



BMTSAA Newsletter

Easter Edition 2003

This Issue

1	Editorial
1	President's Report
2	AGM 2002 Adelaide
3	Financial Reports 2001/2002
3	Abstracts Scientific Meeting 2002
4	Conference Abstracts
5	ISCT Membership Information
7	Draft Program Christchurch Oct 2003
8	Oxygen Monitors
9	Off the Web



PRESIDENT'S REPORT 2002.

Firstly, my apologies for not being able to attend this year's meeting.

Once again it has been a busy year & it certainly doesn't feel like one year since the meeting in Brisbane. At that meeting we spoke of the ongoing negotiations with ISCT (formally ISHAGE) to facilitate a reduced rate membership for BMTSAA members. This has now come to fruition, with the ISCT now offering an E-membership rate of US\$75. This type of membership carries all the benefits of the standard membership, but the newsletter & journal are accessed via the web. ISCT are also prepared to have a closer affiliation with the BMTSAA in the form of a "Cell Therapies Organization Network". The form that this affiliation takes is open for discussion at this meeting.

We are extremely lucky to be working in such an exciting field. Although the research into stem cell plasticity is currently having little impact in our jobs, it is likely that we will start to be more involved when clinical trials begin. At the John Hunter Hospital in Newcastle, patients with end-stage coronary artery disease are having autologous bone marrow stem cells injected into their heart. Studies by a group in New York have demonstrated that bone marrow stem cells can improve cardiac function in rats by facilitating growth of new blood vessels in the heart.

A couple of people have indicated that they feel it is time for the BMTSAA to consider a name change. I have prepared a short document that has been circulated to all members outlining some of the pros & cons of a name change. Everyone is asked to consider the work involved, the implications and the potential benefits. Time will be set aside during this meeting to discuss this issue.

I would like to extend my thanks to our corporate sponsors and to the following BMTSAA members:

- Pam Dyson for organising this meeting. I know that Pam has put a lot of time and energy into bringing together a quality program, and has had to do some fast reorganisation after the cancellation of her key speaker.
- Dianne Tucker for stepping in to cover in my absence and present this speech at very short notice.
- Nancy Messino for her continuing role as Treasurer, and for attracting sponsorship that provides grants to our members and subsidises our Annual Meeting.

Editorial

Again, more excuses for the less than numerous newsletter output from our Association. This edition was going to hit your desks about Easter time. However I found out that CSL, who kindly photocopy and post around the newsletter have done a restructure (does this sound familiar). The division who have assisted us through the years is no longer the appropriate division we stem cell scientists would have any link with. So, after the Easter break I was able to make some headway on negotiating with a new division the continuing support of CSL in this matter.

I am pleased to announce that distribution of this newsletter is now supported by JRH Biosciences Asia Pacific- a wholly owned subsidiary of CSL!

The next change may excite you. We are trying to give members a better quality of printing. We are now having the newsletter printed, then posted by JRH Biosciences. If you are one of the members who drift through the ether and gauze at this document through pixels this new opium might change your mind of the choice of receiving a hard copy. Please feel free to chance your distribution choice if you require this change.

The enclosed document from ICST is rather old and was written in the middle of last year. The decision to make a different class of membership has now been made. This document may be of benefit for members who were not at last year's annual meeting.

To the more alert of our readers, yes we now have published the financial report for the year 2000-2001 that was promised at the 2001 AGM.

David Ford
Editor

- Scott Ragg for maintaining the BMTSAA website and David Ford for producing the BMTSAA Newsletter.
- Gail Lazzaro for her hard work and continued enthusiasm as the BMTSAA Secretary. This is without doubt the most demanding job of any group, and Gail fulfills this role in an excellent manner.

Annette Trickett



THE BONE MARROW TRANSPLANT SCIENTISTS ASSOCIATION OF AUSTRALASIA

MINUTES OF THE ANNUAL GENERAL MEETING OF THE BONE MARROW TRANSPLANT SCIENTISTS' ASSOCIATION OF AUSTRALASIA HELD ON SUNDAY 8TH SEPTEMBER 2002 AT THE ROBSON LECTURE THEATRE, ROYAL ADELAIDE HOSPITAL, ADELAIDE, AUSTRALIA AT 2.00 PM.

1. WELCOME TO MEMBERS

On behalf of The President, Gail Lazzaro welcomed members to the Annual General Meeting of The Bone Marrow Transplant Scientists Association of Australasia.

2. PRESENT

Vicki Antonenas, Simon Bol, Geraldine Bollard, Mary Brun, Sue Carnoutsos, Graeme Chapman, Pam Dyson, David Ford, April Goodear, Chris Hicks, Denis Hokin, Jesper Jensen, Deborah Kelly, Michael Kersten, Gail Lazzaro, Heike Mumford, Silvana Niuitta, Noor Parker, Scott Ragg, Emanuel Raniolo, Trevor Rawling, Robyn Rodwell, Rosanna SoaresMendes, Rosemary Sparrow, Judy Stevens, Colin Story, Marian Sturm, Michael Swain, Rick Tocchetti, Dianne Tucker, Emilia Varga, Dominic Wall, Nicole Wright, Geordie Zaunders.

3. APOLOGIES

Janet Argyle, Judy Bosio, Jamie Case, Ruth Eastment, Nicole Egan, Lisa Fava, Cheryl Hutchins, Kerrie Jones, Lia Kubala, Nancy Messino, Michael Pidcock, Beth Rees, Alison Rice, Carole Smith, Deborah Taylor, Annette Trickett.

4. REGISTRATION OF PROXIES

David Ford appointed by Lisa Fava
Gail Lazzaro appointed by Nancy Messino
Gail Lazzaro appointed by Cheryl Hutchins
Dianne Tucker appointed by Kerrie Jones

5. CONFIRMATION OF THE MINUTES OF THE ANNUAL GENERAL MEETING OF THE BONE MARROW TRANSPLANT SCIENTIST'S ASSOCIATION OF AUSTRALASIA HELD ON WEDNESDAY 24TH OCTOBER 2001 AT THE BRISBANE CONVENTION CENTRE, SOUTH BANK, BRISBANE, AUSTRALIA AT 3.15 PM.

