



# **Pharmacy Technician Training Manual**

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# Introduction

In May of 1993 the Oklahoma State Board of Pharmacy asked the Oklahoma Pharmaceutical Association (OPhA) to develop a Pharmacy Technician Training Manual.

The purpose of the fourth edition of this manual is to provide pharmacies and pharmacists in the state a training manual of pharmacy material that has been approved by the Oklahoma State Board of Pharmacy.

Due to increased quantity of prescriptions in recent years, there has been an increased demand for pharmacy staff. The increased use of pharmacy technicians should increase efficiency and quality of pharmaceutical care. However, the pharmacist must live up to the full potential of his or her professional roles and responsibilities. “Tech” will be the term used for pharmacy technician in the manual.



# Pharmacy Technician Certification Board

Although not required for licensure, some technicians may choose to get certified. Some employers either require certification or may offer incentives for certification. The Pharmacy Technician Certification Board (PTCB) offers a national examination that once passed confers the Certified Pharmacy Technician (CPhT) credentials. This certification increases credibility and adds a level of greater emphasis, responsibility and benefits. The PTCB offers the exam three times a year at nearly 120 sites across the nation. For more information, see <http://www.ptcb.org>.

Numerous websites offer additional training materials for the examination. A list of links to the various training websites as well as pharmacy technician associations is located at <http://www.ptcb.org/About/links.aspx>.



# OKLAHOMA STATE BOARD OF PHARMACY:

## PHARMACY TECHNICIAN TRAINING GUIDELINES

All pharmacy technicians must have satisfactorily completed an initial Pharmacy Technician Training Program, **Phase 1**, prior to receiving a Pharmacy Technician Permit. After receiving the permit, they may begin on-the-job training (OTJ), **Phase 2**, in the prescription department.

This program must be taught in each pharmacy employing pharmacy technicians. The development or implementation of a program is the responsibility of the pharmacist manager, who may be requested to submit the instructional text of the training program to the State Board of Pharmacy for approval.

The pharmacist manager, or another pharmacist in the pharmacy whom he or she may designate, shall conduct the training and attest to its successful completion. Proof of this training and subsequent training, must be maintained in the pharmacy and available for inspection.

The Oklahoma State Board of Pharmacy has set these Pharmacy Technician Training Guidelines as minimum standards for training of pharmacy technicians.

The training program may be adjusted to meet the specific needs of an individual, but the adjusted program must conform to the minimum standards in these guidelines.

# **Phase 1**

## **(Initial Training)**

### **I. Orientation**

- a. Tour of Pharmacy
  - i. Location of Medications
  - ii. Prescription Files
  - iii. Information Sources
  - iv. Insurance Information
  - v. Other areas deemed appropriate
- b. Organization Chart (chain of command)
  - i. Describe your store's organizational chart. The pharmacist is always responsible for the tasks the technician completes.
- c. Policy and Procedures Manual (if one exists)
  - i. The development of a policy and procedure manual is highly recommended.
- d. Confidentiality of Patient Information
  - i. See Appendix 1**
- e. Health Insurance Portability and Accountability Act of 1996. (HIPAA)
  - i. See Appendix 2**
- f. Patient Information Literature
  - i. There are several prescription medications that require patient package inserts when a prescription is dispensed. Examples are Premarin, birth control pills, etc. Other useful information to help instruct a patient is also available. The tech should be able to help the pharmacist in maintaining these sources of information.
- g. Reference Sources
  - i. The tech should know:
    - 1. Where the reference books are located in the pharmacy
    - 2. Legal requirements pertaining to keeping an updated pharmacy library. (See Rules and Regulations section of current Law Book)
- h. Name Tags
  - i. The public should be able to distinguish the pharmacist from any support personnel in the pharmacy. All support personnel must be distinctly identifiable from a practicing pharmacist. Name and job title should identify "Tech" from other support personnel.
- i. Dress Code
  - i. Each pharmacy should determine the dress code.

### **II. Job Descriptions**

- a. Role of Pharmacist
  - i. The pharmacist is responsible for all judgmental tasks involved in dispensing a prescription and for maintaining good pharmaceutical care.

- ii. The pharmacist is responsible for all counseling and shall not delegate this task to anyone. An intern is allowed to counsel if deemed appropriate by the pharmacist.
  - iii. The pharmacist may delegate non-judgmental tasks to be done, but the responsibility, both legally and professionally, stays with the pharmacist.
  - iv. The pharmacist's duties are a provision of those acts or services that are necessary to provide pharmaceutical care.
- b. Role of Support Personnel
  - i. The supportive personnel may perform tasks other than those of a pharmacist or technician.
- c. Role of Pharmacy Technicians
  - i. May perform any duties supportive personnel are allowed to perform
  - ii. Count and/or pour medications
  - iii. Prepackage and properly label medications (i.e. unit dose)
  - iv. Affix auxiliary labels to the container as directed by pharmacist.
  - v. Affix the prescription label to proper container
  - vi. Reconstitution of medication (i.e. liquid antibiotics)
  - vii. Bulk compounding, including such items as non-sterile topical compounds, sterile irrigation solutions and products prepared in relatively large volume for internal or external use.  
Documentation of a system of in-process and final checks and controls must be developed or approved by the certifying pharmacist and carefully and systematically enforced.
  - viii. May perform functions involving reconstitution of single dose units of parenteral products that are to be administered to a given patient as a unit, and perform functions involving the addition of one manufacturer's prepared unit (whole or part) to another manufacturer's prepared unit, if the unit is to be administered as one dose to a patient. The pharmacist must establish procedures for parenteral products and certify the ingredients, and label the finished product.
  - ix. May assist the pharmacist in the annual Controlled Dangerous Substance inventory. The pharmacist remains responsible for completeness and accuracy.
  - x. **See Appendix 3: Pharmacy Technician and Supportive Personnel Rules**
- d. Personal Attributes
  - i. Self Confidence: Knowing when and whom to ask for help is part of self-confidence.
  - ii. Knowledge: Using the training given, the tech may help the pharmacist in knowing a patient and remembering what has occurred in the past regarding the patient.

