The Pelvic Radiation Disease Association's definition of

Pelvic Radiation Disease

Pelvic Radiation Disease (PRD) is defined as one or more ongoing symptoms of variable complexity that may affect people who have previously had radiotherapy to the pelvic region to treat their cancer. This includes pelvic radiotherapy for cancers of the colon, rectum, anus, prostate, testes, bladder, cervix and womb, but also total body radiotherapy and radiotherapy in the pelvic area for other primary and secondary cancers.

Pelvic Radiation Disease can affect one or more of:

Bladder Bone Bowel Nerves

Sexual organs Blood supply

Stomach and digestion Lymphatic system

Skin Mental health

Symptoms arise as a result of damage to internal organs or skin. Symptoms often settle in the few weeks after radiotherapy finishes but Pelvic Radiation Disease can be defined as symptoms starting or continuing 3 months or more after the end of radiotherapy. Sometimes they start many years or decades after radiotherapy.

The following Pelvic Radiation Disease symptoms range from mild to severe, and some are more common than others, but all tend to be under-recognised:

- bowel and stomach difficulties*
 (almost any bowel or stomach symptom can be caused by radiotherapy but the most common symptoms are accidents, leakage or an inability to control the bowel or hang on, diarrhoea, need to rush to the toilet, bleeding from the bowel, poor appetite and malnutrition)
- bladder difficulties (such as leakage or lack of control, need to rush to pass urine, bleeding)
- sexual difficulties (such as painful intercourse for women or achieving and maintaining a satisfactory erection and/ or problems with ejaculation for men)
- pain
- fatigue

- **swelling** (e.g. lymphoedema)
- poor mobility
- · blood circulation disorders
- anaemia
- sore skin
- nerve damage
- bone fractures
- hormonal changes (such as hot flushes)
- infertility
- sleep disturbance
- memory problems
- psychological difficulties.

*A full list of gastrointestinal symptoms can be found in this guidance.

All or any of these symptoms can have profound effect on a person's ability to live a normal life.

However, with correct diagnosis, treatment and care by health professionals with expertise in PRD, and with support to self-manage problems, significant improvement to quality of life can be made.

Other words that are sometimes used to describe symptoms of PRD include: Radiation enteritis, Radiation proctitis, Radiation colitis, Radiation enteropathy, Radiation cystitis, Radiation cystopathy, Radiation-induced lumbar plexopathy and Pelvic insufficiency fractures.

PRDA believes that the overarching term 'Pelvic Radiation Disease' should be used, as it covers the fact that often several organs, as well as mental health, are affected. The term Pelvic Radiation Disease therefore encourages a multi-professional approach to patient care to be taken.

The Pelvic Radiation Disease Association (<u>www.prda.org.uk</u>) aims to support all people affected by, or at risk of, side effects due to pelvic radiotherapy, at any stage of cancer treatment, and however long ago cancer treatment was given.

References

- Adams, E, Boulton MG, Horne A, Rose PW, Dirrant L, Collingwood M, Oskrochi R, Davidson SE and Watson EK. (2014)
 The Effects of Pelvic Radiotherapy on Cancer Survivors: Symptom Profile, Psychological Morbidity and Quality of Life.
 Clinical Oncology, 26(1), pp 10-17. https://www.clinicaloncologyonline.net/article/S0936-6555(13)00309-9/fulltext
 (abstract free to view; payment required for full access).
- Andreyev HJN, Wotherspoon A, Denham JW & Hauer-Jensen M. (2011) "Pelvic radiation disease": New understanding
 and new solutions for a new disease in the era of cancer survivorship. Scandinavian Journal of Gastroenterology. 46(4)
 pp 389-397. http://www.tandfonline.com/doi/full/10.3109/00365521.2010.545832 (abstract free to view; payment required
 for full access).
- Andreyev HJN, Muls AC, Norton C, Ralph C, Watson L, Shaw C and Lindsay JO. (2015) Guidance: The practical
 management of the gastrointestinal symptoms of pelvic radiation disease. Frontline Gastroenterology 6:53–72. Also
 available as a booklet from Macmillan https://www.macmillan.org.uk/ images/practical-management-gi-symptoms-pelvicradiation-disease tcm9-300557.pdf
- Jo's Cervical Cancer Trust. Long term consequences of cervical cancer and its treatment. https://www.jostrust.org.uk/information/moving-forward-from-a-cancer-diagnosis/PRD (last accessed 27 December 2019)
- Lobo N, Kulkarni M, Hughes S, Nair R, Khan MS and Thurairaja R. (2018) Urologic Complications Following Pelvic Radiotherapy. Urology. 122, pp1-9. https://www.goldjournal.net/article/S0090-4295(18)30750-7/fulltext (abstract free to view; payment required for full access).
- Macmillan Cancer Support webpage of pelvic radiotherapy late effects. https://www.macmillan.org.uk/information-and-support/coping/side-effects-and-symptoms/late-effects-pelvic-radiotherapy (last accessed 27 Dec 2019).
- Morris KA & Haboubi NY. (2015) Pelvic radiation therapy: Between delight and disaster. World Journal of Gastrointestinal Surgery. 7(11) pp 279-288. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4663381/pdf/WJGS-7-279.pdf
- Wedlake LJ, Thomas K, Lalji A, Blake P, Khoo VS, Tait D and Andreyev HJN. (2010) Predicting late effects of pelvic radiotherapy: Is there a better approach? International Journal of Radiation Oncology Biology Physics. 78(4), pp. 1163-1170.

Pelvic Radiation Disease Association, February 2020

Acknowledgements: Sincere thanks to members of the Pelvic Radiation Disease Association's Medical Advisory Panel for their advice and input to this definition.