



# RCSI

ROYAL COLLEGE OF SURGEONS IN IRELAND

COLÁISTE RÍOGA NA MÁINLEÁ IN ÉIRINN

## Grant/Fellowship Report Form

<b>Fellowship/Grant Holder Name</b>	Jarlath Bolger
<b>Brief biography, including qualification and year of graduation (no more than 100 words)</b>	I qualified from RCSI in 2009, and was awarded a PhD in Surgery in 2014. I undertook higher specialist training on the national surgical training scheme in general surgery from 2015-2021. I obtained my Intercollegiate FRCSI with a subspeciality interest in oesophagogastric surgery in 2020, and CCST in 2021.
<b>Title of Project/Fellowship</b>	Clinical and Research Fellowship in esophagogastric surgery, Division of Thoracic Surgery, University Health Network/University of Toronto, Canada
<b>Year of Award: Commencement Date: Conclusion Date:</b>	2021 July 2021 Summer 2023

### Summary (no more than 250 words)

My fellowship has offered comprehensive training in multiple aspects of benign and malignant foregut surgery, while also facilitating my interests in both basic science and clinical research. Broadly speaking, my first year had an approximate 60:40 split between academic and clinical activities, with my second year a 20:80 academic/clinical split. This allowed me to re-engage with basic and translational research. One aim prior to arriving, was to better understand the methods and utility of using patient derived oesophageal adenocarcinoma organoids as a model. To this end, our group is the first to demonstrate that organoids can mimic the response of primary tumours to neoadjuvant chemotherapy regimens. I have presented parts of this work at the International Society for Diseases of the Esophagus, and the AUGIS meetings. A manuscript is under preparation. I have published several other manuscripts, as first or senior author and have supervised students and residents in their research endeavours.

Clinically, I have gained broad experience in a range of upper gastrointestinal surgery. I have spent time training in minimally invasive oesophagectomy, anti-reflux procedures, para-oesophageal hernias, and motility disorders. As UHN is a quaternary level referral centre, I have also trained in complex oesophageal reconstruction, and salvage surgery. This has furnished me with the skills and confidence to take on these complex reconstructions, and pushed my own knowledge and skill in considering what can be achieved surgically. I have also undertaken fellowship training in minimally invasive bariatric surgery, and have designed the robotic foregut curriculum for UHN.

**Grant Report (in the region of but no more than 500 words)**

Objectives of Project/Fellowship:

- 1) Gain research experience in the field of oesophageal patient derived organoids
- 2) Develop research skills to allow me to transition into an independent researcher with my own research group
- 3) Develop my skills in minimally invasive oesophagogastric surgery
- 4) Develop skills in complex oesophageal reconstruction
- 5) Undertake a high-volume bariatric/MIS rotation to improve my minimally invasive skills and bariatric training.

Did you achieve these objectives?

- 1) I have worked closely over 2 years with Dr Jonathan Yeung on developing the organoid model into a useful clinical tool. Work that I have undertaken alongside colleagues in the laboratory has established that oesophageal cancer organoids may prove a useful tool for screening neoadjuvant therapies (or indeed chemotherapies in metastatic disease) in oesophagogastric cancer. This is the first time this has been demonstrated in this field. This has been presented at prestigious international meetings, and a manuscript on this will be submitted soon.
- 2) I have been given the space to grow as a researcher, and I have been afforded the opportunity to instigate and develop several projects. I supervise undergraduate and graduate students and provide guidance and advice. I have also submitted and published papers as the senior author. The mentorship I have received has given me the confidence that I can grow and develop as a researcher, and establish and run my own group.
- 3) I have operated extensively, and am now at the point where I am teaching and taking junior trainees through these complex cases.
- 4) As a quaternary level referral centre, UHN deals with significant numbers of complex reconstructions. I have developed my own skills in this area, but have also embraced the necessity for multiple teams to be involved in managing this challenging cohort of patients.
- 5) I rotated through one of the highest volume bariatric programs in Canada and gained invaluable exposure to both bariatric operating and how to structure and run a bariatric service.

In your opinion, what is the value of your award to:

- (a) Yourself: On a professional level, this has enabled me to train and develop my academic and clinical skills in a world-class institution. It has provided me with an ongoing relationship with a clinician-scientist mentor which will hopefully lead to ongoing scientific collaboration. On a personal level, having support from the Colles Fellowship greatly assisted in facilitating my family living and working in a very expensive city.
- (b) The institution in which you worked: I have contributed my own skills and knowledge to UHN. I have published several manuscripts, with more in the pipeline, as well as forging relationships that will be useful in future for trainees that want to undertake similar training. My contribution has been recognised with a teaching award, and promotion to chief fellow in the Division of Thoracic Surgery.

(c) In the future for Irish patients: From an academic perspective, my fellowship will allow me to continue to pursue my research interests. I firmly believe that patients benefit from being treated in high-volume centres where there is a significant volume of research ongoing. From a clinical perspective, I have trained in minimally invasive oesophagogastric and bariatric surgery. Minimally invasive techniques provide great benefits to patients, particularly if they can avoid a laparotomy or thoracotomy. I feel well equipped to provide these services to my patients. I have also trained in complex oesophageal reconstruction and feel well placed to offer this service in the Irish patient population.