

# Cord Support Services for a Single Transplant Centre: a Case Study

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## Introduction and Background

Umbilical Cord Blood Transplantation (UCBT) is a valuable treatment option for patients with malignant and non-malignant disorders, especially in cases with limited adult donor options and for patients with treatment-resistant leukaemia showing better relapse control and lower rates of chronic graft versus host disease.

The share of UCBT of all unrelated haematopoietic stem cell transplantations in the UK is relatively small (~10%). This puts the burden on clinical teams to maintain expertise in cord blood unit (CBU) selection, potency data assessment, and technicalities and troubleshooting at the infusion stage. To address this need, Anthony Nolan and NHS Blood and Transplant (NHSBT) run the **Cord Support Program (CSP)** to assist UK transplant centres (TC) with a range of operational, technical, and clinical advisory services to support all steps of CBU selection, acquisition, and infusion.

## Case Study

**Patient FI**  
**Weight: 73kg**

**Age: 58 years**  
**Diagnosis: Acute Myeloid Leukaemia**

The patient's HLA phenotype contains a few rare alleles; therefore, the number of potential adult donors was extremely limited. After two adult donor collections were cancelled, the clinical team decided to perform a double UCBT. UCBT had not been performed at this TC for 18 years, and so the clinical team reached out to CSP for assistance.

## Support services provided:

- Assessment of quality and potency of the shortlisted CBUs via **Quality Checklists** completed by trained Registry Scientists
- Formal opinions on final selection of a CBU pair for double UCBT by the **CBU Selection Advisory Panel (CBUSAP)**
- Assessment of post-thaw data on both CBUs via the **"Post-Thaw Clinic"** run by experts from two UK Cord Blood Banks (CBBs)
- **"Ask an Expert Transplanter"**: pre- and post-transplant clinical discussion of the case with a transplant consultant experienced in adult UCBT
- **Onsite staff training** in thawing, spiking and infusion with dummy runs the day before infusion
- **Onsite presence** of two CBB experts on the day of infusion

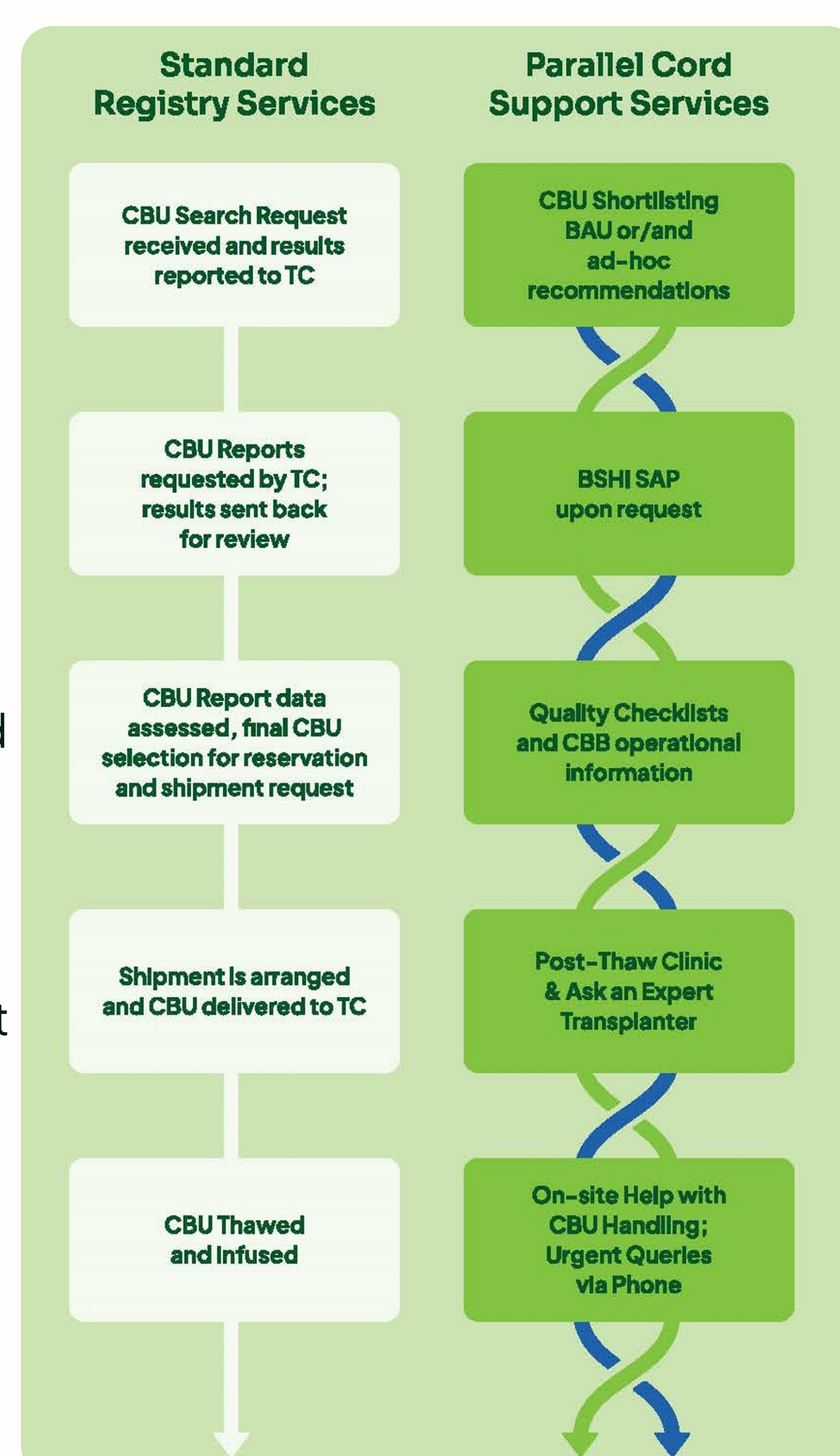


Fig 1: Free Cord Support Services offered by CSP

## Results

- Two **optimal** CBUs were selected and requested for a double UCBT
- **Post-thaw** data was discussed and approved
- CBU **infusion** went smoothly
- Neutrophil engraftment in **20 days** after infusion
- Platelet engraftment in **34 days** after infusion