- iii. Sincerity: The combination of honesty, common sense and diplomacy may be characterized as sincerity. Show concern for the patient.
- iv. Concern for others: A concern for others, coupled with empathy, open-mindedness and understanding of their opinions or situation is important. Try to look at their point of view. Are there other helpful options?
- v. Tact: Tact is an important aspect of verbal communication in any pharmacy.
- e. Pharmacy Technicians interrelationships with:
  - i. Pharmacists: All tasks performed by the tech are the ultimate responsibility of the pharmacist. The tech works under direct and immediate supervision by the pharmacist, as stated in the State Board Rules. The tech should present any problems or discrepancies to the pharmacist.
  - ii. Patients: The tech should be courteous and tactful when obtaining information. Refer all medication questions to the pharmacist.
  - iii. Physicians: The tech should be courteous and identify themselves. Refer all medication questions to the pharmacist.
  - iv. Nurses and/or medical office staff: Refer all medication questions to the pharmacist.

### **III. Communication Techniques**

- a. Telephone Etiquette and protocol
  - i. Basic communication skills: Always communicate with a helpful attitude.
  - ii. Be an active listener.
  - iii. Communication is a two way street.
  - iv. Articulation: the use of precise words to describe a situation.
  - v. Pleasant voice: speak slowly, distinctly, and pleasantly. The caller cannot see facial expressions so the voice is all important.
  - vi. Friendliness is one of the easiest and most effective tools of good communication.
  - vii. Listen attentively and patiently. Do not assume you know what is going to be said; wait for the person to finish before responding.

### **IV. Pharmacy Laws and Rules**

- a. Pharmacy Law – refer to Oklahoma Pharmacy Law Book
- b. Pharmacy Rules
  - i. Transfer of prescriptions: only the pharmacist or intern is allowed to transfer a prescription.
  - ii. Interns may perform all functions of a pharmacist, except the final check of a prescription.
  - iii. Telephone prescriptions: only a pharmacist or intern is allowed to take new prescriptions.
  - iv. Pharmacy access: only a pharmacist shall be permitted to unlock the pharmacy area or any additional storage areas for dangerous drugs, except in an extreme emergency.

- v. Refill authorization records: when an agent of a licensed practitioner calls in a refill, the name of the person shall be documented.
  - vi. Drug Expiration dating: all outdated prescription drugs shall be removed from the active inventory area upon expiration and cannot be used to fill prescriptions. The removal from the pharmacy of these expired drugs must occur within six months; either by destruction or by being returned to the supplier.
- c. Drug Enforcement Administration (DEA)
- i. Identification of DEA drug labels
  - ii. Ordering and Receiving of controlled dangerous drugs
  - iii. Rationale of DEA drugs
  - iv. Inventory and/or accountability: the Tech is allowed to help the pharmacist in the actual inventory which must be performed between May 1 and July 1.
  - v. Storage of controlled substances.
  - vi. Filing Systems: Different types of filing are allowed. The tech should know which type of filing is being utilized in the pharmacy.
  - vii. Exempt Narcotic Sales: The pharmacist is required to handle the sale of all exempt narcotics.
  - viii. Formula for calculating and confirming DEA number: Add the first, third, and fifth digits of the DEA number. Then add the second, fourth, and sixth digits; and multiply this sum by 2. Add the two numbers. The last digit of this sum will be the same as the last digit of the DEA number.
    - 1. EXAMPLE: DEA # 1234563
      - a.  $1+3+5 = 9$ ,  $2 \times (2+4+6) = 24$  TOTAL = 33
  - ix. OSTAR: Requirements and working of the CII narcotic tracking system.
  - x. Regulation of mailing prescriptions: Through US Postal Service, UPS, FedEx, etc.
  - xi. Requirements relating to prescriptions transmitted by physician assistants.
  - xii. Prescribing limitations of optometrist, podiatrist, dentist, veterinarian, etc.
  - xiii. Record keeping for all control dangerous drug prescriptions: Length of time prescriptions are valid depends on Schedule of Dangerous Drugs.
  - xiv. Transfer prescriptions:
    - 1. Schedule II – may not be transferred
    - 2. Schedule III-V – may be transferred ONE time only. However, pharmacies electronically sharing a real-time, online database may transfer up to the maximum refills permitted by law and the prescriber’s authorization.
  - xv. Classification of Drugs:
    - 1. Schedule I

- a. High potential for abuse
- b. No accepted medical use in treatment under medical supervision
- c. Heroin, marijuana, LSD
- 2. Schedule II
  - a. High potential for abuse
  - b. Currently accepted medical use in treatment in US, or currently accepted medical use with restrictions.
  - c. The abuse of the substance may lead to severe psychic or physical dependence/addiction
  - d. Meperidine, morphine, amphetamines, Ritalin, Percocet, Tylox.
  - e. Require a written prescription that is not physically altered, filled within 30 days, and cannot be refilled.
- 3. Schedule III
  - a. A potential for abuse less than the substances in Schedule I and II.
  - b. Currently accepted medical use in treatment in the US
  - c. Abuse may lead to moderate or low physical dependence of high psychological dependence/habituation.
  - d. Codeine combinations, Fiorinal, Paregoric
  - e. May be refilled up to five times in a six-month period.
- 4. Schedule IV
  - a. Low potential for abuse relative to Schedule III
  - b. Currently accepted medical use in treatment in the US
  - c. Abuse of the substance may lead to physical dependence or psychological dependence relative to Schedule III
  - d. Valium, benzodiazepines
  - e. May be refilled up to five times in a six-month period.
- d. Food and Drug Administration (FDA)
  - i. Legend drugs
  - ii. Over-the-counter (OTC) drugs
- e. Pharmacy Technician Rules
  - i. Allowable functions of pharmacy technicians
  - ii. Prohibited functions of pharmacy technicians
  - iii. **See Appendix 3**

**V. Security and Safety**

- a. This section should be included in the policy and procedure manual at your pharmacy.
- b. Department Security – explain procedure in case of robbery

- c. Operation of Equipment
- d. Waste Management – OSHA requirements in place if home health care involved with syringes/needles.
- e. Fire Safety Procedures – fire extinguishers in place and operational
- f. Emergency Procedures – tornado, robbery, natural disaster, etc.
- g. Material Safety Data Sheet – MSDS – If pertinent to your pharmacy, contact wholesaler for proper instruction.

After successful completion of the initial training, Phase 1 (I-V), the trainee may apply for a pharmacy technician permit. Upon receipt of the permit, the pharmacy technician may begin Phase 2, OJT training.

