

Title: One Organ Procurement Organization's Mission to Meet Processor and Organization Goals by Increasing the Usable Yield and Total Grafts Recovered for Split Thickness Skin Grafts (STSGs).

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Background / Hypothesis: This was a prospective and comparative observational study done at an Organ Procurement Organization (OPO) from January 1, 2022, to August 18, 2023. Prior to implementing study guidelines, the OPO's usable STSGs yield was 72% and average amount recovered per donor was 2.16 sq/ft. These outcomes were well below the goals set by the Processor as well as OPO. The purpose of this study was to use specific quality improvement (QI) techniques to improve the recovery outcomes of STSGs to meet processor and OPO goals.

Methods: The FADE (Focus, Analyze, Develop, Execute and Evaluate) model of quality improvement was used for this project. The recovery staff was re-educated by focusing on the life saving quality of STSGs in burn victims and the need of STSGs in the OPO's Donor Service Area. The OPO's previous STSGs recovery data from January 1, 2022, to December 31, 2022, was reviewed and analyzed based upon donor age, weight, recovery zones, recovery times, and recovery staff to identify the major problems. Selective problems were prioritized, processor guidelines were followed, and the following comprehensive training strategy was established:

1. Training of recovery staff as group and setting the following guidelines.
 - Consult AOC regarding suitability of donors for recovering STSGs.
 - Recover from both Posterior and Anterior zones (5/6 zones) in 100% of cases.
 - If there is no trainee on a case, then skin should be recovered by the most experienced recovery specialist in team.
 - With trainee on a case, allow trainee to recover just one or two grafts from high yield area on a good yield donor.
 - After recovery from each zone, lay all grafts from that zone on a white foam tray and take photos. Take photos of donors after recovering skin from each zone. Upload all photos in designated folder.
2. On-site training of recovery staff by using Dermatome and Amalgatome.
3. Analyzing recovery outcomes and providing feedback to recovery staff.
4. Incentives to staff who would be meeting and exceeding goals for recovery outcomes.

Areas of improvement were addressed with all recovery staff via individual performance meetings. Goals were set to increase the total STSGs usable percentage from 72% to 80% and the average amount of STSGs recovered per donor from 2.16 sq. ft to 3.00 sq. ft.

Results: Prior to the study, the average amount of STSGs usable yield was 72% and average amount of STSGs recovered was 2.16 sq. ft. After implementation of all specified QI changes, significant

improvements were seen. The average amount of usable yield increased to 84% and average amount of STSGs recovered increased to 3.34 sq. ft.

	Prior to change	Goal	After QI changes
Average amount of usable STSGs in %	72	80	84
Average amount of total STSGs in sq. ft	2.16	3.00	3.34
Average amount of usable STSGs in sq. ft	1.63	2.40	2.88

Conclusions: By following guidelines and ongoing training for staff, this OPO was able to meet both processor and organizational goals for STSGs. Continuing to provide support to staff, monitoring recovery outcomes and providing feedback to staff helped in sustaining improved results and meeting goals.

(No confidential information has been disclosed in this study. Confidentiality guidelines have been met and permission to publish has been granted.)

One Organ Procurement Organization's Mission to meet Processor and Organization goals by increasing the usable yield and total grafts recovered for Split Thickness Skin Grafts (STSGs)

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INTRODUCTION

Split Thickness Skin Graft is a precious gift from Donors to burn victims for reducing their morbidity and mortality. Maximizing the usable yield for this graft is an ongoing challenge due to changes in thickness requirement from time to time and changing the recovery instrument from Dermatome to Amalgatome. This study was conducted to focus on increasing usable yield of recovered grafts and total grafts recovered.

OBJECTIVES

This was a prospective and comparative observational study done at an Organ Procurement Organization (OPO) from January 1, 2022, to August 18, 2023.

Prior to implementing study guidelines, the OPO's usable STSGs yield was 72% and average amount recovered per donor was 2.16 sq/ft. These outcomes were well below the goals set by the Processor as well as OPO.

The purpose of this study was to use specific quality improvement (QI) techniques to improve the recovery outcomes of STSGs to meet processor and OPO goals.

