

## Thermo Scientific Excelsior Tissue Processors offer performance, safety and savings for Torbay Hospital.



Torbay Hospital is a leading screening centre for bowel cancer and a regional training centre for NHS consultants. In 2014, the histopathology department experienced a twelve percent increase in cases over the previous year. The efficiency of Thermo Fisher™ Excelsior™ tissue processors helped the hospital keep up with the increased demand and meet targeted turnaround times – all in a cost effective and reliable manner.

### Profile

As part of the South Devon NHS Foundation Trust, Torbay Hospital serves a population of approximately 370,000 people, with a service area from South Dartmoor, England to the coast stretching from Dawlish to Dartmouth. In 2006, it became one of the first screening centres for bowel cancer and is now a regional training centre for NHS consultants for early detection.

The histopathology department is a vital resource for the hospital and in 2014 experienced a twelve percent increase in the number of cases over the previous year. With such a high demand, and the associated pressures to meet targets for turnaround time, it is vital that tissue processing instrumentation is both cost effective and reliable.

### Maximising productivity – minimising costs

Nigel Kenneison is the Histopathology Manager at South Devon, overseeing this busy, but highly efficient, department. For the last eleven years, they have relied upon Thermo Scientific's Excelsior ES tissue processors.

Since his appointment to the role in November 2003, Nigel has maximised productivity while greatly reducing costs. Last year they dealt with over 21,000 new cases and, with a dedicated team of seventeen staff comprising different grades and full/part time roles, they processed over 48,000 blocks of tissue in the lab.

When Nigel joined South Devon, they were utilising two older tissue processors. The department was spending a great deal of money on processing reagents, changing them three times per week – a costly and very time consuming process. When Nigel made the decision in 2004 to replace the processors he was keen to trial the available instruments in the market to

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**“Excelsior’s ease of use and maintenance makes the day easier and more controllable.”**

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Nigel Kenneison  
Histopathology Manager



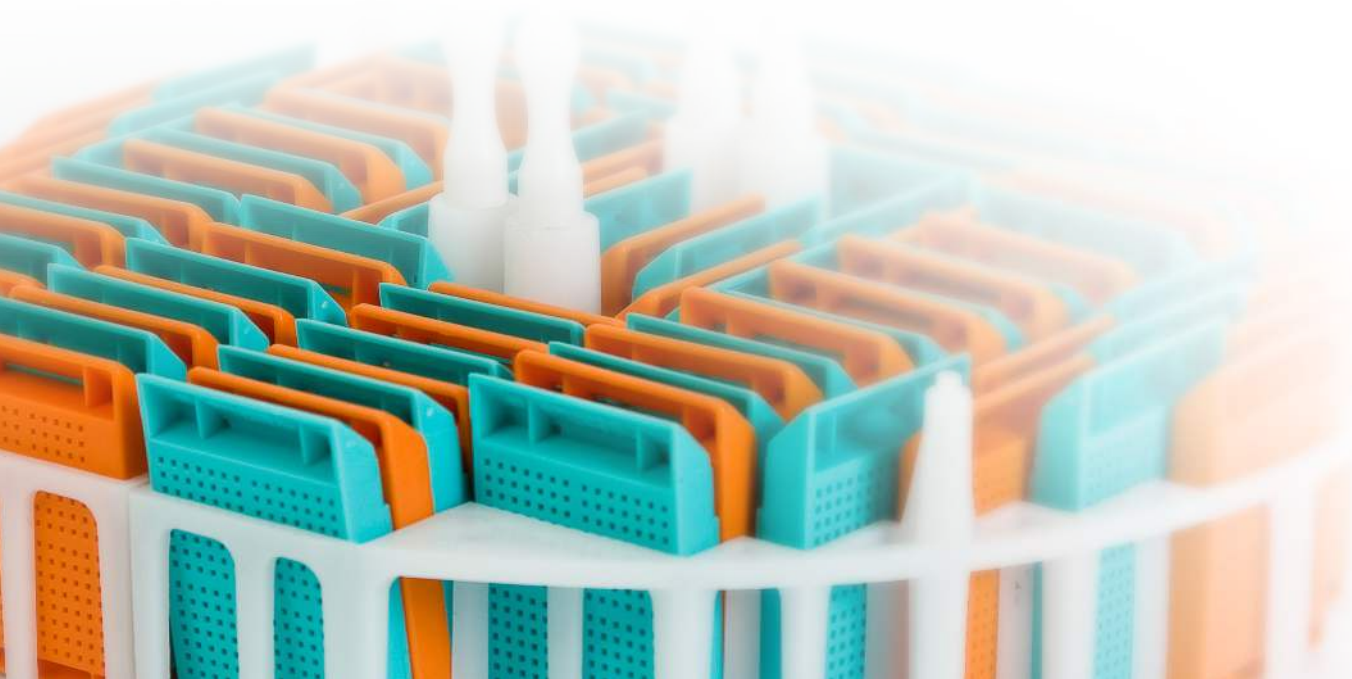
decide which would be most suitable. He explains, “We trialled three instruments at the same time. We will always look at a piece of equipment before we purchase. Is it reliable and easy to use? Is it easy to change reagents? Does it do what it says on the box?”

