Brachytherapy and the ever evolving nursing role

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Brachytherapy at the RAH

- HDR – Prostate 1#
- LDR – Prostate (seed implants)
- HDR Gynae – Ovoids and tandems 3 # over 3 weeks
- HDR Gynae – Vault/vaginal moulds
- Interstitial – Sarcoma, Oesophageal, Lung, Gall bladder
- Surface – skin (tricky surfaces to treat with EBRT
How we do these procedures

- All Brachytherapy procedures are done in our department
- Prostate HDR and Prostate LDR require GA and this is done in our department
- Gynae Tandem and Ovoids require GA and this is done in our department.
- Tuesday – Prostate Day
- Wednesday – Gynae day
- Buy in Anaesthetic service (1 X Anaesthetist/AAnaesthetic nurse)
- Buy in Urologist on Tuesday
Our Brachytherapy Suite
Our Brachytherapy Suite
Our Brachytherapy Suite
Brachytherapy and Nursing Role

> Historically only scrub and scout role

> Has now developed into a broader role which starts directly after first consultation with RO and 2 weeks post Brachy/Tx

> Role diversification resulted from a number of gaps in patient care, education, policies/procedures, toxicity assessment/management and follow up care
Development of Policies/Procedures

- Development of 14 reprocessing Site Specific Instructions (SSI) for all Rad Onc equipment that requires reprocessing
- Development of 5 procedural Site Specific Instructions for all brachytherapy procedures
- Development of 10 Consumer Information Sheets (CIS) for brachy patients
- Regular review and updates
Site Specific Instructions (SSI)

1. PROCEDURE INTENT
To ensure that vaginal moulds in the Radiotherapy Department are pre-cleaned as per manufacturers guidelines.

2. SCOPE
All staff in Radiation Oncology who work in the Equipment Reprocessing Area (ERA)

3. PROCEDURE DETAIL
3.1. Hazards
Medizyme is a hazardous chemical. Staff must have received adequate training prior to being involved in processes that involve the use of Medizyme. All staff to read Material Safety Data Sheets available from Whitely Medical - Whitely Medical Products

3.2. Control Measures
Appropriate personal protective equipment (PPE) must be worn. 
Refer to OWI 810 Standard Precautions.
Air exchanges measured by engineering and building annually.
Transducer / equipment reprocessing area audit performed annually.

3.3. Equipment required:
- PPE
- 1 litre jug
- 8 ml Medizyme
- 1 litre tap water
- lint free cloth
- patient labels
- DSS processing number label
- Meditrax form
- Vaginal mould reprocessing sheet
1. **PROCEDURE INTENT**
   This procedure outlines the utilisation of HDR (High Dose Rate) Brachytherapy - a form of internal radiotherapy that is quick and involves the temporary placement of a radiation source directly inside, or next to a tumour.

   HDR Brachytherapy delivers a quick dose of radiation whilst minimising exposure to the surrounding healthy tissue. The radiation oncologist may recommend Gynaecological HDR Brachytherapy in conjunction with image guided external beam radiotherapy (IGEBRT).

2. **SCOPE**
   Medical, Nursing, Radiation Therapist and Medical Physics staff working in the Radiation Oncology Department, Brachytherapy Theatre, Royal Adelaide Hospital.
   All staff must be up to date with HDR safety training.

3. **PROCEDURE DETAIL**
   **3.1 Staff Responsibilities.**
   - Nursing staff are responsible for:
     - organise and set up required trolleys for the procedure and ensure there are sufficient stock levels of necessary equipment,
     - organise delivery of the patient from Surgical Admission Suite (SAS),
     - advocate for the patient,
     - check documentation and consent,
     - act as a scout nurse in theatre,
     - support all other disciplines during the procedure,
     - escort patient to CT (Computerised Tomography), when bladder is being refilled and to Day Surgery Unit (DSU) recovery.
   - Radiation Therapists are responsible for:
     - organise ultrasound equipment,
     - take images and
     - assist with planning and delivery of HDR treatment.
Consumer Information Sheet (CIS)

Central Adelaide Local Health Network
Consumer Information Sheet
Radiation Oncology Department
Royal Adelaide Hospital

Gynaecological High Dose Rate (HDR) Brachytherapy – Intrauterine Technique

This information is intended as a general guide only. Please ask the nurse or doctor if you have any questions relating to this information.

