

# Improving Turnaround and Clinical Confidence: NHS Tayside's Experience with fCAL® turbo and CALEX®



An interview with Judith Strachan and Andrew Deans from Ninewells Hospital

Barsa Manandhar, Product Manager, Alpha Laboratories Ltd.



Andrew Deans, Clinical Scientist and Judith Strachan, Consultant Clinical Scientist, Ninewells Hospital

**Bringing calprotectin testing in-house has made a marked difference at NHS Tayside. From improving turnaround times to easing clinical decision-making, the shift to using the BÜHLMANN fCAL® turbo assay on the Siemens Atellica, combined with providing CALEX® tubes to their IBD patients, has changed both lab workflow and patient experience.**

**I spoke with Judith Strachan, Consultant Clinical Scientist, and Andrew Deans, Clinical Scientist at Ninewells Hospital, about how the change came about, the challenges along the way, and the impact it's had on clinicians and patients.**

## Background

Historically, faecal calprotectin samples were sent to a referral laboratory for analysis. While the service itself was reliable, the process was slowed by storage, transport delays, and batching — particularly over weekends and bank holidays.

Samples were mailed in standard blue universal pots, which we began to realise weren't ideal for maintaining sample stability. Over time, it became clear that this approach wasn't sustainable.

Calprotectin isn't as stable as many assume, especially in those traditional collection pots. We knew of CALEX extraction tubes on the market that offered stability up to seven days at ambient temperature and when we found out that the BÜHLMANN fCAL turbo assay could run on our existing Atellica platform, the opportunity to bring testing in-house became viable. Alongside moving to in-house testing, we introduced CALEX collection devices to our patients. Patients are provided with the CALEX device with informative instructions for use (IFU), so that they can simply collect the sample into the tube, and return the CALEX back to the lab, ready for analysis. It was a significant workflow change, but one that's proven hugely beneficial.

## Impact and Audit Findings

We went live in August 2024, and to properly assess the impact, we ran an internal audit comparing samples from the old referral process (FCAL) with those analysed in-house (CALP) between March 2024 and May 2025. Our mean turnaround time dropped from 11 days to 5 days. Almost half of our results are now reported within three days, and 97% are reported within 10 days.

Parameter	FCAL (External Laboratory)	CALP (NHS Tayside)
Total Samples Resulted (excludes pre-analytical issues)	663	1585
<b>Turnaround Time 3 days and under</b>	<b>9 (1.4%)</b>	<b>774 (48.8%)</b>
4-10 days	265 (40%)	765 (48.2%)
11-15 days	293 (44.2%)	37(2.3%)
16-20 days	47 (7.1%)	6 (0.4%)
21-25 days	33 (5%)	3 (0.2%)
26 days and over	16 (2.4%)	0 (0%)

We're currently processing around 150 calprotectin samples each month, averaging 35 to 40 per week. Weekly runs have worked well with this volume, and we've seen consistent turnaround with minimal backlog.

This improvement has had a direct clinical benefit. In paediatrics especially, where timely decision-making is critical, we've had excellent feedback. One of our paediatric gastroenterologists described the

change as "transformational" for managing patients.

## Providing CALEX Tubes to Patients

CALEX to patients has helped improve efficiency and reduce pre-analytical handling in the lab. Instead of receiving unprocessed stool samples, we now receive fully extracted, buffered and stable samples ready to run on the analyser. There is no delay due to postal delivery to a referral lab.

There were some early issues, primarily patients mistakenly emptying the buffer before returning the tube, but we addressed that by updating the IFU and reinforcing it through the nursing teams. Since then, the problem has largely been resolved. We haven't had any negative feedback from patients, which we take as a positive. Most of these IBD patients are already familiar with stool testing and seem to appreciate the simplicity of the kit.

From a laboratory perspective, CALEX fits smoothly into our workflow. We no longer need to manually extract stool samples, which saves time and reduces exposure to potentially messy samples. The tubes are loaded directly onto the Atellica for analysis, making the process more streamlined overall.

One thing we did notice early on was that results produced using the in-house assay were slightly higher than those returned by the referral lab. We expected this, as it's likely a combination of



improved sample stability and the broader analytical range of the assay. We made sure to brief clinical teams in advance and provide comparative data so they could understand the change. There's been no pushback, and the new values appear to align well with clinical presentation.

The switch to the BÜHLMANN fCAL turbo assay, run on the Siemens Atellica, and providing CALEX tubes to the patients has been smooth, straight-forward, and clinically impactful. It's allowed us to drastically improve turnaround times, which supports faster clinical decisions, and ultimately provide a better service for both patients and clinicians.



For more information about the BÜHLMANN fCAL turbo, visit: [calprotectin.co.uk/fcal-turbo](https://calprotectin.co.uk/fcal-turbo)

To learn more about CALEX to patients, visit: [calprotectin.co.uk/calex-pack](https://calprotectin.co.uk/calex-pack)

