

## SIDE EFFECTS OF RADIATION.

Radiation side effects are often temporary lack of function, or dysfunction or painful symptoms caused by radiation treatments passing through some of the neighboring normal tissue that surrounds a tumor.

Since every tissue in the body is different—a bone cell is different from a skin cell, is different from a nerve cell—the reaction of these cells to radiation will be different. So, what we see when people go through radiotherapy is a different set of side-effects depending on four things:

1. **Which part of the body is being treated?**
  - a. Treating the mouth gives an extremely different set of side effects than treating the hipbone.
2. **What total dose of radiation is hitting the normal tissues?**
  - a. Some cancers, such as prostate cancer, require very high doses of radiation --- 7,500 centiGray (this is a dose of absorbed radiation, also written as cGy).
  - b. Other cancers such as Lymphomas require very low doses of radiation –2000 to 3000 cGy.
  - c. Patients getting the lower dose treatment will have far less side effects, even when the same area (such as the pelvis) is treated.

### 3. How large an area is being treated?

- a. Treating a very small area, such as a patch of skin (let's say the size of a quarter), for a skin cancer, may have almost no side effects. Treating a very large piece of skin (such as an entire breast) may have more discomfort and symptoms.

### 4. How fast is the radiation being delivered?

- a. Giving 3000 cGy over 10 treatments (at 300 cGy each treatment) has far more side effects than giving the same tissue 3000 cGy over 15 treatments (at 200 cGy a treatment).

Finally, Radiation can cause a **series** of side effects:

1. **Acute side effects:** Some side effects can happen **during the couple of weeks of radiation.**
2. **Sub-acute side effects:** These side effects show up after the radiation is over—**usually in 1-2 months.**
3. **Late side effects**—usually due to scar tissue forming in the area that has been irradiated, these side effects may show up **years after radiotherapy is over.**

**If you have any questions about specific side effects you or your family members have experienced, or are currently experiencing, PLEASE JUST ASK AT ANY TIME.**

As always, any side effects or problems that you may be having from any cancer treatment must be brought to your treating doctor's attention. Please to not wait or rely on an Internet web site to provide you necessary healthcare.

Thanks,

Dr. Marge Barnes