



# Life Blood Issue II

Dear Lifeblood Reader

2010, our 72nd year as a community orientated voluntary blood service promises to be eventful for WPBTS. We are committed to maintaining an adequate blood supply during the FIFA 2010 world cup soccer tournament. Sufficient additional collections for April and May have been scheduled to build up stocks. Constant haemovigilance and striving to achieve 100% risk free transfusions remains a priority from the “vein of the donor to the vein of the recipient”. In order to minimize morbidity and mortality due to misdirected transfusions, clinicians and ward staff are urged to continue reporting labelling errors and suspected transfusion reactions promptly through the completion of the transfusion reaction form either obtainable from the wards or Blood Bank.

Lifeblood wishes Mrs Karen Dramat and Mrs Delizia Montgomery success and prosperity in their new roles as Blood Bank Manager and Tygerberg Blood Bank Supervisor, respectively. Mrs Dramat can be reached at telephone 021 5076389 and Mrs Montgomery at 021 9318082. In this issue we’ve included a review of the recent 31st SA National Blood Transfusion Congress, WPBTS blood return policy, the benefits of Column Agglutination Technology as well as the clinical indications for the use of anti-D immunoglobulin. An overview of the clinical indications for gamma-irradiated products as well as the Reference Laboratory Analyser and its uses is also included. We will ensure continuous education of clinicians and interaction between hospital staff and WPBTS during 2010 through talks/ presentations. Please contact the Marketing Officer on telephone 021 5076326, cell 083 4543455 or e-mail [marketing@wpbts.org.za](mailto:marketing@wpbts.org.za) should you wish to make suggestions for topics.

Juanita Makan  
Medical Officer, WPBTS

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## Review of the 31st SA National Blood Transfusion Congress

The 31st SA National Blood Transfusion Congress which was held at the Birchwood Hotel and OR Tambo Conference Centre on 15-18 November 2009 was a huge success. Delegates comprised of key industry leaders and transfusion practitioners from both local and abroad. The theme of the conference was Sustainable Safe Blood | Mastering Change.

Fifty-seven papers were presented by fifty-one delegates within the field of blood transfusion. These included a wide range of topics such as the challenges faced by blood transfusion services in ensuring adequacy and safety of blood supply in South Africa; massive blood transfusion in critically ill patients, ethical challenges faced by clinicians dealing with blood transfusion in the clinical setting, HIV cytopenia and blood transfusion, blood donation frequency and associated iron deficiency, risk management strategies in improving the safety of blood supply, pathogen reduction.

Delegates had the opportunity to showcase their original research and development work thereby keeping trend with latest developments in this ever advancing field and networking with others in the field.

Mrs M.Kelly, WPBTS Haematology Laboratory Supervisor had this to say when asked "Besides the wonderful social events what was the highlight of the Congress for you?" she replied, "The interaction between not only the staff which is very important to me but other delegates from other centers. I think that the team singing made a good start to the congress."

To view the congress picture gallery [click here](#).

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## Blood Donor Clinic Schedule

The internet has allowed us to have instant access to information with the mere click of a button. For those wanting to find out more about blood donation or where to donate, this needs to be no different. Once logged onto the website ([www.wpblood.org.za](http://www.wpblood.org.za)) click onto 'Donors', scroll down to 'Clinic Schedule' and search for a blood donation clinic by simply stipulating a specific date or area. The details given are relevant for the specific month in which the search is done. Although details change regularly, the Service tries to ensure that those stipulated on the website are current and relevant. The site is also an excellent platform for answering any questions about the blood donation process, how blood is tested to ensure a safe end product, and what the donor questionnaire is all about. Donors can also register online, update details and submit enquiries. The Service is looking forward to launching its brand new and improved website in May 2010.

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## WPBTS Blood Return Policy

In order to conserve the blood supply the WPBTS accepts returns on certain products if they comply with the criteria laid out in the WPBTS Blood Return Policy as outlined below.

- WPBTS Blood Return Policy acceptance criteria:
- Temperature of the unit is between 2 °C and 10 °C.
  - The unit is still tied to the hamper.
  - The unit is returned within 24 hours.
  - The hermetic seal is unbroken.

Please contact your local Blood Bank should you have inquires regarding the return of unused products.



