Microsoft Excel 97   Microsoft Excel 97

Thought you would both find these interesting.

Paul
---------------------- Forwarded by Paul Seligman/EH/DOE on 01/26/2001
05:14 AM

"Brian Thomas" <brian@senes.com> on 01/17/2001 12:09:13 PM

To: Paul Seligman/EH/DOE@EH
cc: "Owen Hoffman" <FOHoff3084@aol.com>
Subject: Updated Tables

Attached are two tables that have been modified slightly from the tables
sent on January 6, 2001. These tables should be a bit easier to
understand.
We were afraid the previous tables may be confusing to some.

In addition, several of the values at older ages at time of diagnosis
(70-85) were revisited. A few of the doses reported in the earlier
tables
caused the PC to be much larger than 50%, rather than just larger than
50%.
The updated tables correct this issue.

Just a reminder:

These two tables contain doses and probability of causation values for
an
individual exposed to low-LET radiation who later developed leukemia.
Both
tables report data as a function of the age of the individual when
exposed
and the time between their exposure and diagnosis of disease.

Table 1 reports doses (cSv) to red bone marrow (above background) which
produce an upper 99th percentile of probability of causation greater
than
50%.

Table 2 contains the 50th percentiles of the Probability of Causation
values for the doses in Table 1 (the 99th percentiles of the Probability
of
Causation values for these doses are at or slightly above 50%).

1

Please note that fixed-value doses were used for the purposes of this calculation. If uncertainty in the doses had been considered, the central
value of dose may be lower than the doses reported here. The additional uncertainty in the dose would likely affect the upper 99th percentile of the Probability of Causation.

If you need further clarification or would like additional calculations performed, please let us know. You may reply to this email or contact us at
(865) 483-6111.

Sincerely,

Brian Thomas

Table 1. Doses (cSv) to red bone marrow (above background) which produce an upper 99th percentile of probability of causation greater than 50%, assuming leukemia is diagnosed at various times after exposure. These calculations are for exposures to low-LET radiation.

Years between exposure and diagnosis	Age at exposure (years) Dose (cSv)								
	0	5	10	15	20	30	40	50	70
0	++	++	++	++	++	++	++	++	++
5	0.5	0.8	1.2	1.7	2.3	3.8	6.0	9.0	12
10	1.8	2.3	3.0	3.8	4.5	7.5	9.3	12	15
15	4.4	6.0	6.8	7.8	9.0	14	17	20	20
20	10	13	14	15	18	21	23	22	20
30	33	38	41	44	47	47	37	30	—
40	60	70	70	80	75	70	52	—	—
50	110	120	130	135	125	110	—	—	—
70	110	120	130	135	—	—	—	—	—

++ The probability of causation is zero for a cancer diagnosed less than 2 years after exposure.

— The probability of causation is not reported for unrealistically high ages (≥ age 90).

Table 2. Central value (50th percentile) of Probability of Causation, assuming leukemia is diagnosed at various times after exposure. These central values of PC are were calculated using the doses in Table 1 (which produce an upper 99th percentile of probability of causation greater than 50%).

Probability of Causation (%)

Years between exposure and diagnosis	Age at exposure (years)								
	0	5	10	15	20	30	40	50	70
0	++	++	++	++	++	++	++	++	++
5	20.0	22.3	26.7	28.4	30.1	31.1	31.5	30.7	32.5
10	26.7	27.7	30.0	31.3	31.6	35.7	33.0	31.3	32.9
15	27.1	31.8	32.0	32.7	33.4	38.4	38.0	37.2	34.4
20	27.7	31.7	33.2	33.0	36.5	37.9	37.7	33.9	—
30	20.7	24.7	27.6	30.7	33.7	36.5	32.5	29.6	—
40	9.0	12.8	14.9	20.2	21.5	26.0	25.1	—	—
50	4.0	6.0	8.8	12.1	14.1	20.4	—	—	—
70	4.0	6.0	8.8	12.1	—	—	—	—	—

++ The probability of causation is zero for a cancer diagnosed less than 2 years after exposure.

— The probability of causation is not reported for unrealistically high ages (≥ age 90).