Introduction to Pharmacy Practice
Learning Outcomes

• Compare & contrast technician & pharmacist roles
• Understand licensing, certification, registration terms
• Describe advantages of formal training for technicians
• Describe a variety of pharmacy practice settings
• Describe characteristics of a professional
Learning Outcomes

• List tasks that pharmacy technicians perform in various pharmacy settings
• Describe the concept of pharmaceutical care
• Define medication therapy management
• Explain why the use of outpatient pharmacy & medical services is increasing
Key Terms

• Pharmacist
• Pharmacy technician
• Certification
• Licensure
• Registration
Key Terms

- Accreditation
- Health-system pharmacy
- Home health care
- Medication therapy management (MTM)
- Pharmaceutical care
Basics

• Pharmacology: study of drugs & their actions
• Pharmacokinetics: understanding of how drugs are absorbed, distributed, metabolized, & eliminated by body
• Pharmaceutics: preparation & dispensing of drugs
Roles of Pharmacy Staff

• Pharmacy technicians
  – Skilled in practical or mechanical aspects
  – Perform routine, day-to-day functions that do not require judgment of pharmacist
    • repackaging medications
    • maintaining medication inventory

• Pharmacists
  – Responsible for technicians’ activities & performance
  – Engage in activities that require professional judgment
  – Educating patients about their medications
  – Suggesting medication alternatives to physicians
Training

• Pharmacy Technician Certification Board (PTCB)
  – National certification program
    • administers nationally-accredited pharmacy technician certification examination
    • pharmacy technician performs activities as the result of having certain knowledge & skills

• Training requirements for pharmacy technicians vary from state to state & from employer to employer
Hospital Technician Example

– Might require high school diploma
– Experience and position related to level of responsibility
  • Hospital pharmacy technician 1 (PT-1)
    – newly hired technician
    – fills automated medication dispensing cabinets
  • Hospital pharmacy technician 2 (PT-2)
    – 5 years job experience
    – fills automated medication dispensing cabinets
    – charges & credits patient accounts
    – compounds intravenous solutions
    – inventories narcotics
Community Technician Example

• PT-1
  – receives prescriptions from patients
  – checks out patients at cash register

• PT-2
  – enters data in computerized patient profiles
  – fill & label prescriptions
  – review patient insurance information
Technician Advanced Practice

• Tech-check-tech
  – allowed in some states
  – technicians check work of other technicians
  – under the supervision of a pharmacist

• Automated technology
  – day-to-day operations & upkeep of systems
  – computerized narcotic inventory control
  – preparation & compounding of IV & sterile products
Patient safety

• Top priority for all pharmacists & pharmacy technicians
  right drug  right route
  right dose  right patient
  right time

• Technicians
  – may be responsible for preparation of drugs
  – enter patient information into computer profile for later verification by pharmacist

• Errors can cause potentially fatal outcomes

• Technicians play key role in minimizing risk of errors
Technician Training

• Informal on-the-Job Training
  • Learn skills needed to perform a particular job
    – fill prescriptions
    – automated medication dispensing cabinets
    – compound IV solutions or medications
    – enter prescription information into computer database

• Informal training situations
  – pharmacist or technician who is familiar with job often instructs trainee
Technician Training

• Structured on-the-job Training
  – training course developed by the employer
  – classroom teaching combined with hands-on experience
  – may last from a week to six months
    • aseptic (sterile) technique,
    • pharmaceutical calculations
    • technician responsibilities
    • pharmacy rules & regulations
    • patient confidentiality
    • organizational policies & procedures
    • employee responsibilities
Technician Training

• Formal Programs
  Community & technical college programs
  – broader in scope than on-the-job training
  – six to twenty-four months to complete
  – programs typically include:
    • technical duties related to pharmacy
    • medical terminology
    • pharmaceutical calculations
    • drug distribution systems
    • IV admixture procedures
    • medication packaging techniques
Technician Training

- Formal Programs Continued
- Technicians gain skills, knowledge, & experience by
  - attending classes
  - participating in labs
  - completing clerkships
- After completion of many of these programs, students may earn
  - associate degrees
  - pharmacy technician certificates
- Most programs offer
  - full-time, part-time, & night classes
  - financial assistance to those individuals who qualify
  - online distance learning programs
Pharmacist Training

• School
  – Two years of prerequisite courses
  – Professional college degree is doctor of pharmacy (PharmD)
  – Older pharmacists may hold a bachelor of science (BS) in pharmacy

• License
  – pharmacists must be licensed by the state’s BOP
  – licensed pharmacists supervise technicians
  – pharmacists must have degree in pharmacy to take the licensing examination
Pharmacist Training

