

Neuroscience Acute Care Rotation

1st Acute Care Rotation

Preceptors:

Benson Sederholm, PharmD, BCPS

Chad Condie, PharmD, BCCCP

Supporting Clinical Pharmacists:

Ryan McTish, PharmD

Tyler Kenney, PharmD, BCCCP

Logan Kelly, PharmD, BCPS

Site Description:

The Neuro Acute Care (NAC) unit located on the third floor of University of Utah Hospital is a 37-bed unit including neurology, neurosurgery, ENT, and medicine patients.

Rotation Description:

The pharmacist functions as part of a multidisciplinary team comprised of a neurology attending physician, neurology residents, medical students, and neuroscience nurses. Pharmacists on the Neurology service are expected to round daily on all neurology patients, respond as a member of the Brain Attack / Stroke team, provide drug information, perform medication histories, educate patients, and facilitate the resolution of medication-associated challenges and concerns. Didactic and experiential training includes a focus in the following areas: stroke, multiple sclerosis, epilepsy, headache, meningitis, myasthenia gravis, Parkinson's disease, Guillain-Barre syndrome, anticoagulation management, and other medical and neurological disorders. Hypertension, hyperlipidemia, atrial fibrillation, diabetes, pain-related disorders, and other issues are included.

Role of the Pharmacist:

The role of the neuroscience pharmacist includes rounding daily on neurology acute care patients, formulating pharmacotherapy care plans for neurology patients, evaluating clinical and laboratory findings, and responding to questions from residents and staff on medication associated concerns. The pharmacist also performs drug histories, medication reconciliations, and reviews discharge medication orders for appropriateness of therapy.

Resident Expectations:

While on rotation, the resident is expected to fully participate and actively engage in all pharmacist responsibilities for neurology inpatients including those roles listed above. The development of clinical skills, through patient interactions and active collaboration with physicians, nurses, and clinical staff members is emphasized. The resident will also perform daily patient presentations, lead one journal club presentation, and one in-service presentation to the neurology team.

RLS Goals:

Goal R1.1 In collaboration with the health care team, provide safe and effective patient care to a diverse range of patients, including those with multiple co-morbidities, high-risk medication regimens, and multiple medications following a consistent patient care process.

OBJ R1.1.1 (Applying) Interact with health care teams to manage patients' medication therapy.

OBJ R1.1.2 (Applying) Interact effectively with patients, family members, and caregivers.

OBJ R1.1.4 (Analyzing) Analyze and assess information on which to base safe and effective medication therapy.

OBJ R1.1.5 (Creating) Design or redesign safe and effective patient-centered therapeutic regimens and monitoring plans (care plans).

OBJ R1.1.7 (Applying) Document direct patient care activities appropriately in the medical record or where appropriate.

OBJ R1.1.8 (Applying) Demonstrate responsibility to patients.

Goal R1.2 Ensure continuity of care during patient transitions between care settings.

OBJ R1.2.1: (Applying) Manage transitions of care effectively.

Goal R3.1: Demonstrate leadership skills.

OBJ R3.1.1 (Applying) Demonstrate personal, interpersonal, and teamwork skills critical for effective leadership.

Goal R4.1: Provide effective medication and practice-related education to patients, health care professionals, students, and the public (individuals and groups)

OBJ R4.1.1 (Creating) Design effective educational activities

Goal R4.2: Effectively employs appropriate preceptor roles when engaged in teaching students, pharmacy technicians or fellow health care professionals

OBJ R4.2.1 (Applying) When engaged in teaching, select a preceptor role that meets learners' educational needs.

OBJ R4.2.2 (Applying) Effectively employ preceptor roles, as appropriate.

Activities Evaluated and Taught:

