Apheresis Medicine Physician Training Around the World: South Africa

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The use of Apheresis Technology in South Africa

1975 Introduction of discontinuous flow cell separator devices (Haemonetics) in the Eastern Cape Blood Service for platelet collections from volunteer donors

1978 Continuous flow devices (IBM) first used in the Haematology Departments at the Groote Schuur Hospital (Cape Town) and Universitas Hospital (Bloemfontein) for the collection of platelets and granulocytes

1990 Introduction of discontinuous flow cell separators in the South African Blood Transfusion Service (Johannesburg), for platelet collections

1995
• Discontinuous flow cell separators used for PBSC collections and for therapeutic plasma exchange procedures in patients with familial hypercholesterolemia
• Introduction of continuous flow devices for platelet donations and for therapeutic apheresis procedures
Current Apheresis Practice in South Africa
Procedures per annum

Donor apheresis procedures
• Platelet apheresis 18,500
• Hyperimmune plasma donations 5,000
• Double red cell collections 2,000

Therapeutic procedures
• Therapeutic plasma exchange 3,000
• PBSC collections 400
• Red cell exchange 10
Scope of therapeutic apheresis practice in South Africa

Therapeutic plasma exchange
• Thrombotic thrombocytopenic purpura (70%) (refer to ASFA Congress presentation: Colwyn Poole et al.)

Peripheral blood stem cell collections
• Autologous (90%)
• Allogeneic (10%)
  • MUD (SA Bone Marrow Registry)
    – South African recipients (2013) 15
    – International recipients (2013) 2

Red cell exchange Procedures
• Sickle-cell crisis
• Malaria
Therapeutic Apheresis Services
TPE and PBSC

• South African National Blood Service
  • Pretoria
  • Johannesburg
  • Durban
  • Port Elizabeth

• Physician specialists in Public and Private Institutions
  • Pretoria
  • Cape Town

• Service Providers to Private Hospitals (National Renal Care)

Procedures are performed by Professional Nurses certified competent to perform the procedures: Physician oversight and management
Blood component collection

South African National Blood Service
- Pretoria
- Johannesburg
- Durban
- Bloemfontein
- Port Elizabeth

Western Province Blood Transfusion Service
- Cape Town

Currently, all apheresis platelet and hyperimmune plasma collections are undertaken at fixed-site collection centers.
Graduate Apheresis Training in South Africa

No training program has been developed for medical practitioners which would lead to certification specific for Apheresis Medicine
Post-graduate Diploma in Transfusion Medicine

University of the Free State

• Two-year, long-distance learning course with two ‘Contact Sessions’ per year.

Formal Curriculum:

• Accredited by the University
• Accredited by the South African Department of Health
• Accredited by the Health Professions Council of South Africa

Included in the Curriculum

Principles of Apheresis:

• blood component collection
• therapeutic plasma exchange
• peripheral blood stem cell collection
• related topics e.g. ABO incompatible PBSC transplantation, mobilization of PBSCs, therapeutic red cell exchange, HLA and HPA matched platelet transfusions, etc.

36 Candidates, including candidates from other African countries, have successfully completed the Course
Apheresis Training Seminars
Conducted by Blood Service Physicians and Suppliers of Apheresis Devices

- Annual Neurological Association of South Africa Conference (apheresis satellite symposia)
- Annual South African Stem Cell Transplantation Society Conference
- Presentations to physicians at Academic and Private Hospital and to Medical Residents
  - Hematology
  - Neurology
  - Nephrology
- Regular Regional Workshops initiated and conducted by Blood Service Physicians and by Suppliers of cell separator devices (attended by Blood Service medical and nursing staff, and clinicians)
- Direct communication with clinicians who perform apheresis procedures

ASFA Guidelines
Conclusion

The number of apheresis procedures being performed in South Africa has increased significantly over the past few years.

Donor and Patient safety must be assured and there is a need to document physician competency.

Apheresis education is being provided to physicians in various Continuing Professional Development settings in South Africa however, there is scope for the establishment a formal training program which leads to certification specific to the discipline of Apheresis Medicine.