

N71. ICRP's NEW RECOMMENDATIONS

New risk coefficients, tissue weighting factors, and dose limits are contained in the 1990 recommendations of the International Commission on Radiological Protection (ICRP), which will be published shortly. These values and the rationale behind their selection are summarized in this article. The tissue weighting factors are shown in the table below. The recommendations also examine the total detriment to working populations exposed at various annual dose rates.

Tissue Weighting Factors

0.01	0.05	0.12	0.2
Bone surface	Bladder	Colon	Gonads
Skin	Breast	Lung	
	Liver	Bone marrow	

For a workforce between ages 18 and 65, a fatal cancer risk of 4%/Sv is estimated. Additional detriments due to non-fatal cancer and hereditary defects yield a total weighted risk of 4.8%/Sv for exposure at 20 mSv/yr for 50 yr. These factors lead to a recommended limit of 20 mSv/yr averaged over a period of 5 yr, with no more than 50 mSv/yr in a single year. Public exposure should be limited to 1 mSv/yr, with exceptions so long as the average over 5 years does not exceed 1 mSv. A restriction of 2 mSv to the surface of the woman's abdomen during pregnancy is recommended, and intakes should be limited to 1/20th of an annual limitation intake.

For more, see Clarke, R.H., "Setting New Protection Standards for Radiation," Nuclear Engineering International, pp. 20-22, February 1991.