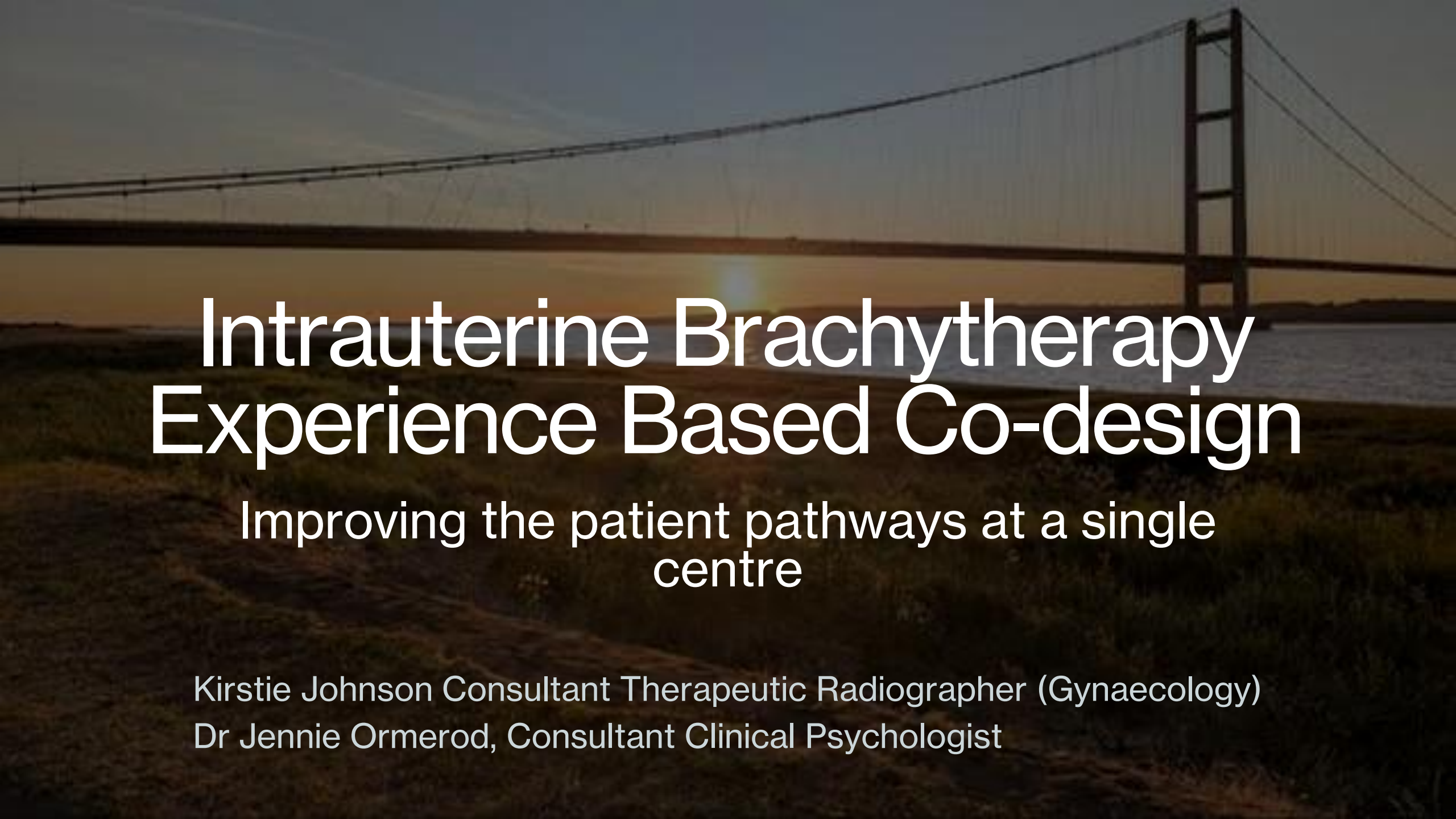


A photograph of the Golden Gate Bridge in San Francisco, taken from a low angle on a grassy hill. The bridge's suspension cables and towers are visible against a hazy, orange-tinted sky at sunset. The water of the bay is visible in the background.