Goal, OBJ Number	Rotation Activity	Teaching Method
Goal R1.1 OBJ R1.1.4	The resident will review all medications of patients on the neurology service daily, checking for appropriate indication, dosage, duration of each medication and checking for drug interactions and appropriate restarting of home medications.	DI, M, C, F
Goal R1.1 OBJ R1.1.2	The resident performs medication histories on all new patients, educates patients on new drug therapies and is available to answer patient questions throughout the inpatient stay.	DI, M, C, F
Goal R1.1 OBJ R1.1.4 OBJ R1.1.5	The resident will follow and evaluate patient information in the electronic medical chart, as well as information from patient and family interviews. They will use primary, secondary, tertiary medical literature to provide evidence based therapeutic care plans.	DI, M, C, F
Goal R1.1 OBJ R1.1.1 OBJ R1.1.4 OBJ R1.1.5 Goal R3.1 OBJ R3.1.1	The resident is expected to formulate medication care plans for each neurology patient each day, and will be responsible to effectively communicate to the neurology team their recommendations to the team during interdisciplinary rounds.	DI, M, C, F
Goal R1.1 OBJ R1.1.5 OBJ R1.1.7 OBJ R1.1.8 Goal R1.2 OBJ R1.2.1	The resident will independently design and follow-up on an appropriate pharmacotherapy plan for each patient on the neurology service given a specific disease state (including diabetes, hypertension, hyperlipidemia, arrhythmias, stroke, MS, headache, etc.) They will follow-up to ensure that discharge orders are appropriate during a patient transition of care. The resident will also document patient care activities including recommendations and monitoring plans in the EPIC electronic medical record.	DI, M, C, F
Goal R1.1 OBJ R1.1.1 OBJ R1.1.2 Goal R3.1 OBJ R3.1.1 Goal R4.1 OBJ R4.1.1	The resident is expected to educate patients, nursing staff, medical residents, and pharmacists on medication related topics relevant to patient care and document this education appropriately in the medical record when needed. (e.g. anticoagulant patient education.) The resident will give one 20-30 min in-service to neurology residents.	C, F

	The resident will lead one journal club with other neuroscience pharmacists.	
Goal R1.1 OBJ R1.1.2 OBJ R1.1.8 Goal R3.1 OBJ R3.1.1 Goal R4.1 OBJ R4.1.3	The resident is expected to use appropriate and professional language throughout the rotation while interacting with MDs, RNs, PharmDs, patients and their families as well as any other person the resident may come in contact with during the rotation. All written communication by the resident must be professional and comply with all medical-legal requirements of the rotation.	DI, M, C, F
Goal R4.2 OBJ R4.2.1 OBJ R4.2.2	When an IPPE or APPE student is simultaneously on rotation with the resident, the resident is expected to precept students based upon the students needs and rotation requirements. The resident will do this by modeling and coaching clinical skill activities, appropriate for the development of the learner.	DI, M, C, F

Resident Progression Time Frame:

Time frame	Resident progression
Pre-rotation and Day 1	Email preceptor to confirm rotation dates and time to meet on the first day. Begin readings available on DIRC website, under Neuroscience NAC team heading. Review rotation description with preceptor and clinical pharmacy team. Review calendar of rotation requirements and topic discussions. Discuss goals and personal objectives for the rotation.
Week 1	Work up and follow 3-5 neurology patients. Round with neurology team and provide recommendations to neurology residents. Present patients to pharmacist and be prepared to discuss pharmacotherapy plans. Respond to nursing concerns regarding the delivery, dosing, and administration and monitoring of medications. Perform medication histories, prepare hand-off notes, and document medication education events for your patients. Review discharge orders for your patients and provide recommendations for the transition of care. Work with discharge pharmacy team to help with transition of care and cost concerns. Start working through readings, with an emphasis on stroke. Lead topic discussion with pharmacy team on coagulation cascade, risk factors for stroke and medications used for secondary stroke prevention. Identify a journal club article for week #2.
Week 2	Work up and follow 5-8 neurology patients. Work towards being semi-independent with neurology rounds and medication education. Bolster handoff notes with relevant clinical outcomes, including monitoring parameters and prioritized list of patient disease states and treatment plans. Round with team daily and provide supportive literature for recommendations to the team. Present journal club article.

	<p>Continue to lead topic discussions with preceptor (topics to be covered include seizure, migraine, multiple sclerosis, Parkinson's Disease and meningitis). Continue readings as outlined. Submit RL adverse events as they arise. Evaluate transitions of care plans, as patients move from critical, acute and rehab floors. Midpoint evaluation. Discuss what is working and areas for improvement. Provider feedback to preceptor.</p>
Week 3	<p>Follow all neurology patients and be independent during daily inpatient rounds. Provide well documented hand-off notes, outlining pharmacotherapy plans, 24 hour events, and recommendations for follow-up and monitoring. Take the lead on patient education with new medications. Follow upon with neurology to team on any outstanding issues that arose during rounds. Communicate any pass off concerns to swing pharmacist coming onto service. Complete corresponding readings based upon assigned topic discussions. Review goals to evaluate progression during 4 week rotation. Help with patient own medication, non-formulary concerns that arise. Submit draft of in-service to be presented week 4.</p>
Week 4	<p>Fully function as clinical pharmacist for all neurology patients. Seek out nursing staff to find ways to help them with medication related concerns. Follow-up with patients to ensure effective medication education and resolve concerns with new medications and side effects. Provide complete handoff notes, ensuring accurate transitions of care. Complete topic discussion and readings as outlined. Present in-service to neurology team. Complete all assignments. Submit final evaluation.</p>

Readings and Preparatory Work:

Readings will include relevant clinical studies which impact patient care as well as available clinical guidelines for stroke, epilepsy, headache management, meningitis, and other conditions. Other readings include: disease state reviews found within the medical and neurology literature, chapters from *Pharmacotherapy*, as well as PSAP modules of interest. Residents preparing for the Neuro Acute Care inpatient rotation are encouraged to visit the Neuroscience link listed under the Clinical Pharmacy Teams heading, available through the Drug Info Resource Center Website on Pulse.

