

PGY2 Critical Care Residency Program Overview

Intermountain Medical Center

National Match Service: **87005**

Website: <https://intermountainhealthcare.org/careers/residencies-training/pharmacy-residency/our-program/pgy2-residencies/critical-care/>

Scope:

Intermountain Medical Center (IMC) is one of the largest hospitals in the Intermountain West and the flagship of Intermountain Health. IMC is a level 1 trauma center, comprehensive stroke center, and major adult referral center for six surrounding states and more than 75 regional health care institutions. The campus is made up of five specialty hospitals: Intermountain Heart Institute, Cancer Center, Patient Tower, Women and Newborn Center, and Ambulatory Care Clinics. IMC is licensed for 504 beds and includes 5 intensive care units and a 72-bed emergency department. The pharmacy department includes over 50 pharmacy technicians and over 70 clinical pharmacists, about 65% who are board certified. Our residency preceptors come from all over the United States and many are involved with multi-disciplinary research, teaching, and actively participate in national meetings.

Purpose:

PGY2 pharmacy residency programs build on Doctor of Pharmacy (PharmD) education and PGY1 residency training to contribute to the development of clinical pharmacists in specialized areas of practice. PGY2 residencies provide residents with opportunities to function independently as practitioners by conceptualizing and integrating accumulated experience and knowledge and incorporating both into the provision of patient care or other advanced practice settings. Residents who successfully complete an accredited PGY2 pharmacy residency are prepared for advanced patient care, academic, or other specialized positions, along with board certification.

Program Description:

The objective of the PGY2 Critical Care Residency Program at IMC is to develop a high-level, critical care pharmacy specialist who is qualified for medical and surgical critical care positions. The residency facilitates clinical and professional growth, emphasizing the application of evidence-based medicine to critically assess and manage complex patients in a variety of fast-paced intensive care settings. Residents will be fully integrated within interdisciplinary critical care teams through a variety of rotations. They will have numerous opportunities to develop teaching, precepting, and presentation skills, as well as engage in research and committees. The program provides residents opportunities to conceptualize, integrate, and transform accumulated experiences and knowledge into skill, competence, and confidence in providing patient care to the critically ill population.

Number of PGY2 Critical Care residency positions available: One

Resident Pay and Benefits: Refer to the Intermountain Health Pharmacy Residency website (<https://intermountainhealthcare.org/careers/residencies-training/pharmacy-residency/application-information/benefits/>).

Requirements Prior to Starting the Program:

PGY1 residents who have matched with IMC's PGY2 Critical Care Residency Program must have:

1. Graduated from an ACPE-accredited school of pharmacy with a Doctor of Pharmacy degree
2. Successfully completed an ASHP-accredited PGY1 pharmacy residency
 - a. The Residency Program Director (RPD) will contact the PGY1 RPD to assess standing
 - b. A signed PGY1 residency certificate is required prior to the PGY2 residency start date
3. Obtain a temporary Utah pharmacist license or full Utah pharmacist license prior to the PGY2 start date
 - a. Information on the temporary Utah pharmacist license process: [Utah Pharmacy Practice Act Rule](#) and the [DOPL Website](#)
 - b. Residents must obtain their full Utah pharmacist license within 90 days of the PGY2 start date. If this deadline is not met they will be dismissed from the program unless a formal appeal is submitted and approved (see [Residency Manual](#) for more details).

Application:

All applicants must be enrolled in the ASHP Resident Matching Program. Visit <https://natmatch.com/ashprmp/> for more information. Applications are due by January 2nd and must include the following:

1. Letter of intent addressing why you wish to complete a PGY2 critical care residency at IMC
2. Current *Curriculum Vitae* with all completed and anticipated learning experiences as well as pharmacy and non-pharmacy work experience
3. Three electronic references. Please have references complete the electronic reference form within PhORCAS with detailed characteristic and narrative comments. One to two areas of improvement or constructive feedback that the recommender feels the candidate should continue to work on as a PGY2 resident should be identified. No separate letter is required.

Program Structure:

- 4-6 weeks of orientation/training (duration determined on an individual basis)
- Required learning experiences (~4-5 weeks each)
 - Cardiac ICU
 - Emergency Department
 - Neuro Critical Care Unit
 - Pediatric ICU (off-site at Intermountain Primary Children's Hospital)
 - Shock Trauma ICU – Medicine
 - Shock Trauma ICU – Trauma
 - Thoracic ICU
- Elective learning experiences (~4-5 weeks each)
 - Heart Failure / Transplant / Mechanical Circulatory Support
 - Infectious Diseases / Antimicrobial Stewardship
 - Newborn ICU
 - Respiratory ICU
 - Solid Organ Transplant
 - Tele Critical Care
 - Intensive Research
- Staffing (longitudinal, 12 months)
 - Every other weekend (32 hours per month)
 - Shock-Trauma ICU
- Resident research (longitudinal, 12 months)
 - Publication submission (acceptance not required)
- Practice management (longitudinal, 12 months)
 - Committee participation (will be assigned based on resident interest/experience)
 - Code Blue response team (select months)
 - Critical Care Appendix
- Teaching/education (longitudinal, 12 months)
 - Three Formal journal clubs (3 required, others based on rotation requirements)
 - Fall ACPE-accredited Continuing Education presentation
 - Spring Seminar presentation
 - Two Informal case presentations ("Twizzlers and Nerds")
 - Nursing and provider in-services
 - Layered learning opportunities
 - Teaching certificate (optional, if not previously obtained)
- Project Time (longitudinal)
 - 3 project weeks per year, scheduled on an individual basis
 - 1 project day per rotation, arranged between primary preceptor and resident

Required Learning Experiences:

Descriptions of each learning experience can be found in [PharmAcademic](#).

PGY2 residents will learn the skills and gain experience to function as the primary ICU pharmacist during their learning experiences. The resident is responsible for the daily management of all ICU patients. This includes but may not be limited to patient workup, interpretation of labs/vitals/imaging, comprehensive medication management (ensuring all medications are properly indicated, dosed, delivered in a timely manner, administered according to best practice, monitored for therapeutic effect and adverse events), attending multidisciplinary rounds, order verification, follow-up, medication reconciliation, pharmacy documentation, and ensuring thorough pass-off for care continuity.

The resident is expected to develop strong rapport with all members of the interdisciplinary team including intensivists, specialists, medical interns/residents/fellows, advanced practice providers, nurses, respiratory therapists, etc. In addition to enhancing clinical knowledge, focus will be placed on developing efficient daily workflow, verbal and written communication, precepting skills when opportunities are available, and presentation skills. The learning experiences will prepare the resident for any future practice environment requiring an advanced pharmacy practitioner.

Elective Learning Experiences:

Descriptions of each learning experience can be found in [PharmAcademic](#).

In addition to the required learning experiences, the resident will select 3-4 electives. These experiences allow the resident to customize the year by improving in an area of weakness or inexperience, or pursuing an area of interest. Residents will also be given the choice of repeating a required learning experience. New elective experiences may be created on a case-by-case basis if the resident has interest in an area not currently offered.

Staffing:

The resident will staff in the Shock Trauma ICU every other weekend for a total of 32 hours per month and 20 weekends by the end of the residency year. The resident is required to staff one major holiday (Thanksgiving/Christmas/New Year). While staffing the resident will function as the Shock Trauma pharmacist and is responsible for managing both medicine and trauma services. The resident is responsible for ensuring safe and effective medication use, participation on rounds, collaboration with the central pharmacy team to ensure timely delivery, and serving as the drug information specialist for nurses and providers. The resident will also respond to all in-unit emergencies and house-wide Rapid Responses, Code Blues, and Massive Transfusion Protocol alerts.

Resident Research:

The resident is responsible for conducting a longitudinal research project which requires the following:

- CITI training
- Project design and IRB approval
- Data collection and analysis plan (may work with statistician)
- Present poster at ASHP Midyear Clinical Meeting or similar conference, pending funding
- Present platform presentation at Mountain States Conference (final results preferred)
- Prepare and submit a manuscript for publication (acceptance not required)

The resident will be required to format a manuscript suitable for publication by the end of the residency year. Residents will identify applicable journals with the help of their research mentors. The purpose is to develop scientific writing and communication skills. Acceptance for publication is not a requirement.

More information can be found in the [Residency Manual](#).

Practice Management:

The PGY2 resident will track progress and development in the areas of practice management which will be reviewed quarterly with the RPD through the customized training plan.

Committee Participation: The resident will be required to participate in at least one committee relevant to critical care. The committee will be selected based on interest. The resident is expected to be an active participant and contribute to the mission and goals of the committee.

Emergency Response: The Shock Trauma and Cardiac ICU pharmacists respond to Code Blues and Rapid Responses depending on the location of the calls on campus. The resident will assume this responsibility when on each of these rotations. Outside of these rotations there will be select months when the code pager will be assigned to the PGY2 resident, during which the resident will be the primary responder.

Critical Care Appendix: The resident will demonstrate an understanding of the mechanism of action, pharmacokinetics, pharmacodynamics, pharmacogenomics, pharmacoeconomics, regimen (dose, schedule, form, route, administration), indications, contraindications, interactions, adverse reactions, and therapeutics of medications and other therapies that are applicable to relevant diseases and conditions, and have the ability to design appropriate treatment regimens to treat and assess outcomes. For most diseases and conditions, direct patient care is required. For others, a case-based, didactic approach may be substituted. In these cases, the resident will demonstrate understanding via didactic instruction, case-based application, simulation, or other approaches. The resident will demonstrate an understanding of signs and symptoms, epidemiology, risk factors and etiology, pathogenesis, pathophysiology, clinical course, and a comprehensive pharmacotherapy treatment plan.