Intrauterine Brachytherapy Experience Based Co-design

Improving the patient pathways at a single
centre

Kirstie Johnson Consultant Therapeutic Radiographer (Gynaecology)

Dr Jennie Ormerod, Consultant Clinical Psychologist

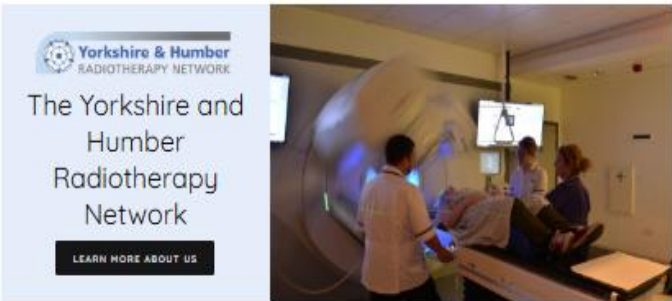
Queens Centre, Castle Hill Hospital

Yorkshire and Humber RT Network

NLAG, HUTH, York/Scarborough



<https://yhradiotherapynetwork.nhs.uk/>



Gynaecological brachytherapy

Vaginal Brachytherapy for Endometrial ca
average

59 patients per annum

Intrauterine Brachytherapy for Cervical ca

26 patients per annum (Interstitial
brachytherapy since 2017)

Papillon contact rectal brachytherapy
since 2011



What is Brachytherapy?

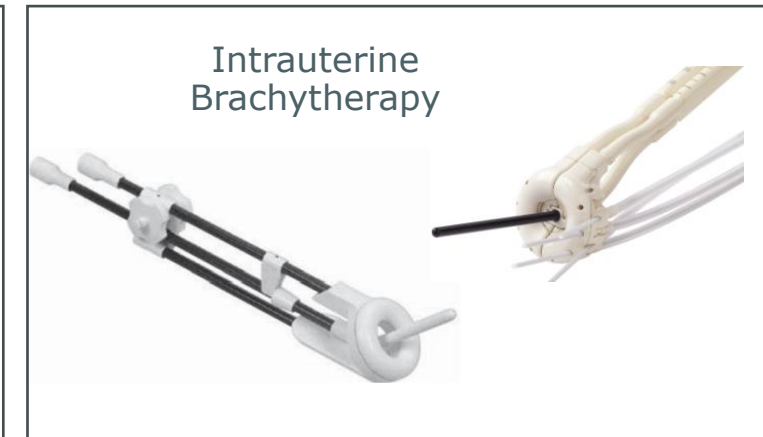
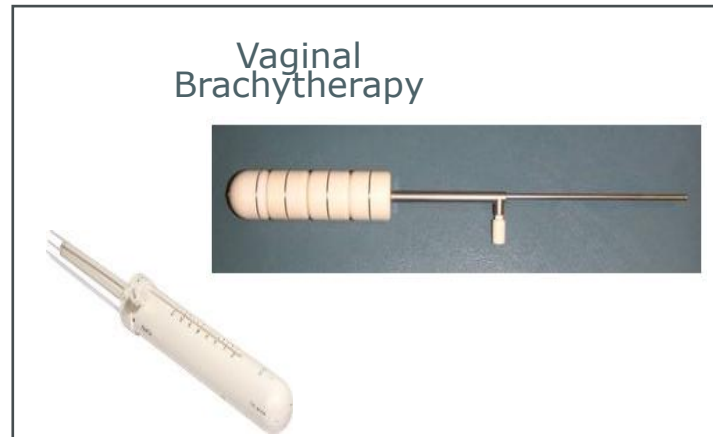
Brachytherapy internally delivered radiotherapy using radioactive sources to cure and control cancer

