The ORBCoN Report
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What's New at ORBCoN

Troy Thompson, Central Regional Manager, ORBCoN

The focus of this edition of the ORBCoN Report is quality and more specifically quality improvement initiatives in Transfusion Medicine. There have been considerable efforts made in the past few decades to improve the safety of Canada's blood supply and more recently a shift in healthcare to incorporate quality improvement initiatives in all realms of medicine including transfusion medicine. A recent campaign by Choosing Wisely Canada (CWC) is an example of a quality improvement initiative which aims to reduce unnecessary tests, treatments and procedures. Included in the CWC recommendations were several "transfusion medicine" related recommendations from many different medical societies.

- Don't transfuse patients based solely on an arbitrary hemoglobin threshold;
- Don't transfuse more than one red cell unit at a time when transfusion is required in stable, non-bleeding patients.

A recent red blood cell (RBC) utilization audit conducted in five Ontario community hospitals revealed that there was a high degree of variability between hospital sites in RBC transfusions when looking at specific indicators (pre-transfusion hemoglobin and single unit transfusions).

Part of the reason for RBC utilization variability is that hospitals are at various stages of implementing strategies to improve appropriate utilization of blood and blood products. To aid hospitals in improving blood utilization, the Ontario Transfusion Quality Improvement Plan Committee was formed from various stakeholder groups with a mandate to create an Ontario Transfusion Quality Improvement Plan (OTQIP) to improve ordering and transfusion practice in Ontario. The final product is a comprehensive quality improvement plan and associated "toolkit" with tools aimed at helping to improve and standardize red cell utilization. The OTQIP components and quality improvement implementation strategies will be detailed in the articles in this newsletter.

We would like to extend thanks to all of the various stakeholders that contributed to the development of the Ontario Transfusion Quality Improvement Plan and we hope you enjoy this edition of the newsletter.

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Development of the Clinical Practice Recommendations for Blood Component Use in Adult Inpatients, Part of the Ontario Transfusion Quality Improvement Plan (OTQIP)

Allison Collins MD FRCPC, ORBCoN Physician Clinical Project Coordinator

The OTQIP was launched in April 2016, and includes Clinical Practice Recommendations for Blood Component Use in Adult Inpatients ("the Recommendations"), and a template Order Set for ordering red blood cells (RBC), plasma, and platelets. Although the OTQIP focuses specifically on improving RBC transfusion practice, plasma and platelets were included for practicality and to facilitate future improvement plans. The Recommendations were compiled by a working group (WG), formed in November, 2015, which included Sheena Scheuermann and Dr. Allison Collins (ORBCoN), and Drs. Yulia Lin, Michelle Zeller, Kathryn Webert, Eliana Saidenburg (volunteers). The WG collected existing guidelines and references from professional societies (including those of specialities other than transfusion medicine), the literature, the Choosing Wisely Canada Campaign, and multiple hospitals. The resulting draft Recommendations were widely disseminated by email to Ontario transfusion medicine stakeholders in January, 2016. (A special effort was made to engage in the review physicians in specialties other than transfusion medicine). This resulted in valuable feedback from over one hundred stakeholders.

Because a formal literature search was not part of the project, and the strength of the various Recommendations are not formally graded (by the GRADE or other system), the final document is entitled "Recommendations" rather than "Practice Guidelines".

The Recommendations were then used to develop the Order Set. The Order Set was structured to prompt consideration of the reason for each order (both clinical and laboratory indications) and, in the case of red cells, to encourage single unit orders.

The full OTQIP, including the Recommendations and the template Order Set can be found at www.transfusionontario.org.