MATERIALS AND METHODS

The FADE (Focus, Analyze, Develop, Execute and Evaluate) model of quality improvement was used for this project. The recovery staff was re-educated by focusing on the lifesaving quality of STSGs in burn victims and the need of STSGs in the OPO's Donor Service Area. The OPO's previous STSGs recovery data from January 1, 2022, to December 31, 2022, was reviewed and analyzed based upon donor age, weight, recovery zones, recovery times, and recovery staff to identify the major problems. Selective problems were prioritized, processor guidelines were followed,

MATERIALS AND METHODS

The following comprehensive training strategy was established:

1. Training of recovery staff as group and setting the following guidelines.

- ❖ Consult AOC regarding suitability of donors for recovering STSGs.

- ❖ Recover from both Posterior and Anterior zones (5/6 zones) in 100% of cases.

- ❖ If there is no trainee on a case, then skin should be recovered by the most experienced recovery specialist in team.

- ❖ With trainee on a case, allow trainee to recover just one or two grafts from high yield area on a good yield donor.

- ❖ After recovery from each zone, lay all grafts from that zone on a white foam tray and take photos. Take photos of donors after recovering skin from each zone. Upload all photos in designated folder.

2. On-site training of recovery staff by using Dermatome and later by Amalgatome.

3. Analyzing recovery outcomes and providing feedback to recovery staff.

4. Incentives to staff who would be meeting and exceeding goals for recovery outcomes.

Areas of improvement were addressed with all recovery staff during Team Meeting and with individual staff during their performance meetings.

Goals for the project were set as follows:

1. Increase the Average Amount of grafts recovered from **2.16 sq/ft to 3.00 sq/ft.**

2. Increase the Average Amount of grafts usable from **1.63 sq.ft to 2.40 sq.ft.**

3. Increase the Average Amount of Usable % of grafts from **72% to 80%**

MATERIALS AND METHODS

The following Action Items were completed for the project:

- ❖ 2022 data collection and detailed analysis.

- ❖ Training of recovery staff as group and setting guidelines.

- ❖ Onsite training of recovery staff for recovery by using Dermatome.

- ❖ Onsite training of recovery staff for recovery by using Amalgatome.

- ❖ Taking and uploading post recovery photos of recovered grafts.

- ❖ On site training of recovery staff for using Amalgatome.

- ❖ Analyzing recovery outcomes

- ❖ Providing feedback to recovery staff for improving outcomes.

- ❖ "Give A Wow and Take A Bow" for staff meeting and exceeding goals.

