

Microbeam Radiation Therapy

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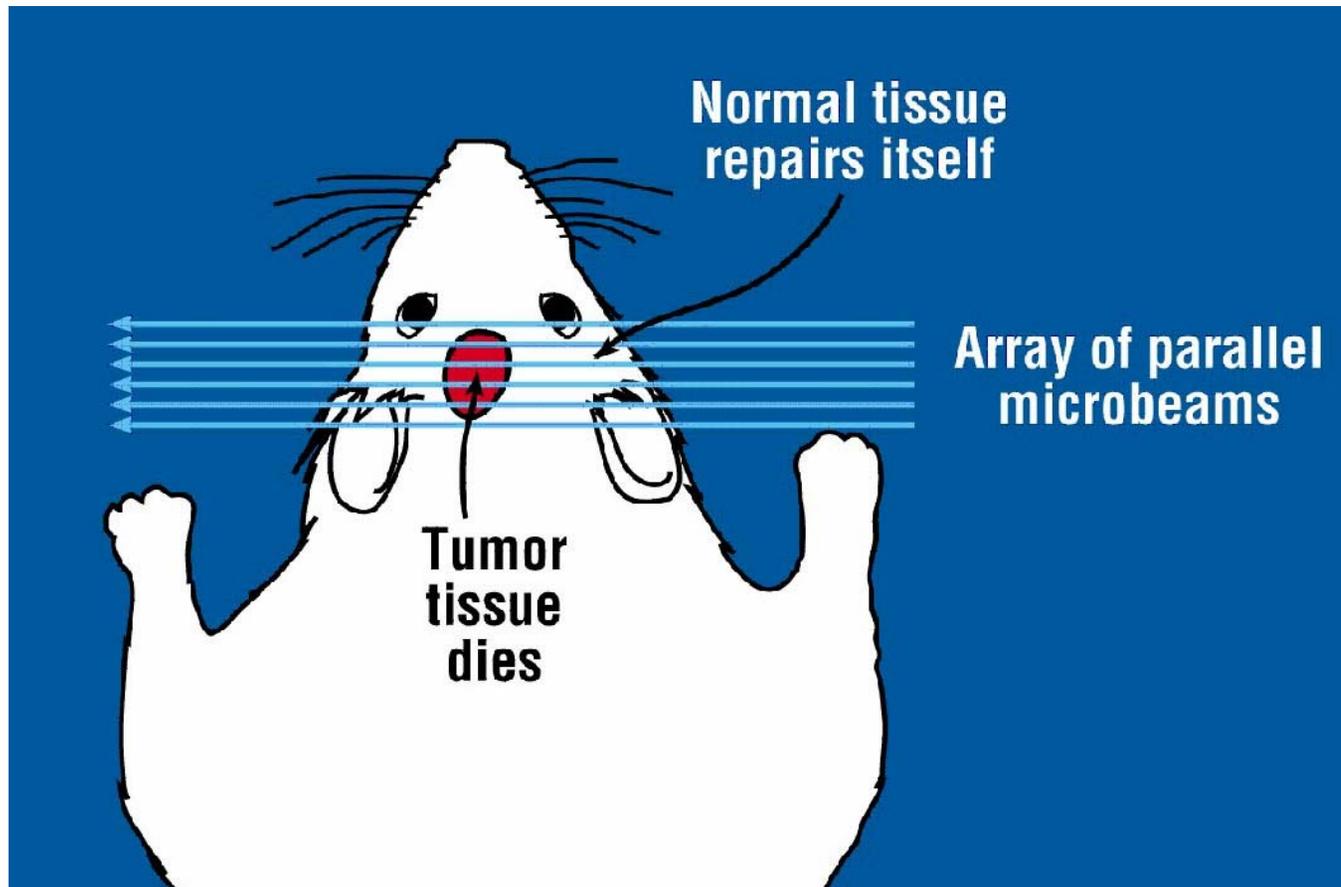
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Stony Brook Radiation Oncology

The “Volume Effect” in Radiation Therapy

- The threshold dose for damage to normal tissues increases as the irradiated tissue volume is made smaller.
- Such observations lead to the development of grid radiotherapy, and, later, stereotactic Radiotherapy.
- However, at sub-millimeter beam sizes this effect is suddenly enhanced by 30-fold (the microbeam effect). It was first observed first using a 25-MeV deuteron beam on the mouse cerebellum.

Microbeam Radiation Therapy (MRT) - Concept for tumor therapy



Mechanisms of normal tissue sparing: Current hypothesis