• Includes advanced training in pharmaceutical sciences
• Learn to use professional judgment
• Must determine appropriateness for each patient every time prescription is filled:
  – verify that medication is appropriate for patient’s condition
  – dosage is correct
  – patient is not allergic to drug
  – prescribed medication will not interact with other meds
  – must educate patient on how to take medication properly
  – alert patient to possible side effects of drug
Advanced Pharmacist Training

• Elective Residency
  – 1 or 2 year postgraduate training programs
  – provide opportunity to gain clinical experience
  – usually in hospital, ambulatory, or community settings
  – after earning a degree

• Elective Fellowships
  – usually 2-3 years long
  – focus on pharmacy research rather than clinical pharmacy practice
Levels of Endorsement

- Accreditation
  - Process of vouching for conformance with criteria
- Certification
  - voluntary process to grant recognition to individual
  - lets public know of level of knowledge & skill
- Credentialing
  - verification of pharmacist’s ability to provide patient care
- Licensure
  - government agency grants permission to individual
  - public health, safety, & welfare will be reasonably well protected
- Registration
  - process of making list or being enrolled in an existing list
Accreditation/Certification

• Accredited pharmacy technician programs
• Certification examinations
  — assure that pharmacy technicians:
    • have met a predefined set of standards
    • possess an established set of skills & knowledge
• May provide advantages in terms of job responsibilities, salary, & seniority
Technician Certification

- Scope of Pharmacy Technician Practice developed from
  - validated task analysis
    - what pharmacy technicians actually do
    - what knowledge they need to effectively perform those tasks
- Pharmacy Technician Certification Board (PTCB)
  - a national pharmacy technician certification program
- States differ in technician requirements
  - some states require registration of pharmacy technicians
  - some states require certification
- No national requirement for certification at this time
PTCE

• Pharmacy Technician Certification Examination

• To take examination candidates must
  – have high school diploma or GED
  – submit appropriate application form
  – pay fee
  – ineligible if
    – convicted of drug- or pharmacy-related felony
    – any felony convictions any time during previous 5 years
PTCE

• 2-hour, closed-book, computer based examination

• 80 multiple-choice questions + 10 non-scored questions

• Score is based on number of correctly answered questions
PTCE Tests in 3 Function Areas

I  Assisting pharmacist in serving patients  66%
   – dispensing prescriptions
   – distributing medications & collecting & organizing information

II  Maintaining medication & inventory systems  22%
   – purchasing medications & supplies
   – controlling inventory
   – storing, preparing, distributing medications

III  Participating in management of pharmacy practice  12%
   – human resources, facilities & equipment, & information systems
Passing the PTCE

• Candidates who pass the exam may use designation CPhT (certified pharmacy technician) after their names
To Maintain Certification

• Technicians must recertify every two years
  – complete at least 20 hours of continuing education
  – maximum of 10 hours may be earned at the technician’s workplace under the direct supervision of a pharmacist
    • hours must be special assignments or training
    • regular work hours do not apply
  – at least 1 hour of continuing education must be related to pharmacy law
ICPT

• Institute for the Certification of Pharmacy Technicians
• Exam for Pharmacy Technicians Certification (ExCPT)
• On-demand, computer-based format
• Eligibility requirements to take ExCPT are similar to those of PTCE
• Two-hour test with 110 multiple-choice questions – 10 are not counted in score
ExCPT-Question Categories

1. Regulations & Technician Duties (25%)
   – Technician duties & general information, controlled substances, & other laws & regulations

2. Drugs & Therapy (23%)
   – drug classification & most frequently prescribed medications

3. Dispensing Process (52%)
   – Prescription information, preparing/dispensing prescriptions, calculations, sterile products, & unit dose & repackaging
Program Accreditation

- ASHP is the only organization that specifically accredits pharmacy technician training programs
  - vocational, technical, & community colleges
  - hospitals
  - chain drug stores
  - military branches
Accreditation

• Accreditation standardizes the formal training that pharmacy technicians receive
  – guidelines on how to train competent pharmacy technicians
  – training programs must meet minimum requirements set by ASHP to earn accreditation
Goals of ASHP Accreditation

• Upgrade & standardize technician training
  • assist & recognize training programs
• Provide criteria to help trainees select a program
• Provide pharmacies with a competency tool
• Assist in advancement & professional development of pharmacy technicians
Professionalism

• Definition: Actively demonstrating attitudes, qualities, & behaviors of a person well educated in an area of specialized knowledge – putting the needs of others before one’s own – refers to way in which members of a profession present themselves & communicate with others
Professionalism

• Code of Ethics for Pharmacy Technicians
  – Outlines 10 guiding principles for technicians
• Practical examples of professional conduct include
  – respect for patients’ privacy
  – keeping patient information confidential
  – participation in continuing education courses
  – honest, conscientious attitude
Professionalism

