



Clinical Surgery EVVS

Annual Research Report 2019

Professor Stephen Wigmore

We published the first department of surgery newsletter in 2015 and each year I have been reviewing the research outputs of the department,



albeit the predominant focus is on the RIE campus. One of the reasons for doing this exercise is to recognize excellence within the department and of course also to try and drive up standards and quality. Looking at the various charts and graphs that we produce it feels like the department is continuing to improve its performance. This year is no exception with more than 100 manuscripts of different varieties being published by members of the department in a diverse group of journals ranging from Nature to BMJ Open.

Welcome to the End of Year 2019 Edition of the Department of Clinical Surgery Newsletter

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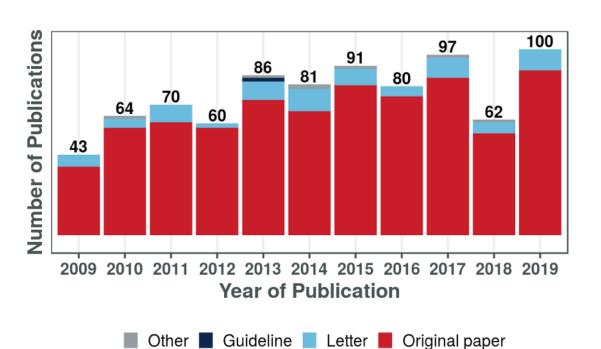
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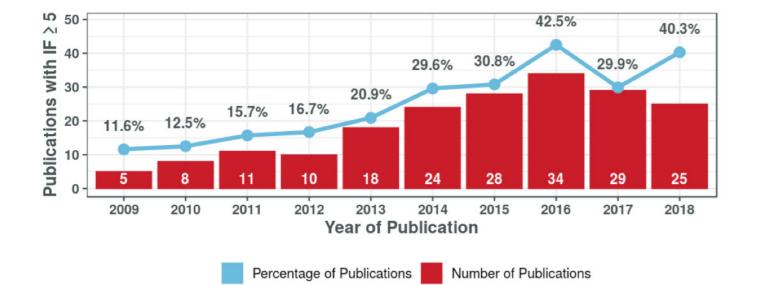


The diversity of publications is one of the strengths of the department and it is reassuring to see that we continue to contribute to basic science, clinical studies including trials and data based studies all at a high level.

Looking at conventional markers of quality, the impact factor of the journals in which our publications appear is remarkable with a median of 4.6 and a mean of 7.8 for 2019.

Breaking the figures down it is clear that we continue to publish in the better quality surgery and clinical journals while also benefiting from regular appearances in the Nature and Lancet groups of journals.

Journal	total	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
Br J Surg	48	8	6	3	5	1	1	8	2	6	5	3
HPB (Oxford)	36	3	3	5	5	4	2	2	3	3	3	3
Transplantation	31	5	2	5	2	3	3	0	2	3	3	3
World J Surg	26	5	1	3	1	3	1	2	3	2	2	3
BMJ Open	21	10	2	3	4	1	1	0	0	0	0	0
J Hepatobiliary	20	0	1	7	0	0	0	9	2	1	0	0
Pancreat Sci												
Clin Nutr	18	1	0	1	2	1	0	2	5	2	3	1
Ann. Surg.	17	2	0	1	0	4	4	2	1	0	3	0
Hernia	16	2	0	3	1	3	3	1	0	1	2	0
PLoS ONE	14	1	0	0	3	3	2	2	3	0	0	0

