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**RADIATION ONCOLOGY  
ORAL PRESENTATION ABSTRACTS**

# **Implementation of a self-administered patient health history questionnaire in a Radiation Oncology department during COVID-19.**

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## **Purpose**

Health history questionnaires have been shown to be an accurate and reliable means of collecting clinical information. During the COVID-19 pandemic, we implemented a self-administered health history questionnaire in our radiation oncology department to improve the efficiency of new patient consultations.

## **Materials and Methods**

A health history questionnaire was developed and posted to patients prior to their initial new patient clinic appointment. They were requested to fill it in and bring it with them to their appointment. Sections included demographic details, past medical and surgical history, medications, allergies, family and social history, previous radiotherapy, chemotherapy details and performance status. We conducted a paper survey of the first 44 patients to enquire about their experience.

## **Results**

All 44 patients participated in the study and completed the questionnaire prior to attending clinic. Median time to complete the questionnaire was 5-15 minutes. The majority of patients (75%; 33/44) found the questionnaire "easy" or "very easy" to complete. The questionnaire received positive feedback with 66% (29/44) of patients finding it "helpful" or "very helpful". Suggestions for improvement included the establishment of a common patient record between General Practice and the hospital system. Comments included that the questionnaire allowed patients time to check background details they were unsure about prior to attending their appointment.

## **Conclusion**

Both patients and healthcare providers found the health history questionnaire to be a helpful, easy to use tool. We plan to continue its use in our department to streamline the new patient clinic assessment.

## **Validation of the Bladder Neck as an important OAR at prostate seed brachytherapy based on D2cc: A single-institution, retrospective review**

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### **Purpose**

Hathout et al's 2014 publication identified the bladder neck as an important OAR with regard to urinary toxicity after low-dose-rate prostate seed brachytherapy (1). A D2cc of >50% prescription dose was found to be a better predictor of urinary toxicity than American Brachytherapy Society (2) or GEC-ESTRO (3) urethral dose-volume-constraints.

We introduced routine intra-operative contouring of the bladder neck to our clinical practice after this publication and treated D2cc >50% as a DVC.

The purpose of this retrospective review was twofold:

1. To compare urinary toxicity rates before and after we changed our practice
2. To evaluate whether D2cc values >50% prescription dose predicted for toxicity in our population.

### **Materials and Methods**

219 consecutive patients undergoing prostate seed implantation were studied between 03/15 and 09/18. 106 were treated before introduction of bladder neck contouring and 113 afterwards. We compared acute (AUT) and late (LUT) toxicity rates in these two groups. We also compared toxicity rates for those with bladder neck D2cc > or ≤50% prescription dose.

### **Results**

Grade 2 or above LUT fell from 34 to 15% ( $p=0.003$ ) and AUT from 15 to 8% ( $p=0.12$ ) after we began contouring the bladder neck. Urinary catheterisation rates also fell. No clear predictive relationship was identified between the D2cc to the bladder neck > and ≤50% prescription dose and urinary toxicity ( $p=0.27$  and 0.77 for AUT and LUT, respectively).

### **Conclusion**

Intra-operative bladder neck contouring to aid minimising its dose resulted in lower urinary toxicity rates. The DVC of >50% prescription dose was not proven to be predictive.

## **FAST-FORWARD radiotherapy - resource implications of rapid implementation during the COVID-19 pandemic**

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### **Purpose**

One-week hypofractionated adjuvant breast radiotherapy (FAST-FORWARD) is non-inferior to the standard three-week schedule at 5-year follow up [1]. Fast-Forward was rapidly introduced in St Luke's Radiation Oncology Network in March 2020 during the COVID-19 pandemic to minimise hospital attendances. We designed a prospective study to assess the resource implications of rapid FAST-FORWARD implementation.

### **Materials and Methods**

Data was collected from a consecutive sample of Fast-Forward patients treated from March to July 2020 and analysed for: patient characteristics; fractionation regimes; treatment duration; deep inspiration breath-hold (DIBH) use; boost prescription; image-guided radiation therapy (IGRT) use; clinic appointments. Data was compared with the standard three-week (40 Gy /15 fractions) protocol assuming standard parameters.

### **Results**

A total of 75 patients were treated with 26 Gy /5 fractions (Fast-Forward protocol). Nine patients (11%) received a boost and 11 patients (15%) utilised DIBH. In total, 415 fractions were delivered, 55 fractions in DIBH. Median treatment duration, including weekends, lasted 7 days. Changing from a three-week to a one-week protocol resulted in: a total saving of 750 fractions, 196.7 hours of linac treatment time and 787 standard treatment slots; patients benefited from daily IGRT imaging without increasing IGRT burden on the department; a reduction of 250 fractions in those who were  $\geq 70$  years old and cocooning under national pandemic guidance (n=25, 33%).