Project/Presentation Description:

The trainee will present patient cases daily, provide an in-service topic discussion to members of the neurology team, and conduct one journal club in which an article relevant to clinical practice is discussed and reviewed.

Typical Daily/Weekly/Monthly Activities:

Include following patients admitted to the neurology service, participating in daily patient care rounds, outlining a pharmacotherapy care plan for a given disease states, patient medication education, and drug monitoring. The trainee will discuss patient cases daily and present one

in-service and one journal club article.

Evaluation:

The preceptors will observe, coach, model, and facilitate resident activities throughout the rotation. They will provide feedback regarding the resident's clinical skills, knowledge and ability to integrate new information into clinical practice. The resident and preceptor will complete a snapshot of the resident's ability to collect and organize data at the midpoint. A summative evaluation of the resident's strengths and weaknesses at the midpoint and a full summative evaluation of the selected goals and objectives will be documented in PharmAcademic™.

Neuroscience Acute Care Rotation

2nd Acute Care Rotation

Preceptors:

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Clinical Pharmacist Support:

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Role of the Pharmacist:

The role of the neuroscience pharmacist includes rounding daily on neurology acute care patients, formulating pharmacotherapy care plans for neurology patients, evaluating clinical and laboratory findings, and responding to questions from residents and staff on medication associated concerns. The pharmacist also performs drug histories, medication reconciliations, and reviews discharge medication orders for appropriateness of therapy.

Resident Expectations:

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RLS Goals:

Goal R1.1 In collaboration with the health care team, provide safe and effective patient care to a diverse range of patients, including those with multiple co-morbidities, high-risk medication regimens, and multiple medications following a consistent patient care process.

OBJ R1.1.1 (Applying) Interact with health care teams to manage patients' medication therapy.

OBJ R1.1.3 (Analyzing) Collect information on which to base safe and effective medication therapy.

OBJ R1.1.6 (Applying) Ensure implementation of therapeutic regimens and monitoring plans (care plans) by taking appropriate follow-up actions.

OBJ R1.1.8 (Applying) Demonstrate responsibility to patients.

Goal R1.3 Prepare, dispense, and manage medications to support safe and effective drug therapy for patients.

OBJ R1.3.2: (Applying) Manage aspects of the medication-use process related to formulary management.

Goal R3.1: Demonstrate leadership skills.

OBJ R3.1.2: (Applying) Apply a process of on-going self-evaluation and personal performance improvement.

Goal R3.2: Demonstrate management skills.

OBJ R3.2.4: (Applying) Manage one's own practice effectively.

Goal R4.1: Provide effective medication and practice-related education to patients, caregivers, health-care professionals, students, and the public (individuals and groups).

OBJ R4.1.1: (Applying) Design effective educational activities.

Activities Evaluated and Taught:

Goal, OBJ Number	Rotation Activity	Teaching Method
Goal R1.1 OBJ R1.1.3	The resident will review all medications of patients on the neurology service daily, checking for appropriate indication, dosage, duration of each medication and checking for drug interactions and appropriate restarting of home medications.	DI, M, C, F
Goal R1.1 OBJ R1.1.3 Goal R4.1 OBJ R4.1.1	The resident performs medication histories on all new patients, educates patients on new drug therapies and is available to answer patient questions throughout the patients stay.	DI, M, C, F
Goal R1.1 OBJ R.1.3 OBJ R1.1.6	The resident will follow and evaluate patient information in the electronic medical chart, as well as information from patient and family interviews. They will use primary, secondary, tertiary medical literature to provide evidence based therapeutic care plans.	DI, M, C, F
Goal R1.1 OBJ R.1.1.1 OBJ R1.1.6	The resident is expected to formulate medication care plans for each patient on neurology services each day that will be effectively communicated to the neurology team during interdisciplinary rounds.	DI, M, C, F
Goal R1.1 OBJ R.1.1.6 OBJ R1.1.8	The resident will independently design and follow-up on an appropriate pharmacotherapy plan for each patient on the neurology service given a specific disease state (including diabetes, hypertension, hyperlipidemia, arrhythmias, stroke, MS, headache, etc.) They will follow-up to ensure that discharge orders are appropriate during a patient transition of care. Using IVents, document patient care activities including recommendations and monitoring plans.	DI, M, C, F
Goal R1.1 OBJ R1.1.1 Goal R4.1 OBJ R4.1.1	The resident is expected to educate patients, nursing staff, medical residents, and pharmacists on medication related topics relevant to patient care and document this education appropriately in the medical record when needed. (e.g. anticoagulant patient education.) The resident will give one 20–30 min educational in-service to neurology residents. The resident will lead journal club with other neuroscience pharmacists.	C, F
Goal R1.1 OBJ R1.1.8	The resident is expected to use appropriate and professional language throughout the rotation while	DI, M, C, F