Sue Carnoutsos moved that the minutes accept the minutes as being true and correct. Seconded by Geraldine Bollard.
Carried.

7. PRESIDENT'S REPORT

Annette Trickett tabled the President's report for 2002. In the absence of the President, the report was read by Dianne Tucker. This report was to be published in the next edition of the Bone Marrow Transplant Scientists Association Newsletter.

8. TREASURER'S REPORT

David Ford read the financial summary for 2001-2002 on behalf of the Treasurer.

- Commonwealth Bank Account Balance being \$10,836.33.
- Acknowledgment of Sponsors to the end of June 2002:- CSL, Gambro, Merck Sharp & Dohme.

The Treasurer advised that copies of the report would be available in the next edition of the Bone Marrow Transplant Scientists Association Newsletter.

9. MEMBERSHIP COMMITTEE REPORT

There was no Membership Committee for the year 2002. The small number of new applications made it practical for direct review by Council. Gail Lazzaro read the recommendations of Council.

10. RATIFICATION OF NEW MEMBERS

The following applicants were ratified by the meeting as members of the Bone Marrow Transplant Scientists Association of Australasia.

Scientific Members

Emanuel Raniolo
IMVS, The Queen Elizabeth Hospital Division, SA.
Colin Story
Women's & Children's Hospital, Adelaide, SA.
Deborah Kelly
Dr Sullivan & Nicolaides Pathology, QLD.

Associate Members

Christine Hicks
Prince of Wales Hospital, NSW.
Michael Kersten
Royal Perth Hospital, WA.
Audrey Kill
Dr Sullivan & Nicolaides Pathology, QLD.

Reclassification to Scientific Membership

Jamie Case
St George Hospital, NSW.
Heike Mumford
Royal Hobart Hospital, TAS.

11. BUSINESS ARISING FROM PREVIOUS MINUTES

- *ISHAGE Affiliation*
Gail Lazzaro read the e-mail message from Martha Davis about the new ISCT E membership which includes all the benefits of active ISCT membership with subscriptions and correspondence delivered on-line or by e-mail. The cost is significantly reduced (US \$75 per year). Cytotherapy and Telegraft are delivered on-line by the publisher and through the ISCT Website respectively.

The Secretary presented the invitation by ISCT for BMTSAA membership of the Cell Therapies Organization Network. The application form was presented by overhead projection as a starting point for discussion on increased cooperation between ISCT and BMTSAA. Consensus responses from the members are presented in **Attachment 1**.

- *CD34 QAP Expert Panel*

On behalf of the President, Gail Lazzaro announced that the CD34 QAP Expert Panel had been formed. There had been no response from AFCG to Annabella Chang's request for a nominee from that interest group. Council had agreed that Scott Ragg had shown willingness to disseminate information and seek consensus opinion on a number of issues and that he would be ideally suited to join the panel as representative of both BMTSAA and AFCG (incumbent President).

CD 34 Expert Panel

Annabella Chang
David Ma
Graeme Chapman
Scott Ragg

- *ABMDR Courier Guidelines*

Vicki Antonenas advised that the guidelines were official and in use. Version 1 had been distributed to transplant coordinators in recent weeks. Members were advised to request copies from Transplant Coordinators. The issue of conflict with Council of Europe recommendations were raised. It was agreed that the Secretary would contact Sally Gordon of the ABMDR to request an electronic copy for BMTSAA members.

- *Colony Assay Workshop*

Sue Carnoutsos reported that the organisation of the workshop had not progressed. Sue Carnoutsos would request assistance from Scott Ragg, Kerrie Jones and New Zealand Distributors to convene a workshop in association with the 2003 Christchurch meeting.

12. APPOINTMENT OF AUDITOR

Dianne Tucker moved that Pervano and Company (Certified Practising Accountants) be appointed auditors for the 2001-2002 financial year. Seconded by Geraldine Bollard.

13. COMMITTEE APPOINTMENTS

Gail Lazzaro advised that Sue Carnoutsos had agreed to chair the Scientific Meeting Committee in 2003 and that she would be seeking volunteers to assist with the Christchurch meeting.

14. GENERAL BUSINESS

- *BMTSAA Name Change*
Gail Lazzaro read a letter written by the President to all members (**Attachment 2**). The Secretary advised that a change of The Organisation's name represents a constitutional change subject to appropriate processes including adequate notice of a motion and a formal vote. A name change could not be instituted at the meeting but rather, the aim of discussions should be to canvas members' opinion and reach a decision on whether or not to formerly proceed. Comments were invited from the floor:-

- Regardless of the source of stem cells, bone marrow, cord blood, peripheral

blood, it is the bone marrow which is reconstituted.

- "Stem Cell" would be a difficult term to use in the current environment of debate about embryonic stem cell and adult stem cell research. It can be confused.
- The work of members is not exclusively restricted to marrow reconstitution therefore the name should reflect cellular therapies, gene therapy, cell culture and other fields.
- The organisation should not be restrictive in membership if it wants to survive and should be open to broader interest groups.
- There are a number of organisations established to serve the interests of clinicians, apheresis nurses, tissue bankers and others. Historically the organisation was formed by bone marrow transplant scientists for the benefit of scientists and in this way it is unique.
- The HSANZ refers to haemopoietic stem cell transplant activity as bone marrow transplants in a recent President's report advising of a new study group.
- Any change to The Constitution should be for the benefit of the organisation. There is no real benefit to a name change at this point in time.

Gail Lazzaro asked for members to vote for or against the formal pursuit of a name change. In a show of hands the members overwhelmingly voted not to pursue a name change at that point in time.

● **BMTSAA 2003**

Sue Carnoutsos announced that the dates for the HSANZ/ASBT Christchurch meeting were 19th to 22nd October 2003.

- *Sponsors 2002*

David Ford thanked the generous sponsors for the 2002 meeting

CSL, Gambro, Merck Sharp & Dohme.

● *Acknowledgements*

On behalf of all members The Secretary thanked sincerely the members of the 2002 Scientific Meeting Organising Committee, Pamela Dyson, Colin Story and Emanuel Raniolo.

The meeting closed at 1455.

*Gail Lazzaro
Secretary
Annette Trickett
President*

Attachment 2

BMTSAA Name Change?