RESULTS

Data collected from Jan. 01, 2022, to December 31, 2022

- ❖ Total STSGs Recoveries: 134

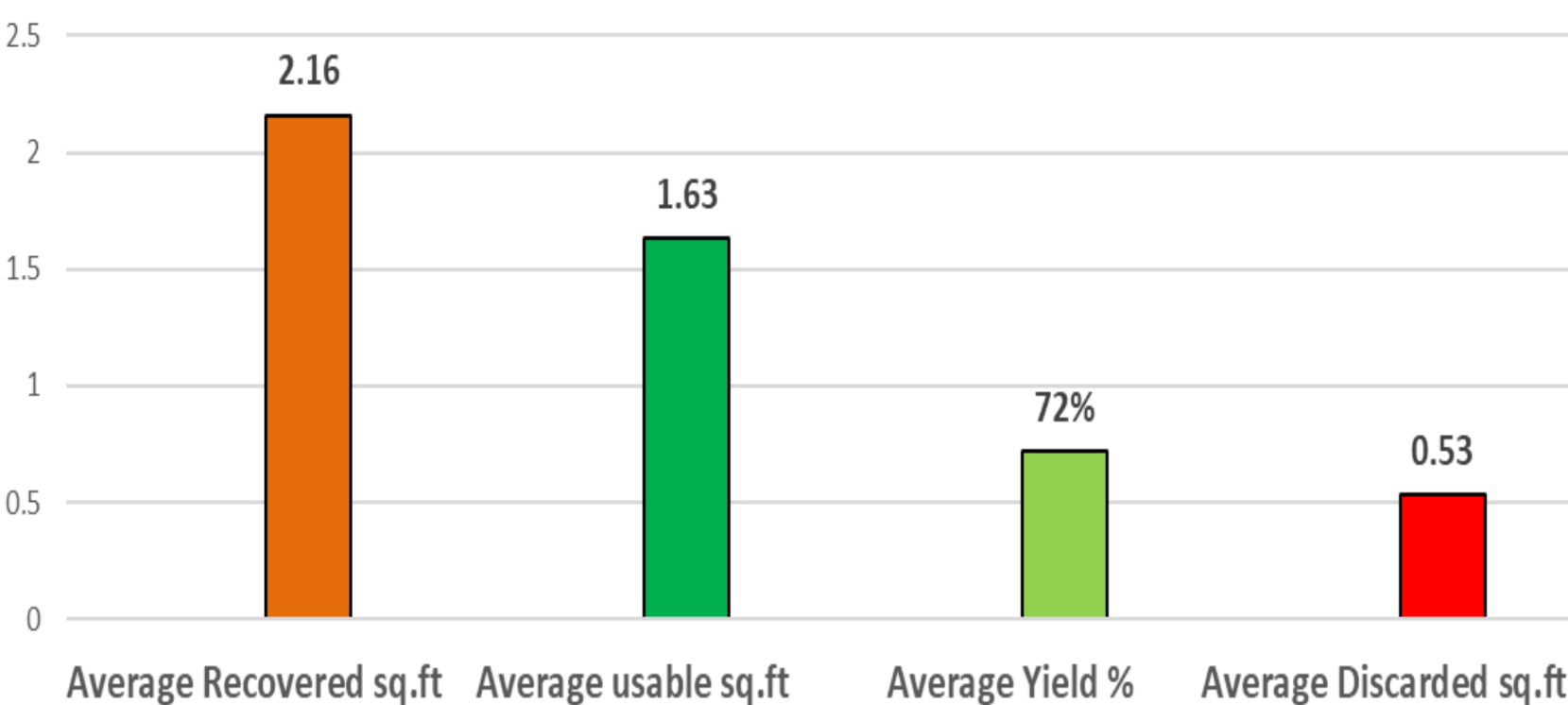
- ❖ Average Amount STSGs Recovered: 2.16 sq/ft

- ❖ Average Amount STSGs Usable: 1.63 sq/ft

- ❖ Percentage of total usable grafts: 72%

- ❖ Average Amount STSGs Discarded: 0.53 sq/ft

STSG Outcomes 2022



RESULTS

Data collected from Jan. 01, 2023, to August 18, 2023

- ❖ Total STSGs Recoveries: 46

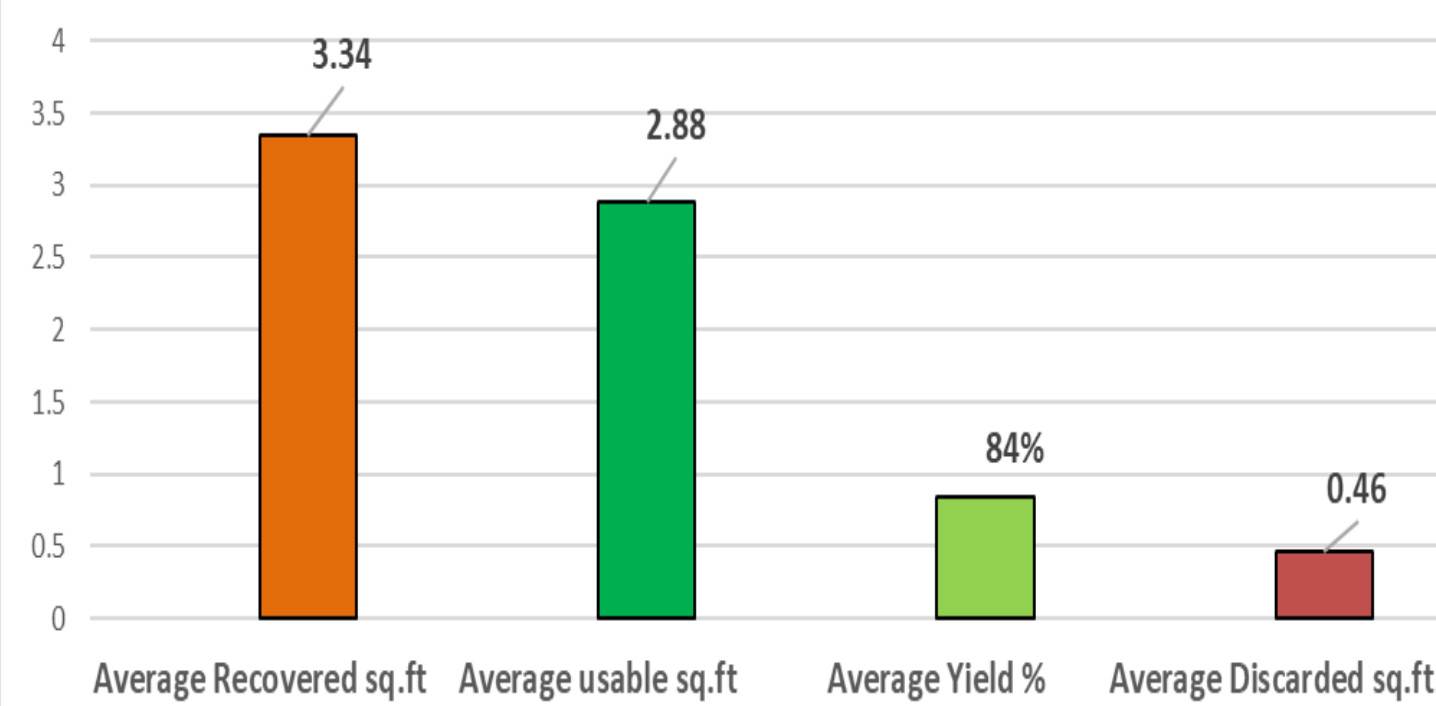
- ❖ Average Amount STSGs Recovered: 3.34 sq/ft

