mater education

# RMO NEUROLOGY HANDBOOK

Version: 08/12/2020

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# Contents

## WELCOME FROM THE MEU

Please read this handbook in conjunction with the RMO Orientation Handbook which is accessible on the MEU website via Zenworks or http://mededu.matereducation.qld.edu.au/handbooks/

Please refer to the Mater Document Centre for specific organisational policies and procedures.

### MEU Contact Details

If you're experiencing difficulty with any aspect of the term, clinical or otherwise, please contact the term supervisor and/or PVMEO as early as possible.

| | |
|---|---|
| Director of Clinical Training (DCT) | ☎ 8229 |
| Prevocational Medical Education Officer (PVMEO) | ☎ 8431 |
| Vocational Training Medical Education Officer (VTMEO) | ☎ 1560 |
| Medical Education Admin Officer | ☎ 8272 |
| Medical Education Manager, | ☎8114 |

## INTRODUCTION

The Neurology Unit is a 30 bed unit which includes a video EEG telemetry unit and a dedicated 7 bed stroke unit. The Centre of Neurosciences has a Stroke CNC and an Epilepsy Nurse Practitioner. The large health care team of nursing, allied health, administration officers and medical staff are collaborative and respectful of others' contributions towards providing excellent care for the neuro patient and family.

## UNIT OVERVIEW

| | |
|---|---|
| Dr Cullen O'Gorman | Director of Neurology |
| Dr Lisa Gillinder | Consultant Epileptologist |
| Dr Daniel Schweitzer | Neurologist and RMO Term Supervisor |
| Dr Andrew Swayne | Neurologist |
| Dr Rodrigo Tomazini Martins | Neurologist |
| Dr TBD | Epilepsy Fellow |
| Dr TBD | Neurology Advanced Trainee |

**Units:**

- Epilepsy Monitoring Unit (EMU)
    - Comprehensive 3 bed unit where patients have EEG and simultaneous video recordings. Typically, patients are admitted for a week of EEG monitoring that can include video EEG and invasive monitoring (stereotactic electroencephalogram, SEEG). The recordings are reviewed and discussed in the multidisciplinary epilepsy meeting on a Tuesday morning.
- Stroke Unit
    - 7 bed unit that provides evidence-based care for patients following an acute stroke. The stroke unit is a comprehensive and multidisciplinary unit.

## UNIT ORIENTATION

On the first day you need to arrive at 8 am at the doctor's office located in the SB23 ward, level 8 Salmon Building where the Neurology Registrar and the Neurology Nurse will conduct the ward round. The Registrar will outline the responsibilities and discuss expectations of your role for the term.

Your term supervisor and the neurosciences NUM will conduct a personalised face to face orientation with you within the first 2 days of the new term. The following areas are covered:

- reporting lines,
- daily roster,
- unit policies and procedures,
- term learning objectives,
- discussion and documentation of your individual learning objectives for the term
- assessment,
- how daily clinical handover is conducted, and
- departmental tour
- start of term checklist

### Start of Term Checklist

All RMOs complete a Start of Term Checklist with their Term Supervisor within the first week of a new term. The checklist is completed online and the link is available on the Medical Education Unit website (http://mededu.matereducation.qld.edu.au/cpd-requirements/all-forms/ ).

## RMO LEARNING OBJECTIVES

Your rotation in neurology is designed to provide you with supervised experience in caring for patients with a broad range of neurological conditions in the inpatient and outpatient setting. There are opportunities for you to participate in:

- assessing and admitting patients with neurological conditions;

- managing patients with a range of medical conditions, including migraines, epilepsy, stroke, functional neurological disorders, and Parkinson's disease and other neurodegenerative conditions;
- neurological procedures such as lumbar punctures;
- discharge planning, including preparing a discharge summary and other components of handover to a general practitioner, subacute facility, residential care facility, or ambulatory care.

Together with coordinating inpatient and outpatient neurological care, the aim is to make you familiar with common neurological conditions, as well as managing neurological emergencies. Specifically, you are to become independently competent in:

- clinical neurological examinations
- implementation of the acute stroke pathway and NIHSS assessment;
- the management of acute multiple sclerosis flare;
- the management of general medical issues in neurology patients;
- lumbar punctures;
- basic MRI interpretation, and understanding of the clinical relevance of each of the important sequences (T1, T2, FLAIR, DWI, ADC and SWI sequences).