Goal R4.1 OBJ R4.1.3	interacting with MDs, RNs, PharmDs, patients and their families as well as any other person the resident may come in contact with during the rotation. All written communication by the resident must be professional and comply with all medical-legal requirements of the rotation.	
Goal R1.3 OBJ R1.3.2	The resident will recommend alternative therapeutic agents based upon formulary restrictions at University Hospital. When appropriate to use a non-formulary agent, the resident will follow established policies for dispensing and monitoring.	M, F
Goal R3.1 OBJ R3.1.2 Goal R3.2 OBJ R3.1.2	It is expected that the resident will apply constructive feedback from preceptors and work to improve patient care by continuously developing clinical skill and knowledge base. The resident will display enthusiasm and be a positive advocate for clinical pharmacy services.	M,C
Goal R4.2 OBJ R4.2.1 OBJ R4.2.2	When an IPPE or APPE student is simultaneously on rotation with the resident, the resident is expected to precept students based upon the students needs and rotation requirements. The resident will do this by modeling and coaching clinical skill activities, appropriate for the development of the learner.	DI, M, C, F

Resident Progression Time Frame:

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Week 1	Work up and follow 5-8 neurology patients. Round with neurology team and provide recommendations to neurology residents. Present patients to pharmacist and discuss medication care plans. Respond to nursing concerns regarding delivery, dosing, administration and monitoring of medications. Perform medication histories, prepare hand-off notes, and document medication education events for your patients. Review discharge orders and provide recommendations for a seamless transition of care. Work with discharge pharmacy team to help with transition of care and cost concerns. Start working through readings, with an emphasis on stroke. Lead topic discussion with pharmacy team on coagulation cascade, risk factors for stroke and medications used for secondary stroke prevention. Identify a journal club article for week #2.

Week 2	<p>Follow all neurology patients and be independent during daily inpatient rounds. Provide well documented hand-off notes, outlining care plans, 24 hour events, and recommendations for follow-up and monitoring.</p> <p>Review and verify medication orders in EPIC for neurology patients, as appropriate. Bolster handoff notes with relevant clinical outcomes, including monitoring parameters and prioritized list of patient disease states and treatment plans.</p> <p>Round with team daily and provide supportive literature for recommendations to the team. Present journal club article.</p> <p>Continue to lead topic discussions with preceptor (topics to be covered include seizure, migraine, multiple sclerosis, Parkinson’s Disease and meningitis).</p> <p>Continue readings as outlined.</p> <p>Submit RL adverse events as they arise.</p> <p>Evaluate transitions of care plans, as patients move from critical, acute and rehab floors. Midpoint evaluation.</p> <p>Discuss what is working and areas for improvement.</p> <p>Provider feedback to preceptor.</p>
Week 3	<p>Fully function as clinical pharmacist for all neurology patients. Carry inpatient pager and respond to all pages that arise.</p> <p>Seek out nursing staff to find ways to help them with medication related concerns. Take the lead on patient education with new medications.</p> <p>Follow upon with neurology to team on any outstanding issues from rounds. Communicate any pass off concerns to swing pharmacist coming onto service.</p> <p>Complete corresponding readings based upon assigned topic discussions.</p> <p>Review goals to evaluate progression during 4 week rotation.</p> <p>Help with patient own medication, non-formulary concerns that arise.</p> <p>Submit draft of in-service to be presented week 4.</p>
Week 4	<p>Take leadership role in improving quality of care for neurology patients on NAC. Follow-up with patients to ensure effective medication education and resolve concerns with new medications and side effects.</p> <p>Provide complete handoff notes, ensuring accurate transitions of care.</p> <p>Complete topic discussion and readings as outlined.</p> <p>Present in-service to neurology team.</p> <p>Complete all assignments.</p> <p>Submit final evaluation.</p>

Readings and Preparatory Work:

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