JULY 12–16 2020 VIRTUAL JOINT AAPM | COMP MEETING
EASTERN TIME [GMT-4]

Novalis Certification of stereotactic radiosurgery and stereotactic body radiation therapy programs: First Canadian institutional experience

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INTRODUCTION

Advances in radiotherapy technology have allowed increased precision and have led to an expansion of indications for high dose-per-fraction stereotactic delivery. Implementation of a Stereotactic Radiosurgery (SRS) and Stereotactic Body Radiation Therapy (SBRT) program requires adherence to the most stringent levels of safety and quality. The Novalis Certification Program is the only program in the world dedicated to providing a comprehensive and independent assessment of safety and quality in SRS and SBRT. In this work we describe our institutional experience while going through the Novalis Certification Program.

AIM

The Novalis Certification program a based on accepted guidance document[1-4] in radiation oncology and set high standards of clinical practice. Getting to this standards expectations is resource intensive. The aim of this work is to assess our centre's current SRS and SBRT practices and complete the Novalis Certification self-study.

METHOD

The Novalis Certification is an independent review of SRS and SBRT program structure, adequacy and proficiency of personnel resources and training, appropriateness and use of technology, program quality management, patient-specific quality assurance and equipment quality control. Institutions applying for Novalis Certification complete a self-study prior to an on-site visit by reviewer. In order to assess our centre's current SRS and SBRT programs and complete the Novalis Certification self-study, a multi-disciplinary working group was formed, including:

- Two radiation oncologists
- One neurosurgeon
- One nurse
- One medical physicists
- One medical dosimetrist and
- Two radiation therapists

The team reviewed current documents and processes, updated or created treatment protocols, and evaluated the quality management structure and quality assurance methods.

RESULTS

The Novalis certified process is shown in Figure 1. The Nova Scotia Health Authority (NSHA) Cancer Care Program Novalis Certification multi-disciplinary working group met bi-weekly for about one-year period to complete the self-study. During this time the group:

1. Documented the NSHA Cancer Care Program organizational chart (Figure 2)
2. Documented the history of SRS/SABR at NSHA Cancer Care. SRS started with Brainlab m3 micro-MLC in 2003 and SABR in 2013 Truebeam STx with Novalis technology. Figure 3 shows the number of SRS/SRT and SABR patients treated by site for the last 6 years.
3. Four cranial stereotactic protocols and seven SABR protocols have been updated or developed and approved. Cranial stereotactic protocols include Brain AVMs, Brain Metastases, Non-Malignant Brain Tumours and Brain Uveal Melanoma. the SABR protocols are: Lung, Lung Single Fraction (early stage NSCLC), Lung Metastases Single Fraction, Liver, Abdomen, Spine and Bone. Figure 4 shows one of the protocols.
4. Updated all policies and procedures relevant to SRS/SRT and SABR program(s).
5. Documented the program strengths, weaknesses and future development.
6. Completed the Novalis Certification self study (Figure 5) together with other documentation submitted for the reviewer.
7. The reviewer site visit deferred until Summer 2020 due to COVID-19.

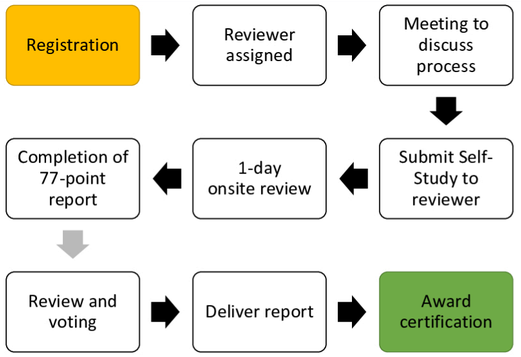
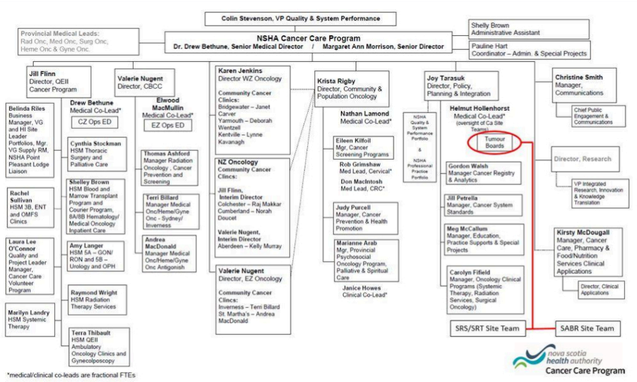


Figure 1. The Novalis certified process



*medical/clinical co-leads are fractional FTEs

Figure 2. NSHA Cancer Care Program organizational chart.

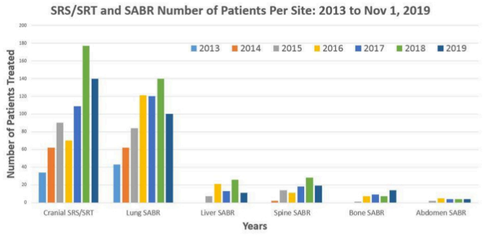


Figure 3. SRS/SRT and SABR number of patients treated by site: 2013 to Nov 1, 2019

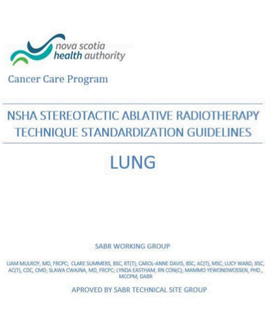


Figure 4. SRS/SRT and SABR standard protocols

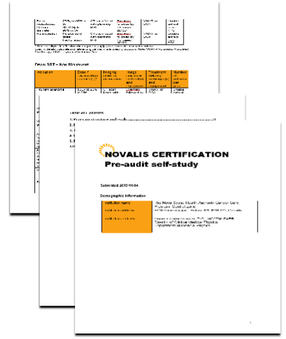


Figure 5. The final completed self study

CONCLUSIONS

The Nova Scotia Health Authority Cancer Care Program in Halifax is the first Canadian program to undergo Novalis Certification. This has been a catalyst for our centre in defining all clinical protocols and in improving safety and quality of SRS and SBRT programs.

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