

University of Utah Health: PGY1 Residency Program Salt Lake City, Utah

Rotation Name:

Cardiovascular Medicine - Acute Care I and II

Rotation Preceptors:

Teshia Sorensen, PharmD, BCPS, AACCC - Preceptor

Joshua Sessions, PharmD - Preceptor

Jessica Carey, PharmD - Preceptor in Training

John Dechand, PharmD - Preceptor in Training

Irene Pan, PharmD - Preceptor in Training

Joshua Jacobs, PharmD - Preceptor in Training

Duration: 4 weeks

Site Description:

The Cardiovascular Medicine pharmacists at University of Utah Health provide comprehensive pharmaceutical care to patients on five inpatient services and one ambulatory service:

CV1 Pharmacist: General Cardiology (acute care)

CV2 Pharmacist: Heart Failure and Transplant (acute care and intensive care)

CV3 Pharmacist: Cardiothoracic Surgery, Interventional Cardiology, Electrophysiology (acute care)

CV4 Pharmacist: Pulmonary Arterial Hypertension (outpatient clinic)

Each pharmacist provides care to approximately 12-18 patients per day. Residents on the Acute Care I or II rotation may select to round with General Cardiology or Heart Failure and Transplant. Patients are typically bedded on the Cardiovascular Medicine Unit (CVMU) or the Cardiovascular Intensive Care Unit (CVICU), but may also be bedded on other acute care floors or intensive care units. CVMU is a 35 bed unit and CVICU is a 20 bed unit.

Common medical conditions encountered include acute coronary syndromes (unstable angina, myocardial infarction), heart failure, arrhythmias, infections (endocarditis, LVAD infections, etc.), valvular heart disease, congenital heart disease, and pulmonary hypertension.

Role of the Pharmacist:

The pharmacist works collaboratively with members of the multidisciplinary teams, including providers (attending cardiologists and subspecialists, fellows, residents, interns, nurse practitioners, and physician's assistants), nurses and medical assistants, case managers, social workers, and more. The pharmacist contributes to improved patient care by providing an array of clinical pharmacy services including individual and group patient education, medication review and optimization, drug information, provider education, and assistance with transitions of care with respect to drug therapy. Each pharmacist is responsible for patient care from admission through discharge, including medication reconciliation at both points, as well as delivery of discharge medications to the bedside coupled with extensive, personalized counseling on outpatient medication therapies.

Rotation Description and Expectations of the Resident:

The Cardiovascular Medicine Acute Care I and II rotations provide learning experiences for the resident in acute care and intensive care settings. The resident's specific rotation structure (see options below) will be determined prior to the first day of the rotation based on resident interest and preceptor availability.

Rotation Structure Options:

Option	Week 1	Week 2	Week 3	Week 4
A	Cardiology	Cardiology	Cardiology	Cardiology
B	Heart Failure	Heart Failure	Heart Failure*	Heart Failure*
C	Cardiology	Cardiology	Heart Failure	Heart Failure

* Last 2 weeks may be acute care or intensive care based on resident preference.

The resident is expected to provide comprehensive pharmaceutical care to all patients on their service. Daily activities will include completing accurate and complete medication histories, analyzing all appropriate patient-specific data, developing comprehensive therapeutic and monitoring plans, rounding with the multidisciplinary team, resolving all medication-related issues, and providing patient education and counseling. The resident will also complete topic and patient presentations, landmark clinical trial discussions, a journal club presentation, an in-service presentation, and observational learning experiences.

The resident will strive to develop excellent written and verbal communication skills. The resident is expected to supplement knowledge gaps by researching those topics via primary literature and/or clinical guidelines.

Project Description:

Note: Preceptors reserve the right to reduce required projects based on patient census/acuity. Residents should be fully prepared by each due date unless instructed otherwise in advance by preceptor.

1) Landmark Clinical Trials Discussion (3)

- Read each trial in preparation for an informal, resident led discussion with preceptor.
- Verbally describe each trial and discuss the trial's impact on current practice.
- The resident is not required to prepare a handout.