I have received a couple of suggestions that the BMTSAA name is now outdated & that we should consider a name change, and a few potential names have been put forward:
Stem Cell Scientists Association of Australasia (SCSAA)
The Australasian Stem Cell Scientists Association (ASCSA)
Haematopoietic Stem Cell Scientists Association of Australasia (HSCSAA)
The Australasian Haematopoietic Stem Cell Scientists Association (AHSCSA)

The Australasian Society of Stem Cell Therapy (ASSCT)

The greatest potential benefit from a name change would be to more accurately reflect the source of the cells that we process or do research on. Any chosen name should be flexible enough to cover the myriad of other cell types that maybe handled by scientists in our group in the future. Members are asked to consider what other perceived benefits are to be gained from changing the name.

There are a number of things that should be considered prior to deciding whether a name change is justified:

- Although cells are currently sourced from bone marrow, peripheral blood and cord blood, they all reconstitute the bone marrow.
- An extensive amount of work and money (probably in excess of \$3000) will be required to
 - Change the constitution
 - Amend the articles of incorporation, ABN registration, bank accounts, & merchant card registration
 - Design new logo
 - Print new stationary
 - Change the website and website listings
 - Notify institutions, industry, accreditation bodies, affiliated organisations, past & potential sponsors

Members are asked to think of all the implications listed plus voice any others that may spring to mind so that this issue can be discussed at the next annual meeting in September.

*Annette Trickett
President*



THE BONE MARROW TRANSPLANT SCIENTISTS' OF AUSTRALASIA

FINANCIAL REPORT FOR 2000-2001

CREDITS

Term Deposit (June 2000) \$1,249.08
(Transferred to cheque account 27.10.2000)

Balance Cheque Acc.(June 2000) \$8,294.71

MEMBERSHIPS RECEIVED

Nil banked in this financial year.

SPONSORSHIP RECEIVED

Acknowledgements \$2,480.00

AMGEN
AMRAD
Baxter Healthcare
Beckman Coulter
Becton Dickinson
CSL
Gambro
Nat Tech
Taylor Wharton

INTEREST

Term Deposit \$8.33
Cheque Account \$56.67

TOTAL CREDITS

Cheque Account **\$12,088.79**
(inclusive of Term Deposit)

EXPENDITURE

Postage/Stationery \$414.96
Travel Grants \$700.00
Meeting 2000
(Speakers registration,airfares,accom) \$3,775.24
JD Madgwick
(Accounting Firm) \$373.45
Annual Dinner Subsidy \$983.90
Workshop Lunch Subsidy \$130.00
Deposit for Meeting 2001 \$1,000.00

TOTAL DEBIT

\$7,377.55

CHEQUE ACCOUNT BALANCE \$4,711.24

OPENING BALANCE FOR 2001-2002

(Cheque Account) \$4,711.76

(Note 52cents not accounted for)



FINANCIAL REPORT FOR 2001-2002

CREDIT

Balance Cheque Acc. (June 2001) **\$4,711.76**

MEMBERSHIPS RECEIVED

Membership 2001 banked in this period. \$2,197.81
Membership 2002 banked in this period. \$1,440.00

SPONSORSHIP RECEIVED

\$8,380.00

Acknowledgements
Baxter Healthcare
Beckman Coulter
Becton Dickinson
CSL
Gambro
MSD
Nat Tech

INTEREST

Cheque Account \$13.83

CONFERENCE 2001

\$5,000.00

TOTAL CREDITS

Cheque Account **\$21,743.40**

EXPENDITURE

\$11,448.84

TOTAL DEBIT

\$11,448.84

CHEQUE ACCOUNT BALANCE \$10,294.56

NOTE CHEQUE 94 \$300.00 not presented

OPENING BALANCE FOR 2001-2002

\$10,836.33

(Cheque Account)

(\$241.77 not accounted for (credit), all statements being checked by accountant)

*Nancy Messino
Treasurer*



**ABSTRACTS FROM THE ADELAIDE
SCIENTIFIC MEETING 2002**

Measurement of Patient and Carer Reactions to Reinfusion of Cryopreserved Haematopoietic Stem Cells (HSC)

N Wright, H Mumford, G Woods, R, S Ragg
Stem Cell Transplant Laboratory, Royal Hobart Hospital, Hobart, TAS*

Historically, significant morbidities have been associated with the reinfusion of HSC during stem cell transplantation and are primarily attributed to the presence of DMSO and cell lysis products in the graft. Commonly reported side effects include nausea, vomiting, flushing, breathlessness in addition to the characteristic "dead oyster" odor emitted by the patient. The utilisation of post-thaw stem cell washing is an increasing practice, however, the extra processing of cells needs to be balanced against the fact that morbidity has already significantly lowered by reductions in the reinfusion volume (achieved through improved harvesting, mobilising and processing techniques) and improved patient pre-medication. Thus we conducted a study of patient and carer responses following HSC reinfusion in order to determine whether there is a clinical need for the further amelioration of reinfusion side effects.

A Visual Analog Scale Quality of Life (VASQOL) survey and nursing documentation forms were developed for this study to assess symptoms associated with the reinfusion of cryopreserved HSC. As the majority of our reinfusions are performed in the outpatient setting, we have also studied the side effects experienced by family members/carers and nursing staff. The VASQOL surveys were self-completed by the patient, the nurse and the carer at intervals over a 24 hour period. The most significant side effect noted by patients was an offensive taste that was experienced by all recipients with several rating it "the worst they could imagine". This peaked in the first 6 hours post-reinfusion and had returned to normal by 24 hours. Nausea, shortness of breath and flushing were generally rated as not significant by patients, indicating that pre-medication is appropriate. Family members / carers were seriously affected by the intensity of the dimethylsulphide odour with the majority rating it as is "the worst they could imagine". Nurses were also affected by the smell, but not to the same degree as family members. Response intensities were related to the reinfusion volume. This study has led us to initiate a clinical trial of reinfusing washed HSC for patients with a reinfusion volume of >50mls. This will reduce the amount of reinfused DMSO and hopefully diminish the intensity of the dimethylsulphide odour and taste that adversely affects both the patient and their primary carer(s).

