

Ryan Hill Research Foundation Thoraco-esophageal Fellowship Curriculum

Digestive Disease Institute



Introduction & Background

Virginia Mason Medical Center was established as the Mason Clinic in 1920. It is an internationally renowned multispecialty medical center with a network of primary and specialty care clinics throughout Puget Sound in addition to a 336 bed hospital in Seattle and a 220 bed hospital in Yakima. The Ryan Hill Thoraco-esophageal Fellowship is closely associated with the Digestive Disease Institute at Virginia Mason which was formulated to augment the already collaborative environment between Digestive Disease medical and surgical specialists and clinical and basic science investigators.

The Ryan Hill Research Foundation was founded in 1979 by Dr. Lucius Hill. There have been a series of national and international fellows that have come to Virginia Mason to work in a supportive and funded research environment. The esophageal program at Virginia Mason is national and internationally renowned as a Center of Excellence. There have been 15 international centers which have visited Virginia Mason to observe and emulate the esophageal cancer program and members of the Thoracic and Esophageal faculty have recently published the ERAS Society Guidelines for Esophagectomy¹ and also a standardized platform for complications associated with esophagectomy as well as a paper Benchmarking the Incidence of Complications and Quality Measures Associated With Esophageal Resections.^{2,3}

Dr. Donald E. Low is the current President and Dr. Richard Kozarek is the current Scientific Director of the Ryan Hill Research Foundation Board which oversees the Foundation and the Fellowship activities.

Program Faculty

Supervision and mentoring of the fellow is done by Fellowship Director, Dr. Donald Low, with the support and assistance of the additional faculty. These faculty members are members of the Section of Thoracic Surgery and the Digestive Disease Institute and are a multidisciplinary group involving surgeons, gastroenterologists, pathologists and radiologists.

Additional Faculty

Donald E. Low, MD, Program Director, Ryan Hill Research Foundation, President of the Ryan Hill Research Foundation Board

Richard Kozarek, MD, Executive Director, Executive Disease Institute, Scientific Director of the Ryan Hill Research Foundation Board

Michal Hubka, MD, Thoracic Surgeon, Head of the Comprehensive Lung Cancer Program

Madhan Kuppusamy, MD, Staff Thoracic Surgeon and Data Manager of the International Esodata Esophagectomy Database

Other Clinicians

Andrew Ross, MD, Director of Therapeutic Endoscopy Center of Excellence
Russell Dorer, MD, PhD, GI Pathologist
Hejin Hahn, MD, GI Pathologist
Richard M. Hinke, MD, GI Radiologist

Duration of Fellowship

Typical duration of the Fellowship is one year, starting in either July or August. This duration can be modified under special circumstances. In addition, there have been examples of the Ryan Hill Fellowship being extended for a two-year period.

Number of Positions

One.

Prerequisites for Training

Fellowship applicants for the Ryan Hill Research Foundation must have an internationally recognized MD degree and have completed at least two years of surgical training. They must be conversant in English. Applications from international applicants will be required to obtain appropriate Visa status to work in the United States with the H-1B Visa being preferable.

Salary

The Ryan Hill Research Foundation fellow will receive a competitive salary and benefits assessed according to regional fellowship levels or higher. The Fellowship salary will be determined by the Ryan Hill Research Foundation Board. The fellow will have the opportunity to present a paper at a national and international meeting and have the costs associated with attending the meeting covered by Fellowship funds.

Expectations of the Ryan Hill Research Fellow

1. The fellow is expected to initiate research projects with the expectation of presenting at least two completed studies at national meetings and for publication in peer-reviewed journals.
2. The fellow will work with research staff at the Benaroya Research Institute and members of the IRB Committee to ensure that all retrospective or prospective studies done by the fellow comply with Virginia Mason and national standards for research and the fellow will also prepare and submit any IRB applications that are required for research projects.

3. The fellow will be expected to be a first author on at least one or two book chapters during their fellowship time period.