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## Column Agglutination Technology



Revised from Congress paper:

Column Agglutination Technology (CAT) vs Tube Technology  
WPBTS leading the way in Sub-Saharan Africa

Author: Mrs K. Dramat, WPBTS Blood Bank Manager

At WPBTS, the introduction of automated Column Agglutination Technology (CAT) in 2006 which has replaced the conventional Tube Technology has proved beneficial in not only having a positive impact on the working environment at the WPBTS Blood Banks but also the increased sensitivity of CAT is evident in all aspects of transfusion testing. CAT incorporates an AHG medium compatibility test and antibody detection method and thereby reduces the amount of problem cross-matches significantly. In general, test results obtained by CAT using the same sample, was graded higher than a similar test performed by tube method.

Additional advantages of using CAT technology at WPBTS is a decrease in the significance of staff errors, standardised procedures provide reproducibility and objectivity, the increased sensitivity of this system results in definitive blood groups being obtained, allows WPBTS to deal with increased workload and is less labour-intensive.

## Clinical Indications for the Use of Human anti-D (Rh<sub>0</sub>) Immunoglobulin for Injection

In order to assist with the usage of Human anti-D (Rh<sub>0</sub>) Immunoglobulin for Injection please find the clinical indications and contra-indications below as taken from the product package insert. Please bear in mind this is a scarce resource and therefore prudent usage is encouraged.

Indications for the use of Human anti-D (Rh <sub>0</sub> ) Immunoglobulin for Injection Pregnancy associated conditions:	Recommended Dosage
1. Rhesugam IM is indicated for antenatal prophylaxis when a Rh <sub>0</sub> -negative mother is known to be carrying a Rh <sub>0</sub> -positive child or if the Rh <sub>0</sub> status of the fetus is unknown. It is specifically recommended after the following potentially sensitising events: <ul style="list-style-type: none"> <li>• Amniocentesis</li> <li>• Antepartum haemorrhage</li> <li>• Abdominal trauma</li> <li>• External cephalic version</li> <li>• Ectopic pregnancy</li> <li>• Chorionic villus sampling</li> <li>• Stillbirth</li> <li>• Fetal blood sampling.</li> </ul>	500 IU (100 µg) is given at 28 and/or 34 weeks gestation. If the infant is Rh <sub>0</sub> -positive, a similar or higher dose should be administered after delivery.



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Indications for the use of Human anti-D (Rh <sub>0</sub> ) Immunoglobulin for Injection Pregnancy associated conditions:	Recommended Dosage
<p>2. Rhesugam IM should be given to all Rh<sub>0</sub>-negative women after:</p> <ul style="list-style-type: none"> <li>• Therapeutic abortions.</li> <li>• Spontaneous abortions, after 12 weeks gestation and especially if there is surgical intervention.</li> <li>• Early spontaneous abortions (first trimester). Sensitisation can occur as early as eight weeks gestation.</li> <li>• Threatened abortions after 12 weeks gestation.</li> <li>• Induced abortions (Termination of pregnancy).</li> </ul>	<p>250 IU (50 µg) is recommended for events up to 20 weeks. For events occurring after 20 weeks, a dose of 500 IU ((100 µg) is recommended.</p>
<p>3. Rhesugam IM is essential after <b>every</b> delivery involving a Rh<sub>0</sub>-negative mother and a Rh<sub>0</sub>-positive child, provided that there is no evidence of prior maternal sensitisation to the Rh<sub>0</sub> (D) erythrocyte antigen. If the Rh<sub>0</sub> type of the neonate cannot be determined, this preparation should still be administered to the mother. If antipartum anti-D (Rh<sub>0</sub>) immunoglobulin has been given, an additional post-partum dose is also necessary. Rh<sub>0</sub>-negative women with blood group antibodies other than anti-D should still be treated with this preparation.</p>	<p>500 IU (100 µg) is recommended.</p>
Indications for the use of Human anti-D (Rh <sub>0</sub> ) Immunoglobulin for Injection Non-pregnancy associated conditions:	Recommended Dosage
<p>4. Although the transfusion of Rh<sub>0</sub>-negative individuals with Rh<sub>0</sub>-positive red cell concentrate, whole blood and platelets should be avoided wherever possible, anti-D (Rh<sub>0</sub>) immunoglobulin may also be given in this instance. It is particularly important after transfusion of a Rh<sub>0</sub>-negative woman of child-bearing age with Rh<sub>0</sub>-positive red blood cells, whole blood or platelets.</p>	<p>The dose is estimated to clear the estimated quantity of red cells given – 125 IU (25 µg) for each 1 ml of red cells.</p>
<p>5. Transfusion of Rh<sub>0</sub>-positive platelets in Rh<sub>0</sub>-negative women of child-bearing age.</p>	<p>250 IU (50 µg) for each dose of platelets (i.e. 5-6 units). If more than 10 units are used, administer 500 IU (100 µg).</p>

