

F. Pharmacy Practice Experiences

GIO: To acquire the essential skills necessary to be actively involved in pharmacotherapy, inter-professional collaborative work, and community healthcare by maintaining a patient-/consumer-centered perspectives.

※F: The minimum medical conditions covered in this section include cancer, hypertension, diabetes mellitus, heart diseases, cerebrovascular diseases, neuropsychiatric diseases, immunologic and allergic diseases, and infectious diseases. Students should gain practical experience in healthcare facilities and community pharmacies on an ongoing basis through clinical training that provides actual contact with patients with these conditions.

*Pre: Basic Requirements for Students Prior to Pharmacy Practice Experiences

(1) Fundamentals of Pharmacy Practice

GIO: To understand the appropriate attitude and basic workflow in pharmacy practice settings to play a participatory role in a professional and appropriate manner.

① Introductory Pharmacy Experience

*Prerequisite Course Work Prior to Completion of the Second Year

1. To observe and discuss the role of the pharmacists and interact with them in various pharmacy practice settings to gain an understanding of the patient/consumer perspective.
2. To observe and discuss the role of the pharmacists and interact with them in community healthcare, medical care, and welfare settings, and to gain an understanding of important relevant issues in those settings.
3. To describe basic lifesaving procedures (cardiopulmonary resuscitation, trauma life support, etc.) and to perform them using simulators.

② Laws and Ethics in Pharmacy Practice

1. *Pre: To discuss the ethical principles and legal regulations for healthcare professionals.
2. *Pre: To keep personal information confidential while ensuring respect for the right to patient/consumer self-determination.
3. *Pre: To discuss the importance of the pharmacists' contributions to patient/consumer recovery, health maintenance, and quality of life.
4. To follow ethical principles and behave appropriately as a healthcare professional.
5. To maintain respect for the fundamental rights and self-determination of a patients/consumers.
6. To obtain informed consent prior to providing a drug therapy plans.
7. To comply with confidentiality obligations with respect to information obtained in the course of pharmacists' duties.

③ Basics of Pharmacy Practice

1. *Pre: To describe the basic workflow in pharmacy practice settings.
2. *Pre: To describe the importance of drug therapy plans in pharmacy practice settings.
3. *Pre: To describe the structure, functions, and professional relationships within a hospital pharmacy practice setting.

4. *Pre: To describe the job titles, roles, and responsibilities of various hospital personnel.
5. *Pre: To describe the universal healthcare system (medical care, welfare, home visit care) involving pharmacists.
6. To describe the operation and management of hospital pharmacy systems and their coordinating functions with other departments.
7. To describe appropriate drug therapy managements for major diseases in inpatient settings.
8. To participate in treatment from admission to discharge.
9. To describe drug therapy managements in acute care (emergency medicine, intensive care, trauma care, etc.) and care before, during, and after surgery.
10. To describe appropriate drug therapy plans in perinatal care and pediatric care.
11. To describe appropriate drug therapy plans in terminal care and palliative care.
12. To describe appropriate drug therapy plans in outpatient chemotherapy.
13. To describe national health insurance system requirements pertaining to pharmacists.
14. To describe the workflow of the pharmacists in a community pharmacy setting.
15. To perform the processing and dispensing of prescriptions and to counsel patients on drug therapy under a preceptor's supervision.

(2) Prescription Processing, Medication Preparation, and Dispensing

GIO: To acquire the essential basic skills in the provision and management of pharmaceutical products for safe, and appropriate prescription processing, medication preparation, and dispensing.

① Compliance with Pharmacy Laws and Regulations

1. *Pre: To adhere to pharmacy laws and regulations in prescription processing, medication preparation, and dispensing (prescriptions, dispensing records, inquiries, etc.).
2. To maintain complete and accurate legal documents (prescriptions, dispensing records, etc.).
3. To participate in the process of ensuring pharmacy compliance with legal and regulatory requirements.
4. To describe the regulatory requirements governing facilities, equipment, and supplies for community pharmacies.

② Medication Order Review and Medication Therapy Management

1. *Pre: To identify indications and usage, dosages and routes of administration, warnings, contraindications, adverse reactions, and interactions of drugs used for the treatment of major common conditions and diseases.
2. *Pre: To describe the prescription ordering system and electronic medical record system.
3. *Pre: To describe the legal requirements for the format and contents of a prescriptions.
4. *Pre: To describe the significance and precautions of medication verification by the pharmacists.
5. *Pre: To verify prescriptions and identify potentially inappropriate prescribing.
6. *Pre: To contact prescribers for clarification of prescriptions.

