	0.632	0.632	0.891
3	0.557	0.582	0.579	0.583	0.590	-
4	0.533	0.550	0.552	0.555	0.564	0.914
5	0.517	0.533	0.531	0.536	0.544	-
6	0.504	0.516	0.517	0.520	0.530	0.919
8	0.483	0.493	0.495	0.494	0.503	0.919
10	0.468	0.474	0.478	0.478	0.486	0.918

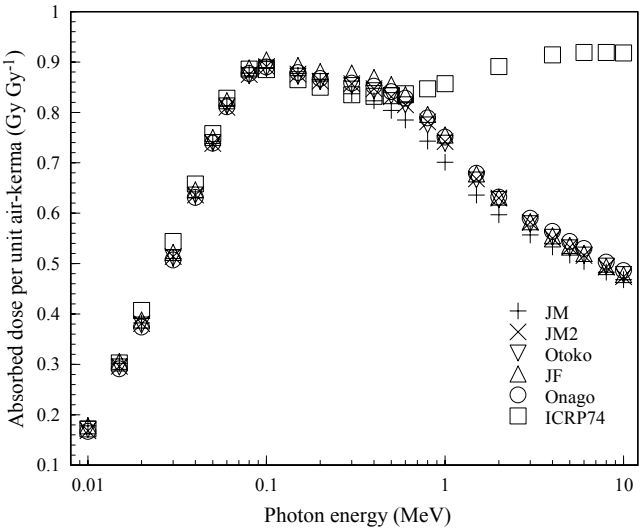

Figure 4-132 Skin absorbed dose per unit air-kerma in ISO geometry.

Table 4-133 Bone (hard bone) absorbed dose per unit air-kerma in ISO geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.001	0.001	0.001	0.001	0.002	0.00103
0.015	0.023	0.019	0.020	0.022	0.022	0.0197
0.02	0.117	0.109	0.107	0.116	0.110	0.0826
0.03	0.704	0.687	0.654	0.705	0.669	0.422
0.04	1.668	1.645	1.572	1.670	1.600	0.970
0.05	2.453	2.436	2.341	2.459	2.376	1.437
0.06	2.765	2.750	2.664	2.766	2.693	1.653
0.08	2.444	2.438	2.391	2.437	2.413	1.565
0.1	1.924	1.924	1.900	1.915	1.909	1.322
0.15	1.221	1.221	1.214	1.218	1.222	0.965
0.2	0.976	0.974	0.967	0.979	0.979	0.829
0.3	0.815	0.813	0.811	0.832	0.825	0.739
0.4	0.769	0.763	0.763	0.794	0.779	0.713
0.5	0.747	0.746	0.744	0.780	0.759	0.706
0.6	0.742	0.742	0.736	0.779	0.757	0.707
0.8	0.745	0.741	0.740	0.785	0.758	0.715
1	0.750	0.746	0.746	0.788	0.766	0.727
1.5	0.773	0.769	0.767	0.809	0.784	-
2	0.788	0.786	0.787	0.825	0.803	0.775
3	0.811	0.809	0.815	0.851	0.828	-
4	0.825	0.824	0.829	0.864	0.842	0.828
5	0.831	0.831	0.838	0.871	0.849	-
6	0.828	0.831	0.833	0.866	0.848	0.855
8	0.816	0.814	0.827	0.851	0.836	0.872
10	0.797	0.805	0.811	0.839	0.822	0.885

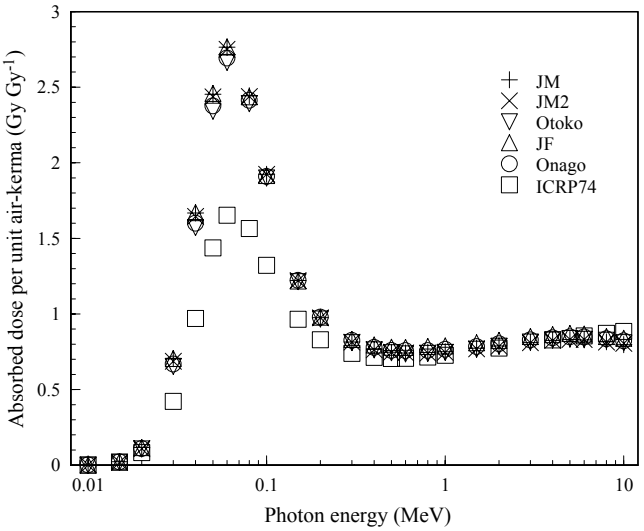

Figure 4-133 Bone (hard bone) absorbed dose per unit air-kerma in ISO geometry.

Table 4-134 Adrenal absorbed dose per unit air-kerma in ISO geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.000	0.000	0.000	0.000	0.000	-
0.015	0.000	0.000	0.000	0.000	0.000	-
0.02	0.000	0.000	0.002	0.001	0.003	-
0.03	0.030	0.024	0.068	0.052	0.066	-
0.04	0.149	0.132	0.233	0.194	0.217	-
0.05	0.319	0.278	0.410	0.383	0.388	-
0.06	0.503	0.446	0.573	0.532	0.521	-
0.08	0.561	0.550	0.648	0.596	0.655	-
0.1	0.633	0.613	0.686	0.620	0.680	-
0.15	0.624	0.616	0.635	0.671	0.665	-
0.2	0.581	0.571	0.610	0.624	0.628	-
0.3	0.566	0.586	0.606	0.616	0.619	-
0.4	0.604	0.564	0.617	0.575	0.611	-
0.5	0.638	0.592	0.617	0.676	0.626	-
0.6	0.630	0.633	0.658	0.690	0.633	-
0.8	0.612	0.585	0.634	0.712	0.658	-
1	0.655	0.598	0.684	0.704	0.684	-
1.5	0.659	0.710	0.713	0.783	0.725	-
2	0.698	0.774	0.766	0.716	0.757	-
3	0.777	0.759	0.822	0.799	0.841	-
4	0.800	0.771	0.813	0.791	0.838	-
5	0.837	0.794	0.838	0.823	0.812	-
6	0.842	0.784	0.809	0.877	0.871	-
8	0.798	0.833	0.843	0.895	0.833	-
10	0.870	0.843	0.831	0.856	0.836	-

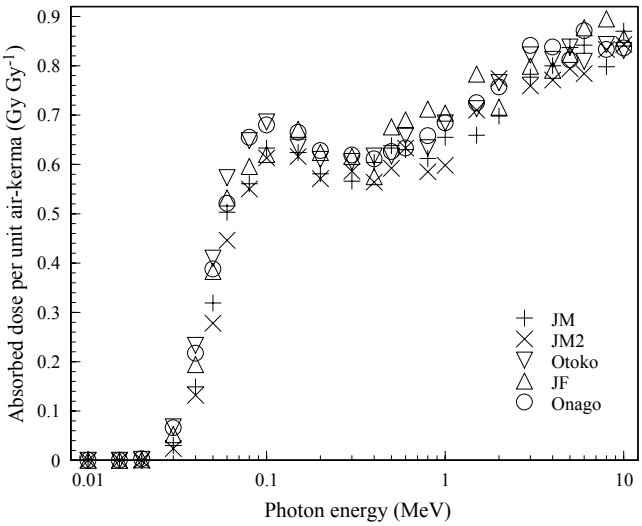

Figure 4-134 Adrenal absorbed dose per unit air-kerma in ISO geometry.

Table 4-135 Brain absorbed dose per unit air-kerma in ISO geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.000	0.000	0.000	0.000	0.000	-
0.015	0.000	0.000	0.000	0.000	0.000	-
0.02	0.000	0.000	0.001	0.000	0.000	-
0.03	0.048	0.046	0.046	0.050	0.023	-
0.04	0.227	0.223	0.220	0.238	0.157	-
0.05	0.445	0.439	0.437	0.461	0.359	-
0.06	0.610	0.599	0.603	0.626	0.528	-
0.08	0.757	0.758	0.749	0.774	0.706	-
0.1	0.787	0.786	0.786	0.805	0.749	-
0.15	0.779	0.767	0.769	0.796	0.763	-
0.2	0.763	0.761	0.768	0.788	0.757	-
0.3	0.762	0.758	0.762	0.786	0.755	-
0.4	0.762	0.760	0.766	0.789	0.760	-
0.5	0.772	0.770	0.772	0.794	0.779	-
0.6	0.782	0.774	0.782	0.809	0.782	-
0.8	0.801	0.795	0.801	0.823	0.799	-
1	0.809	0.810	0.813	0.835	0.813	-
1.5	0.845	0.837	0.842	0.861	0.835	-
2	0.867	0.861	0.864	0.885	0.864	-
3	0.889	0.888	0.895	0.905	0.887	-
4	0.899	0.906	0.910	0.923	0.909	-
5	0.915	0.911	0.921	0.936	0.923	-
6	0.922	0.916	0.922	0.943	0.924	-
8	0.921	0.913	0.913	0.930	0.922	-
10	0.912	0.909	0.911	0.924	0.918	-

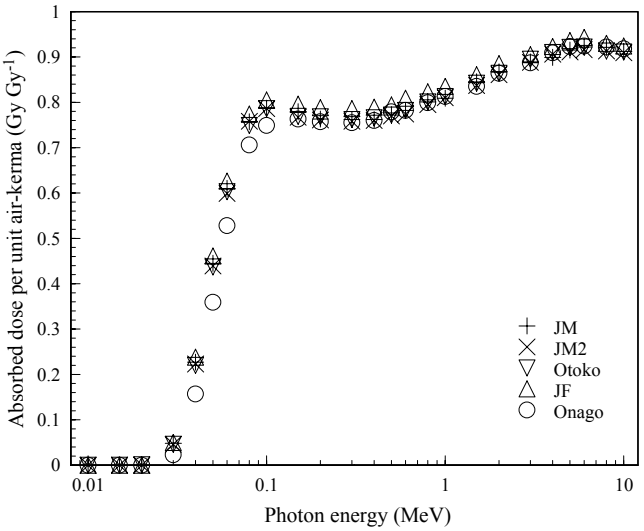

Figure 4-135 Brain absorbed dose per unit air-kerma in ISO geometry.

Table 4-136 Upper large intestine absorbed dose per unit air-kerma in ISO geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.000	0.000	0.000	0.000	0.000	-
0.015	0.001	0.001	0.002	0.010	0.001	-
0.02	0.015	0.014	0.029	0.056	0.015	-
0.03	0.129	0.123	0.183	0.227	0.140	-
0.04	0.312	0.301	0.378	0.423	0.334	-
0.05	0.493	0.478	0.555	0.583	0.516	-
0.06	0.610	0.618	0.666	0.689	0.644	-
0.08	0.717	0.697	0.748	0.773	0.724	-
0.1	0.710	0.699	0.738	0.776	0.728	-
0.15	0.681	0.657	0.701	0.742	0.703	-
0.2	0.651	0.646	0.675	0.722	0.673	-
0.3	0.649	0.633	0.679	0.709	0.658	-
0.4	0.639	0.633	0.664	0.701	0.668	-
0.5	0.651	0.636	0.666	0.722	0.669	-
0.6	0.663	0.653	0.690	0.724	0.688	-
0.8	0.681	0.660	0.694	0.758	0.679	-
1	0.700	0.694	0.710	0.758	0.724	-
1.5	0.743	0.724	0.753	0.777	0.753	-
2	0.747	0.752	0.788	0.810	0.784	-
3	0.796	0.791	0.814	0.852	0.824	-
4	0.820	0.825	0.833	0.854	0.821	-
5	0.841	0.826	0.858	0.870	0.852	-
6	0.849	0.842	0.857	0.853	0.847	-
8	0.854	0.837	0.840	0.843	0.862	-
10	0.854	0.840	0.841	0.829	0.850	-

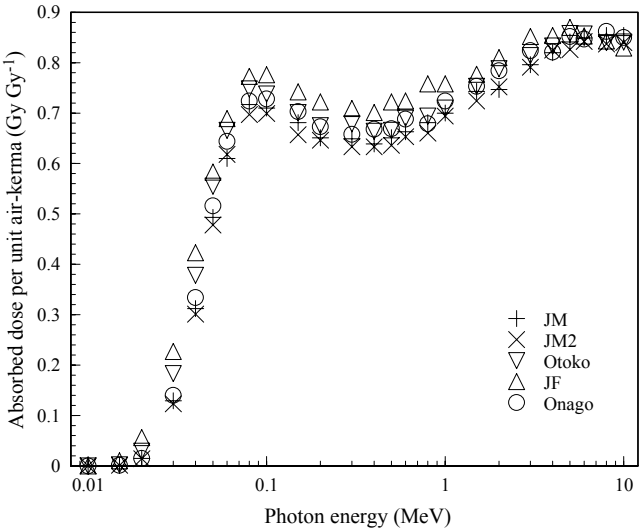

Figure 4-136 Upper large intestine absorbed dose per unit air-kerma in ISO geometry.

