

Project Title: *Epithelial barrier dysfunction in the SEAL study*

Name, Country: Klaudia Ryczaj, Poland

Type, duration and location of Fellowship: Clinical Fellowship, 01 June – 31 August 2025, London

Host Institution and Supervisor: Paediatric Allergy Department, Evelina Children's Hospital, Guy's and St Thomas' Hospital, London, UK; Supervisor: Professor Helen Brough

Clinical Fellowship Report

Fellowship Overview

During my three-month Clinical Fellowship at the Paediatric Allergy Department, Evelina Children's Hospital, under the supervision of Professor Helen Brough, I participated in the SEAL study, which investigates the role of epithelial barrier dysfunction in the development of atopic dermatitis and food allergy. The study examines whether proactive skin care with trilipid emollient and topical corticosteroids can improve barrier function, reduce atopic dermatitis severity, and lower the risk of allergen sensitization and food allergy. This study is sponsored by the Harvard School of Public Health, with the UK serving as a participating site.

Registration and Training

To participate in clinical work, I was formally registered as a doctor with a licence to practise by the General Medical Council in the UK and completed training on working within the UK medical system. At the start of the Fellowship, I completed Paediatric Immediate Life Support training by the Resuscitation Council UK, Good Clinical Practice trainings organized by King's College London and Stanford University, and Research and Human Tissue Legislation training by the Medical Research Council. These courses provided a solid foundation for clinical practice and research in both the UK and US frameworks.

Clinical and Research Activities

I worked full-time and was directly responsible for the care of approximately three to five SEAL study patients daily. My responsibilities included providing medical advice particularly on eczema treatment and skin care, guidance on food introduction, managing allergic reactions, monitoring and reporting adverse events, conducting physical examinations, assessing eczema severity using SCORAD, performing skin tape strips, transepidermal water loss measurements, and skin swabs, and evaluating food intake questionnaires. I also obtained informed consent from the legal guardians of study participants, managed data entry in the RedCap database, and participated in UK and all-site SEAL meetings.

Alongside my study responsibilities, I had the opportunity to observe a range of specialised clinical settings, including the Children's Allergy Day Case Unit with a focus on food immunotherapy procedures, outpatient clinics with Professor Brough, multidisciplinary joint clinics where patients were assessed simultaneously by specialists including an allergologist, gastroenterologist, dietitian, and psychologist, and severe eczema clinics in the Dermatology Department and Rare Disease Centre. I also regularly attended weekly Paediatric Allergy Department meetings.

Beyond clinical and observational duties, I was invited by Professor Brough to co-review two manuscripts, and we are currently collaborating on a review article related to the study in which I was involved.

Conclusion

This Fellowship provided me with an exceptional combination of clinical and research experience in paediatric allergy, along with the opportunity to work closely with leading experts in the field. I benefited from high-quality mentorship, hands-on clinical experience, and active participation in pioneering research at a centre of excellence in allergy care. Working as a practising doctor within the UK medical system was invaluable, providing insight into NHS processes, practical experience in multidisciplinary collaboration, and a deeper appreciation of patient-centred care. I gained direct exposure to cutting-edge diagnostics, state-of-the-art treatments, and multidisciplinary discussions, all aimed at

delivering the highest quality, individualised allergy care while advancing the boundaries of research.

This Fellowship has significantly enriched my professional development by combining skill enhancement, scientific exposure, and practical clinical expertise, while broadening and redefining my perspective on allergy care. I look forward to applying the knowledge, skills, and collaborations gained to my future clinical practice and research endeavours.

Acknowledgements

I am deeply grateful to Professor Helen Brough for her mentorship, guidance, and inspiration throughout this Fellowship. I would also like to thank the entire SEAL team for their warm welcome, kindness, professionalism, and trust. From the gentle introduction to the project, through your supportive companionship, to the care you showed for my comfort and satisfaction during the Fellowship – your support made this experience truly exceptional. In particular, I would like to thank Susan Chan, Tom Marrs, Suzana Radulovic, Irene Bartha, Faye Harrison, Latifa Rahman, Michelle Stewart, Gemma Deutsch and Asha Sudra. I am also grateful to Professor Carsten Flohr and Sarah Watson for giving me the opportunity to observe and for generously sharing their time, knowledge, and expertise with me.

I am sincerely thankful to EAACI for awarding me this Fellowship, which has greatly enriched my professional development and will have a lasting impact on my future endeavours.