

SURGERY WITHOUT ANEMIA OR TRANSFUSION

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WE ARE OPEN FOR BUSINESS

The WRHA—Perioperative Blood Conservation Program is now up and running, ready for business. Our staff are available to assist you in all your Blood Conservation needs:

- ✓ Dr. Brian Muirhead, Medical Director,
- ✓ Susan Kenny, Program Manager,
- ✓ Charity Reeves and Glenda Klein, Program Nurses and Esther Mark, Administrative Assistant.

Please contact us for information or referrals by phone at 787-1277, fax 787-4529, by email at emark@exchange.hsc.mb.ca, or you can stop in and see us in our office at RR409-810 Sherbrook Street from Mon-Fri 0730-1530hrs.

It has been a long road to get us to this point, but we are happy to announce we are now here.

WHAT IS THE WRHA PERIOPERATIVE BLOOD CONSERVATION PROGRAM?

On November 26, 1997, Health Minister Allan Rock, on behalf of the Federal government, released the final report of the Commission of Inquiry on the Blood System in Canada (Krever Commission).

Perioperative Blood Conservation programs were established across Canada based on the Commission's Recommendations (Health Canada).

The Manitoba program is located at the Health Sciences Centre in Winnipeg. It is the referral program for the Winnipeg Regional Health Authority (WRHA). The Health Sciences Centre is the major Trauma centre and referral centre for Manitoba, Eastern Saskatchewan, Northwestern Ontario and Nunavut. The HSC Perioperative Blood Conservation Program began in 2000.

Our program's goals are:

- ✓ To enhance patient care and patient satisfaction through education and the availability of blood alternatives
- ✓ To provide a process whereby patients are informed and appropriate alternatives are implemented
- ✓ To decrease the demand on the blood supply.

Patients that could benefit from the Perioperative Blood Conservation Program

Patients scheduled for elective surgical procedures which are associated with:

- ✓ High blood loss
- ✓ Staged procedures
- ✓ Anemic patients (hemoglobin < 130 g/L)
- ✓ Small patients (low body weight)
- ✓ Patients with a difficult cross-match or multiple anti-bodies
- ✓ Patients who refuse blood transfusion for any reason

Program Enrollment

Patients are enrolled into the program by their surgeon, their anesthetist, or patients may self-refer.

Why Choose Blood Conservation?

Studies have demonstrated that when you avoid a transfusion, you:

- ✓ Decrease the risk of infection
- ✓ Decrease the risk of transmitted diseases and viruses
- ✓ Avoid allergic reactions and complications
- ✓ Are more likely to spend fewer days in hospital
- ✓ Will have an overall better outcome
- ✓ Will avoid the immunosuppressive effects of transfusions

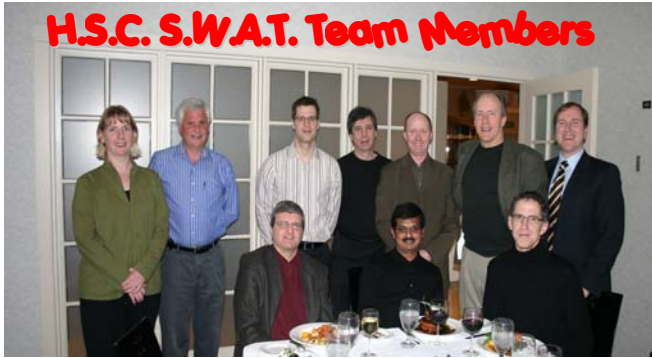
Perioperative Blood Conservation Programs



<http://www.pnbc>

PNBC is a non-profit organization, representing a group of volunteer health care professionals with common interests and goals in the areas of research and education as they pertain to blood conservation. The membership comprises physicians, nurses and other health care professionals representing multi-disciplinary practices from across Canada, in the fields of Anesthesiology, Surgery and Hematology, and related specialties.

