

# WAIKATO REGIONAL NEUROSURGICAL UNIT

## ANNUAL REPORT 1 JANUARY 07 - 31 DECEMBER 07

### **Preface:**

This is the First Annual Report from the Neurosurgery Unit at Waikato District Health Board, for the period of 1 January 2007 to 31 December 2007.

### **Introduction:**

Health Waikato is committed to providing a wide spectrum of integrated health services which ranged from the primary health care to complete tertiary care services, including Neurosurgery for the Midland region. A stand alone new unit was officially opened by the Health Minister, Hon'ble Peter Hodgson, on 13 June 2006. In the first six months the unit concentrated on theatre and ward staff training, educational activities, organising admissions, theatre planning and implementing many protocols for smooth running of the department. Throughout this period, the unit received a great deal of feedback which was implemented accordingly, as and when appropriate. A preliminary report, covering the period of June 2006 to June 2007 was released in December 2007 commenting on the unit's achievements since its opening in 2006.

### **Neurosurgery Ward:**

Ward 8 in the Menzies Building was comprised of 10 beds, including 5 beds for immediate post operative care. This was specifically renovated for Neurosurgery. As a result of a steady increase in workload and recruitment of nursing staff we have increased bed numbers to 12. There still remains a potential to increase the capacity to 15 beds. The appointment of a 0.5 fte nurse educator for a period of 12 months allowed the unit to educate and up skill core staff so that the 5 bedded high acuity unit can be fully utilised to its potential. This position should become permanent encouraging the ward 8 to accepting patients from the high dependency unit, with external ventricular drain and subarachnoid haemorrhage requiring intravenous medical therapy and this process will free up beds in the high dependency unit.

### **Neurosurgery Theatre:**

Team Leader Linda Madley and her team are working to re-format theatre 1 to Neurosurgery. The unit acknowledges their dedication required to train both neurosurgery theatre staff and but other acute theatre staff alike. The recent increase in our workload suggests that the theatre days should be increased from 10 sessions to 12 sessions per fortnight. More equipment, instruments and facilities are also needed for neurosurgery to maintain and improve its existing service.

### **Neurosurgery Department:**

The unit is managed by one Director, two fulltime Neurosurgeons three Registrars, and one senior house officer. Appointment of a fourth Neurosurgeon has been initiated and likely to be implemented by 2008. The department is co-located with the Neurology department and out patient clinics. This combination is currently working well; however, there are many areas that need to be improved to accommodate additional medical and clerical staff.

The unit congratulates Dr Matthias Schulz for successfully completing his 12 months tenure prior to his exit examination in Germany next year. He was a great asset both to the unit and to Waikato DHB. We acknowledge his contributions to the Unit and wish him well for his future career. Following Dr Schulz's departure Dr Nishantha Gunasekera from Srilanka assumed his role as a registrar in December 2007.

Ms Sarah Ranger was appointed as Secretary and her service is complemented by timely appointment of Ms Melanie Lee to streamline the out patient clinics. The out patient clinic attendance has increased steadily to consider additional outpatient clinic sessions next year. A business plan to conduct clinics in Tauranga has been proposed. These are expected to commence in early 2008 with the strong support from Bay of Plenty DHB. This outreach clinic is expected to minimise the workload in Hamilton clinics. The unit has the plan to develop outreach clinics in Rotorua and Taranaki as well in the future.

A special appreciation to the team Leaders, Alaina Campbell, Linda Madley and her staff who have played a major role providing a high class service, training many nursing staff and developing many protocols for patient management.

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**Neurosurgery staff:**

Director	Dr V Balakrishnan. ONZM, MS, FRACS
Neurosurgeons	Dr T Muthu, M.Ch, FRCS Dr Z Hussain M.Ch, M.Sc, FRCS
Registrars	Dr M Schulz Dr T H Smithers Dr J Neve Dr J Serfontein Dr A Devadass
Senior house officers	Dr A Devadass Dr L Taumoepeau Dr R Paranawivana Dr T Boon Dr L Klobwkouski
Neuroanaesthetist	Dr D Williams Dr R Ebert Dr A Johnson Dr T Watson
Neuroradiologist	Dr G Coltman Dr D Blair
Interventional radiologist	Dr A Muthu Dr Z Hussain
Neuropathologist	Dr D Lamont
Neuro radiation oncologist	Dr M Tills Dr R Angell
Neurosurgery Theatre :	
Team Leader	Ms L Madley
Theatre Nurse	Ms R Menzies Mr C Evans Mr C Reynolds Ms V Barradas
Clinical Nurse Managers:-	
Ward 8	Ms A Campbell
ICU	Mr Hughes Ms C Craig Mr S Mehari Ms A McAlley MS D Mallet
HDU	Ms L Jones Ms S Akehurst
Nurse Educators	Ms S Walker Mr M Reynolds