7. To demonstrate the ability to review and assess the appropriateness of prescriptions (for drug names, dosages, and directions for use, etc.).
8. To demonstrate the ability to review and assess the appropriateness of injection medication orders (for drug names, dosages, rates, and route of administration, etc.).
9. To give examples of appropriate prescription form requirements.
10. To determine whether prescriptions are appropriate for the patients' treatment by utilizing information from the medication history, medical records, and type of condition or disease.
11. To demonstrate the ability to communicate with prescribers utilizing information from patients' medication history, medical records, and type of condition or disease.

③ **Medication Preparation and Dispensing**

1. *Pre: To label prescriptions correctly, meeting the requirements for content and format.
2. *Pre: To identify trade and generic names, dosage forms, strengths, etc. of major medications.
3. *Pre: To perform necessary pharmaceutical calculations accurately to fill or dispense prescriptions.
4. *Pre: To describe strategies for generic drug substitutions.
5. *Pre: To explain the mechanisms and the characteristic evidence for incompatibility of representative injectables, powders, liquid drug forms, etc.
6. *Pre: To demonstrate basic aseptic techniques and describe processes and facilities needed to provide sterile compounded parenteral solutions.
7. *Pre: To demonstrate appropriate and safe techniques for the handling of hazardous drugs such as chemotherapy products.
8. *Pre: To demonstrate the procedures utilized in verification/checking of the selection, preparation, and/or organization of a drug products.
9. To participate in the selection/compounding of the appropriate medications, dosage forms, and amounts in order to fill prescription orders.
10. To perform appropriate selection processes in generic drug substitutions.
11. To accurately perform any necessary pharmaceutical calculations to fill or dispense prescriptions accurately.
12. To identify whether tablet crushing or capsule opening is appropriate and to participate in the preparations for dispensing.
13. To identify whether one-dose packaging is clinically necessary for patients and to participate in the preparations for dispensing.
14. To participate in the preparation of injectable medications.
15. To determine the methods for preventing incompatibility of injectable, powder, and liquid medications, etc.
16. To demonstrate aseptic techniques and describe processes and facilities needed to provide sterile compounded parenteral solutions including total parenteral nutrition, etc.
17. To demonstrate appropriate, safe techniques for handling hazardous drugs such as chemotherapy products.

18. To demonstrate appropriate techniques for the dispensing and handling of pharmaceutical products that requiring special attention (powerful, poisonous, psychotropic, or chemotherapy drugs, etc.).
19. To demonstrate the procedures utilized in verification/checking of the selection, preparation, and/or organization of an injectable drug products.

④ Professional Attitudes and Behaviors of Practice, Patient Education, and Counseling

1. *Pre: To exhibit behaviors and values consistent with the trust placed in the profession by patients or consumers.
2. *Pre: To identify the special needs of individual patients for serving or counseling, including pregnant or lactating women, children, the elderly, et al.
3. *Pre: To collect important background information on patients or consumers (symptoms, psychological states, medical history, lifestyle habits, allergies, medication history, history of adverse reactions, etc.).
4. *Pre: To counsel patients or consumers clearly on major medications including efficacy and effects, dosages and routes of administration, warnings, contraindications, adverse reactions, interactions, storage, etc.
5. *Pre: To identify lifestyle modifications that should be made in order to help manage major disease states.
6. *Pre: To demonstrate to the patients how to use various dosage forms (eye ointments, suppositories, inhalers, self-injectables, etc.).
7. *Pre: To describe the significance and importance of a medication history and medical record contents.
8. *Pre: To document medication education properly for patients with major conditions and disease.
9. To exhibit the behaviors and values consistent with the trust placed in the profession by patients or consumers.
10. To obtain important background information on patients or consumers (symptoms, psychological states, past medical history, lifestyle habits, allergies, medication history/reconciliation, history of adverse reactions, etc.).
11. To counsel patients on medications utilizing effective education techniques in accordance with the prescribers' objectives.
12. To counsel/educate patients/consumers on how to take medications safely and effectively based on their medical conditions and backgrounds.
13. To exhibit behaviors and values that are consistent with the trust placed in the profession by patients or consumers who have special needs for serving or counseling, including pregnant or lactating women, children, the elderly, et al.
14. To counsel patients on medications utilizing effective patient educational materials such as patients' medical record handbooks, health notebooks, and medication instruction leaflets.
15. To document appropriately patient information collected from medication history and/or medical records.

