

ICRP MODEL ASSUMPTIONS

1. Stress to organism proportional to DOSE - $\Delta E/\Delta M$ Joules/kg (swallowing a hot coal)
2. Target is cell nuclear DNA which at low dose involves one track only.
3. Outcome is fatal cancer or heritable genetic damage modelled as clinical change.
4. Cancer diagnosed inside 5 years of exposure is not caused by the exposure.
5. Response is linear with no threshold.
6. External model is applicable to internal exposures.
7. Risk from chronic internal exposure is based on linear extrapolation of Hiroshima survivors who had very large acute external dose.

Omissions and Errors in the ICRP model

1. BIOKINETIC

- Dose anisotropy at sub cell level due to affinity of Strontium, Plutonium etc for DNA.
- Movement or distribution of particles smaller than 1 micron not addressed.

2. DOSIMETRIC

- Organs modelled as "bags of water" into which radiation energy is uniformly distributed.
- Isotopes only distinguished by affinity for organs: not organelles.
- No allowance for the state of the cell or its responses or repair systems.
- No allowance for hot particles.
- No consideration of transmutation e.g. Tritium-Helium.

3. PHILOSOPHICAL

- Scientific method not used.
- Clear evidence of ill health following internal exposure at low dose is routinely dismissed on basis of deductive application of External Risk model and Hiroshima results. This is **DEDUCTION** whereas science demands use of **INDUCTION**.