Negative Selection of Contaminating Tumour Cells from Stem Cell Autografts in Two Models of Malignancy

MJ Sturm (1,2), K Shaw (1), R Soares-Mendes (1), C Mamotte (1), W Erber (1,3), RP Herrmann (1,2)

1. Department of Haematology, Royal Perth Hospital, Perth, WA
2. Department of Pathology, University of Western Australia, Perth, WA
3. PathCentre, QEII Medical Centre, Perth, WA

Negative selection of contaminating malignant cells from haematopoietic stem cell autografts is limited by the availability of monoclonal antibodies or other ligands directed against neoplastic cells. The Thomsen-Friedenreich (TF) antigen is an important carcinoma-associated marker related to metastasis and is recognised by the lectin peanut agglutinin (PNA). The PNA binding epitope is also expressed in some haematological malignancies, including by bone marrow plasma cells in multiple myeloma. In this study the potential of PNA as an agent to remove neoplastic cells from stem cell autografts was determined in two diverse models of malignancy, breast carcinoma and multiple myeloma. PNA reactivity of metastatic breast carcinoma cells, present in stem cell autografts or in bone marrow biopsies, was established by dual label fluorescent microscopy. PNA reactivity of plasma cells in peripheral blood stem cell (PBSC) harvests from myeloma patients was established by flow cytometry and by histochemical and fluorescent staining of flow sorted cells. Non-reactivity of peripheral blood CD34 + cells with PNA was determined by flow cytometry. A negative selection procedure was developed using PBSC samples contaminated with cultured breast carcinoma cells (MCF-7), biotinylated PNA and streptavidin magnetic microbeads (MACS). Experimental PNA purging was carried out for a bone marrow autograft of a breast cancer patient and for PBSC samples from 12 myeloma patients. Breast carcinoma cells were detected by conventional immunohistochemical staining.

Myeloma plasma cells were quantitated by immunophenotype and also detected by PCR for the IgH rearrangement. In the developmental procedure, PNA

purging of PBSC samples, artificially contaminated with MCF-7 cells, resulted in tumour cell reduction of >3.3 log, a recovery of CD34 + stem cells of 62.7 + 3.6% (mean + SEM) and total nucleated cells (TNC) of 36.1 + 3.2%. Colony forming ability was maintained. A 3.1 log depletion of tumour cells and a yield of 46.6% CD34 + stem cells was obtained for a bone marrow harvest containing 0.5% metastatic breast carcinoma cells using the procedure. Following PNA purging of PBSC samples of myeloma patients, stem cell recovery was 58.5 + 3.7% and plasma cell loads were reduced by 0.65->2.69 log, however, most remained positive for the malignant clone by PCR. PBSC samples were enriched for T cells following PNA purging from 14.0 + 1.4% CD3 + cells to 24.6 + 4.7%. In conclusion, PNA has potential as an agent to remove contaminating neoplastic cells from haematopoietic stem cell autografts for some malignancies, without compromising engraftment capacity or immune function.

Peripheral Blood Stem Cell Apheresis Collection Stored Overnight Prior to Cryopreservation

T Rawling, J Stevens, H Magar, P Dyson, I Lewis
Institute of Medical and Veterinary Science, Adelaide, SA*

Because of increasing laboratory workload and limited availability of equipment it may not always be possible, or practicable to process and cryopreserve Peripheral Blood Stem Cell (PBSC)

harvests on the day of collection. We have analysed data from 30 patients treated at our institution who have undergone at least two apheresis collections, with one being kept overnight prior to processing and cryopreservation. PBSC were collected using either the Baxter CS3000 or COBE Spectra. Fifty 50ml of autologous plasma was added to the harvested cells at the end of apheresis procedure. In the laboratory the stem cells were washed twice with saline to remove platelets and reduce volume. Washed cells were resuspended in 10% DMSO and 20% autologous plasma in saline at a final maximum cell concentration of 200 x 10⁶/ml and frozen using Kryo 10 control rate freezer. For samples processed on the day of collection processing commenced within an hour of collection. If samples were processed the day following collection processing commenced between fifteen and twenty hours after collection. Samples were stored overnight in a monitored blood fridge at 4 o C until processing commenced. White cell counts, cell viability, and volume measurements were performed on all samples prior to and on completion of washing. At the same time viable CD34 + numbers were estimated by flow cytometry using 7AAD. Viable CD34 + numbers and total cell viability were also estimated on pilot samples of cryopreserved cells which were thawed for analysis.

	Processed on the day of collection n=24	Processed on the day after collection n=35
% Cell viability pre-processing	98 (89-99)	97 (79-99)
% Cell viability post-wash	95 (84-99)	96 (82-99)
% Cell yield post-wash	94 (55-100)	93 (79-100)
% Viable CD34 + yield post-wash	93 (49-100)	91 (59-100)
% Cell viability post-thaw	84 (42-98)	73 (34-97)
% CD34 + recovery post-thaw	82 (42-100)	73 (13-100)

Using the Mann Whitney Test there was no significant difference between samples processed on the day of collection with those processed on the day following collection for cell yield and viable CD34 + cell yield post-washing, or CD34 + yield post-thaw. There was also no significant difference between the two groups for cell viability pre- and post-washing and post-thaw. We conclude that storing PBSC product overnight, at 4°C diluted in autologous plasma does not have a detrimental effect on the washed product or the final cryopreserved product.

Stem Cell Mobilization in Healthy Donors
V Antonenas, F Garvin, M McGurgan, M Hertzberg, KF Bradstock
The Blood and Marrow Transplant Unit, Westmead Hospital, Westmead, Sydney, NSW*

Aim: Peripheral blood stem cells (PBSC's) instead of bone marrow can be used for allogeneic transplantation. Mobilization of stem cells in healthy donors is achieved with cytokines such as granulocyte colony-stimulating factor (G-CSF). Westmead Hospital has been using mobilized PBSC's from healthy donors for allografting since 1995. We observed a wide variability in the PBSC collection between different healthy donors. We were interested whether the pre mobilization (or resting) CD34+ cell count in the peripheral blood allows estimation of mobilization of CD34+ cells following G-CSF administration, and whether higher doses of G-CSF would allow better mobilization.

Cell Therapies Organization Network

Better Relations for Better Science:
"Fostering Cooperation in the Scientific Community"

ISCT is working to improve interactions between those scientific or medical organizations working in or with cellular-based research and therapies.

Cooperation with those societies and non-profit organization with whom we share many common goals will not only strengthen our respective organizations but also better the scientific and working environment for our members.

We invite BMTSAA to become a member of our Cell Therapies Organization Network by indicating the ways you would like to see more cooperation between our organizations. The goal is to match the benefits that BMTSAA would like to see from increased cooperation with ISCT, with benefits that BMTSAA is able and willing to provide ISCT. This form will set the framework of discussion and cooperation between BMTSAA and ISCT for as long as it remains a productive relationship.

Participants in the Network will be recognized on the ISCT website, www.celltherapy.org, (by way of logo and web link). Participants in the network will also recognized in each issue of the Telegraft newsletter.

We invite you to complete and submit the form below to further discussions on increased cooperation between ISCT and BMTSAA.

Benefits BMTSAA Would like to Enjoy from ISCT	Benefits BMTSAA Is Able/Willing to Discuss Extending to ISCT
?Exhibit Booth at the ISCT Annual Meeting for \$500 Unlikely ? Subscription to Cytotherapy (the ISCT journal - 6 issues/yr) No benefit for the group as a whole (individual subscriptions) ?Annual receipt of ISCT member mailing list (no emails) May not be required ?Distribution of flyers/brochures at ISCT meetings May be useful in future ?Subscription to the Telegraft (quarterly newsletter) Individual access preferred ?1/2 page in one issue of the Telegraft per year Yes. Members already contribute to articles. ?BMTSAA Workshop at ISCT Annual Meeting Logistics would be difficult ? An ISCT column in your newsletter Yes.	? Exhibit Booth at Annual Meeting at discounted rate Yes ? Subscription to journal Not Applicable ? Annual sharing of member mailing list (or relevant sub-list) Yes ? Distribution of ISCT flyers/brochures at meetings Yes ? Subscription to our newsletter Yes ? 1/2 page in one issue of newsletter per year Yes ? ISCT Workshop at BMTSAA Annual Meeting Yes ? A BMTSAA column in our newsletter (the Telegraft) Yes already contributing to Telegraft ? _____ ? _____

Other Suggestions: _____

- ? Website Link
- ? Collaboration with respect to standards and guidelines
- ? Access to ISCT educational material
- ? BMTSAA representative on ISCT Committee/s

We ask that you complete the following information as part of the application to become a participant in the ISCT Cell Therapies Organization Network. If you indicated a desire to receive an ISCT publication above, please indicate the intended subscriber below with full mailing and contact information.

Organization:	_____
Address:	_____ _____
City:	_____ State: _____ Zip: _____ Country: _____
Telephone:	_____ Fax: _____
Website:	_____ Email: _____
Description:	_____ _____ _____
Contact Name:	_____ Email: _____

Subscriber Name: _____	Job Title: _____
Title with Applicant Organization: _____	
Degrees: ? MD ? PhD ? MSc ? BSc ? MT	
? Other: _____	

Address: _____	

City:	_____ State: _____ Zip: _____ Country: _____
Telephone:	_____ Fax: _____
Email:	_____ Gender: ? Male ? Female

Please return by:

Mail: ISCT Head Office, 777 West Broadway, Suite 401, Vancouver B.C., V5Z 4J7 CANADA

Email: headoffice@celltherapy.org

Fax 604 874 4378

Methodology: Nineteen healthy donors, median age 42 (range 19-71) received either 2 x 5 µg/Kg G-CSF daily (n=10, group A) or 2 x 8 µg/Kg G-CSF (n=9, group B) for 5 days. Pre mobilization CD34+ cell counts in the peripheral blood for each donor prior to the administration of G-CSF and apheresis samples were quantitated for CD34+ cells using the ISHAGE gating strategies. Collection of PBSCTMs were performed on a Cobe Spectra.

Results: The mean pre mobilization CD34+ cell count was 3.71.2E in group A (donors who were to be given 10µg/Kg G-CSF) and 3.7 2.6E in group B (donors who were to be given 16µg/Kg G-CSF). We found a relationship between the number of resting CD34+ cells in the PB of healthy donors and the number of CD34+ cells that could be mobilized after 5 days of G-CSF. Normal donors who had less than 2 CD34/uL before mobilization had a low chance of achieving a target of 5x10⁶ CD34+ cells/Kg after a single apheresis, compared to donors with more than 2 CD34/uL at baseline. An average 287.5x10⁶ CD34+ cells were collected from group A and 647.2x10⁶ CD34+ cells from group B. We found that an increase in the G-CSF dose from 10 to 16 µg/Kg was associated with a mean 2.3 fold higher CD34+ cell mobilization. The target of collecting >5.0 x10⁶ CD34+ cells/Kg in first apheresis was achieved in 44% of donors in group A and in 67% in group B, respectively.

Conclusion: Preliminary data indicate that pre mobilization PB CD34+ counts may serve to estimate the CD34+ cell mobilization potential and that higher doses of G-CSF can mobilize more stem cells in healthy donors.

A Highly Predictive Model for Efficient Peripheral Blood Stem Cell Collection Based on CD34 Enumeration and Variable Volume Leukapheresis

B OTMCallaghan*, M Plaster, P Chase, K Stoner, M Sturm, P Cannell, R Herrmann
Department of Haematology, Royal Perth Hospital, Perth, WA

Effective mobilisation of peripheral blood stem cells (PBSC) can be influenced by many factors including disease status, prior treatment and mobilisation regimes of patients. Monitoring of peripheral blood white cell count (WCC) and CD34⁺ concentration during mobilisation can indicate the optimum time for PBSC collection by apheresis, thereby minimising the number of procedures performed per patient. In this retrospective study, data for PBSC harvests, carried out over an 18 month period, were collated and evaluated to determine the effectiveness of apheresis practice in our centre. In this study, PBSC harvest data of 67 patients, mobilised between January 2001 and June 2002, was analysed. Commencement of PBSC harvest was determined by analysis of peripheral blood (PB) WCC, using the Cell-Dyn 2000, and CD34⁺ stem cell concentration, performed by dual platform flow cytometry. The movement and amplitude of a patient's WCC was the indication for CD34⁺ determination. The analysis of WCC and CD34⁺ trends individualised the collection strategy for each patient, and apheresis was performed when both were on an upward trend. PBSC harvests were performed using a Cobe SpectraTM continuous flow blood cell separator and a 1mL/min collect rate. The volume of whole blood processed, to obtain the requested number of stem cells, was estimated using the following algorithm:

$$\text{Blood Volume (L)} = \frac{\text{Recipient Weight (kg)} \times \text{Requested CD34}^+ \text{ Cells (10}^6 \text{ /kg)}}{\text{PB CD34}^+ \text{ Concentration (10}^6 \text{ /L)} \times 0.4}$$

Of the 69 patients harvested, 27 were normal

donors, 15 multiple myeloma, 15 lymphoma, 6 acute myeloid leukaemia and 6 other. Retrospective analysis of the data revealed a total of 82 leukapheresis procedures, with a mean of 1.2 collections per patient. The mean pre-collection PB CD34 + stem cell concentration was 107 ± 134 (SD) x 10⁶ /L (range 6-416). The number of CD34 + stem cells requested ranged from 2-10 x 10⁶ /kg and the mean volume of whole blood processed was 14.2 + 5.3 L (range 6-30). The mean recovery of stem cells from processed peripheral blood was 42.0 + 15.5%. A single apheresis achieved the requested number of stem cells in 56/69 (81.2%) for all procedures and in 24/27 (89%) for normal donors and in 32/42 (76%) for other patients.

Close monitoring of peripheral blood WCC and CD34 + concentration in mobilised patients and the accurate prediction of the blood volume to be processed optimises leukapheresis and restricts the number of procedures to a single collection in the majority of patients.

Progenitor Cell Viability Assays

J McMannis MD
Anderson Cancer Center, Houston, Texas, USA

The FDA requires the Cell Manipulation Center to perform full characterization of cell products before issuing the product for clinical use. This characterization includes: safety, purity, potency, identity, and stability. We have been evaluating different methodology for viability determination. We have compared trypan blue, flow analysis using both 7-AAD and Propidium Iodide, and a new instrument, Guava PCA Person. Cell Analysis System

We have compared these methodologies using bone marrow, and either fresh or previously cryopreserved peripheral blood progenitor cells.

Autologous Platelet Cryopreservation and Reinfusion – The Liverpool Hospital Experience

L Fava, J Gallo, L Dunlop, M Harvey*, P Motum, J Estell, D Heaton, D Rosenfeld
Haematology Research and Stem Cell Transplantation Laboratory, Haematology, SWAPS, Liverpool Hospital, Haematology Consulting, Liverpool Hospital, Sydney, NSW

Cryopreservation and reinfusion of autologous platelets have been performed by several groups including Schiffer CA *et al.*, 1982, Funke I *et al.*, 1995, Bentley M *et al.*, 2001 and Vadhan-Raj *et al.*, 2001. The procedure was safely used by these groups to support alloimmunized patients with acute leukemia undergoing high dose chemotherapy, those undergoing autologous stem cell transplantation and those with carboplatin-associated severe thrombocytopenia, respectively. Platelets were generally mobilised by utilising rTPO. At Liverpool Hospital two patients undergoing curative chemotherapy for acute myeloid leukemia, who were refractory to Red Cross Blood Bank donor platelet transfusions, underwent apheresis collection of their platelets, whilst in remission. Platelets were collected by apheresis following chemotherapy, cryopreserved in 5% DMSO and stored in liquid nitrogen. Following consolidation chemotherapy the platelets were transfused back into the patients.

Several series of platelet transfusions were performed on both patients

with one and 24 hour post-transfusion platelet counts evaluable on all series.

Total number of transfusions (two patients)	13
Median autologous platelet dose x 10 ¹¹	2.4 (1.8-3.8).
Median increment at one hour post transfusion	9 (3-24)
Median increment at 24 hour post transfusion	7 (0-14)

This form of treatment allows support for alloimmunized patients without the need for TPO, has no toxicity and is convenient (eliminates the difficulty of locating matched platelets from Red Cross Blood Bank and allows the storage of platelets that could be transfused as clinically needed).

Peripheral Blood Stem Cell Viability Post Cryopreservation

JA Stevens*, TP Rawling, H Magar, P Casey, PG Dyson, ID Lewis
Institute of Medical and Veterinary Science, Adelaide, SA

Peripheral blood stem cells (PBSC) are collected by apheresis from patients and normal donors for future transplantation. In the laboratory the cells are washed twice with normal saline, cryopreserved and stored in liquid nitrogen. At the time of cryopreservation pilot ampoules are stored for future testing.

Viability testing is performed on thawed pilot samples to determine the number of stem cells that survive processing, cryopreservation and storage. Cell viability is assessed by flow cytometry using 7AAD with analysis being performed within 30 minutes of sample thawing. Generally harvested stem cells are washed and cryopreserved in the laboratory on the day of collection. It is sometimes necessary to hold the product at 4 °C overnight before processing the following day. We used the viability assay to assess the impact of cell washing and overnight storage on product viability and yield. We also examined the impact of cellular composition on product yield and viability.

We analysed data from 260 apheresis products for which estimation of viable total cells and CD34⁺ cells had been performed on the product prior to processing and on the corresponding thawed cryopreserved pilot sample. Products that had been washed had significantly higher cell viability (Mann Whitney) as well as significantly higher post thaw viability and viable CD34⁺ yield.

There was no significant difference in product viability pre- and post-processing between cells that had been stored and those that were processed immediately. There was also no significant difference in post-thaw cell viability and viable CD34⁺ yield. (See table on next page).

There was no correlation (Spearman Rank) between either the number of neutrophils or the number of immature cells in the starting product and product viability or CD34 yield of the thawed cells.

We conclude that while overnight storage and the starting number of neutrophils had no effect on the CD34⁺ yield of the thawed product, washing of the apheresis product improved both the viability and yield.

