The Role of the Transfusion Committee in a Transfusion Excellence Program:

Can Transfusion Practice Be Altered?

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Purpose - Regulatory compliance and quality operation

• Transfusion policies
• Transfusion guidelines
• Monitor practice/Peer review
• Blood availability
• Blood safety
Transfusion Committee

Composition:

• Transfusion Medicine

• Clinicians:
  • Surgery
  • Anesthesia
  • Hematology/oncology

• Hospital Administration: (Need support)
  • Safety/Risk Management
  • Performance Improvement
Continental Divide
Milner Pass  elev. 10,759 ft.

The “Great Divide” separates drainage to the Atlantic from drainage to the Pacific. It traverses America from Alaska almost to Cape Horn.

Atlantic Ocean drainage
Cache La Pondre Creek drains into the Platte River which flows to the Missouri, then to the Mississippi, thus reaching the Gulf of Mexico (part of the Atlantic Ocean).

Pacific Ocean drainage
Beaver Creek drains into the Colorado River, which then flows through Grand Canyon National Park and on to the Gulf of California. (A part of the Pacific Ocean.)
Formulating transfusion guidelines

- Set numeric criteria, “triggers,” for initial review, below which easy to justify
  - Not “indications” for transfusion
- Use evidence-based data where available
- Use consensus from expert panels
- Have a mechanism to look at exceptions and specific clinical situations

Try to apply objective measures and develop consistent policies
Monitor practice/ peer review

Regulatory requirements:
• Joint Commission on the Accreditation of Healthcare Organizations

Quality requirements:
• American Association of Blood Banks
• College of American Pathologists
Monitor practice/ peer review

- Review mechanism using institutional guidelines
- Feedback to physician as a means to educate and affect practice
- Monitor physician practice

*Does this ultimately alter behavior and practice?*
Why try to alter practice?

Blood as a resource:

- Decreasing donor pool
  - Demographics of donor populations
  - Donor testing/ product testing
  - Regulatory requirements

- Increasing need
  - Aging population
  - New therapies

- Cost
Why try to alter practice?

Safety:

- JCAHO – National Patient Safety Goals and Standards
- Infectious disease risks
  - Current risks; vCJD, Chagas disease
  - Emerging infections
- Immunologic risks – not just RBCs
  - Inflammatory mediators during cardiac surgery
  - Immune modulation
  - More isn’t always better
Outcomes related studies

By using and applying strict criteria, blood use can be reduced without compromising patient care
Attempts to reduce exposure

- Autologous programs, including salvage
- Restrictive transfusion guidelines
- Pharmacologic alternatives
- Reducing iatrogenic blood loss (especially in neonatal/pediatric patients)
- Transfusion reduction programs/ bloodless surgery programs
Methods to alter practice

- How do physicians make decisions about transfusion?
- What influences a physician’s decision to transfuse?
Keys to changing physician practice

- Venue of intervention: one on one
- Changes that are simple, safe and similar to current practice are easy
- Changes that decrease physician autonomy, reduce income, challenge judgment, or perceived to compromise patient care are difficult

Methods to alter practice

- Education
  - One on one
  - Group
  - Written

- Administrative interventions
  - Forms
  - Gatekeepers
  - Computers

- Combinations of the above
Assess

Influence of clinical knowledge, organizational content, and practice style on transfusion decision making


- Survey sent to assess MDs knowledge about risks and indications for RBC transfusion before study
- Learn how physicians make decisions to design an intervention
Assess – Salem-Schatz, et al.

- Attendings were influenced by colleagues input – 10% gave unnecessary transfusion once a month
- Residents – 68% said their practice varied, based on their attending
  - 77% changed their decision once a month
- Those with least knowledge had the most confidence
Conclusions:

• Gaps in knowledge
  • Older MD with lower scores may not have allowed new information to influence established practice
• More concern about risks of withholding transfusion than risks of transfusion
• Pressure for residents greater influence than their knowledge of the facts - teach attendings!
Education

A controlled trial of educational outreach to improve blood transfusion practice


“Brief, focused educational outreach visits by transfusion specialists can substantially improve the appropriateness and cost- effectiveness of blood product use in surgery. More data are needed regarding the durability of changes in practice patterns and the health and economic benefits of such interventions.”
**Education - Soumerai, et al.**

**Methods:**

- Randomized, controlled trial
- Changes in individual physician compliance with blood transfusion guidelines
- Educational intervention – face to face medical “detailing”
Results:

• Compliance with guidelines was better in study hospitals (P=.03); non-compliance was lower in study hospitals (P=.006)

• 74% study physicians reduced the proportion of non-compliant transfusions versus 35% of non-study physicians

• Average pre-transfusion hct was ↓ from 28.3% to 26.3 % in study surgical group
Improving blood transfusion practice: role of a computerized hospital information system


