Obstetric Hemorrhage Toolkit 2.0: Engaging the Blood Bank

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Hospital characteristics

- Large academic centers
  - Dedicated, full-time Transfusion Medicine specialists
  - Fellowship trained
  - Active engagement with clinical counterparts
- Mid-sized hospitals, non-academic
  - Often general Clinical Pathologist oversees Chem, Heme, Coag, BB, etc
  - May have in depth Transfusion Medicine knowledge, may have training focused elsewhere
- Small, rural, community hospitals
  - May have 1 or 2 Pathologists running all of lab and Surgical Pathology
  - Rarely experts in Transfusion Medicine
  - Focus is generally on Clinical lab as a whole, and Surg Path

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How to engage

- If your hospital has:
  - Dedicated Transfusion Medicine specialist, discuss directly with that person
  - General Clinical Pathologist, may start with manager or supervisor of the BB
- Investigate, through the blood bank, the possibility of support from blood vendors
  - Many of the large blood collection centers include as part of their service, MD assistance in Transfusion Medicine issues
  - Support hospitals without a dedicated Transfusion Medicine Specialist
  - Assist in process improvement projects
  - Consult
  - Occasionally run Transfusion Committees

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Blood Centers of California

- For information on Blood Centers supplying your region go to: http://www.bloodcentersofcalifornia.org/
- Don't leave your blood bank out of the loop!

American Red Cross (Northern/Southern CA regions)
Blood Centers of the Pacific
BloodSource
Central California Blood Center
City of Hope National Medical Center
Delta Blood Bank
Houchin Community Blood Bank
LifeStream
Long Beach Memorial Medical Center Blood Bank
Northern California Community Blood Bank
UCLA Blood & Platelet Center
San Diego Blood Bank
Stanford Medical School Blood Center
United Blood Services

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Make a Plan

- Communication is KEY!
- Make a plan during the calm, discuss it and get agreement on procedures.
- CMQCC Hemorrhage Toolkit 2.0 is a great start
- Consider thawing plasma ahead if it is feasible (A's…… AB's?)
- Start plasma delivery as soon as possible

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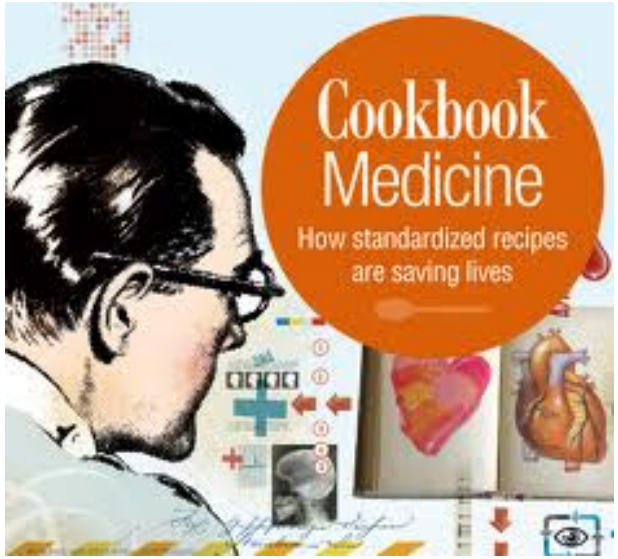
How to's:

- How to get started
  - — Start with your own service, how many massive transfusions are typical?
  - — Identify champions in critical areas (Trauma Surgery, OR, OB, ED)
    - MD participation is key, but involvement of RNs and other ancillary personnel is smart!
  - — Review literature, eNetwork Forum (www.cbbsweb.org) for protocols and look for best fit for your institution



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Massive Transfusion Protocol (MTP)

- Facilities
- Stock
- Notification
  - Telephone call?
  - Text page?
  - Overhead page?

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Facilities

- Distance may be a key factor
- Stat lab for quick TAT of critical labs?
- Logistics of stocking, maintaining and monitoring remote refrigerators/kiosks
  - Alternative would be runners – from which service?
  - Coolers: what type? How long to prepare?