• Personal appearance communicates a message

• Join a membership organization
  – continuing education opportunities
  – job placement services
  – subscriptions to pharmacy technician journals & newsletters
  – online discussion groups & networks
Pharmacy Practice Settings

- Community Pharmacy
- Mail-Order Pharmacy
- Pharmacy Benefit Managers & Managed Care
- Hospital Pharmacy
- Home Health Care
- Long-Term Care
- Specialty Pharmacy Services
Community Pharmacy

- Corner drugstore
- Local retail or grocery store pharmacy
  - chain or independently owned
- Technicians in community settings
  - prepare prescription labels for checking by a pharmacist
  - order & maintain drug inventory
  - process insurance claims
  - operate a cash register
Mail-Order Pharmacy

- Prescriptions filled & refilled through the mail
- No face-to-face contact with patients
- Technicians’ duties in a mail-order pharmacy are similar to those in community setting
Pharmacy Benefit Managers

• PBM
• Oversees prescription medication programs
• Processes & pays prescription medication insurance claims
• Develops & maintains a medication formulary
• Technicians who work in a PBM environment
  • do not have direct patient contact
• Pharmacists manage drug therapy on a global scale
Managed Care

• Type of health insurance program
  – Patients pay a blanket fee for their health care services

• “The application of management principles to achieve maximum health outcomes at the lowest cost”

• Managed care programs often operate ambulatory clinics & hospitals
Hospital Pharmacy

• Pharmacists are directly involved with patient care
  – daily interactions with physicians, nurses, & other staff
  – develop plans of pharmaceutical care
  – monitor the patients’ drug therapy
  – may provide specialized services
    – pediatrics
    – oncology
    – infectious diseases
    – nutrition support
    – drug information
Hospital Pharmacy

• Pharmacists
  – evaluate trends in medication use
  – develop guidelines for medication use
  – educate patients & health care professionals,
  – implement & maintain drug distribution systems
  – interdisciplinary work within & outside pharmacy department
Hospital Pharmacy

• Pharmacy technicians in hospitals
  – work with pharmacists to accomplish many of the pharmacy’s goals
  – may enter physician medication orders into the pharmacy computer system
  – prepare IV drug admixtures
  – repackage & label unit dose medications
Hospital Pharmacy

• Pharmacy technicians in hospitals
  – restock automated dispensing cabinets
  – deliver medications
  – complete paperwork for quality assurance or billing purposes
  – may dispense medications from a preapproved list
Home Health Care

• Home care pharmacists
  – assess patient for the appropriateness of home medication administration
  – develop a medication management plan to educate & monitor the patient
  – medications administered may be oral tablets or capsules or continuous infusions of pain medications or total parenteral nutrition (TPN)
Home Health Care

• Technician duties in a home care setting may include
  – preparing sterile injectable products
  – maintaining computerized patient profiles
  – delivering medications & supplies to a patient’s home
Long-Term Care

• Includes
  • nursing homes
  • psychiatric or behavioral health institutions
  • intermediate care facilities for mentally disabled patients
  • skilled nursing facilities

• May contract with local community pharmacies
• Pharmacists & technicians may not have direct patient interaction
Long-Term Care

• Hospice care
  – patients with incurable diseases
  – not expected to live more than six months
• Hospice care may be offered
  – long-term care settings
  – hospitals
  – patients’ own homes
• Provides dying patients with best possible quality of life
  – focus on relief of symptoms rather than on treating disease
Specialty Pharmacy Services

• Technicians may specialize in areas such as
  – inventory purchasing & management
  – sterile product preparation
  – surgical pharmacy
  – nuclear pharmacy
  – veterinary pharmacy
  – nonsterile (extemporaneous) compounding
  – management roles
Pharmaceutical Care

• Pharmaceutical care
  – “the direct, responsible provision of medication-related care for the purpose of achieving definite outcomes that improve a patient’s quality of life”

• Practice of pharmacy evolving
  – pharmacist & technician roles will continue to change
Pharmaceutical Care Process

1. Identification of potential & actual drug-related problems
2. Resolution of actual drug-related problems
3. Prevention of potential drug-related problems
MTM

• MTM is current pharmacy practice model
• Medicare Modernization Act (2003)
  – MTM programs mandated
• Medication Therapy Management includes
  – assessment of a patient’s health status
  – formulation of a medication treatment plan
  – selection, initiation, modification, or administration of medication therapy
  – monitoring of the patient’s response to therapy
  – review of medications for medication-related problems
Impact of Technology

• Computers, bar coding, & robotic systems
• Provides checks & balances
• Allows pharmacists more time
• Technicians operate & maintain these new systems
Impact of Technology

• More accurate & faster than human
• Improves safety for patients
• Cannot assume technology is correct 100% of the time
• Pharmacists & pharmacy technicians must still apply judgment when checking the work of a machine