

Focused Process Improvement: Presurgical 30-Day Type and Screen

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PURPOSE

To decrease the number of Type and Screen (T&S) blood tests drawn on the day of surgery (DOS) for Gynecology Oncology elective surgical patients.

BACKGROUND

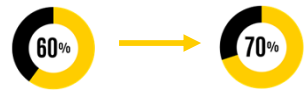
Surgical preparation for patients often includes a T&S test to determine the patient's ABO group, Rh type, and screening for clinically significant allo-antibodies.

If the screen is negative for antibodies, blood allocation can happen quickly. If the antibody screen is positive (~3-4% of patients), it can take over 3 hours to procure the appropriate blood products.

If the T&S is drawn, the morning of surgery, positive antibody results can lead to surgery delays, cancellations and/or safety risks to patients who undergo surgery before results are known.

Baseline data from October 2019 – April 2020 shows **40%** of patients did not have their 3-Day T&S resulted by the time they entered the operating room (OR).

Following the implementation of the Presurgical 30-Day T&S in June 2021, data from October 2021 – April 2022 showed **30%** of patients did not have their T&S resulted by the time they entered the OR.



Percent tests resulted prior to OR
10/2019 – 4/2020

Percent tests resulted prior to OR
10/2021 – 4/2022

PRACTICE CHANGE & IMPLEMENTATION

Based on data (Table 1), a multidisciplinary team partnered with the Gynecology Oncology Clinic to move the T&S test from the DOS to the pre-admission testing phase of care (POC), which usually occurs within 30 days of the procedure. This was accomplished by:

1. Eliminating the "signed and held" T&S from the *Case Request Order Set* while leaving the reminder order indicating to pre-op nursing that a T&S is needed for the case.
2. Developing an "after visit" Presurgical 30-Day T&S within the *Gyn Onc: Pre-op Order Set*.
3. Developing a *UICC T&S Lab Draw Locations* reference to promote earlier test collection close to the patient's home (Figure 1).
4. Developing a process for T&S results review by the surgical team at least 3-4 days before the day of surgery (Figure 2).

RESULTS

Baseline and concurrent data has focused on four outcomes metrics related to the timing of the test, the validity of the results, and the redundancy of orders. These metrics include:

1. The percentage of valid 30-Day Tests at the surgery date (drawn within 30 days of the DOS, but before the day of surgery).
2. The percentage of 30-Day Tests collected on the day of surgery.
3. The number/percent of expired 30-Day Tests at surgery.
4. The number/percent of extra 30-Day Tests that require canceling on the day of surgery.

Since implementation of the new process on 3/7/2023, preliminary results are positive. The percentage of valid 30-day T&S tests at the surgery date (drawn within 30 days of surgery, but before the day of surgery) has increased while the percentage of 30-Day T&S tests collected on the day of surgery has decreased. Additionally, there has been a decrease in the number/percent of expired 30-Day tests at surgery and extra 30-Day T&S orders that require canceling on the day of surgery (Table 2).

UIHC: BASELINE DATA

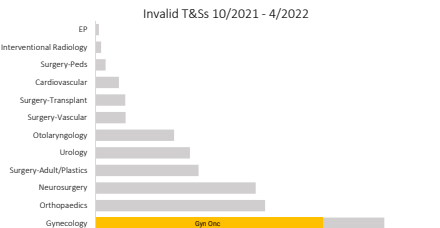


Table 1
Invalid tests when choosing a clinic to work with

GYN ONC: PRE/DURING PILOT

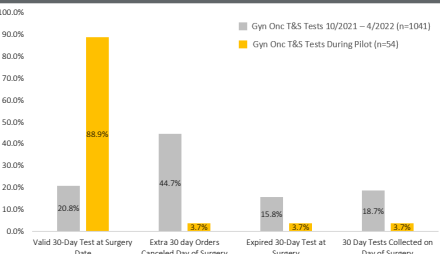


Table 2
All outcome metrics are trending in the right direction

LAB LOCATIONS

Figure 1

GYN/ONC CLINIC PROCESS

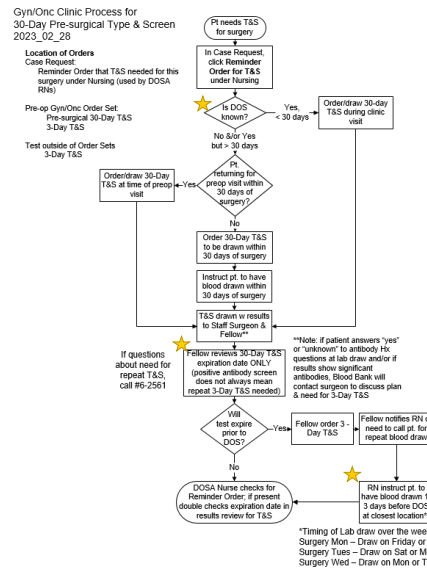


Figure 2

DISCUSSION

The process for assuring that elective surgical patients experience no delays if a blood transfusion is needed, requires preparation prior to the day of surgery.

The presurgical 30-Day T&S implemented in June 2021 allowed for this test to be drawn within 30 days of the surgery. However, with this implementation, little focus was placed on the clinic process of preparing a patient for surgery and how this test could be incorporated into this work.

The current process improvement efforts focused on moving the work of collecting and analyzing the T&S results from the day of surgery to the preoperative clinic visit.

- This change was achieved by:
- 1) Developing a process within the clinic to address the collection and review of results.
 - 2) Making changes to the T&S order itself along with the order sets that support the new process.

During the pilot phase, the team has been completing concurrent reviews of the Gyn/Onc elective surgical cases that required a T&S. This review has identified a variety of additional variables that have influenced the success of this initiative, e.g., lack of education for individuals who don't routinely work in the clinic; test originally ordered and then cancelled for a patient who refused transfusion, among others.

CONCLUSIONS/FUTURE STUDIES

Moving the presurgical 30-Day T&S from orders meant to be acted on/released on the day of surgery (*Case Request Order Set*) to the pre-admission testing phase of care, has shown a preliminary increase in the number, and relative proportion of valid T&S tests on the day of surgery.

Next steps include sharing the process and outcomes with other subspecialties in the Department of Obstetrics and Gynecology. The goal is to spread the process, incorporating it in the routine of individual clinics.

ACKNOWLEDGEMENTS

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