Life Blood

Issue 26

14 July 2016

Dear Life Blood Reader,

We trust that you are keeping warm in the grip of winter.

In this edition we acknowledge blood donors for World Blood Donor Day, provide information about our products and services, describe our blood stock management system, provide the latest national haemovigilance report, and give feedback from the 8th International Africa Society for Blood Transfusion (AfSBT) Congress. As our valued customer, we encourage you to participate in our annual customer satisfaction survey as your feedback is very important to us.

Dr Caroline Hilton will be taking maternity leave until mid-November and we wish her well for the birth of her baby. In her absence, our CEO/Medical Director, Dr Greg Bellairs, will deal with your transfusion-related enquiries. Dr Bellairs can be reached by telephone (021 507 6319 or 083 259 2119) and email (greg@wpbts.org.za).

Please feel free to contact us with your comments and queries.

Regards,
Hayley Alie, **Marketing Officer**
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World Blood Donor Day

The 14th of June is celebrated as World Blood Donor Day (WBDD) in acknowledgement of those heroes who donate their blood without any reward. It marks the birthday of Karl Landsteiner, the Nobel Prize winner who discovered the ABO blood group system. This year's theme "Blood connects us all" highlights the unique relationship between blood donors and patients through the stories of those whose lives have been saved through blood donation.

In recognition of South African blood donors and to create awareness of the importance of blood donation, Table Mountain, Cape Town's biggest landmark, was lit up in red from 05h00 until 07h00 and from 19h00 until 22h00 on WBDD. WPBTS staff also showed donors just how much we appreciate them by braving the winter chill to partake in the WPBTS flash mob.

South African National Haemovigilance Report 2014

The Blood Services in South Africa participate in a formal haemovigilance programme whereby information is gathered from reports on adverse events associated with blood transfusion and blood donation safety. The data is analysed and the results distributed through the annual haemovigilance report that aims to convey critical aspects for improvement by both the Blood Service and hospitals.

Downloadable SA National Haemovigilance Report (2014).

Pathogen Reduction – Progress Report

We have completed our final evaluation reports for the Cerus Intercept Pathogen Inactivation Blood System and the Terumo Mirasol Pathogen Reduction Technology for processing both random donor platelets and single donor apheresis platelets, focussing on processing feasibility and platelet quality. The South African National Blood Service is undertaking its evaluation of both systems before the final review by both Blood Services and decision whether to implement pathogen reduction technology within South Africa.

WPBTS Customer Satisfaction Survey

The WPBTS is conducting its annual customer satisfaction survey for blood users to see how we can better serve you. It would be appreciated if you could please complete the questionnaire, by indicating your degree of agreement/disagreement with the statements below, and return it to the Blood Bank or WPBTS Marketing Officer before 29th July 2016. Alternatively, feel free to complete the online survey or send us your name and mobile number should you wish to receive the mobile-based survey.

Hospital Name (Compulsory):						
	Statement	1 Strongly Disagree	2 Disagree	3 Indifferent	4 Agree	5 Strongly Agree
Product Quality	1. Products provided meet expectations.					
	2. Labelling on products is clear and informative.					
	3. Products rarely have visible clots, haemolysis or are leaking.					
Product Delivery	1. Blood requests are ready within the designated time-frame.					
	2. Blood products are available when needed.*					
Staff Professionalism and Communication	1. Staff are courteous and friendly.					
	2. Blood Bank staff are able to deal with queries.					
	3. Medical/clinical support and advice are available.					
	4. Staff communicate problem cases timeously.					

*Note: Should you disagree with question 2 under Product Delivery, please indicate which product(s) you're referring to.

Other Comments:

Please provide your contact details should you require feedback to your comments.

Name: Telephone: Email:

Thank you very much. Your feedback is most important to us!

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Survey No. 04 (June/July 2016) MKT14 (21 Jun 16)

WPBTS Fractionation Plant/PDMP's Update

You may be aware that the WPBTS Fractionation Plant is undergoing an audit review by the Medicines Control Council (MCC). The MCC's inspection of the Plant has raised several issues concerning good manufacturing processes (GMP), partly due to the age and structure of the facility, as well as the interval since the previous MCC inspection. As a result, a decision was taken to suspend the manufacturing of plasma derived medicinal products (PDMP's) until resolution of the GMP issues with the MCC. This break in production has meant that we are unable to release finished batches. A decision is awaited from the MCC regarding the conditions required for the Plant to re-open, as well as the fate of the PDMP's currently under quarantine.

In the interim WPBTS has been trying to supply as many customers with PDMP's as possible, subject to rationing the finite supply. Customers should please feel free to contact the following suppliers of PDMP's whose products are available in South Africa, for enquiries regarding their products.