**Staff nurses Ward 8:**

Caren Barnett	Roman Bathan	Liza Cabardo	Cecile Combrink
Karen Carter	Hannah Dow	Helen During	Margaret Fam
Marlene Gallano	Jenny Holmes	Simone Johns	Martina McArthur
Sona Manuel	Helen Miller	Judith Morris	Te Rina Ormond
John Parry	Harold Roque	Usha Sanu	Philippa Schultz
Karen Taylor	Tiffany Schwass	Kamaljeet Sidhu	Paea Talia
Maria Talosig	Sakelene Mpofo	Jacqueline Tilib	
Amy Thorne George			

**Rehabilitation team:**

Medical specialist:	Dr M Wong
Physiotherapist	Ms K Holloway
Occupational therapist	Ms R Cowan & Mr P Hight
OT/PT Assistant	Ms G Capuyan
Speech & language therapist	Ms A Flavell & Ms S Empson
Social worker	Ms M Hudler MS G McLean
Dietician	Ms I Perols, Ms A Farrell
Pharmacist	Mr A Mutavdzic
Maori Advocate	Ms T Tanirau

Ward 8 Ward clerk: Ms K Liddle

Department Secretary: Ms D Wilkins  
Ms S Ranger (from July 2007)

OP booking clerk Ms M Lee  
Out patient clinic Ms L McCormick  
Ms C Coles

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<b>Outpatients attendance, Wards, ICU Admissions</b>	<b>Number</b>
Waikato outpatient clinic attendance	1258
Gisborne outpatient clinic attendance	85
Referral within Waikato Hospital (approx)	724
Ward 8 admission	430
ICU, HDU admission (approx)	43
<b>Ward 8 admission from other region</b>	
Hamilton region	164
Tauranga	100
Rotorua	47
Gisborne	29
Taupo/ Turangi	23
Whakatane	25
Tokoroa/ Te Awamutu/Taumarunui	28
Thames	18
Te Kuiti	8
Hawkes Bay	6
Taranaki	1
Mid Central	2
Whangarei	1
Auckland	3
Overseas, UK, Oman (visitors)	2
<b>Summary of Progress 1 Jan 07 – 31 Dec 07</b>	<b>Total Numbers</b>
Total Waikato outpatient attendance	1259
Total admission to Ward 8	430
Total admission to ICU, HDU (approx)	43
Total number of operations/GDC	374
Total referral, WDHB	724
Total Gisborne OP clinic	85

**Unit CME & peer review activities**

<b>Meetings</b>	<b>Participant</b>	<b>Month/Year</b>
Micro neurosurgery workshop, St Louis. USA	Dr T Muthu	March 07
HDC meeting, Wellington	Dr V.Balakrishnan	March 07
Inter Unit Audit meeting Auckland	Dr Z Hussain	March 07
Inter Unit Audit Wellington	Dr V.Balakrishnan, Dr T Muthu	May 07
Inter Unit Audit Hamilton	All staff	June 07
Medtronic Spine workshop Cairns, Australia	Dr V Balakrishnan Dr T Muthu Dr M Schulz	August 07
Inter Unit Audit meeting Christchurch	Dr Z Hussain	September 07
Neurosurgical Society of Australasia Annual Meeting Gold Coast, Australia	Dr. V Balakrishnan	November 2007
NANZ. Annual Meeting, Tauranga	Dr Z Hussain Dr V Balakrishnan	November 07
Inter Unit Audit meeting Dunedin	Dr. V Balakrishnan Dr M Schulz	December 2007
Grand Round –Thursday	All staff	Weekly meeting
Trauma meeting-Thursday	All staff	Weekly meeting
Registrar teaching –Tuesday	Consultants	Weekly meeting
Neuroradiology-Wednesday	All medical staff	Weekly meeting
Neurology Journal club	All medical staff Neurologists	Weekly meeting
Neuropathology/Oncology	All medical staff Pathologist and Oncologists	Fortnight meeting

### **Future Plan**

There is a great potential for further development of the unit and this can only be achieved by gaining support, commitment and collaboration from other specialised units both in Waikato and other DHBs. Financial support and co-ordination from the administrative and management staff are also vital and without their input growth of this unit can be stalled due to financial constraints. However, the Neurosurgery unit is planning to impose the following plans for future expansion.

### **Regional Expansion:**

- Establishing “out reach” clinics in Tauranga and this move might increase referrals from other DHBs and reduce the work load in Waikato out patient clinic.
- Increasing the catchments area controlled by the Midland Health for example Taranaki.
- Organising educational activities to primary health organisation to enhance referral pattern.
- Regional expansion process requires additional medical staff and funding and hopefully this can be achieved in the next 2 years.
- Implementation of guidelines for case referrals from other specialities within the Waikato DHB. Further improvement can be achieved with collegial support from the medical specialists.

### **Future initiatives for Waikato DHB:**

- Establishment of a Regional Radiosurgery unit
- Co-ordinated Neuro-Oncology service
- Integration of service management with neurology, orthopaedic, plastic surgery and possibly paediatrics
- Funding to increase theatre allocation, staff, instruments and equipment to meet the demand for example, interventional neuroradiology set up.
- Plan for more nursing staff, permanent nurse educator and liaison nurses for continuous improvement and maximise bed occupancy.
- Business plan with ACC for an “on-site rehabilitation set up” within Waikato and reduce acute ward 8 bed occupancy rate.