2) Journal Club (1)

- Topic must be related to cardiology.
- Article must be published within the last 6 months.
- Study should be likely to have an impact on patient care.
- The resident is required to prepare a handout and formally present on the article.

3) In-service Presentation (1)

- Present a medication related topic to the Cardiology or Heart Failure and Transplant team, clinical pharmacists, or nurses.
- The resident is required to prepare a handout and formally present on the topic.
- Presentation length is approximately 15 minutes.

4) Patient Presentation and/or Topic Discussion (2)

- Present the patient in SOAP format.
- Topic discussions should focus on disease state(s) relevant to the patient presented.
- The resident is required to prepare a handout and formally present on the patient and/or topic.

5) Observational Experiences (3)

- Experiences may include observing cardiac stress tests, cardiac catheterizations, and cardioversions.
- The resident must prepare in advance to gain the most benefit from each observational experience. Review articles or other material may be assigned.

6) MUE/System Improvement Project (optional)

- a) May complete in place of (1) formal patient presentation/topic discussion.
- b) The MUE or project must be completed by the end of the rotation.
- c) A list of potential projects will be provided during orientation.

Typical Daily/Weekly/Monthly Activities:

The resident is expected to be punctual and to prioritize daily activities. A typical day will be from 0630 to 1600. Residents must arrive earlier than suggested if needed to fully prepare for rounds. Additional time is usually necessary to complete daily responsibilities and ensure the best outcomes for the patient.

Heart Failure and Transplant Service:

- 0630 - 0730 Daily - Patient monitoring and rounds preparation
- 0730 - 0800 Daily - Patient presentations (brief) with preceptor
- 0800 - 1200 Daily - Multidisciplinary team rounds (active participation is required)

General Cardiology Service:

- 0700 - 0830 Daily - Patient monitoring and rounds preparation
- 0830 - 0900 Daily - Patient presentations (brief) with preceptor
- 0900 - 1200 Daily - Cardiology team rounds (active participation is required)

Heart Failure and Transplant AND General Cardiology Services:

- 1200 - 1230 Daily - Patient presentations (in-depth) with preceptor, resolve remaining issues
- 1300 - 1400 Daily - Core topic discussions and presentations with preceptor
- 1400 - 1600 Daily - Patient education on high risk medications, medication histories
- 1600 + Daily - The resident is expected to complete all patient care activities prior to leaving each day. Additional time outside of regular rotation hours will be required for reading, project research, and presentation preparation.

Expected Progression:**Cardiovascular Medicine - Acute Care I and II:**

Time Frame	Resident Progression
Pre-Rotation and Day 1	<ul style="list-style-type: none"> - The resident should email the preceptor 2 weeks prior to rotation with the rotation structure preference, requested time off, and any meeting dates and times that may interrupt regular rotation hours. - The resident should come ready to discuss resident progress to date, areas of excellence, areas of improvement needed, and three goals for the rotation. - The preceptor will orient the resident to the unit, health care professionals, and workflow. - The preceptor will review the rotation description, calendar, learning activities, projects, required and recommending reading material, and expectations with the resident. - The resident will read required primary literature and guidelines daily in order to finish by the end of the rotation. - The resident is expected to be punctual and to prioritize daily activities with a focus on providing exceptional patient care.

