

FIFTH  
REPORT OF THE  
NATIONAL TRANSPLANT REGISTRY  
2008

Editors  
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**Disclaimer**

There is a potential that data for previous years printed in this report are different from what were printed in previous reports. This is because analysis for this report is based on the latest dataset in the web which may have been updated by SDP.

## **FORWARD**

It is with great pleasure that the Malaysian Society of Transplantation presents the 5th Annual Report (2008) of the National Transplant Registry containing updated data and statistics on the entire range of transplant activities, from organ donation to transplantation, and its outcomes. Registries are the cornerstone of any clinical system and are the key to monitoring the performance of the system.

The National Transplant Registry was established in 2003 by the combined efforts of the Malaysian Society of Transplantation and the Ministry of Health Malaysia to collect and maintain a database of all transplant related activities in Malaysia. This database serves as an important national resource of transplant related information and helps in planning the development and delivery of future transplant services for the benefit of all Malaysians.

The NTR is an incredible resource of information for clinicians, researchers, health care planners and administrators. It helps us to better understand the need for transplantation and the need to improve the clinical care and overall clinical outcomes for all individuals who have had an organ or tissue transplant. The data provided by each transplant programme is verified and analysed as a whole and can be viewed online at <http://www.mst.org.my>.

I would like to thank Dr. Hooi Lai Seong, Datin Dr. Lela Yasmin Mansor and the various expert panels for their ongoing support and commitment to the registry in preparing, editing and proof reading this report. I would also like to thank all the source data providers from the public and private hospitals and university medical centres for collaborating and contributing their data to the National Transplant Registry over the years. The credit for the strength of our transplant registry goes entirely to the diligence of the transplant registry staff that have painstakingly dissected and verified the medical information to provide exceptional quality data. A special thanks to the members of the Expert Panels, the Transplant Registry Unit and the Governance Board for their tremendous contributions to the success of this registry.

It is hoped that with the continued cooperation and participation of all parties involved, it will be possible to ensure that the data remains available and worthy for studies in the future. It is thus vital that the quality of the data and the integrity of the current database be maintained and supported for these purposes.

I hope that in the coming years we will be able to secure adequate funding for the registry to go online in real time. A web-based registry will be able to seamlessly integrate and provide data of the various transplant activities in the country readily at any given point in time.

**Datuk (Mr) Harjit Singh MBBS; FRCS Ed; FRCSI  
President, Malaysian Society of Transplantation**

## **ACKNOWLEDGEMENTS**

The National Transplant Registry would like to record its appreciation to everyone who have helped made this report possible.

We would especially like to thank the following:

- Our source data providers that are the transplant surgeons, physicians and staff of all organ and tissue transplant centres and transplant follow up centres from the government, universities and private sectors, without whose commitment, hard work and timely data submission, there will be no report
- National Renal Registry for sharing the renal transplant data
- Clinical Research Centre, Hospital Kuala Lumpur
- Ministry of Health, Malaysia
- The members of the various expert panels for their expertise and for devoting their valuable time and effort in preparing and writing the various chapters
- Information technology personnel namely Ms Lim Jie Ying (database administrator), Mr Sebastian Thoo (programmer), Mr Rakesh A/L M. Jaya Prakasam (web application programmer) and Ms Azizah Alimat (desktop publisher)
- Statistician Ms Lena Yeap Lay Ling
- Roche (M) Sdn. Bhd. for their financial contribution to the registry yearly
- Many others, whose names are not listed here, for their support.

## **PARTICIPATING CENTRES**

### **Discipline: Blood and Marrow Transplant**

1. Ampang Puteri Specialist Hospital
2. Division of Haematology, Department of Medicine, University of Malaya Medical Centre
3. Haematology Department, Hospital Ampang
4. Haematology Department, Sime Darby Medical Centre Subang Jaya
5. Haemopoietic Stem Cell Transplant Unit, Hospital Universiti Sains Malaysia
6. Maybank BMT Centre, Universiti Kebangsaan Malaysia Medical Centre
7. Oncology-Haematology Department, Gleneagles Medical Centre, Penang
8. Oncology-Haematology Department, Lam Wah Ee Hospital
9. Paediatric BMT Unit, Department of Paediatrics, University of Malaya Medical Centre
10. Paediatric BMT Unit, Institute of Paediatrics, Hospital Kuala Lumpur
11. Paediatric BMT Unit, Sime Darby Medical Centre Subang Jaya