⑤ Pharmacy Procurement, Inventory Management, and Controlled Substance Management

1. *Pre: To describe the significance and importance of pharmaceutical product management.
2. *Pre: To describe the workflow of pharmaceutical product management.
3. *Pre: To describe the conditions and procedures for the handling of powerful, poisonous, and psychotropic drugs, as well as the raw materials of stimulants, etc.
4. *Pre: To describe the management and handling of specified bio-derived products.
5. *Pre: To describe the classes and applications of representative radiopharmaceuticals and their appropriate storage conditions.
6. *Pre: To describe the significance, preparation processes, and quality assurance for hospital pharmacy compounding products.
7. *Pre: To describe briefly pharmacy compounding products and Kampo medicines.
8. *Pre: To describe the factors affecting the quality of pharmaceutical products and their storage conditions.
9. To supply, storage, and dispose of pharmaceutical products appropriately.
10. To perform appropriate inventory management of pharmaceutical products.
11. To describe the workflow processes of the inventory management of pharmaceutical products.
12. To manage and handle powerful, poisonous, and psychotropic drugs appropriately as well as the raw materials of stimulants.
13. To manage and handle specified bio-derived products appropriately.

⑥ Medication Safety and Quality Improvement

1. *Pre: To identify the most common types of medication errors in prescribing, dispensing, storing, preparing, and administering medications.
2. *Pre: To identify the characteristics of medication errors associated with high-risk medications (chemotherapy products, medications for diabetes mellitus, controlled substances, etc.) and measures to reduce those errors.
3. *Pre: To understand and discuss representative medication error incidents including near-misses and accident reports to identify the characteristics, concrete measures, coping strategies, and opportunities to enhance patient safety.
4. *Pre: To describe the fundamental principles of infection prevention and control.
5. *Pre: To demonstrate aseptic techniques for sterile hand washing and standard infection control precautions.
6. *Pre: To describe the preparation, applications, and optimal concentrations of representative disinfectants.
7. *Pre: To describe briefly the risk management strategies for medication usage.
8. To participate in the procedures for monitoring the safety of high-risk medications (chemotherapy products, medications for diabetes mellitus, controlled substances, etc.).
9. To describe various policies, procedures, and protocols in place for the prevention of dispensing errors.

10. To create concrete proposals and coping strategies to enhance patient safety based on past medication error incidents including near-misses and accident reports.
11. To review and comply with the safety guidelines for the clinical sites.
12. To demonstrate aseptic techniques for sterile hand washing and standard infection control standard precautions.
13. To handle clinical specimens and infectious waste appropriately.
14. To create concrete proposals for infection control (infection and transmission prevention, etc.) for hospital sites.

(3) Practical Application of Pharmacotherapy

GIO: In order to provide safe and optimized pharmacotherapy to patients, to acquire skills in collecting patient information, assessing patients' conditions, and developing drug therapy plans.

① Collection of Patient Information

1. *Pre: To describe basic medical terminology and abbreviations.
2. *Pre: To obtain appropriate patient information from various information resources such as medical records, medication histories, pharmacists' notes, nursing records, patients' medical record handbooks, and patients' own medications.
3. *Pre: To describe the purposes of a physical assessments and the applications of the physical findings to a drug therapy plans.
4. *Pre: To perform basic physical assessments and evaluate the physical findings.
5. To use basic medical terminology and abbreviations.
6. To obtain information from patients, pharmacy consumers, and various information resources such as medical records, medication histories, pharmacists' notes, nursing records, patients' medical record handbooks, and patients' own medications.
7. To incorporate physical findings in pharmaceutical care plans.

② Management of Drug Information

1. *Pre: To obtain, categorize, and synthesize drug information for pharmacotherapy.
2. To understand and utilize the medical information resources of a facilities.
3. To document drug information (DI) requests for pharmacotherapy and the evidence-based resources used for the responses.
4. To understand the drug information needs of healthcare professionals and patients and to provide them.
5. To evaluate and synthesize drug information to provide safe and effective pharmacotherapy.
6. To manage emergency information such as Dear Healthcare Professional Letters of Emergent Safety Communications (Yellow Letter), Dear Healthcare Professional Letters of Rapid Safety Communications (Blue Letter), drug products for recall and discontinued products in healthcare facilities.