<p>Week 1</p>	<ul style="list-style-type: none"> - The preceptor will stay in unit and participate in patient work up, multidisciplinary team rounds, and patient interactions with the resident, modeling the pharmacist's role on the health care team. - The preceptor will prompt other health care professionals to direct questions and needs to the resident, but will intervene if emergent care is needed. - The resident will thoroughly work up approximately 1/3 of the team's patients (Acute Care I) or approximately 1/2 of the team's patients (Acute Care II) by the end of the week. - The resident will present patients to the preceptor twice per day (briefly at 0830 and thoroughly after rounds each day). - The resident will discuss all interventions and reasoning with the preceptor prior to making recommendations to the team. - The resident will take into account each patient's comorbidities, allergies, weight, laboratory values, vitals, renal function, hepatic function, and current medications prior to recommending changes to drug therapy. - The resident will prioritize patient care based on acuity. - The resident will interview patients and accurately document admission medication histories for at least 5 patients (Acute Care I) or for at least 3 patients (Acute Care II). - The resident will review discharge medications and work with the team to correct errors for at least 5 patients. - The resident will provide and document anticoagulation education for at least 2 patients, one on warfarin and one on a DOAC, with the preceptor present. - The resident will provide personalized education on discharge medications to at least 5 patients with the preceptor present. - The resident will review and utilize cardiovascular policies and procedures that apply to each patient. - The resident will complete all Week 1 rotation assignments by the end of the week.
<p>Week 2</p>	<ul style="list-style-type: none"> - The preceptor will be on the unit or available at all times through pager and/or personal phone. - The resident will demonstrate that information learned in the first week can be incorporated readily into their patient care. - The resident will thoroughly work up all patients on the team in a proactive and efficient manner. - The resident will design complete therapeutic and monitoring plans for each patient. - The resident will complete or co-sign admission medication histories for all patients on the team without error. - The resident will review discharge medications and work with the team to correct errors for all patients on the team. - The resident will provide and document anticoagulation education for all patients on the team. - The resident will provide personalized education on discharge medications for all patients on the team.

	<ul style="list-style-type: none"> - The resident will demonstrate basic competency to the preceptor in order to participate in preceptor supervised RRTs and codes. - The resident will complete all Week 2 rotation assignments by the end of the week.
Week 3	<ul style="list-style-type: none"> - The preceptor will be on the unit or available at all times through pager and/or personal phone. - The resident will demonstrate that information learned in the first 2 weeks can be incorporated readily into their patient care. - The resident will strive to develop excellent written and verbal communication skills. - The resident will independently identify interventions and make recommendations to the team in a proactive and efficient manner, reserving preceptor confirmation for new or challenging therapeutic issues. - The resident will demonstrate effective delivery of evidence-based recommendations to the team taking into account patient-specific characteristics. - The resident will demonstrate efficiency at, and dedication to, completing patient care activities, rotation projects, and residency responsibilities. - The resident will identify and address all common therapy issues and begin to identify and address more complex therapy issues. - The team should be reaching out primarily to the resident to answer questions. - The resident will complete all Week 3 rotation assignments by the end of the week.
Week 4	<ul style="list-style-type: none"> - The preceptor will be on the unit or available at all times through pager and/or personal phone. - The resident will demonstrate that information learned in the first 3 weeks can be incorporated readily into their patient care. - The resident is expected to provide comprehensive pharmaceutical care to all patients on their service. - The resident should be independent at the practice site by the last day of rotation. - The resident will demonstrate understanding of all required cardiovascular policies and procedures. - The resident will complete all Week 4 rotation assignments by the next to the last day of the week.

*** IF the resident is on the second Acute Care rotation, expectations for projects and presentations will be that they contain a higher level of detail, require fewer edits and have better accuracy and focus for the stated audience.

RLS Goals and Objectives:

Acute-1 Rotation:

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 Interact effectively with health care teams to manage patients' medication therapy.
- OBJ R1.1.2 Interact effectively with patients, family members, and caregivers.
- OBJ R1.1.4 Analyze and assess information on which to base safe and effective medication therapy.
- OBJ R1.1.5 Design or redesign safe and effective patient-centered therapeutic regimens and monitoring plans (care plans).
- OBJ R1.1.7 Document direct patient care activities appropriately in the medical record or where appropriate.
- OBJ R1.1.8 Demonstrate responsibility to patients.

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

- OBJ R1.2.1 Manage transitions of care effectively.

R3.1 Demonstrate leadership skills.

- OBJ R3.1.1 Demonstrate personal, interpersonal, and teamwork skills critical for effective leadership.