## Phase 2 (On-the-Job Training)

- I. **Pharmaceutical Vocabulary**
  - a. Terminology – **See Appendix 4**
    - i. General Terminology
    - ii. Pharmaceutical Terminology
    - iii. Medical Terminology
  - b. Abbreviations and Symbols – **See Appendix 5**
    - i. English abbreviations
    - ii. Latin abbreviations
    - iii. Metric abbreviations
    - iv. Common chemical symbols
    - v. Apothecary symbols
- II. **Mathematical Terminology and Systems**
  - a. **See Appendix 6**
  - b. Roman Numerals
  - c. Apothecary System
  - d. Metric System
    - i. Weight
    - ii. Volume
  - e. Household measurements
  - f. Decimals
  - g. Fractions
  - h. Percentages
  - i. Ratios
  - j. Other relevant mathematical measurements or systems
- III. Drug Nomenclature
  - a. Chemical name: Usually the full systematic name for the substance.
  - b. Non-proprietary or Generic name: Convenient and concise name in the public domain, used instead of the often unwieldy chemical name when referring to a drug.
  - c. Brand or Trademarked name: the name assigned to a drug by its manufacturer.
- IV. Classification of Drugs
  - a. Schedule: as described under the DEA (p.10)
  - b. Legend
  - c. Exempt
  - d. Other drug classifications
- V. Pharmaceutical Dosage Forms
  - a. Liquid Dosage Forms
    - i. Solution: preparation that contains one or several soluble chemical substances usually dissolved in water. Syrup contains sugar. Tincture contains alcohol.
    - ii. Suspension: preparation containing finely divided drug particles distributed somewhat uniformly throughout a vehicle in which the



- g. Lot numbers
  - h. Expiration Dates
  - i. Inventory Control
- VIII. Drug Dispensing
- a. Data Entry
    - i. Accuracy is a must.
    - ii. Avoid duplications by checking for previously entered information.
    - iii. Age is now required for prospective utilization review prescription information.
    - iv. Never assume; if there is a doubt, ask the pharmacist.
    - v. Never override a warning pertaining to a medication (i.e. drug allergy or drug interaction).
  - b. Typing the Prescription Label
    - i. A prescription is an order for a medication issued by a licensed prescriber. The prescriber will either write on the prescription blank or call the prescription into the pharmacy. Only the pharmacist or pharmacy intern may receive a telephoned prescription order, which must be transferred to a written form immediately.

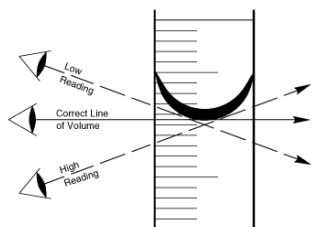
Name _____	Date _____
Address _____	DOB _____
<p>DRUG AND STRENGTH SIG QUANTITY</p>	
REFILL _____	
Signature _____	DEA _____
Address _____	

- ii. Parts of a prescription:
  1. Name and address of the prescriber
  2. Name and address of the patient. Always double check spelling for correctness. Patient's address must appear on all controlled prescriptions.
  3. Patient's age or date-of-birth (DOB)
  4. Date issued. Controlled prescriptions have a time limit on them depending on their schedule.
  5. Name, strength, and dosage form of the drug prescribed. The prescriber may write the order in the generic or the brand name of the prescribed medication.
  6. Quantity of tablets, capsules, volume of liquid, weight, or number of units to be dispensed.

7. The directions for use. “Sig” is a Latin abbreviation which means “mark thou”. The directions are usually written using abbreviated forms of English or Latin or a combination of both.
  8. Refill instruction. When no refill information is provided, the prescription cannot be refilled.
  9. The signature of the prescriber. The prescription is not valid without the hand written signature of the prescriber.
  10. DEA number. This number is issued to the prescriber by the federal DEA and must appear on all prescriptions for controlled dangerous drugs.
  11. If the prescription does not contain all the information listed above, it is the obligation of the pharmacist or technician to obtain the information from the patient or prescriber before filling the prescription. Most computer systems will prompt the user to fill-in the appropriate spaces. Third party payers have taken over a large percentage of the pharmacy market. All techs should familiarize themselves with the insurance information necessary to handle claims properly in their place of business. See third party selection for additional information.
- c. Selecting the correct stock bottle
- i. Using good technique with attention to detail will eliminate mistakes and increase accuracy. An efficient and effective way to check your work is to use a system called “P-D-R” or pull-dispense-review. This system or whatever system the pharmacy utilizes should be an essential step in the routine when filling a prescription. Avoid pulling by familiarity or habit, but rather READ each label for each order. NDC (national drug code) numbers are on all legend drugs; they are a good checkpoint if your computer system has the NDC number on the prescription receipt.
- d. Accurately counting or pouring the appropriate quantity of a drug product
- i. Pull medication off the shelf and verify correctness.
  - ii. Enter the prescription into the computer/typewriter and prepare a label.
  - iii. Count the capsules or tablets. The procedure used most often is to use a counting tray and count by fives.
  - iv. The counted tablets/capsules should be pushed into the storage area on the left side of the tray. If there are any pills remaining on the tray they should be put back in the original container and the lid replaced.
  - v. Select an empty prescription vial from your stock and pour the counted medication onto the empty vial. Place a cap on the vial. A childproof cap must be used, unless patient specifically requests

an “easy open” or “snap” cap. Selecting the proper vial size takes practice. Common sense is the best method of determining size. The vials range in size from 8-60 drams.

- vi. Always remember to keep the counting tray or device clean. The tray or device should always be cleaned after penicillin or sulfa is counted to prevent any reactions that could occur from transfer of the powder.
- vii. Liquid medication prescriptions follow the same for steps 1 & 2. Then select an empty bottle of the appropriate size and pour the prescribed quantity into the amber dispensing bottle. The bottles are marked in ounces and milliliters. Bottles come in sizes 1-16 ounces.
- viii. The label is now ready to be placed on the vial.
- e. Reconstituting the appropriate quantity of a drug product
  - i. Certain medications are supplied as a dry powder which is to be reconstituted (converted to liquid form) by adding distilled water prior to dispensing. These medications are supplied in this form because potency decreases with time after reconstitution.
  - ii. Pull the medication and verify correctness.
  - iii. Measure the required distilled water in a graduate or reconstitute.
  - iv. The correct way to measure liquids is to measure from the bottom of the meniscus at eye level (see illustration to the left).
  - v. For most of these suspensions, it is recommended to add half of the required water, then shake vigorously, then add the other half.
  - vi. After all water has been added, shake well again.
  - vii. The label is now ready to be applied.
- f. Selecting the Proper Container
  - i. Safety closures are a result of the Poison Prevention Package Act passed in 1970. The Consumer Product Safety Commission is responsible for the enforcement and administration of the act. All legend drugs intended for oral dispensing by the pharmacist must be in a safety enclosure unless the prescribing physician or the patient specifically requests otherwise.
- g. Affixing Auxiliary Labels, if indicated
  - i. The pharmacist should instruct the Tech on what auxiliary labels to use. There are computer programs and wholesaler charts available. **See Appendix 8.**
- h. Preparing finished product for inspection and final check by pharmacist
  - i. Make your final check prior to presenting to the pharmacist. Compare the finished prescription with the original stock bottle one more time. Many errors can be corrected by self-checking.