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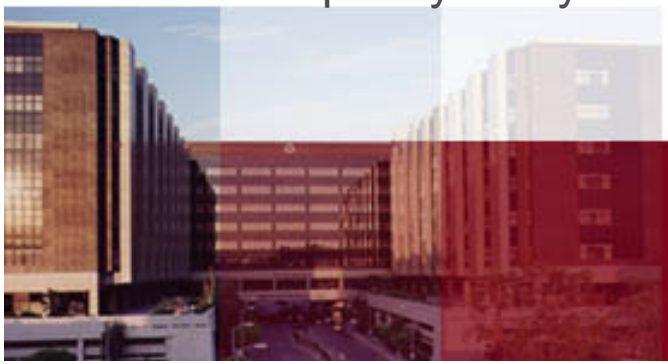
Stock

- O neg only? Will your inventory support it?
- O pos for males? (other hospital patients who may need massive transfusion)
  - If in satellite refrigerator or kiosk, how to make sure users understand which product to take (pink and blue shelves?)
  - If sent from the BB, SOPs can dictate what is sent out
- Plasma – AB? Will your inventory support it?
  - How many to keep thawed?
- For coolers, what will be your ratio?
  - Platelets?
  - Cryo?
- Restock (alarmed refrigerators?)
- Platelets, do you transfuse enough to keep on hand?
  - How quickly can you obtain them?



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How we do it at Cedars-Sinai

Role of the Physician
Surgeon/Anesthesiologist

- Initiates (verbal order) the MTE Protocol
- Documents use of uncrossmatched blood if necessary
- Signs Emergency Transfusion Request Form(s) (ETR)
- Terminates the MTE Protocol
- *Physician includes Fellows and Residents

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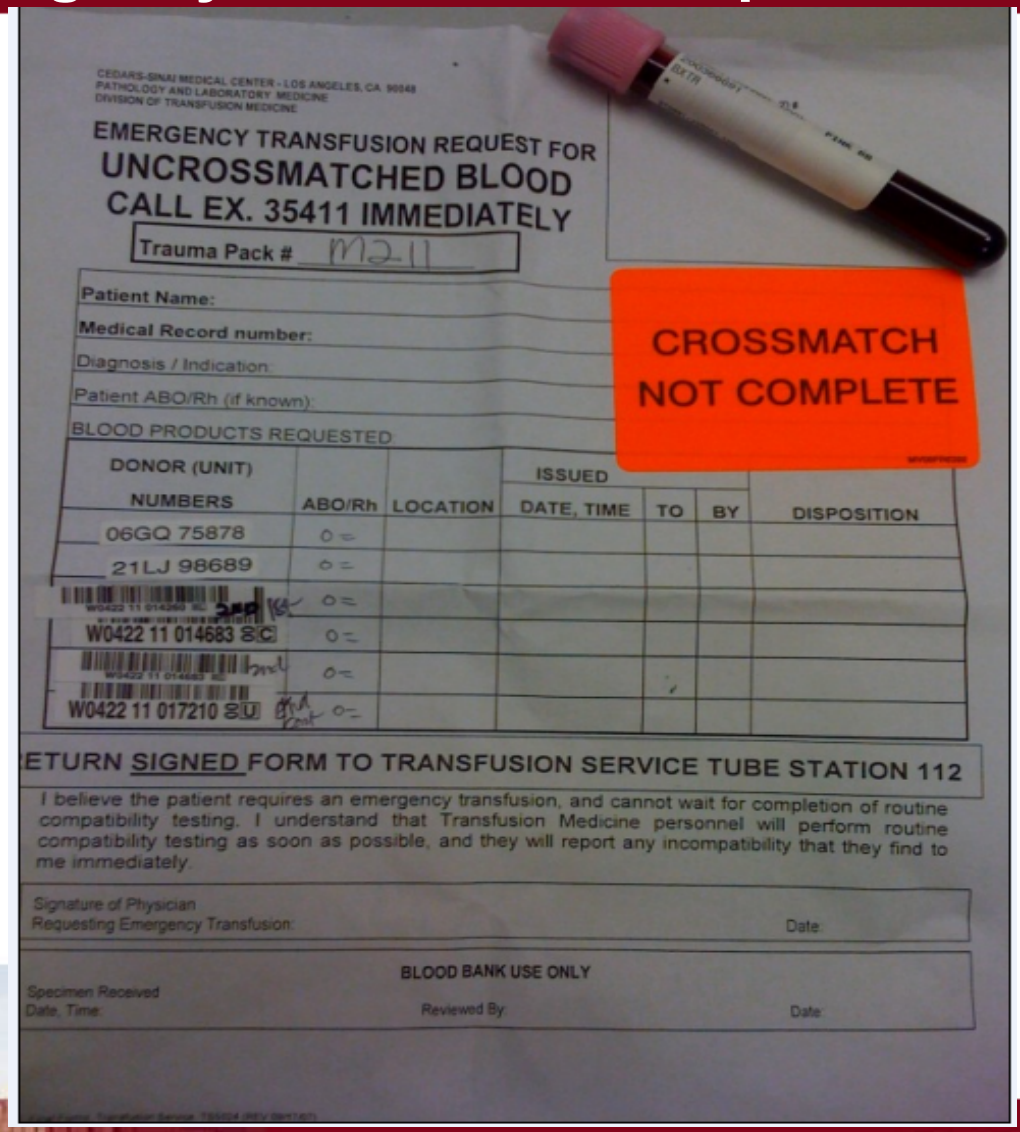
Emergency Transfusion Request Form (ETR)