Acute-2 Rotation:

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 Interact effectively with health care teams to manage patients' medication therapy.
- OBJ R1.1.3 Collect information on which to base safe and effective medication therapy.
- OBJ R1.1.6 Ensure implementation of therapeutic regimens and monitoring plans (care plans) by taking appropriate follow-up actions.
- OBJ R1.1.8 Demonstrate responsibility to patients.

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

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

R3.1 Demonstrate leadership skills.

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

R3.2 Demonstrate management skills.

- OBJ R3.2.4 Manages one's own practice effectively.

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 Design effective educational activities.

Rotation Activities and Teaching Methods Linked to Objectives:

Rotation Activities	Teaching Methods	Objectives
<ul style="list-style-type: none"> ▪ Be responsible for discussion/integration of all patient data during daily pre-round and post-round discussions with the preceptor and during multidisciplinary rounds with the team. Initially, the resident will perform these functions with the close supervision of the preceptor, but as comfort and competency improve, the 	Direct Instruction Modeling Coaching Facilitation	Acute Care I and II: OBJ R1.1.1 Interact effectively with health care teams to manage patients' medication therapy.

<p>resident will be expected to take on more and more of the direct patient care activities and ultimately assume care of the patients.</p> <ul style="list-style-type: none"> ▪ Recommend evidence-based, patient-specific modifications to medication therapy. ▪ Recommend appropriate monitoring plans for each medication. ▪ Identify and address patient needs, nurse needs, and physician needs where pharmacists can contribute. ▪ Determine patient-specific affordability for each new medication and communicate findings to the team. ▪ Contact home infusion, case management, etc. when needed to ensure patient access to medications. 		
<ul style="list-style-type: none"> ▪ Interview patients and/or family members and contact pharmacies to complete accurate medication histories. ▪ Provide education on medications to patients and/or caregivers that includes indications, expected effects, possible adverse effects, appropriate monitoring, access, and affordability. 	<p>Direct instruction Modeling Coaching Facilitation</p>	<p>Acute Care I: OBJ R1.1.2 Interact effectively with patients, family members, and caregivers.</p>
<ul style="list-style-type: none"> ▪ Review pertinent vitals, labs, imaging, non-invasive and invasive studies, etc. for each patient in preparation for rounds. 	<p>Direct instruction Modeling Coaching Facilitation</p>	<p>Acute Care II: OBJ R1.1.3 Collect information on which to base safe and effective medication therapy.</p>
<ul style="list-style-type: none"> ▪ Assess patient-specific data (vitals, labs, imaging, studies, etc.) and incorporate into medication therapy decisions. ▪ Review landmark clinical trials and lead discussions with preceptor. ▪ Prepare journal club presentation and present to preceptor. 	<p>Direct instruction Modeling Coaching Facilitation</p>	<p>Acute Care I: OBJ R1.1.4 Analyze and assess information on which to base safe and effective medication therapy.</p>
<ul style="list-style-type: none"> ▪ Develop evidence-based treatment plans taking into account patient-specific characteristics and data. ▪ Determine appropriate monitoring parameters to assess safety and effectiveness of each medication and incorporate into monitoring plans. ▪ Reevaluate frequently and redesign medication therapy as appropriate. 	<p>Direct instruction Modeling Coaching Facilitation</p>	<p>Acute Care I: OBJ R1.1.5 Design or redesign safe and effective patient-centered therapeutic regimens and monitoring plans (care plans).</p>
<ul style="list-style-type: none"> ▪ Assist providers in ordering medications and appropriate laboratory monitoring during rounds. ▪ Review each patient after rounds to ensure medication therapy changes were implemented in a timely manner. 	<p>Direct instruction Modeling Coaching Facilitation</p>	<p>Acute Care II: OBJ R1.1.6 Ensure implementation of therapeutic regimens and monitoring plans (care plans) by taking appropriate follow-up actions.</p>