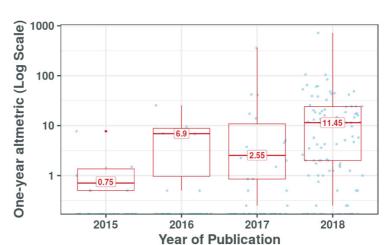


Wasana	2010	2010	2045	2016	2015	2014	2012	2012	2011	2010	2000	2000
Measure	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
Total Number of publications	95	63	97	76	83	79	89	67	68	62	52	3
Minimum Impact Factor	1.26	0.68	0.99	0.31	0.87	0.55	0.98	0.29	0.21	0.44	0.51	0.94
Quartile 1 Impact Factor	2.77	3.05	2.79	2.74	2.40	2.17	2.09	2.09	1.78	1.59	2.15	2.84
Median Impact Factor	4.56	4.74	3.75	4.26	3.69	3.01	3.12	3.05	3.15	3.35	3.50	4.73
Mean Impact Factor	7.76	6.77	5.56	7.66	6.56	6.53	4.76	3.62	4.61	3.42	3.90	3.88
Quartile 3 Impact Factor	7.73	6.29	5.53	7.72	6.10	8.33	4.76	3.78	4.61	4.44	4.08	5.35
Maximum Impact Factor	59.10	32.27	32.62	40.14	44.00	45.22	39.21	17.21	53.30	10.56	30.76	5.97
Interquartile Range of Impact Factors	4.96	3.24	2.74	4.98	3.70	6.15	2.67	1.69	2.83	2.86	1.93	2.51

All this hard work puts us in a healthy position for the REF 2021 and the department will be submitting a number of individuals for assessment. Please keep continuing to register your publications through PURE and let Murray Britton or Susan Keggie know as soon as you receive an acceptance notification from a journal.

This year thanks to the work put in by

Katie Shaw and Kenny McLean we are able to look at both conventional and less conventional metrics of our research impact and you can



see from the Altmetric plots that it is not only the impact factor of our research that is rising but also the reach on social and conventional media outlets. With this in mind if you have an important study please do think about publicizing it either through the University press office, the NHS Lothian press office or even through social media tagging members of the

department and @EdinSurg

Good research attracts good funding and although the number of our grants remains fairly stable the value of them continues to rise. There have been many notable successes over the past year but I wanted to highlight one in particular. So congratulations to Cameron Fairfield who has been awarded an MRC Clinical

Training Fellowship. This is a huge personal achievement for Cameron but is also one of the first research fellowships based on "data" research that has been awarded outside of a public health sciences department setting.

Next year it would be good to try and capture some of

the research outputs from our colleagues at the Western General Hospital and the wider department of surgery.

Thanks to everyone for all your hard work and for making Edinburgh one of the pre-eminent departments of surgery for research anywhere.



Recent Grant Awards

Mr Cameron Fairfield, Professor Ewen Harrison, Dr Athina Spiliopoulou, Professor Paul McKeigue, & Professor Stephen Wigmore

Gallstone Disease: A Sentinel Presentation of Cardiometabolic Disease

MRC Clinical Research Training Fellowship

£150,100 2020-2022

Mr Richard Skipworth

Improving the quality and value of care for people with poor prognosis cancers - a national, mixed methods study across Scotland

Health Foundation Insight Research Programme £399,224

News Round Up

With effect from 1 December, Professor Rowan



Parks will be Acting Medical Director of NHS Education for Scotland having previously been Deputy Medical Director.

NIHR Global Surgery Unit Research Prioritisation Meeting

In November, members of the Surgical Informatics team travelled to Ghana to deliver the NIHR Global Health Research Unit on Global Surgery's annual Research Prioritisation Workshop. The workshop in Accra spanned 3 days of research and trial, updates, emergency surgery guideline prioritisation and research skills training.



The team then travelled to Tamale in the North of the country to visit the NIHR hub based at the University for Development studies. Whilst there the team ran the latest in their series of HealthyR training courses sponsored by Dr Riinu Ots and Professor Ewen Harrison's Wellcome Trust funded grant, 'HealthyR Notebooks: Democratising open and reproducible data analysis in resource-poor environments'.



As a direct result of this visit, the team will welcome two Senior Lecturers to Edinburgh for a week long visit in March.

The Edinburgh School of Surgery Day 2019

The annual School of Surgery day, showcasing the research of the department was held on November 22nd at the Royal College of Surgeons.

