UNIVERSITY OF CALGARY | Program for Undergraduate Research Experience (PURE)

FINAL REPORT AND REFLECTION

"*ADAPTIVE RADIATION THERAPY IN HEAD AND NECK CANCER*"

Nabhya Harjai

Project Duration: "May 6, 2019- September 5, 2019" "16 weeks"

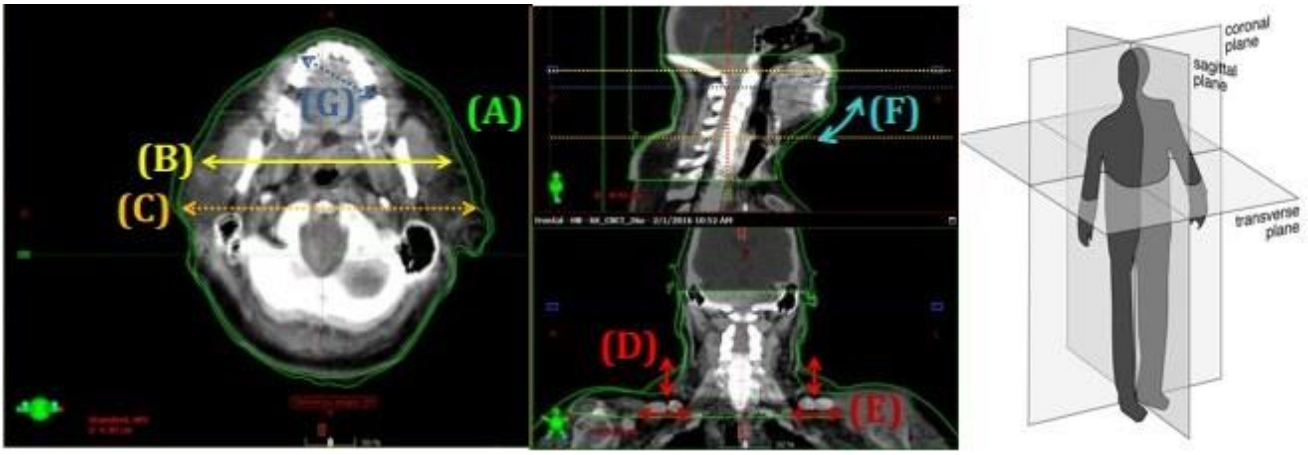
Date of Submission: "September 23, 2019"

Supervisor Name: Dr. Harvey Quon

Supervisor Signature:

