



London Health
Sciences Centre



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HEALTH CARE
LONDON

Pathology and Laboratory Medicine

**bloody
easy**

2nd Annual Nursing Boot Camp

Navigating the Ontario Transfusion Quality Improvement Plan (OTQIP)

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Navigating the Ontario Transfusion Quality Improvement Plan (OTQIP)

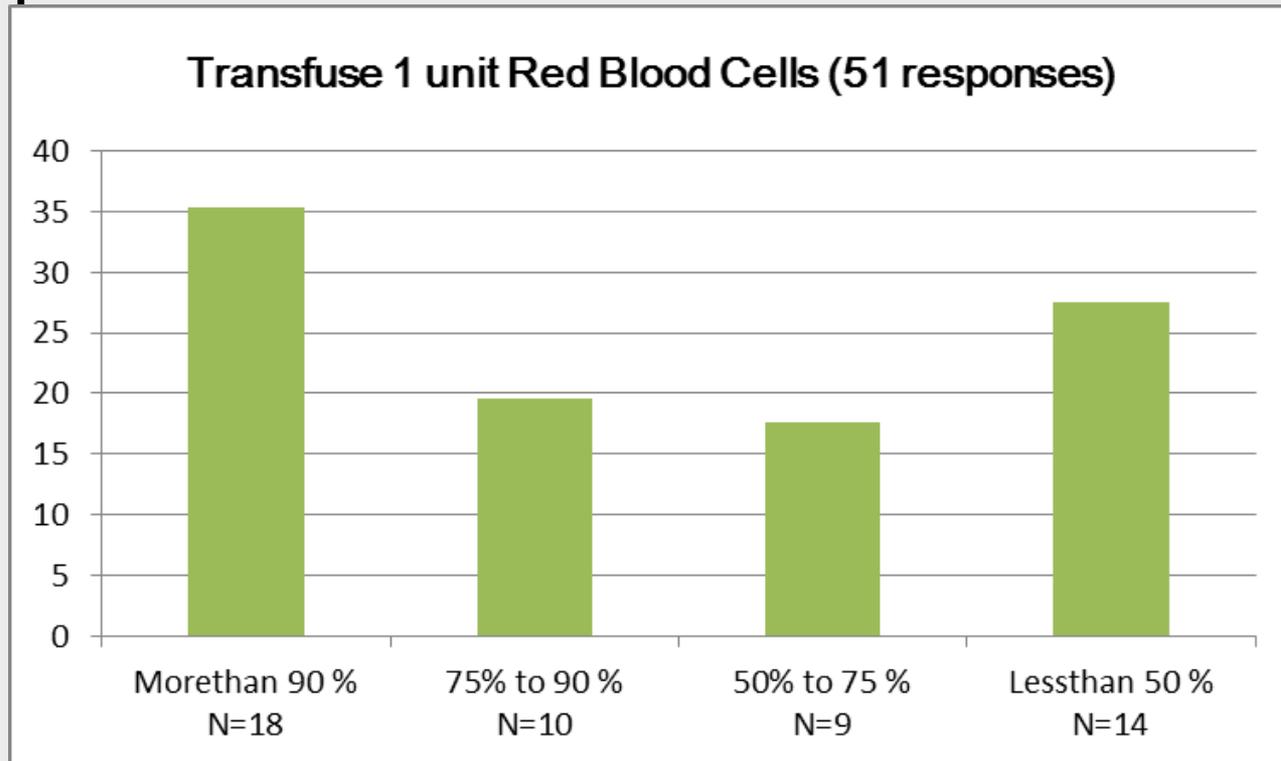
In your clinical practice, of the red blood cell transfusions you administer to not actively bleeding patients, approximately what percent would have been ordered as “transfuse 1 unit red blood cells” (verses transfuse 2 units red blood cells)

- a) More than 90 %
- b) 75 % to 90 %
- c) 50 to 75 %
- d) Less than 50 %

Navigating the Ontario Transfusion Quality Improvement Plan (OTQIP)

In your clinical practice, of the red blood cell transfusions you administer to not actively bleeding patients, approximately what percent would have been ordered as “transfuse 1 unit red blood cells” (verses transfuse 2 units red blood cells)

Your responses:



Navigating the Ontario Transfusion Quality Improvement Plan (OTQIP)

Objectives

After this session participants will be able to:

