

Cancer Association of South Africa (CANSA)



CANSA Fact Sheet on Rectal Bleeding Following Radiation Therapy for Prostate Cancer

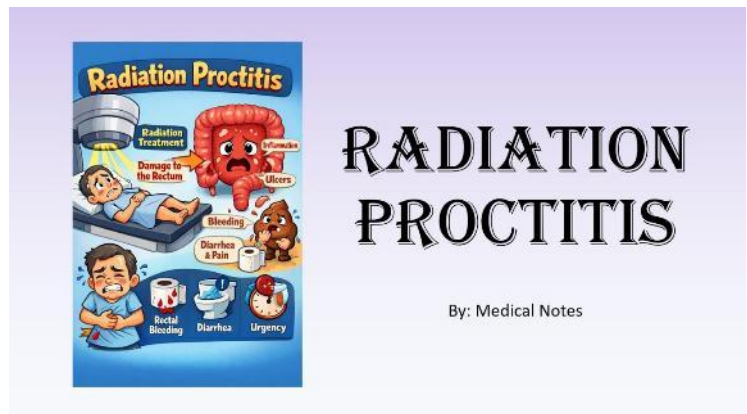
Introduction

According to Takemoto, S. *et al.*, (2012) chronic rectal bleeding is one of the most common complications of radiation therapy for prostate cancer.

[Picture Credit: Radiation Proctitis]

This view is shared by various oncologists and researchers.

The aetiology of radiation proctitis is considered to be chronic mucosal ischemia caused by tissue fibrosis and obliterative endarteritis. The injured rectal wall can bleed easily, occasionally leading to a chronic ischaemic state and causing episodes of severe rectal bleeding.



Radiation-induced rectal bleeding, or radiation proctitis, is a common side effect of pelvic radiation therapy affecting 5–50% of patients. Symptoms include diarrhoea, urgency, and bloody discharge. Management ranges from conservative treatments like sucralfate enemas to endoscopic procedures such as argon plasma coagulation.

(Cleveland Clinic, 2025; International Foundation for Gastrointestinal Disorders, No date; Macmillan Cancer Support, 2026).

Takemoto, S., Shibamoto, Y., Ayakawa, S., Nagai, A., Hayashi, A., Ogino, H., Baba, F., Yanagi, T., Sugie, C., Kataoka, H. & Mimura, M. 2012.

Background: Radiation proctitis after intensity-modulated radiation therapy (IMRT) differs from that seen after pelvic irradiation in that this adverse event is a result of high-dose radiation to a very small area in the rectum. We evaluated the results of treatment for hemorrhagic proctitis after IMRT for prostate cancer.

Methods: Between November 2004 and February 2010, 403 patients with prostate cancer were treated with IMRT at 2 institutions. Among these patients, 64 patients who developed late rectal bleeding were evaluated. Forty patients had received IMRT using a linear accelerator and 24 by tomotherapy. Their median age was 72 years. Each patient was assessed clinically and/or endoscopically. Depending on the severity, steroid suppositories or enemas were administered up to twice daily and Argon plasma coagulation (APC) was

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performed up to 3 times. Response to treatment was evaluated using the Rectal Bleeding Score (RBS), which is the sum of Frequency Score (graded from 1 to 3 by frequency of bleeding) and Amount Score (graded from 1 to 3 by amount of bleeding). Stoppage of bleeding over 3 months was scored as RBS 1.

Results: The median follow-up period for treatment of rectal bleeding was 35 months (range, 12-69 months). Grade of bleeding was 1 in 31 patients, 2 in 26, and 3 in 7. Nineteen of 45 patients (42%) observed without treatment showed improvement and bleeding stopped in 17 (38%), although mean RBS did not change significantly. Eighteen of 29 patients (62%) treated with steroid suppositories or enemas showed improvement (mean RBS, from 4.1 ± 1.0 to 3.0 ± 1.8 , $p = 0.003$) and bleeding stopped in 9 (31%). One patient treated with steroid enema 0.5-2 times a day for 12 months developed septic shock and died of multiple organ failure. All 12 patients treated with APC showed improvement (mean RBS, 4.7 ± 1.2 to 2.3 ± 1.4 , $p < 0.001$) and bleeding stopped in 5 (42%).

Conclusions: After adequate periods of observation, steroid suppositories/enemas are expected to be effective. However, short duration of administration with appropriate dosage should be appropriate. Even when patients have no response to pharmacotherapy, APC is effective.

Chukwudike, E.S., David, N.P., Obasi, E., Ogan, J.J., Nwoko, C.U., Onyia, C.P., Okonkwo, K.C., Abdulkareem, L.O., Adiri, W.N., Egbo, S.C., Oziegbe, E. & Davwar, P.M. 2025.

