Building Blocks

Resource & Information Repository

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Transfusion Committee Forum 2014
Resource & Information Repository

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Transfusion Committee Forum 2014
We have no conflict of interest with this event because we have no affiliations, sponsorships, honoraria, monetary support or conflict of interest from any commercial source.

However Ana has previously received payment from ORBCoN for the development of Nursing resources.
Survey says....

Would you use a central repository of resources and information such as:

<table>
<thead>
<tr>
<th>Resource</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinical practice guidelines</td>
<td>7</td>
<td>0</td>
</tr>
<tr>
<td>Transfusion policies/procedures</td>
<td>7</td>
<td>0</td>
</tr>
<tr>
<td>Monographs</td>
<td>7</td>
<td>0</td>
</tr>
<tr>
<td>Order sets</td>
<td>7</td>
<td>0</td>
</tr>
<tr>
<td>Training/competency resources</td>
<td>7</td>
<td>0</td>
</tr>
<tr>
<td>Relevant literature</td>
<td>7</td>
<td>0</td>
</tr>
<tr>
<td>Others (specify)</td>
<td>7</td>
<td>0</td>
</tr>
</tbody>
</table>

Would you be willing to share your transfusion resources with others, conditional upon the resources being posted with disclaimers?

<table>
<thead>
<tr>
<th>Option</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>6</td>
<td>1</td>
</tr>
</tbody>
</table>
What's Out There?

Resources from:
- Provincial Blood Offices
- Canadian Blood Services
- CSTM
- UK, Australia, USA...
E-Learning Programs

On ORBCoN website transfusionontario.org

Reaction Guidelines

Bedside Audit Form

Bloody Easy books

many more...

Informed consent

Toolkits and Templates
Resources are Excellent, Ready to Use, Helpful

Although...

Often developed by group/committees mandated to reach consensus
May not suit your specific situation
Resources can evolve - Blood Conservation Modalities

ONTraC algorithm

LHSC strategies

Blood Conservation: Strategies

<table>
<thead>
<tr>
<th>Pre-operative</th>
<th>Intra-operative</th>
<th>Post-operative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consider:</td>
<td>Consider:</td>
<td>Consider:</td>
</tr>
<tr>
<td><em>Anemia Investigation</em></td>
<td><em>Surgical Technique &amp; Attention to Hemostasis</em></td>
<td><em>Optimize surgical recovery process: promote comfort, pain control</em></td>
</tr>
<tr>
<td><em>Hemoglobin Optimization Strategies</em></td>
<td><em>Hypothermia</em></td>
<td><em>Transfusion triggers</em></td>
</tr>
<tr>
<td>from PO</td>
<td><em>Regional Anesthesia</em></td>
<td><em>Transfusion target specific indications:</em></td>
</tr>
<tr>
<td>Vitamin B12 / folate</td>
<td><em>Hemostatic agents, Surgical glues</em></td>
<td><em>Non actively bleeding patient,</em></td>
</tr>
<tr>
<td>Iron IV</td>
<td><em>Cell salvage</em></td>
<td><em>Transfuse if at red blood cells and re-visit</em></td>
</tr>
<tr>
<td>Epinephrine</td>
<td><em>Anoxic Nervemgosic Hemodilution</em></td>
<td><em>Post-operative Specific variables:</em></td>
</tr>
<tr>
<td>FAD (Percutaneous Autologous Donation)</td>
<td><em>Volume expanders</em></td>
<td><em>Cardio-respiratory Comorbidities, Age, Height/Weight</em></td>
</tr>
<tr>
<td>Patient procedure specific indications</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Resources can evolve - Transfusion Reactions

SUNNYBROOK Health Sciences Centre circa 2006

LONDON Health Sciences Centre - 2009

Resources can evolve - Blood Care
Our Vision is to have resources from general hospital sites in Geraldton and Groves Memorial - Fergus.
Our Vision is to have resources from

Toronto General

general hospital sites

Geraldton

remote hospital sites

Groves Memorial - Fergus

community hospital sites
Some Examples
BLOOD CONSERVATION
Every Drop Counts...

Perioperative Intravenous Iron Hydroxide Sucrose (Venofer®) Optimization to Enhance Erythropoiesis and Limit Allogeneic Transfusion

The interplay of short timeline for assessment and treatment of anemia, presence of functional iron deficiency (with or without anemia), emphasis on shorter length of stay in hospital and avoidance of blood transfusion in the perioperative setting encourage the addition of intravenous iron to the armamentarium of surgical treatment.

