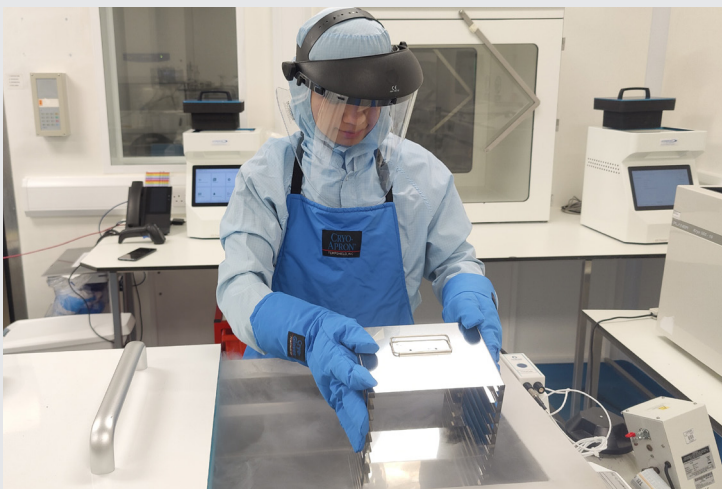


Case Study

Supporting sample integrity and sustainability at Anthony Nolan

Anthony Nolan is a pioneering charity that has been saving and improving lives for over 50 years by matching stem cell donors with patients in need of life-saving transplants, and supporting patients and donors at every stage of the transplant journey. The organisation supports NHS, academic and commercial partners by managing a global stem cell donor register, collecting umbilical cord blood donated at hospitals across the UK, and providing high-quality fresh or cryopreserved clinical material for cell therapies and transplantation.

At the charity's central cord blood processing facility in Nottingham, daily collections of fresh cord blood samples are received from five NHS hospital sites across the UK. Upon arrival, each sample undergoes rigorous quality checks before being processed, cryopreserved and prepared for long-term storage, supporting Anthony Nolan's mission to deliver high-quality, clinically relevant stem cell products for patients, cell therapy development and research worldwide.



ANTHONY NOLAN NEEDS

- A safe, vapour-phase environment for temporary sample storage post-cryopreservation
- A reliable, temperature-stable solution to support sample checking and labelling
- Reduced LN₂ use to support sustainability targets and operational efficiency
- Integrated temperature monitoring to meet clinical quality and compliance standards

"After evaluating multiple options, we selected the Haier CryoStation for its superior insulation, its suitability to house our racking system, and the integrated temperature display which was something our previous device lacked."

*Dr Suman Malhi, Production Manager,
Anthony Nolan*

The challenges

Handling donated cord blood requires strict quality control and seamless coordination between multiple steps, from hospital collection to long-term cryogenic storage. At Anthony Nolan's Nottingham processing facility, maintaining the viability and traceability of these life-saving samples is vital. However, the team faced a critical gap between cryopreservation and final storage. Once processed and frozen in a controlled-rate freezer, each sample needed to be held in a secure, temperature-stable environment while undergoing various checks and validation. It is critical to maintain a reliable interim storage solution, as this handover stage risked delays and potential temperature fluctuations which could impact the quality of the final cell product. The team needed a robust solution that would align with GMP workflows and withstand audit scrutiny.

The solution

Anthony Nolan purchased Haier Biomedical's CryoStation low-temperature transport trolley to provide a safe, vapour-phase LN₂ environment that bridges the gap between cryopreservation and long-term storage.

“The CryoStation gives us that interim phase we need,” said Dr Suman Malhi, Production Manager. “It lets us safely hold the material while we check labels, assign storage locations and confirm sample integrity before moving it into frozen quarantine.”

Samples remain in the CryoStation prior to dispatching for essential downstream processes, including infectious disease testing, HLA typing and final validation. Only once cleared do they enter long-term storage and appear on the global stem cell register.

