Radiation Proctitis

What is radiation proctitis?
Radiation proctitis is inflammation of the rectum that occurs as a result of radiation to the pelvic area. Radiation is used as a treatment for certain kinds of cancers including cancer of the uterus, prostate and rectum. Radiation therapy is one of the most effective ways to treat many cancers. While radiation can be beneficial by killing cancer cells, it can be damaging to the surrounding tissue. The side-effects of radiation may be divided into 2 phases:

- Acute proctitis refers to inflammation that occurs soon after an individual receives radiation, usually during or within a few weeks of treatment.
- Chronic proctitis occurs months to years later and may be an on-going problem.

How does radiation cause proctitis?
Radiation is effective because it targets cells that are rapidly dividing. The ionizing radiation injures the nuclear material in cells (DNA) as it is duplicated during cell division. The affected cells are unable to complete their division and die. Thus, radiation effects the cells in its path that are multiplying the fastest. This includes cancer cells but also typically includes the mucosal cells lining the bowel. Normally, these mucosal cells are continuously dying and being replaced by new cells. If new cell production does not keep up with the dying cells then ulcerations develop in the bowel wall. Chronic proctitis is a result of damage to the small vessels supplying blood to the rectal wall. Over time, scarring develops in the bowel wall, and the blood vessels may narrow or become blocked. This results in thickening of the rectal wall with decreased wall flexibility and contraction. The rectum will not expand and contract normally to hold and expel stool. The decreased blood supply leads to new but abnormal blood vessel growth and these vessels are easily damaged and bleed.

What are the symptoms?
Acute proctitis usually occurs 2 to 4 weeks after starting radiation treatment. Diarrhea is the most common symptom. Some individuals may also experience crampy abdominal pain, bleeding from the rectum or pain with bowel movements. Symptoms related to chronic proctitis usually occur greater than 6 to 12 months after treatment. These symptoms may include mucous discharge, diarrhea, rectal pain and bleeding. Sometimes the bleeding is so extensive that a blood transfusion is needed. Some individuals experience constipation due to narrowing of the rectum (a stricture). In severe cases, inflammation can extend through the bowel wall and cause a hole (fistula) between the rectum and another segment of intestine or, in women, in to the vagina (a rectovaginal fistula).

How do I know if I have radiation proctitis?
Radiation proctitis is diagnosed by a physician examining the lining of the rectum. Redness, swelling and bleeding are some signs of proctitis. A biopsy may be taken. If an individual has previously had rectal cancer, it is important to make sure that any abnormal tissue seen is not recurrent cancer.
What are treatments available?

Radiation injury cannot be "cured." Once tissue is radiated, it is effected for life. However, there are a variety of treatments available for radiation proctitis. The most appropriate treatment is determined by the nature and severity of symptoms.

Various topical anti-inflammatory agents have been used with limited success. These are administered as an enema or a suppository. These medications can decrease symptoms related to mild inflammation in some people. Bleeding may be treated in a number of ways. Formalin is a medication that is fairly effective at reducing rectal bleeding. It is applied to the lining of the rectum by a physician using a rigid rectal scope (sigmoidoscope). The effects of formalin last for several months. Repeated treatment may be necessary. Bleeding points on the surface of the rectum can be also cauterized with lasers, argon plasma coagulation, or infrared coagulation. Successful control of bleeding usually requires several treatments and may only be a temporary solution.

When medical and topical treatments are unsuccessful, surgery may be necessary. Surgical treatment may involve removing the involved segment of rectum and replacing it with healthy colon. In some instances a temporary or permanent colostomy may be necessary.