

# Sharing the Load of Faecal Calprotectin Sample Extraction



by Laura Bernstone, Principal Clinical Scientist, Clinical Biochemistry  
at County Durham and Darlington NHS Foundation Trust



County Durham and Darlington  
NHS Foundation Trust

*Clinical Biochemistry at County Durham and Darlington NHS Foundation Trust is based on two main sites. We have busy 24/7 laboratories at both Darlington Memorial Hospital and University Hospital of North Durham, which are located around 25 miles apart.*

## Faecal Calprotectin Workload

*We have a significant faecal calprotectin workload, receiving up to 650 samples each month. GP patients account for the biggest proportion of these although we also receive a significant number from patients under the care of the Gastroenterology team, usually for monitoring patients with known inflammatory bowel disease. We are able to provide a turnaround time of 7 days from when the sample is received in the lab to the final reporting of the result.*

*We implemented the BÜHLMANN fCAL® turbo assay in 2018, which allowed us to run samples on our mainline Siemens ADVIA® XPT analyser in the Darlington laboratory.*

*Although the test is only run on one site, faecal calprotectin samples arrive from GP and hospital patients at both the Darlington and Durham sites and it was decided to perform the extraction process on both sites. This shares the workload involved in the manual extraction process whilst still allowing the test to be centralised on one site, leading to improved efficiency.*

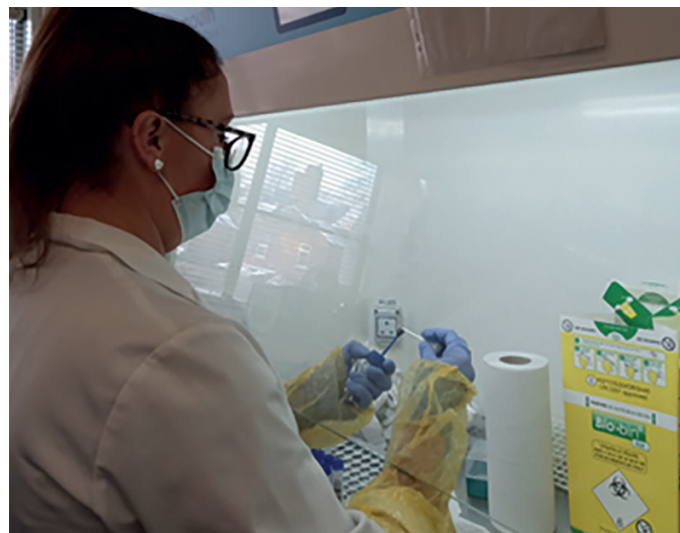
## Using CALEX® Extraction Devices

*We use BÜHLMANN CALEX® Cap devices in order to perform the sample extraction. Once the extracts have been prepared at the Durham site, they are then transported to Darlington ready for analysis.*

## Easier and Safer

*We find that it is easier and safer to transport the CALEX devices rather than the faecal samples, and the improved stability of the extracted samples (as compared to the primary samples) facilitates this approach. The primary samples are stored for a period of time post-extraction which allows us to go back to them if any issues are encountered during transport or analysis of the extracts. This reduces the need for patients to provide repeat samples.*

*The nature of the extraction procedure means that it accounts for a high proportion of the imprecision for the total assay process. Therefore, it is important that we take this into account when considering how we monitor quality for this assay.*



Holly Martin, Associate Practitioner, extracting samples at Darlington Memorial Hospital.

## UK NEQAS Quality Assessment

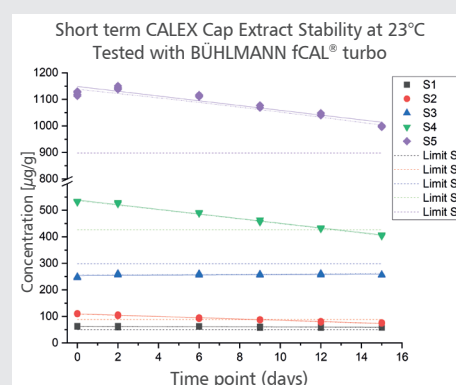
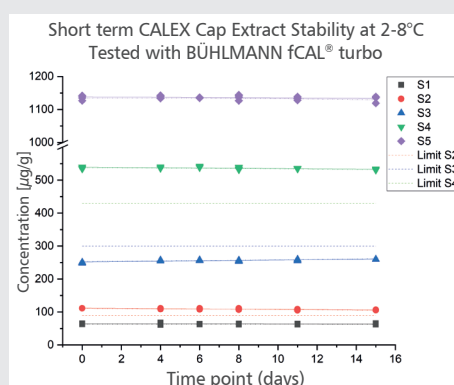
*We participate in the UK NEQAS external quality assessment scheme for Faecal Markers of Inflammation, and the samples provided are extracted on both sites. This is very helpful in allowing us to compare the extraction process cross-site and share best practice.*

*Overall we find that our approach works well and allows us to provide an efficient and high quality service for our patients.*

## CALEX Extended Sample Stability

BÜHLMANN has recently re-evaluated the stability of faecal calprotectin samples within the CALEX device and now recommends a stability of 7 days at ambient temperature.

Temperature	Recommended Stability	
	Old	New
Ambient	3 days	7 days
2-8°C	6 days	15 days
-20°C	At least 23 months	At least 23 months



For more information on CALEX Cap faecal extraction for calprotectin and pancreatic elastase please visit:  
[www.calprotectin.co.uk/calex](http://www.calprotectin.co.uk/calex)