The scientific sessions were hosted jointly by Professors Stephen Wigmore and Malcolm Dunlop. Research fellows from across the School of Surgery presented their latest research in sessions for the Chiene (basic science research) and Ian MacLeod (clinical research) medals.

The lan MacLeod Medal was awarded to Janice Miller for her presentation, 'Neuromuscular junctions are stable in rectus abdominis in patients with cancer cachexia'. Janice was also awarded this year's Professor Fearon Medal for her publication 'Validated screening tools for the assessment of cachexia, sarcopenia, and malnutrition: a systematic review. (Am J Clin Nutr. 2018 Dec 1;108(6):1196-1208. doi: 10.1093/ajcn/nqy244).

The winner of the Chiene Medal was **James Blackmur** for his presentation, 'Human large bowel epithelial organoids are a model system to study gene environment interactions and transcriptomic effects of pharmacologically relevant concentrations of vitamin D (calcitriol) on expression of genes implicated in colorectal



2019 Medal winners pictured with Professor Stephen Wigrmore Left to right: James Blackmur, Victoria Banwell, Janice Miller

cancer' with **Victoria Banwell** as the runner-up for her presentation, 'The role of miR-214 in renal ischaemia reperfusion induced injury and fibrosis'.

After the medal presentations, Professor Steve



Guest Speaker: Professor Steve Yule

Yule gave this year's guest presentation 'ASTRONOTSS: How NASA is learning from surgery to prepare for deep space missions'. before Professor Wigmore closed this year's meeting and everyone retired to the Fellows Library for dinner and the award of the medals.

This year's Surgical Trainer of Year, voted for by the trainees was warded to Mr Ravi Ravindran, consultant HPB surgeon.

With thanks to this year's organiser, Mrs Susan Keggie, The School of Surgery Convener, Professor Stephen Wigmore and event sponsors, Advanced Accelerator Applications.



Surgical Trainer of the Year 2019, Mr Ravi Ravindran





New Members of Staff

Professor Steven Yule

The Department of Surgery have recently appointed Professor Steven Yule to the Chair



of Behavioural Sciences in the College of Medicine and Veterinary Medicine.

Steven Yule is an academic psychologist who is internationally recognised for his research on surgical

non-technical skills and patient safety. He has 20 years of experience studying teams in high risk / high reliability industries (surgery, healthcare, energy, transportation, space exploration).

He is currently Associate Professor of Surgery at Harvard University and Director of Research and Innovation at the STRATUS Center for Medical Simulation at Brigham & Women's Hospital in Boston, where he has led a non-technical skills research laboratory since 2011. He holds grants from the NIH and NASA and will continue to collaborate with Harvard as a Visiting Professor of Surgery and faculty member in the Center for Surgery and Public Health in Boston after he takes up his appointment in Edinburgh from the beginning of January 2020. Professor Yule's aspirations are to establish a multidisciplinary behavioral sciences research network that will foster global collaborations, technological innovation and research-led teaching to provide impact for learners, patients, and society.

Kenneth McLean

Kenneth McLean has joined the department as a Clinical Research Fellow under the supervision of Professor Ewen Harrison. He



will be continuing to work with the Surgical Informatics research group on developing novel methods of diagnosis for surgical site infection (SSI). This work will include development of a low-cost,

handheld biophotonics device (in collaboration with engineers from the University of Durham), and machine learning with images from the Tracking wound infection with smartphone technology (TWIST) trial.

In addition to this, he will contribute to the Edinburgh Surgery Online programmes and undergraduate surgical teaching. Kenneth is involved with collaborative research as lead of the STudent Audit and Research in Surgery (STARSurg) collaborative and as the Association of Surgeons in Training (ASiT) National Research Collaborative representative.