### **Discipline: Bone and Tissue Transplant**

1. Bone Bank, Hospital Kuala Lumpur
2. Bone Bank, University of Malaya Medical Centre
3. Department of Orthopaedic & Traumatology, Hospital Kangar
4. Department of Orthopaedic Surgery, Hospital Sultanah Bahiyah
5. Department of Orthopaedic Surgery, Hospital Taiping
6. Department of Orthopaedic Surgery, University of Malaya Medical Centre
7. Department of Orthopaedics, Hospital Ipoh
8. Department of Orthopaedics, Hospital Kajang
9. Department of Orthopaedics, Hospital Kuantan
10. Department of Orthopaedics, Hospital Pulau Pinang
11. Department of Orthopaedics, Hospital Raja Perempuan Zainab II
12. Department of Orthopaedics, Hospital Seberang Jaya
13. Department of Orthopaedics, Hospital Sultanah Aminah
14. Department of Orthopaedics, Hospital Sultanah Nur Zahirah
15. Department of Orthopaedics, Hospital Tengku Ampuan Rahimah
16. Department of Orthopaedics, Hospital Universiti Sains Malaysia
17. Department of Orthopaedics, Sarawak General Hospital
18. Department of Orthopaedics, Sultanah Fatimah Specialist Hospital
19. Department of Orthopaedics, Traumatology and Rehabilitation, International Islamic University Malaysia
20. Department of Surgery, Hospital Raja Perempuan Zainab II
21. Hospital Fatimah, Ipoh
22. Institute of Orthopaedic & Traumatology, Hospital Kuala Lumpur
23. Island Hospital, Penang
24. Kota Bharu Medical Centre
25. Malaysian Nuclear Agency
26. National Tissue Bank, Universiti Sains Malaysia
27. Normah Medical Specialist Centre, Kuching
28. Ophthalmology Department, Hospital Kuala Lumpur
29. Ophthalmology Department, Hospital Sultanah Bahiyah
30. Ophthalmology Department, Hospital Sungai Buloh
31. Ophthalmology Department, Hospital Teluk Intan

**Discipline: Bone and Tissue Transplant**

32. Ophthalmology Department, Hospital Tengku Ampuan Afzan
33. Ophthalmology Department, Hospital Tengku Ampuan Rahimah
34. Ophthalmology Department, Hospital Universiti Sains Malaysia
35. Ophthalmology Department, Sri Kota Medical Centre
36. Timberland Medical Centre, Kuching
37. Wan Orthopaedic, Trauma & Sports Injury Centre, Seremban Specialist Hospital

**Discipline: Cornea Transplant**

1. Eye Clinic, Mahkota Medical Centre
2. Hope Eye Centre, Gleneagles Intan Medical Centre, Kuala Lumpur
3. International Specialist Eye Centre, Kuala Lumpur
4. K.C. Yeo Eye Specialist Centre, Melaka
5. Ophthalmology Department, 94 Hospital Angkatan Tentera Kem Terendak
6. Ophthalmology Department, Gleneagles Medical Centre, Penang
7. Ophthalmology Department, Hospital Batu Pahat
8. Ophthalmology Department, Hospital Bukit Mertajam
9. Ophthalmology Department, Hospital Duchess of Kent
10. Ophthalmology Department, Hospital Ipoh
11. Ophthalmology Department, Hospital Kangar
12. Ophthalmology Department, Hospital Kuala Lipis
13. Ophthalmology Department, Hospital Kuala Lumpur
14. Ophthalmology Department, Hospital Kuala Pilah
15. Ophthalmology Department, Hospital Melaka
16. Ophthalmology Department, Hospital Mentakab
17. Ophthalmology Department, Hospital Miri
18. Ophthalmology Department, Hospital Pakar Sultanah Fatimah
19. Ophthalmology Department, Hospital Pantai Indah
20. Ophthalmology Department, Hospital Pulau Pinang
21. Ophthalmology Department, Hospital Putrajaya
22. Ophthalmology Department, Hospital Queen Elizabeth, Kota Kinabalu
23. Ophthalmology Department, Hospital Raja Perempuan Zainab II
24. Ophthalmology Department, Hospital Selayang
25. Ophthalmology Department, Hospital Sibu
26. Ophthalmology Department, Hospital Sultan Ismail Pandan
27. Ophthalmology Department, Hospital Sultanah Aminah
28. Ophthalmology Department, Hospital Sultanah Bahiyah
29. Ophthalmology Department, Hospital Sultanah Nur Zahirah
30. Ophthalmology Department, Hospital Sungai Buloh
31. Ophthalmology Department, Hospital Sungai Petani
32. Ophthalmology Department, Hospital Taiping
33. Ophthalmology Department, Hospital Tawau
34. Ophthalmology Department, Hospital Teluk Intan
35. Ophthalmology Department, Hospital Tengku Ampuan Afzan
36. Ophthalmology Department, Hospital Tengku Ampuan Rahimah
37. Ophthalmology Department, Hospital Tuanku Ja'afar
38. Ophthalmology Department, Hospital Umum Sarawak
39. Ophthalmology Department, Hospital Universiti Kebangsaan Malaysia
40. Ophthalmology Department, Hospital Universiti Sains Malaysia