The vision of the Neurosurgery unit is to become one of the best performing centres in New Zealand and to achieve this following process must be addressed:

- To keep up to date with technological advancements
- Ongoing workforce recruitment and training
- Strategic plans to balance the New Zealand Medical Council registration formalities
- Improve funding for capital investment, staff appointment and retention.

### **Conclusion**

The quality and commitment of the administration, clinical and nursing staff are acknowledged by all members of the unit. There are financial constraints across the board, but further improvements and implementation of future services must be looked into in a positive way as this unit has many hidden potentials to become one of the best performing unit in this country.

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**Director of Neurosurgery**  
**Waikato District Health Board**  
**Hamilton, New Zealand**  
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**December 2007**

<b>Waikato Regional Neurosurgical Unit Operations 1 Jan 07 - 31 Dec 07</b>			
<b>BURRHOLES</b>			
	Chronic subdural haematoma	34	
	Subdural hygroma	4	
	Biopsy- Glioma	7	
	Biopsy-Metastasis	2	
	Biopsy-dura/arachnoid	2	
	Aspiration of abscess	2	
	ICP monitoring	14	65
<b>CRANIOTOMY</b>			
<b>Trauma</b>	Elevation of depressed fracture	5	
	Extradural haematoma	5	
	Anterior cranial fossa dural repair	3	
	Debridement gunshot wound	1	
	Decompressive craniotomy/trauma/SDH	9	
	Acute subdural haematoma	1 (Paed)	24
<b>Tumours Stealth guided</b>	GBM/Astrocytoma high grade	30	
	Ganglioglioma	3	
	Oligodendroglioma	3	
	Craniopharyngioma	1	
	Calcified glioma	1	
	SCC dura/rotation flap	1	
	Sphenoid wing,calvarial meningioma	4	
	Meningioma	28	
	Metastasis	11	
	Lymphoma	3	
	Removal of calvarial osteoma	2	
	Fibrous dysplasia	1	
	Tuberous sclerosis	1	
	Radical removal Chordoma	1	90
<b>Infection</b>	Excision of abscess	1	
	Subdural empyema	2	
	Wound debridement	1	4
<b>Re-operation</b>	Subdural hygroma	2	2
<b>Vascular lesions</b>	Acute SDH/Hypertension/arterial bleed	18	
	Internal carotid aneurysm	2	
	Middle cerebral aneurysm	8	
	Anterior comm. artery aneurysm	2	
	Posterior comm. artery aneurysm	3	
	Basilar summit aneurysm	1	
	Excision of AVM	1	
	Evacuation of intracerebral haematoma	1	
	Encephalo pericranial synangiosis	1	37
<b>Posterior fossa lesions</b>	Meningioma	4	
	Metastasis	6	
	Foramen magnum decompression	3	
	Biopsy-no histology	1	
	Microvascular decompression	2	
	Excision haemangioblastoma	1	
	Removal of vestibular schwannoma	2	19

<b>TRANSPHENOIDAL SURGERY</b>			
	Chromophobe adenoma	3	3
<b>SPINE/SPINAL CORD</b>			
<b>Cervical</b>	Posterior decompression	1	
	Anterior fusion/bone/plates	12	
	Syringo subarachnoid shunt	1	
	Subdural haematoma	1	
	Schwannoma	1	
	Ependymoma	1	17
<b>Thoracic</b>	Meningioma	4	
	Intramedullary dermoid	1	
	Cavernoma	1	
	Schwannoma	1	7
<b>Lumbar</b>	Decompression for stenosis	4	
	Discectomy	3	
	Spino peritoneal shunt/revision	3	
	Spinal subarachnoid shunt	1	
	Release of tethered cord	1	
	Drainage of epidural abscess	1	
	Removal of schwannoma	1	14
<b>CSF DIVERSION PROCEDURES</b>			
	Ventriculo peritoneal shunt	8	
	Revision of VP shunt	15	
	Endoscopic ventriculostomy	3	
	Aspiration of pseudomeningocele	1	
	Insertion of Ommaya Reservoir	2	
	External ventricular drain	13	42
<b>PLASTIC/CRANIOPLASTY</b>			
	Craniofacial reconstruction	2	
	Ti mesh cranioplasty	6	
	Bone cranioplasty	6	
	Anatomics acrylic cranioplasty	2	
	Medpor cranioplasty	1	
	Titanium plate cranioplasty	1	
	Removal of infected flap	1	19
<b>PAIN RELIEF PROCEDURES</b>			
	Trigeminal ganglion glycerol injection	4	
	Trigeminal balloon compression	1	5
<b>PERIPHERAL NERVE/MUSCLE</b>			
	Sural nerve biopsy	2	
	Muscle biopsy	11	
	Removal of Popliteal nerve schwannoma	1	14
<b>INTERVENTIONAL RADIOLOGY</b>			
	GDC for aneurysm	8	
	Coil embolisation	1	
	Thrombolysis	3	12
<b>Total operations and interventional radiology procedures</b>			<b>374</b>