## IX. Third Party Processing

- a. Terminology
  - i. MAC: Maximum Allowable Cost
  - ii. AWP: Average Wholesale Price
  - iii. NABP: National Association of Boards of Pharmacy

- iv. UCF: Universal Claim Form
  - v. Customer ID#: Patient Identification Number
  - vi. On-line adjudication: Confirmation via telecommunication
  - vii. Carrier ID#: Group number
  - viii. BIN: Bank Identification Number
  - ix. Deductible: The amount the patient must pay before insurance takes effect.
  - x. Copay: The amount the patient is responsible for paying.
- b. Claims Processing
- i. Must spell name exactly as on card
  - ii. Date-of-Birth must be correct
  - iii. Person code needs to be entered correctly
  - iv. Correct carrier and group numbers must be selected
    - 1. NDC: Use same BIN # for all groups
    - 2. Envoy: Assigns their own BIN # for each group
- X. Home Health Care/IV Admixture
- a. Parenteral pharmacy technician regulation: The pharmacist must establish the procedures for parenteral products, verify the pharmaceutical constituents, the prepared label, and the final product.
  - b. Pharmacy technicians may perform functions involving the:
    - i. Reconstitution of single dosage units that are to be administered to a given patient as a unit.
    - ii. Addition of one manufacturer's prepared unit if the unit is to be administered as one dose to a patient.
  - c. Procedure Guidelines
    - i. Aseptic technique: There are training videos that would be helpful (i.e., ASHP, School of Pharmacy Programs and others).
    - ii. Proper needle and hazardous waste disposal: OSHA guidelines.
    - iii. Safety procedures involving eye protection, spills, needle sticks, etc., must be addressed.
    - iv. Vaccinations and tests required if employee contacts patients in a home health setting.
  - d. The home health practice is so unique that individual policy and procedures for your business should be in place and utilized.

The pharmacy technician must complete the Phase 2 (OJT) training within 90 days of receipt of their pharmacy technician permit.

# APPENDIX 1

## CONFIDENTIALITY OF PATIENT INFORMATION

The following is an example of a confidentiality statement that each employee of the pharmacy might be asked to sign, regarding confidentiality of patient records. It is suggested that each pharmacy use this statement, or develop one of their own.

### UNDERSTANDING OF CONFIDENTIALITY

All employees of this pharmacy are required to read and agree to comply with the following statement applicable to confidentiality.

All information pertaining to customers or patients shall be maintained in the strictest of confidence. There shall be no disclosure of any patient information to anyone outside the pharmacy except as specifically authorized by the pharmacist in charge. Any disclosure to other employees within the pharmacy shall be strictly on a “need to know basis”.

Records of patient information shall not be copied or removed from the premises except as specifically authorized by the pharmacist in charge. Individual patients shall be permitted to review and have copies of their own records only. For security reasons, such copying of records shall be only upon the specific authorization of the pharmacist in charge. Release of such information to relatives of patients may be made only upon a signed release, signed by the patient themselves or their guardian.

Our customers and patients expect and deserve all patient records and information, medical or personal, to be conducted in a professional manner with due regard given to their rights of privacy. Any discussion regarding customers or patients between employees shall pertain only to information necessary to give appropriate health care services.

I, the undersigned employee, do hereby state that I have read and understand the foregoing statement regarding this pharmacy’s policy of confidentiality.

This also includes any information about business at this pharmacy.

Date \_\_\_\_\_ Signature \_\_\_\_\_

(Employee)

***Permission to reproduce this form is hereby granted by Pharmacists Mutual Insurance Company.***

**Pharmacists Mutual Companies**



***Because the laws of states vary, it is important that prior to using this or any form the pharmacist should check with an attorney.***

## **APPENDIX 2**

### **HEALTH INSURANCE PORTABILITY AND ACCOUNTABILITY ACT**

The Health Insurance Portability and Accountability Act (HIPAA) was passed in 1996 and ensures that patients' medical records remain confidential. It also gives the patients rights to their health information. As part of the health care team, it is vital that pharmacies maintain patient confidentiality and take measures to protect health information. Each pharmacy will have a system to comply with the regulations of HIPAA.

- I. Protected Information:
  - a. Information put in a medical record by doctors, nurses, and other health care providers.
  - b. Conversations the doctor has had about your care and treatment with others.
  - c. Billing information.
  - d. Any other information pertaining to the patient's medical record.
- II. Information that may be Shared:
  - a. For treatment and care coordination.
  - b. For payment of doctors and hospitals.
  - c. With family, relatives, friends, or others identified by the patient who are involved with the patient's health care, unless objected by the patient.
  - d. To protect the public's health, such as by reporting when the flu is in the area.
  - e. To make required reports to the police, such as reporting gunshot wounds.
  - f. Do not share information with an employer if not authorized.
- III. Always check with your pharmacist to learn your system that complies with HIPAA.
- IV. Use care when announcing patient's names on public announcement systems.
- V. Lower your voice when talking to patient's about their prescriptions.

## APPENDIX 3

### PHARMACY TECHNICIAN AND SUPPORTIVE PERSONNEL RULES

#### Title 535. Oklahoma State Board of Pharmacy Chapter 15. Pharmacies Subchapter 5. Hospital Pharmacies

##### **535:15-5-1. Purpose**

The rules of this Subchapter are to accomplish the purposes of the Oklahoma Pharmacy Act, as specified in 59 O.S., Section 353.18(A), by implementing the rules and regulations of a licensed hospital pharmacy and a hospital drug room, and as specified in 59 O.S., Section 353.29 by implementing rules regarding supportive personnel.

##### **535:15-5-2. Definitions**

The following words or terms, when used in this Subchapter, shall have the following meaning, unless the context clearly indicates otherwise:

**“Automated dispensing systems”** means a mechanical system controlled by a computer that perform operations or activities, relative to the storage, packaging, compounding, labeling, dispensing, administration, or distribution of medications, and which collects, controls, and maintains all transaction information.