**Discipline: Cornea Transplant**

41. Ophthalmology Department, Sri Kota Medical Centre
42. Ophthalmology Department, University of Malaya Medical Centre
43. Pusat Pakar Mata Centre For Sight, PJ
44. Puteri Specialist Hospital, Johor Bahru
45. Sunway Medical Centre
46. Tan Eye Specialist Centre, Sunway Medical Centre
47. Tun Hussein Onn National Eye Hospital

**Discipline: Heart and Lung Transplant**

1. Cardiothoracic Department, Institut Jantung Negara
2. Institut Perubatan Respiratori, Hospital Kuala Lumpur

**Discipline: Heart Valve Transplant**

1. Cardiovascular Tissue Bank, Department of Cardiothoracic Surgery, Institut Jantung Negara

**Discipline: Liver Transplant**

1. Department of Paediatrics, University of Malaya Medical Centre
2. Hepatobiliary Department, Hospital Selayang
3. Paediatric Hepatology Unit, Hospital Selayang
4. Institute of Paediatrics, Hospital Kuala Lumpur
5. Sime Darby Medical Centre Subang Jaya

**Discipline: Renal Transplant**

1. C. S. Loo Kidney & Medical Specialist Centre
2. Damai Medical & Heart Clinic
3. Fan Medical Renal Clinic
4. Kidney Unit, Assunta Hospital
5. Klinik Dr Choo & Liew
6. Nephrology Clinic (Renal Transplant), Hospital Kuala Lumpur
7. Nephrology Clinic (Renal Transplant), Hospital Kuala Lumpur (Paed)
8. Renal Transplant Clinic, Hospital Batu Pahat
9. Renal Transplant Clinic, Hospital Bintulu
10. Renal Transplant Clinic, Hospital Duchess of Kent
11. Renal Transplant Clinic, Hospital Dungun
12. Renal Transplant Clinic, Hospital Kemaman
13. Renal Transplant Clinic, Hospital Kluang
14. Renal Transplant Clinic, Hospital Labuan
15. Renal Transplant Clinic, Hospital Likas
16. Renal Transplant Clinic, Hospital Melaka
17. Renal Transplant Clinic, Hospital Mersing
18. Renal Transplant Clinic, Hospital Miri