Table 4-137 Small intestine absorbed dose per unit air-kerma in ISO geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.000	0.000	0.000	0.000	0.000	-
0.015	0.000	0.000	0.000	0.002	0.000	-
0.02	0.009	0.007	0.010	0.017	0.005	-
0.03	0.093	0.088	0.108	0.127	0.086	-
0.04	0.256	0.245	0.277	0.300	0.253	-
0.05	0.428	0.414	0.441	0.470	0.428	-
0.06	0.557	0.547	0.566	0.591	0.557	-
0.08	0.664	0.658	0.666	0.696	0.665	-
0.1	0.672	0.661	0.679	0.704	0.682	-
0.15	0.632	0.633	0.646	0.678	0.648	-
0.2	0.621	0.616	0.626	0.663	0.627	-
0.3	0.606	0.602	0.613	0.656	0.615	-
0.4	0.617	0.605	0.627	0.664	0.622	-
0.5	0.618	0.615	0.632	0.661	0.633	-
0.6	0.634	0.626	0.635	0.673	0.643	-
0.8	0.664	0.642	0.658	0.703	0.669	-
1	0.672	0.666	0.674	0.715	0.687	-
1.5	0.721	0.709	0.723	0.755	0.723	-
2	0.744	0.747	0.753	0.789	0.758	-
3	0.789	0.772	0.785	0.817	0.798	-
4	0.807	0.811	0.807	0.846	0.822	-
5	0.823	0.826	0.827	0.851	0.833	-
6	0.833	0.833	0.827	0.862	0.834	-
8	0.836	0.825	0.827	0.860	0.840	-
10	0.830	0.832	0.842	0.855	0.836	-

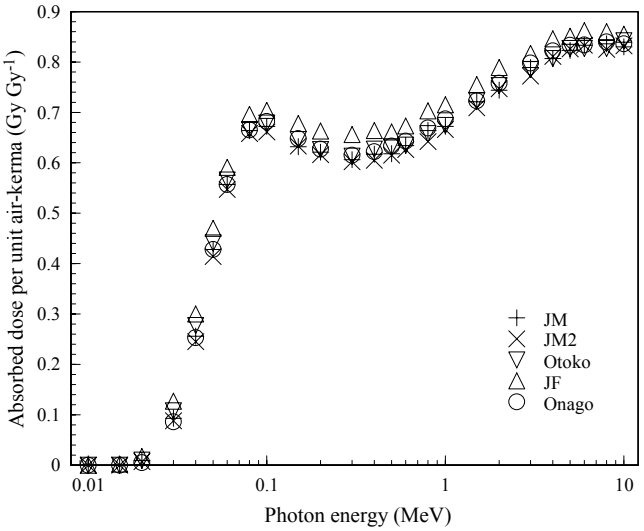

Figure 4-137 Small intestine absorbed dose per unit air-kerma in ISO geometry.

Table 4-138 Kidney absorbed dose per unit air-kerma in ISO geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.000	0.000	0.000	0.000	0.000	-
0.015	0.000	0.000	0.000	0.000	0.000	-
0.02	0.001	0.001	0.003	0.006	0.004	-
0.03	0.053	0.045	0.079	0.104	0.080	-
0.04	0.201	0.182	0.256	0.290	0.249	-
0.05	0.373	0.350	0.442	0.479	0.426	-
0.06	0.501	0.482	0.588	0.610	0.565	-
0.08	0.626	0.606	0.672	0.705	0.663	-
0.1	0.642	0.616	0.689	0.719	0.686	-
0.15	0.610	0.601	0.645	0.699	0.654	-
0.2	0.590	0.581	0.623	0.675	0.636	-
0.3	0.591	0.576	0.611	0.664	0.623	-
0.4	0.594	0.581	0.631	0.662	0.628	-
0.5	0.600	0.591	0.634	0.675	0.636	-
0.6	0.623	0.606	0.632	0.695	0.652	-
0.8	0.633	0.617	0.653	0.706	0.674	-
1	0.659	0.642	0.681	0.720	0.688	-
1.5	0.705	0.692	0.719	0.752	0.723	-
2	0.724	0.729	0.756	0.793	0.757	-
3	0.778	0.761	0.796	0.822	0.790	-
4	0.801	0.796	0.817	0.845	0.803	-
5	0.815	0.807	0.821	0.839	0.831	-
6	0.818	0.815	0.839	0.872	0.833	-
8	0.826	0.813	0.833	0.864	0.840	-
10	0.828	0.829	0.847	0.872	0.839	-

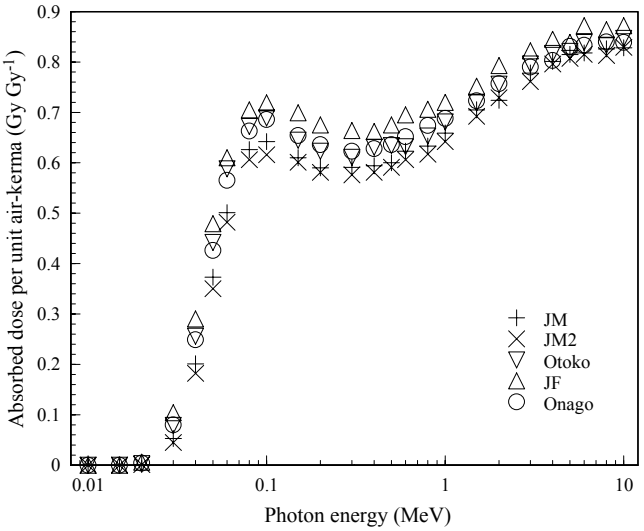

Figure 4-138 Kidney absorbed dose per unit air-kerma in ISO geometry.

Table 4-139 Muscle absorbed dose per unit air-kerma in ISO geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.002	0.002	0.001	0.002	0.003	-
0.015	0.021	0.019	0.018	0.025	0.020	-
0.02	0.074	0.070	0.067	0.085	0.068	-
0.03	0.248	0.242	0.229	0.272	0.235	-
0.04	0.441	0.434	0.411	0.471	0.426	-
0.05	0.604	0.599	0.567	0.633	0.590	-
0.06	0.713	0.708	0.675	0.741	0.700	-
0.08	0.792	0.789	0.761	0.820	0.785	-
0.1	0.799	0.795	0.774	0.826	0.795	-
0.15	0.769	0.764	0.752	0.798	0.766	-
0.2	0.752	0.748	0.739	0.783	0.751	-
0.3	0.746	0.739	0.733	0.779	0.746	-
0.4	0.747	0.742	0.736	0.782	0.748	-
0.5	0.753	0.748	0.742	0.786	0.754	-
0.6	0.761	0.755	0.750	0.793	0.761	-
0.8	0.777	0.772	0.767	0.809	0.778	-
1	0.790	0.784	0.779	0.821	0.792	-
1.5	0.818	0.815	0.810	0.847	0.819	-
2	0.840	0.836	0.831	0.867	0.841	-
3	0.864	0.860	0.856	0.886	0.863	-
4	0.872	0.870	0.866	0.893	0.874	-
5	0.874	0.874	0.869	0.893	0.878	-
6	0.868	0.866	0.862	0.880	0.874	-
8	0.846	0.845	0.839	0.853	0.851	-
10	0.821	0.825	0.818	0.829	0.834	-

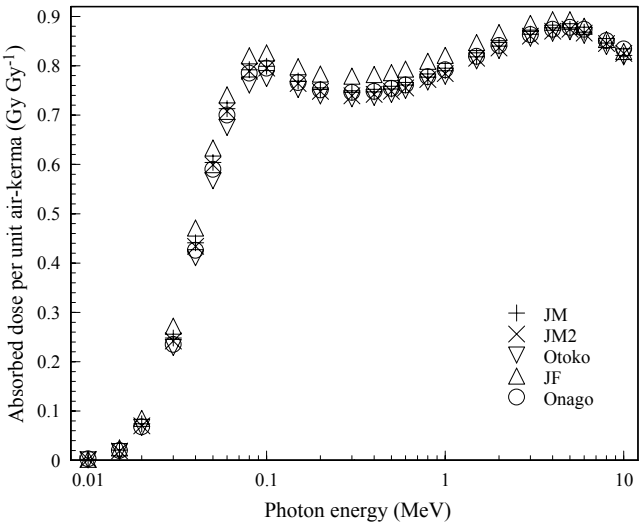

Figure 4-139 Muscle absorbed dose per unit air-kerma in ISO geometry.

Table 4-140 Pancreas absorbed dose per unit air-kerma in ISO geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.000	0.000	0.000	0.000	0.000	-
0.015	0.000	0.000	0.000	0.001	0.000	-
0.02	0.001	0.001	0.001	0.014	0.000	-
0.03	0.048	0.044	0.056	0.131	0.039	-
0.04	0.195	0.185	0.213	0.314	0.184	-
0.05	0.372	0.359	0.399	0.487	0.375	-
0.06	0.517	0.506	0.535	0.608	0.523	-
0.08	0.652	0.631	0.656	0.686	0.651	-
0.1	0.656	0.647	0.678	0.710	0.699	-
0.15	0.619	0.606	0.626	0.683	0.629	-
0.2	0.596	0.577	0.604	0.664	0.620	-
0.3	0.595	0.573	0.600	0.670	0.601	-
0.4	0.583	0.587	0.605	0.670	0.608	-
0.5	0.613	0.597	0.606	0.664	0.619	-
0.6	0.612	0.619	0.631	0.671	0.642	-
0.8	0.628	0.633	0.631	0.703	0.659	-
1	0.643	0.649	0.668	0.725	0.675	-
1.5	0.700	0.690	0.695	0.759	0.716	-
2	0.727	0.721	0.747	0.785	0.765	-
3	0.774	0.746	0.776	0.817	0.780	-
4	0.785	0.811	0.828	0.842	0.814	-
5	0.836	0.819	0.841	0.842	0.844	-
6	0.843	0.828	0.807	0.857	0.861	-
8	0.839	0.811	0.829	0.857	0.824	-
10	0.834	0.818	0.838	0.838	0.800	-

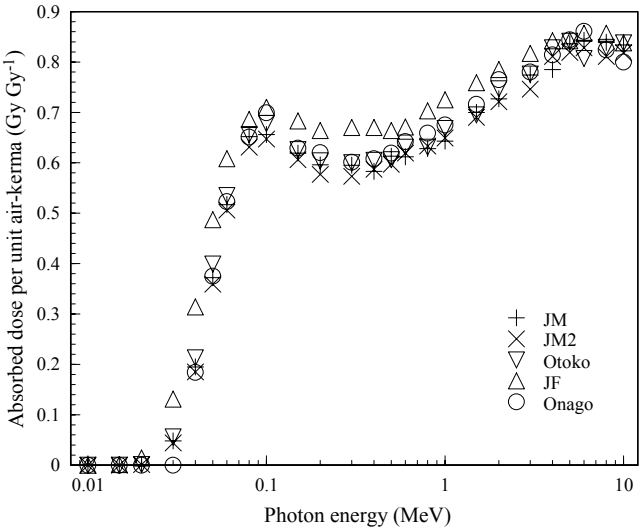

Figure 4-140 Pancreas absorbed dose per unit air-kerma in ISO geometry.