### **Conclusion**

Compared to the standard 3-week adjuvant breast radiotherapy schedule, the implementation of Fast-Forward reduced the number of fractions delivered. This reduced hospital attendances during the COVID-19 pandemic and particularly benefited the older cohort, who were cocooning at the time.

## **Rapid clinical implementation of FAST-FORWARD during COVID 19: prospective report of acute toxicity**

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### **Purpose**

The FAST-FORWARD treatment regimen for adjuvant breast radiotherapy was rapidly implemented in clinics during the COVID 19 pandemic. We designed a prospective observational study assessing the acute toxicity of this regimen and the potential impact of sequential boost on acute toxicity.

### **Materials and Methods**

We included consecutive breast cancer patients completing adjuvant radiotherapy 26 Gy in 5 fractions over 1-week (+/- boost) from implementation of FAST-FORWARD in April 2020 to July 2020. Acute skin toxicity was recorded during treatment and at week 1, 2, 3 and 4 post treatment using CTCAE v4.03. All toxicity assessments were completed by telephone consultation. The primary endpoint was the proportion of patients with grade  $\geq 3$  toxicity at any time. Toxicity was compared between patients who received a boost and those that did not.

### **Results**

A total of 75 women were included, of whom 9 (12%) also received sequential boost. 66/ 75 (88%) patients completed at least 4 out of 5 acute toxicity assessments. (0/66) reported grade 3 skin toxicity, 19/ 66 (28.8%) grade 2 toxicity and 14/66 (21.2%) grade 1 toxicity. The highest frequency of grade  $\geq 2$  toxicity occurred at week 1 (20%), by week 4 this reduced to 3%. There was no significant difference in grade 2 toxicity between patients who received a boost and those who did not ( $p = .422$ ).

### **Conclusion**

This study confirms acceptable acute toxicity in clinical practice with 26 Gy in 5 fractions over 1-week +/- sequential boost

## **Evaluation of a Rapid Access Palliative Radiotherapy Clinic**

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### **Purpose**

Palliative radiotherapy (RT) is known to reduce symptoms and improve quality of life in patients with metastatic cancer. However, the patient experience of having this treatment is negatively impacted by distance to specialist centres and need for multiple visits. The objective of the palliative clinic is to promote best practice by providing consultation, planning, treatment and palliative care review in a timely manner. This audit reviews the implementation of a Rapid Access Palliative Clinic (RAPC) in St. Luke's Radiation Oncology Network (SLRON)

### **Materials and Methods**

Retrospective analysis of 41 patients who attended the RAPC between September 2019 and March 2020 was undertaken. Patient information and tumour characteristics were recorded. We carried out a time frame analysis from referral to treatment.

### **Results**

Of the 41 patients referred to the RAPC, 38 received RT. Median time from referral to treatment was 9 days (IQR 7-13 days) and from initial consultation to treatment was 2 days. (IQR 0-0 days). 75% of treatments were delivered in a single fraction. 48% were seen and treated in a single visit. 38% of patients attending the clinic were referred to palliative care in SLRON.

### **Conclusion**

The RAPC reduced the number of hospital visits for patients. This was achieved by treating patients on the same day as consultation and through an increase in single fraction prescriptions. It also provided an opportunity to link patients in with a specialist palliative care team. Overall numbers referred to the clinic were low and further research is needed to identify barriers to referral.

## **COVID 19 outbreak in St.Luke's! What have we learnt?**

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### **Purpose**

The COVID 19 pandemic thrust the world into unprecedented territory. Healthcare systems have had to rapidly evaluate and restructure how services are delivered. The novel nature of COVID 19 meant that accruing as much information as possible is necessary to understand the virus' impact and determine future pathways for care. Given the outbreak of COVID 19 in St. Luke's Hospital and the subset of high risk patients there, gathering information on positive cases will allow for a better understanding of who is at increased risk and how to plan for future outbreaks.

### **Materials and Methods**

A review of the medical charts, labs and imaging of those who tested positive during the outbreak was completed. A review of the total number of inpatients from 16th March 2020 to 30th June 2020, specifically the number of admissions and the outcomes of COVID 19 tests was completed.

### **Results**

Twenty patients (15.2%) out of 132 inpatients tested positive for COVID 19 from 26/03/2020 to 30/06/2020. Of the positive patients, 16(80%) were associated with the outbreak in one ward. Head and Neck Cancer accounted for 10 (50%) and Brain Tumours 6(30%), of the positive tests. The most common sign/symptom was fever, present in 18(90%). Severity ranged from asymptomatic 1(5%) to death 4(20%).