**“Auxiliary supportive personnel” or “auxiliary supportive person”** means all persons, other than pharmacists, interns and techs, who are regularly paid employees of the hospital pharmacy and who work or perform tasks in the hospital pharmacy that do not require a permit or license (e.g. clerk, typist, delivery, or data entry person, etc.).

**“Certified medication order”** means a filled prescription that has been reviewed and certified by a pharmacist.

**“Certified pharmacy technician”** means a pharmacy technician who has a current Board approved pharmacy technician certification in addition to a current Oklahoma pharmacy technician permit.

**“Director of Pharmacy”** means a pharmacist licensed to engage in the practice of pharmacy in Oklahoma who is thoroughly familiar with the specialized functions of a hospital pharmacy and directs the activities of a hospital pharmacy.

**“Drug room”** means a secured room where drug inventories are maintained for use in a facility licensed and regulated by the Oklahoma Health Department, and which may be inspected by the Board.

**“Hospital employee”** means any individual employed by a hospital whose compensation for services or labor actually performed for a hospital is reflected on the payroll records of a hospital.

**“Hospital facility” or “Hospital”** means any institution licensed as a hospital by this state for the care and treatment of patients.

**“Hospital pharmacy”** means the place or places in which drugs, chemicals, medicines, prescriptions, or poisons are stored, controlled and prepared for distribution

and administration for the use and/or benefit of patients in a hospital facility. Hospital pharmacy shall also mean the place or places in which drugs, chemicals, medicines, prescriptions or poisons are compounded and prepared for dispensing to the members of the medical staff, hospital employees, and the members of their immediate families, patients being discharged, and for other persons in emergency situations.

**“Medical staff”** means a medical practitioner who has privileges to practice in the hospital facility.

**“Medication order”** means a prescription as defined in Title 59 O.S. Section 353.1(7).

**“Pharmacist”** means any person licensed to practice pharmacy by the Oklahoma State Board of Pharmacy.

**“Pharmacy technician”, “Tech”, “Technician” or “RxTech”** means a person who has been issued a permit by the Board to assist the pharmacist and performs non-judgmental, technical, manipulative, non-discretionary functions in the prescription department under the pharmacist's immediate supervision.

**“Supportive personnel”** means technicians and auxiliary supportive persons, who are regularly paid employees of the hospital pharmacy and who work or perform tasks in the hospital pharmacy.

#### **535:15-5-7.1. Pharmacy technician qualifications and training**

(a) A pharmacy technician must have completed a high school education or G.E.D. equivalence, be of good moral character, be non-impaired (e.g. alcohol or drugs) and have adequate education to perform assigned duties.

(b) The pharmacy technician must, at a minimum, satisfactorily complete a pharmacy technician on-the-job training (OJT) program as described in 535:15-13-13.

(c) The Director of Pharmacy must demonstrate that the pharmacy technician has been given additional training before being allowed to prepare sterile products and that the training given is at a level consistent with the scope of pharmaceutical product being prepared.

(d) A pharmacy technician, to be eligible for a technician permit, must comply with the requirements in this Title and 535:25.

#### **535:15-5-7.2. Supervision of pharmacy technicians**

(a) All tasks performed by pharmacy technicians in the pharmacy must be accomplished under the immediate supervision of an Oklahoma currently licensed pharmacist.

(b) Non-dispensing and non-compounding tasks performed in the floor stock or “satellite” areas must be under the supervision of the pharmacist.

(c) A pharmacy technician may perform certain non-judgmental tasks of dispensing as enumerated in this Subchapter provided that whenever the pharmacist leaves the pharmacy, all dispensing shall cease. Certified medical orders may be delivered during a pharmacist's absence.

(d) The pharmacist shall include in the Policy and Procedure Manual the specific scope of responsibilities or procedures delegated to pharmacy technicians and the in-service training of pharmacy technicians.

(e) The ratio of pharmacy technicians to supervising pharmacists shall be set by the Director of Pharmacy and should be a ratio that would be considered safe and reasonable by the certifying pharmacist. The ratio shall not exceed two pharmacy technicians to one supervising pharmacist.

(f) A pharmacy intern working in the pharmacy will not affect or change this ratio.

(g) A licensed pharmacy intern shall not supervise pharmacy technicians.

(h) The pharmacist shall do the final check and certification of the technical tasks performed by technicians. This certification shall be by means of the certifying pharmacist's signature, initial or other identifying mark on a record, the medication order and/or label.

### **535:15-5-7.3. Auxiliary supportive personnel tasks**

Auxiliary supportive personnel may perform the following tasks:

- (1) Retrieve prescriptions or files as necessary;
- (2) Clerical tasks such as data entry, typing labels and maintaining patient profiles;
- (3) Secretarial tasks such as telephoning, filing, and typing;
- (4) Accounting tasks such as record keeping, maintaining accounts receivables, third party billing and posting;
- (5) Inventory control tasks including monitoring, pricing, dating, invoicing, stocking pharmacy, and preparation of purchase orders; and,
- (6) Help maintain a clean and orderly pharmacy.

### **535:15-5-7.4. Pharmacy technician tasks**

Pharmacy technicians may perform the following tasks in a licensed hospital pharmacy facility in accordance with 535:15-7.2:

- (1) any tasks auxiliary supportive personnel are allowed to perform;
- (2) count and/or pour medications;
- (3) affix the prescription label to the final container;
- (4) affix auxiliary labels to the container as directed by the pharmacist;
- (5) assist the pharmacist in the management of the controlled dangerous substance (CDS) inventory. The pharmacist remains responsible for completeness and accuracy;
- (6) fill "Modified unit dose distribution systems", "Automated dispensing systems" and/or "Unit dose distributions systems";
- (7) prepackage and label multi-dose and unit-dose packages of medication as directed by pharmacist-established procedures for such, including selection of containers, labels and lot numbers, with provisions for the pharmacist to check the finished task prior to dispensing to the patient. (While a pharmacy technician may package and label the drug, the certification is the responsibility of the pharmacist.)
- (8) perform bulk reconstitution of prefabricated non-injectable medication utilizing a pharmacist established procedure for the bulk reconstitution of prefabricated non-injectable medications.