National Bioproducts Institute: Andrea Muller, Marketing Manager
T 031 714 6700 | C 083 258 4831 | E Andrea.Muller@nbisa.org.za | W www.nbi-kzn.org.za
10 Eden Road, Pinetown, 3610 | Private Bag X 9043, Pinetown, 3600

Octapharma South Africa (Pty) Ltd: Sean Hancock, Country Manager
T 011 465 4289 | C 076 472 5482 | E sean.hancock@octapharma.com | W www.octapharma.com
Building 3 Design Quarter Complex, Cnr William Nicol and Leslie Avenue, Fourways, 2191

On behalf of the WPBTS, we wish to thank you for your cooperation during this challenging time and to apologise for any inconvenience caused. Please feel free to contact the WPBTS Marketing Officer should you have any queries:
T 021 507 6326 | C 083 454 3455 | F 086 756 7888 | E marketing@wpbts.org.za

Guidelines for the Use of Anti-D Immunoglobulin

Whilst the immunogenicity of clinically significant antibodies is recognised, anti-RhD is acknowledged for its capability to elicit the most severe form of haemolytic disease of the newborn (HDN) and potent haemolytic transfusion reactions. The incidence of both HDN and transfusion reactions due to RhD is being reduced today through careful monitoring of high risk pregnancies, administering anti-D immunoglobulin, and by typing donors and recipients for the RhD antigen.

Anti-D immunoglobulin is essentially indicated for the prevention of active immunisation to RhD red cell antigen in RhD negative individuals exposed to RhD positive, weak D positive and partial D positive red cells during a potentially sensitising event. For full prescribing information please refer to the manufacturers package insert.

The presence of significant amounts of residual red cells in platelet products and fresh frozen plasma may necessitate the use of anti-D immunoglobulin (500 IU per product), when RhD positive products are transfused to RhD negative women of premenopausal age.

Further Reading
http://onlinelibrary.wiley.com/doi/10.1111/tme.12091/pdf

WPBTS Strategy for Reducing the Risk of TT-CMV

Based on the high estimated cytomegalovirus (CMV) seroprevalence rate of >90% among women of reproductive age in South Africa[1], WPBTS does not screen its donors for CMV but instead utilises a single approach for reducing the risk of transfusion-transmitted CMV (TT-CMV) through the provision of leucocyte filtered blood and blood products.

Immunocompromised patients who receive allogeneic blood transfusions are susceptible to TT-CMV as a result of their weakened immune systems and the potential effect of transfusion-related immunomodulation (TRIM) where transfused leucocytes in blood components are thought to cause further immune suppression of the recipient. The use of leucocyte filtered blood and blood components is therefore likely to significantly reduce the risk of TT-CMV in susceptible patients. The Blood Services in South Africa provide filtered cellular and plasma products capable of removing leucocytes to several orders of magnitude. In addition, blood components which are harvested by apheresis technique are integrally leucocyte free.

The array of leucocyte filtered and apheresis blood and blood products that are available from the WPBTS is as follows.

	WPBTS Code	Product Description	Volume
Red Cell Products	LRBCPS	Red Cell Concentrate Prestorage Leucocyte Poor	260ml ± 50ml
	LRBCPE	Red Cell Concentrate Prestorage Leucocyte Poor - Emergency Blood	260ml ± 50ml
	LRRBC	Red Cell Concentrate - Leucocyte Poor	260ml ± 50ml
	LEURHL	Red Cell Concentrate - Haemoconcentrate	n/a
	ALWRBC	Albumin Red Cell Concentrate Washed	370ml ± 50ml
	LRWRBC	Filtered Washed Red Cell Concentrate	> 185ml
	RBCRDA	Red Cell Concentrate Rare Donation in Additive	300ml ± 50ml
	RBCRDT	Red Cell Concentrate Rare Donation Thawed	300ml ± 50ml
Paediatric Products	IRBC1-4	Infant Red Cell Concentrate Leucocyte Poor	65ml ± 20ml
	PRBC1-2	Paediatric Red Cell Concentrate Leucocyte Poor	120ml ± 30ml
	IPLAPH1-4	Infant Apheresis Platelet	60ml ± 20ml
	PPLAF1-2	Paediatric Platelet Single Donor	150ml ± 50ml
	LRPFFP1-2	Leucocyte Poor Paediatric Fresh Frozen Plasma	130ml ± 30ml
	PWB1-3	Paediatric Whole Blood	170ml ± 30ml
Plasma Products	LRRFFP	Leucocyte Reduced Fresh Frozen Plasma	280ml ± 70ml
Platelet Products	PLAPH, 1-2	Apheresis Platelet Concentrate	275ml ± 75ml
	POOLPLP	Random Donor Platelet Leucocyte Poor	250ml ± 50ml
Whole Blood	LRWB	Whole Blood - Leucocyte Poor	475ml ± 50ml
	WBRD	Whole Blood Rare Donation	513ml ± 45ml