CEDARS-SINAI MEDICAL CENTER - LOS ANGELES, CA 90048
PATHOLOGY AND LABORATORY MEDICINE
DIVISION OF TRANSFUSION MEDICINE

EMERGENCY TRANSFUSION REQUEST FOR
UNCROSSMATCHED BLOOD
CALL EX. 35411 IMMEDIATELY

Trauma Pack # M2-11

CROSSMATCH NOT COMPLETE

Patient Name:

Medical Record number:

Diagnosis / Indication:

Patient ABO/Rh (if known):

BLOOD PRODUCTS REQUESTED

DONOR (UNIT) NUMBERS	ABO/Rh	LOCATION	ISSUED DATE, TIME	TO	BY	DISPOSITION
06GQ 75878	O=					
21LJ 98689	O=					
W0422 11 014683 8C	O=					
W0422 11 017210 8U	O=					

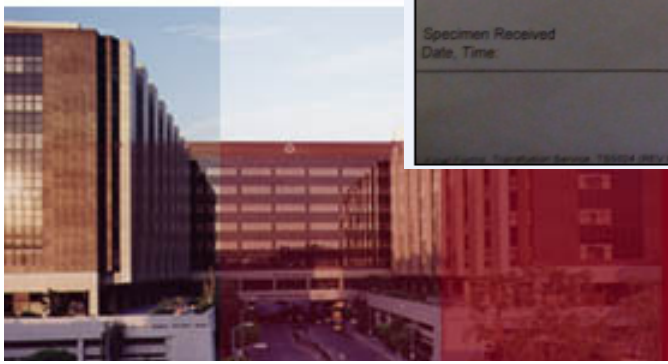
RETURN SIGNED FORM TO TRANSFUSION SERVICE TUBE STATION 112

I believe the patient requires an emergency transfusion, and cannot wait for completion of routine compatibility testing. I understand that Transfusion Medicine personnel will perform routine compatibility testing as soon as possible, and they will report any incompatibility that they find to me immediately.

Signature of Physician Requesting Emergency Transfusion: Date:

BLOOD BANK USE ONLY

Specimen Received Date, Time: Reviewed By: Date:



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Role of the Nurse

- **Call The Blood Bank: 35411**
- **This is ____ "I am activating the Massive Transfusion Protocol"**
- **RN provides the following information**:
  - **Patient Name and MRN#**
  - **Gender and Age (If Known)**
  - **Specific Unit/Location of the patient**
    - **ER, 5 OR, 5 Saperstein Room#, L&D (LDR, OR, PACU)**

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Role of Nurse in *Charge of the Event*

- Designates ***one person*** as Communicator with the Blood Bank
- If needed, sends 2 separate samples to the BB drawn at two different times
    - T&C Sample
    - Second Sample to confirm type
    - Calls Blood Bank for each cooler as required
- Terminates the MTE per Physician Order

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What do I get when I *activate* the MTE Protocol?