(see table next page for data)

	Effect of washing		Effect of storage	
	Cells washed x 2 n=216	Cells not washed n=30	Cells processed immediately n=44	Cells stored overnight n=172
% viable cells pre-processing	98 (73-100)	98 (77-100) p=0.87*	98 (79-100)	97 (73-100)p=0.95*
% viable cells post-processing	96 (76-100)	91 (40-99) p=0.004	96 (81-99)	96 (76-100) p=0.59*
% viable cells post-thaw	78 (23-98)	73 (22-97) p=0.039	85 (34-97)	78 (28-98) p=0.09*
% CD34 ⁺ recovery post-thaw	82 (13-100)	54 (21-100) p=0.004	86 (13-100)	81 (17-100) p=0.25*

*not significant

Bacterial Screening of Umbilical Cord Blood Units: Practical Issues about Sensitivity and Delayed Testing

RL Sparrow (1)*, B Cummings (2), J Fieldwick (2), V Colville (2)

1. Research Unit, Australian Red Cross Blood Service, Melbourne, VIC
2. National Microbiology Laboratory, Australian Red Cross Blood Service, Hobart, TAS

Quality assurance of cord blood (CB) units banked for clinical transplantation includes bacterial screening. Often Cord Blood Banks are not located in close proximity to a Good Manufacturing Practice-accredited microbiology laboratory resulting in time-delays for screening. The automated bacterial culture system, BacTAlert (bioMérieux) is commonly used for bacterial screening of blood products. This system reputedly detects one viable bacterium in the original sample inoculum. The objectives of this study were to determine: 1) the sensitivity of the BacTAlert system for CB screening; 2) the effect of delayed inoculation and delayed entry of samples into the BacTAlert; and 3) the recovery of bacteria from cryopreserved samples. CB buffy coat cells were mixed with cryopreservation solution according to standard procedures and then spiked with *Staphylococcus epidermidis* (ATCC 12228) or *Escherichia coli* (clinical isolate) at 2, 20, 200 or 2,000 colony forming units (CFU)/ml. Spiked-CB (0.5 ml) was aliquoted into vials and later inoculated into paediatric BacTAlert bottles at day 1, 4 and 7; or inoculated directly (day 0) into replicate paediatric BacTAlert bottles; or cryopreserved in liquid nitrogen. Quantitation of bacteria was determined by CFU counts on horse blood agar (HBA) plates.

Sensitivity studies showed that 50% (2 of 4) samples spiked with 2 CFU/ml *E. coli* were detected, which is within the sampling error limit of a 0.5 ml sample used for inoculation of the bottles. Replicate cryopreserved samples gave 100% detection by BacTAlert or HBA plates. Samples spiked with >5 CFU/ml of either *E. coli* or *S. epidermidis* gave positive detection of all samples (n = 14 and 16, respectively). Delayed entry into the incubator of BacTAlert bottles inoculated at day 0 and then stored at room temperature (RT) showed that *E. coli* and *S. epidermidis* remained viable up to 7 days. In contrast, delayed inoculation of spiked samples into BacTAlert bottles showed variable results, depending on the bacterial strain and dose. At doses >20 CFU/ml, *S. epidermidis* remained viable in all sample vials stored at RT for up to 7 days (n = 8). At doses <20 CFU/ml the detection of *S. epidermidis* in spiked samples stored for more than 24 hours at RT was inconsistent. *E. coli* was considerably more sensitive and lost viability within 24 hours, except at doses >2,000 CFU/ml. Both *E. coli* and *S. epidermidis* could be

readily recovered from thawed cryopreserved spiked samples, even at low doses of bacteria. For the bacterial strains used in this study 1) the BacTAlert system can detect one viable bacterium in the original sample; 2) bacterial screening samples are best inoculated into BacTAlert bottles at the time of sample preparation; 3) up to 7 days delayed entry into the incubator of BacTAlert bottles inoculated at the time of sample preparation did not compromise bacterial detection and 4) bacteria can be reliably recovered from cryopreserved CB samples. This study provided a useful approach for the validation of an automated bacterial culture system for bacterial screening of CB.

(from January 1990 to June 2000 and received Methotrexate and Cyclosporin as prophylaxis for GvHD. Prior to transplant (or prior to the knowledge of transplant outcome) the frequency



BMTSAA DRAFT PROGRAMME

October 2003 Christchurch NZ

Saturday 18 October 2003

0900 - 1600
Social bus trip to Akaroa or Waipara for lunch - programme to be decided - optional

Sunday 19 October 2003

0800 - 0900
Registration
0900 - 1030
BMTSAA Free Communication Symposium
1030 - 1100

Monitor	Supplier	Cost	Contact details
Gas Alert #72-9000-O2	GasTech	\$1276	1800 999 902 (08) 92421969 info@gas-tech.com.au
G20 Portable gas detector	Aquip	\$2715	www.aquip.com.au (08) 9472 01222
Pac III single gas monitor	Drager	\$1879	1800677 787
Safe Test 90	App-Tek Safety	~\$900	www.quest-technologies.com
QPM3200	Wessington Cryogenics	400 UK	www.wessingtoncryogenics.co.uk
Toxgard II Gas Monitor	MSA*	\$5900	1300 728 672 (Adelaide)
Oldham Surveyor 5	Anri Inst & Controls	?	Ferntree Gully Vic 9752 3782

Plenary Session - Immunotherapy

1100-1230

Enumeration of peripheral blood DC
Dr Judy McKenzie
Haematology/Immunology Research Laboratory
Christchurch School of Medicine

Growth requirements for DC's and their role in immunotherapy

Dr Dave Ritchie
Malaghan Institute
Wellington

Adoptive immunotherapy or DLI post BMT

Dr Derwood Pamphilon

BMTSAA Free Communication Symposium
1330 - 1500

Workshop: Stem Cell Storage & Transportation

1530 - 1700
Moderator : Carlos Lee

Open Forum

1700 - 1800
Accreditation/Topical Issues?

AGM?