From the Greek Βραχυθεραπεία

Βραχύς (vrachis)= Close/Short

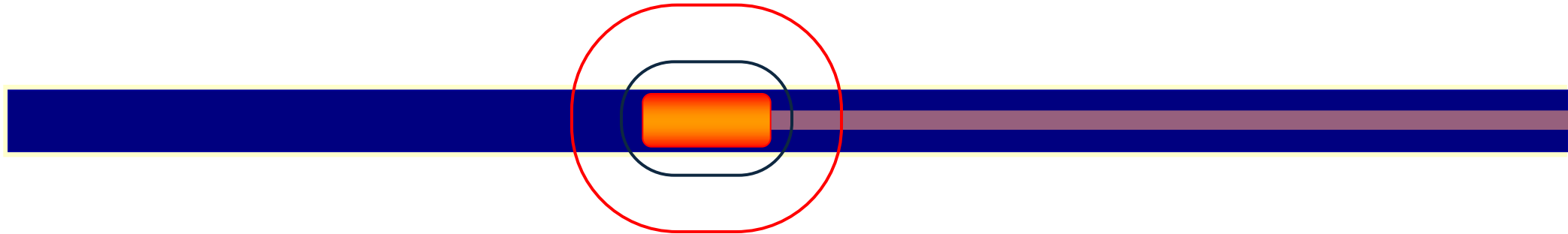
Θεραπεία (therapeia)= Treatment/Healing

- Internal radiation is given using a radioactive sealed-source brachytherapy machine

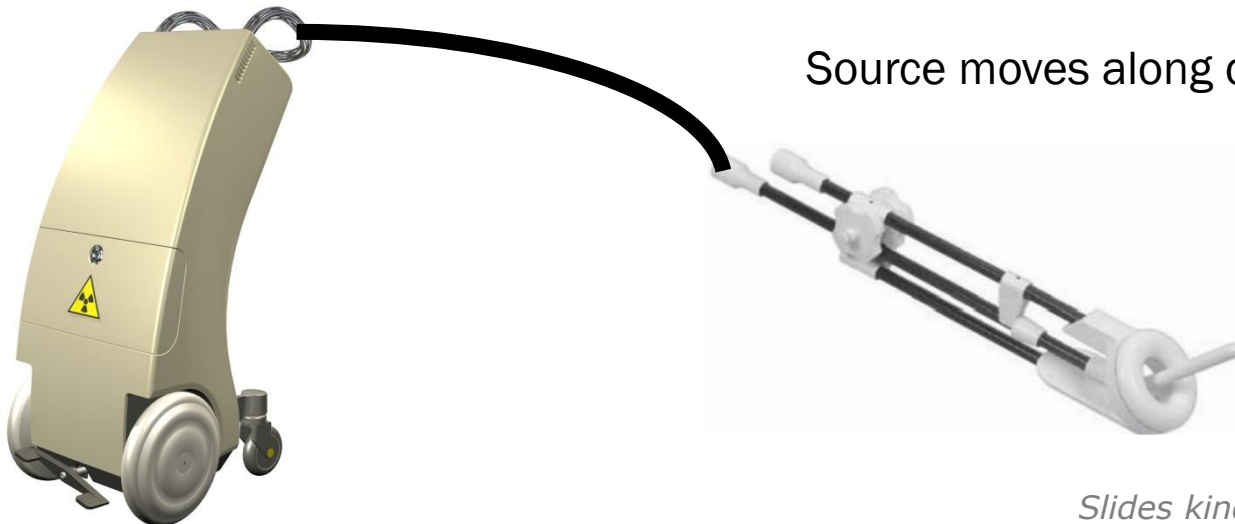


How is Intrauterine Brachytherapy delivered?