Table 4-141 Spleen absorbed dose per unit air-kerma in ISO geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.000	0.000	0.000	0.000	0.000	-
0.015	0.000	0.000	0.000	0.001	0.000	-
0.02	0.007	0.005	0.006	0.021	0.005	-
0.03	0.105	0.093	0.100	0.176	0.089	-
0.04	0.289	0.275	0.297	0.397	0.277	-
0.05	0.480	0.464	0.492	0.583	0.463	-
0.06	0.629	0.608	0.628	0.700	0.610	-
0.08	0.719	0.709	0.718	0.775	0.727	-
0.1	0.719	0.702	0.721	0.798	0.734	-
0.15	0.686	0.663	0.688	0.730	0.689	-
0.2	0.656	0.635	0.675	0.701	0.668	-
0.3	0.647	0.635	0.663	0.713	0.666	-
0.4	0.642	0.635	0.668	0.717	0.670	-
0.5	0.654	0.653	0.688	0.706	0.672	-
0.6	0.671	0.660	0.673	0.735	0.678	-
0.8	0.695	0.673	0.688	0.771	0.704	-
1	0.688	0.695	0.701	0.764	0.738	-
1.5	0.748	0.745	0.758	0.788	0.746	-
2	0.778	0.764	0.792	0.830	0.771	-
3	0.803	0.800	0.838	0.838	0.828	-
4	0.827	0.818	0.855	0.886	0.828	-
5	0.849	0.841	0.864	0.886	0.862	-
6	0.859	0.835	0.845	0.906	0.830	-
8	0.862	0.862	0.851	0.869	0.853	-
10	0.861	0.844	0.838	0.869	0.863	-

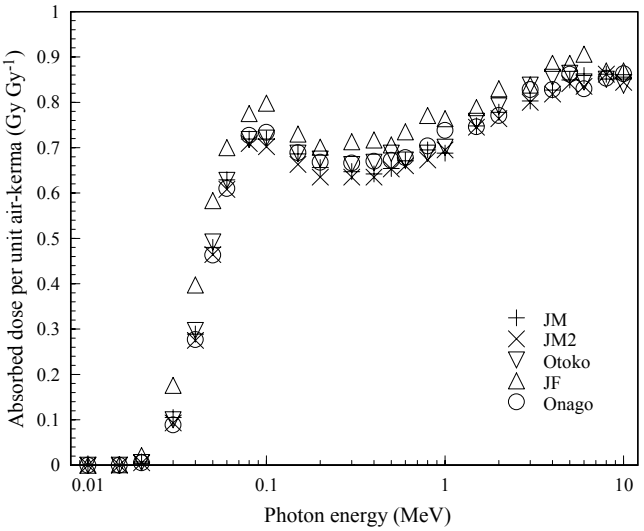

Figure 4-141 Spleen absorbed dose per unit air-kerma in ISO geometry.

Table 4-142 Thymus absorbed dose per unit air-kerma in ISO geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.000	0.000	0.000	0.000	0.000	0.0877
0.015	0.000	0.000	0.000	0.000	0.000	0.236
0.02	0.005	0.005	0.004	0.012	0.004	0.365
0.03	0.095	0.101	0.083	0.138	0.090	0.523
0.04	0.287	0.306	0.274	0.372	0.268	0.639
0.05	0.495	0.486	0.454	0.569	0.488	0.742
0.06	0.649	0.672	0.585	0.697	0.590	0.812
0.08	0.758	0.750	0.746	0.841	0.801	0.882
0.1	0.759	0.746	0.806	0.853	0.775	0.907
0.15	0.742	0.723	0.700	0.768	0.782	0.894
0.2	0.720	0.720	0.725	0.786	0.764	0.868
0.3	0.720	0.691	0.699	0.765	0.714	0.846
0.4	0.733	0.735	0.751	0.763	0.819	0.839
0.5	0.710	0.726	0.726	0.781	0.698	0.836
0.6	0.714	0.728	0.747	0.783	0.848	0.835
0.8	0.773	0.752	0.667	0.802	0.765	0.837
1	0.797	0.774	0.640	0.841	0.800	0.843
1.5	0.813	0.781	0.796	0.825	0.928	-
2	0.804	0.865	0.803	0.872	0.915	0.878
3	0.813	0.839	0.895	0.910	0.924	-
4	0.832	0.864	0.876	0.886	0.803	0.917
5	0.864	0.849	0.931	0.904	0.934	-
6	0.869	0.859	0.930	0.981	0.967	0.936
8	0.896	0.888	0.901	0.926	0.915	0.950
10	0.866	0.897	0.897	0.900	0.904	0.963

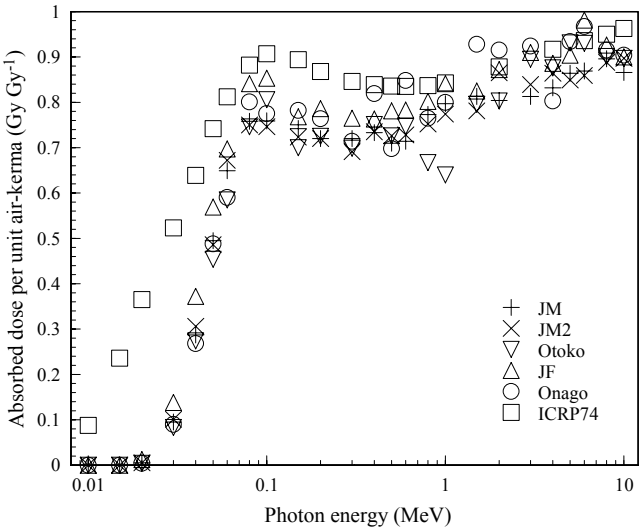

Figure 4-142 Thymus absorbed dose per unit air-kerma in ISO geometry.

Table 4-143 Uterus absorbed dose per unit air-kerma in ISO geometry (Gy Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	-	-	-	0.000	0.000	0.000
0.015	-	-	-	0.000	0.000	0.000
0.02	-	-	-	0.001	0.001	0.000
0.03	-	-	-	0.054	0.043	0.0491
0.04	-	-	-	0.210	0.173	0.195
0.05	-	-	-	0.391	0.338	0.371
0.06	-	-	-	0.549	0.468	0.511
0.08	-	-	-	0.649	0.613	0.630
0.1	-	-	-	0.687	0.635	0.636
0.15	-	-	-	0.658	0.616	0.609
0.2	-	-	-	0.635	0.585	0.586
0.3	-	-	-	0.624	0.588	0.562
0.4	-	-	-	0.631	0.599	0.564
0.5	-	-	-	0.654	0.612	0.574
0.6	-	-	-	0.647	0.622	0.586
0.8	-	-	-	0.683	0.635	0.608
1	-	-	-	0.680	0.662	0.627
1.5	-	-	-	0.728	0.710	-
2	-	-	-	0.748	0.735	0.692
3	-	-	-	0.799	0.789	-
4	-	-	-	0.819	0.810	0.752
5	-	-	-	0.834	0.823	-
6	-	-	-	0.831	0.847	0.780
8	-	-	-	0.818	0.824	0.798
10	-	-	-	0.831	0.813	0.810

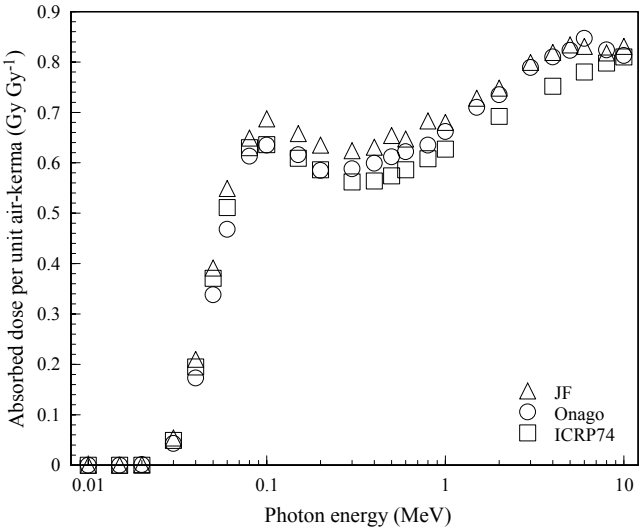

Figure 4-143 Uterus absorbed dose per unit air-kerma in ISO geometry.

Table 4-144 Effective dose per unit air-kerma in ISO geometry (Sv Gy^{-1}).

Energy (MeV)	JM	JM2	Otoko	JF	Onago	ICRP74
0.01	0.003	0.002	0.002	0.002	0.002	0.00271
0.015	0.017	0.013	0.012	0.009	0.008	0.0123
0.02	0.049	0.043	0.038	0.033	0.025	0.0362
0.03	0.166	0.157	0.150	0.146	0.121	0.143
0.04	0.333	0.325	0.317	0.326	0.289	0.326
0.05	0.498	0.488	0.484	0.502	0.466	0.511
0.06	0.618	0.613	0.602	0.635	0.595	0.642
0.08	0.706	0.693	0.697	0.749	0.704	0.749
0.1	0.724	0.712	0.701	0.748	0.715	0.748
0.15	0.683	0.675	0.669	0.726	0.702	0.700
0.2	0.665	0.654	0.661	0.704	0.686	0.679
0.3	0.653	0.649	0.643	0.702	0.682	0.664
0.4	0.660	0.653	0.651	0.708	0.684	0.667
0.5	0.665	0.664	0.659	0.720	0.696	0.675
0.6	0.677	0.669	0.674	0.727	0.713	0.684
0.8	0.692	0.690	0.692	0.743	0.724	0.703
1	0.705	0.703	0.697	0.751	0.741	0.719
1.5	0.742	0.737	0.731	0.791	0.763	-
2	0.756	0.759	0.756	0.812	0.794	0.774
3	0.790	0.780	0.788	0.855	0.826	-
4	0.800	0.795	0.787	0.859	0.848	0.824
5	0.803	0.808	0.814	0.891	0.851	-
6	0.803	0.808	0.817	0.881	0.865	0.846
8	0.790	0.792	0.804	0.873	0.862	0.859
10	0.779	0.792	0.786	0.847	0.866	0.868

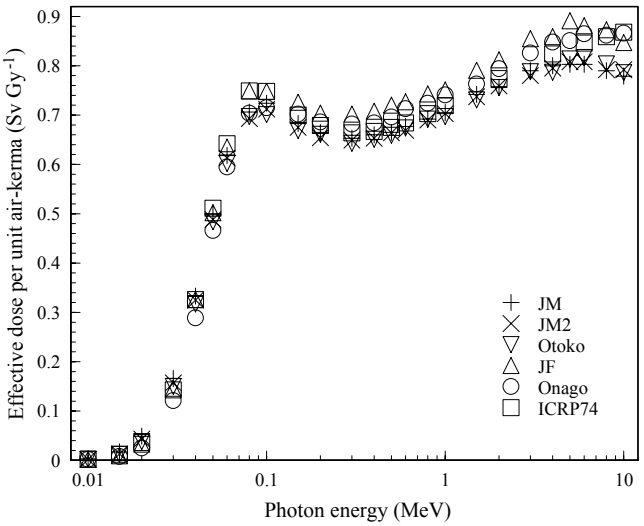

Figure 4-144 Effective dose per unit air-kerma in ISO geometry.