### Feedback from the Clinical Team

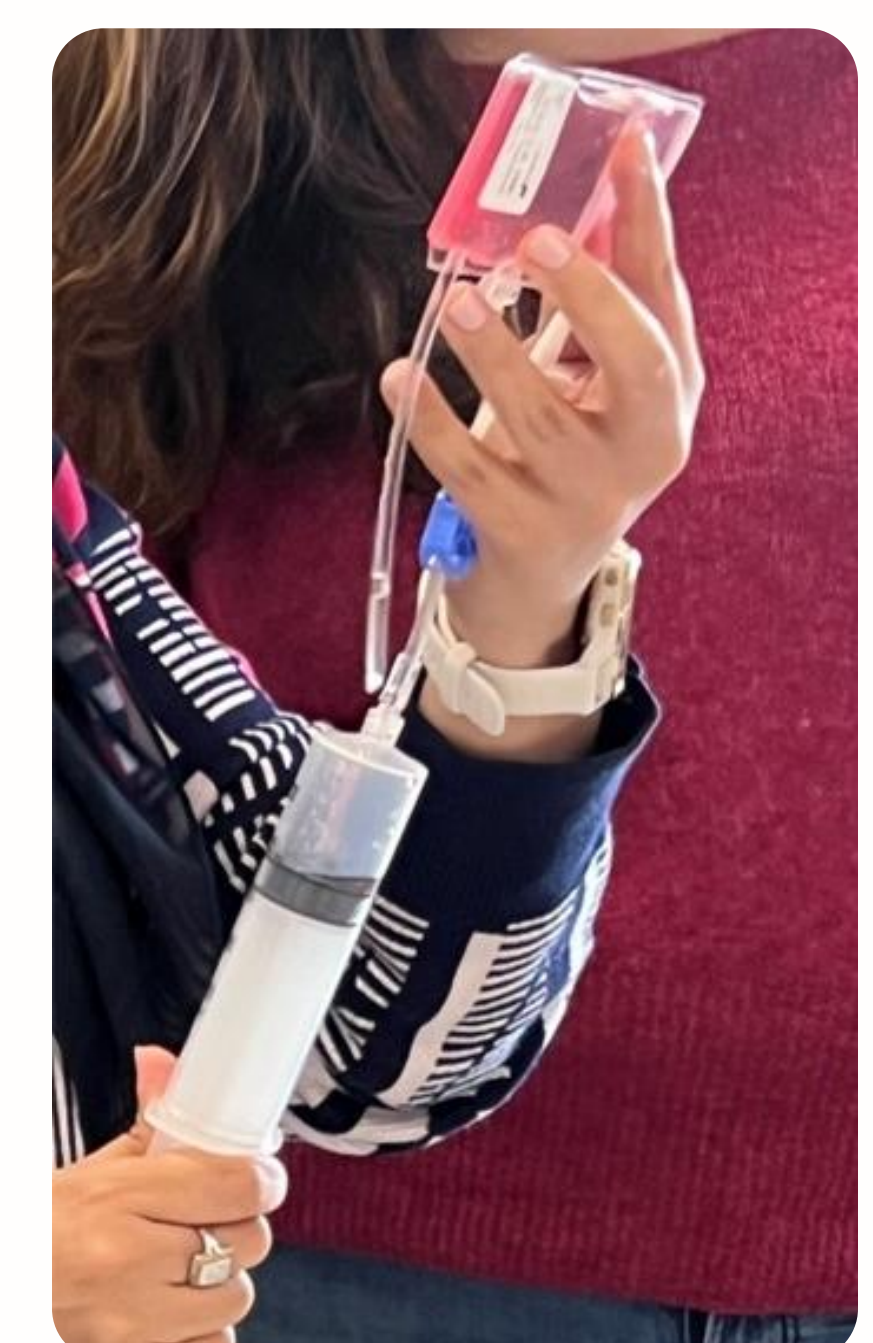
*"It was extremely helpful to have the support provided by the Registry and CBUSAP. "Post-Thaw Clinic" proved invaluable in deciphering the multitude of assays. Clinical discussions were very reassuring, and onsite training helped to finesse the SOP and ensured that the procedure was smooth on the day. All in all, it was an example of UK multidisciplinary and collegiate working at its best."*

### Feedback from the Welsh Blood Services

*"We are really pleased with the support we received from the Cord Support Services and were extremely delighted to get a same day turnaround on post-thaw data. It can be quite scary having to handle the reports and communication from the cord registries, it has really given us peace of mind to be able to receive comprehensive responses from your very knowledgeable staff."*



Fig 2: On-site staff training in thawing, spiking and infusion with dummy runs



## Conclusion

Stem cell registries facilitating CBU search and provision for national TCs can play a bigger role in supporting clinical teams when needed by engaging technical, operational, and clinical expertise from a range of the affiliated experts.

### Acknowledgement

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