(9) perform bulk compounding, including such items as sterile bulk solutions for small-volume injectables, sterile irrigation solutions, products prepared in relatively large volume for internal or external use by patients, and reagents or other products for other departments of the hospital facility. Such intermediate and large scale compounding may be done by a pharmacy technician through the use of a procedural manual and a system of in-process and final checks and controls developed or approved by the pharmacist and which are carefully and systematically enforced.

(10) prepare parenteral products utilizing a policy and procedure that addresses the verification of the pharmaceutical constituents, the prepared label and the final product by the pharmacist.

(A) Pharmacy technicians may perform functions involving the:

(i) reconstitution of single dosage units that are to be administered to a given patient as a unit; and/or

(ii) addition of one manufacturer's prepared unit (whole or in part) to another manufacturer's prepared unit if the unit is to be administered as one dose to a patient.

(B) Pharmacy technicians may add a single ingredient in preparing parenteral products.

(C) Certified pharmacy technicians as defined in 535:15-5-2 may prepare chemotherapy and add multiple ingredients when preparing sterile products only following documented demonstration of appropriate competency to the Director of Pharmacy or his designated pharmacist on an annual basis.

(11) record patient or medication information for later validation by the pharmacist pursuant to procedures which prevent the information from being utilized in any way until it is validated by the pharmacist. Exempt from the necessity of pharmacist validation shall be records, such as financial, inventory control, etc., which can in no way affect the safety and accuracy of medication administration to patients.

(12) select prepackaged and pre-labeled doses of medication from storage areas and place and transport to the patient area such doses in containers bearing a patient's name in a unit dose distribution system or a modified unit dose distribution system if the pharmacist personally checks and verifies by signature or initial all patient medication before it is administered to the patient.

#### **535:15-5-7.5. Prohibited duties**

These prohibited duties shall be performed by a pharmacist and shall not be performed by supportive personnel:

(1) Final interpretation of the prescriber's original order.

(2) Performance of the prospective drug utilization review and determination of action to be taken when there is an indication of a drug interaction.

(3) Receipt of new phone-in prescriptions from prescribers or their agents.

(4) Determination of product selection if substitution is requested or approved.

(5) Certification of the completed prescription or medication order for accuracy and completeness before dispensing from the pharmacy department.

(6) Provision of patient counseling or drug information as necessary.

**535:15-5-7.6. Pharmacy technician annual permit requirement**

(a) Annual permit requirements for pharmacy technicians are set forth in this Title, in 535:15-13-8 and in 535:25.

(b) No pharmacy technician permit shall be issued or continued for an applicant or permit holder who fails to meet and maintain the requirements in 535:25-3 and 535:25-7 or who violates the rules in 535:25-9.

**535:15-5-7.7. Permit display**

Each pharmacy technician permit issued by the Board shall be displayed as set forth in 535:15-13-9.

**535:15-5-7.8. Change of address and employment location notification**

A pharmacy technician must notify the Board of change of address or employment location as set forth in 535:15-13-10.

**535:15-5-7.9. Multiple employment locations**

A pharmacy technician may work in more than one pharmacy location provided the tech has been “trained” for each location and the training is documented in each pharmacy.

**535:15-5-7.10. Work schedule display**

A pharmacy shall display a work schedule as required by 535:15-13-12.

## Subchapter 5. Pharmacy Technician And Supportive Personnel Rules

**535:15-13-1. Purpose**

In an effort to assist the pharmacist with regular, routine, non-judgmental, mechanical and non-discretionary tasks so that the pharmacist may counsel patients and improve pharmaceutical care and therapeutic outcomes, this Subchapter allows certain tasks to be performed by and describes the role of pharmacy supportive personnel as authorized at 59 O.S., Section 353.29.

**535:15-13-2. Hospital pharmacy technician definitions and duties**

Hospital pharmacy technician definitions and duties are enumerated in OAC 535:15-5.

**535:15-13-3. Definitions**

The following words or terms, when used in this Subchapter, shall have the following meaning, unless the context clearly indicates otherwise:

“**Auxiliary supportive personnel**” or “**auxiliary supportive person**” means all persons, other than pharmacists, interns and techs, who are regularly paid employees of the pharmacy and who work or perform tasks in the pharmacy that do not require a permit or license (e.g. clerk, typist, delivery or data entry person, etc.).

**“Certify a prescription”** means the confirmation by the supervising pharmacist of the accuracy and completeness of the acts, tasks or functions undertaken by supportive personnel to assist the pharmacist in the practice of pharmacy. This process shall be completed before the prescription is given to the patient.

**“Pharmacy technician”, “Technician”, “Tech”, or “Rx Tech”** means a person who has been issued a permit by the Board to assist the pharmacist and perform non-judgmental, technical, manipulative, non-discretionary functions in the prescription department under the pharmacist's immediate and direct supervision.

**“Supportive personnel”** means technicians and auxiliary supportive persons, who are regularly paid employees of the pharmacy and who work or perform tasks in a pharmacy.

#### **535:15-13-4. Pharmacy technician qualifications and training**

- (a) A pharmacy technician must have completed a high school education or G.E.D. equivalence, be of good moral character, be non-impaired (e.g. alcohol or drugs) and have adequate education to perform assigned duties.
- (b) A pharmacy manager employing a currently permitted technician must document training of that technician within 10 days of hire.
- (c) The pharmacy technician must, at a minimum, satisfactorily complete a pharmacy technician on-the-job training (OJT) program described in 535:15-13-13.
- (d) To be eligible for a pharmacy technician permit, an applicant must maintain compliance with the requirements in this Title, 535.25 and 535:15.

#### **535:15-13-5. Supervision of pharmacy technicians**

- (a) All tasks performed by pharmacy technicians must be in a licensed pharmacy in Oklahoma and must be accomplished under the immediate and direct supervision of a pharmacist who is currently licensed by the Board.
- (b) A pharmacy technician may perform certain non-judgmental functions of dispensing as enumerated in this Subchapter, provided that whenever the pharmacist leaves the prescription department, other than for in-pharmacy counseling of a patient, all dispensing functions listed shall cease.
- (c) A ratio of no more than two pharmacy technicians per supervising pharmacist on duty shall be maintained.
- (d) A pharmacy intern working in the pharmacy will not affect or change this ratio.
- (e) The pharmacist must certify, by reviewing, the completed prescription for accuracy and completeness before the prescription is released from the prescription department.