4.2 Comparison of the organ doses among the Japanese voxel phantoms

In this section, we discuss the variation of organ doses due to the individual anatomy from comparing the calculation results of four JAEA voxel phantoms, JM, Otoko, JF and Onago.

Figure 4-145 shows the absorbed doses of selected organs in AP geometry, along with the recommended values by ICRP in its Publication 74 (ICRP74).[1)] Energy dependences of the absorbed doses in the bladder (Figure 4-145(a)) are similar in JM and Otoko. The result seems to be reasonable, since the heights and weights of both JM and Otoko are close to the average values of Japanese, as indicated in Table 2-1. However, the bladder dose of JF is lower than those of Onago, JM and Otoko, in spite of the fact that the body size of JF is the smallest among them. The result cannot be explained by a previous finding that the dose conversion coefficients increase generally with decreasing the body size.[1)] It is considered that the results of the bladder doses obtained from the Japanese voxel phantoms reflect the difference in the organ geometry from individual anatomy. The reason is further supported from the result of stomach dose (Figure 4-145(e)). The stomach dose of Otoko is lower that that of JM in the entire energy range, though the body sizes and the masses of stomach of JM and Otoko are close to each other (Tables 2-1 and 2-2). In the other organs, such as the brain, liver, lung and thyroid, the absorbed doses show similar energy dependences in the all phantoms and with the recommended values of ICRP74.

Figure 4-146 shows the absorbed doses of selected organs in RLAT geometry. Difference of the organ doses due to the body size and organ geometry is enhanced in the stomach and thyroid. The trunk wide depends on body size, so that the distance from the body surface to the stomach is the most sensitive to the stomach dose in RLAT and LLAT geometries. As can be seen in Figures 4-146(e), the adsorbed dose of stomach of JF are higher than those of JM, Otoko and Onago and the values of ICRP74, that is, smaller body give higher stomach doses.

Figure 4-146(f) shows the absorbed doses of the thyroid, which are strongly depending on the individual anatomy. The result cannot be explained using only body size, since the thyroid dose of Otoko is smaller than those of the other Japanese voxel phantoms. The mass of the thyroid varies with many factors, including age, gender, and the level of iodine in the diet.[6,22)] As an example, Figure 4-147 shows cross sectional views of JF and Onago around the thyroid. While the masses of thyroid of JF and Onago are similar (Table 2-3), the positions of thyroid are different in the two phantoms. Figure 4-147 demonstrates that the position of organ depends on each individual and might significantly influence the thyroid dose.

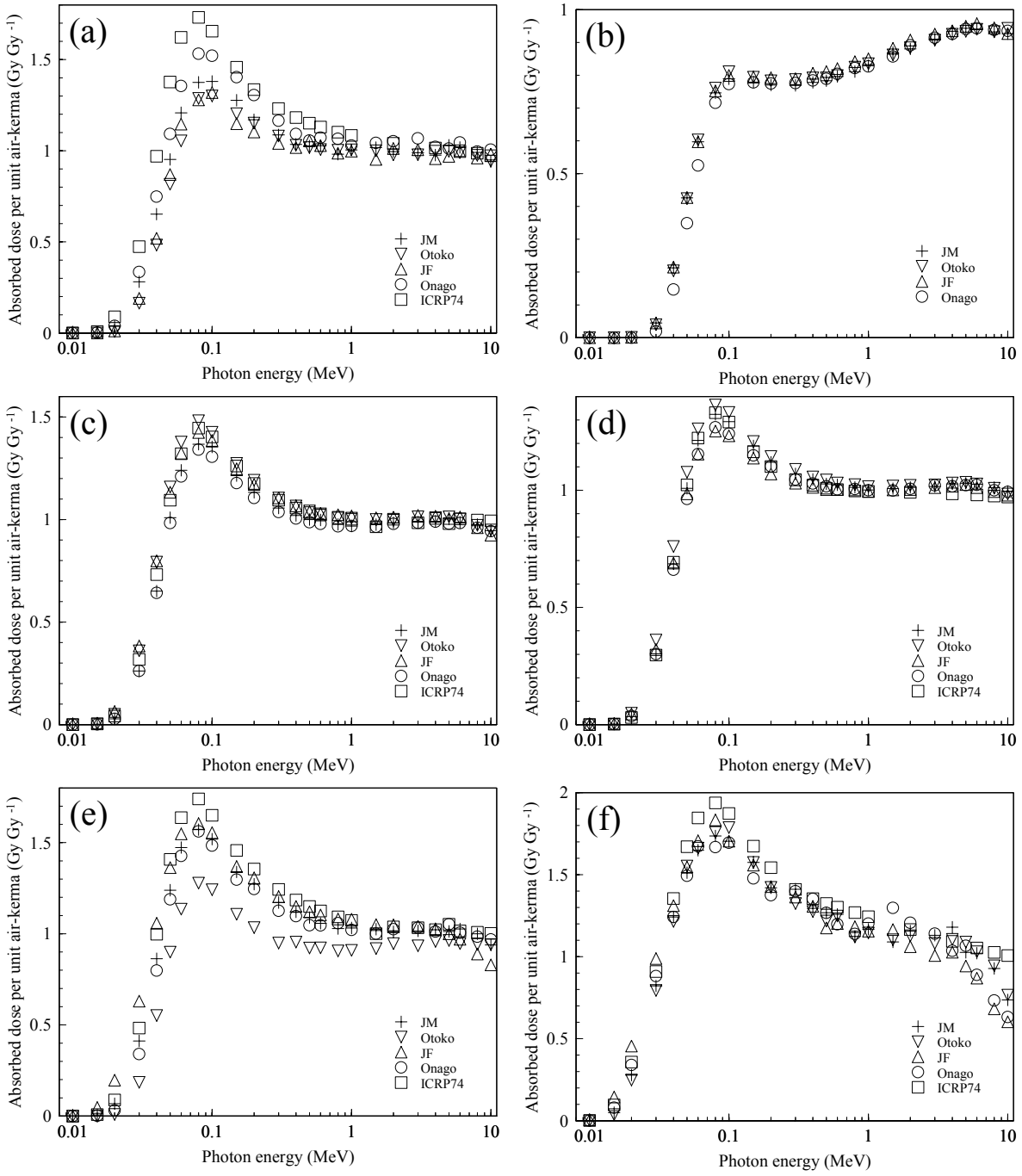

Figure 4-145 Absorbed doses in selected organs of the JAEA voxel phantoms in AP geometry. (a) Bladder, (b) Brain, (c) Liver, (d) Lung, (e) Stomach and (f) Thyroid.

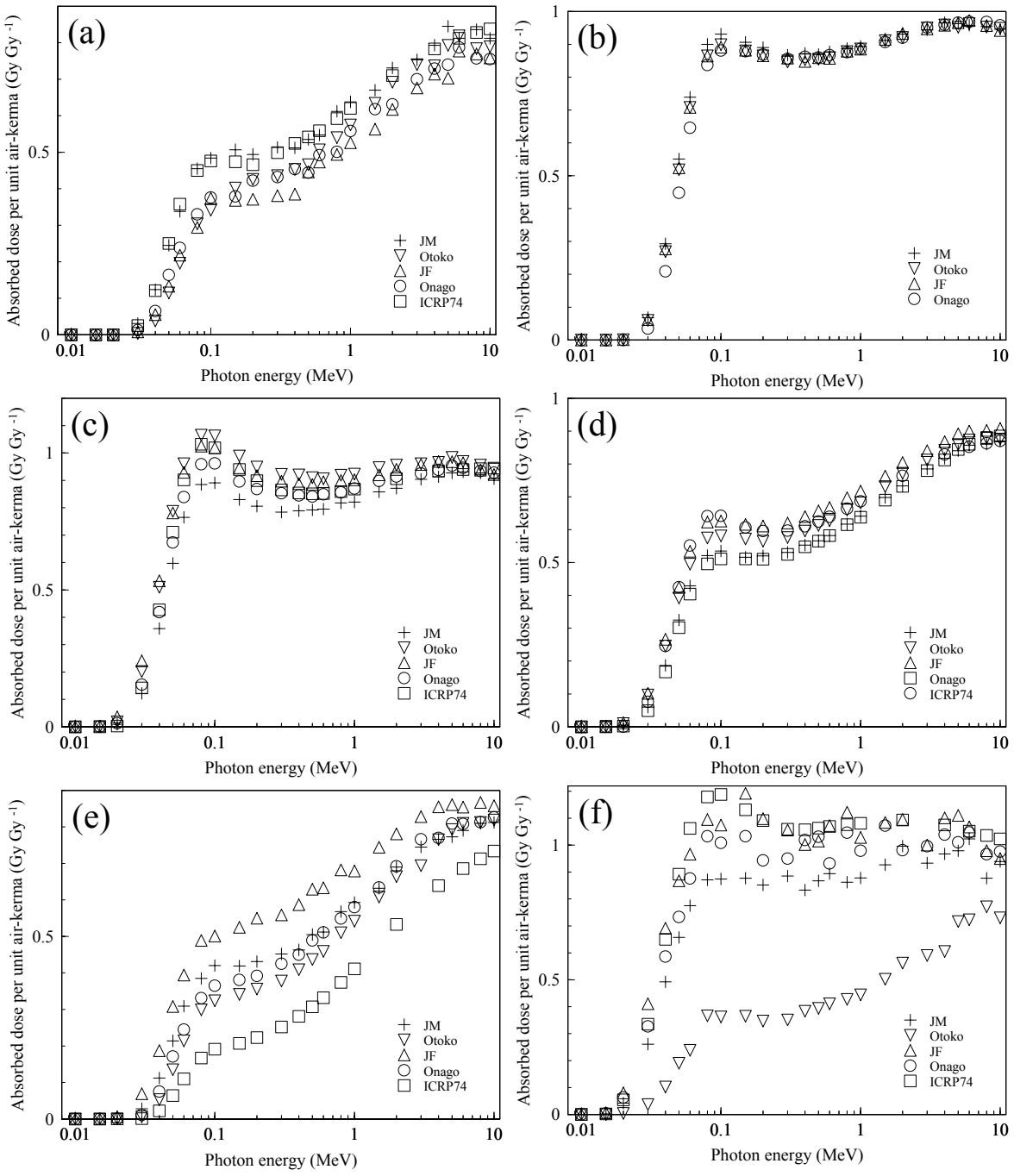

Figure 4-146 Absorbed doses in selected organs of the JAEA voxel phantoms in RLAT geometry. (a) Bladder, (b) Brain, (c) Liver, (d) Lung, (e) Stomach and (f) Thyroid.