HDR brachytherapy is a form of internal radiation therapy that involves the temporary placement of a radiation source directly inside, or next to, a tumour. HDR brachytherapy delivers a quick dose of radiation whilst minimizing exposure to the surrounding healthy tissue.

Please notify your radiation oncologist if you are taking any blood thinning or anti-coagulation medications as some of these medications need to be stopped for up to a week prior to your brachytherapy treatment. If you are unsure please contact your radiation oncologist to confirm this. Please note that aspirin can be continued.

Pre-Operative Assessment Clinic (POAS)
Report to the Pre-Operative Assessment Clinic for anaesthetic assessment on the date given.

Day of surgery Admission (DSU)
On each day of HDR brachytherapy, report to the Surgical Admissions Suite (SAS). You will then be transferred to the Brachytherapy Suite to be seen by the anaesthetist.

Treatment
The team: radiation oncologist, medical physicist, radiation therapist, anaesthetist, anaesthetic nurse and radiation oncology nurses.
New case education

> After patient has seen RO and treatment offered, nurses provide education regarding next steps
> CIS for general information/workup information/procedure information
> eviQ resources such as General information, CT scan, dilators
> Bowel/bladder prep education and resources
> Dilator education (too early??)
> Nursing assessment
GENERAL PATIENT INFORMATION SHEET

The following information sheet is for patients attending the Radiation Oncology Department, who have an appointment to see the Radiation Oncologist about radiotherapy. This information sheet will explain what happens on every visit to the Radiation Oncology Department.

Dr's Appointment

The Radiation Oncologist will ask you questions regarding your condition and will conduct an examination. You will be able to discuss your condition in detail including your diagnosis, treatment and prognosis. The doctor will recommend the appropriate radiation treatment for you. The treatment will then be explained to you and the side effects of treatment discussed. You will also be seen by a nurse who will provide you with some information about radiotherapy and take a nursing assessment.

Planning for radiotherapy

Planning is the process of preparing your treatment plan. This may include a CT scan. Special devices may be used to immobilise certain parts of the body. These may include a specially made mask if you are having treatment to your head and neck or brain area. Please remember to bring in a list of your medications and to let the nurses know if you have any allergies.
Bowel/Bladder prep

Central Adelaide Local Health Network
Consumer Sheet
Radiation Oncology Department
Royal Adelaide Hospital

Gynaecological HDR Brachytherapy Microlax Enema Instructions

This information is intended as a general guide only. Please ask the nurse or doctor if you have any questions relating to this information.

The aim of using a Microlax Enema is to aid patients to empty their bowels before the procedure.

Pack will include:
1 x pair of gloves
4 x Microlax tubes

Please carry out the instructions below to empty your bowel the night before your procedure date and the morning of:

> Use two Microlax the night before the procedure
> Use an additional two Microlax on the morning of the procedure before leaving home.

Instructions:
> Lie comfortably on a bed on your left side.
> Draw your knees up to your chest.
> Breathe deeply and slowly through your mouth to help your abdominal muscles relax.
Prostate Brachytherapy workup

> Prostate LDR and HDR brachy require strict work up including PSA, Gleason score, prostate volume, urinary flow rate, cystoscopy

> Nursing role is urinary flow rate. Involves bladder scan to ensure there is approx. 400ml urine in bladder (compliance is an issue…..) Volume flow rate completed, bladder scan post volume flow rate

> Usually done on Tuesdays with 4-6 patients
Prostate workup education

Prostate Brachytherapy Work-Up

This information sheet has been designed to provide information about the work-up tests required to assess eligibility for prostate brachytherapy at the Royal Adelaide Hospital.