#### **535:15-13-6. Duties**

- (a) The following tasks may be performed by auxiliary supportive personnel:
  - (1) retrieve prescriptions or files as necessary;
  - (2) clerical tasks such as data entry, typing labels and maintaining patient profiles;
  - (3) secretarial tasks such as telephoning, filing, and typing;

- (4) accounting tasks such as record keeping, maintaining accounts receivables, third party billing and posting;
  - (5) inventory control tasks including monitoring, pricing, dating, invoicing, stocking pharmacy, and preparation of purchase orders; and
  - (6) help maintain a clean and orderly pharmacy.
- (b) The following tasks may be performed by pharmacy technicians:
- (1) count and/or pour medications;
  - (2) prepackage (e.g. unit dose) and properly label medications;
  - (3) affix the prescription label to the proper container;
  - (4) affix auxiliary labels to the container as directed by the pharmacist;
  - (5) reconstitution of medications (i.e. liquid antibiotics);
  - (6) bulk compounding, including such items as non-sterile topical compounds, sterile bulk solutions for small volume injectables, sterile irrigation solutions and products prepared in relatively large volume for internal or external use. Documentation of a system of in-process and final checks and controls must be developed or approved by the certifying pharmacist and carefully and systematically enforced;
  - (7) functions involving reconstitution of single dose units of parenteral products that are to be administered to a given patient as a unit, and functions involving the addition of one manufacturer's prepared unit (whole or in part) to another manufacturer's prepared unit if the unit is to be administered as one dose to a patient. The pharmacist must establish the procedures for parenteral products and certify the ingredients, label and finished product;
  - (8) any duties auxiliary personnel are allowed to perform; and
  - (9) assist the pharmacist in the annual CDS inventory. The pharmacist remains responsible for completeness and accuracy.

#### **535:15-13-7. Prohibited duties**

These duties may not be performed by supportive personnel:

- (1) The pharmacist must interpret the original prescription.
- (2) The pharmacist must perform the prospective drug utilization review and determine action to be taken when there is an indication of a drug interaction.
- (3) The pharmacist must receive new orally communicated prescriptions from prescribers or their agents.
- (4) The pharmacist must determine product selection if substitution is requested or approved.
- (5) The pharmacist must prepare multi-ingredient, non-repetitive, cytotoxic or experimental drug I.V.'s, enteral or other sterile multi-ingredient medications and be responsible for weighing, measuring and calculating ingredients for compounding.
- (6) The pharmacist must certify, by reviewing, the completed prescription for accuracy and completeness before the prescription is released from the prescription department.
- (7) The pharmacist must provide patient counseling or drug information as necessary.

**535:15-13-8. Technician annual permit requirement**

(a) Each pharmacy technician in Oklahoma shall obtain a permit annually before practicing as such.

(1) Upon meeting the qualifications listed in 535:15-13-4 and 535:25, applicants shall apply for a pharmacy technician permit on the form provided by the Board accompanied by such fee authorized by the legislature and in the agency fee schedule.

(2) After the pharmacy technician has completed their portion of the application they must submit it to the pharmacy manager or designated pharmacist who has conducted the technician training for review and signature.

(3) The pharmacy manager or designated pharmacist must first verify the applicant's completion of Phase I of the Board approved pharmacy technician training program. The signature by the pharmacist verifying technician training indicates that there is written training verification in the pharmacy available for Board inspection.

(4) Each pharmacy technician who desires to continue to work as a tech shall annually, on or before the 1st of February each year, send to the Board of Pharmacy such fee authorized by the legislature and in the agency fee schedule, with a completed Board application signed by the supervising pharmacist and the technician. Renewal applications will be sent to the technician's address on file in the Board office.

(b) The Board shall, at a minimum, consider the following factors in reviewing qualifications of persons who apply for a pharmacy technician permit within the state:

(1) any drug or alcohol related convictions of the applicant under any federal, state, or local laws;

(2) the furnishing of any false or fraudulent material in any application made to the Board;

(3) suspension or revocation by federal, state, or local government of any license currently or previously held by the applicant for the distribution of any drugs, including controlled substances;

(4) compliance with permitting requirements under previously granted permits, if any; and,

(5) any use or abuse of an illegal CDS substance or a positive drug screen for such CDS substance or its' metabolite; and,

(6) any other factors or qualifications the Board considers relevant to and consistent with the public health and safety.

(c) The Board shall have the right to deny a permit to an applicant if it determines that the granting of such a permit would not be consistent with the public health and safety.

**535:15-13-9. Technician permit display**

(a) Each pharmacy technician shall conspicuously display a current original permit issued by the Board in the pharmacy where the tech is actively engaged as a pharmacy technician.

(b) A current 2 x 2 photo shall be attached in the upper right hand corner of the permit while on display in the pharmacy.

**535:15-13-10. Technician address and employment change, and training at change**

- (a) A pharmacy technician must notify the Board, in writing, within ten days of change of employment.
- (b) A pharmacy manager employing a currently permitted technician must document training of that technician at the new pharmacy as required in 535:15-13-13 (d).
- (c) A pharmacy shall notify the Board, in writing, within ten days of the employment termination of a pharmacy technician. The pharmacist must share any concern about public safety relating to the technician with the Board. (No Board action shall be taken without due process.)
- (d) A pharmacy technician must notify the Board, in writing, within ten days, of a change of address.

**535:15-13-11. Multiple locations of employment**

- (a) A pharmacy technician may work in multiple pharmacies providing:
  - (1) The technician has been properly trained for each location (see 535:15-13-13(d)); and
  - (2) The training is documented in each pharmacy.
- (b) A technician working in multiple locations regularly or on an emergency relief basis may be issued a duplicate permit on request.
  - (1) A written request indicating the need for such duplicate shall be sent to the Board by the technician.
  - (2) A duplicate fee of ten dollars \$10 shall accompany each individual duplicate request.
  - (3) The duplicate permit for multiple locations will have “Duplicate - M. L.” listed on the permit.

**535:15-13-12. Work schedule display**

- (a) A work schedule shall be conspicuously displayed in the pharmacy when both a tech and an auxiliary supportive person are working. The schedule shall indicate who is working as a tech and hours worked and who is working as an auxiliary supportive person and hours worked.
- (b) The schedule shall indicate the proper ratio of technician to supervising pharmacist.
- (c) If a supportive person is found to be performing duties not listed on the schedule (e.g. an auxiliary supportive person working as a technician), the auxiliary supportive person, the technician, the pharmacy, and the supervising pharmacist will be considered to be in violation of this Chapter.