H.S.C. S.W.A.T. Team Members



Back L-R: Esther Mark Administrative Assistant, Dr. B. Muirhead Medical Director, Dr. C. Haberman, Dr. R. Cappellani, Dr. E. Sutherland, Dr. D. Maguire, Dr. I. Sutton.
Front L-R: Dr. D. Paetkau, Dr. P. Govender, Dr. C. Baker.
Missing: Susan Kenny Program Manager, Dr. R. Amadeo, Dr. T. Mutter, Dr. S. Wolfe

FAQ's

Q. If I have been using emergency blood in a trauma, and the patient's crossmatched blood arrives, is it safe to use that blood, or do I re-crossmatch and continue with the emergency blood?

A. You convert to the patient's crossmatched blood as soon as it is available. Because all blood is leukocyte depleted, there is no opportunity for acute sensitization.



PRE-OP ANEMIA ALGORITHM FACTS AND INFORMATION

Included in this issue is a preoperative Anemia Algorithm. Preoperative anemia is an on-going problem in surgical patients. In Winnipeg, 50% of the Orthopedic patients have a sub-optimal hemoglobin (<130g/L); with a significant number being anemic. The most common cause of preoperative anemia is iron deficiency, followed by anemia of chronic disease and renal disease. Iatrogenic anemia from blood testing and procedures is a significant cause in the in-patient. When given sufficient time, many of these anemias can be corrected. The algorithm on p. 3 provides the basic work-up required for these patients. Correction of preoperative anemia has a huge effect on reducing perioperative transfusions.

Transfusion Practice Committee

"FAST FACTS"

EMERGENCY BLOOD

BEFORE transfusing **EMERGENCY BLOOD**, collect a specimen for crossmatch. Use **EMERGENCY BLOOD** type O Positive **EXCEPT:**

Females \leq 45 years of age; use O Negative
Males \leq 18 years of age; use O Negative

It is **SAFE** to switch to patient's crossmatched blood type as soon as it becomes available.



Tranexamic Acid in Orthopedic Surgery

There is good evidence that aprotinin and tranexamic acid (TEA), but not aminocaproic acid reduce blood loss in orthopedic surgery. Because of recent concerns over the adverse events associated with aprotinin, TEA is currently the antifibrinolytic of choice. Reduction of blood loss/erythrocyte transfusion is directly related to the dose of TEA. Dosages of >30mg/kg are associated with less transfusion. I would recommend a total dose of 50mg/kg for every four hours of orthopedic surgery. These surgeries would include complex back surgery and revision arthroplasty. There is no increase in venous thromboembolism with TEA when compared with placebo. There have been rare case reports of temporary visual changes including postoperative visual colour changes with TEA in complex back surgery. A good review article is available in *Anesthesiology V 105, No.5, Nov 2006*.