**Discipline: Renal Transplant**

19. Renal Transplant Clinic, Hospital Pakar Sultanah Fatimah
20. Renal Transplant Clinic, Hospital Pantai Penang
21. Renal Transplant Clinic, Hospital Pontian
22. Renal Transplant Clinic, Hospital Pulau Pinang
23. Renal Transplant Clinic, Hospital Queen Elizabeth
24. Renal Transplant Clinic, Hospital Raja Perempuan Zainab II
25. Renal Transplant Clinic, Hospital Raja Permaisuri Bainun
26. Renal Transplant Clinic, Hospital Segamat
27. Renal Transplant Clinic, Hospital Selayang
28. Renal Transplant Clinic, Hospital Serdang
29. Renal Transplant Clinic, Hospital Sibul
30. Renal Transplant Clinic, Hospital Sultan Ismail
31. Renal Transplant Clinic, Hospital Sultanah Aminah
32. Renal Transplant Clinic, Hospital Sultanah Bahiyah
33. Renal Transplant Clinic, Hospital Sultanah Nur Zahirah
34. Renal Transplant Clinic, Hospital Taiping
35. Renal Transplant Clinic, Hospital Tawau
36. Renal Transplant Clinic, Hospital Tengku Ampuan Afzan
37. Renal Transplant Clinic, Hospital Tengku Ampuan Rahimah
38. Renal Transplant Clinic, Hospital Tuanku Ja'afar
39. Renal Transplant Clinic, KPJ Ampang Puteri Specialist Hospital
40. Renal Transplant Clinic, KPJ Selangor Specialist Hospital
41. Renal Transplant Clinic, Normah Medical Specialist Centre
42. Renal Transplant Clinic, Prince Court Medical Centre
43. Renal Transplant Clinic, Pusat Perubatan Universiti Kebangsaan Malaysia
44. Renal Transplant Clinic, Renal Care (Ipoh Specialist Hospital)
45. Renal Transplant Clinic, Sabah Medical Centre
46. Renal Transplant Clinic, Sarawak General Hospital
47. Renal Transplant Clinic, Selangor Medical Centre
48. Renal Transplant Clinic, Sime Darby Medical Centre Subang Jaya
49. Renal Transplant Clinic, Sri Kota Medical Centre
50. Renal Transplant Clinic, Sunway Medical Centre
51. Renal Transplant Clinic, Universiti Sains Malaysia Hospital
52. Renal Transplant Clinic, University Malaya Medical Centre
53. Renal Transplant Clinic (Paed), Ward 8C&D, Hospital Sultan Ismail
54. Simon Wong Medical & Kidney Clinic, Timberland Medical Centre
55. Smartcare Dialysis Centre, Subang Jaya
56. Tan Medical Renal Clinic
57. Wee Kidney & Medical Specialist Clinic

## **ABOUT THE NATIONAL TRANSPLANT REGISTRY**

The National Transplant Registry (NTR) is a Ministry of Health (MOH) supported registry whose aim is to collect information about organ and tissue transplantations in Malaysia. The information allows us to estimate the magnitude of transplant activity in the country. Such information besides being useful to transplantation practitioners may be used in assisting the MOH, non-governmental organisations, private providers and industry in program planning and evaluation of transplantation services.

The objectives of NTR are to:

1. Determine the frequency and distribution of all types of transplantation activity in Malaysia.
2. Determine the outcomes of transplantation.
3. Determine the factors influencing outcomes of transplantation.
4. Evaluate transplantation services in the country.
5. Stimulate and facilitate research on transplantation and its management.

The NTR receives data on organ / tissue transplantation from 3 main sources:

1. The individual doctors who provide transplantation services, who voluntarily report data to the NTR. Data collection will be from seven main types of transplantation services:
  - Blood and Marrow Transplant
  - Cornea Transplant
  - Heart and Lung Transplant
  - Liver Transplant
  - Renal Transplant
  - Heart Valve Transplant
  - Bone and Tissue Transplant
2. The National Vital Registration system (Jabatan Pendaftaran Negara). Their data is useful for determining or verifying mortality outcomes of transplant patients.
3. Information Documentation Unit of the MOH, which operates the Health Management Information System (HMIS).

## **NTR SPONSORS**

- Medical Development Division, MOH
- National Transplant Coordinating Committee
- Malaysian Society Of Transplantation
- Clinical Research Centre, Hospital Kuala Lumpur

## **GOVERNANCE BOARD**

The Governance Board is established to govern the NTR and the terms of reference are as follows:

1. Provide the necessary leadership and direction for the National Transplant Registry.
2. Ensure that the vision, objectives and goals of the National Transplant Registry are clearly established and that strategies are in place for achieving them.
3. Establish policies and procedures for the proper functioning of the National Transplant Registry.
4. Seek input and feedback from all stakeholders and end users with regards to their expectations and the performance of the National Transplant Registry.
5. Secure funding and financial support for the National Transplant Registry.
6. Galvanize the commitment of all interested parties to the National Transplant Registry.
7. Receive and review the annual report from the steering committee.