Further Reading
1. Clinical Microbiology Review. January 2013; 26(1): 86-102. doi: 10.1128/CMR.00062-12
2. Clinical Guidelines for the use of Blood Products in South Africa, Fifth Edition, Chapter 6
3. http://www.bloodjournal.org/content/bloodjournal/86/9/3598.full.pdf?sso-checked=true
4. http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3949610/
5. http://www.ncbi.nlm.nih.gov/pubmed/12125013
6. http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3553672/

WPBTS Product/Service Feature Series – Autologous and Designated Donations

The WPBTS provides autologous and designated donation services for prospective patients who are to undergo elective surgery, whose blood requirements have been reasonably accurately predicted and who are concerned about receiving blood from donors who are not known to them. Patients who are fit and healthy enough can donate their own blood for use through the operation - known as autologous donation. Alternatively, they may designate individuals with compatible blood groups to donate for them – known as designated donation.

Donation testing

Designated and autologous donations undergo the same mandatory testing as regular donations - i.e. every donation is individually tested for HIV 1/2, Hepatitis B, Hepatitis C, Syphilis and blood group by nucleic acid testing and/or serological technique. In addition, a full blood count is performed. Donors who test reactive for HIV 1/2, Hepatitis B or Hepatitis C will not be accepted and are counselled. Donors who are TPHA reactive may be accepted with permission from the requesting clinician.

Blood donor acceptance criteria

Autologous and designated donors must fulfil the regular blood donor acceptance criteria. However, designated donors who have visited a malaria area may be accepted with the requesting doctor's consent. Exceptions for autologous donation are as follows: (1) Pregnant women may donate if there are no complications in pregnancy; (2) The age limit for donors is extended to ages twelve to seventy, although exceptions can be made; (3) Donors with a medical condition may be accepted at the discretion of the Blood Service doctor and requesting clinician; (4) The pre-donation haemoglobin value must be ≥ 11.0 g/dl, with exceptions authorised by the Blood Service doctor and requesting clinician. We recommend autologous donors to start iron supplementation prior to their first donation.

Advantages

The key advantages of autologous and designated donation/transfusion are as follows:

- Autologous transfusion provides complete serological compatibility and reduces the risk of an adverse transfusion reaction.
- Designated transfusion from a blood relative provides greater serological compatibility than allogeneic transfusion.*
- Ensures that the requested blood/blood products are strictly reserved for the patient.
- Provides peace of mind for patients concerned about allogeneic transfusion.

*Donations from first and second degree relatives must be gamma-irradiated to prevent Transfusion Associated Graft-vs-Host Disease. The irradiation is performed at the minimum dose of 25 Gy as close to the time of transfusion, preferably within 12 hours.

Process

The WPBTS autologous and designated process in a nutshell, is as follows:

1. Clinician submits their order for autologous/designated units.
2. Patient submits their consent for autologous/designated donation.
3. WPBTS assesses suitability for procedure and arranges the venesection schedule. Autologous donations are made at ≥ 4 day intervals up to 72 hours prior to surgery. Designated donations are made at ≥ 7 day intervals. The venesections are performed at our Head Office or any of our fixed site blood donor centres.
4. After the final donation, WPBTS informs the clinician, anaesthetist and ward sister of the pre-deposited autologous/designated units and whether the patient agrees/disagrees to receive allogeneic transfusion in the event that the units are insufficient.
5. Clinician submits the crossmatch laboratory request and patient sample to the Blood Bank.
6. Blood Bank issues or reserves clearly labelled autologous or designated units with the patient's particulars.

Compatibility

Designated donors are selected if they have a compatible blood group and type red cell antigen negative if the patient has an irregular antibody. Infants less than 4 months old receive group-specific blood for the duration of the transfusion schedule if their blood type has been identified by clear agglutination. For infants and young children, fresh frozen plasma may be group specific or group AB, whereas platelet products should be group specific or a low titre incompatible group. Infants less than 12 months are to receive leucocyte reduced products. When a male spouse donates for his partner of childbearing age, the units are to be filtered in order to reduce the risk of antibody development in subsequent pregnancies.

Cost

A unit of autologous or designated blood costs the same as that from the general blood supply. A once-off surcharge is billed to cover the cost of additional blood tests eg. full blood count. We do not charge for unused autologous/designated units from regular donors that are transferred to the general blood supply, whereas unused units from new/infrequent donors will be charged.