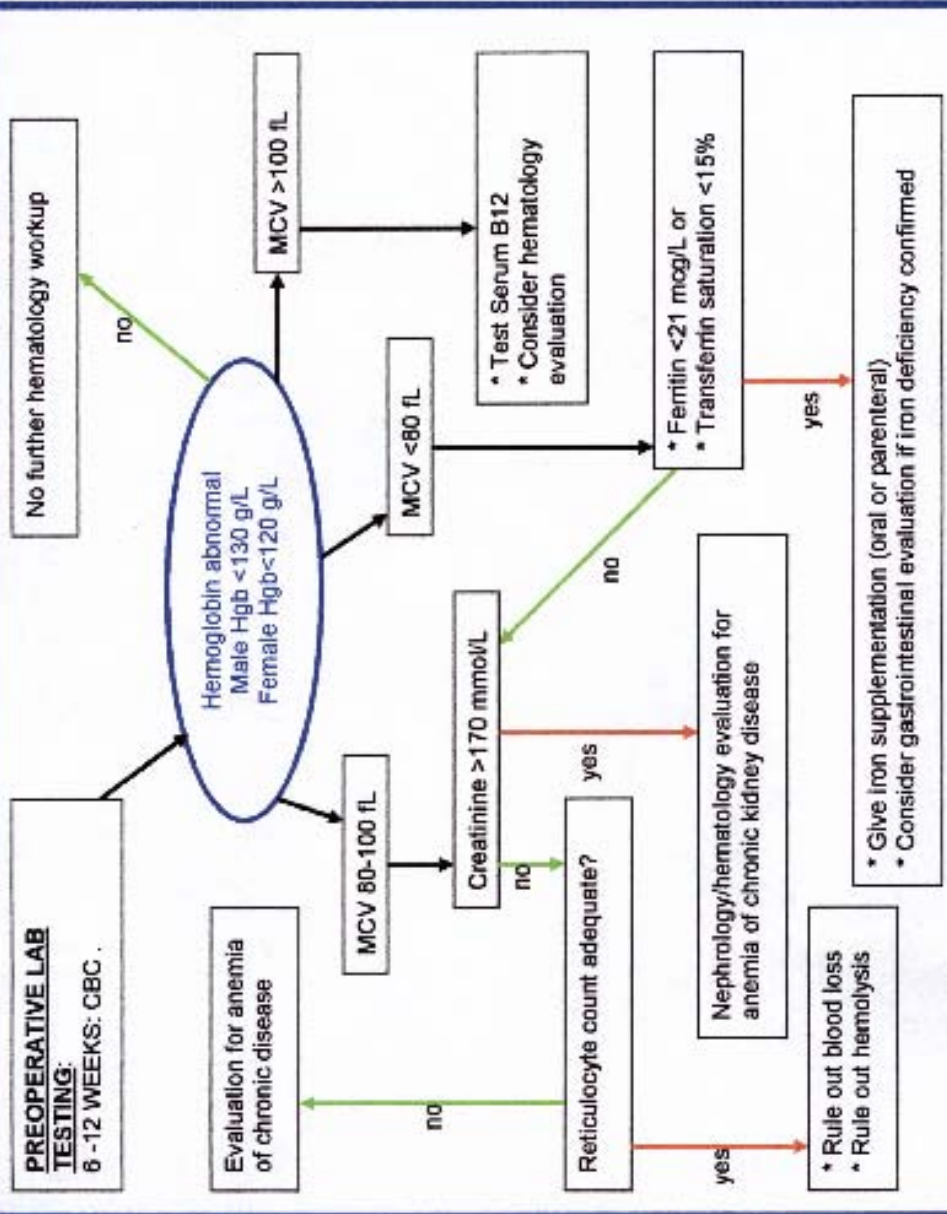
Dr. Brian Muirhead, Blood Conservation Medical Director

RECOMBINANT ACTNATED FACTOR VII

Recombinant activated factor VII is a coagulation factor product that is approved in Canada for the treatment of patients with inhibitors to coagulation factors VIII or IX. It has also been used off-label in the treatment of intracranial hemorrhage, as well as hemorrhage related to massive bleeding. However, clinical trial data to support it's off-label use has been lacking, and there have been increasing reports of thrombosis associated with use of the product. The National Advisory Committee on Blood and Blood Products have been working on a review of its 2003 guidelines regarding recombinant activated factor VII use (which will be available this spring). In short, the guidelines state that recombinant activated factor VII should not be used routinely, given the continued lack of clinical trial data and the increasing reports of thrombosis. In addition, preliminary reports from the pharmaceutical company report that recombinant activated factor VII is not effective in a phase III trial in intracranial hemorrhage. The findings will be presented at the American Society of Neurology meeting in early May.

*Catherine Moltzan
Medical Director, Transfusion Medicine
Diagnostic Services of Manitoba*

CLINICAL CARE PATHWAY FOR IDENTIFICATION AND EVALUATION OF ANEMIA IN ELECTIVE ADULT, SURGICAL PATIENTS



CONSIDER EARLY CONSULTATION TO BLOOD CONSERVATION FOR ASSISTANCE
Call 787-1277 or Fax 787-4529

ADULT RECOMMENDED DAILY INTAKE

Iron

>50 yrs	8mg
Female 18-50 yrs	18mg
Male 18-50	8mg
Pregnant Female	27mg
Folic Acid	40/mcg
B12	2.4mcg

COMMON IRON PREPARATIONS

Preparations	Elemental	Fe Content
Fe Fumarate	300mg/cap	99mg
Fe Gluconate	300mg	35mg
Fe Sulfate	300-325mg	60-65

Epoietin Alpha Dosage

▼ Epoietin Alpha 20,000 IU or 40,000 IU s.c. q7 days x 3

Days: -21 -14 -7 Day of Surgery

▼ Epoietin Alpha 10,000 IU s.c. OD x 10 days

Days: -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 Day of Surgery

Perioperative Epoietin Alpha is covered by Manitoba Pharmacare ONLY when prescribed by:

WRHA Perioperative Blood Conservation Program

Phone: 204-787-1277
Fax: 204-787-4529

Finding the Missing Links in the Vein to Vein Transfusion Chain

After several months of preparation, consultation and final approval the Audit Sub-Committee of the Diagnostic Services of Manitoba (DSM)/WRHA Transfusion Practice Committee (TPC) in January 2007 began a broadly defined audit focusing on the vein to vein process beginning at the request for blood/blood components sample collection to final blood/blood product disposition.

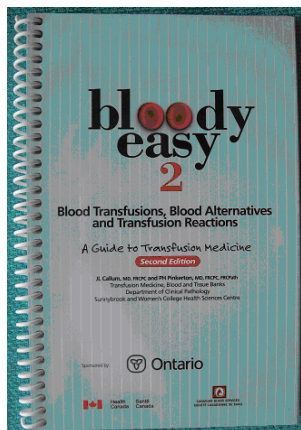
Wading into uncharted waters, the goal of the sub-committee was to capture a global snapshot of the entire transfusion process within the region and use the data collected to identify areas of need and improvement. Recognizing that "audit" is a scary word, the committee wished to be transparent in all aspects and stressed the audit focus was one of learning in order to improve transfusion medicine service and practice. The collaborative efforts prior to site visits with the nursing directors and managers were key in achieving the audit requirements for each site visit and were greatly appreciated.

At each of the seven facilities (HSC, SBGH, GGH, VGH, SOGH, CH, Cancer Care) approximately 5 randomly selected patient sample collections, 5 samples and blood/blood component receipts (into the hospital blood bank) and 5 blood and blood component administrations/infusions were audited.

The audit is now complete; results are being collated and will be submitted to the WRHA Transfusion Practice Committee. The TPC reports to the WRHA Medical Executive Committee so the final report will be submitted accordingly.

Submitted by: Theresa Wiwchar, DSM Technical Director, Transfusion Medicine

Congratulations on BloodyEasy 2 Certification:



Dr. B. Muirhead
 Dr. R. Amadeo
 Dr. S. Al-Otaibi
 Dr. M. Jan
 Dr. P. Mykytiuk
 Dr. M. Tsang
 Charity Reeves BN RN
 Glenda Klein RN
 Susan Kenny MSc RN

If you wish to be recognized for the completion of BloodyEasy 2. Please contact Esther Mark at 787-1277.

www.sunnybrookandwomens.on.ca

SPECIAL POINTS OF INTEREST:

- **BloodyEasy 2 "A Guide to Transfusion Medicine" is now available at our office for \$25.**
- **BloodyEasy 2 is a primer for the on-line certification course offered (cost \$20)**
- **Completion of BloodyEasy 2 is worth 12 CME credits**

Brian Muirhead, MD, FRCPC

- Assistant Professor, Dept. of Anesthesia University of Manitoba
- Medical Director, WRHA Perioperative Blood Conservation Program,
- Chair, WRHA Transfusion Practice Committee
- Manitoba Representative, National Advisory Council, Province/Territories/CBS
- National Chair, Physicians and Nurses For Blood Conversation



"Medical care certainly ain't what it used to be!"

Susan Kenny, MSc, RN

skenny@exchange.hsc.mb.ca

- Program Manager, WRHA Perioperative Blood Conservation
- Member, WRHA Transfusion Practice Committee
- Member, Physician's & Nurses for Blood Conservation
- Member, Society for Advancement of Blood Management
- Member of Writing Group:
- Manitoba Transfusion Quality Manual & Study Guide
- Manitoba Transfusion Reaction Manual & Study Guide
- Clinical Background: Bone Marrow Transplant, Oncology, Critical Care & Anesthesia Clinical Trials



We are on the web at :

www.hsc.mb.ca/perioperative

www.pnbc.ca

www.anemiainstitute.org

www.hc-sc.gc.ca/ahc-asc/activit/com/krever

www.transfusionontario.org

www.sabm.org

<http://www.cmaj.ca/cgi/content/full/156/11/DC1>