Program Goal

The goal of the Ryan Hill Research Foundation Thoraco-esophageal Fellowship is to provide a unique and challenging experience for the Fellow:

1. Interact with the staff and trainees of Virginia Mason Medical Center and to have first-hand interaction with the concept of team medicine and the Virginia Mason Production System.
2. Perform meaningful supervised research and engage in scholarly activities. Although the fellow will be in a position to observe patient interactions and operations, the fellow will not have any personal clinical responsibility nor participate in clinical care.
3. The fellow will utilize the four current esophageal databases currently under IRB approval at Virginia Mason to generate retrospective research projects. The fellow will also be responsible for selectively maintaining these databases.
4. The fellow will have an opportunity to interact with the Virginia Mason multidisciplinary team directly related to ongoing research projects. This team will typically provide opportunities to work with diagnostic and interventional radiology, gastroenterology, pathology, anesthesiology and surgery.
5. The fellow will study, analyze and publish on esophageal disease, including both benign and malignant conditions as well as examining various process issues associated with the care delivery of esophageal disease.

Objective

By the end of the Fellowship year, the fellow will be able to:

Research Skill

- Design and execute scientific research projects.
- Apply knowledge of Human Subjects Research ethics and institutional review board requirements to submission of projects for approval.
- Apply various statistical methods to analysis of clinical data.
- Use Access or other database skills to report from and analyze data.

Medical Knowledge

- Demonstrate understanding and application of medical knowledge in the assessment of esophageal disease clinical data.
- Apply knowledge of medical literature to evaluation of clinical data and profiles of patients with esophageal disease.
- Use medical knowledge and analytical thinking to develop manuscripts that will contribute significantly to the literature.

Interpersonal Skills, Communication Skills and Professionalism

- Complete assigned tasks, including documentation, reliably and in a timely manner.
- Demonstrate integrity, respect for others, honesty and compassion.
- Set a tone of respect and collegiality for individuals and the team.
- Demonstrate the ability to communicate effectively and work efficiently

Expected Activity

1. The fellow will be involved in the design of research projects regarding esophageal disorders. It is the expectation that they will continue to contribute to projects initiated but not completed by previous fellows and will work in conjunction with future fellows to complete any projects that are not completed during their fellowship year. The infrastructure required for any individual research project will include:

- a. Identify a topic/project – meet with a member of the faculty to identify/confirm potential topic, data needed or available and knowledge necessary to investigate further.

Sample Esophageal Research Projects

Topic: **Abnormal High Resolution Manometry Findings and Outcomes After Paraesophageal Hernia Repair**

Mentor: Donald Low, MD, Susan McCormick, MD and Michal Hubka, MD

Topic: **Endoscopic Therapy and Surveillance Versus Esophagectomy for Early Esophageal Adenocarcinoma: Early Outcomes and Costs Analysis**

Mentor: Donald Low, MD and Andrew Ross, MD

Topic: **Influence of Nutrition and Sarcopenia on Esophageal Cancer Outcomes (INSPECT Study)**

Mentor: Donald Low, MD

Topic: **Assessment of Body Composition and Sarcopenia in Patients with Esophageal Cancer: A Systematic Review and Meta-Analysis**

Mentor: Donald Low, MD

Topic: **Selective Assessment of Epidural Catheter Placement by Epidurogram After Esophagectomy**