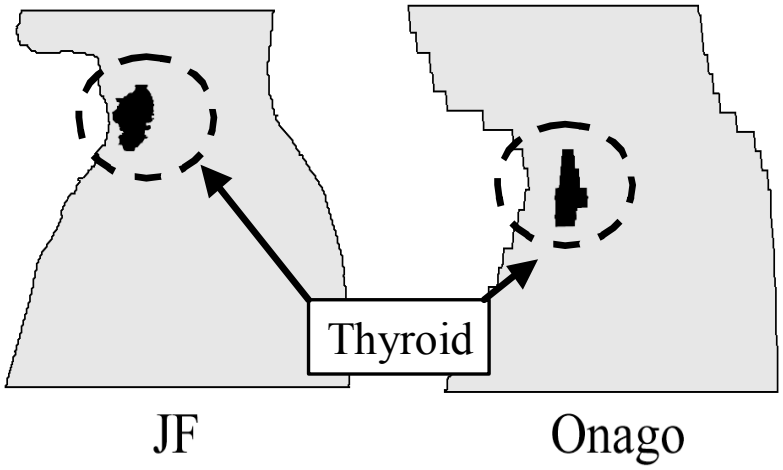

Figure 4-147 Cross sectional views of JF and Onago around the thyroid.

4.3 Comparison with the Caucasian voxel phantoms

In this section, the effect of body size on organ doses is discussed by comparing the calculation results from the JAEA voxel phantoms with those from the Caucasian voxel phantoms listed in Table 2-1.

Figure 4-148 compares the absorbed doses of selected organs in AP geometry. Generally, the organ doses are similar in all phantoms, and the differences are within 20 % at energies of more than 0.1 MeV. At 0.05 MeV, the absorbed doses of the bladder (Figure 4-148(a)) range from 0.816 to 1.092 Gy Gy^{-1} in the JAEA voxel phantoms. On the other hand, the bladder doses of the Caucasian phantoms vary more broadly, over a range from 0.78 to 1.468 Gy Gy^{-1}, compared with those of JAEA voxel phantoms. The result indicates the bladder dose depends on the individual anatomy rather than the body size. The tendency is found in the entire energy range and in the other organs, such as brain, liver, lung, stomach and thyroid (Figure 4-148(b)-(f)). Differences of the organ doses between Japanese and Caucasian are less than 10-20 % in most cases.

Shown in Figure 4-149 are the results in PA geometry. The bladder doses in the JAEA voxel phantoms are higher than those in the Caucasian phantoms (Figure 4-149(a)). The reason is considered to be that the thickness of subcutaneous fat around lower back and buttocks of Japanese is less than that of Caucasian. However, in the other organs, the variation of organ doses can be attributable to the individual anatomy, that is, the position, size and shape of internal organs.

Figure 4-150 shows the results in ROT geometry. As expected from Figures 4-148 and 4-149, the absorbed doses in the selected six organs of the JAEA voxel phantoms are within the variation of the organ doses of the Caucasian phantoms in most cases.

Fill et al. pointed out that the organ geometry has an influence to organ doses and are more important than the external body dimensions.[27] The present study showed the organ doses in the JAEA voxel phantoms vary depending on the individual anatomy and that the variation of the organ doses is within those of the Caucasian phantoms, which have larger body size than Japanese. The results support the conclusion by Fill et al.

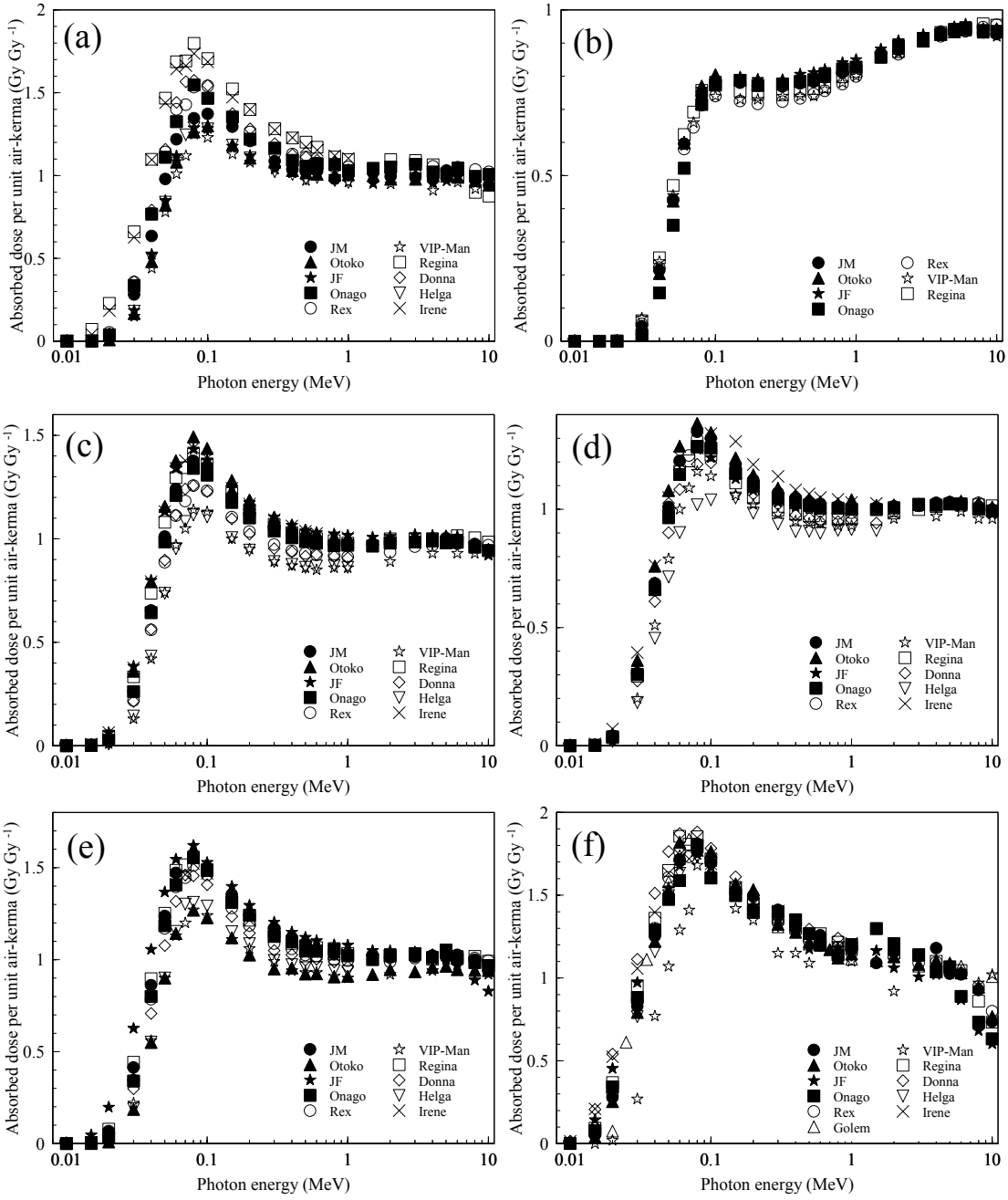

Figure 4-148 Absorbed doses in selected organs of the JAEA and Caucasian voxel phantoms in AP geometry. (a) Bladder, (b) Brain, (c) Liver, (d) Lung, (e) Stomach and (f) Thyroid.

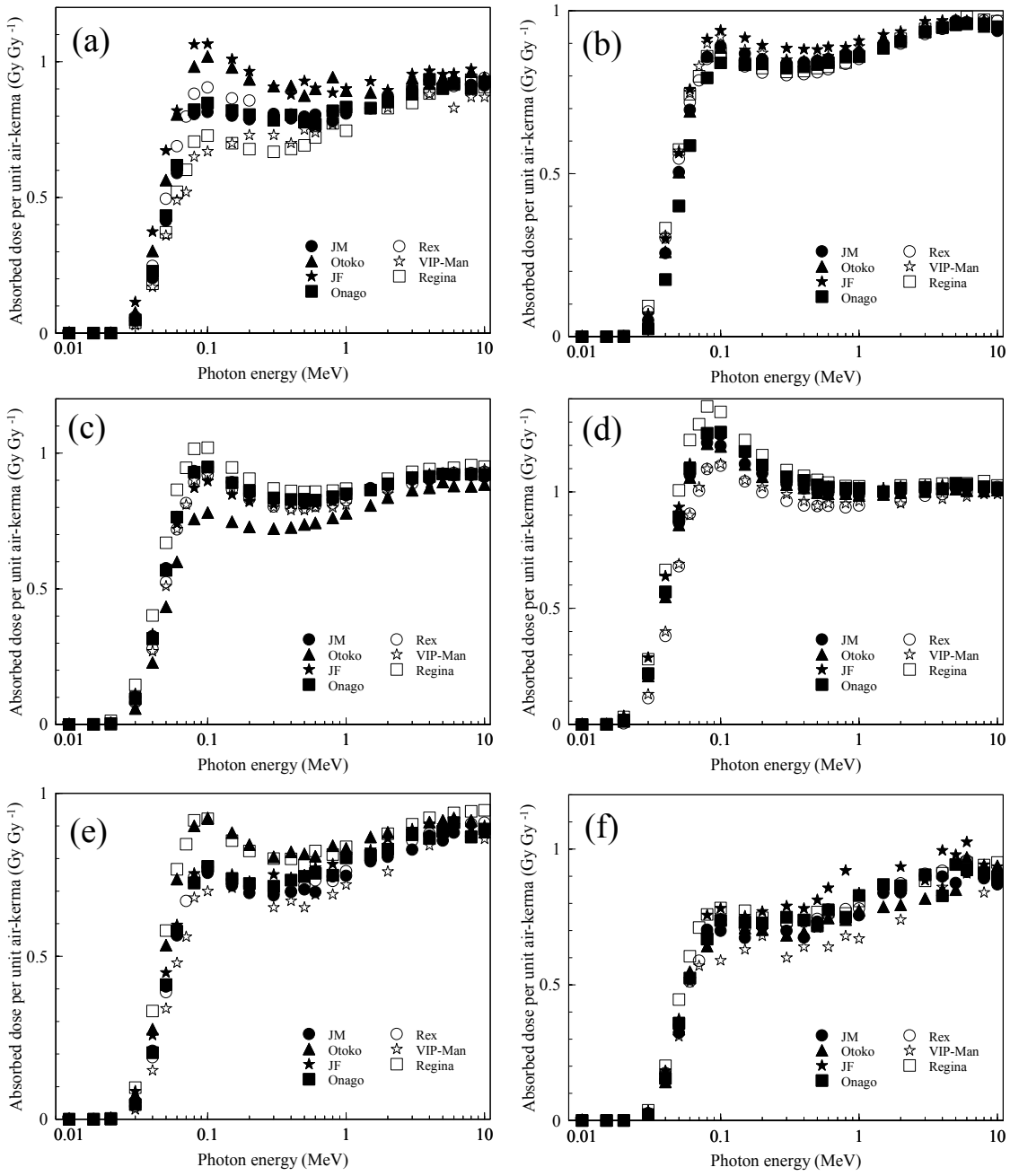

Figure 4-149 Absorbed doses in selected organs of the JAEA and Caucasian voxel phantoms in PA geometry. (a) Bladder, (b) Brain, (c) Liver, (d) Lung, (e) Stomach and (f) Thyroid.