### **Conclusion**

The COVID 19 pandemic has forced healthcare providers to change the way that services are delivered. The information attained in this audit can hopefully allow for the implementation of care pathways that provide safe and efficient care to patients undergoing radiotherapy.

## **Therapeutic Outcomes post Radioactive Iodine (I-131) Therapy for Overactive Thyroid Disease – a retrospective descriptive study.**

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### **Purpose**

To review treatment practices and investigate the clinical outcomes of patients treated with I-131 for hyperthyroidism.

### **Materials and Methods**

The dataset comprised of 253 hyperthyroid patients treated with I-131 from 2015-2017 inclusive at a large tertiary referral centre. Patient data was retrieved on the hospital databases and results of the thyroid function tests (TFTs) were taken from HSE iLAB. The data was collected using Microsoft Excel and analysed by SPSS v26.

### **Results**

The majority of cases were female (76.3%) and the mean patient age was 53.2 (SD = 14.9) years. The most common cause of hyperthyroidism was Grave's disease (39.7%), followed by unspecified (34.6%), multinodular goitre (16.3%), and toxic nodule (9.35%). 370MBq was administered to 245 patients, 5 received >370MBq and 3 <370MBq. TFTs were available for 190 patients. The timing to each TFT varied. The median time from treatment to the first TFT was 6.29 (interquartile range = 5 to 10.29) weeks. These results showed that 45.7% remained hyperthyroid, 36.8% euthyroid and 17.3% were hypothyroid. The median time to the final TFT was 22.14 (interquartile range = 17.57 to 30.14) weeks and the data was only available for 121 patients. Of these, 15.7% remained hyperthyroid, 40.5% were euthyroid and 43.8% were hypothyroid.

### **Conclusion**

Our results are consistent with previous published literature, demonstrating that a fixed dose of 370MBq I-131 can achieve excellent cure rates for hyperthyroidism (2-4). This institutional data also helps to strengthen the patient consent process.



# **An Exploration of Survival and Involvement of Specialist Palliative Care Services in Patients Receiving Palliative Radiotherapy.**

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## **Purpose**

Palliative radiotherapy commonly used for symptom control for locally advanced and metastatic cancers. It can be associated with severe local side effects in the short term and these may outweigh the benefits where prognosis is poor. Early involvement of specialist palliative care (SPC) services helps focus on maximising symptom control and maintaining quality of life.

Our objectives were to:

- Establish the percentage of patients who died within 30 days of receiving palliative radiotherapy in a national radiotherapy centre in Ireland.
- Calculate the percentage of these patients linked with SPC services.

## **Materials and Methods**

Information was gathered from the electronic medical records (EMR) of 645 patients who had commenced palliative radiotherapy over a six-month period across three sites of a national radiation oncology centre in the Republic of Ireland. We explored survival time post completion of radiotherapy and referral to SPC services. Additional information was obtained from the patients' GPs and online resources (RIP.ie).

## **Results**

Median survival was 145 days from completion of radiotherapy. Notably 16.4% (n=106) of all patients died within 30 days of completion of radiotherapy and of these, 45% (n=46) were not referred to SPC services. We were unable to obtain complete data for 12.4% (n=80) patients. At the time of data collection, 11.6% (n=75) of patients were still alive.

## **Conclusion**

Our data is in line with previous studies of this nature. Prognostication is difficult, but we must be careful when selecting candidates with advanced disease for palliative RT to avoid additional symptom burden. Referral should be made to SPC services where available.

## **Improving Weekend Patient Handover in Radiation Oncology: A quality improvement project**

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### **Purpose**

Clinical Handover remains one of the most perilous procedures in medicine. Communication is fundamental in providing safe clinical care. We undertook a project at our institution to improve the weekend handover process that could improve patient care and safety as well as physicians' time efficiency.

### **Materials and Methods**

We carried out a brainstorming workshop and asked members of our team to record the inefficiencies with the handover process. Three areas were identified - documentation, improvement of the handover meeting and the introduction of a hand-back meeting. We implemented change over six months and evaluated changes using a survey on the Survey Monkey platform.

### **Results**

We reached over 92% feedback on our survey results. 100% and 75% of responders respectively, strongly agreed that the handover meetings on Friday afternoons and Monday mornings were useful. The new format for handover was given a 4.3 rating out of 5. 83% of responders felt that handover list should take both a paper and an email form. Only 16% felt it should be email only. Overall, the majority of people were pleased with the patient detail accuracy, with over 90% rating it as accurate. 100% agreed the patient locations were accurate. Suggestions for further improvements to our new handover were also received.

### **Conclusion**

This NCHD led project identified a quality improvement initiative around patient safety which has resulted in improved communication and satisfaction among physicians. The creation of new handover is a dynamic process and is to be continually reviewed to ensure the success and sustainability of this process.