What Was Left Behind: Using Self-Reported Tracking to Identify and Reduce Non-Recovered Tissues

[1]Alexander Fike, CTBS
[1]Versiti Organ and Tissue, Milwaukee, WI, USA

Background:

Tissue recovery programs routinely monitor recovered graft outcomes such as contamination rates, processor acceptance, and overall yield. However, tissues that are accepted but ultimately not recovered during procurement are rarely tracked in a structured manner. Without systematic monitoring, missed recovery opportunities remain anecdotal and difficult to analyze. This project implemented a self-reported tracking process for non-recovered tissues to better understand their frequency, contributing factors, and opportunities for process improvement.

Methods:

A structured tracking tool was implemented for recovery teams to document instances in which previously accepted tissues were not recovered during a donor case. Tissue recovery staff self-reported the specific tissue not recovered within the donor management system and identified the primary reason for non-recovery. Data was reviewed on a bi-weekly basis to identify trends and areas for improvement and findings from these reviews were used to guide targeted process changes. The initiative was conducted within a quality improvement framework emphasizing non-punitive reporting, team engagement, and continuous feedback.

Results:

During the study period, 657 donor recoveries were reviewed, with 109 instances of non-recovered tissues documented through the tracking system. The most frequently reported tissue types not recovered included vessels (23%), pericardium (17%), heart valves (13%), and leg skin (13%) (Figure 1).

Bi-weekly review of the data identified several targeted opportunities for process improvement. One key focus area was loose closures following organ recovery, which had a downstream impact on multiple tissue types, including costal cartilage, pericardium, and heart valves.

Further evaluation demonstrated that closure-related non-recovery was not typically due to individual performance, but rather differences in workflow expectations between organ and tissue recovery teams. While organ teams often considered closures acceptable, tissue recovery teams encountered compromised sterility or closure integrity that prevented safe recovery. Operational factors also contributed. Approximately 80% of donors were transported to a centralized recovery facility, requiring multiple transfers and repositioning events, which likely contributed to loosening of closures that were initially intact.

In response, a collaborative process was initiated with the partner OPO, including case review and alignment on closure expectations. Recovery teams began capturing photographic examples of compromised closures to support feedback and improve alignment with the OPO. A standardized approach was developed, including reinforcement of deep-biting closure technique, application of a primary dressing, and addition of either Ioban or sterile drape to create a double sterile barrier.

Loose closures were identified as a leading, and preventable, contributor to non-recovery (13%). Following implementation, closure-related non-recovery of costal cartilage and associated tissues was eliminated (13% to 0%) in shared donors. This targeted intervention not only resolved a key driver of missed recoveries but also demonstrated the impact of aligning workflows across organ and tissue recovery teams.

Conclusion:

Structured tracking of non-recovered tissues provided actionable insight into recovery practices not captured by traditional performance metrics. A self-reported monitoring approach enabled identification of workflow gaps, improved cross-team alignment, and supported targeted operational improvements. This low-cost quality initiative demonstrates that systematic evaluation of missed recovery opportunities can drive meaningful improvements in tissue utilization and help maximize the gift of donation.

Keywords: N/A

Clinical Trial Registry: N/A

Data Deposition: N/A

Competing Interests: The authors declare no competing interests.

Ethical Approval: Not applicable — this study did not involve human participants, their data, or biological material.

Funding: The authors received no specific funding for this work.

Corresponding Author: Alexander Fike

References: N/A

Tables and Figures:

