UnityPoint Health Pekin
Department of Pathology
Pekin, IL 61554

Effective Date: 11/3/18
Date Reviewed/ Date Revised: 11/3/18

# IN VIVO CROSSMATCH

## I. PRINCIPLE

It is best to avoid transfusing patients who have warm autoimmune hemolytic anemia. If transfusion is essential, the smallest volume of RBCs necessary to maintain adequate oxygen transportation should be given. Serologically compatible blood may not be obtainable, and there is substantial risk that concomitant alloantibodies could cause a severe hemolytic transfusion reaction. The clinical need must justify the risk of transfusion. Needed transfusions should not be withheld because serologically compatible blood cannot be found. Clinical judgment must always be the deciding factor. If the clinician decides that risk of anemia outweighs the risk of transfusion then an in vivo crossmatch is to be done to minimize the risk of hemolytic transfusion reaction. The least incompatible blood is to be obtained from the Red Cross.

Anemia results in decreased oxygen carrying capacity. Depending on the clinical situation of the patient and the severity of anemia it may be necessary to transfuse an individual with autoimmune hemolytic anemia.

## II. POLICY

UnityPoint Health Pekin laboratory personnel will utilize this procedure for performing In Vivo crossmatches.

## III. SPECIMEN

A. Lavender EDTA tube.
B. Random urine

## IV. PROCEDURE

A. Notify a pathologist of the situation.
The pathologist will inform the doctor of the situation. If the decision is to transfuse the patient, the doctor must sign the consent form (UPPK BB-0531.01), provided by UPH Pekin Blood Bank. If the consent is by telephone, the person receiving the telephone consent must sign the form as well as the doctor at the soonest convenient time. Once the consent has been given by the attending physician, further transfusions, (even if on another admission) under the orders of that physician, do not need his consent, unless, it has been greater than 6 months since the previous in-vivo transfusion. The pathologist on call will still be notified so they have a heads up if the patient should have a reaction during the transfusion. The attending physician signature can be documented "See previous consent" on the consent for in-vivo transfusion. A copy of the consent form will be sent to Medical Records to be scanned into the patient's chart and the original will be filed in the UPH Pekin Blood Bank.

B. Fill out a Deviation of Standard Operating Procedure Form to be signed by the pathologist with each new admission. (UPPK BB-0531.03)
C. The floor or Outpatient transfusion nurse will be notified by the Blood Bank of the pending "in vivo" crossmatch and given an explanation of their part in it. Attach an IN VIVO CROSSMATCH INSTRUCTIONS TAG (UPPK BB-0531.04) to each incompatible unit that is to be transfused (in the same manner as the unit tag). Tags are located in the top Blood Bank drawer. There are also green, IN VIVO CROSSMATCH LABELS in the top drawer in Blood Bank to place on each crossmatch unit tag for an additional alert of the pending" in vivo" crossmatch.
D. When the floor is ready for the transfusion, the nurse will collect a urine sample for an occult blood baseline. (Urine is only needed before the first unit of each admission unless there is a transfusion reaction.)
E. Dip urine for blood and record results on the In-Vivo Crossmatch form. (UPPK BB-0531.02) Release blood to floor.
F. After the first 50 ml is infused, the transfusion is to be stopped for 30 minutes and then an EDTA (lavender) tube drawn and brought to the lab. Centrifuge tube and observe for hemolysis. If there is any sign of VISIBLE hemolysis in the blood, check with the phlebotomist to see if it was a difficult collection or if it was collected from a port or an IV. If so, have the sample recollected, centrifuged, and checked again for hemolysis. If hemolysis is still present, NOTIFY THE MEDICAL DIRECTOR OR THE PATHOLOGIST ON-CALL. If there is no change from the pre-infusion specimen, call the nurse and tell her to continue with infusion. Record your results on the In-Vivo Crossmatch form.
G. This procedure will be followed for each unit transfused. There will need to be an EDTA tube collected before each additional unit is started for a pre-infusion hemolysis check plus another EDTA for the 50ml hemolysis check. Compare each EDTA sample with the initial specimen.

## V. REPORTING RESULTS

A. Add on ; PRSA(Pre-transfusion Appearance) and ; PTSA(Post-transfusion Appearance-after 50ml infused sample) testing, in Sunquest-Blood Order Processing, to any unit on a Type and Screen that is to be transfused following the In Vivo procedure. Result whether hemolysis is positive or negative for each specimen. Use the N button for negative and P button for positive. (See UPPK BB-0531.05)
B. Add on to the patient's type and screen in BOP a Blood Bank Comment (;BBC), and free text in the results of the urine dipstick for blood. Remember to hit ;; first to enter free text mode. (See UPPK BB-0531.05)
C. If testing was performed at ARC, allocate the unit(s), hit the 7 key for "not done" in the XIS field. Interpret results as LCMP (L KEY) if ARC sent a least incompatible unit. Then go to "Add unit test" and add on a crossmatch comment (;CM), tab. Once it is ordered, free text in the comment (hit ; twice), that the unit was incompatible at ARC. This will print off on the crossmatch tag as a comment.

C. Print results entered in the computer and give to the Pathologists, along with the In-Vivo crossmatch form (UPPK-0531.02), to review.

## VI. REFERENCES

A. AABB Technical Manual, 19th Edition, American Association of Blood Banks, Bethesda, MD, 2017.

| POLICY CREATION : | Date |
|---|---|
| Author: Sharrol Brisbin, MT (ASCP) | 03/01/2002 |
| Medical Director: Kathryn Kramer, M.D. | 03/01/2002 |

| MEDICAL DIRECTOR | | |
|---|---|---|
| DATE | NAME | SIGNATURE |
| 11-3-18 | Kathryn O. Kramer MD | |
| SECTION MEDICAL DIRECTOR | | |
| | | |
| | | |
| | | |

| REVISION HISTORY (began tracking 2011) | | | |
|---|---|---|---|
| Rev | Description of Change | Author | Effective Date |
| | | | |
| | | | |
| | | | |

Reviewed by:

| Lead | Date | Coordinator/ Manager | Date | Medical Director | Date |
|---|---|---|---|---|---|
| Jennifer Jones | 11-12-18 | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |