

Doctors in Training Grant

FINAL REPORT



Tom Goodsall (left) and Rob Bryant (right) confirming reader calibration at the GENIUS workshop.

Dr Thomas Goodsall

Fellowship in Inflammatory Bowel Disease & Gastrointestinal Ultrasound

The Queen Elizabeth Hospital
Adelaide, Australia



It is my pleasure to report on my 2020 fellowship training year and express my gratitude for the support received from MIGA through the doctors in training grant. This training year was commenced with anticipation of training experiences in Adelaide, Denmark and Italy, however the unprecedented events in February and March, with subsequent international travel bans, required flexibility and redefinition of goals and outcomes. I was extremely fortunate to be able to meet my training goals in inflammatory bowel disease (IBD) medicine and intestinal ultrasound through a combination of local training experiences and virtual interactions. Additional opportunities were identified throughout the year that resulted in a descriptive study of the impact of SARS-CoV-2 on IBD patients and subsequently develop and implement local service improvements and pathways in response to this work. I am also completing the training year with a PhD candidacy that has progressed to the final stages. The success of this year, despite the unanticipated challenges, has benefited me personally by providing a novel skill set in intestinal ultrasound. This skillset has allowed me to offer a high quality service to remote patients in Adelaide and Alice Springs and take these skills back to NSW where I will continue to perform intestinal ultrasound and train local specialists to ultimately enhance the experience of IBD patients.

Fellowship training journey

The primary goals of fellowship were to achieve expertise and accreditation in intestinal ultrasound and to gain subspecialist experience in inflammatory bowel disease. This was originally to be achieved through training posts in Adelaide, Denmark and Italy.

I moved to Adelaide with my wife and two daughters in January 2020 to begin working as a research and IBD fellow at the Queen Elizabeth Hospital in Adelaide. In early February I travelled to Vienna, Austria to present my work on intestinal ultrasound at the European Crohn's and Colitis annual Scientific Meeting and complete mandatory training modules for my intestinal ultrasound accreditation. I was then to train in Denmark for four weeks in May and June. Very soon after I arrived back in Adelaide it became clear that the SARS-CoV-2 virus was spreading uncontrollably, and international travel was unlikely to go ahead.



1. Our Australian GENIUS expert panel on day one of the workshop: (Left to right) Rob Bryant (TQEH, Adelaide), Tom Goodsall (TQEH, Adelaide), Andrew Lee (The Prince Charles Hospital, Brisbane), Lauren White (Sunshine Coast University Hospital, Sunshine Coast), Yoon-Kyo An (Mater Hospital, Brisbane), Jake Begun (Mater Hospital Brisbane), Peter Lewindon (Queensland Children's Hospital, Brisbane).

With support of my supervisor, we reassessed the training opportunities available and redefined the training year. I would remain in Adelaide and complete my intestinal ultrasound training locally with approval and support from the Australian and International training certification bodies. I also enrolled in a PhD at the University of Adelaide with a thesis goal of developing and validating an intestinal ultrasound activity index for Crohn's disease.

Achievements throughout the fellowship

Clinical

I worked as the IBD fellow at the Queen Elizabeth Hospital where I gained subspecialty experience and training. This included outpatient clinics, IBD orientated endoscopy, running the IBD multidisciplinary meeting, coordinating teaching and education sessions, participating in faecal microbiota transplant trials, industry trials, and intestinal ultrasound clinics. On completing this training, I believe I have a strong subspecialty foundation on which to build my own clinical practice in this area.

Training

In the first half of the year, I was able to complete my intestinal ultrasound training logbook and received certification of training from the International bowel ultrasound group. I then introduced my own intestinal ultrasound clinic at the Queen Elizabeth Hospital to service the large volume of patients and further develop my skills. Recently I have begun training other doctors in this skill set.

Research

I have commenced a PhD by publication with the University of Adelaide. The thesis is based on the development and validation of an intestinal ultrasound activity index for Crohn's disease. We identified this topic as an area of need that will facilitate increased uptake of intestinal ultrasound and use in clinical trials, ultimately benefiting patients with inflammatory bowel disease by providing accurate point of care assessment and reducing the burden of invasive investigation.

The project has been extremely successful to date. I have published a systematic review of patient perceptions of monitoring tools in inflammatory bowel disease.¹ Following on from this I performed and published a systematic review of currently available ultrasound severity in Crohn's disease and appraised their operating characteristics.² To develop an evidence based ideal index for Crohn's disease activity we then performed a Research and Development/University of California LA (RAND/UCLA) agreement process with a panel of international intestinal ultrasound experts made up of Gastroenterologists and Radiologists from Australia, Canada, Italy, Germany, Denmark and England. This process identified the ideal way to perform intestinal ultrasound and defined the measures of Crohn's disease activity and the results have been submitted for peer review and publication.