- Explain the foundation of the OTQIP
- Describe the key components of the OTQIP
- Understand nurse's role in a Red Blood Cell (RBC) transfusion QIP
- Define key patient assessment factors to ensure best practice, evidence based RBC transfusions

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The Foundation of the OTQIP (choosingwiselycanada.org)

Choosing Wisely Canada transfusion recommendation #2

Don't transfuse more than one red cell unit at a time when transfusion is required in stable, non-bleeding patients. Indications for red blood transfusion depend on clinical assessment and the cause of the anemia. In a stable, non-bleeding patient, often a single unit of blood is adequate to relieve patient symptoms or to raise the hemoglobin to an acceptable level. Transfusions are associated with increased morbidity and mortality in high-risk hospitalized inpatients. Transfusion decisions should be influenced by symptoms and hemoglobin concentration. Single unit red cell transfusions should be the standard for non-bleeding, hospitalized patients. Additional units should only be prescribed after re-assessment of the patient and their hemoglobin value.



Choosing Wisely Canada

**WHY GIVE TWO
WHEN ONE WILL DO?**

Help reduce unnecessary red blood cell transfusions in our hospital

The Foundation of the OTQIP (hqontario.ca)



What is a Quality Improvement Plan?

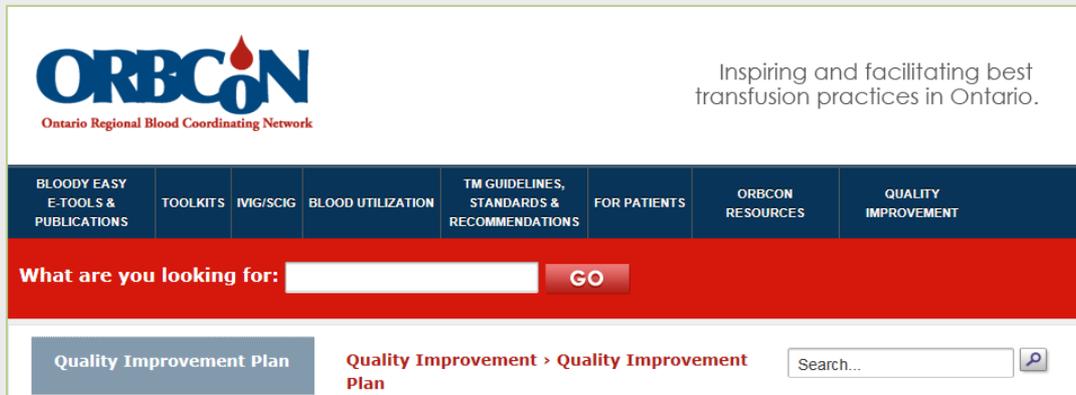
A Quality Improvement Plan (QIP) is a formal commitment to quality improvement, aligned with system and provincial priorities. By identifying and explaining how to achieve long-term improvement goals in their QIPs, Ontario's health organizations are able to effectively focus their quality improvement efforts on those key issues that will truly improve health care in our province.

WHAT IS HEALTH QUALITY

Health care quality is achieving better health outcomes and experiences for every person living in Ontario. Because better has no limit.



The Foundation of the OTQIP (transfusionontario.org)



The screenshot shows the ORBCON website header with the logo and tagline "Inspiring and facilitating best transfusion practices in Ontario." Below the header is a navigation menu with categories: BLOODY EASY E-TOOLS & PUBLICATIONS, TOOLKITS, IVIG/SCIG, BLOOD UTILIZATION, TM GUIDELINES, STANDARDS & RECOMMENDATIONS, FOR PATIENTS, ORBCON RESOURCES, and QUALITY IMPROVEMENT. A search bar is present with the text "What are you looking for:" and a "GO" button. Below the search bar, the breadcrumb "Quality Improvement > Quality Improvement Plan" is visible, along with another search field.

What is the Ontario Transfusion Quality Improvement Plan?

The Ontario Transfusion Quality Improvement Plan (OTQIP) is a provincial quality improvement initiative developed by the Ontario Transfusion Quality Improvement Plan Committee. The OTQIP is designed to reduce inappropriate red blood cell (RBC) transfusions in Ontario by targeting the specific reason(s) for inappropriate RBC transfusions. The OTQIP and accompanying toolkit have been developed in consultation with physicians, technologists, nurses and other stakeholders within Ontario using the Health Quality Ontario framework. There are two main components to the OTQIP. The OTQIP narrative describes the rationale, partner engagement and accountability of the plan. The OTQIP describes the specific aims, measures and change ideas of the plan.