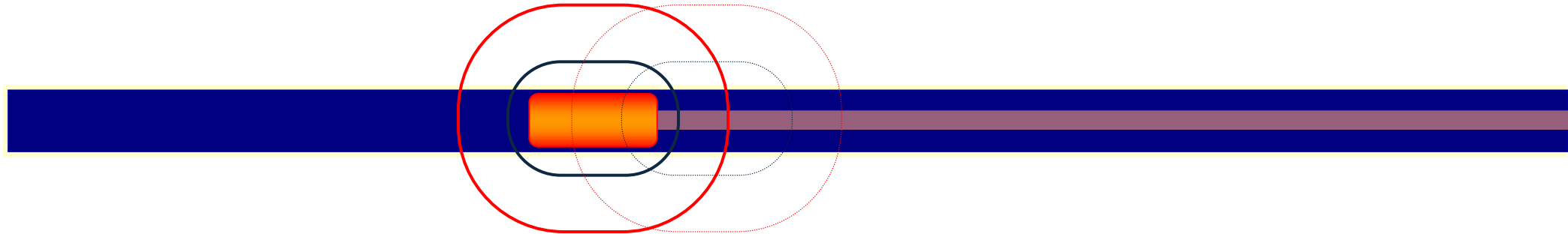
Can program position and dwell time of radioactive source



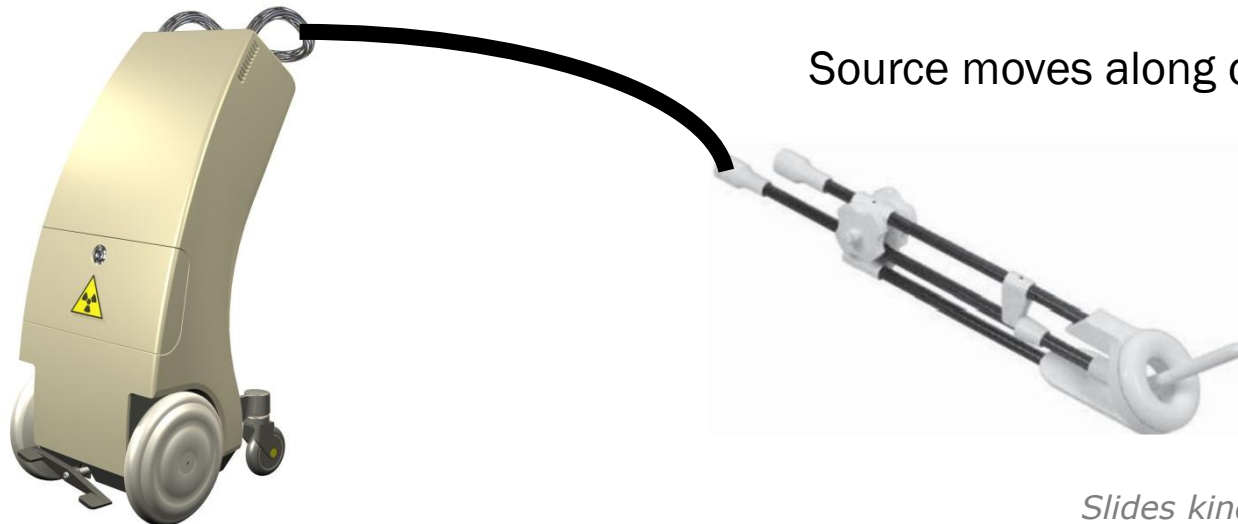
Source moves along delivering dose as it goes



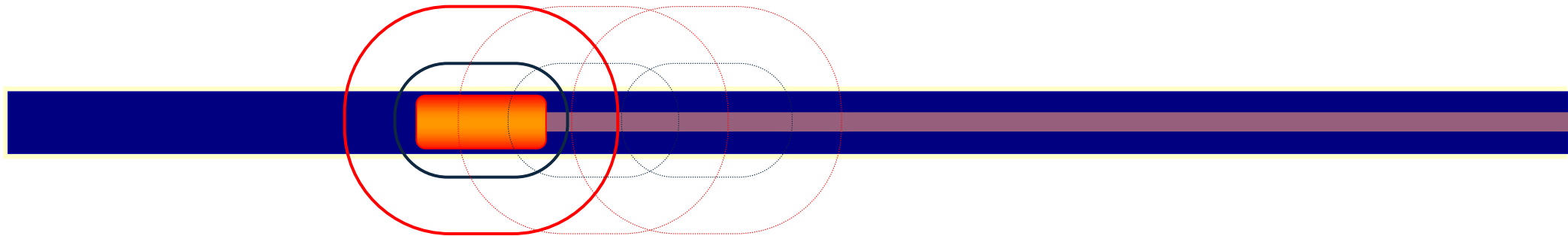
How is Intrauterine Brachytherapy delivered?