Clinical Trials Update

Currently Recruiting

The HOT-2 Trial

HOT-2 is a blinded randomized controlled investigation into the efficacy of heme arginate in improving primary graft function in deceased donor kidney transplantation. Professor Lorna Marson is the Chief Investigator and Edinburgh will be the lead centre for this multicentre trial

It is anticipated that Edinburgh will open as the first trial site and begin recruitment late in 2018.

For more information about HOT-2 please contact

Chief Investigator, Professor Lorna Marson.

The **OPTIMISE II** Trial

A large-scale, pragmatic, international, multi-centre study aiming to recruit >2500 patients globally, and seeking to provide definitive evidence on the value of a cardiac-output guided fluid and inotrope protocol in preventing infectious complications for patients >65 years of age.

This NIHR Portfolio study is sponsored by Queen Mary University of London, and the local PI is Dr Mort Kelleher (Consultant Anaesthetist). We are particularly targeting patients undergoing Whipple's procedure and gastrectomy at RIE, although patients undergoing other procedures involving the luminal GI tract may also be eligible.

For more information, please contact Dr Kelleher (mortimer.kelleher@nhslothian.scot.nhs.uk) or Rachel Campbell, Perioperative Research coordinator (rachael.campbell@nhslothian).

The **ROMIO** Trial

A multicentre randomised controlled trial comparing minimally invasive verses open esophagectomy for esophageal cancer.

This trial is being run by the University of Bristol. NHS Lothian is open as a trial site and recruitment has begun.

For more information please contact **Mr Peter Lamb** or **Mr Richard Skipworth**

OCCAMS—Oesophageal Cancer Clinical and Molecular Stratification.

A Multicentre Study to Determine Predictive and Prognostic Biomarkers and Therapeutic Targets for Oesophageal and Junctional Adenocarcinoma including Whole Genome Sequencing

This study, part of the International Cancer Genome Consortium (ICGC2), has been refunded by CRUK for 5 years and recruitment is ongoing

For more information please contact **Mr Rob O'Neil** or **Mr Richard Skipworth**

The NeoAegis Trial

A phase III, open-labelled RCT comparing the MAGIC neoadjuvant/adjuvant chemotherapy regimen with the CROSS neoadjuvant chemoradiation protocol in patients with cT2-3 N0-3 M0 adenocarcinoma of the oesophagus or junction. The primary objective is to evaluate 1, 2 and 3-year survival.

This trial is currently recruiting. For more information contact **Mr Richard Skipworth**.

TWIST—Tracking Wound Infection with Smart Phone Technology

A randomised controlled trial to investigate if a smartphone tool can shorten time to diagnosis of surgical site infections.

All patients (>16) undergoing abdominal surgery who own a smartphone are eligible to enter the study. Visually impaired patients are excluded.

Patients will be randomised to receive either standard post-operative care or standard postoperative care plus use of the smartphone tool. Those in the smartphone group will receive a series

of questions via text message and have the facility to upload a photograph of their surgical wound. Primary outcome measure is time to diagnosis of an

Primary outcome measure is time to diagnosis of an SSI and secondary outcome measures will consider use of A&E and GP services

RIE and WGH sites are both recruiting patients to this study.

For more information please contact Principle Investigator, **Mr Ewen Harrison**

Contd over

The PATHOS Trial

The PATHOS trial is investigating less intensive treatment after surgery for oropharyngeal cancer. Patients whose oropharynx cancers are positive for Human Papilloma Virus (HPV) are offered transoral surgery with adjuvant therapy based on pathological analysis of the primary and neck disease. The head and neck team are opening this CRUK funded study which is lead from Liverpool and open to NHS Lothian patients from October 2019.

For more details please contact Mr Ian Nixon.

SR1171 - Circulating Tumour DNA in head and neck cancer.

This study is analysing Human Papilloma Virus (HPV) DNA in patients with head and neck cancer as a marker of disease. Samples are analysed before and after therapy and for the first year of follow up. The study is being run in conjunction with Professor Tim Aitman from the Institute of Genetics & Molecular Medicine. To date 55 patient have been recruited

For more details please contact Mr Ian Nixon.