Teaching/Education:

The resident will have multiple opportunities to develop their teaching, education, and precepting skills.

Journal Clubs: The resident is required to present three formal journal clubs during the year. Articles should focus on a recent trial related to critical care, with final approval at the discretion of the preceptor. A rough draft is submitted to the preceptor in advance for feedback and comments. The resident may also choose to facilitate a PGY1 or student journal club in lieu of presenting for one of the required three. In this case the PGY2 resident will serve as the primary preceptor, critically analyzing the article, coaching the learner through analysis, facilitating discussion during the presentation, and delivering actionable feedback. A [PharmAcademic](#) evaluation will be completed by the rotation preceptor to track completion.

ACPE-accredited Continuing Education: The resident is required to present one CE presentation on a critical care topic, preferably selected from the needs assessment list. Two to three preceptors will mentor as content experts, with additional feedback provided during a practice run-through. This 50-minute presentation will typically be scheduled in October-November. A [PharmAcademic](#) evaluation will be completed to track completion.

Seminar: The resident is required to present a Seminar presentation on a topic of interest or clinical controversy in critical care. The expectations will be similar to those of the CE, with the exception that ACPE credit is not provided. This 50-minute presentation will typically be scheduled in April-May. A [PharmAcademic](#) evaluation will be completed to track completion.

Nursing/provider inservices: The resident will have many opportunities to present in-services to nurses and providers during each learning experience. In-services are usually 5-20 minutes, with emphasis on effectively condensing large amounts of information. Discussion of primary literature is always encouraged. Completion will be tracked through [PharmAcademic](#) summative evaluations as well as the customized training plan.

Teaching certificate: The PGY2 resident has the option to obtain a Teaching Certificate if one has not already been completed through their PGY1 residency. The purpose of the teaching certificate is to provide residents with the training necessary to enhance their teaching skills and succeed as a faculty member at a college of pharmacy. Requirements and more information can be found in the [Residency Manual](#).

Sample Resident Learning Experiences/Presentation Schedule (2022-2023 Example)

Dates (wks)	Rotation	Presentations	Important Dates
7/12/22 – 8/12/22 (5)	Orientation Staffing Training		7/25 Pioneer Day (observed)
8/15/22 – 9/16/22 (5)	STICU Medicine	JC #1 Nursing in-service	9/3-4: First staffing weekend 9/5 Labor Day
9/19/22 – 10/14/22 (4)	STICU Trauma	JC #2 Provider in-service	10/6-7: Excellence in Trauma Care Conf; Midway, UT
10/17/22 – 11/11/22 (4)	Emergency Medicine	Fall CE	
11/14/22 – 12/16/22 (5)	Respiratory ICU	ASHP Midyear Poster	11/24 Thanksgiving Day 12/4-8: ASHP Midyear; Las Vegas, NV
12/19/22 – 12/30/22 (2)	Project Weeks #1 and 2		12/23 Christmas Eve (observed) 12/26 Christmas Day (observed)
1/3/23 – 1/27/23 (4)	Cardiac ICU		1/2 New Year's Day (observed) 1/16 Martin Luther King Jr Day 1/21-24: SCCM Annual Congress; San Francisco, CA
1/30/23 – 2/24/23 (4)	Infectious Disease	PGY2 CC Interviews	2/20 President's Day
2/27/23 – 3/24/23 (4)	Neuro Critical Care Unit	JC #3 Nursing in-service	
3/27/23 – 3/31/23 (1)	Project Week #3		
4/3/23 – 4/28/23 (4)	Thoracic ICU		
5/1/23 – 5/26/23 (4)	Pediatric ICU	Spring Seminar	5/12-13: Mountain States Conf; Salt Lake City, UT
5/29/23 – 6/23/23 (4)	STICU Medicine II	Nursing inservice	5/30 Memorial Day
6/26/23 – 7/7/23 (2)	Potpourri / Wrap Up		

Local/Regional/National Meetings:

The PGY2 CC resident will have the opportunity to attend various professional meetings, depending on department budget and residency advisory committee (RAC) discretion.

ASHP Midyear Clinical Meeting

Depending on the year, finances, and other factors, residents are given educational leave to attend the conference. Travel dates will be determined by the RAC. The current resident will help the RPD recruit and interview candidates for the next residency year in the ASHP Personnel Placement Service, as applicable, and will participate in the Intermountain Residency Showcase, the Utah reception, present at the resident poster session, and attend educational sessions.

