



## 3<sup>rd</sup> Annual Quality & Patient Safety Conference Improving the Healthcare Journey for Patients & Staff



### TITLE

## Introduction of Surface Guided Radiotherapy to St Luke's Radiation Oncology Network

### SUBMITTED BY

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### ABSTRACT

#### INTRODUCTION

Surface Guided Radiotherapy (SGRT) technology uses optical scanning of the patient's skin to improve patient setup efficiency and to monitor patient positioning during radiotherapy treatment. The AlignRT SGRT system from VisionRT was introduced to the Saint Luke's Radiation Oncology Network (SLRON). Approximately 800 patients receive radiotherapy to the breast in SLRON each year. These patients were selected as the first cohort to be treated with the new system with the aim of reducing setup time and increasing treatment accuracy, leading to potential improvements in treatment quality and safety, as well as improvements in patient and staff experience.

#### METHODOLOGY

A multidisciplinary approach involving collaboration between radiation therapists, engineers and medical physicists was taken.

#### AIM

We aimed to introduce SGRT to 6 treatment units across 3 centres in SLRON within a 2 month timeframe and to focus initially on improving setup efficiency in breast radiotherapy.

#### CHANGE IMPLEMENTED

The AlignRT system was installed and tested according to international recommendations. New workflows and associated documentation were developed for its use. Staff training was provided both by VisionRT and members of the multidisciplinary group.

#### MEASUREMENT

Measurements were made to verify the system's localisation and monitoring accuracy. Patient setup and treatment delivery times and number of repeat-setups and images were compared pre and post SGRT implementation.

#### RESULTS

The AlignRT systems were installed, commissioned and put into clinical use within the original project timeline. Testing showed that the system is accurate within the vendor's specifications. A reduction in treatment time has been observed for breast radiotherapy patients post SGRT implementation, particularly for cases using the deep inspiration breath hold (DIBH) technique. The number of kV images taken has also reduced post SGRT implementation.

#### VALUE

The SGRT system reduces the amount of time the patient spends in the hospital. The accuracy and safety of the treatment is improved with the introduction of positional monitoring during treatment. Reduction of treatment time per patient could facilitate the service treating more patients per year.

#### SUSTAINMENT

In-house training has been rolled out to all relevant staff. SGRT use has been expanded to include the setup of patients receiving radiotherapy to the pelvis. An additional 3 treatment units in SLRON will have AlignRT installed this year.

#### ADDITIONAL INFORMATION

The multidisciplinary approach was found to be highly effective and will be used for further projects in the network.