Changes to PURE Publication Deposits In Clinical Surgery

PURE arrangements in Clinical Surgery have now changed.

Susan Keggie and Murray Brittan will now be handling publication deposits in PURE.

As soon as you receive notification of a manuscript being accepted for publication, please forward the acceptance email together with the finally accepted author version to our new PURE email address

Pure.clinsurg@ed.ac.uk

All manuscripts must be deposited in PURE within **3** months of acceptance.

Any publications not deposited in PURE within 3 months of acceptance will not be eligible for the Ref 2021.

A full set of FAQs on PURE can be found in the July 2019 edition of this newsletter which can be accessed <u>here</u>.

Funding Opportunities

Alan Turing Institute: Call for pilot projects on Al in Molecular Biology

Support for multidisciplinary pilot projects to apply data science approaches to biology. It will develop the role of AI in addressing fundamental questions on the structure and function of genomes, the molecular interplay within cells and organs and the role, shape and function of proteins, as well as advancing imaging techniques. Budget: £50,000. **Deadline: 17 January 2020.**

Cancer Research UK: Early Detection Primer Award

Support for researchers at all stages to develop early, novel and outside-the-box ideas and collaborations

to build and make progress in the Early Detection field. Budget: £100,000.

Deadline: 7 March 2020.

MRC: Applied Global Health research board

The Medical Research Council is establishing a research board in Applied Global Health. It will fund global health research embedded within local contexts in low- and middle-income countries. Further details will be released when the call launches in January, but deadlines for a two stage application process have been announced. Deadlines: outline 7 April 2020; full 6 October 2020.

Wellcome: Investigator Awards in Science

Support for independent investigators with a compelling research vision to tackle the most important questions in science. Budget: £3M. **Deadline: 27 February 2020.**

Wellcome: Senior Research Fellowships

Support for independent researchers emerging as global leaders in their field, who want to tackle the most important questions in science. Budget: covers salary and research expenses, typically for 5 years.

Deadline: 27 February 2020.

Wellcome: Collaborative Awards in Science

Funding to promote the development of new ideas and speed the pace of discovery, supporting teams of researchers, consisting of independent research groups, working together on the most important scientific problems which can only be solved through collaboration. Budget: £4M.

Deadlines: outline 21 April 2020; full 16 July 2020.

Recent Publications

Dobie R, Wilson-Kanamori JR, Henderson BEP, Smith JR, Matchett KP, Portman JR, Wallenborg K, Picelli S, Zagorska A, Pendem SV, Hudson TE, Wu MM, Budas GR, Breckenridge DG, Harrison EM, Mole DJ, Wigmore SJ, Ramachandran P, Ponting CP, Teichmann SA, Marioni JC,

Henderson NC. Single-Cell Transcriptomics Uncovers Zonation of Function in the Mesenchyme during Liver Fibrosis. *Cell Rep.* 2019 Nov 12;29(7):1832-1847. e8. doi: 10.1016/j.celrep.2019.10.024

Miller J, Alshehri A, Ramage MI, Stephens NA, Mullen AB, Boyd M, Ross JA, Wigmore SJ, Watson DG, Skipworth RJE. Plasma Metabolomics Identifies Lipid and Amino Acid Markers of Weight Loss in Patients with Upper Gastrointestinal Cancer. Cancers. 2019 Oct 19;11(10). pii: E1594. doi: 10.3390/cancers11101594.

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Wilson MSJ, Vaughan-Shaw P, Boyle C, Yong GL, Oglesby S, Skipworth R, Lamb P, Griffiths EAT, Attwood SEA; AUGIS. A Modified AUGIS Delphi Process to Establish Future Research Priorities in Benign Upper Gastrointestinal Surgery. World J Surg. 2019. Epub ahead of print

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Transplant waiting list in the United Kingdom between 2000 and 2010. *Transplantation* 2019. Epub ahead of print

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Brudvik KW, Yaqub S, Kemsley E, Coolsen MME, Dejong CHC, Wigmore SJ, Lassen K. Survey of the attitudes of hepatopancreatobiliary surgeons in northern Europe to resection of choledochal cysts in asymptomatic Western adults. *BJS Open.* 2019 Sep 4;3(6):785-792. doi: 10.1002/bjs5.50208

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Future Events



HealthyR

January 2020 is now sold out

The next HealthyR Notebooks course, suitable for beginners will be held May 6-8th 2020. Bookings will open on January 20th 2020. Please note delegates will require their own laptop for this course.