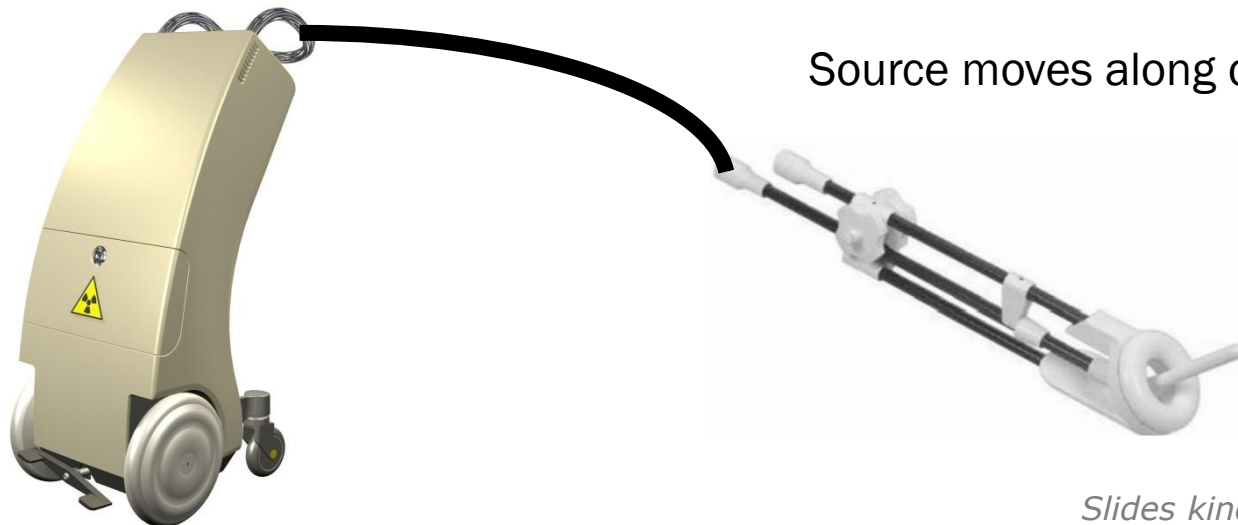
Source moves along delivering dose as it goes



How is Intrauterine Brachytherapy delivered?



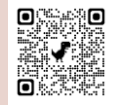
Source moves along delivering dose as it goes



What is Experienced Based Co-Design?



Method developed by Point of Care Foundation (now Picker) <https://www.kingsfund.org.uk/insight-and-analysis/projects/experience-based-co-design-toolkit>