You are expected to become knowledgeable in:

- management of seizures;
- identification of patients with strokes and their mimics;
- management of migraines and other headaches

## Acute Neurology

It is expected that RMOs become proficient in recognising the deteriorating patient and become competent in managing the basics of neurological emergencies. This includes:

- initial management of a patient with status epilepticus;
- recognition and institution of management of a patient with an acute stroke;
- assessment of a patient's deficit and assessing a patient's NIHSS score.

It is important for all deteriorating patients that the RMO calls for help from their registrars or consultant when indicated.

## Opportunities to participate in audit

The Mater Centre of Neuroscience has a strong research focus with numerous opportunities for RMOs to participate in audits and/or poster presentations.

## RMO DUTIES AND RESPONSIBILITIES

A daily ward round is conducted with either the basic physician trainee or neurology advanced trainee. A consultant ward round also occurs on most days. You will then undertake the necessary ward work before attending the neurology outpatient clinics. The expectation is that you will attend at least one neurology clinic each week (Tuesday afternoon). Where time permits, the neurology RMO can attend additional clinics.

### Workload

The inpatient load is variable, ranging from 3-15 patients. In addition, you may be required to assist in the outpatient clinics, or with consultants and patient admissions.

### Role of the RMO

Primary care of neurological patients is under the guidance of the neurology registrar and supervising consultants. Specifically, this includes:

- daily ward rounds;
- record a note daily in the patient chart, clearly documenting the team members present, the patients key neurological and medical issues, examination findings, relevant investigations, impression, and management plan;
- documentation of NIHSS stroke scale on the **day of presentation** and **day of discharge** from the Stroke Unit;
- ensure medications are clearly charted; including recharting medications prior to the weekend;
- handover the plan to the nursing staff;
- ensure there is a clear plan and handover (if necessary) to ward call staff, especially for patients at risk of deterioration, and prior to the weekend.
- clearly document weekend plans for each patient during the Friday ward round to facilitate safe hand over of patient care
- ensure appropriate investigations for the weekend and Monday morning are requested each Friday

The preferences for the verification of patient test results is consultant dependent. Please

- verify all **in patient** test results at the end of each day and action as appropriate.
  Any test results you are uncertain about should be discussed with a registrar or the treating consultant each day;
- **do NOT** verify test results requested by the following doctors: Dr Gillinder, Prof Nestor, Dr Airey (medical imaging).

### Important Points

- The Mater Centre for Neurosciences is a mixed neurology and neurosurgical ward with both publicly and privately admitted patients. Please direct any questions regarding neurosurgical or privately admitted patients to their appropriate doctor.

- Patients admitted under the care of an epileptologists (Dr Lisa Gillinder) will be managed primarily by this service with the assistance of the Epilepsy Fellow
- Patient discharge summaries will at times be finalised by nursing staff to facilitate patient discharge from hospital. It is therefore important that medical discharge summaries are up to date at all times to ensure appropriate handover of information to the patient's general practitioner.

## SUPERVISION

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|---|---|
| Dr Andrew Swayne | Term Supervisor |

### Supervisors
Term supervision is conducted by the team consultant outlined above. Clinical supervision is provided by Unit Consultants, Registrars and Fellows and all consultants are contactable if problems arise and registrar/fellow not available. If you need to contact your consultant, you can do this via switch.

### Escalating Patient Concerns
Any problems or questions regarding care of inpatients should be referred to the Unit Registrar. If the registrar is not available, then the Fellow should be contacted. If neither are available, then the consultant should be contacted directly.

### Scope of Practice
JHO/SHOs should not perform clinical procedures without having direct observation in the first instance. The clinical supervisor will inform you what is to happen and what their expectations are with regard to whether or not direct supervision is required. This will be dependent on the skill itself and level of proficiency exhibit.