## Contra-indications

Rhesugam IM should not be given to:

- The baby
- The Rh<sub>0</sub>-positive mother
- The Rh<sub>0</sub>-negative mother who has given birth to a known Rh<sub>0</sub>-negative baby.
- A Rh<sub>0</sub>-negative mother with previous sensitisation to the Rh<sub>0</sub> (D) erythrocyte antigen.

Intramuscular injections are not advocated for patients with bleeding disorders.

The risk-benefit ratio in patients with a history of immunoglobulin A (IgA) deficiency or severe anaphylactic reactions to plasma products should be considered.

Women who have weak expression of the RhD blood group (D<sup>U</sup>) do not form anti-D and do not therefore require prophylaxis with Rhesugam IM.



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## WPBTS Gamma-Irradiated Blood Products

At WPBTS, the gamma-irradiation of blood/blood products is performed centrally at the Red Cross Children's War Memorial Hospital Blood Bank utilising the state of the art Gammacell 1000 Elite Irradiator which utilises multiple microprocessor-based control systems to ensure each unit of blood/blood product receives the required dose. The fully irradiated blood/blood products are then transported to the requesting Blood Bank to be issued within the stipulated blood ordering schedule.

For more information contact the WPBTS Red Cross Children's War Memorial Hospital Blood Bank by telephone on 021 6891118 or 021 6899273. Alternately, please contact your nearest Blood Bank.

### Clinical Guidelines for the use of Gamma-Irradiated Blood Products

- ✓ All transfusions from blood relatives.
- ✓ All HLA matched platelet concentrates.
- ✓ Intra-uterine transfusion (IUT).
- ✓ Exchange transfusion (ET) following IUT.
- ✓ Recommended for all exchange transfusions provided this does not lead to undue delay of the ET.
- ✓ Congenital immunodeficiency states (In some centres all blood for neonates is irradiated to avoid missing a congenital immunodeficiency)
- ✓ All recipients of allogeneic bone marrow transplants (BMT) or peripheral blood stem cell transplants from the time of initiation of conditioning chemo/radiotherapy. This continues while patient is on GVHD prophylaxis or lymphocytes  $> 1 \times 10^9/L$ .
- ✓ Patients undergoing stem cell harvesting for later autologous re-infusion.
- ✓ All patients with Hodgkins Disease.
- ✓ Patients treated with purine analogue drugs.

Blood may be irradiated at any time up to 14 days after collection and thereafter stored for a further 14 days after irradiation. Where there is a particular risk from hyperkalaemia (IUT, ET), it is recommended that red cells (usually whole blood in these cases) be transfused within 24 hours of irradiation.

## Reference Laboratory Analyzer



### WADiana® Compact Analyzer

The WADiana® CompactAnalyzer utilises gel cards for blood typing and pre-transfusion testing. It is a fully integrated system and provides flexibility in reagent usage, optimal cost-efficiency and the implementation of hemovigilance tools.

The WADiana® Compact analyzer is used by the Reference Laboratory to perform:

- Antibody screen and identification for patients
- Confirmation of discrepant ABO and Rh for patients
- Resolving ABO and Rh problems on certain donor samples

Other tests performed by the WPBTS Reference Laboratory:

- Transfusion reaction investigation (Reactions to all blood products are tested).
- Post natal antibody identification.
- Antenatal tests for private pathology labs.
- Co-ordination of SCARF (Serum, cells & rare Fluids) international exchange
- 3 Monthly Neqas international proficiency tests

In 2009 the WPBTS Reference laboratory performed:

- 3087 antibody identification investigations
- 198 transfusion reaction investigations
- 646 discrepant blood group investigations