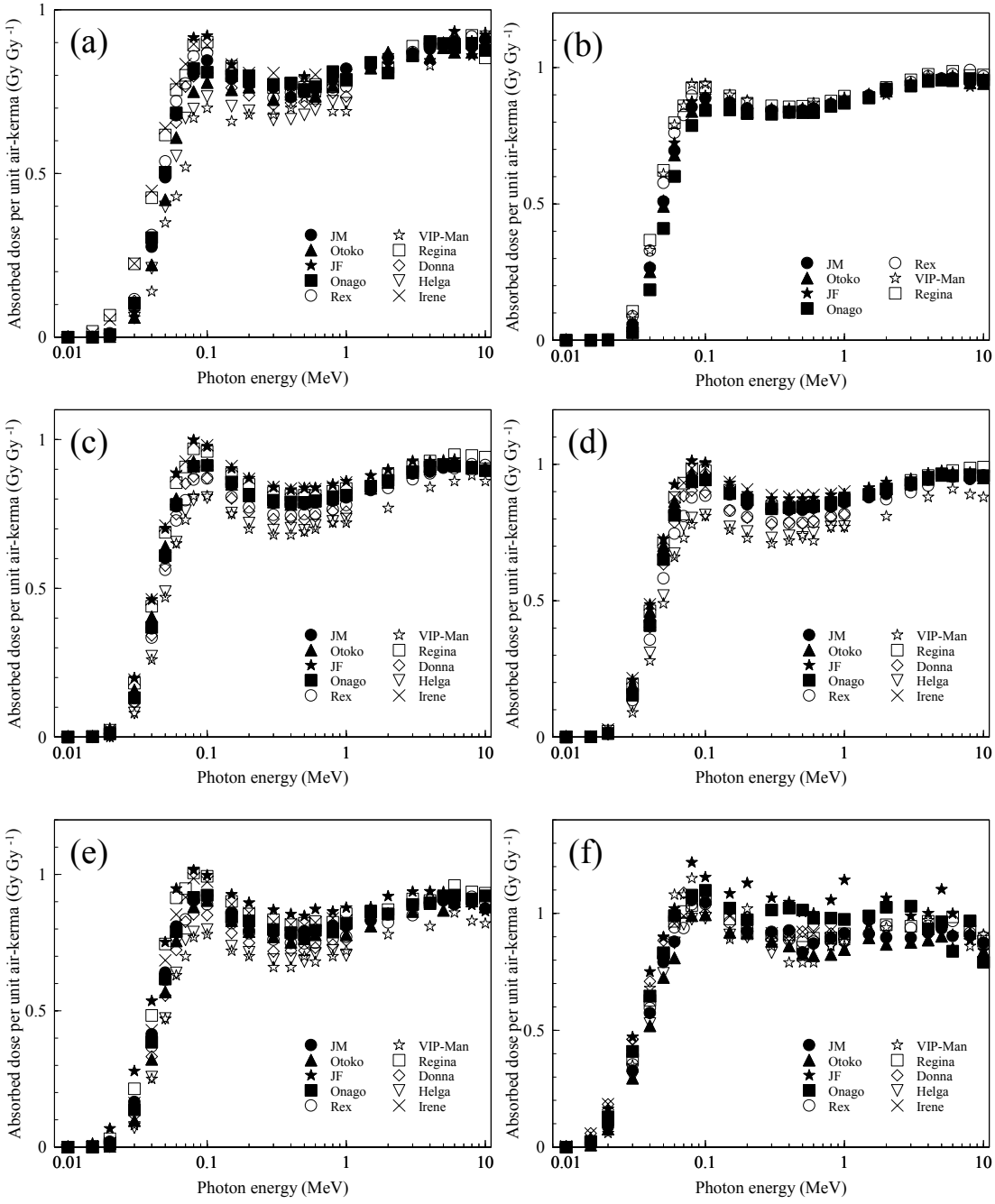

Figure 4-150 Absorbed doses in selected organs of the JAEA and Caucasian voxel phantoms in ROT geometry. (a) Bladder, (b) Brain, (c) Liver, (d) Lung, (e) Stomach and (f) Thyroid.

4.4 Effect of posture on organ doses

In this section, we discuss the effect of posture on organ doses against external photon exposure using JM2 (upright) and JM (supine).

Table 4-145 shows the ratios of organ doses between JM2 and JM. The ratio is obtained by dividing the organ dose of JM2 by that of JM, and the minimum (Min) and maximum (Max) values among the 23 organs and tissues in Table 3-1 are presented for the six irradiation geometries. The organ doses depend on the posture and relatively large ratios of organ doses are observed in the photon energy below 0.05 MeV. However, the ratios decrease with increase in the photon energy, and the ratios are within 0.9 – 1.1 above 1.0 MeV in most cases. The results can be explained by energy dependence of mean free path of photon. The mean free path of photons increases with the photon energy, e.g. 4.2 cm at 0.05 MeV and 13.5 cm at 1 MeV in the ICRU soft tissue,[28] and therefore the organ doses are becoming less sensitive to the change in the organ position in higher photon energy.

Figure 4-151 shows the energy dependences of the ratios of absorbed doses in the brain, esophagus, liver and stomach. As shown in Figure 4-151(a), the ratios in the brain are almost unity in all irradiation geometries and photon energies. The position and shape of brain do not change with posture, so that the absorbed doses in the brain are independent on the posture. On the other hand, the ratios in the esophagus, liver and stomach depend on the irradiation geometry and the photon energy, where the positions and shapes of these organs are changed by the posture (Figure 4-151(b)-(d)).

In the liver, remarkable changes of the ratios are observed in RLAT and LLAT geometries in low photon energies (≤ 0.05 MeV). The trunk wide is slightly changed by the posture and is decreased in the upright compared with the supine (Figure 4-152). The distance from the body surface to the liver is then reduced in RLAT and LLAT geometries, and as a result, the absorbed doses in JM2 become higher than those in JM in the low photon energy range. Similar results are found in the absorbed doses in stomach (Figure 4-151(d)). The stomach doses of JM2 and JM are different in RLAT and LLAT geometries due to the change of the distances between the body surfaces of right and left sides and the stomach (Figure 4-152).

Differences in the liver doses are also found in AP and PA geometries. The liver dose in JM2 increases compared with that in JM in AP geometry, while the opposite tendency is found in PA geometry in the low energy range. This can be explained by the movement of the liver; the liver moved to the frontal surface of the trunk in the upright posture (Figure 4-152). Then, the distance from the frontal surface of body to the liver decreases in JM2, and the absorbed dose in AP geometry increases compared with that in PA geometry.

Figure 4-153 presents the effective doses calculated using JM2 and JM for six photon energies in all irradiation geometries. No significant difference in the effective dose is found in the two phantoms at energies of more than 0.03 MeV. As expected from Table 4-145 and Figure 4-151, differences of the effective doses are observed at 0.01 MeV, since the position of organs is sensitive in calculating the absorbed doses in low energy range. It can be concluded from Figure 4-153 that the effective doses for external photon exposure are less susceptible to the change of organ position due to the posture.

Table 4-145 Ratios of the absorbed doses in selected organs between JM2 and JM.

Energy (MeV)	Ratio of organ doses (JM2/JM)					
	AP	PA	LLAT	RLAT	ROT	ISO
	Min - Max	Min - Max	Min - Max	Min - Max	Min - Max	Min - Max
0.01	0.37 - 1.00	0.67 - 1.00	0.56 - 1.00	0.55 - 1.00	0.33 - 1.01	0.49 - 0.95
0.015	0.25 - 1.12	0.53 - 1.43	0.34 - 1.32	0.51 - 1.07	0.51 - 1.03	0.59 - 0.98
0.02	0.50 - 2.38	0.49 - 1.31	0.54 - 1.81	0.66 - 2.72	0.57 - 1.08	0.59 - 1.07
0.03	0.78 - 1.39	0.59 - 1.23	0.63 - 1.36	0.68 - 1.72	0.81 - 1.05	0.78 - 1.13
0.04	0.87 - 1.21	0.75 - 1.08	0.69 - 1.24	0.76 - 1.43	0.89 - 1.05	0.89 - 1.07
0.05	0.91 - 1.16	0.81 - 1.07	0.79 - 1.20	0.85 - 1.28	0.94 - 1.01	0.87 - 1.04
0.06	0.93 - 1.13	0.84 - 1.06	0.74 - 1.12	0.85 - 1.20	0.93 - 1.02	0.89 - 1.04
0.08	0.94 - 1.09	0.87 - 1.02	0.89 - 1.14	0.88 - 1.20	0.94 - 1.02	0.92 - 1.05
0.1	0.96 - 1.08	0.90 - 1.05	0.88 - 1.15	0.86 - 1.22	0.93 - 1.05	0.93 - 1.06
0.15	0.90 - 1.08	0.88 - 1.04	0.88 - 1.15	0.91 - 1.20	0.93 - 1.03	0.93 - 1.01
0.2	0.96 - 1.08	0.90 - 1.04	0.88 - 1.14	0.90 - 1.20	0.95 - 1.04	0.95 - 1.01
0.3	0.93 - 1.06	0.92 - 1.02	0.87 - 1.16	0.94 - 1.22	0.94 - 1.06	0.96 - 1.04
0.4	0.95 - 1.05	0.93 - 1.06	0.87 - 1.14	0.92 - 1.18	0.94 - 1.07	0.93 - 1.03
0.5	0.89 - 1.04	0.93 - 1.05	0.90 - 1.15	0.90 - 1.18	0.95 - 1.08	0.93 - 1.04
0.6	0.94 - 1.11	0.93 - 1.08	0.89 - 1.13	0.88 - 1.16	0.93 - 1.04	0.96 - 1.04
0.8	0.90 - 1.06	0.90 - 1.06	0.87 - 1.16	0.91 - 1.19	0.94 - 1.05	0.96 - 1.05
1	0.93 - 1.08	0.91 - 1.05	0.89 - 1.17	0.94 - 1.17	0.91 - 1.06	0.91 - 1.06
1.5	0.93 - 1.06	0.91 - 1.05	0.92 - 1.12	0.88 - 1.15	0.94 - 1.10	0.95 - 1.08
2	0.95 - 1.05	0.92 - 1.05	0.90 - 1.09	0.89 - 1.11	0.91 - 1.07	0.98 - 1.11
3	0.97 - 1.04	0.91 - 1.08	0.93 - 1.11	0.94 - 1.09	0.96 - 1.06	0.96 - 1.05
4	0.92 - 1.06	0.87 - 1.04	0.94 - 1.09	0.95 - 1.11	0.86 - 1.06	0.95 - 1.04
5	0.95 - 1.11	0.94 - 1.06	0.97 - 1.08	0.94 - 1.11	0.96 - 1.10	0.95 - 1.06
6	0.98 - 1.08	0.97 - 1.03	0.91 - 1.08	0.88 - 1.07	0.97 - 1.04	0.93 - 1.04
8	0.93 - 1.05	0.90 - 1.04	0.88 - 1.10	0.98 - 1.08	0.97 - 1.07	0.97 - 1.04
10	0.94 - 1.21	0.97 - 1.03	0.95 - 1.06	0.96 - 1.04	0.95 - 1.06	0.97 - 1.10

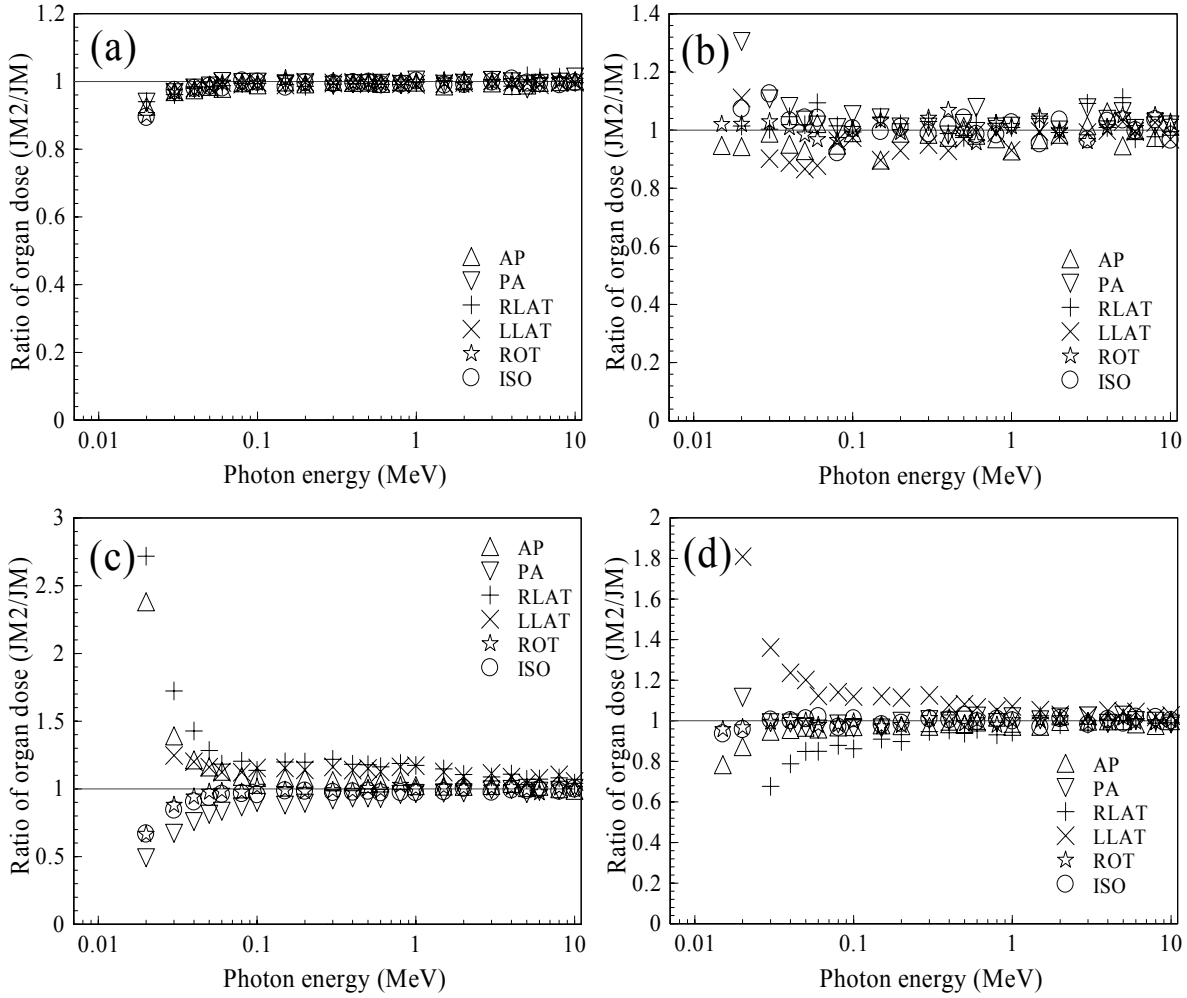

Figure 4-151 Energy dependences of the ratios of absorbed doses in (a) Brain, (b) Esophagus, (c) Liver and (d) Stomach.

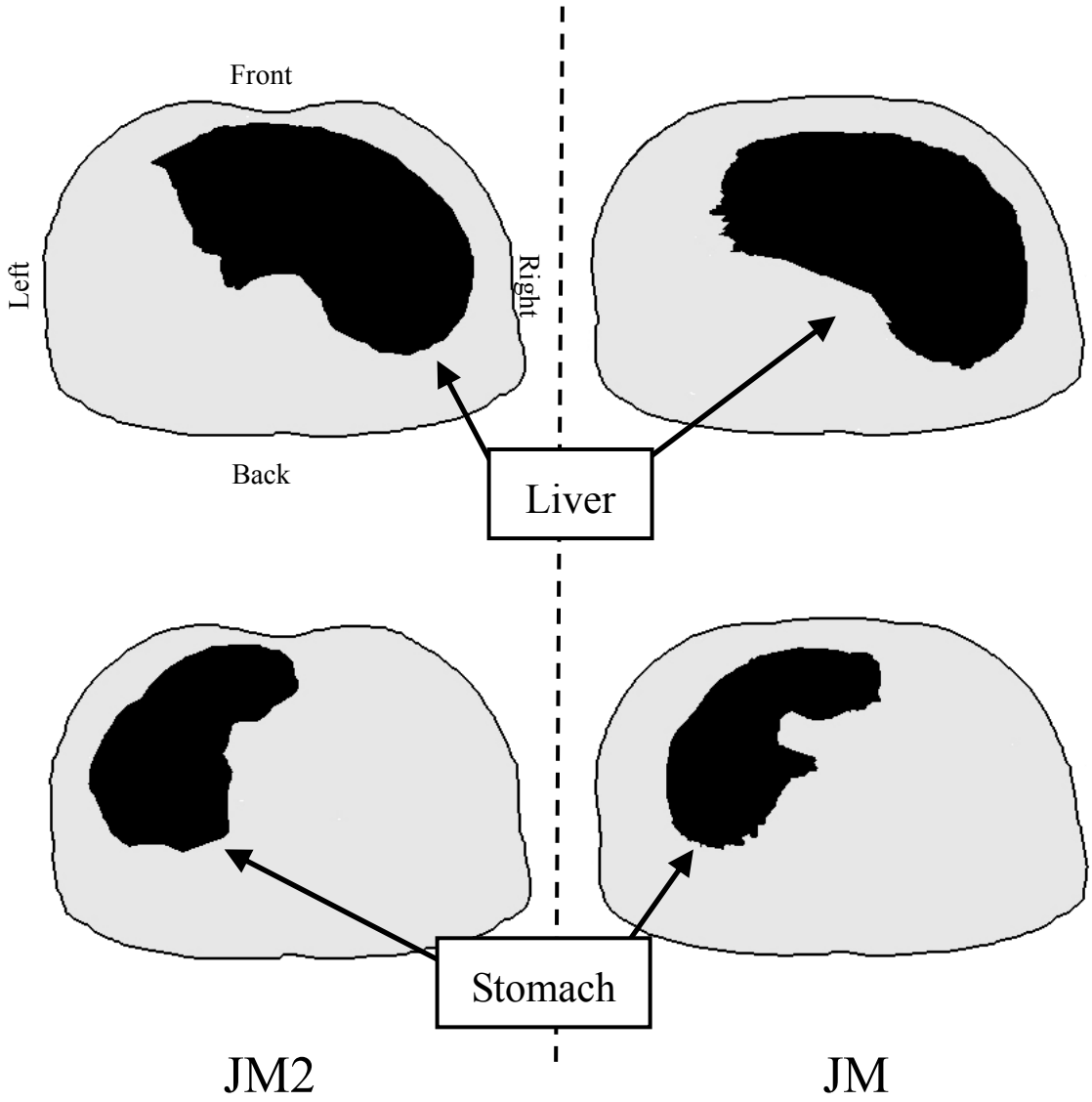

Figure 4-152 Cross sectional views at around the heights of liver and stomach in JM2 and JM.

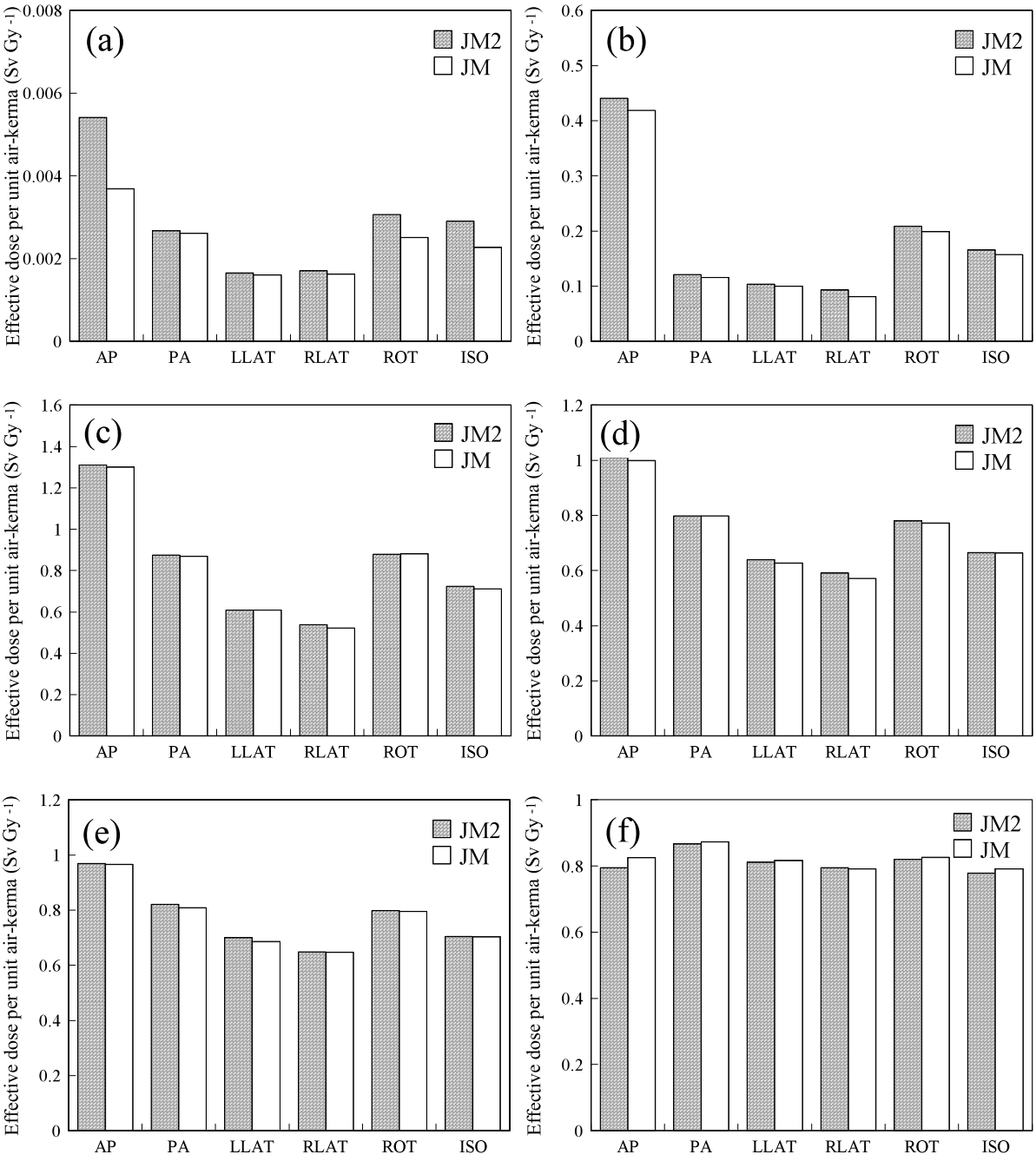

Figure 4-153 Comparison of the effective doses between JM2 and JM for various photon energies. (a) 0.01 MeV, (b) 0.03 MeV, (c) 0.1 MeV, (d) 0.5 MeV, (e) 1 MeV and (f) 10 MeV.

5. Conclusions

At the JAEA, five high-resolution Japanese voxel phantoms have been developed to clarify the variation of organ doses due to the anatomical characteristics of Japanese. This report presents a complete set of conversion coefficients of organ doses and effective doses for the five JAEA voxel phantoms for external photon exposure. The dose conversion coefficients are given as absorbed dose and effective dose per unit air-kerma free-in-air, and are tabulated for 25 incident photon energies ranging from 0.01 MeV to 10 MeV for six kinds of idealized irradiation geometries. The conversion coefficients are useful to study the variation of organ doses due to the anatomical characteristics of Japanese and individual and to discuss developing reference Japanese and Asian phantoms for dose calculation.

