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## Dr Falk/Guts UK Awards 2023

### MEDICAL STUDENT ESSAY PRIZE WINNER: **Ms Rebecca Angus**

#### PROJECT:

**A systematic review and meta-analysis of the relationship between alcohol consumption and postoperative outcomes in gastrointestinal surgery**



*Ms Angus undertook this research project whilst intercalating for a BMedSci (Medicine) degree and a medical degree at the School of Health Sciences, Medical School at Nottingham University. In September she will return to her fourth year studies at the University of Nottingham Medical School.*

#### Ms Angus explains:

'I wanted to take on this project because I recognised the effect that alcohol misuse has as a modifiable risk factor in elective surgeries. This topic also resonated with me personally as I have a real interest in addiction medicine.'

'Alcohol misuse is a huge problem worldwide, accounting for over 3 million global deaths annually and has been exacerbated amidst and following the COVID-19 pandemic. Among its many health and social consequences, alcohol misuse heightens the risk of gastrointestinal (GI) diseases, resulting in the need for GI surgery. Understanding the association between alcohol consumption and surgical outcomes is of vital importance as it has the potential to improve patient care and optimize their overall recovery.'

'Our meta-analysis examined 13 relevant papers across a cohort of 686181 patients, divided into those who drank alcohol or not pre operation. End points were a thirty day post operative mortality outcome and we also looked at secondary outcomes including surgical infections and anastomotic leak.'

'The main finding of our systematic review meta-analysis was that high preoperative alcohol consumption was associated with a 1.56-fold increase in the odds of 30-day mortality in individuals undergoing GI surgery compared to those who did not consume alcohol. This effect was more pronounced in those undergoing colorectal surgery which saw a greater increase— 2.6-fold - compared to those undergoing upper GI/ Hepato-Pancreato-Biliary

surgery, with a 1.3-fold increase. Additionally, we found an increase in risk of anastomotic leak and surgical site infections in heavy drinkers compared to those who do not drink.'

'These findings significantly contribute to the growing body of evidence illuminating the detrimental effects of alcohol consumption on

postoperative outcomes. They support existing recommendations for preoperative care pathways that include screening and abstinence programmes and highlight the urgent need to reduce alcohol consumption to mitigate mortality risks in surgical patients.'

'Being involved in this research project as a third-year medical student opened my eyes to the world of research, something that I had not previously recognised. I have gained an appreciation for the power of evidence-based medicine in guiding clinical decisions and improving patient care.'

#### Ms Angus' Project Supervisor Dr David Humes, Clinical Associate Professor in GI Surgery, Faculty of Medicine & Health Sciences at the University of Nottingham comments:

'Rebecca undertook a systematic review on the use of alcohol prior to general surgical procedures and its impact on the outcomes following surgery such as mortality and complications such as a leak from the join lines we make in the bowel. Her work reported an association between high alcohol use and the risk of death following surgery along with an increase in infective complications.'

'Rebecca demonstrated all the facets of an excellent research trainee being highly focused on the research question and undertaking the work to the highest standard. We hope this will be the first of many contributions she makes scientifically as she progresses through her training.'

#### Ms Angus states:

'Research used to feel daunting but through completing this project and receiving recognition for it has instilled a newfound confidence and enthusiasm in me. I am very grateful for the knowledge and guidance I received from Nottingham University, particularly David Humes, Alife Adiamah and Tjunwei Leow who were all so helpful and generous with their time. I really enjoyed the opportunity to learn about matters relating to gastro – intestinal surgery and the skills I've acquired will equip me well for future research.'



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