Welcome Reception

Caledonian Hall, Kilmore Street
(included in registration)

Sue Carnoutsos



OXYGEN MONITORS – SHORT CONFUMER REPORT

The detectors utilizes an electrochemical sensor, which contains a lead wool material in contact with electrodes and electrolyte. When oxygen is allowed to diffuse into this material the electrochemical reaction causes a current flow. Such sensors are reliable, but once all the lead has been consumed the sensor needs to be replaced. Therefore when the lead is exhausted the alarm will be triggered. The running life of a detector is 18-24 months before replacement. There seems to be some confusion at what level the detector should be placed. Oxygen and nitrogen are the major gases in the atmosphere with almost the same density, however the nitrogen gas venting from the tank will tend to settle as it is colder than the room temperature. Therefore it is advisable to place the sensor closer to the floor than the ceiling. At time of writing this article there was talk of a standard giving the

height of placement from the floor, however this was not available at the publication date. The next newsletter will address this matter if the information becomes available. The monitor has to be calibrated, it is best to place it at a level for easy access to feed gas into the sensor. However the position of the sensor should not be too close to the lid or the exhaust opening of the storage

tank as the filling gas exhaust may trip off the sensor with false alarms.

K.D. Fisher & Co. 9542 1888 Jason Abela
Have a number of systems. The one I looked at included a control panel with battery backup, audio/visual alarms on panel and 2 other assemblies to place at entrance doors. Warning signs, and the sensor. Total \$2093.00
*MSA, John Tunks, Sydney rep 0418 426234 or 9688 0333 www.msa.net. Pam Dyson's lab brought a system from MSA for \$4940.00. I do not have a brochure on their equipment but seems very similar to Oldham and Crowcon system, however cost is significantly higher. I cannot comment much on this system, there may be a good reason for the price.
Anri, Stephen Hurst 03 9752 3782
The package with 2 channels and 1 sensor is \$1590.00. \$1495.00 for 1 channel. Battery back up extra \$655. Replacement of oxygen sensor, \$275.00.

The system I purchased was Crowcon Gasflag from KD Fisher & Co. The Crowcon TXGard-IS Oxygen Sensor Complete Assembly CO1512 for \$743.00 (electrochemical sensor) and audio/visual alarm assembly DC supply included for \$700.00. Cost for replacement sensor is \$295.00. The company's head office in Adelaide 08 8277 3288. The Sydney contact is Jason Abela 95402511 or 0418 400 790.

Control Panel 13-28 V DC Supply, Internal Audio Alarm.

N.B Please note these prices are > one year old. For my lab, I have the sensor approx 1 metre off the floor near the tanks. The control panel is on the wall outside the entry door to the lab. It has a key, to lock all parameters set. It is a very flexible system. I have it set up as below, but U can set up differently, depending on your circumstances.

- Remote alarm set up at blood bank. At this remote site the alarm can be accepted/reset. This is audible/visual by light on panel.
- At the lab there is audible/visual alarms. I have flashing lights above both entry doors to lab.
- The alarm set points are adjustable. I have set 19.5% 'high' alarm and 17% for 'low' alarm. [I am still locating any specific guidelines in Oz, the above are from UK/European standards. If there was an alarm at 19.5% I would have time to fix the problem, 17% means there is a real problem. I have signs 15% or lower do not enter the room.]
- By pressing the accept/reset button this will mute the audible alarm but will not reset the visual alarm until oxygen levels in air are => 20%.
- If oxygen levels continue to drop the alarm will be triggered again at 17.0% (audible & visual). The audible can be muted but the visual will stay on until levels are 20%.
- If I were to get false alarms in the future I can change it that it only alarms at remote site when levels are 17%. Prior to changing sensor the alarm was going off on an auto-fill so it was a bit 'cry wolf'. However we recalibrated sensor and don't have that problem. I am happy with the location of the sensor and the system as a whole.

Royal Perth I believe now have purchased a Crowcon.



Lisa.Fava

Off the Web

Welcome to www.BloodMed.com. Our aim is to try and meet as many as possible of your hematological needs within this one site. The project is a joint venture between Blackwells and the world-wide Hematology community. The Editorial board consists of internationally recognized hematologists, each experts in their field. The content will be continually changing and includes a broad range of original articles, points of view, images, education, patient information, meeting calendars, journals online.

Visit

<http://click.cminteractive.com/?1zeBJFIX=278734> today to request your free trial, which gives you full access to the entire site for 30 days



Did you know you can access over 5,000 company catalogues online through ThomasRegister.com and that more of these catalogues are added to the site each and every week? Online catalogues offer you the chance to browse a company's catalogue for the products/services you need, right at your fingertips. To access ThomasRegister.com and browse company catalogues online, click here: info.cadregister.com/ts/r/278/36/1/397/5



Cell Therapy News is an e-newsletter distributed to over 3500 subscribers worldwide. The content is intended to cover timely scientific, regulatory, clinical, and corporate issues related to all types of cell and tissue-based research, processing/manufacturing, and therapies. We welcome suggested content, press releases, comments, and requests to post links to the newsletter on other websites.

Subscription to Cell Therapy News is free and available to anyone by entering your email address in the subscription box on this website or sending an email request to Lee Buckler at buckler@malachite-mgmt.com



By popular demand, Sigma-Aldrich's Fundamental Techniques in Cell Culture is now available on-line. This fundamental guide provides you with basic information including:

- Design and equipment for the cell culture laboratory
- Cell culture protocols
- Cryopreservation and storage of cell lines
- Sourcing of cell lines

This book was written and developed with the European Collection of Cell Cultures (ECACC), which provides authenticated cell lines and services to the scientific community around the world.

Check out the handbook at:

<http://www.sigmaaldrich.com/action?CID=2054&EID=8120629&MPC=E353G04B>



Haploidentical stem cell transplantation is a powerful new strategy in the treatment of haematological malignancies. Its aim: to provide every patient in need of a stem cell transplant with a suitable donor. The website **Haplo.org** has been created to keep physicians and researchers up to date on the latest advances in this rapidly growing field and to provide patients with useful knowledge for making informed treatment decisions.

<http://www.haplo.org>

In addition to conveniently bringing together latest research results, **Haplo.org** publishes conference reports, commentary on prominent studies, reviews on scientific and clinical topics relevant to haploidentical stem cell transplantation and updates on a major clinical trial comparing different transplantation approaches. Every quarter, subscribers are notified by email about new updates on **Haplo.org**. The website also offers a variety of resources, including clinical protocols, a list of upcoming conferences and links to related sites on the internet.



Sorry Easter was late this year, I had to find a new bunny.