

How big is the risk from medical imaging to future generations?

We know that very high radiation doses can damage or kill eggs or sperm. However, diagnostic radiology (e.g., x-ray or CT) uses only low radiation doses. These doses are much lower than those that could produce destructive effects to eggs or sperm. Even though potential effects in human offspring of exposed parents have been investigated, none have ever been detected. Therefore, diagnostic radiation that involves exposing reproductive organs to low levels of radiation is considered safe in regard to genetic effects.



Radiation exposure to sperm or eggs is typically negligible if the testicles or ovaries are not directly exposed. Even if reproductive cells are directly exposed, the dose from a diagnostic exam poses essentially no risk. No studies have shown that low-level radiation exposure to eggs or sperm causes birth defects or miscarriage. Therefore, the risk is exceedingly small (essentially zero). In other words, the risk is less than the three percent overall chance that all fetuses have of birth defects from factors unrelated to radiation. Even in cancer patients whose ovaries were exposed to relatively high levels of radiation and chemotherapy, there have been no proven lasting effects from radiation. In fact, cancer patients who have experienced temporary infertility after exposure of their reproductive organs to high doses of radiation following chemotherapy, later recovered and had healthy children.

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