③ Application of Pharmaceutical Care Plans and Pharmacotherapy (Pharmaceutical Care Plans and Recommendations)

1. *Pre: To develop drug therapy plans for different stages of major conditions and diseases based on clinical evidence.
2. *Pre: To select appropriate medications and explain their usage and administration in terms of effects on organ (kidney, liver, etc.) function and physiological specificity such as for pregnant or lactating women, children, and the elderly.
3. *Pre: To describe methods for evaluating medication adherence, common reasons for non-adherence, and management methods.
4. *Pre: To describe the basic injection techniques for various routes of administration such as subcutaneous, intramuscular, intravenous injections, continuous infusion, etc.
5. *Pre: To describe typical infusion solutions and their usage.
6. *Pre: To evaluate patients' nutrition and fluid intake status and excess/deficiency of electrolytes.
7. To determine pharmacotherapy strategies in major diseases by assessing diagnosis, clinical state, and scientific evidence.
8. To propose a drug therapy plans based on evidenced-based information such as treatment guidelines.
9. To provide an appropriate drug therapy plans by evaluating patient status (disease states and severity, comorbidities, liver and kidney function, general condition, individual genetic differences, etc.), patients' psychological status and preferences, and characteristics of medications (mechanisms of action, pharmaceutical characteristics, etc.).
10. To incorporate drug administration protocols and clinical pathways when developing a drug therapy plans.
11. To evaluate patients' home medications and provide appropriate recommendations such as which medications should be continued, discontinued, or switched to alternatives.
12. To recommend changes in prescribed regimens, usage, or administration methods to improve medication adherence.
13. To select appropriate generic medications for reasons including efficacy, safety, and cost-effectiveness, when developing a pharmaceutical care plans or drug therapy plans.
14. To communicate the elements of a pharmaceutical care plans or drug therapy plans (reasons for selection, usage, administration, duration, etc.) to other healthcare professionals.

④ Application of Pharmaceutical Care Plans and Pharmacotherapy (Evaluation of Effectiveness and Safety)

1. *Pre: To describe monitoring parameters such as clinical symptoms and laboratory findings to evaluate the effects and adverse effects of medicines used for treating major diseases.
2. *Pre: To obtain necessary patient information to evaluate pharmacotherapy for the treatment of major diseases.
3. *Pre: To identify and evaluate drug-related problems of in major diseases, to develop drug therapy plans, and to document pharmacist interventions in simple object access protocol (SOAP) notes, etc.

4. To understand laboratory parameters to monitor the effects and adverse effects of medicines, and to recommend the ordering of relevant laboratory tests.
5. To recommend ordering therapeutic drug monitoring (TDM) for patients prescribed medications requiring it.
6. To predict the effects and adverse effects of medicines by analyzing the results of TDM.
7. To describe drug-related abnormal values of the laboratory data values.
8. To evaluate the effects of pharmacotherapy by assessing patients' clinical symptoms and laboratory findings.
9. To evaluate the adverse effects of pharmacotherapy by assessing patients' clinical symptoms and laboratory findings.
10. To advise physicians on adjusting drug therapy plans (type of medications, dose and route of administration, duration of therapy, etc.), based on drug effects and adverse reactions to current therapy, and results of TDM.
11. To document accurately patient information using the "who, what, where, when, why, and how" (5W1H) approach.
12. To identify and evaluate drug-related problems, to develop pharmaceutical care plans, and to document pharmacist interventions in simple object access protocol (SOAP) notes, etc.
13. To document the necessary information on adverse incident report forms for the Pharmaceuticals and Medical Devices Agency (Japan).

(4) Participation on Interprofessional Collaborative Work

GIO: In order to participate in interprofessional collaborative work at healthcare facilities or in the community, to understand the role and meaning of interprofessional collaborative work, and to share obtained information with other healthcare professionals to provide better medical treatment.