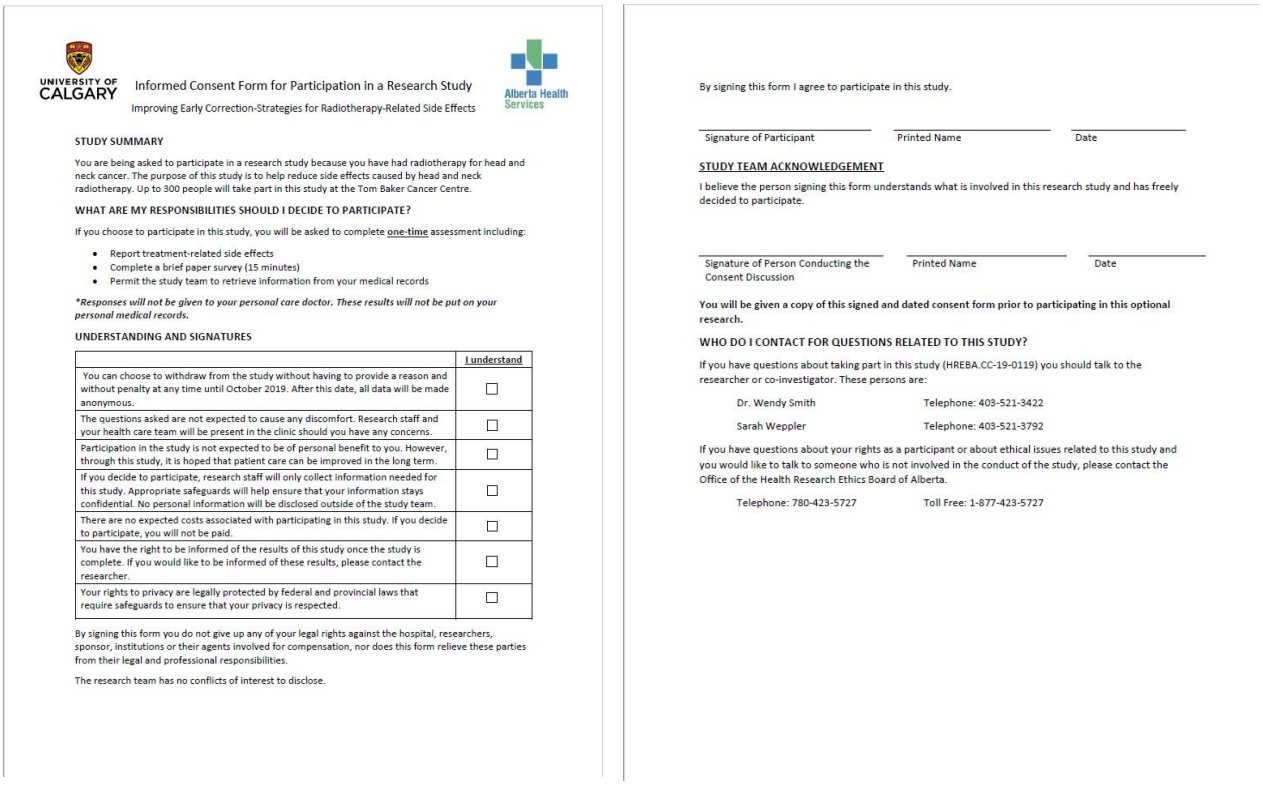
☑ Please check this box if you would like your Final Report to be uploaded to PRISM

APPENDIX



Metric	Implementation
External Body Contour	Surrogate for 3D shell gap **(A)**
Face Diameter	Difference in lateral face diameter **(B)**
Neck Diameter	Difference in lateral neck diameter **(C)**
Neck/Shoulder Loss	Difference in external contour below ear lobes **(D)**
Shoulder Position	Difference in acromioclavicular joint **(E)**
Chin Tilt	Difference in position of mental protuberance **(F)**
Head Shift	Difference in position of anterior ramus **(G)**

Figure 1: ART metrics that were calculated as a part of data collection, and anatomical planes adapted from Zanella et al, 2015.



UNIVERSITY OF CALGARY

Informed Consent Form for Participation in a Research Study

Improving Early Correction-Strategies for Radiotherapy-Related Side Effects

Alberta Health Services

STUDY SUMMARY

You are being asked to participate in a research study because you have had radiotherapy for head and neck cancer. The purpose of this study is to help reduce side effects caused by head and neck radiotherapy. Up to 300 people will take part in this study at the Tom Baker Cancer Centre.

WHAT ARE MY RESPONSIBILITIES SHOULD I DECIDE TO PARTICIPATE?

If you choose to participate in this study, you will be asked to complete **one-time** assessment including:

- Report treatment-related side effects
- Complete a brief paper survey (15 minutes)
- Permit the study team to retrieve information from your medical records

Responses will not be given to your personal care doctor. These results will not be put on your personal medical records.