If you are unsure of what to do please ask. You need to discuss all relevant issues with your supervisor. You should feel confident in approaching the neurology registrars and consultants. When uncertain, please do not hesitate to ask questions.

## ASSESSMENT AND FEEDBACK

### Assessment
It is the responsibility of the RMOs to seek a mid-term and end-of-term assessment with their term supervisor. If you're experiencing difficulty with any aspect of the term, clinical or otherwise, please contact the term supervisor and/or medical education, early. The MEU will send out a reminder email with instructions to all RMOs one week prior to all due dates. The assessment form can be accessed at any time from the Medical Education Unit website via Zenworks or http://mededu.matereducation.qld.edu.au/cpd-requirements/all-forms/

There is also an optional self–assessment section located at the beginning of the assessment form, which you are encouraged to complete and discuss with your supervisor. However, if you wish to complete this separately you can complete the RMO form Self-Assessment Form which is located on the Medical Education Unit Website under 'Assessment Forms'.

### Feedback

Your clinical supervisor/s will provide regular written feedback regarding your progress via your assessment forms, and verbal feedback on a daily basis. If you have concerns or would like more regular feedback, speak to your supervisor in the first instance and the MEU if required. At the end of your rotation, you are required to complete the end-of-term unit evaluation survey and provide valuable feedback on your supervision.

For more information regarding assessment and feedback, please refer to the RMO Orientation Handbook.

## UNIT EDUCATION AND LEARNING OPPORTUNITIES

RMOs and registrars are encouraged to take advantage of the learning opportunities during the week. RMOs and registrars are expected to contribute to case presentations/journal club on a monthly basis.

Subspecialty interests of the Centre of Neurosciences include:

- Epilepsy surgery (Dr Dionisio, Dr Gillinder)
- Functional neurological disorders and movement disorders (Dr Lehn)
- Multiple sclerosis and neuroimmunology (Dr Blum, Dr Swayne, Dr Clarke)
- Migraine and headache disorders (Dr Airey)

During your term, you may have access to the following procedures (investigations and interventions):

- Intravenous cannulation
- Lumbar puncture – all RMOs must initially be observed to perform this procedure by the neurology AT or consultant prior to performing the procedure independently
- Blood collection (Pathology) Simple nerve blocks – all RMOs must initially be observed to perform this procedure by the neurology AT or consultant prior to performing the procedure independently
- Radiology interpretation

### Resident Education Opportunities:

- Audits and research opportunities
- Weekly multidisciplinary stroke meeting
- Weekly neurology case conference
- Neuroradiology meeting once a fortnight
- General neurology and sub-specialty clinics
- Case presentations during clinic and unit meetings
- Informal teaching on the ward round
- RMO Education – Tuesday and Thursday 12:30pm – 1:30pm
- Registrar teaching

### Specific Unit Meetings:

Monday

- Medical Grand-rounds 1300-1400
  Presented by trainees and consultants within the Department of Medicine on a rotating roster.
  It is an expectation that all clinicians within the department will attend this education meeting.

Tuesday

- Neuroradiology Meeting 1130-1200 second Tuesday of the month
  During this meeting radiological investigations are reviewed with the public radiologists.
  The impressions and outcomes are documented in the patient's medical records.
- Neurology Case Conference 1130-1200 (excluding week of neuroradiology meeting)
  Case conference discussion of current inpatients.
  The impressions and recommendations should be documented within the patient's medical record.
- Neurology Departmental Meeting 1200-1300
  Weekly departmental meetings with a rotating roster of journal club, research presentations, morbidity and mortality meetings and departmental business meeting.

Wednesday

- Neuroradiology/Neuropathology Meeting 0700-0800 monthly.
  During this non-compulsory meeting radiological investigations are reviewed with the radiologists. This meeting is also attended by the neurosurgical consultants and a number of the private neurologists, providing further depth to the discussions. Where relevant the biopsy/surgical histology is also reviewed.

Thursday

- Stroke Meeting 1200-1230
  Weekly multidisciplinary meeting with allied health teams and the rehabilitation department to discuss current public and private patients admitted with a stroke.
  Impressions and recommendations should be recorded in the patient's medical record.