Comparison of the organ doses between the Japanese and the Caucasian voxel phantoms revealed that the organ geometry has an influence to the organ doses and is more important than the external body dimensions. It was found the absorbed doses of organs are less dependent on posture at energies of more than 0.03 MeV and that the effective doses for external photon exposure are less sensitive to the change of organ position due to the posture. A further detailed analysis of the organ doses in correlation with the organ position and shape is in progress and will be reported in a subsequent paper.

Acknowledgment

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国際単位系（SI）

表１．SI 基本単位

基本量	SI 基本単位	
	名称	記号
長さ	メートル	m
質量	キログラム	kg
時間	秒	s
電流	アンペア	A
熱力学温度	ケルビン	K
物質量	モル	mol
光度	カンデラ	cd

表２．基本単位を用いて表されるSI組立単位の例

組立量	SI 基本単位	
	名称	記号
面積	平方メートル	m^2
体積	立法メートル	m^3
速さ，速度	メートル毎秒	m/s
加速度	メートル毎秒毎秒	m/s^2
波数	毎メートル	m-1
密度（質量密度）	キログラム毎立法メートル	kg/m^3
質量体積（比体積）	立法メートル毎キログラム	m^3/kg
電流密度	アンペア毎平方メートル	A/m^2
磁界の強さ	アンペア毎メートル	A/m
（物質量の）濃度	モル毎立方メートル	mol/m^3
輝度	カンデラ毎平方メートル	cd/m^2
屈折率	（数の） 1	1

表５．SI 接頭語

乗数	接頭語	記号	乗数	接頭語	記号
10^{24}	ヨタ	Y	10^{-1}	デシ	d
10^{21}	ゼタ	Z	10^{-2}	センチ	c
10^{18}	エクサ	E	10^{-3}	ミリ	m
10^{15}	ペタ	P	10^{-6}	マイクロ	μ
10^{12}	テラ	T	10^{-9}	ナノ	n
10^{9}	ギガ	G	10^{-12}	ピコ	p
10^{6}	メガ	M	10^{-15}	フェムト	f
10^{3}	キロ	k	10^{-18}	アト	a
10^{2}	ヘクト	h	10^{-21}	ゼプト	z
10^{1}	デカ	da	10^{-24}	ヨクト	y

表３．固有の名称とその独自の記号で表されるSI組立単位

組立量	SI 組立単位			
	名称	記号	他のSI単位による表し方	SI基本単位による表し方
平面角	ラジアン(a)	rad		$m \cdot m^{-1}=1$(b)
立体角	ステラジアン(a)	sr(c)		$m^2 \cdot m^{-2}=1$(b)
周波数	ヘルツ	Hz		s^{-1}
力	ニュートン	N		$m \cdot kg \cdot s^{-2}$
圧力，応力	パスカル	Pa	N/m^2	$m^{-1} \cdot kg \cdot s^{-2}$
エネルギー，仕事，熱量	ジュール	J	N・m	$m^2 \cdot kg \cdot s^{-2}$
工率，放射束	ワット	W	J/s	$m^2 \cdot kg \cdot s^{-3}$
電荷，電気量	クーロン	C		s・A
電位差（電圧），起電力	ボルト	V	W/A	$m^2 \cdot kg \cdot s^{-3} \cdot A^{-1}$
静電容量	ファラド	F	C/V	$m^{-2} \cdot kg^{-1} \cdot s^4 \cdot A^2$
電気抵抗	オーム	Ω	V/A	$m^2 \cdot kg \cdot s^{-3} \cdot A^{-2}$
コンダクタンス	ジーメンス	S	A/V	$m^{-2} \cdot kg^{-1} \cdot s^3 \cdot A^2$
磁束	ウエーバ	Wb	V・s	$m^2 \cdot kg \cdot s^{-2} \cdot A^{-1}$
磁束密度	テスラ	T	Wb/m^2	$kg \cdot s^{-2} \cdot A^{-1}$
インダクタンス	ヘンリー	H	Wb/A	$m^2 \cdot kg \cdot s^{-2} \cdot A^{-2}$
セルシウス温度	セルシウス度(d)	℃		K
光束	ルーメン	lm	cd・sr(c)	$m^2 \cdot m^{-2} \cdot cd=cd$
照度	ルクス	lx	lm/m^2	$m^2 \cdot m^{-4} \cdot cd=m^{-2} \cdot cd$
（放射性核種の）放射能	ベクレル	Bq		s^{-1}
吸収線量，質量エネルギー分与，カーマ	グレイ	Gy	J/kg	$m^2 \cdot s^{-2}$
線量当量，周辺線量当量，方向性線量当量，個人線量当量，組織線量当	シーベルト	Sv	J/kg	$m^2 \cdot s^{-2}$

(a)ラジアン及びステラジアンの使用は、同じ次元であっても異なった性質をもった量を区別するときの組立単位の表し方として利点がある。組立単位を形作るときのいくつかの用例は表４に示されている。
(b)実際には、使用する時には記号rad及びsrが用いられるが、習慣として組立単位としての記号“１”は明示されない。
(c)測光学では、ステラジアンの名称と記号srを単位の表し方の中にそのまま維持している。
(d)この単位は、例としてミリセルシウス度m℃のようにSI接頭語を伴って用いても良い。

表４．単位の中に固有の名称とその独自の記号を含むSI組立単位の例

組立量	SI 組立単位		
	名称	記号	SI 基本単位による表し方
粘度	パスカル秒	Pa・s	$m^{-1} \cdot kg \cdot s^{-1}$
力のモーメント	ニュートンメートル	N・m	$m^2 \cdot kg \cdot s^{-2}$
表面張力	ニュートン毎メートル	N/m	$kg \cdot s^{-2}$
角速度	ラジアン毎秒	rad/s	$m \cdot m^{-1} \cdot s^{-1}=s^{-1}$
角加速度	ラジアン毎平方秒	rad/s^2	$m \cdot m^{-1} \cdot s^{-2}=s^{-2}$
熱流密度，放射照度	ワット毎平方メートル	W/m^2	$kg \cdot s^{-3}$
熱容量，エントロピー	ジュール毎ケルビン	J/K	$m^2 \cdot kg \cdot s^{-2} \cdot K^{-1}$
質量熱容量（比熱容量），質量エントロピー	ジュール毎キログラム毎ケルビン	J/(kg・K)	$m^2 \cdot s^{-2} \cdot K^{-1}$
質量エネルギー（比エネルギー）	ジュール毎キログラム	J/kg	$m^2 \cdot s^{-2} \cdot K^{-1}$
熱伝導率	ワット毎メートル毎ケルビン	W/(m・K)	$m \cdot kg \cdot s^{-3} \cdot K^{-1}$
体積エネルギー	ジュール毎立方メートル	J/m^3	$m^{-1} \cdot kg \cdot s^{-2}$
電界の強さ	ボルト毎メートル	V/m	$m \cdot kg \cdot s^{-3} \cdot A^{-1}$
体積電荷	クーロン毎立方メートル	C/m^3	$m^{-3} \cdot s \cdot A$
電気変位	クーロン毎平方メートル	C/m^2	$m^{-2} \cdot s \cdot A$
誘電率	ファラド毎メートル	F/m	$m^{-3} \cdot kg^{-1} \cdot s^4 \cdot A^2$
透磁率	ヘンリー毎メートル	H/m	$m \cdot kg \cdot s^{-2} \cdot A^{-2}$
モルエネルギー	ジュール毎モル	J/mol	$m^2 \cdot kg \cdot s^{-2} \cdot mol^{-1}$
モルエントロピー，モル熱容量	ジュール毎モル毎ケルビン	J/(mol・K)	$m^2 \cdot kg \cdot s^{-2} \cdot K^{-1} \cdot mol^{-1}$
照射線量（X線及びγ線）	クーロン毎キログラム	C/kg	$kg^{-1} \cdot s \cdot A$
吸収線量率	グレイ毎秒	Gy/s	$m^2 \cdot s^{-3}$
放射強度	ワット毎ステラジアン	W/sr	$m^4 \cdot m^{-2} \cdot kg \cdot s^{-3}=m^2 \cdot kg \cdot s^{-3}$
放射輝度	ワット毎平方メートル毎ステラジアン	$W/(m^2 \cdot sr)$	$m^2 \cdot m^{-2} \cdot kg \cdot s^{-3}=kg \cdot s^{-3}$

表６．国際単位系と併用されるが国際単位系に属さない単位

名称	記号	SI 単位による値
分	min	1 min=60s
時	h	1h =60 min=3600 s
日	d	1 d=24 h=86400 s
度	°	1° =(π/180) rad
分	’	1’ =(1/60)° =(π/10800) rad
秒	”	1” =(1/60)’ =(π/648000) rad
リットル	l、L	1l=1 $dm^3=10^{-3}m^3$
トン	t	1t=10^3 kg
ネーパ	Np	1Np=1
ベル	B	1B=(1/2)ln10(Np)

表７．国際単位系と併用されこれに属さない単位でSI単位で表される数値が実験的に得られるもの

名称	記号	SI 単位であらわされる数値
電子ボルト	eV	1eV=1.60217733(49)×10^{-19}J
統一原子質量単位	u	1u=1.6605402(10)×10^{-27}kg
天文単位	ua	1ua=1.49597870691(30)×10^{11}m

表８．国際単位系に属さないが国際単位系と併用されるその他の単位

名称	記号	SI 単位であらわされる数値
海里		1海里=1852m
ノット		1ノット=1海里毎時=(1852/3600)m/s
アール	a	1a=1 $dam^2=10^2m^2$
ヘクタール	ha	1ha=1 $hm^2=10^4m^2$
バール	bar	1 bar=0.1MPa=100kPa=1000hPa=10^5Pa
オングストローム	Å	1 Å=0.1nm=10^{-10}m
バーン	b	1 b=100$fm^2=10^{-28}m^2$

表９．固有の名称を含むCGS組立単位

名称	記号	SI 単位であらわされる数値
エルグ	erg	1 erg=10^{-7} J
ダイン	dyn	1 dyn=10^{-5}N
ポアズ	P	1 P=1 dyn・s/cm^2=0.1Pa・s
ストークス	St	1 St =1$cm^2/s=10^{-4}m^2/s$
ガウス	G	1 G ≙10^{-4}T
エルステッド	Oe	1 Oe ≙(1000/4π)A/m
マクスウェル	Mx	1 Mx ≙10^{-8}Wb
スチルブ	sb	1 sb =1$cd/cm^2=10^4cd/m^2$
ホト	ph	1 ph=$10^4$1x
ガル	Gal	1 Gal =1$cm/s^2=10^{-2}m/s^2$

表10．国際単位に属さないその他の単位の例

名称	記号	SI 単位であらわされる数値
キュリー	Ci	1 Ci=3.7×10^{10}Bq
レントゲン	R	1 R = 2.58×10^{-4}C/kg
ラド	rad	1 rad=1cGy=10^{-2}Gy
レム	rem	1 rem=1 cSv=10^{-2}Sv
X線単位		1X unit=1.002×10^{-4}nm
ガンマ	γ	1γ=1 nT=10^{-9}T
ジャンスキー	Jy	1 Jy=10^{-26}W・m^{-2}・Hz^{-1}
フェルミ		1 fermi=1 fm=10^{-15}m
メートル系カラット		1 metric carat = 200 mg = 2×10^{-4}kg
トル	Torr	1 Torr = (101 325/760) Pa
標準大気圧	atm	1 atm = 101 325 Pa
カロリー	cal	
ミクロン	μ	1 μ =1μm=10^{-6}m

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