Ontario Transfusion Quality Improvement Plan

Darlene Blouin BTech, MLT, Charge Technologist, Transfusion Medicine Cambridge Memorial Hospital

The Ontario Transfusion Quality Improvement Plan (OTQIP) is a provincial quality improvement initiative designed to reduce inappropriate red blood cell (RBC) transfusions in step with the Choosing Wisely Canada campaign recommendations. The aim of the plan is to reduce unnecessary harm by improving appropriate RBC transfusions. The Ontario Transfusion Quality Improvement Plan Committee developed the OTQIP along with an accompanying toolkit which is designed to provide hospitals with both information and tools to implement a Quality Improvement Plan tailored to the needs of individual sites.

At CMH, the initial step in rolling out the QIP at our hospital included a review of the OTQIP including the Clinical Practice Recommendations for RBC transfusion found in the OTQIP toolkit. We wanted to ensure that our hospital transfusion guidelines are in line with those described in the Clinical Practice Recommendations and that any required updates were made.

The next step was to determine the measures or indicators we wanted to monitor to assess the transfusion activity at our site. We chose to measure the percent of RBC transfusions with a pre-transfusion Hgb less than 80g/L

and the percent of single unit RBC transfusions. These two measures which were recommended in the OTQIP were selected because we felt that these data would be easy to retrieve from our LIS and would not require time consuming manual chart audits. As well, these measures may allow for comparison with peer hospitals.

An audit of all in-patient transfusions performed from June to August 2016 is currently underway. The data collected from the audit will be reviewed to establish our current transfusion activity 'performance' baseline. Once our baseline for each indicator has been established we will be able to determine the target values which will become our goals for improvement. For example, if we determine that currently 60% of in-patient transfusions have a pre-transfusion Hgb of less than 80 we might set a target to improve this by 10%, setting a target of 66%.

Once our data is collected our transfusion committee will review and determine our improvement goals and initiate any changes or strategies that will enable us to meet these goals. How will we go about making changes to improve transfusion practice and reduce inappropriate RBC transfusions? Strategies might include:

- Ensuring our hospital transfusion guidelines are consistent with the QIP and reflect the goals of our indicators & ensure these guidelines have been accepted and approved by the Medical Advisory Committee
- Adopting a Transfusion Order Set
- Engaging MLTs to prospectively screen transfusion orders
- Engaging RNs to ensure that hospital transfusion guidelines are followed for their patients.

There are many tools available in the OTQIP Toolkit that we might use as resources to help implement these strategies. For example we used the QIP template to build our hospital plan. Other resources that might be used to help us develop, implement and monitor improvement strategies include data capture tools, transfusion order set templates and job aids for blood product order screening for MLTs. Following the timelines that we have defined in our QIP, we plan to continue to monitor our indicators in order to measure the impact of any implemented changes.

As we roll out our QIP it will ultimately need to become a hospital wide initiative in order for it to be successful since transfusion is a multidisciplinary activity. Improving appropriate red cell transfusions will reduce unnecessary harm and benefit patient care.

Prospective Product Order Screening: Promoting and Paving the Path

Lisa Richards, MLT, Lakeridge Health

Change is often met with opposition. Implementation of prospective product order screening (PPOS) is no exception. I know this not only from personal experience but also from the reactions and opinions encountered while sharing our experiences and promoting this new process. Policy or procedure change is a common occurrence but success in initiating PPOS requires a fundamental change in thinking by many professions. Every professional in the circle of care must be dedicated personally (and by the scope of their licenses) to achieving highest value care, which is defined by the best patient outcomes through the most responsible and equitable use of resources.

When the concept is first introduced most criticism is valid because it is based on traditional ordering practices and the conventional BTL (blood transfusion laboratory) process. One of the biggest misconceptions is that the BTL technologist alone is expected to reject or approve physician product orders. Understandably, this seems intimidating and many fear the interaction with the ordering physician. However, this is not as it seems. Prior