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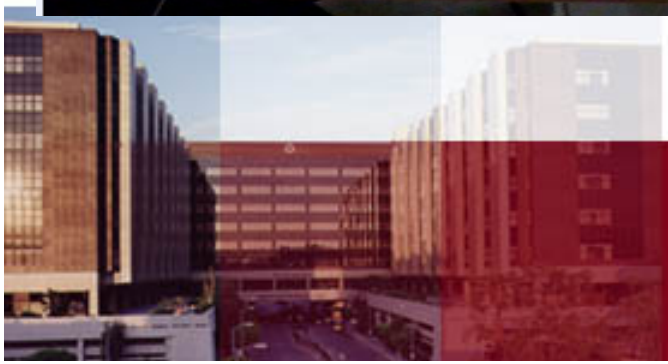
Cooler with 6 ONEG



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6 units of Plasma

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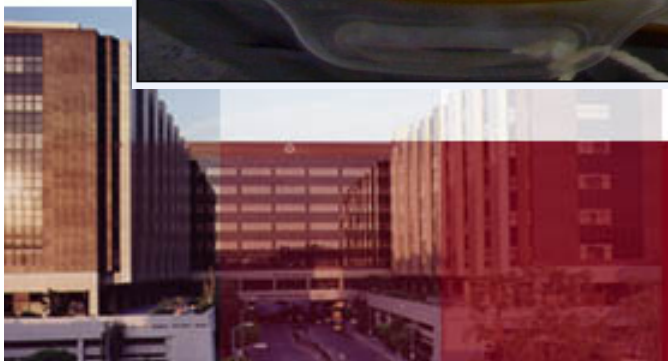
AB Plasma if ABO is not Known (No current Blood Type)



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Platelets (room Temperature)

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What is the Role of the Blood Bank?

- Delivers in separate coolers 6 units O RBC and 6 units of AB or type specific Plasma
- 1 unit platelets delivered (*not in cooler)*
- Keeps ahead 6 units each of RBC & Plasma
- Delivers additional uncrossmatched blood, plasma and platelets as requested at a 1:1 ratio
- Ensures X-match sample processed ASAP after O blood is released
- Notifies BB Medical Director after the 2nd Cooler of RBC is issued

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Transfusion Medicine Physician

- Contacts the treating team
  - Patient's Physician, Anesthesiologist and/or Surgeon, Fellow, Resident, etc…) to assist with ongoing transfusion needs when warranted

- Communicates with Blood Bank staff

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THAWED PLASMA?

- The Blood Bank Keeps “A”, “AB”, and “O” Plasma thawed at all times
- This may not be an option for the small community hospital.
  - Time to thaw is approximately 45 minutes

- If ABO & Rh is not determined when the MTP is initiated:
  - The Blood Bank will issue 6 AB Plasma
  - BB will continue to Thaw AB plasma until blood type is determined.
  - This may exhaust the supply of AB, possibly compromising other patients, early sample is highly recommended

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Pitfalls

- Sample (“I thought the ED sent it”)
- Improper/over-activation
- Poor communication
- Wastage of blood products

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Avoiding the Pitfalls

- Intensive in-services with all staff including MDs, housestaff, and nursing
  - This is where an MD champion is key, and nursing support is smart
- Post activation review of every MTP
  - Include all players as much as possible
  - Designate a note taker to capture what went well and what needs improvement
  - Mini-RCAs as needed for incidences that had potential for harm

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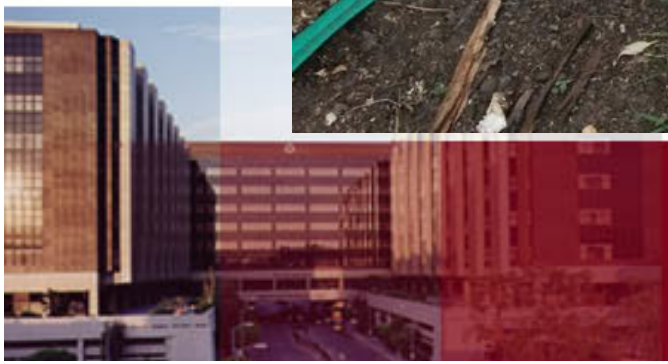
Questions?



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