“Pelvic radiotherapy is an acceptable and promising treatment modality for various pelvic malignancies. However, it is associated with radiation-induced injury on surrounding structures with a preference for the rectum, which is characteristically fixed in the pelvic region. Acute radiation proctitis is usually self-limiting, but in its chronic form, it can be debilitating. Recent advances in radiation therapy have significantly reduced the prevalence of radiation proctitis (RP) in high-income countries, contrary to the findings in low and middle-income countries witnessing an increasing burden of radiation proctitis. This observation can be attributed to the increased availability of radiation therapies with limited use of novel technologies designed to reduce the detrimental effects of radiotherapy and improve the detection of RP owing to improvements in endoscopic services in developing countries. This is a highlight of the trends in the presentation of RP, management modalities in various tertiary centers in Nigeria, and the limitations in care occasioned by the non-availability of argon plasma coagulation (APC) as an effective treatment modality in most tertiary health facilities in Nigeria.”

Risk Factors and Side Effects of Rectal Bleeding Following Radiation Therapy for Prostate Cancer

The primary risk factors for radiation-induced rectal bleeding include high radiation doses (>70 Gy) or large volumes of the rectum irradiated, especially in patients taking anticoagulant or antiplatelet medications. Comorbidities like diabetes, hypertension, and vascular disease further increase susceptibility to chronic injury.

Various researchers list risk factors for rectal bleeding following radiation therapy for prostate cancer. Brennan, Nicholson, & Kelly (2017), also list several possible risk factors for rectal bleeding following radiation therapy for prostate cancer have been identified. They list the following risk factors:

- Adjuvant external beam radiation therapy, brachytherapy of both
- Antiplatelet (AP) or anticoagulant (AC) medications
- Hypertension
- Hypercholesterolaemia
- Diabetes mellitus
- Ischaemic heart disease (IHD)
- Peripheral vascular disease (PVD)
- History of stroke

The type and severity of side effects one may have with external beam radiation for prostate cancer may depend on the dose and on the amount of healthy tissue that is exposed to the radiation. Most side effects are temporary, can be controlled and generally improve over time once treatment has ended.

Newer technologies, such as intensity-modulated radiation therapy (IMRT) or proton beam, deliver the highest dose of radiation to the target while sparing surrounding healthy tissue. This helps minimize side effects of external beam radiation treatment.

Potential side effects of external beam radiation therapy for prostate cancer may include:

- Frequent urination
- Difficult or painful urination
- Blood in the urine
- Urinary leakage
- Abdominal cramping
- Diarrhoea
- Painful bowel movements
- Rectal bleeding
- Rectal leaking
- Fatigue
- Sexual dysfunction, including diminished erectile function or decrease in the volume of semen
- Skin reactions (similar to a sunburn)
- Secondary cancers in the region of the radiation

Most of the side effects are mild and tolerable. Some side effects may develop months to years later. Serious late side effects are uncommon. Ask your doctor about potential side effects, both short- and long-term, that may occur during and after your treatment.

(Kim, T.G., Park, B., Song, Y.G., Lee, H.W., Oh, T.H., Ryu, D.S., Jeong, S.C., Cho, D., Oh, J., Kim, K.M., Lee, J.W., Lee, H.S., Kong, S.M., Kim, J.Y. & Kim, H. 2022; eviQ, 2025).

Grading of Late Rectal Bleeding Following Radiotherapy for Prostate Cancer

According to Phan, *et al.*, (2009 late rectal bleeding following radiotherapy for prostate cancer is graded as follows:

Grade	Description	Criteria
Grade 1	Mild and self-limiting	Minimal, infrequent bleeding or clear mucous discharge, rectal discomfort not requiring analgesics, loose stools not requiring medications.
Grade 2	Managed conservatively, lifestyle (performance status) not affected	Intermittent rectal bleeding not requiring regular use of pads, erythema of rectal lining on proctoscopy, diarrhoea requiring medications.
Grade 3	Severe, alters patient lifestyle	Rectal bleeding requiring regular use of pads and minor surgical intervention, rectal pain requiring narcotics, rectal ulceration
Grade 4	Life-threatening and disabling	Bowel obstruction, fistula formation, bleeding requiring hospitalisation, surgical intervention required

“This review of the literature on late rectal complications after prostate brachytherapy indicated that it is a highly effective treatment modality for patients with clinically localized prostate cancer but can cause chronic radiation proctitis. The most common manifestation of chronic radiation proctitis was anterior rectal wall

bleeding, which often occurred within the first 2 years after brachytherapy. It is interesting to note that the rates of late rectal morbidity appear to have declined over time, which may reflect improvements in implantation techniques and imaging. Rectal biopsy as part of the workup to evaluate rectal bleeding can lead to rectal fistula and the need for colostomy, a rare but major complication. The authors recommend 1) screening colonoscopy before brachytherapy for patients who have not had a screening colonoscopy within the preceding 3 years to rule out colorectal malignancies and, thus, facilitate conservative management should rectal bleeding occur; 2) lifestyle modifications during treatment to limit exposure of the rectum to radiation; and 3) conservative management for rectal bleeding that occurs within 2 years after brachytherapy. Cancer 2009. (c) 2009 American Cancer Society.”