Prospective Transfusion Order Screening

This learning tool is designed primarily for medical laboratory technologists (MLTs) to assist them in the prospective screening of blood component orders, but the content of this module may be of broader interest to other health care professionals such as nurses and physicians.

 <http://transfusionontario.org/en/download/prospective-transfusion-order-screening/>

Patient Population: Adult, Inpatients

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The Key Components of the OTQIP

(<http://transfusionontario.org/en/documents/?cat=quality-improvement-plan>)

The successful development and implementation of an RBC transfusion quality improvement initiative depends on the involvement and engagement of:

Champion (Transfusion Medicine Expertise)

Senior leaders (Chief Executive Officer, Medical Advisory Committee, Quality/Risk Department, Clinical Leadership)

Health Care Professionals (ordering providers, nurses, transfusion medicine laboratory technologists)

Patients (insight from the patient/family voice)

The Key Components of the OTQIP

- ❑ AIM: What are we trying to accomplish?
- ❑ MEASURE: How do we know that a change is an improvement?
- ❑ CHANGE: What changes can we make that will result in the improvements we seek?

The Key Components of the OTQIP

Aim: What are we trying to accomplish?

Reduce unnecessary harm
by improving appropriate RBC transfusions.

The goal is for patients to receive evidence-based high-quality care that is safe, patient centered, effective, efficient, equitable and timely.

The Key Components of the OTQIP

Measure: How do we know that a change is an improvement?

- Percent of RBC transfusions occurring when pre-transfusion Hb less than 80g/L.
- Percent of single unit (one at a time) transfusions

Determine current performance /baseline data

Set Targets over time

e.g. Year 1: determine baseline

Year 2: baseline + 10 % improvement

Year 3: baseline + 20 % improvement

Year 4 and Year 5: sustained improvement

The Key Components of the OTQIP

Change: What changes can we make that will result in the improvements we seek?

1. Change Ideas

- Adopt/Implement RBC transfusion guidelines and/or RBC transfusion order sets
- Implement a prospective screening process for RBC transfusion orders (by Medical Laboratory Technologists {MLTs})

The Key Components of the OTQIP

Change: What changes can we make that will result in the improvements we seek?

2. Process Measures

- Adoption of Transfusion Guidelines by hospital Transfusion Committee and Medical Advisory Committee (MAC)
- Percentage of clinicians and nurses who are able to access the hospital guidelines
- Percentage of RBC transfusion orders submitted using the order set
- Percentage of RBC orders prospectively screened by MLTs
- Implementation of policy for transfusion medical director follow up of apparently inappropriate orders

The Key Components of the OTQIP

Quality Improvement Plan Tools/Appendix

[Ontario Quality Improvement Plan Guidance Document \(full PDF version\)](#)

Narrative Documents

[Ontario Transfusion Quality Improvement Plan Narrative](#)
[Institution Quality Improvement Plan Narrative Template](#)

Quality Improvement Plan Worksheet

[Ontario Transfusion Quality Improvement Plan](#)
[Institution Quality Improvement Plan Template](#)

RBC Utilization Recommendations/Order set template

[Clinical practice recommendations for blood component use in adult inpatients](#)
[Transfusion order set template](#)
[Choosing Wisely Canada Screensaver](#)

Prospective Screening

[Standard operating procedure template for prospective blood product order screening \(by the medical laboratory technologist\)](#)
[Technologist Job Aid- RBC](#)
[Technologist Algorithm- RBC](#)
[Technologist tracking form \(for sites without LIS\)](#)
[Technologist Educational Module](#)
[Information for Physicians, Nurses and Medical Laboratory Technologists](#)

Data Capture Tools

OTQIP Quality Improvement Tracker Tool
RBC Audit tool- Please contact your [Regional ORBCoN office](#) to acquire access to the e-Tools
Applications RBC/100 Adult In-Patient Days Example -*under development*
[Sample RBC Adjudication Criteria for manual chart review](#)

The Key Components of the OTQIP

(<http://transfusionontario.org/en/documents/?cat=quality-improvement-plan>)

