

## Radiation: Exposure vs. health risk

REM [Roentgen Equivalent Man] is standard unit of radiation. Doses are for even exposure over entire body. Authorities are unable to estimate the radiation being released in Soviet Union tragedy.

■ **.01 REM:** Dental X-ray.

■ **.03 REM:** Chest X-ray.

■ **0.14-.2 REM:** Average annual dose for Chicago area residents from environment and medical sources.

■ **0.5 REM:** Federal exposure limit for pregnant workers in nuclear industry.

■ **0.3-.6 REM:** Mammogram.

■ **1 REM:** Spinal X-ray.

■ **1-5 REM:** Public protection needed if nuclear accident is anticipated at this size.

■ **5 REM:** Annual exposure limit for most nuclear workers.

■ **10 REM:** 30-year fatal cancer rate increases by about 0.7% per million people exposed. Without exposure, rate is 170,000 deaths.

■ **10-25 REM:** Small, short-term changes in blood of the exposed.

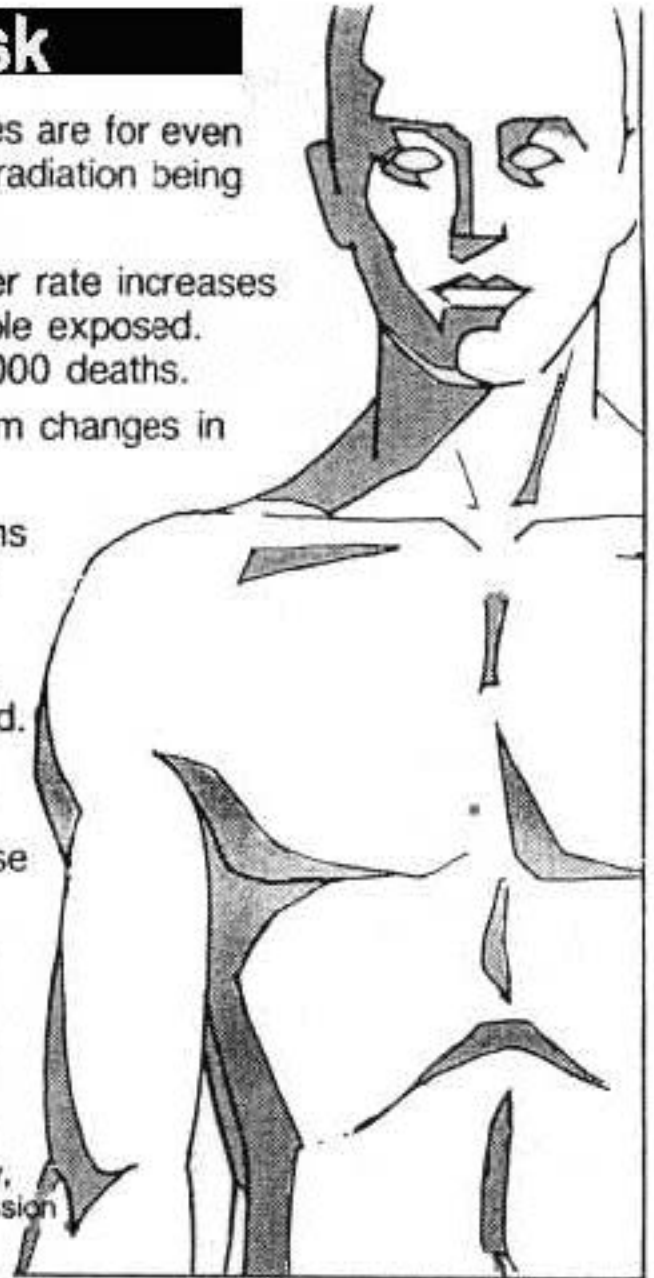
■ **25-50 REM:** Almost all victims show low white- and red-blood cell counts within 24 hours.

■ **50-100 REM:** Nausea within 12 hours for 5% of the exposed.

■ **100-200 REM:** 50% will experience vomiting within 3 hours of exposure; 10% will lose hair within 5 to 10 days.

■ **300-400 REM:** Death within 60 days for 50%.

■ **500-600 REM:** Death within 60 days for 90%.



Chicago Tribune Graphic; Sources: University of Chicago, American Nuclear Society, Argonne Laboratories, Rensselaer Polytechnic Institute, Nuclear Regulatory Commission