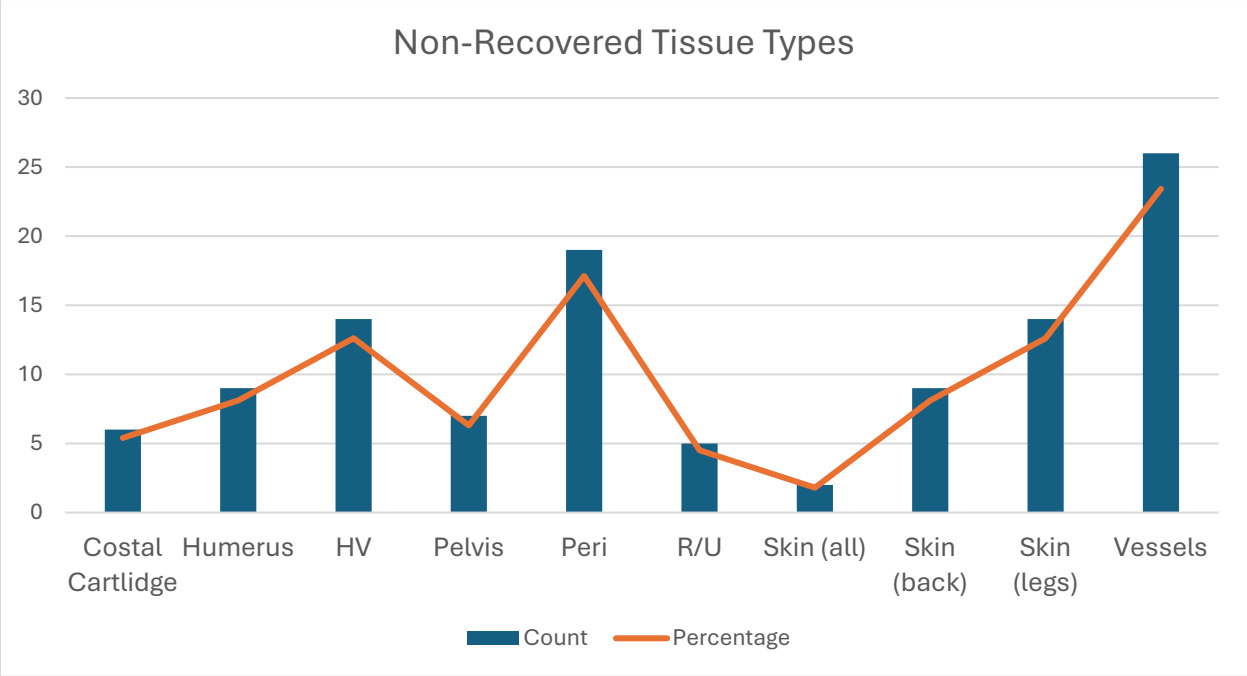


Figure 1: Non-Recovered Tissue Types

Reasons for non-recovery were most commonly attributed to timing (15%), donor anatomy (14%), loose closures following organ recovery (13%), and autopsy incision (12%) (Figure 2).

