

Note: file for 80-column printout

LD-50 (lethal dose for 50% of exposed population) EXPOSURE DOSES FOR VARIOUS

ANIMALS AND PLANTS

Organism	LD-50 in RADS
Dogs, pigs	300
Goats	350
MAN	400
Mice, monkeys	450
Sheep	540
Fish/shellfish	550 to 100,000
Cattle,rats,horses	630
Rabbits	800
Chickens	1000
Insects	5000+
Turtles	15000
Bacteria/viruses	100000
LD-90	
Cabbage,spinach	14000
LD-100	
Onions	2000
Oats	3300
Barley,rye,wheat, and corn	4300
Fruits and grasses	5000+
Potatoes	12000
Tomatoes	15000

CLINICAL EFFECTS ARISING FROM RAPID WHOLE-BODY DOSES OF IMMEDIATE GAMMA

RADIATION OR THE SAME AMOUNT OF RADIATION ACQUIRED IN THE COURSE OF ONE HOUR

Note:that the human body can stand MUCH more radiation if the radiation is spread out over a longer time (see below for longer time exposures).

Whole body Incapacity Death in Survivors Clinical effects/therapy dosage in in exposed exposed period of

RADS persons persons Convalescence

0-25	0%	0%	n/a	Practically no "short-term" effects. May be some blood cell changes./ None required, just reassurance.
25-100	0-25%	0%	7 days	A small amount of nausea and sickness for highest dose level. Blood changes noticable./ Reassurance, rest, and blood counts checks, if possible.
100-200	25-100%	approx. 25% in 30-60 days.	Up to 40 days.	Definate identifiable changes in blood cells. Highest dose causes hair loss, livid skin spots, nausea,vomiting, diarrhea,fevers,hemorrhages, and great fatigue. Heart failure in some./ Rest

			reassurance,blood cell count,light diet,antibiotics.
200-400	100% in 30 to 60 days.	25-50% weeks to range./Same as above but blood trans- months. fusion(if possible)may help recovery. Sedatives for bad cases.	Several Symptoms as above but more severe. Fatal to 25% in low range, 50% in high
400-600	100% in 20 to 35 days.	50-75% months to years. span./Survivors will require all the above + a bone marrow transplant if possible. Sedatives for bad cases.	Several Symptoms as above but now very severe and occuring soon after exposure. Death will occur within shorter time
600-800	100% in days.	75-99% Years system and parts of the central nervous system malfunction rapidly./Treatment as above but mainly supportive because of probability of death. Maintaining electrolytes may assist victim.	Symptoms as above but the circulatory
800-5000+	100% in hours.	100% Outcome very rapid indeed. Vomiting,falling blood count,diarrhea,great fatigue,internal bleding,organs fail,nervous system collapse heart failure/coma - death./ Purely supportive therapy, no possible recovery.	

Again, as these doses are immediate or one hour doses, these are strictly worse case possible results. The same dosage acquired over a longer time span would have significantly less drastic effects. (see below for time table)

The above is taken from the very fine book SURVIVING DOOMSDAY-C.Bruce Sibley. Available from Journal of Practical Civil Defence
11 Newport Cresnet,Waddington
Lincolnshire,LN5 9LZ, England for \$15.00,postpaid or at your friendly survivalist bookstore. This book's missiles table are outdated, but the rest of the book is one of the best I have seen. Ken

The body can handle and repair a certian amount of free radical damage whether it is caused by radiation, drinking alcholol, heavy labor, heavy exercise, eating slightly rancid food, or from wounds. The following table shows this ability of the body to repair itself to a limited extent.

Medical care needed by	Accumulated Radiation Exposures (R) over a period of		
	One week	One month	Four months
None, no deaths	150 R	200 R	300 R
Some, 5% may die	250 R	350 R	500 R
Most, 50% may die	450 R	600 R	

The above chart is from Richard C. Oster Sr.'s article in Journal of Civil Defense Oct 1987, Fallout Radiation: Levels and Effects.

(Note that the same exposure over 4 months causes 5% deaths whereas the same exposure over 1 hour causes 50+% deaths)

A further note. It has been stated that a daily radiation exposure of 3-12 rads per day will cause no short term effects. This is true to a limited extent. However, in radiation therapy where the typical daily dose is 15 Rads whole body, it has been noted that serious blood changes occur when day after day exposures hit around 150-200 R cumulative. Even if exposure is halted at that point, blood components will continue to deteriorate for the next 25-35 days.

The reason for the variance of outcome in exposure RATES is that radiation of the type that we are talking of is ionizing radiation. Ionizing radiation causes the formation of free radicals in the body. Radiation sickness is a free radical disease just as a hang-over is. The body can handle a certain amount of free radicals before the free radicals overwhelm the body's free radical scavenging system. When overwhelmed, part of the free radical damage consists of damage to the body's free radical scavenging system creating a vicious cycle. The body's ability to scavenge free radicals may be improved by a factor of three using various vitamins and minerals (see the three books, LIFE EXTENSION - A PARTIAL SCIENTIFIC APPROACH, THE LIFE EXTENSION COMPANION, THE LIFE EXTENSION WEIGHT LOSS PROGRAM by Durk Pearson & Sandy Shaw).

The reason for the variance of outcome from exposure DOSES is that there is a wide variance in people's ability to handle free radicals. This is based on genetics, age, state of physical conditioning, overall health, and quality of nutrition.