Current members of the Governance Board are as follows:

### **Chairperson**

Dato' Dr Zaki Morad Mohd Zaher

### **Vice Chairperson**

Datin Dr Fadilah Zowyah Lela Yasmin Mansor

### **Members:**

Datuk (Mr) Harjit Singh

Dr Teng Seng Chong

Tan Sri Dato' Seri Dr Mohd. Ismail Merican

Mr Rohan Malek

Dr Hooi Lai Seong

Dr Aizai Azan Abdul Rahim

Dr Suzina Sheikh Ab. Hamid

Dr Abdul Malik Hussein

Dr Tan Chwee Choon

Dato' Dr Chang Kian Meng

Dato' Dr M.Venugopal Balchand

Malaysian Society of Transplantation

Medical Development Division, Ministry of Health

Malaysian Liver Foundation

Malaysian Urological Association

Malaysian Society of Nephrology

National Heart Association of Malaysia

Malaysian National Tissue Bank

Malaysian Orthopaedic Association

National Kidney Foundation of Malaysia

Malaysian Society of Haematology

Malaysian Association of Thoracic & Cardiovascular Surgeons

Dr Goh Pik Pin

Clinical Research Centre, Hospital Kuala Lumpur & Malaysian Society of Ophthalmology

Dr Jamaiah Haniff

Clinical Research Centre, Hospital Kuala Lumpur

### **Secretariat:**

Ms Leong Wei Chee

## EXPERT PANEL

NTR has established seven groups of Expert Panel comprising members of the medical profession and allied health with expert knowledge in these various disciplines:

- Blood and Marrow Transplant
- Cornea Transplant
- Heart and Lung Transplant
- Liver Transplant
- Renal Transplant
- Heart Valve Transplant
- Bone and Tissue Transplant

The role of the Expert Panel is:

1. To undertake quality control of the clinical registry form and the data dictionary as deemed necessary.
2. To undertake quality control of the reported data.
3. To undertake literature review on the relevant area.
4. To interpret the results generated by NTR's statisticians.
5. To write the section of the NTR report relevant to the panel's expertise.
6. To specify the data reporting procedure.
7. To facilitate access to source documents for Transplant Registry Unit (TRU) staff to do data verification.

List of Expert Panel members for each respective discipline:

### **Discipline: Blood and Marrow Transplant**

<b>Co-chairperson (Adult)</b>	Dr Alan Teh Kee Hean
<b>Co-chairperson (Paeds)</b>	Prof Dr Chan Lee Lee
<b>Members</b>	Prof Gan Gin Gin @ Gan Shiaw Sze
	Dr Hishamshah Mohd Ibrahim
	Prof Madya Dr S Fadilah Abdul Wahid
	Dr Ong Tee Chuan

### **Discipline: Cornea Transplant**

<b>Chairperson</b>	Dr Shamala Retnasabapathy
<b>Members</b>	Prof Dato' Dr Veera Ramani
	Dr Choong Yean Yaw
	Dr Michael Law Sie Haur
	Dr Thiageswari Umopathy
	Dr Chandramalar Santhirathelagan
	Associate Prof Dr Mohtar Ibrahim

**Discipline: Heart and Lung Transplant**

<b>Chairperson</b>	Mr Mohamed Ezani Hj Md. Taib
<b>Members</b>	Dato' Dr David Chew Soon Ping
	Dr Aizai Azan Abdul Rahim
	Dr Abdul Rais Sanusi
	Dr Ashari Yunus

**Discipline: Liver Transplant**

<b>Chairperson</b>	Dr Ganesalingam A/L Kanagasabai
<b>Members</b>	Dr Lim Kin Foong
	Dr Haniza Omar
	Dr Lim Chooi Bee
	Prof Dr Lee Way Seah

**Discipline: Renal Transplant**

<b>Chairperson</b>	Dr Goh Bak Leong
<b>Members</b>	Dato' Dr Zaki Morad Mohd Zaher
	Dato' Dr (Mr) Rohan Malek
	Dr Fan Kin Sing
	Dr S Prasad Menon
	Dr Lily Mushahar
	Dr Lim Soo Kun

**Discipline: Bone and Tissue Transplant**

<b>Chairperson</b>	Dr Suzina Sheikh Ab Hamid
<b>Members</b>	Dr Abdul Malik Mohamed Hussein
	Assoc Prof Dr Ahmad Hafiz Zulkifly
	Dr Thiageswari Umapathy
	Dr Ewe Teong Wan
	Dr Norimah Yusof
	Assoc Prof Dr Vivek Ajit Singh

**Discipline: Cadaveric Organ and Tissue Donations**

<b>Chairperson</b>	Datin Dr Fadhilah Zowyah Lela Yasmin Mansor
<b>Members</b>	Dr Hooi Lai Seong
	Dr Omar Sulaiman
	Dr Muhammed Anis Bin Abdul Wahab
	Matron Jamaliah Kario
	Staff Nurse Santi A/P Krishanan

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