Mountain States Residency Conference

The Mountain States Residency Conference is a regional conference held in Salt Lake City. Residents will present a platform presentation of their research project to other residents, preceptors, and sponsors. Final results are highly encouraged but not required, depending on individual circumstances. Residents are expected to attend other program's presentations, assigned presentations for evaluation, and at least 80% of all presentation sessions.

Specialty-specific Conference Attendance

Attendance at specialty-specific conferences will be supported at the discretion of the RPD and Pharmacy Leadership Team. Refer to the [Intermountain Pharmacy Services Travel Guidelines](#) for additional information and instructions.

Assessment Strategy ([PharmAcademic](#)):

Intermountain Health uses ASHP's online evaluation program, PharmAcademic. The incoming resident completes two pre-residency forms, ASHP Entering Interests form and Entering Objective-Based Self-Evaluation form, that help the RPD tailor the residency to any specific needs and interests. The RPD uses these forms to create the resident's customized training plan. The Residency Requirement Checklist and Customized Training Plan will be discussed and modified as necessary through a collaborative effort between the RPD, RPC, and resident. The rotation schedule is fluid and the resident is encouraged to request schedule modifications as necessary to accommodate changing interests and career goals. The RPD will make all efforts to accommodate these requests. The RPD will share changes to the Residency Requirement Checklist and Customized Training plan via PharmAcademic automatic emails to scheduled preceptors, and during RAC meetings.

For each rotation, the preceptor will complete at least one summative evaluation. The resident will complete a rotation evaluation, preceptor evaluation, and duty hour form. The primary preceptor determines final ratings and co-signs evaluations. Co-preceptors are encouraged to provide documentation in the evaluations. All evaluations will be cosigned by the RPD. The resident and preceptors will complete evaluations in PharmAcademic within 7 days of the end of the learning experience. Feedback is direct and actionable. Evaluations will help the resident improve, maximize residency, achieve personal and professional goals, and meet all residency requirements.

Residents may bring program issues to the attention of the RPD, RPC, Pharmacy Director, or RAC at anytime. The RPD performs ongoing assessment of the residency program including a formal annual program evaluation. In the 4th quarter the resident is required to complete a residency exit interview. The RPD will gather honest feedback and recommendations on how to improve the PGY2 residency. These recommendations will be reviewed with RAC and during the annual residency retreat. Agreed upon changes will be incorporated into the next residency year.

PGY2 Critical Care Competency Areas, Goals, and Objectives:

The resident is encouraged to read detailed information about the ASHP required competency areas, goals, and objectives for PGY2 critical care pharmacy residencies (<https://www.ashp.org/-/media/assets/professional-development/residencies/docs/pgy2-newly-approved-critical-care-pharmacy-2016.ashx>).

- Competency Areas: Categories of the residency graduates' capabilities
 - R1: Patient Care
 - R2: Advancing Practice and Improving Patient Care
 - R3: Leadership and Management
 - R4: Teaching, Education, and Dissemination of Knowledge
- Educational Goals: Goals listed under each competency area are broad statements of abilities
- Educational Objectives: Observable, measurable descriptions of what residents will be able to do as a result of participating in the residency program in order to accomplish the associated educational goal
- For information on Goals and Objectives Taught and Evaluated in Learning Experiences, please visit [PharmAcademic](#)

PGY2 Critical Care Residency Requirements for Successful Completion

Minimum requirements have been set for completion of the IMC PGY2 Critical Care Residency. Requirements and progress will be reviewed with the resident at each quarterly evaluation and more often if needed. Failure to meet the minimum requirements by the end of the residency year will result in not receiving a certificate of achievement and not completing the PGY2 residency program.

The minimum requirements for the PGY2 Pharmacy program include the following:

- Orientation and Licensure
 - Obtain full Utah pharmacist license within the first 90 days
 - Obtain BLS and ACLS certification
 - Complete orientation and staffing training
- Rotation/Staffing/PharmAcademic
 - Complete 10 learning experiences with required rotational activities and assignments
 - Staff 32 hours per month at home facility
 - Attain “achieved” on at least 75% of all PharmAcademic objectives, and 100% of the objectives in competency areas surrounding patient care, within each of the 9 listed goals. Attain “satisfactory progress” on any objectives not achieved.
 - Complete all PharmAcademic evaluations and requirements
- Research
 - Complete a research or quality improvement project, including all aforementioned requirements in the Resident Research section
- Teaching/Education
 - Prepare and present an ACPE-accredited CE
 - Prepare and present a Seminar
 - Complete three formal journal clubs
 - Prepare and present nursing/provider inservices
 - Precept at least 1 student or PGY1 resident on rotation