The RAND/UCLA results were used to develop a validation protocol which formed the basis of the major project of the year, a validation study in participants with Crohn's disease. For this study we recruited 24 participants with Crohn's disease and collected prospective colonoscopy videos and segmental biopsies for centralised blind reading. The 24 participants then attended a full weekend workshop with six interstate Australian intestinal ultrasound experts. Participants rotated ultrasound stations and in total 144 ultrasound studies were collected and stored. The collected data will be used to calculate the point of care inter- and intra-rater reliability of intestinal ultrasound and will also be centrally read to ultimately validate and describe the ideal Crohn's disease activity index. The workshop was supported by GENIUS, Janssen, Canon and Philips and was a resounding success despite the challenges of arranging a large gathering and interstate experts during COVID-19. The studies are now being centrally read and the results will be published in 2021.

The National lockdown in response to the initial Australian COVID-19 pandemic early in the year also provided an opportunity to research the mechanisms by which IBD patients may be affected and better understand health behaviours and concerns in order to optimise service delivery and patient management. We published a summary of the available evidence on thiopurines, a common IBD medication.³ We also performed a survey with our local IBD patient group and found that patients overestimated the risks of their medications for COVID-19 illness and some stopped medications against advice. We published our findings and developed local information pathways and services to keep our patients well informed and up to date with the latest information during a time of great uncertainty.⁴

Education

My fellowship included an academic position as clinical lecturer at the University of Adelaide where I taught and supervised medical students. I also organised and lead the IBD journal club and education sessions for the team at the Queen Elizabeth Hospital. After receiving intestinal ultrasound accreditation, I began training local registrars during my clinics. This experience enhanced my teaching and education skills, and I will continue to engage in medical education and training.

Benefits from training year

I am extremely fortunate to have had such a successful fellowship training year in spite of COVID-19 related challenges. Personally, I leave Adelaide with international recognition of expertise in intestinal ultrasound, a wealth of clinical IBD knowledge, faecal microbiota transplant, education and managerial experience, and a PhD candidature that is well on the way to completion with all data collected. This has allowed me to successfully apply for a staff specialist position at John Hunter Hospital in Newcastle, NSW, where I will continue to work in gastroenterology and general medicine with a clinical and research focus on IBD and intestinal ultrasound. I will continue as a clinical lecturer at the University of Adelaide and University of Newcastle as a clinical educator.

I am a co-applicant in a GESA Grant to introduce service enhancement to Alice Spring IBD service. My supervisor, Rob Bryant, and I are both visiting specialists at Alice Springs hospital and the GESA grant will allow us to introduce an online care platform and facilitate virtual care with an on the ground IBD nurse.

The benefits of my training year to my local community and colleagues in Newcastle relate to the special skill set I have developed this year. I return to Newcastle with IBD subspecialty experience, intestinal ultrasound recognition and training, research experience and faecal microbiota transplant experience. I will bring these skills to my role as Staff Specialist at John Hunter Hospital and introduce an intestinal ultrasound service to enhance the experience and journey of IBD patients. I will also contribute to the IBD unit management and teaching as well as expand the current research and clinical trials record of the department. I also return with the ability to teach and train others in intestinal ultrasound and share the abilities I have learnt to further enhance service delivery and offer a high-quality service to all patients in the Hunter New England region.

Outcomes and future directions

In summary, I was able to have a very successful 2020 training and research fellowship year based in Adelaide but with virtual interaction and training from a wealth of peers and mentors around Australia and the Globe. I return to Newcastle with a new appointment and bring experience in IBD and intestinal ultrasound with me that I can introduce to the region to enhance patient care and experience. I have also developed my research and medical education experience and hope to complete my PhD in the near future. The MIGA Doctors in Training Grant was extremely helpful and made it possible for me to relocate to Adelaide with my family of four and embark on this exciting and fulfilling fellowship. I am extremely grateful to MIGA and offer my thanks.

References

1. Goodsall TM, Noy R, Nguyen TM, Costello SP, Jairath V, Bryant RV. Systematic Review: Patient Perceptions of Monitoring Tools in Inflammatory Bowel Disease. *Journal of the Canadian Association of Gastroenterology*. 2020.
2. Goodsall TM, Nguyen TM, Parker CE, Ma C, Andrews JM, Jairath V, et al. Systematic review: Gastrointestinal ultrasound scoring indices for inflammatory bowel disease. *Journal of Crohn's and Colitis*. 2020.
3. Goodsall TM, Costello SP, Bryant RV. COVID-19 and implications for thiopurine use. *Medical Journal of Australia*. 2020;212(10):490-e1.
4. Goodsall TM, Han S, Bryant RV. Understanding attitudes, concerns, and health behaviors of patients with inflammatory bowel disease during the coronavirus disease 2019 pandemic. *Journal of Gastroenterology and Hepatology*. 2020;n/a(n/a).

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Website www.miga.com.au

Email miga@miga.com.au