Treatment

Treatment for radiation-induced rectal bleeding (chronic radiation proctitis) focuses on reducing inflammation and sealing bleeding vessels, often using Argon Plasma Coagulation (APC) or sucralfate/steroid enemas. Mild cases may resolve on their own, but persistent bleeding is commonly managed through endoscopic therapies, while severe cases may require hyperbaric oxygen therapy.

(Cleveland Clinic, 2025; Porouhan, P., Farshchian, N. & Dayani M. 2019).

About Clinical Trials

Clinical trials are research studies that involve people. They are conducted under controlled conditions. Only about 10% of all drugs started in human clinical trials become an approved drug.

Clinical trials include:

- Trials to test effectiveness of new treatments
- Trials to test new ways of using current treatments
- Tests new interventions that may lower the risk of developing certain types of cancers
- Tests to find new ways of screening for cancer

The South African National Clinical Trials Register provides the public with updated information on clinical trials on human participants being conducted in South Africa. The Register provides information on the purpose of the clinical trial; who can participate, where the trial is located, and contact details.

For additional information, please visit: <https://pactr.samrc.ac.za/>

Summary for the Average Reader

Rectal bleeding after pelvic radiation therapy—commonly known as Radiation Proctitis—is a frequent side effect caused by damage to the rectal lining.

Types of Radiation-Induced Bleeding

- **Acute Phase:** Occurs during or within 3 months of treatment. Bleeding is typically mild and accompanied by diarrhea, cramping, and a sudden urge to pass stool.
- **Chronic Phase:** Can develop months or even years later (most commonly 8–12 months post-treatment). This phase involves the growth of fragile new blood vessels (telangiectasias) that bleed easily.

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Management and Treatment Options

For many, the bleeding is mild and resolves on its own within weeks or months. If it persists or causes anaemia, healthcare providers typically follow a "step-up" approach:

- **First Line (Conservative):**
 - **Diet and Lifestyle:** Increasing fibre, using stool softeners to prevent straining, and staying hydrated.
 - **Topical Medications:** Sucralfate enemas or suppositories are often used to coat and protect the rectal lining.
 - **Anti-inflammatories:** Steroid enemas (like hydrocortisone) or mesalamine may be prescribed to reduce inflammation.
- **Second Line (Interventional):**
 - **Argon Plasma Coagulation (APC):** The most common endoscopic treatment. A specialized probe uses ionized argon gas to "seal" bleeding vessels without direct tissue contact.
 - **Formalin Application:** A chemical solution is applied to the rectal lining to seal fragile vessels.
 - **Hyperbaric Oxygen Therapy (HBO):** Used for more resistant cases, this treatment increases oxygen levels in the blood to promote tissue healing and new vessel growth.
- **Third Line (Surgical):**
 - **Surgery:** Reserved for severe, life-threatening complications like intractable bleeding, fistulas, or bowel obstruction.

When to Seek Medical Attention

You should contact your radiation oncology team or a gastroenterologist if you notice:

- Any new or worsening rectal bleeding after completing radiation.
- Significant pain or frequent, urgent bowel movements.
- Symptoms of anaemia, such as extreme fatigue, dizziness, or weakness.

(AI Overview, 2026).

Medical Disclaimer

This Fact Sheet is intended to provide general information only and, as such, should not be considered as a substitute for advice, medically or otherwise, covering any specific situation. Users should seek appropriate advice before taking or refraining from taking any action in reliance on any information contained in this Fact Sheet. So far as permissible by law, the Cancer Association of South Africa (CANSA) does not accept any liability to any person (or his/her dependants/estate/heirs) relating to the use of any information contained in this Fact Sheet.