An approach that enables staff and patients to co-design services



Places a focus on how it feels to be part of or use a service

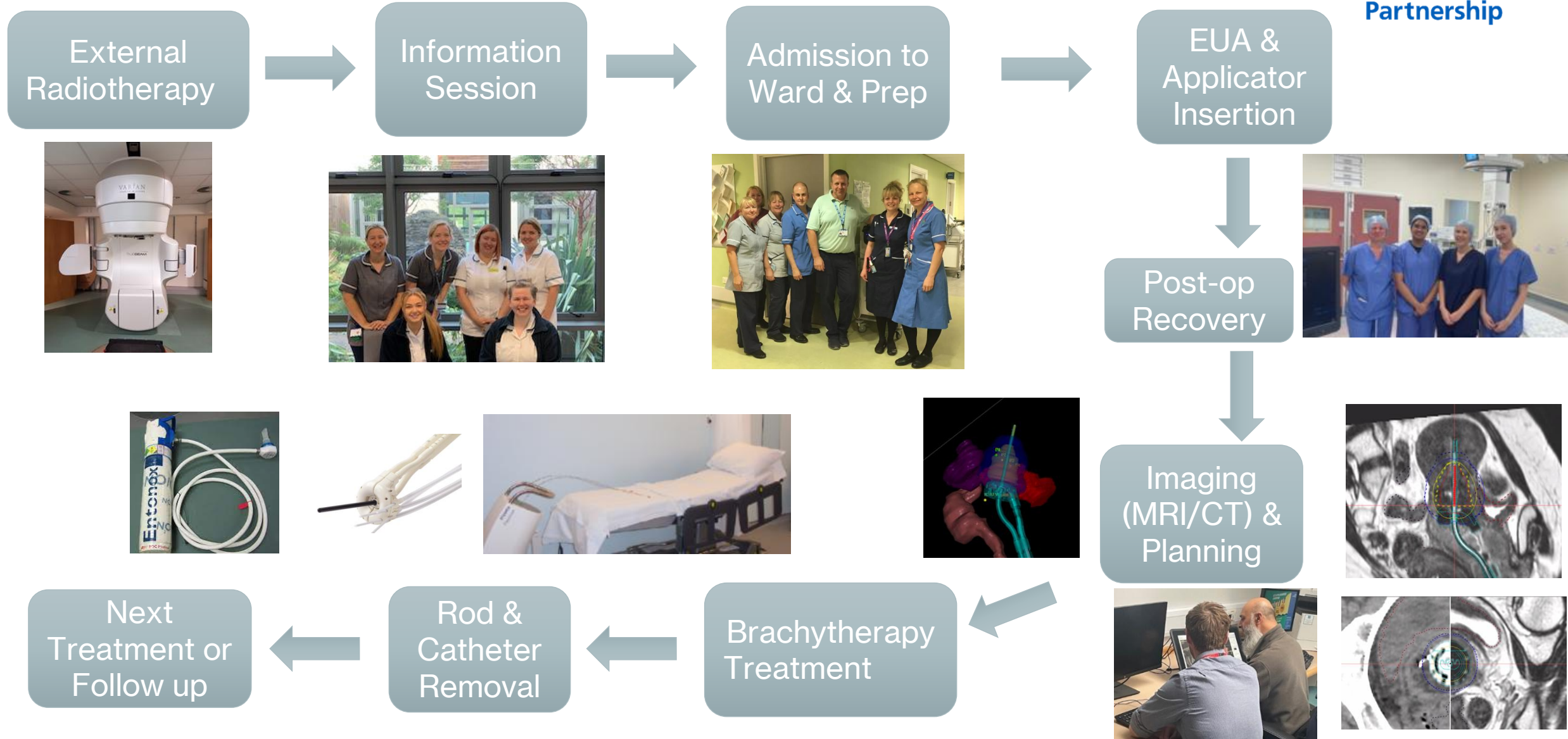


Enables us to improve patient and staff experience



NHS teams that have used the approach report significant levels of service and organisational improvements and show improved relationships between patients, carers and staff

Intrauterine Brachytherapy Pathway



Stages of EBCD

- Participant recruitment
- Observation
- Staff interviews
- Patient interviews
- Staff feedback event
- Patient feedback event + film
- Joint event
- Implementation of changes



From Joint Event to Implementation

Pain
Management

Service
redesign
options

Additional
support
services

Information
and
Preparation

Training

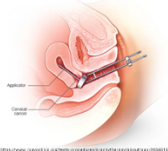
Dilation/
Long term
effects

Wins so far...

Intrauterine Brachytherapy Analgesia Quick Guide for Anaesthetists/Recovery Team

What is Intrauterine Brachytherapy?

