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LAB PUTS FATTY TISSUE TO THE TEST, SEES PERFORMANCE IMPROVEMENT

As a leading private medical center in Ireland, Blackrock Clinic remains true to its commitment to deliver the highest standards of patient care.¹ As a testament to its mission, it is a Joint Commission International (JCI) accredited hospital and reports a 91% patient satisfaction rating for quality service.²



To maintain its high ratings from patients, the clinic has consistently built an unparalleled reputation in new high-tech surgical procedures, medical treatments, and ground-breaking diagnostics.²

Fundamental to its diagnostics operations is the Pathology Department, where histopathology processes an average of 200 cassettes a day.

Putting Fatty Tissue to the Test

The clinic's drive toward excellence inspired Laboratory Manager Wayne O'Brien to test the newly released ASP6025 S tissue processor by Leica Biosystems and verify its performance in processing fatty tissue.

Typically, fatty tissue requires approximately 4 or 5 hours more processing time than routine surgicals³ and may need to be reprocessed if the tissue is found to be mushy or greasy.³ With the pre-installed validated protocols, including xylene protocols for fatty tissues

and low-temperature xylene-free protocols, the new ASP6025 S gives labs the flexibility to process different tissue types in separate batches, which helps to save time. This allows labs to manage multiple run times for large overnight batch processing or can be customized to run small batches during the day.

"We processed 10 cassettes over 10 runs during the demo period (100 in total). We used the factory routine overnight and small biopsy programs, plus a customized (by FSS) 18-hour breast/fatty tissue program," said O'Brien.

Throughout the demo period, O'Brien saw processing quality improvements on the ASP6025 S compared to the other tissue processors currently in use at the lab. "Particularly for fatty tissue – breast and lipoma samples – we were very impressed. Tissue was macroscopically lovely and translucent, and easy to section at microtomy."

"Also, with larger skin samples with a lot of subcutaneous fatty tissue, we saw a lot of improvement and it really stood out," he added. "We also found sectioning of harder tissues, such as thyroid and uterus, easier at microtomy."

He added, "In terms of putting on a run and daily operation – it is easy to use."

Key Features that Improve Processing

O'Brien identified several features that contributed to the improved processing quality. He pointed to

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the magnetic stirrer technology, which more evenly distributed heating in the retort and improved the reagent exchange in the tissue. He also noted there was better heating efficiency of the heating plate.

When comparing the reagent autorotation system on the ASP6025 S to traditional reagent exchange systems on other instruments, the reagent exchange on the ASP6025 S “did not take additional time because it is automated and takes place over two processing runs,” said O’Brien.

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– Wayne O’Brien, Laboratory Manager, Blackrock Clinic

Additionally, he highlighted the importance of the density meter monitoring the reagent concentration in real time. “There were no reagent changes during the trial period with the ASP6025 S. It’s very good that this can be based on the number of cassettes rather than just on the number of runs, particularly for reagent savings,” said O’Brien. Comparatively, on systems without the density meter, “the reagent changes are based on the number of runs only – so those instruments probably use more reagents,” said O’Brien.

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Another remarkable feature O’Brien pointed to was the pre-melt paraffin station. The station conveniently fits into the workflow and is designed as a safety feature to prevent tissue damage due to insufficient wax in the tissue processor. “This is a good idea as a back-up tank if wax baths are underfilled or someone has forgotten to top them up. It is beneficial and means the run doesn’t stop due to insufficient reagent,” said O’Brien.

O’Brien identified other useful safety features, including the built-in back up battery and safe reagent mode designed to protect tissue in the case of a power failure; the convenience of the exchange reagents with the ready-to-use drawer with its ergonomic design; and the remote fill and drain system for reducing exposure to reagents. He also commented that the glass retort viewing window gives you confidence that the instrument is running.

After thoroughly testing the capabilities of the ASP6025 S, O’Brien confirmed that the processing quality has improved with the ASP6025 S, and that he would recommend the instrument “based on the quality of the tissue processing.”

References:

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3. Fatty Tissue Processing. LabCE. 2001-2019. https://www.labce.com/spg572635_fatty_tissue_processing

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200627 Rev A - 05/2020