- ❖ Average Amount STSGs Usable: 2.88 sq/ft

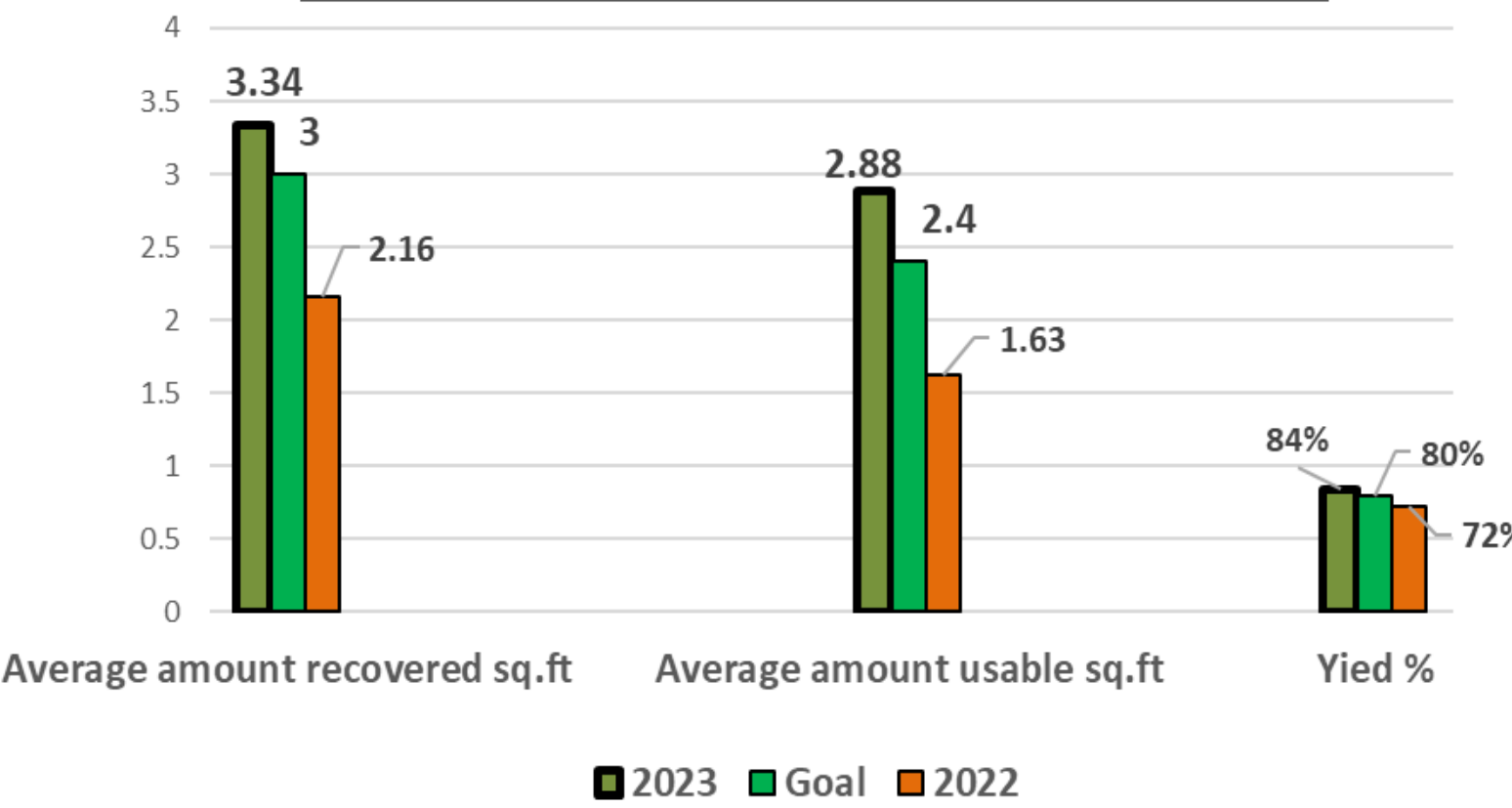
- ❖ Percentage of total usable grafts: 84%