- Standard of care for FIGO Stage 2B-4A Cervical Cancer (internal radiation, 21Gy in 3 treatments)
- Preceded by 6 weeks induction chemotherapy and 5½ weeks chemoradiotherapy.
- As a cancer treatment placement of IU brachytherapy rods under anaesthetic is a **Category 1 procedure** (maximum 56 days start of radiotherapy to final IU Brachytherapy treatment*)



Timeline

Pain relief ideally needs to cover the patient for localisation imaging to return to ward



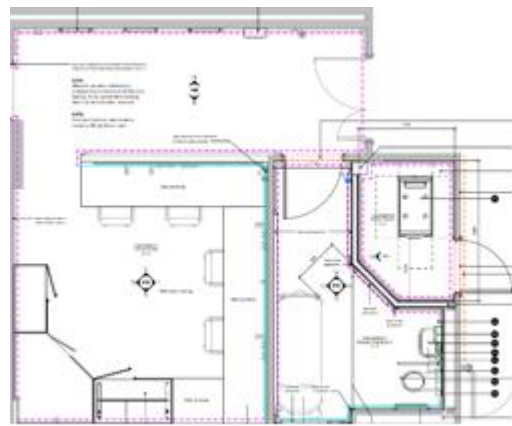
Oral paracetamol upto 1gram-1 hour prior to arrival in theatre
Consider Oral Diazepam 5 mgs if patient has associated anxiety

Please consider Intravenous Morphine of upto 10 milligrams along with induction opioids(Fentanyl 100micrograms or Alfentanil 1milligram)

Please prescribe adequate post-op pain relief in the form of IV Morphine and oromorph(to be prescribed on Lorenzo)

References

* The Royal College of Radiologists (2019) The Timely Delivery of Radical Radiotherapy Guidelines For The Management of Unscheduled Treatment Interruptions, Fourth Edition [online] <https://www.rcr.ac.uk/resources/publications/clinical-oncology-publications/timely-delivery-of-radical-radiotherapy-guidelines-for-the-management-of-unscheduled-treatment-interruptions-fourth-edition>

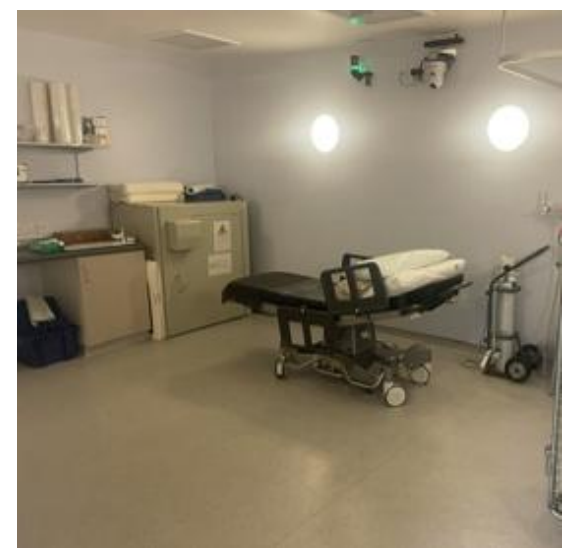


Psychological Services Patient Resources



Anxiety, Stress and Worry

It is quite common and understandable to experience worry and anxiety at various stages of your cancer journey. The right kind of support can help you deal with these feelings and cope with treatment. This may also help you deal with any anxiety, and help you to feel better. The resources below provide some ideas that you may find helpful in managing these feelings. They contain information about managing them and help you to stay in the present moment.