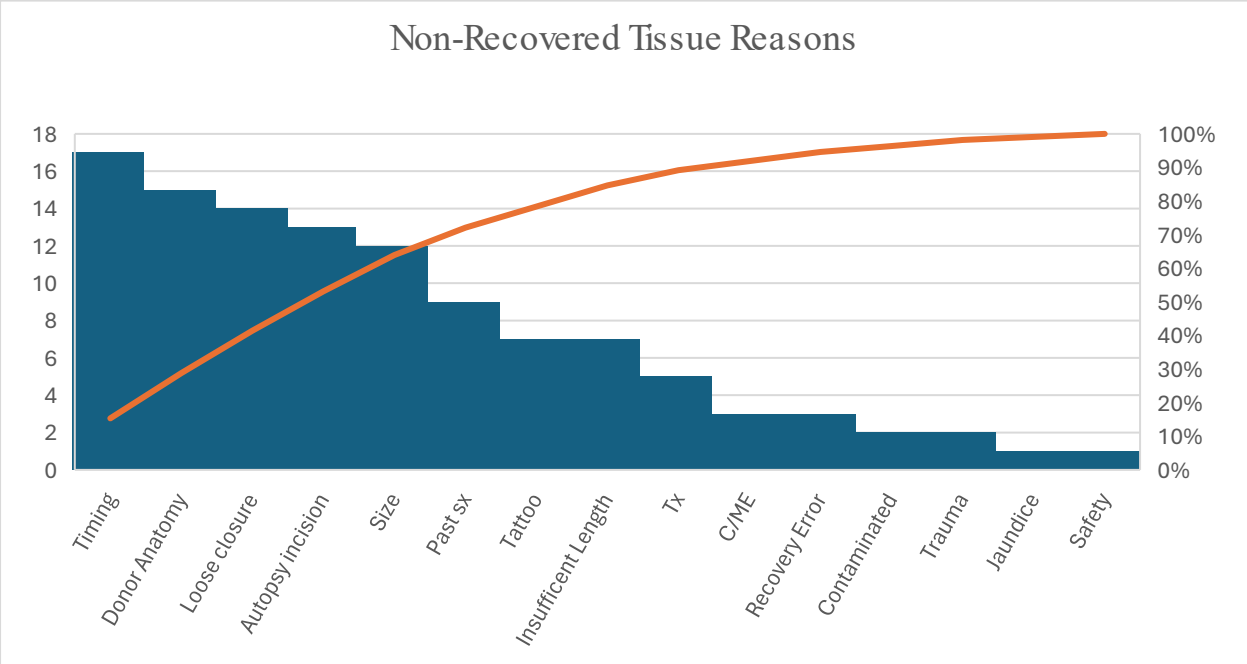


Figure 2: Non-Recovered Tissue Reasons

What Was Left Behind: Using Self-Reported Tracking to Identify and Reduce Non-Recovered Tissues

Alexander Fike, CTBS
Versiti Blood Health Inc. | Versiti Organ and Tissue

versiti® a Donate Life Organization

DONATE LIFE

BACKGROUND

- Tissue recovery programs routinely track recovered graft outcomes.
- Non-recovered tissues are rarely captured in a structured manner, limiting the ability to identify missed recovery opportunities and contributing factors.
- This project implemented a self-reported tracking system to evaluate frequency, causes, and opportunities for improvement.

OBJECTIVE

Evaluate whether structured self-reporting identifies preventable causes of tissue non-recovery and improves recovery processes.

METHODS

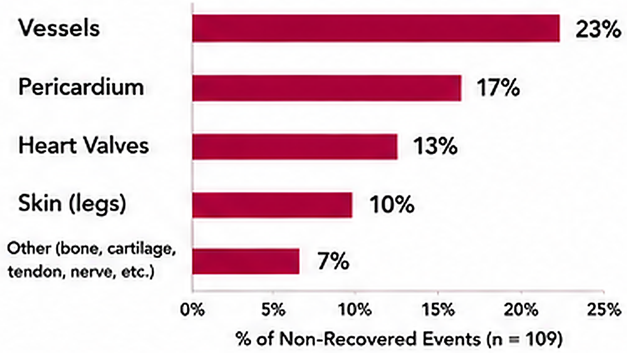
- Prospective quality improvement initiative
- 657 donor recoveries reviewed
- Recovery staff documented non-recovered tissues (tissue type and primary reason)
- Data reviewed bi-weekly to identify trends and guide process improvements
- Non-punitive reporting framework with team feedback

RESULTS

RECOVERY SUMMARY

Donor recoveries reviewed	Non-recovered tissue events identified
657	109
Most common tissue not recovered	Most common reason for non-recovery
Vessels (23%)	Timing (15%)

MOST COMMON TISSUES NOT RECOVERED



TOP REASONS WHY

Timing	15%
Donor anatomy	14%
Loose closures post-organ	13%
Other (family restrictions, trauma, previous surgery, autopsy, etc.)	58%

CLOSURE-RELATED NON-RECOVERY

13% → 0%

Closure-related non-recovery **completely eliminated** after targeted intervention.

INTERVENTION

- Case review with the partner OPO
- Photographic feedback of compromised closures
- Reinforcement of deep-biting closure technique
- Double sterile barrier implementation (dressing + loban/sterile drape)

QUALITY IMPROVEMENT PROCESS



EXAMPLES OF SELF-DOCUMENTED REASONS FOR NON-RECOVERED TISSUES

- Family restrictions
- Timing limitations
- Trauma
- Previous surgery/scarring
- Autopsy
- Large tattoos
- Anatomy
- Loose organ closure
- Case timing
- Tissue condition

KEY TAKEAWAYS

- Self-reporting uncovered workflow gaps not measured by traditional metrics.
- Strengthened collaboration and communication with partner OPO.
- Ongoing monitoring ensures sustained improvement.

CONCLUSION

Structured self-reporting identified a preventable workflow gap not captured by traditional metrics. A simple reporting system enabled targeted intervention, improved cross-team alignment, and eliminated closure-related non-recovery on shared organ donors.