- ❖ Average Amount STSGs Discarded: 0.46 sq/ft

STSGs outcomes 2023



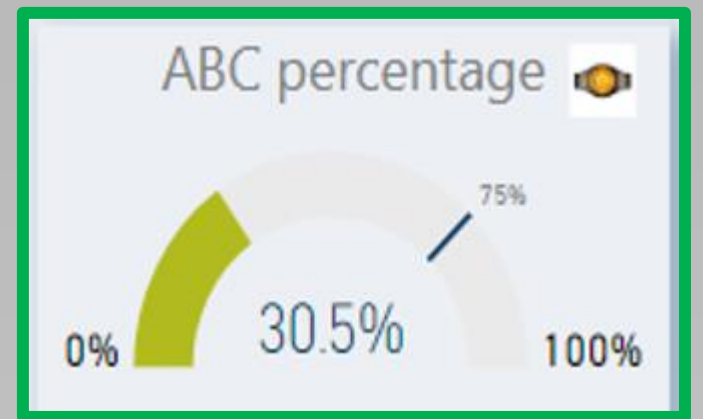
Goals vs. Outcomes 2023



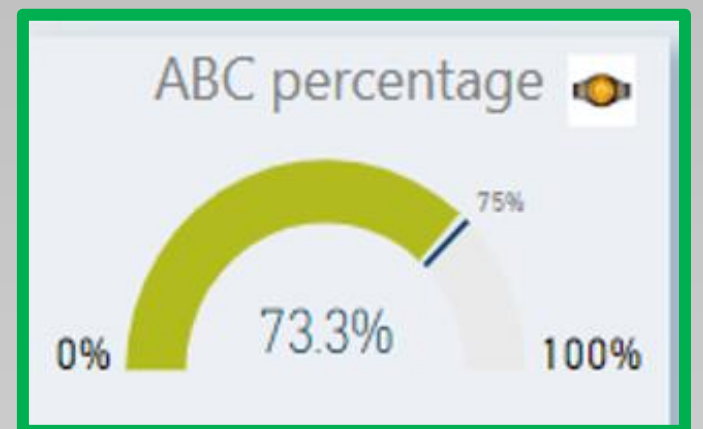
In addition to meeting and exceeding goals for this project, there was also significant improvement in ABC percentage from 30.5% to 73.3% for number of cases with A, B or C grades of recovery outcomes based upon total amount recovered and usable percentage. There was no recovery outcome for Grade A in 2022, but during this project in 2023, there were 13 cases with Grade A recovery outcome.

RESULTS

ABC Percentage 2022



ABC Percentage 2023



CONCLUSIONS

By following guidelines outlined for this project and ongoing training of staff, this OPO was able to meet both processor and organizational goals for STSGs. Continuing to provide support to staff, monitoring recovery outcomes and providing feedback to staff, helped in sustaining improved results and meeting goals.

ACKNOWLEDGEMENT

Special thanks to the all-Tissue Recovery staff for their commitment to this project and helping to achieve our mission of saving and healing lives through organ and tissue donation.

CONTACT INFORMATION

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