Institution Transfusion QIP Template 2016-2021 (March 2016 v1)											
AIM			MEASURE				CHANGE				COMMENTS
Quality Dimension	Objective 2016/17	Rationale	Measure/ Indicator	Current Performance	Target (state if multi-year)	Target Justification	Initiat. #	Planned Improvement Initiative	Methods and Process Measures	Goal for Change Ideas	
Effectiveness	Reduce unnecessary harm by improving appropriate RBC transfusions	1. Patient receives evidence-based care 2. Applicable to all hospitals 3. There is evidence (practice guidelines) 4. There is a performance gap 5. Aligned with HQD and CWC 6. Effective transfusion care will support all dimensions of quality	Percent of all patient RBC transfusions occurring when Hb less than 80g/L		80% over 4-5 years 2016/17: establish baseline (BL) 2017/18: BL + 10% 2018/19: BL + 20% 2019/20: Continued/sustained improvement 2020/21: Continued improvement	1. Matching best performance 2. 100% target unrealistic due to critical patients	1	Implement ORBCoN's Clinical Practice Recommendations that are consistent with Ministry endorsed, evidenced based RBC transfusion guidelines 2016	Hospital MAC/TC adoption of Recommendations . Recommendations available to clinicians 2016/17	Recommendations passed by MAC/TC. 80% of physicians and nurses can locate guidelines YRS: 2016/17	
			Percent of all patient single unit (at a time) transfusions		80% over 4-5 years 2016/17: establish baseline (BL) 2017/18: BL + 10% 2018/19: BL + 20% 2019/20: Continued or sustained improvement 2020/21: Sustained improvement	1. Matching best performance 2. 100% target unrealistic due to critical patients	2	Implement ORBCoN's standard RBC transfusion order sets 2016/17	RBC transfusion order sets adopted by MAC/TC and implemented 2016/17	80% of RBC transfusion orders use the order set YRS: 2016/17	
								3	Utilize ORBCoN's toolkit including prospective screening of RBC transfusion orders by MLTs 2016/17	Implement prospective RBC screening by MLTs 2017/18	80% of RBC transfusion orders are screened by MLTs YRS: 2018/19
								4	Utilize ORBCoN's policy pertaining to follow up by transfusion medical directors to questionable RBC orders 2018/19	Implement ORBCoN's policy for medical director follow up 2018/19	80% of questionable orders are followed up by transfusion physician YRS: 2018/19

The Key Components of the OTQIP

Clinical Practice Recommendations for Blood Component Use in Adult Inpatients: Transfusion Guidelines for Red Blood Cells

Clinical Setting	Recommendation and dose
Hb less than 60 g/L	Transfusion likely appropriate*. Transfuse 1 unit and re-check patient symptoms and Hb before giving second unit.
Hb less than 70 g/L	Consider transfusion. Transfuse 1 unit and recheck patient symptoms and Hb before giving second unit.
Hb less than 80 g/L	Consider transfusion in patients with pre-existing cardiovascular disease or evidence of impaired tissue oxygenation. Transfuse 1 unit and recheck patient symptoms and Hb before giving second unit.
Hb 80 to 90 g/L	Likely inappropriate unless evidence of impaired tissue oxygenation.
Hb greater than 90 g/L	Likely inappropriate. If transfusion is ordered clearly document indication in patient's chart and discuss reason with patient.
Bleeding patient	<ul style="list-style-type: none"> • Maintain Hb greater than 70 g/L • If pre-existing cardiovascular disease – maintain Hb greater than 80g/L

Hb = hemoglobin

* Depending on etiology of anemia, alternative therapies (e.g. iron) may be more appropriate than transfusion.

- One unit usually raises the Hb by approximately 10 g/L.
- Do not transfuse based on Hb value alone. Transfusion of RBC is indicated in the treatment of symptomatic anemia.
- For non-bleeding patients: usual adult dose is 1 unit: transfuse 1 unit then check Hb and patient symptoms (dyspnea, chest pain, syncope) before transfusing a second unit.
- Premedication for allergic and febrile reactions is usually indicated only in patients with previous transfusion reactions.
- Consider premedication with furosemide in patients at risk for transfusion-associated circulatory overload. It is preferable to give furosemide before the transfusion if the patient is not hypovolemic and is hemodynamically stable.
- Whenever possible, **all** non-urgent transfusions should be completed during the day shift, for optimum patient safety.