## UNIT POLICIES & PROCEDURES

There is a learning culture in neurology where questions are encouraged and practice is continually under review and updated according to best available evidence. All members of the team are expected to respond courteously and provide accurate information or assist with discovery of relevant, up to date information.

### Consent:

The provision of consent must be undertaken by a consultant, fellow or registrar. It is acceptable and desirable for a more junior doctor to be involved in the consent process but only with the guidance of one of the aforementioned doctors.

Where there is any question or concern regarding the provision of informed consent, discussion should be directed towards Mater Health Services' in-house Legal Counsel. Any such advice must also be discussed with the patient's consultant.

## Communication:

Effective patient care depends upon many factors, including sound clinical judgement, knowledge base, and an understanding of appropriate investigations. Importance of communication with registrars and consultants, on all aspects of patient management cannot be over emphasised. You are encouraged to bring any concerns to the attention of the registrar or consultants. You are not expected to make neurological decisions on your own.

## Other:

- The day infusion clinic cares for patients with neurological conditions receiving IV methylprednisolone, IVIG and immunotherapies. This clinic is primarily overseen by the Neurology Advanced Trainee
- If requesting radiology guided lumbar punctures for opening pressures, please document on the request "if opening pressure is >26cmH2O, please remove 1mL of CSF for every 1cm over 26".
- There are a number of routine blood test panels that are requested for patients presenting with particularly signs and symptoms. These can be located via Pathology request form – Unit groups – Neurology.
- All patients admitted on the stroke pathway should receive: telemetry for minimum 48hours (unless known AF), neck vessel imaging (USS carotid or CTA), MRI brain, echocardiogram and blood work (FBC, CHEM20, TFTs, Hba1c, lipid profile)

## UNIT ROSTER AND TIMETABLE

### Rostered Hours

Hours are as per the tables below - with a 30-minute lunch break. Your regular working hours need to add up to 76 hours / fortnight under the current Enterprise Bargaining Agreement.

The inpatient ward rounds are completed with a registrar (either the basic physician trainee or advanced neurology trainee on a monthly rotating roster) and a neurology consultant. The neurology consultant rostered to cover the wards rotates on a fortnightly cycle between Dr Schweitzer, Dr Swayne and Dr Clarke.

<table>
<tr><th></th><th>Monday</th><th>Tuesday</th><th>Wednesday</th><th>Thursday</th><th>Friday</th></tr>
<tr><td>0800</td><td rowspan="8">Wardround</td><td rowspan="6">Wardround</td><td rowspan="9">Wardround</td><td rowspan="8">Wardround</td><td rowspan="8">Wardround</td></tr>
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<tr><td>1030</td></tr>
<tr><td>1100</td></tr>
<tr><td>1130</td><td>Neurology Case Conference<br>Neuroradiology Meeting (2nd Tuesday of the month)</td></tr>
<tr><td>1200</td><td>Neurology Department Meeting</td><td colspan="2">Stroke Meeting</td></tr>
<tr><td>1230</td><td></td><td rowspan="2">Resident teaching</td><td></td><td rowspan="2">Resident teaching</td><td></td></tr>
<tr><td>1300</td><td rowspan="2">Grandrounds</td><td></td><td></td><td></td></tr>
<tr><td>1330</td><td rowspan="6">Neurology clinic</td><td></td><td></td><td></td></tr>
<tr><td>1400</td><td></td><td>Neurology Education (please liaise with Dr Swayne)</td><td rowspan="2">Outpatient LPs</td><td></td></tr>
<tr><td>1430</td><td></td><td></td><td></td></tr>
<tr><td>1500</td><td></td><td></td><td></td><td></td></tr>
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The total hours per fortnight will be 76 hrs, however you will also be expected to cover weekend Saturday **ward rounds on a rotating roster with the other junior doctors** – you will be allocated a **half day on the alternate Friday afternoon** within the pay cycle.

All medical staff will be required to complete their time sheets accurately and to note clearly where the service was provided.

Any unrostered overtime will need to be authorised prior to the event and signed by the Director of Neurosciences on each occasion.