① Interprofessional Collaborative Work in a Healthcare Facilities

1. *Pre: To describe the role of pharmacists in interprofessional collaborative work.
2. *Pre: To describe the purpose of interprofessional collaborative work and the role of each team member.
3. *Pre: To describe the importance of collaborative interactions between hospitals and the community, and to describe examples such as: collaborative clinical pathways, discharge counseling, collaborations among hospitals, community pharmacies, and other healthcare facilities, etc.
4. To collaborate with pharmacists and other healthcare professionals to solve drug-related problems.
5. To share information relevant to patients' conditions (e.g., disease state, laboratory findings, allergy history, life environment) and changes in them (e.g., outcomes, adverse reactions, psychological states, and quality of life) after initiation of therapy with other healthcare professionals.

6. As a member of interprofessional collaborative work, to discuss patients' therapy goals and courses of treatment with other healthcare professionals during an interprofessional team conferences or team rounds.
7. To develop optimal drug therapy plans for patients by collaborating with other healthcare professionals.
8. To evaluate discharge care plans by collaborating with other healthcare professionals.
9. To participate in various interprofessional collaborations such as infection control teams, nutrition support teams, pain control teams, or pressure ulcer care teams in healthcare facilities.

② Collaborative Practice in the Community

1. *Pre: To describe the types of professions relevant to community healthcare, medical care, and welfare and to describe the meaning of collaborative practice in the community.
2. *Pre: To understand and discuss the importance of collaborative practice between healthcare facilities and community pharmacists.
3. To experience collaborative practice between healthcare facilities and community pharmacists.
4. To share information on community residents with healthcare professionals in the community healthcare setting.

(5) Participation in Community Healthcare, Medical Care, and Welfare

GIO: In order to contribute to community healthcare, medical care, and welfare, to understand the systems and meanings of home visit care, community healthcare, welfare, primary care, and self-medication, and to be involved in recovering/maintaining/improving the health of the community residents by participating through those activities.

① Pharmacist Involvement in Home Visit Care

1. *Pre: To describe the purpose, system, and support of home visit care.
2. *Pre: To describe the characteristics and backgrounds of the patients who receive home visit care.
3. *Pre: To describe the role of the pharmacists in home visit care.
4. To perform drug therapy management in home visit care.
5. To perform home visit care service in the community, and to collaborate with care managers.
6. To collect relevant home visit care patient information on their conditions (disease, clinical symptoms, disease state, severity, nutrition status, etc.), progress, and living environment and to write reports.

② Advancing Pharmacy Health Literacy in the Community

1. *Pre: To describe the role of pharmacists in community health care and major activities such as prevention of drug abuse and suicide, infection control, and antidoping activities.
2. *Pre: To describe infection control methods in terms of public health.
3. To understand and undertake the tasks of school pharmacists.
4. To undertake pharmacists' activities in community health management such as antisepsis, food poisoning prevention, and prevention of accidental ingestion of chemical substances in household items.

③ Role of Pharmacists in Primary Care and Self-Medication

1. *Pre: To understand and discuss the importance of primary care and self-medication in the current health care system.
2. *Pre: For patients with typical clinical symptoms such as headaches, abdominal pain, and fever, to evaluate patients from obtained information and to provide appropriate relief.
3. *Pre: To describe common pharmacy compounding products including Kampo medicines, medications requiring a pharmacists' counseling and over-the-counter drugs and to handle those products appropriately.
4. *Pre: To advise patients on typical lifestyle modifications.
5. To manage pharmacy compounding products including Kampo medicines, medications requiring a pharmacists' counseling, and over-the-counter drugs depending on the risks.
6. To assess the consumers' clinical conditions (disease, severity of the illness, etc.) and physical conditions based on consumer information and physical findings.
7. Depending on the clinical symptoms, to provide appropriate advice to consumer such as referrals to physicians; offer first aid; recommend medications requiring pharmacists' counseling, over-the-counter drugs, or test products; and suggest lifestyle modifications.
8. To advice consumers clearly on how to use pharmacy compounding products including Kampo medicines, medications requiring a pharmacists' counseling, over-the-counter drugs, health foods, dietary supplements, and medical devices.
9. To perform to advise patients on disease prevention and health management.

④ Role of Pharmacists in Disaster Medicine

1. *Pre: To describe the fundamentals of disaster medicine.
2. To describe disaster management plans including systems for managing medical supplies and medical aid in the community.
3. To understand and discuss the role of hospitals, community pharmacies, and pharmacists during disasters.