**Excelsior – proven against the competition**

During the trial the Excelsior proved its worth and two instruments were purchased. “It was easier to use and cheaper compared to anybody else’s on the market at the time”, comments Nigel. “It was innovative because you didn’t have pipes sticking out and, with the auto rotation, reagent change is easy. Waste reagent is discarded and you only need to change two 5-litre containers and put two new one in. It is very easy to use.”

Nigel also recognises the importance of the health and safety of his staff. The ease and speed of reagent changes with the Excelsior minimise chemical exposure. Additionally, downdraft fume control and filters for Formalin and solvent vapours maximise safety. The all-enclosed system and fire-resistant cabinet are also useful, especially in a portacabin where the histopathology department is based.

Ease of use and reduction of reagent usage are just two of the key features of the Excelsior tissue processor. When you are running a busy laboratory it is vital that instrumentation is straightforward and requires minimal maintenance and downtime. As Nigel comments, “All tissue processors do the job of processing tissue, but the Excelsior’s ease of use and maintenance makes the day easier and more controllable.” All of the tissue processing at South Devon is done overnight and the workflow is very efficient. Furthermore, they always achieve their targets for turnaround times. Nigel again comments, “The national requirements guidelines target is 90% on-time turnaround – our laboratory averages 98%. In fact last month we reported 52% of samples within three calendar days. We have a good, smooth operation and very good staff.”

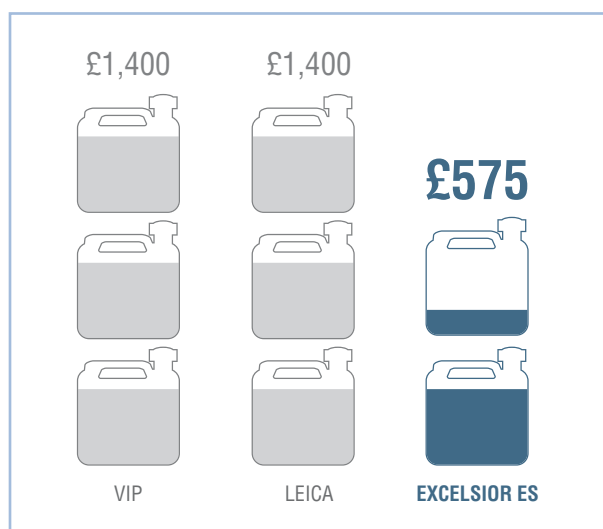


## The hidden savings in reagent reduction

After installing the Excelsiors in November 2004, the team at South Devon has recorded every reagent change carried out. Since the introduction, they have experienced significant reduction in reagent use compared to the original processors. It is well documented that the Excelsior can give up to 75% reagent savings compared to other tissue processors. In practice, the team at South Devon has been able to go up to fourteen runs before rotation of reagents is required in comparison to the previous experience of changing all reagents up to three times per week on the original processors.

## Excelsior: proven savings

A typical comparison of monthly reagent cost of Thermo Scientific Excelsior ES tissue processors versus competitors.



Source: Comparative Study, Forum Health – Trumbull Memorial Hospital, Youngstown, Ohio, USA.

Due to the Excelsior's unique alcohol quality monitoring and reagent rotation method, reagents are changed based on usage, block throughput, and runs performed. When the reagent change is required, Alcohol-1 is simply discarded to waste and the other five alcohols automatically rotate position. Fresh alcohol is then drawn in to position six directly from a new supply bottle. The simplicity of the process means the technologists' time to carry out a change is significantly less, and can result in several hours' labour savings per month.

As Nigel comments, "When we changed to the Excelsior tissue processors our usage went down considerably, and now hasn't changed significantly in the last ten years. And we've gone up from around 130 blocks per day to 180 blocks per day. We now get consistently low reagent usage, even with the large increase in samples which we experienced last year."

Coupled with the costs for purchasing processor reagents, there is the largely hidden expense associated with disposal of the waste chemicals. As with any industrial or medical waste, there are considerable costs involved with the necessary treatment of the used liquids. Like many hospitals, South Devon uses a recognised supplier to provide their tissue processing reagents. Waste disposal costs are incorporated into the reagent purchase price, so it is a cost that is typically overlooked. Therefore, without realising it, many hospitals such as South Devon are actually reducing their annual spending when they change to Excelsior tissue processors – by reducing reagent purchase costs, man-hours and the associated disposal costs. Furthermore, this has implications for environmental management and reducing environmental impact.

## Future plans

The Thermo Scientific Excelsior has long been recognised as a class leader in tissue processing, with many important features designed to give the highest tissue quality with minimum user interaction and reagent use, as well as optimum reliability. In 2014, the next generation tissue processor, the Excelsior AS was launched. While retaining many of the important features of the ES model, the updated AS model features an intuitive touch screen interface, improved wax tank and disposable waste wax trays, additional reaction chamber heating, and improved access to reagent bottles.

As with all instrumentation, the Excelsior ES tissue processors at South Devon hospital will eventually come to the end of their operating life. After over eleven years of daily use in the busy laboratory, Nigel is now looking to the future and expects to be able to replace his Excelsiors with the new model in the coming year.

Testament to the performance of the Excelsior ES processors at South Devon – replacing "like for like" is now the preferred option. It will maintain standardisation and reduce the need for staff training on a new system while enabling the rapid transfer of known processing schedules to the newer model without jeopardising the quality and efficiency of their workflow.

**Excelsior AS: next generation tissue processing has arrived**



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