To receive updates on all HealthyR courses, including how to book, join our mailing list by emailing Senior Data Manager, Dr Riinu Ots (r.ots@ed.ac.uk).

Places sell out quickly so book early to avoid disappointment!

Further information can be found of the course website

www.healthyr.surgicalinformatics.org

Items of News to Share?

If you have any items of news you would like to feature in this newsletter or events you'd like to promote please contact the Clinical Surgery Research Manager, **Dr Katie Shaw** (catherine. shaw@ed.ac.uk). The next edition will be published in March 2020.

Future Conference Submission Deadlines

Conference	Date	Location	Abstract Submission & Registration
Great Britain and Ireland Hepato Pancreato Biliary Association (IHPBA) http://www.gbihpba.org.uk/conferences/	10th January 2020	London, UK	Abstract submission closed; registration now open
14th Annual Academic Surgical Conference https://academicsurgicalcongress.org	4th - 6th Feb 2020	Orlanda, Florida	Abstract submission closed; registration now open
ALPS HBP meeting http://www.alpshpbmeeting.org	5th -9th Feb 2020	Madonna Di Campiglio, Italy	Abstract submission closed; registration open
Americas Hepato-Pancreato-Biliary-Association (AHPBA) https://www.ahpba.org/	5th-8th March 2020	Miami beach, Florida, USA	Abstract submission closed; registration open
British Transplant Society (BTS) https://bts.org.uk	4th -6th March 2020	Belfast, UK	Abstract submission closed; registration open
Society of Academic and Research Surgery (SARS) http://surgicalresearch.org.uk	19th - 20th Mar 2020	Dublin, Ireland	Abstract deadline 23:59 Tuesday 7th January 2020
American Surgical Assoiciation (ASA) http://meeting.americansurgical.org	16 - 18th April 2020	Washingtonw DC, USA	Abstract submission closed; registration open
Royal Australasian College of Surgeons Annual Scientific Congress https://asc.surgeons.org	11th-15th May 2020	Melbourne, Australia	Abstract deadline January 26th 2020
Association of Surgeons of Great Britain and Ireland (ASGBI) http://www.asgbi.org.uk	10th- 12th June 2020	Glasgow, UK	Extened to 09:00 Friday January 31st 2020
International Association of Medical Science Educators http://www.iamse.org/	13th -16th June 2020	Denver, USA	Registration opens January 2020
European Surgical Association (ESA) https://www.europeansurgicalassociation.org	21st - 23rd May 2020	Cologne, Germany	Abstract submission closed; registration open
Behune Round Table https://bethuneroundtable.com	28th - 31st May 2020	Winnipeg, Canada	February 2020
Association for Medical Education (AMEE) https://amee.org/conferences/amee-2018	4th-9th September 2020	Glasgow, UK	Posters: 6th February 2020
Association of Upper GI Surgeons of Great Britain & Ireland (AUGIS) http://www.augis.org	14th-16th October 2020	Belfast, UK	Save the Date. Details available Spring 2020
American College of Surgeons Clinical Congress https://www.facs.org/education/clincon/future-clinical- congresses	4-8th Oct 2020	Chicago, USA	Save the Date. Details available Spring 2020
British Hernia Society http://www.britishherniasociety.org	Late 2020	South West England, details TBC	Save the Date
Society on Sarcopenia, Cachexia & wasting disorders http://society-scwd.org	Dec 2020	TBC	TBC