News From Transfusion Services
by Marilyn Hamilton, MD, PhD

Transfusion In 2002

1. 9078 units of product were transfused. This is a 42% increase over the past 5 years.
2. There were 26 (0.3%) transfusion reactions.
3. 133 (1.5%) units were wasted.
4. Utilization was reviewed in 1707 cases and 15 times the transfusion did not meet the CMH audit criteria.
5. There were 137 Incident Reports and 46% (63 incidences) were linked to improper use of the Hollister system. Of that 46%, the most common error was failure to put date, time and initials on the specimen tube.
6. There were 11 reports to the FDA for products that reached the patient labeled incorrectly or were otherwise issued outside our procedures (example: not leukoreduced). There were no patients harmed.
7. The Cell Saver was used for intraoperative blood salvage 27 times without any reactions and reinfusion of 120-4994 cc of autologous blood.

Platelet Pheresis Units, Red Blood Cells and RhIg

Platelets have ABO antigens on their surface but do not have Rh (D) antigens. Exposure to Rh antigens by platelet transfusion is through RBC contamination of the platelets. Ideally, D neg. patients should receive platelets from D neg. donors, but this is not always possible. The number of RBCs in platelets varies considerably depending on how the platelets are collected. Platelet concentrates prepared from whole blood (random donors) contain 0.3-0.5 cc RBC in ~50cc of platelets, according to an article in The Transfusion journal. Platelets collected by the plateletpheresis method (single donors) contain 0.0002 – 0.007 cc RBC in ~300 cc of platelets. Quality Control data provided by the Community Blood Center shows their plateletpheresis RBC contamination falls within these numbers.

At St. Jude’s Children’s Research Hospital Rh pos. plateletpheresis are routinely administered to Rh neg. patients without RhIg immunoprophylaxis. In a retrospective study, 35 non-transplant Rh neg. patients received 490 Rh pos. plateletpheresis transfusions without development of anti-D. Additionally, 7 bone marrow transplant patients received 255 transfusions with a good outcome. Follow-up ranged from 2 weeks to 5 years. Conditions were such that Rh immunization should have occurred if it was going to: 79% of these transfusions were ABO matched; almost two thirds of the patients received 6 or more exposures to Rh pos. plateletpheresis of which half were given more then 90 days apart and could elicit an amnestic response.

At this time, the Transfusion Services laboratory notifies a clinician if it is necessary to give Rh pos. platelets to an Rh neg. patient so that the clinician can have the opportunity to give prophylactic RhIg if they so desire. In the near future, this will be discontinued if the platelets are pheresis platelets. A phone call will still be made if the platelets are random donor platelets where the red blood cell contamination is more significant.
News From Central Processing
by Marilyn Hamilton, MD, PhD

Specimens, Specimens, Specimens

Central Processing is the area of the laboratory, which is responsible for receiving all orders and all specimens; and for matching them up so that the right test is done on the right specimen for the right patient. Central Processing receives > 1000 specimens per day and most of these specimens require multiple tests. When an order is placed, a label, which lists all the tests requested for a specimen, prints in Central Processing. These labels are filed alphabetically. When the specimen arrives, the label and specimen are matched up and the specimen is delivered to the appropriate area of the laboratory for testing. Unfortunately, Central Processing receives many specimens without orders and this can result in unnecessary errors. No testing can be performed until the lab receives both an order and a specimen. If an order does not come, Central Processing will try to call the sending department to request an order. A primary concern is that some tests require immediate processing or special handling, such as refrigeration. If we do not have the order we will not know how to process it. In addition, there is very limited space to store specimens waiting for an order to arrive. This increases the risk of specimens being misplaced. For the best care of the patient:

1. Collect the specimen
2. Place the order in the computer
3. Send the specimen to the lab

Specimens for Flu Testing

There has been a lot of confusion about specimens for Flu testing. The bottom line is that a nasal aspirate specimen is best. Rapid tests and cultures can be performed on many specimens but the quality of the result will vary.

CMH uses the Becton Dickinson rapid test for Flu A/B. The package insert, which generally presents the best data, lists the following sensitivities:

<table>
<thead>
<tr>
<th>Specimens</th>
<th>Sensitivity</th>
</tr>
</thead>
<tbody>
<tr>
<td>NP Aspirate</td>
<td>96</td>
</tr>
<tr>
<td>NP Wash/ High NP Swab</td>
<td>89</td>
</tr>
<tr>
<td>Throat/Lower NP Swab</td>
<td>77</td>
</tr>
</tbody>
</table>

Published data suggests that the sensitivity of throat swabs may be as low as 30% for Flu A. If a NP swab is used, use a Dacron polyester or rayon on an aluminum wire. This allows you to the thread the swab beyond the lower turbinate (way up high). Calcium alginate swabs are not acceptable. A nasal aspirate is far more comfortable for the child. The laboratory does not have data on the sensitivity of gargles. If a gargle is to be submitted it must be a true gargle, not a mouth rinse. Use the Flu media. Do not use the viral transport media, which has glass beads and antibiotics in it.

Laboratory CME Series
Tuesday, February 18, 2003
12:00 p.m.-1:00 p.m.
Location: Laboratory Conference Room #2206.10
Speaker: Kathleen Kramer from Roche Diagnostics
Topic: “Real Time PCR”