Mentor: Donald Low, MD, Joseph Neal, MD, Sara Nikravan, MD and Daniel Warren, MD

Topic: **GI Functional Disorders After Esophagectomy**

Mentor: Donald Low, MD

- b. **Formulate a hypothesis** – using the knowledge you have gained, formulate a hypothesis about a cause or effect of the phenomenon, or the relationship of the phenomenon to some other phenomenon.
 - c. **Test the hypothesis**—plan and carry out tests of the hypothesis, including gathering and sorting data as needed.
 - d. **Analyze the data**—use proper mathematical analysis to see if the results of the experiment support or refute the hypothesis.
 - e. **Draft a manuscript**—use AMA formatting to draft a publishable academic research article; provide initial and subsequently improved drafts to faculty member for input for improvement; identify appropriate peer-reviewed journals for submission.
 - f. **Submit manuscript**—follow publisher guidelines for submitting manuscript, make changes in response to reviewer feedback, and re-submit in a timely manner.
2. The fellow will be expected to interact regularly with his mentors to provide updated research plans and to work in a collaborative fashion for data accumulation, analysis and statistical review. The fellow will also work in conjunction with the Benaroya Research Foundation research staff.
 3. The fellow will work with IT and research personnel for the construction, maintenance and security of all databases and also work to provide appropriate inclusion, exclusion criteria during study design.
 4. The fellow will participate actively in regularly scheduled conferences and tumor boards. These conferences include:
 - a. **Thoracic Nodule Board**, a multidisciplinary weekly conference involving Radiology, Pathology, Pulmonary Medicine and Thoracic Surgery,

assessing and directing the appropriate management of pulmonary lesions.

- b. **Thoracic Tumor Board**, a weekly multidisciplinary conference involving Pathology, Radiology, Medical and Radiation Oncology, Pulmonary Medicine, Gastroenterology and Thoracic Surgery reviewing case management of thoracic oncology disorders.
- c. **General Surgery Morbidity and Mortality Conference**, a weekly conference at which time morbidity and mortality associated with the General Surgery, Vascular Surgery and Thoracic Surgical services are reviewed.
- d. **Virginia Mason Grand Rounds**, a weekly grand round reviewing topical multidisciplinary subjects which is also broadcast to multiple centers outside of Virginia Mason.

Recent Fellowship Achievements

Benaroya Research Center Wilske Pioneer Award 2018
 Benaroya Research Center Cancer Chair for Research 2018-19

Conference Schedule

Name	Conference Director	Occurrence	Location
Thoracic Nodule Board	Hubka	Every Wednesday, 3:00-4:00 pm	Radiotherapy Conf. RM, Buck Basement
Thoracic Tumor Board	Low	Every Wednesday, 4:00-5:00	Radiotherapy Conf. RM, Buck Basement
General Surgery Morbidity & Mortality Conference	Thirlby	Every Tuesday, 6:45-7:45 am	Volney-Richmond Auditorium
Grand Rounds	Nitsche	Friday, 7:30-8:30 am	Volney-Richmond Auditorium

In the first quarter, the fellow will:

1. Complete CITI GPC/Ethics Training and Statistics course.
2. Attend the Wilske Research Symposium in September.
3. Develop studies and submit IRBs.
4. Complete data collection and present to Fellowship Director.

In the **second quarter**, the fellow will:

1. Develop additional studies and submit IRBs.
2. Present research findings at DDI Director's Meeting in December.
3. Submit abstracts to Digestive Disease Week by December.
4. Finalize analysis; write and distribute manuscripts.

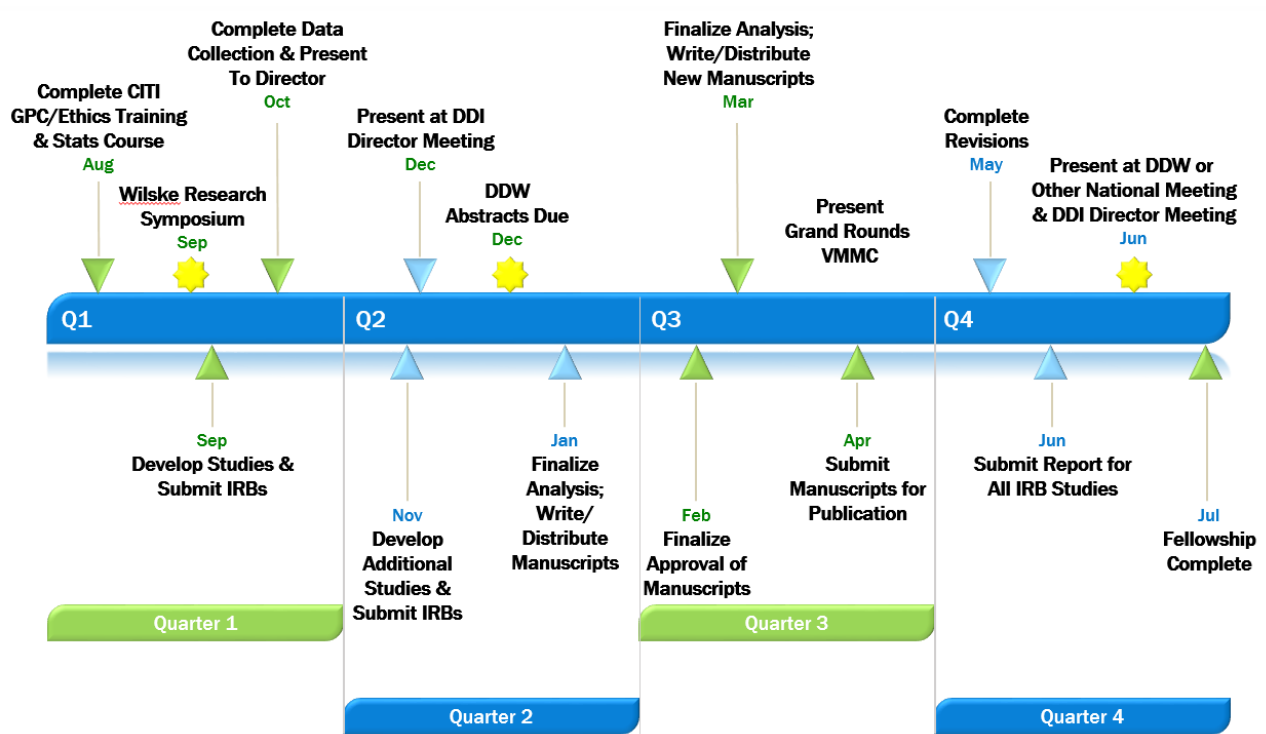
In the **third quarter**, the fellow will:

1. Finalize approval of manuscripts.
2. Finalize analysis; write and distribute new manuscripts.
3. Submit 4 manuscripts for publication.
4. Present at University of Washington Frontiers in GI in March/April.

In the **fourth quarter**, the fellow will:

1. Complete all revisions on studies and manuscripts and resubmit.
2. Submit report for all IRB approve studies.
3. Present research findings at Digestive Disease Week and DDI Director's Meeting in May/June.
4. Consider presenting Grand Rounds when appropriate.

Research Fellowship Research Timeline



Digestive Disease Institute

References

1. Low DE, Allum W, De Manzoni G, Ferri L, Immanuel A, Kuppusamy M, Law S, Lindblad M, Maynard N, Neal J, Pramesh CS, Scott M, Smithers BM, Addor V, Ljungqvist O. Guidelines for Perioperative Care in Esophagectomy: Enhanced Recovery after Surgery (ERAS®) Society Recommendations. 2018 [In Press]
2. Low DE, Alderson D, Ceconello I, Chang AC, Darling GE, D'Journo XB, Griffin SM, Hölscher AH, Hofstetter WL, Jobe BA, Kitagawa Y, Kucharczuk JC, Law SY, Lerut TE, Maynard N, Pera M, Peters JH, Pramesh CS, Reynolds JV, Smithers BM, van Lanschot JJ. International Consensus on Standardization of Data Collection for Complications Associated With Esophagectomy: Esophagectomy Complications Consensus Group (ECCG). *Ann Surg.* 2015;262:286-94.
3. Low DE, Kuppusamy MK, Alderson D, Ceconello I, Chang AC, Darling G, Davies A, D'Journo XB, Gisbertz SS, Griffin SM, Hardwick R, Hoelscher A, Hofstetter W, Jobe B, Kitagawa Y, Law S, Mariette C, Maynard N, Morse CR, Naftoux P, Pera M, Pramesh CS, Puig S, Reynolds JV, Schroeder W, Smithers M, Wijnhoven BPL. Benchmarking Complications Associated with Esophagectomy. *Ann Surg.* 2017 Dec 4.