Urine flow rate assessment
You will need to attend this appointment with a comfortably full bladder (approx. 400ml of water) and report to reception on arrival. First a bladder scan will be done to measure the amount of urine in your bladder before a urine flow rate test. During the urine flow rate test you will be asked to pass urine into a flow machine. This test measures the flow rate and strength of your urine stream. Once completed another bladder scan will be done to measure the amount of urine that may be left in your bladder.
On arrival, if you are having difficulty holding your bladder please ask to speak to a nurse, do not empty your bladder.

Flexible cystoscopy
You will be asked to empty your bladder and remove your pants and underpants for this procedure. After an antiseptic clean up, a flexible cystoscope will be passed through your urethra to look at the prostate and bladder. Sterile salt water is run through the cystoscope to gently expand your bladder. The procedure may cause minor discomfort.

After your cystoscopy you may feel the need to empty your bladder. When passing urine, you may experience mild burning and a little blood in your urine. This feeling can be eased by drinking more water than usual.

There is a 1-2% risk of getting a urinary tract infection after a cystoscopy. Symptoms include burning, pain or pressure in your lower abdomen, frequency, smelly or cloudy urine or leaking urine. If these symptoms persist after 24 hours please see your GP.

Transrectal ultrasound prostate volume measurement
You will be lying on your left side with knees bent. A Urologist gently inserts an ultrasound probe into your back passage (rectum) and an image of your prostate is displayed on a monitor. Your prostate’s volume and shape is recorded.

An interpreter can be arranged for patients where English is not their first language. Please ask ward or clinical staff for more information.

The information contained within this publication does not constitute medical advice, and is for general information only. Readers should always seek independent, professional advice where appropriate.

For more information:
Radiation Oncology Nursing Team
Royal Adelaide Hospital
North Terrace
Adelaide
Telephone: 08 8222 4315
Gynae brachy workup

- Tandem and ovoid technique
- Patient to have bloods taken 2 days prior
- Nursing role to check blood results
- Looking for Hb > 100
- Neutrophils > 1.0
- Platelets > ??

- Transfusion in our department
- GCSF for Neutropenia
Toxicity assessment and management pre/post EBRT

> Gynae – due to short period between EBRT and Brachy, toxicity assessment and management crucial (skin, urinary and bowel toxicities)

> Prostate HDR – Urinary and bowel toxicity assessment and management post brachy, pre EBRT crucial
Scrub and scout

> 2 Rad Onc nurses allocated to GA brachy days.
> Theatre set up including set up of sterile equipment. Annual education from theatre educator regarding aseptic technique
> Order patient from Surgical admissions
> Pre-op care (team time out checklist)
> Positioning of patient
> Gynae – opportunities to scrub and assist with procedure
Scrub and scout cont…

- Scout for additional equipment
- Support for anaesthetics
- Transport to recovery with Anaesthetic team
- Clean theatre and prepare for 2\textsuperscript{nd} case
- Assist in reprocessing of all equipment
Gynae follow up care

- Gap in practice identified by RO’s
- Patients coming back for follow up appointment not having used dilator
- Need to find a way to communicate with the patients to commence dilators
- Consensus reached that all radical pelvis patients need to use dilators
- Consensus reached that this should commence 2 – 4 weeks post treatment
Gynae follow up care cont.

> All patients educated about dilators when they first see RO
> Given supplies (Dilator, lube, eviQ instructions) at this time
> 2 weeks post EBRT/RT, phone call by nurses to remind them it is time to start using dilator
> Appointment made on ARIA to remind nurses when phone calls are due
> Patients don’t have to attend (we need to remind them of this)
More opportunities - Recovery

> New RAH – due for completion and relocation in November 2016
> New Rad Onc Dept features 6 patient “Recovery Bay”
> MOC will be to recover brachy patients in our new Dept
> Idea is that we have support from Recovery nurses x 2, Anaesthetist
> Rad Onc brachy support nurse for admit, pre op care, recovery support and discharge
New skills

- Advanced Life support
- Super nummary days in Recovery to gain experience
- Competency checklist
- Workflow simulations
- Frequent rotations through new role to keep up skills