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Sources and References Consulted and/or Utilised

AI Overview. 2026.

https://www.google.com/search?q=Radiation-induced+rectal+bleeding&sca_esv=e57a1abbbbed76129&udm=50&fbs=ADc_I-aNOCWEZBOHjofHoaMMDiKpaEWjvZ2Py1XXV8d8Kvll3vxYl1toJT_24H7Q4iMwclTUnm450_6Cq-1VJ9pZry9xb_GJN7o1eWt3W1QLTqxAzURUSH2kb5uOCIN5-dQTF45snPNnMrbjC5xCAAODjPeS7CaZavbEM3zg87X9k30bXqChzf0aPPskK5bsS9gXsHnOrUh93V7_0zHOT3dHYTZnjMxoCg&aep=1&ntc=1&sa=X&ved=2ahUKewjm7rj7vfSTAxUAW0EAHSu5AlMQ2J8OegQIDhAI&biw=1912&bih=948&dpr=1&mstk=AUtExfAvlfs0MwdFYSEbf76F5W5C0fZ8MrOTCA_oHLQ_7zsAHLc5SJGaCJ4FZ7WdTtMIwBqdVOYzNZ1J0fufRbPZJ7YOJVT6tu1xs7djlIHo11cJpGfjdLoMiPdi7NsAG1QF9olqzCrAECKQgeBcswW0-9M-hgDUF6AeUo&csuir=1. Accessed on 17 April 2026.

Cleveland Clinic. 2025. Radiation Proctitis. What is radiation proctitis?

<https://my.clevelandclinic.org/health/diseases/radiation-proctitis>. Accessed on 17 April 2026.

Cleveland Clinic. 2025. Radiation Proctitis. Management and Treatment.

<https://my.clevelandclinic.org/health/diseases/radiation-proctitis>. Accessed on 17 April 2026.

eviQ. 2025. Proctitis. *Risk Factors*.

<https://www.eviq.org.au/clinical-resources/side-effect-and-toxicity-management/gastrointestinal/421-proctitis>. Accessed on 17 April 2026).

International Foundation for Gastrointestinal Disorders. No date. Radiation Induced Injury to the Colon and Rectum.

<https://iffgd.org/gi-disorders/other-disorders/radiation-therapy-injury/>. Accessed on 17 April 2026.

Kim, T.G., Park, B., Song, Y.G., Lee, H.W., Oh, T.H., Ryu, D.S., Jeong, S.C., Cho, D., Oh, J., Kim, K.M., Lee, J.W., Lee, H.S., Kong, S.M., Kim, J.Y. & Kim, H. 2022. Patient-related risk factors for late rectal bleeding after hypofractionated radiotherapy for localized prostate cancer: a single-center retrospective study. *Radiat Oncol*. 2022 Feb 9;17(1):30. *PubMed*.

<https://pmc.ncbi.nlm.nih.gov/articles/PMC8827292/#:~:text=The%20study%20included%2031%20patients%20who%20received,by%20minimizing%20hotspots%20in%20patients%20taking%20anticoagulants>. Accessed on 17 April 2026.

Macmillan Cancer Support. 2026. Bleeding from the bowel after pelvic radiotherapy. <https://www.macmillan.org.uk/cancer-information-and-support/treatment/types-of-treatment/radiotherapy/pelvic-radiotherapy/bleeding-from-the-bowel-after-pelvic-radiotherapy>. Accessed on 17 April 2026.

Phan, J., Swanson, D.A., Levy, L.B., Kudchadker, R.J., Bruno, T.L. & Frank, S.J. 2009. Late rectal complications after prostate brachytherapy for localized prostate cancer: incidence and management. *Cancer*. 2009 May 1;115(9):1827-39. doi: 10.1002/cncr.24223. PMID: 19248043. *PubMed*. <https://pubmed.ncbi.nlm.nih.gov/19248043/>. Accessed on 17 April 2026.

Porouhan, P., Farshchian, N. & Dayani M. 2019. Management of radiation-induced proctitis. *J Family Med Prim Care*. 2019 Jul;8(7):2173-2178. doi: 10.4103/jfmpc.jfmpc_333_19. PMID: 31463226; PMCID: PMC6691413. *PubMed*. <https://pmc.ncbi.nlm.nih.gov/articles/PMC6691413/>. Accessed on 17 April 2026.

Radiation Proctitis

You Tube. 2026. Radiation proctitis - definition, causes, signs and symptoms, investigation, treatment.

https://www.youtube.com/watch?v=7FoKW0AG_ZE. Accessed on 17 April 2026.

South African National Clinical Trials Register. 2025. Welcome to SANCTR. <https://sanctr.samrc.ac.za/>. Accessed on 21 March 2026.

Takemoto, S., Shibamoto, Y., Ayakawa, S., Nagain, A., Hayashi, A., Ogino, H., Baba, F., Yanagi, T., Sugie, C., Kataoka, H. & Mimura, M. 2012. Treatment and prognosis of patients with late rectal bleeding after intensity-modulated radiation therapy for prostate cancer. *Radiation Oncology*, volume 7, Article number: 87 (2012). *PubMed*. <https://pubmed.ncbi.nlm.nih.gov/22691293/>. Accessed on 17 April 2026.

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