New formulations of intravenous iron have proven to be safe, therapeutic and cost effective.

NOTE: This algorithm highlights the use of Venofer®

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**Pre-operative**

1. Expected post-operative Hb level 12 g/dL

2. Ferritin* ≤ 60 ng/mL or Tau ≤ 0.2
   - False elevation: Eisenstein iron accumulation, inflammation, e.g., rheumatoid arthritis
   - Ferritin below 60 ng/mL can be an indicator of iron storage need/insufficiency

   * Ferritin below 100 ng/mL can be an indicator of iron storage need/insufficiency for support of erythropoiesis (Knocker, LT). Note: Determine etiology of iron deficiency.

3. For Male: Determine target: The level to sustain hemoglobin levels related to surgical procedure.
   - Male: 25 mg x 0.5 g/L or 50 mg
   - Female: 20 mg x 0.5 g/L or 100 mg

---

**Post-operative**

1. In absence of preoperative iron optimization
   - High iron w/calc.
   - High iron 5 g/L divided by 20 x 1L

2. Equations total Iron Sucrose (Venofer®) dose post-operatively
   - Dose in divided does starting post-operative Day 0
   - Maximum single dose 900 mg

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All About Iron

**Why do I need iron?**

Iron is needed to make hemoglobin, which is a protein inside the red blood cell that carries oxygen to all parts of your body.

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Developed by: Ontario Transfusion Coordinators (ONTAC), a blood conservation initiative by the Ministry of Health and Long Term Care of Ontario 01/01/12-05/2011, revised Feb 2013

www.ontariohealthcare.com
Patient Information

North Bay General Hospital
Blood Transfusion Information
Surgery Care Centre

Questions you may have about a Blood Transfusion:
The following common questions have been answered to help you understand the treatments you may receive and why they may help you.

What is a transfusion?
It is a blood product given to a patient through a needle. Many blood products are made by Canadian Blood Services from a person’s blood donated by volunteers across Canada. Common products are red cells, platelets and plasma.

Why are they needed?
Blood and blood products are given to patients who need them. Blood and its products are used to replace what has been lost because of sickness, surgery or injury. It is important to remember that getting blood products when they are needed can save a life.

What can be given?
- Red Blood Cells: carry oxygen from the lungs to the body’s main organs such as the heart. It may be needed to stop harm from a lack of oxygen. There is no other option available for blood if it is needed quickly.
- Platelets: blood cells needed for the body to form a blood thicken and avoid or stop bleeding at the site of injury. Platelets may be needed if the patient’s count is at a low level or if the platelets not working right.
Clinical Practice Guidelines and Resources
## Patient Care Manual

**PROCEDURE:** Adult Blood Transfusion: Red Blood Cells Leukocyte Reduced (RBC-LR), Washed Cells

### Developed by:
- Transfusion Services Laboratory and Transfusion Nurse Coordinator

### Review or Revision by:
- Professional Practice Laboratory Transfusion Services

#### Approval Date:
- Initial: April 2007
- Revised: September 2013

#### Review or Revision Date:
- Every 2 Years

#### Approved by:
- Robert Claybome, Director, Laboratory Services
- Rod Carroll, VP, Human Resources and Support Services

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**Disclaimer:** The information contained in this document is for educational purposes only. Any printed version of this document is only accurate up to the date of printing. Always refer to the Policies and Procedures Intranet site for the most current versions of documents in effect.

See Policies: 7-080, 7-090, 7-091, 3-090 Consent to Treatment,
- See Appendix A for Indications for special RBC after procedure
- See Appendix B for meaning of short forms used in procedure

### Purpose of Procedure:

To provide guidelines for the safe administration of Red Blood Cells (RBC-LR)

### Responsibility:

The Physician/Nurse Practitioner (NP) provides a written order for the administration of RBC-LR including:

- The quantity to be transfused
- The rate of infusion – in the absence of an order, infuse over 2 hours
- In Paediatric patients, the order will clearly indicate the precise volumes of blood/product to be infused
- Treatment of adverse reactions
- The use of a blood warming device or pressure infusion device, when required
**PHYSICIAN'S ORDERS**