# APPENDIX 1: NIH STROKE SCALE

| NIH stroke scale<br>Admission date: | | Time: | Before | 2 h | 24 h | 7D/ Disch |
|---|---|---|---|---|---|---|
| **1a.Level of consciousness** | 0 | Alert | | | | |
| | 1 | Not alert, but arousable with minimal stimulation | | | | |
| | 2 | Not alert, requires repeated stimulation to attend | | | | |
| | 3 | Coma | | | | |
| **1b. LOC questions**<br>*Ask patient the month and their age* | 0 | Answers both correctly | | | | |
| | 1 | Answers one correctly | | | | |
| | 2 | Both incorrect | | | | |
| **1c. LOC commands**<br>*Ask patient to open/close eyes and form/release fist* | 0 | Obeys both correctly | | | | |
| | 1 | Obeys one correctly | | | | |
| | 2 | Both incorrect | | | | |
| **2.Best gaze**<br>*Only horisontal eye movement* | 0 | Normalt | | | | |
| | 1 | Partial gaze palsy | | | | |
| | 2 | Forced gaze palsy | | | | |
| ***3.* Visual field testing** | 0 | No visual field loss | | | | |
| | 1 | Partial hemianopia | | | | |
| | 2 | Complete hemianopia | | | | |
| | 3 | Bilateral hemianopia (blind, incl. Cortical blindness) | | | | |
| **4. Facial palsy**<br>*Ask patient to show teeth or raise eyebrows and close eyes tightly* | 0 | Normal symmetrical movemeent | | | | |
| | 1 | Minor paralysis (flattened nasolabial fold, asymmetry on smiling) | | | | |
| | 2 | Partial paralysis (total or near total paralysis of lower face) | | | | |
| | 3 | Complete paralysis of one or both sides (abscence of facial movement in the upper and lower face) | | | | |
| **5. Motor function arm** | 0 | Normal (extends arm 90° or 45 ° for 10 sec without drift) | | | | |
| | 1 | Drift | **Right** | | | |
| | 2 | Some effort against gravity | | | | |
| | 3 | No effort against gravity | | | | |
| | 4 | No movement | **Left** | | | |
| | 9 | Untestable (joint fused/limb amputated) *(do not add score)* | | | | |
| **6. Motor function leg** | 0 | Normal (holds leg in 30° position for 5 sec without drift) | | | | |
| | 1 | Drift | **Right** | | | |
| | 2 | some effort against gravity | | | | |
| | 3 | No effort against gravity | | | | |
| | 4 | No movement | **Left** | | | |
| | 9 | Untestable (joint fused/limb amputated) *(do not add score)* | | | | |
| **7. Limb ataxia** | 0 | No ataxia | | | | |
| | 1 | Present in one limb | | | | |
| | 2 | Present in two limbs | | | | |
| **8. Sensory**<br>*Use pinprick to test arms, legs, trunk and face, compare side to side* | 0 | Normal | | | | |
| | 1 | Mild to moderate decrease in sensation | | | | |
| | 2 | Severe to total sensory loss | | | | |
| **9. Best language**<br>*Ask patient to describe picture, name items* | 0 | No aphasia | | | | |
| | 1 | Mild to moderate aphasia | | | | |
| | 2 | Severe aphasia | | | | |
| | 3 | Mute | | | | |
| **10. Dysarthria**<br>*Ask patient to read several words* | 0 | Normal articulation | | | | |
| | 1 | Mild to moderate slurring of words | | | | |
| | 2 | Near unintelligible or unable to speak | | | | |
| | 9 | Intubated or other physical barrier *(do not add score)* | | | | |
| **11. Extinction and inattention**<br>*Use visual double stimulation or sensory double stimulation* | 0 | Normal | | | | |
| | 1 | Inattention or extinction to bilateral simultaneous stimulation in one of the sensory modalities | | | | |
| | 2 | Hemi-inattention, severe or to more than one modality | | | | |
| **12. Distal motor function**<br>*Ask patient to extend his/her fingers as much as possible* | 0 | Normal | **Right** | | | | |
| | 1 | At least some extension after 5 sec but not fully extended | | | | |
| | 2 | No voluntary extention after 5 sec | **Left** | | | |
| | | Total score: | | | | |