“These results demonstrated the efficacy of a computerized hospital information system in implementing continuous quality improvement for transfusion practice.”
Methods

• Criteria for transfusion set by committee and programmed into computer database

• Blood ordered and list of reasons displayed; if different from database
  • Message displayed; can use free text override
  • Free text use is reviewed by committee
The use of laboratory intervention to stem the flow of fresh-frozen plasma


“It was concluded that blood bankers can dramatically alter the use of this product using established methods for modifying physician ordering behavior.”
Initially, 30 min presentation of NIH guidelines, all medicine and surgery housestaff monthly

- Phase I: (3 months later) - ordering form
- Phase II: (4 months after Phase I)
  - Must have abnormal coagulation results
  - If normal or no coags, pathologist consulted
- 52% ↓ in FFP use (17% ↑ in RBC use)
- ↑ frequency of FFP use for patients with coagulation abnormalities
Use of retrospective audit in 5 hospitals to observe changes in RBC use in 10 months

- Hospitals varied in size, teaching affiliation, case mix, ownership – all had retrospective peer audit systems, 3 tiers (review criteria, chart review, peer review by committee)

- Decrease in 2 hospitals, but not significant

Education and Administrative

Problems with retrospective review:

• Untimely feedback
• Inaccurate identification of physician
• Blood still transfused – don’t prevent unnecessary transfusions
Prospective physician self-audit transfusion-monitoring system

- Transient ↓ in number of units transfused in study hospital, then returned to pre-study levels in the 3rd month
- Hawthorne effect not audit system

What do these studies show?

Positive outcomes

• Education can work
• Administrative intervention can work
• The two in combination can work (audits can equal education)

Caveats

• Effort – education time/ resource intensive
• Duration of effect

See references: Toy; Davis, JAMA 1995
Audit begins in blood bank

- Review of computer data against audit guidelines
  - Transfusion events
  - Relevant laboratory values
- Of those that don’t meet criteria, cases are set aside
- Apheresis nurses review medical chart
VCU Blood Utilization Committee

If nurses cannot justify the transfusion based on information in the chart

• Chart brought to BUC
• Review by “peer” physician committee member
August 1, 2006

John Doe, MD
VCU Medical College
P.O. Box 9999

RE: Doe, John

MRN: 9999999

Dear John Doe, MD:

According to our records, you were the attending physician caring for this patient. The Blood Utilization Committee routinely conducts chart reviews to assess transfusion practices in the VCU Health System. Based upon a review of the above patient’s medical record, questions have risen regarding the indications for transfusion of the following product(s):

Type of Component: Red Blood Cells

Transfused on: 9/9999999

As the attending physician, you may be aware of clinical circumstances necessitating transfusion that were not evident during the chart review. Thus, we are requesting your assistance in completing this review. On the attached sheet, please indicate your perspective regarding the need for transfusion based on the attached Transfusion Guidelines and the patient’s clinical condition. Note that the medical record is available upon request from the Department of Health Information Management, 3rd floor, Clinical Support Building. Please provide us with your response within 30 days. Without your timely response, we cannot determine whether the transfusion met these guidelines. Appropriate transfusion practice is an important component to achieving the high level of quality patient care we strive for at VCU and is critical in maintaining our accreditation. Failure to comply with accepted transfusion guidelines is taken very seriously. If you have questions or concerns regarding these transfusion guidelines or this letter, please feel free to contact us. If the patient was not under your care at the time of transfusion, please provide us with the name of the attending physician who treated the patient. If you are unable to identify the attending physician, this letter will be forwarded to the division chair of your department for assistance.

Thank you for your assistance.
August 1, 2006

John Doe, MD
VCU Medical Center
P.O. Box 999999

Patient Name: Doe, John
MRN: 9999999

Dear John Doe, MD:

The Blood Utilization Committee would like to thank you for your response to our letter dated 9/99/9999. In reviewing the above captioned medical record, the Blood Utilization Committee:

DETERMINED THAT THE TRANSFUSION DID NOT MEET THE GUIDELINES

Committee Findings: Patient had hgb 9.5 pre-transfusion. Was given 2 unit for lightheadedness and cardiac history, to keep hgb above 10. No data to support this policy. 2nd unit not justified.

If you have further information that you would like to submit regarding this patient and this transfusion, we would be pleased to hear from you.

Thank you for your assistance.
VCU Blood Utilization Committee

- Compliance
  Increased: 93.6% (2003) - 98.2% (present)
- Quarterly Blood Usage
  14-15K (2003) - 10.5-11K (present)

Courtesy of Bruce Spiess
“Blood transfusion is like marriage; it should not be entered into lightly, unadvisedly or wantonly, or more often than is absolutely necessary.”