**Transfusion – Adult Patient**
RBC/Platelets/Plasma/PCC

(See Form PR 5003 for Cryoprecipitate/Albumin/VI/IRhG/Other)

**DATE:** ______________ TIME (h): ______________ PATIENT IDENTIFICATION

**SIGNATURE OF NURSE**

<table>
<thead>
<tr>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
</table>

**COMPLETE ABOVE ALLERGY BOX AT TIME OF INITIAL ORDERS**

Physician Must Check Off Appropriate Orders

1. Admitting diagnosis/Procedure:

2. Patient location:

3. Date of transfusion: □ Today □ Urgent (within 2 hrs) □ STAT (within 30 minutes) □ Tomorrow during day time hours □ Other date (YYYY/MM/DD):

4. Informed consent completed by prescriber unless emergency treatment conditions exist

5. Irradiated blood required (see reverse for indications)
   Indication MUST be specified:
   - Specially matched blood required (see reverse for indications)
   Indication MUST be specified:

6. Red blood cells (RBC) (see reverse for guidelines): Hemoglobin (Hgb) _______ g/dL
   Transfuse _______ units, each over _______ (specify time)
   Reason □ Serious bleeding □ Symptomatic □ Low Hgb □ For discharge today

7. Platelets (4 units/pool) (see reverse for guidelines): platelet count _______ x 10^11
   Transfuse _______ pool(s), each over _______ (specify time)
   Reason □ Serious bleeding □ Procedure within 6 hours □ Prophylactic less than 10 x 10^11

8. Frozen plasma (see reverse for guidelines): INR
   Transfuse _______ units, each over _______ (specify time)
   Reason □ Serious bleeding □ Procedure within 6 hours □ Other:
   Reason for coagulopathy □ Liver disease □ Other:

9. Prothrombin complex concentrate (PCC) (Beriplex/Octaplex) (see reverse for guidelines): INR
   Transfuse _______ units at 150 mL/h
   Reason □ Serious bleeding □ Emergency procedure within 6 hours
   Reason for coagulopathy (check one): □ On warfarin □ Other:
   NOTE: Consider ordering vitamin K 10 mg IV for sustained reversal (PCC effect lasts 6 hours)

10. Medication Orders – FAX ORIGINAL TO PHARMACY
    Furosemide (choose one if patient at risk for fluid overload)
    _______ mg □ po prior to transfusion OR
    □ IV push over 1 - 2 minutes, prior to transfusion

11. Other medications:

12. Post transfusion bloodwork:

Physician's Signature: ____________________________
PRINT NAME: ____________________________

DISTRIBUTION: White Original - Chart Blue Copy - Blood Bank

TURN OVER FROM BOTTOM
NORTH BAY REGIONAL HEALTH CENTRE

Title: Prothrombin Complex Concentrate (Octaplex® or Beriplex® PIN)

Document No: NUR 1-6
Policy category: Clinical-Nursing
Effective date: May 24, 2012

Policy/Procedure
Protocol
Guideline

Developer: Chair, Nursing Practice Committee

Cross References (nbrhc or legacy organization policies)
- Health Care Consent Act (HCCA) and Substitute Decisions Act (SDA) NBGH ADM 3-220
- IV Therapy NBGH NP 1-60
- Down Time Process for Electronic Documentation ADM-6-5
- Administration of All Medications NBGH NP 1-10
- Exception Based Charting System Assessment and Intervention Parameters NUR 6-1

Comparable Policy from service provider within NBRHC Facility
Not applicable

NOTE: This is a CONTROLLED document for internal use only, any document appearing in a paper form should ALWAYS be checked against the online version prior to use.

Index

1.0 Purpose
2.0 Policy Statement
3.0 Minor Revision History
4.0 Definitions
5.0 Material Required
6.0 Procedure
6.1 Indications
6.2 Description Of Product
6.3 Preparation of Patient
6.4 Administration Procedure
7.0 Documentation
8.0 Appendices/Educational Materials
8.1 Appendix 1 – Procedure Images for Reconstitution
9.0 References
10.0 Content Experts/Stakeholders
11.0 Signing Authority Approval