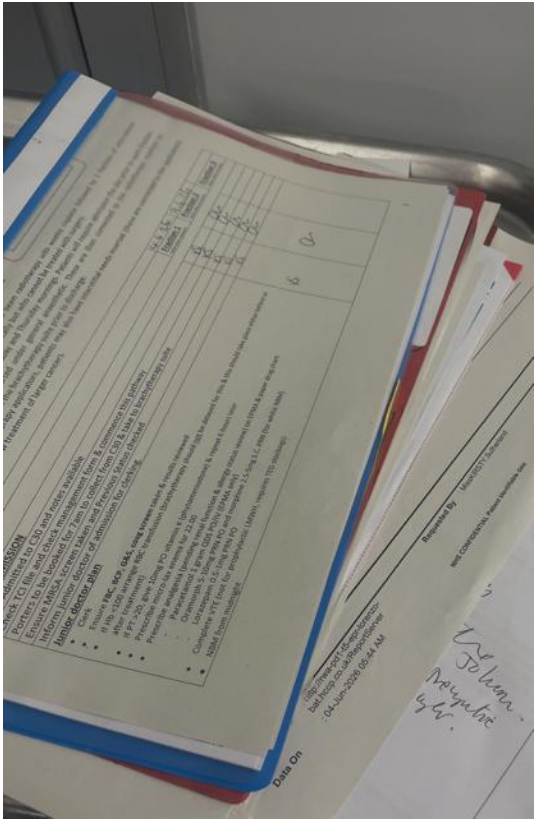
<https://www.hey.nhs.uk/psychology/cancer/>



<https://www.yorkshirecancerresearch.org.uk/active-together>

✓ Radiotherapy Team Leader for Brachytherapy/Superficial

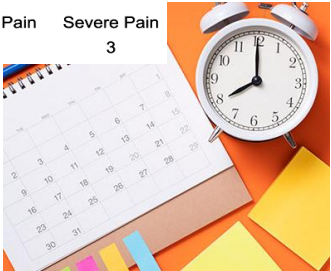
Working on it...



Pain Assessment Tools

Verbal and Numerical Pain Assessment Tools

			
No Pain 0	Mild Pain 1	Moderate Pain 2	Severe Pain 3



Conclusion

- Experience based co-design successfully challenged our assumptions about what mattered most to our brachytherapy patients
- Codesign empowered patients making them equal, active partners in their safety rather than passive recipients of care in line with Advancing Safer Radiotherapy (UKHSA, 2025)
- Enables collaboration to optimise our resources (or provide evidence for more resources) and develop pathways that improve the day-to-day patient experience
- Enhanced relationship between patients, carers and brachytherapy staff can set direction for service development, business cases and ensure PPI in research going forward

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References



Humber Health
Partnership

Humphrey et al (2021) Brachytherapy for locally advanced cervical cancer: A survey of UK Provision of care and support. *Radiotherapy & Oncology*. 159, 60-66 <https://doi.org/10.1016/j.radonc.2021.03.007>

Kirchheiner, K., Czajka-Pepl, A., Ponocny-Seliger, E., Scharbert, G., Wetzel, L., Nout, R. A., Sturdza, A., Dimopoulos, J. C., Dörr, W., & Pötter, R. (2014). Posttraumatic Stress Disorder After High-Dose-Rate Brachytherapy for Cervical Cancer With 2 Fractions in 1 Application Under Spinal/Epidural Anesthesia: Incidence and Risk Factors. *International Journal of Radiation Oncology* Biology* Physics*, 89(2), 260–267. <https://doi.org/10.1016/j.ijrobp.2014.02.018>

The Royal College of Radiologists (2024) Clinical Oncology: Gynaecological Cancer: RCR Consensus Statements [online] [Gynaecological cancer: RCR consensus statements | The Royal College of Radiologists](#)

The Royal College of Radiologists (2019) The Timely Delivery of Radical Radiotherapy Guidelines For The Management of Unscheduled Treatment Interruptions, Fourth Edition [online] <https://www.rcr.ac.uk/our-services/all-our-publications/clinical-oncology-publications/timely-delivery-of-radical-radiotherapy-guidelines-for-the-management-of-unscheduled-treatment-interruptions-fourth-edition/>

UKHSA, IPEM, SOR/CoR, RCR, BIR (2025) Advancing safer radiotherapy: Guidance for radiotherapy providers on improving patient safety. [online] <https://assets.publishing.service.gov.uk/media/682f3f2db33f68eaba9539e6/advancing-safer-radiotherapy.pdf>