For more information please contact the WPBTS Specialised Donations Department.
T 021 507 6397/20 | F 021 531 3335 | E autologous@wpbts.org.za

Downloadable information leaflet
Downloadable clinician's order for autologous/designated donation
Downloadable patient's consent for autologous/designated donation

Peri-operative Acute Normovolaemic Haemodilution

Acute Normovolaemic Haemodilution (ANH) is a blood conservation technique used in elective surgical procedures where substantial blood loss is anticipated. The procedure involves the removal of between 450-1500ml of the patient's whole blood shortly after induction of anaesthesia into standard blood collection bags containing anticoagulant, followed by replacement of the blood loss using warmed crystalloid and/or colloid fluids to maintain a normovolaemic state. The blood is reinfused into the patient during or after surgery, as needed. Careful monitoring of the patient is required to ensure that they tolerate the prescribed blood loss, and periodic haemoglobin checks are advised throughout the surgical procedure.

ANH is only indicated in patients who are young and healthy, and have a normal pre-operative haemoglobin level. This may be an option for Jehovah's Witness patients provided consent is given. It is advised that ANH is performed under strict guidelines regarding patient selection, vascular access, volume of blood withdrawn, choice of replacement fluid, blood storage and handling, and timing of reinfusion.

The advantages of ANH include a potential reduction in allogeneic blood product use (along with the risks of transmissible disease and blood group incompatibility associated with these products), and the benefits of infusion of fresh blood. The success of ANH is debatable, although demonstrable benefit has been shown in the following procedures: hip and knee arthroplasty, radical prostatectomy, cardiothoracic surgery, vascular and spinal surgery.

ANH can rarely be complicated by a dilutional coagulopathy that is associated with moderate to severe haemodilution (loss of 750-1500ml blood). This can be monitored by using thromboelastography (TEG).

The costs involved for this procedure include the price of the blood collection bags, giving sets and infused fluids, the potential requirement for additional staff members to assist with the procedure, and training of staff in the blood collection process. These factors should be weighed against the cost of the allogeneic blood products (see WPBTS Product Price-List at http://www.wpblood.org.za/?q=clinical/pricelist).

In the event that you are interested in performing ANH, standard blood collection bags (450ml volume) can be bought directly from Viking Medical Supplies (info@viking.co.za) and JMS (carolc@ssemmthembu.co.za).

References
1. Acute Normovolaemic Haemodilution. Patient Blood Management Guidelines. Australian National Blood Authority. Retrieved from www.blood.gov.au on 17.06.2016.
2. Acute Normovolaemic Haemodilution (ANH) – Information and Suggested Guidelines. Government of Western Australia Department of Health. Retrieved from www.rph.wa.gov.au on 17.06.2016.
3. Avidan et al. Surgical blood conservation: intraoperative haemodiltuion. Retrieved from www.uptodate.com on 17.06.16

WPBTS Laboratory Series – Stock Control

WPBTS performs blood collections according to its daily required targets to ensure the provision of an adequate blood supply to hospitals in the Western Cape and to achieve minimum wastage. We aim to keep approximately 5-day stocks with the exception of Group O Negative and B Negative set at 10-day stocks, and Group O Positive set at 7.5-day stock levels. Group O in-process units are not included as stock but are a good indicator of the number of units that are likely to translate fully or almost fully into Group O stock within 24 hours. We report the past 24 hours stock level targets and actual collections on our website, stratified by group. Donors should please feel free to assess the Service's need for their blood group, and present to donate accordingly. (http://www.wpblood.org.za/)

Feedback from the 8th International AfSBT Congress

The Africa Society for Blood Transfusion in partnership with the Rwandan Ministry of Health and Rwanda Biomedical Centre/National Centre for Blood Transfusion (RBC/NCBT) hosted the 8th International Congress: Africa Society for Blood Transfusion in Kigali, Rwanda, from the 31st of May until the 3rd of June 2016. The theme for the Congress - Safe and Sustainable Blood Services in Africa – Where do we stand? - was emphasised through informative educational and scientific sessions conducted in English and French that focussed on training, quality assurance and the latest technologies in blood transfusion. With the support of the International Society of Blood Transfusion, an Academic Day focussing on research was included in the programme. The Congress was attended by approximately 300 delegates.

Your Questions Answered

Q: Is there one Blood Service in South Africa?

A: There are two Blood Services operating in South Africa. The Western Province Blood Transfusion Service (WPBTS) operates in the Western Cape whilst the South African National Blood Service (SANBS) manages the rest of South Africa. WPBTS and SANBS operate autonomously but work closely on several successful collaborations eg. The Clinical Guidelines for the use of Blood Products in SA, the educational film about 'Ordering and Administration of Blood', national donor deferral policies, Standards of Practice for Blood Transfusion in South Africa, National Haemovigilance Reports and SA National Blood Transfusion Congresses. Both Blood Services also adopt similar testing technologies, and have the ability and preparedness to share blood stocks in times of crises. A strategic issue that remains on the horizon is the Chapter 8 requirement of the National Health Act for a single licensed Transfusion Service, which currently is an unresolved potential threat to the WPBTS's continued existence as a regionally independent organization (adapted from the WPBTS 2014/2015 Annual Report).