The Key Components of the OTQIP

Transfusion Order Set – documents reason for transfusion, London example

Pre-OTQIP

Details for **ADULT: Packed Red Blood Cells (PRBC) (BLOOD TRANSFUSION - Packed Red Blood Cells (PRBC) - Product Only)**

+

*Required Date/Time: 2017/12/05 <input type="text"/> 1702 <input type="text"/>	*Number of Units Required: <input type="text" value="1"/>	*Rate of Infusion (each unit over): <input type="text" value=""/>
Special Requirements: <input type="text"/>	*Reason for PRBC transfusion: <input type="text"/>	Comments: <input type="text"/>
Transfusion Location: <input type="text" value="Patient Location"/>	Ext./Pager Number: <input type="text"/>	

Active bleeding

Hemoglobin <70g/L

Hemoglobin <100g/L & CAD hx

Hemoglobin <100g/L & unstable

Marrow suppression

Hemoglobinopathy

Other-Enter in comments

The Key Components of the OTQIP

Transfusion Order Set – documents reason for transfusion, London example

Revised prior to OTQIP go live

Details for **ADULT: Packed Red Blood Cells (PRBC) (BLOOD TRANSFUSION - Packed Red Blood Cells (PRBC) - Product Only)**

Details Order Comments

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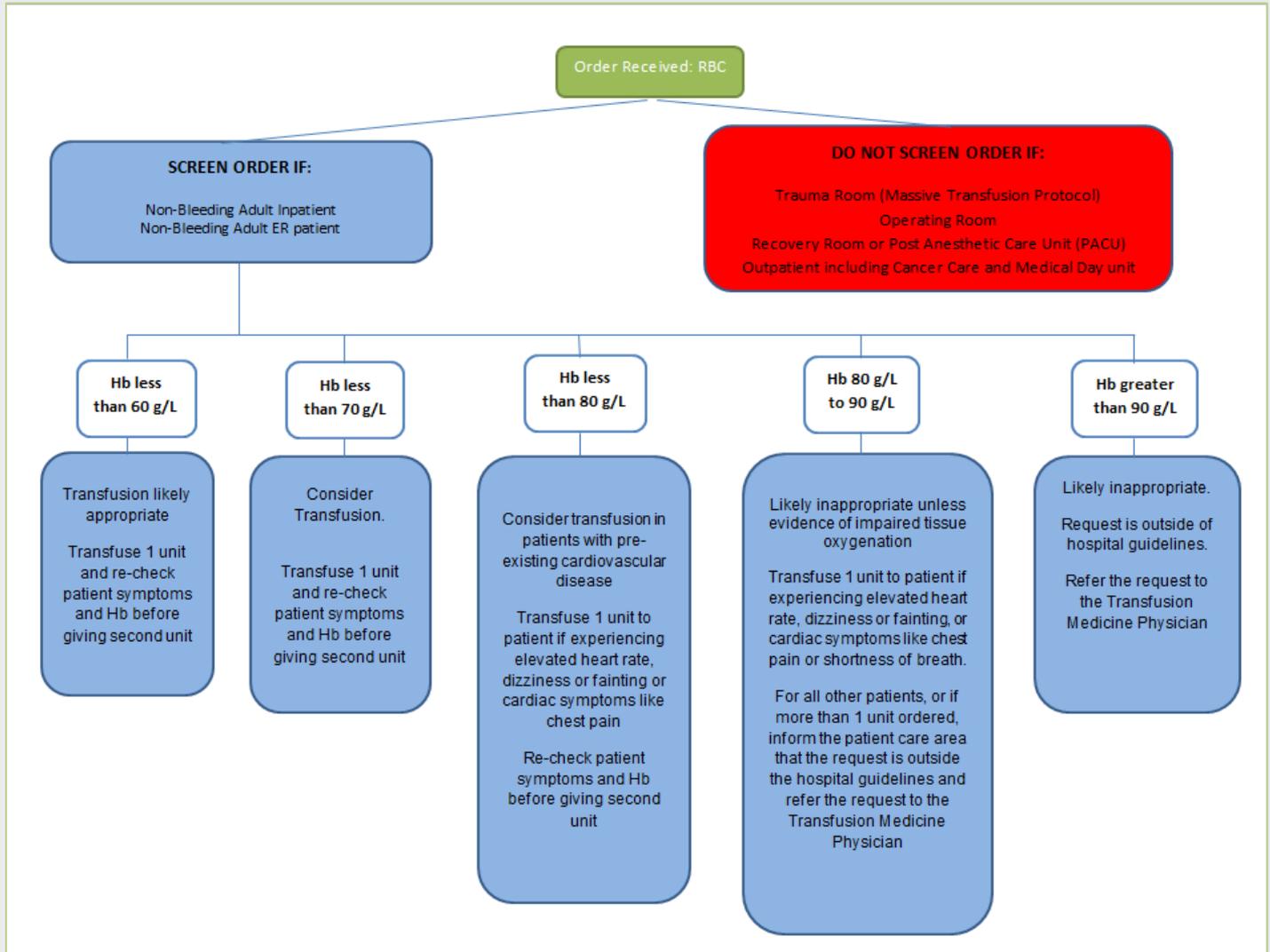
*Reporting Priority: Routine	*Required Date/Time: 2018/11/06 0706	*Number of Units Required: 1
*Rate of Infusion (each unit over):	Special Requirements:	*Reason for PRBC transfusion:
Comments: ;	Transfusion Location: Patient Location	Ext./Pager Number:

Reason for PRBC transfusion dropdown menu:

- Bleeding
- Hb < 70 g/L, not bleeding
- Hb 70-90 g/L & Heart Disease/Symptoms
- Other-Enter in comments

The Key Components of the OTQIP

Medical
Laboratory
Technologist
RBC
Algorithm for
Screening
RBC Orders



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The nurse's role in an RBC Transfusion QIP (cno.org)

Nursing Act 1991, Scope of Practice Statement:

The practice of nursing is the promotion of health and the assessment of, the provision of care for, and the treatment of, health conditions by supportive, preventive, therapeutic, palliative and rehabilitative means in order to attain or maintain optimal function.

Professional Standards:

Accountability

Continuing competence

Ethics

Knowledge

Knowledge application

Leadership

Relationships (Therapeutic nurse-client; Professional)

The nurse's role in an RBC Transfusion QIP (cno.org)

Professional Standards:

- providing, facilitating, advocating and promoting the best possible care for clients
- advocating on behalf of clients
- advocating for quality practice improvements in the workplace
- using best-practice guidelines to address client concerns/needs
- collaborating with clients and the health care team to provide professional practice that respects the rights of clients

Medication

- When a nurse receives a medication order that is unclear, incomplete or inappropriate, the nurse must not perform the medication practice. Instead, the nurse must follow up with a prescriber in a timely manner.

The nurse's role in an RBC Transfusion QIP (cno.org)

If your hospital has an RBC Transfusion QIP in place:

- review ORBCoN's resources
- advocate for best-practice standard of care for patients
assess your possible transfusion patient in detail
- employ Medical Advisory Committee endorsed transfusion guidelines
know where to find the information
share with the information with members of the health care team
- support the MLTs in the order screening process
provide patient assessment specifics

The nurse's role in an RBC Transfusion QIP (cno.org)

If your hospital does not have RBC Transfusion QIP in place:

- review ORBCoN's resources; hospitals who have an RBC Transfusion QIP in place are willing to help
- talk to other members of the health care team – Physician and Nursing leaders, Transfusion Medicine Lab/Transfusion Committee, Quality/Patient Safety
- consider a part of the QIP process - start with transfusion guidelines
- advocate for best-practice standard of care for patients
assess your possible transfusion patient in detail

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Patient Assessment: RBC Transfusion

For not actively bleeding, adult, inpatients assess:

1. Does the patient have significant signs and symptoms of anemia ?
 - heart rate >100 bpm
 - systolic blood pressure <90 mmHg
 - presyncope, syncope
 - dyspnea
 - dizziness upon walking/standing
 - chest pain
 - ST segment changes on ECG
 - positive troponin

Review current and past 24 hours vital signs

2. Does the patient have unstable or acute coronary syndrome or coronary artery disease?

Patient Assessment: RBC Transfusion

For not actively bleeding, adult, inpatients assess:

3. Is the patient over hydrated (Hemoglobin {Hb} may be falsely low)?
4. Is the patient at risk for Transfusion Associated Circulatory Overload (TACO)?
TACO Risk factors: age over 70 years, history of heart failure, left ventricular dysfunction, history of myocardial infarction, renal dysfunction, positive fluid balance
5. Are there appropriate alternatives to RBC transfusion (Transfusion is not the recommended treatment for iron deficiency anemia)?
6. What is the current Hb and the previous Hb result?

What will your answer be in September 2020?

In your clinical practice, of the red blood cell transfusions you administer to not actively bleeding patients, approximately what percent would have been ordered as “transfuse 1 unit red blood cells” (verses transfuse 2 units red blood cells)

- a) More than 90 %
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Questions