<ul style="list-style-type: none"> ▪ Interview patients and/or family members and contact pharmacies to complete medication histories and document in the patient's chart. ▪ Provide education on all discharge medications to patients and/or caregivers and document in the Discharge Activity tab. ▪ Provide anticoagulation education to patients and/or caregivers and document in the Education Activity tab. 	<p>Direct instruction Modeling Coaching Facilitation</p>	<p>Acute Care I: OBJ R1.1.7 Document direct patient care activities appropriately in the medical record or where appropriate.</p>
<ul style="list-style-type: none"> ▪ Exhibit ownership in all patient care activities and treatment decisions. ▪ Complete all patient care activities prior to leaving each day. 	<p>Direct instruction Modeling Coaching Facilitation</p>	<p>Acute Care I and II: OBJ R1.1.8 Demonstrate responsibility to patients.</p>
<ul style="list-style-type: none"> ▪ Ensure patient-specific medication access and affordability. ▪ Review all discharge orders and work with team to reconcile issues. ▪ Provide adequate pass-off to ICU pharmacists, acute care pharmacists, clinic pharmacists, and facilities at transfer and document appropriately in the patient's chart. 	<p>Direct instruction Modeling Coaching Facilitation</p>	<p>Acute Care I: OBJ R1.2.1 Manage transitions of care effectively.</p>
<ul style="list-style-type: none"> ▪ Understand the formulary approval process and how to address requests for non-formulary medications. ▪ Review and follow all pertinent medication management policies. 	<p>Direct instruction Modeling Coaching Facilitation</p>	<p>Acute Care II: OBJ R1.3.2 Manage aspects of the medication-use process related to formulary management.</p>
<ul style="list-style-type: none"> ▪ Work closely with all members of the multi-disciplinary team (e.g., physicians, nurses, case management, social work, home infusion, etc.) to identify and resolve medication related issues. 	<p>Direct instruction Modeling Coaching Facilitation</p>	<p>Acute Care I: OBJ R3.1.1 Demonstrate personal, interpersonal, and teamwork skills critical for effective leadership.</p>
<ul style="list-style-type: none"> ▪ Assess areas for self-improvement in knowledge at the beginning of the rotation and weekly thereafter. ▪ Discuss areas for growth with preceptors at the beginning of the rotation and at midpoint (at a minimum) so learning opportunities can be arranged. 	<p>Direct instruction Modeling Coaching Facilitation</p>	<p>Acute Care II: OBJ R3.1.2 Apply a process of on-going self-evaluation and personal performance improvement.</p>
<ul style="list-style-type: none"> ▪ Prioritize medication related issues and resolve urgent / higher risk issues as soon as identified. ▪ Resolve all medication related issues prior to leaving for the day. ▪ Complete all rotation and residency assignments and responsibilities on time. 	<p>Direct instruction Modeling Coaching Facilitation</p>	<p>Acute Care II: OBJ R3.2.4 Manages one's own practice effectively.</p>
<ul style="list-style-type: none"> ▪ Complete an in-service presentation for physicians, nurses, or pharmacists. ▪ Provide education on medications to patients and/or caregivers. 	<p>Direct instruction Modeling Coaching Facilitation</p>	<p>Acute Care II: OBJ R4.1.1 Design effective educational activities.</p>

<ul style="list-style-type: none"> ▪ Participate in a Cardiac Rehabilitation group education session if scheduled during the rotation. 		
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Readings and Preparatory Work:

Residents are required to be BLS and ACLS certified or actively pursuing certification. Readings will include landmark clinical trials, as well as more recent trials that may impact patient care, clinical guidelines for core cardiovascular conditions, and relevant material from ACCP's and/or ASHP's Board Certification products. **Current lists of required and recommended readings are available at H:\Rx Residents\Rx Residents\Cardiovascular Medicine Rotations.**

Evaluations:

Evaluations will be documented in PharmAcademic™. At the midpoint of the rotation, the preceptor will evaluate the resident. At the end of each rotation, the resident will self-evaluate, the preceptor will evaluate the resident, and the resident will evaluate both the preceptor and the learning experience. The resident's self-evaluation is due by the last Wednesday of the rotation. All evaluations must be co-signed within 2 weeks of completion of the rotation.