Page 1 of 10
Patient Identification here

459763
NIGHTINGALE, Florence
1959 Oct 05

Patient Location: C8

Product: ☐ RBC ☐ PLT ☐ FP ☐ CRYO
☐ OTHER

Unit Number(s): C0653 111234567-A

SUNNYBROOK HEALTH SCIENCES CENTRE BLOOD AND TISSUE BANK

IN THE EVENT OF A SUSPECTED TRANSFUSION REACTION:
1. Stop the transfusion immediately
2. Notify the patient’s physician and the Blood Bank
3. Refer to the Blood Transfusion Policy and/or REACT for complete instructions.
4. Include Patient ID and implicated product numbers in attached space provided.
5. Document the patient’s pre and post vital signs:
   
<table>
<thead>
<tr>
<th></th>
<th>Pre</th>
<th>Post</th>
</tr>
</thead>
<tbody>
<tr>
<td>TEMPERATURE</td>
<td>36°C</td>
<td>39.2°C</td>
</tr>
<tr>
<td>PULSE</td>
<td>70</td>
<td>86</td>
</tr>
<tr>
<td>RESPIRATION</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>BP</td>
<td>112/76</td>
<td>156/92</td>
</tr>
</tbody>
</table>

6. Indicate the symptoms experienced by the patient:
   ☐ FEVER
   ☐ CHILLS
   ☐ BACKACHE
   ☐ NAUSEA/VOMITING
   ☐ HEADACHE
   ☐ DIFFUSE BLEEDING
   ☐ URTICARIA/HIVES
   ☐ RIGORS/SHAKING
   ☐ HEMOGLOBINURIA
   ☐ DYSPNEA/SOB
   ☐ HYPOTENSION
   ☐ HYPERTENSION
   ☐ OTHER:

7. TRANSFUSION START TIME: 12:20
   STOP TIME: 13:05

8. Reaction noted: Date 07 Jun 2012 Time 13:00

9. If required, complete a Blood Bank requisition (8005-2377) and draw 1 pink top tube (7ml EDTA) from the patient. Send to Blood Bank with the blood product(s), tubing and flush solution attached.

10. Information provided by: [Signature]
    [Name] RN
Blood & Tissue Bank

Click below for information on all products issued from the Blood & Tissue Bank:

Monographs - Blood & Tissue Products

Patient Information

Transport during Transfusion

Recommendations for Transfusion using Symbiq® IV Pump

Blood Conservation

Transfusion Guidelines

Reactions

Policies & Standards

Contact Us

Bloody News 6

Clinical Pathology - Integrated & Core Laboratories

Molecular Services

Announcements

bloody news

Posted: 26 September 2012
NEW Monographs
CMV Ig and Humate P® - Factor VIII/von Willebrand Factor
Other Recent News:
IVIG monograph - read more
Special Blood document - read more
Maximum Surgical Blood Order Schedule (MSBOS) - read more
When creating a new document...

- *Helpful to see what others have done*
  - especially in similar hospitals
- Validate that you are on the right track
- Pick and choose what applies to your setting
- Currently happens in a less formal manner
  - who to ask??
  - who do you know??
- Virtual networking
LOGISTICS
lo-gis-tics. noun: the things that must be done to plan and organize a complicated activity or event ...

- Location...
- Content from...
- Disclaimer
- Log-in (members only) or open to all
- Hospital restrictions on sharing of documents
- Cost ???

Summary
Questions for the Audience

1. Would you use a central repository of resources and information?
   a. YES
   b. NO
   c. Not sure

2. Would you be willing to share your transfusion resources?
   a. YES if members only section
   b. YES even if available to anyone
   c. NO
   d. Not sure

3. Should content be from Ontario only?
   a. YES
   b. NO
   c. Not sure

4. What is your hospital’s policy for sharing of documents?
   a. We are not permitted to share our documents
   b. There are some restrictions but we can share
   c. We are allowed to share freely with few or no restrictions
   d. Not sure

5. Would you be interested in participating in a working group if we move forward with this idea?
   a. YES absolutely!
   b. NO way
   c. Perhaps, given enough incentive …or arm twisting
In Summary
Proposing the development of a resource and information repository

- Content from any and all types of Ontario (?) hospitals
- Updated documents when new versions created
  - contact person for questions/clarification
  - reviewed regularly
- 2 way street - SHARING
  - use resources available
  - share your resources
- Volunteers
Thank you for your attention!

Questions ❓❓❓

Comments, Ideas?? 👍💡👎
Resource & Information Repository

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