UNDERSTANDING AND SIGNATURES

	I understand
You can choose to withdraw from the study without having to provide a reason and without penalty at any time until October 2019. After this date, all data will be made anonymous.	☐
The questions asked are not expected to cause any discomfort. Research staff and your health care team will be present in the clinic should you have any concerns.	☐
Participation in the study is not expected to be of personal benefit to you. However, through this study, it is hoped that patient care can be improved in the long term.	☐
If you decide to participate, research staff will only collect information needed for this study. Appropriate safeguards will help ensure that your information stays confidential. No personal information will be disclosed outside of the study team.	☐
There are no expected costs associated with participating in this study. If you decide to participate, you will not be paid.	☐
You have the right to be informed of the results of this study once the study is complete. If you would like to be informed of these results, please contact the researcher.	☐
Your rights to privacy are legally protected by federal and provincial laws that require safeguards to ensure that your privacy is respected.	☐

By signing this form you do not give up any of your legal rights against the hospital, researchers, sponsor, institutions or their agents involved for compensation, nor does this form relieve these parties from their legal and professional responsibilities.

The research team has no conflicts of interest to disclose.

By signing this form I agree to participate in this study.

Signature of Participant | Printed Name | Date

STUDY TEAM ACKNOWLEDGEMENT

I believe the person signing this form understands what is involved in this research study and has freely decided to participate.

Signature of Person Conducting the Consent Discussion | Printed Name | Date

You will be given a copy of this signed and dated consent form prior to participating in this optional research.

WHO DO I CONTACT FOR QUESTIONS RELATED TO THIS STUDY?

If you have questions about taking part in this study (HREBA.CC-19-0119) you should talk to the researcher or co-investigator. These persons are:

Dr. Wendy Smith Telephone: 403-521-3422

Sarah Weppler Telephone: 403-521-3792

If you have questions about your rights as a participant or about ethical issues related to this study and you would like to talk to someone who is not involved in the conduct of the study, please contact the Office of the Health Research Ethics Board of Alberta.

Telephone: 780-423-5727 Toll Free: 1-877-423-5727

Figure 2: Consent form designed for collection of patient-reported QoL, xerostomia and dysphagia outcomes

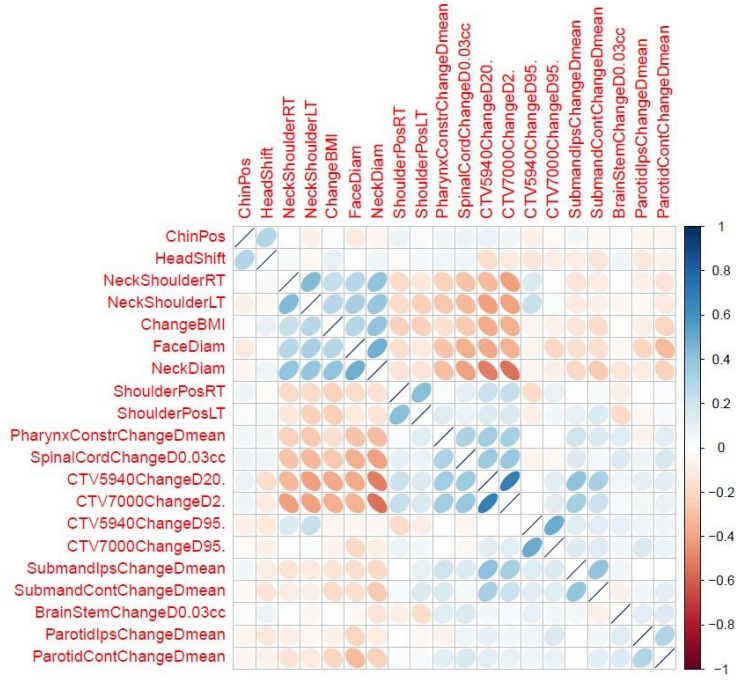


Figure 3: Correlation plot of calculated anatomical changes and dosimetric changes in a retrospective cohort of 250 HNC patients undergoing radiotherapy.

Figure 4: Principle components analysis of calculated anatomical changes and dosimetric changes in a retrospective cohort of 250 HNC patients undergoing radiotherapy. Data clustering on anatomical changes successfully stratified the cohort into patients with potentially ART-correctable systematic effects (Cluster 1) vs. those with daily variations (Cluster 2).