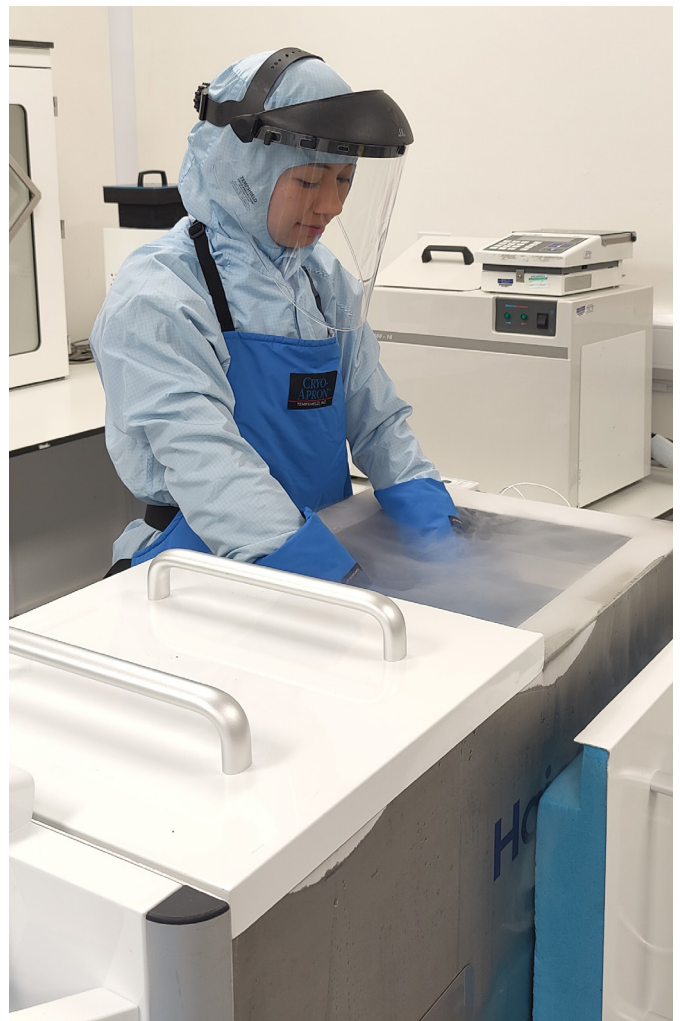
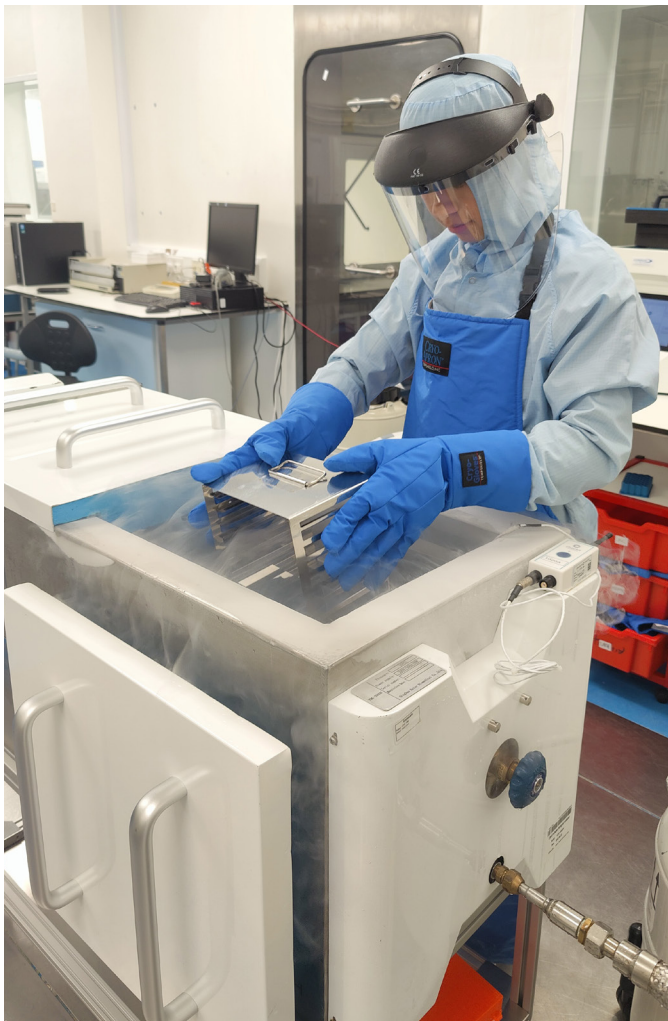


Supporting sample integrity and sustainability at Anthony Nolan

The trolley's integrated temperature monitoring system includes real-time display of internal conditions, providing peace of mind that the material remains within the required temperature range throughout handling. The insulated design of the CryoStation has helped reduce the lab's overall LN₂ consumption, supporting Anthony Nolan's commitment to environmental responsibility.

"It's well insulated which helps maintain low temperatures for extended periods, reducing the need for LN₂ refilling leading to lower LN₂ overall usage and electricity consumption." said Suman. "The benefit for our team is that we can operate quickly and efficiently."

Importantly, the CryoStation supports Anthony Nolan's requirement for vapour-phase storage, which avoids direct contact with LN₂ and reduces the risk of contamination, helping maintain sterility during sensitive handling procedures. The CryoStation is also conveniently designed with the end user in mind making it compatible with Anthony Nolan's racking system, making it easier to transfer entire sample racks during processing, without the need for extra customisation or changes to the workflow.



Conclusion

Haier Biomedical's CryoStation low-temperature transport trolley has strengthened a handover point in Anthony Nolan's cryogenic workflow. The solution provides a safe, reliable environment for short-term storage, while integrated monitoring and compatibility with existing racking systems have enhanced both efficiency and compliance. Its technical features and operational fit play a vital role in protecting irreplaceable clinical material during its most vulnerable processing stage, while supporting Anthony Nolan's mission to deliver life-saving stem cell therapies.

PROJECT OUTCOMES

- Secure, temperature-stable sample transfer post-cryopreservation
- Improved compliance with integrated monitoring and GMP-aligned workflows
- Reduced LN₂ use to support operational and sustainability goals
- Streamlined frozen inventory handling process with vapour-phase storage and rack compatibility

View our CryoStation
LN₂ Transport Trolley here:



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