to implementation, the technologist will be engaged with support and education in order to assist in interpreting hospital transfusion guidelines. Once the process is implemented the BTL technologist uses the provided hospital guidelines, which have been vetted by numerous committees and medical advisory council, to flag physician orders outside of guidelines. Not following them may pose risks to the patient when there is this much evidence (and institutional consensus) behind them. Most importantly, the decision to transfuse (and the responsibility for outcomes) rests with the ordering physician and transfusion medicine physician (TM physician). As this example illustrates, it is critical to explain the entire process before fears undermine validity of the initiative. Education and system-wide support (including medical directorship) are crucial to enable the fulfilment of these expanding responsibilities for BTL technologists and the refined ordering processes that they interface with.
The implementation of PPOS is a daunting task. Fortunately, the OTQIP toolkit is now available which contains everything required to develop, educate, implement and audit an order screening program. Another powerful tool is correspondence with a hospital already involved with PPOS to learn from their trials and tribulations. By using these new tools and anticipating road blocks with the experience of those who have already embarked on this journey, we are hoping to provide a smoother path to success in prospective product order screening.

Safety Corner - RHIG: To Give or Not To Give?

Dr. C. Cserti, TM Specialist & Lisa Richards, MLT; Lakeridge Health

Setting: A large community care hospital operates an Rh Immune Globulin (RhIG) clinic for out-patient 28 weeks RhIG administration. If a valid group and screen (G&S) result is presented (from within the last 14 days), these results are accepted and no further testing is needed prior to RhIG injection. **Background:** 23 year old female presents to RhIG Clinic with a midwife order to administer RhIG as per protocol, with caveat: "Please note: patient received WinRho at 6 weeks gestation and has had a positive antibody screen in the recent past. Do not administer RhIG if repeat screen is positive." This note reached the blood transfusion laboratory (BLT) before blind endorsement (and deliberate inaction) by others. **Description of Event:** After lengthy investigation we confirmed administration of RhIG at approximately 6 weeks, although G&S results on that date were unavailable. Private laboratory G&S at 10 weeks reported "Antibody screen POSITIVE, unable to identify antibody". At 11 weeks, the private laboratory reported "Positive Antibody Screen. Anti-D identified with a reported titer of 1". BLT testing at 28 weeks showed a positive antibody screen and identified anti-HLA/Bg (clinically insignificant). RhIG was given after discussion with midwife. **Discussion:** The note poses several risks. First, a positive antibody screen may reflect a variety of antibodies, the specificities of which should be identified, as some may be clinically significant. The presence of a maternal antibody would never obviate the need for RhIG, unless the antibody identified is a proven alloanti-D. Second, even if the repeat antibody screen is positive due to persistence of passive WinRho-D alone, this does not guarantee that a sufficient quantity will last through the period that the 28 week injection is dosed to defend. The precautionary principle would therefore favour a second RhIG injection. The immunoprophylaxis afforded by RhIG lasts only for a finite period of time. Once indicated and administered, RhIG is to be re-administered at 12 week intervals until the D antigen exposure risk is no longer present, be this from gestation or parturition of a potentially D+ baby, or platelet transfusions from D+ donors. This schedule better assures adequate levels of passive protection. **Conclusion:** RhIG Prophylaxis is forfeited only in a proven active RHD seroconversion. Passive anti-D (RhIG) protection is temporary and an injection at 6 weeks will not sufficiently endure in its effect across the entire pregnancy. The combination of clinician misconceptions and report misinformation called for extra caution in reviewing the need for RhIG in this case. Obstetrical patients with externally reported positive screens should be co-investigated at the delivery hospital's laboratory, so as to validate the findings and adjudicate discrepancies. Co-localizing serologic surveillance with the planned delivery site optimizes the consistency and availability of relevant antibody specificity and titer information before and beyond delivery.

Upcoming Educational Events Calendar

Event	Date	Location
14th Annual CBS International Symposium	September 17, 2016	Toronto, ON
GHEST	September 24, 2016	Burlington, ON
AABB	October 22 -25, 2016	Orlando, FL

The only way forward,
if we are going to improve the quality of the environment,
is to get everybody involved.
- Richard Rogers