**535:15-13-13. Pharmacy technician training**

- (a) The pharmacy manager shall be responsible for the development and/or implementation of a pharmacy technician training program.
  - (1) The instructional text of the training program shall be kept in the pharmacy and only upon request submitted to the Board for approval.
  - (2) The program shall be designed to train personnel to perform allowed non-professional functions, as described in OAC 535:15-5 and 535:15-13.

- (3) Minimum standards for technician training programs shall be those set out in the Board approved “Pharmacy Technician Training Guidelines”.
- (A) Pharmacy technician applicants shall complete Phase I training before they may apply for an Oklahoma Pharmacy Technician permit. A pharmacy technician permit must be received before performing any of the duties of pharmacy technicians authorized in OAC 535:15-5 and 535:15-13.
  - (B) A technician shall not have met Board requirements until they have successfully completed Phase II of pharmacy technician training.
  - (C) A pharmacy technician must complete Phase II within ninety (90) days after issuance of a pharmacy technician permit.
  - (D) Pharmacy technician applicants shall not have fully received their permits until they have completed Phase II of pharmacy technician training.
  - (E) If the pharmacy technician fails to complete Phase II within 90 days, the pharmacist manager shall notify the Board in writing,
    - (i) If the pharmacy technician fails to complete Phase II within 90 days,
      - (I) the pharmacy technician permit is automatically void; and,
      - (II) the pharmacy technician shall return such permit to the Board.
    - (ii) Such pharmacy technician may apply for a new pharmacy technician permit when they have again satisfactorily completed Phase I training with an employing pharmacy, provided the provisions of these rules have not been violated by the pharmacy technician.
- (b) The pharmacist manager, or another pharmacist in the pharmacy whom the pharmacist manager may designate, shall conduct the training and attest to its successful completion.
- (c) The pharmacist manager shall assure that the pharmacy technician remains competent through continuing on-the-job training.
- (d) A pharmacy manager employing a currently permitted technician must document training of that technician within 10 days of hire at such pharmacy. Documentation of this training must be kept in the pharmacy and available for Board inspection.
- (e) The pharmacist manager shall be responsible for assuring proof of technician training is maintained in the pharmacy and such proof is available for Board inspection.

# **APPENDIX 4**

## **TERMINOLOGY**

- ABSORPTION:** process by which substances (including drugs) are taken up and are transported by the blood stream.
- ADDICTION:** pattern of compulsive drug use characterized by overwhelming involvement with the drug, securing its supply, and a high tendency to relapse after withdrawal.
- ADDITIVE:** a drug added to a solution intended for intravenous use (e.g. potassium chloride).
- ADDITIVE RESPONSE:** when the effect of two or more combined drugs is equal to the sum of their individual effects.
- ADVERSE DRUG EFFECT:** effects occurring other than the desired one. Adverse effects may be divided into two groups: side effects and toxicities. See side effect, toxicity.
- ALLERGY:** condition of unusual or exaggerated specific sensitivity to a substance harmless in similar amounts to average persons.
- ANALGESIC:** a drug that relieves pain (e.g. aspirin)
- ANAPHYLAXIS:** hypersensitivity reaction resulting from contact with a causative agent after prior sensitization to this agent. The mediating agent is histamine which may be released locally or systemically. Anaphylactic shock is rare and is often life threatening.
- ANESTHETIC:** an agent used to abolish sensation; may be local or general (e.g. lidocaine).
- ANORECTIC:** a drug that depresses appetite (e.g. diethylpropion).
- ANGINA PECTORIS:** attack of chest pain caused by insufficient supply of oxygen to the heart.
- ANTACID:** a drug that counteracts or neutralizes stomach acidity (e.g. calcium carbonate).
- ANTIBACTERIAL:** an agent that destroys bacteria or inhibits their growth or reproduction.  
Compare: bacteriocidal, bacteriostatic.
- ANTIBIOTIC:** a substance produced by a living microorganism capable of killing or inhibiting the growth of another microorganism (e.g. penicillin).
- ANTICOAGULANT:** an agent that prevents or delays the clotting of blood (e.g. warfarin sodium).
- ANTI-HISTAMINE:** a drug that antagonizes some of the effects of histamine (e.g. chlorpheniramine maleate).
- ANTI-INFLAMMATORY:** an agent that counteracts or suppresses inflammation (e.g. aspirin).
- ANTI-PRURITIC:** an agent that relieves itching (e.g. diphenhydramine).
- ANTISEPTIC:** an agent that destroys or inhibits the growth of microorganisms and may be applied safely to living tissue (e.g. povidone-iodine).
- ANTISPASMODIC:** a drug that relieves or prevents spasms (e.g. atropine sulfate).
- ANTITUSSIVE:** a drug that relieves coughing (e.g. codeine sulfate).
- ANTIVIRAL:** an agent that inhibits the replication of viruses (e.g. acyclovir).
- AUXILIARY LABELS:** small labels containing additional information, reminders, or warnings to the patient concerning drug use. Used to supplement the main prescription label.
- ARRHYTHMIA:** any irregular heart rate.
- ARTHRITIS:** inflammation of the joints.
- BENIGN:** condition that does not threaten health.
- CAUSTIC:** an agent that causes burning and destruction of tissue upon contact.
- CHEMOTHERAPY:** prevention or treatment of a disease by administering chemical agents.
- CONGESTIVE HEART FAILURE:** failure of diminished ability of the heart to supply blood to the tissues and organs of the body (CHF).
- CYSTITIS:** inflammation of the urinary bladder.

**DECONGESTANT:** a drug that relieves congestion, that opens blocked air passages in the nose and bronchi (e.g. pseudoephedrine HCl).

**DECUBITIS ULCER:** a sore caused by prolonged pressure on a patient's skin when confined to bed for a long period of time; also called a pressure sore or bedsore.

**DEPENDENCE:** altered state, produced by habitual drug use, where continued administration of the drug is necessary to prevent physical withdrawal symptoms or to maintain a psychological state of well-being.

**DISINFECTANT:** an agent that destroys microorganisms on inanimate objects (e.g. cresol).

**DRUG INTERACTION:** potentially lethal adverse reaction between two or more medications.

**EXCRETION:** process by which material is eliminated from the body.

**EXPECTORANT:** an agent that increases respiratory tract fluids and reduces the viscosity of the tenacious secretions.

**GASTRIC:** pertaining to the stomach.

**HEPATITIS:** inflammation of the liver.

**HERPES SIMPLEX:** acute viral disease marked by groups of watery blisters, also called cold sores, on the skin and mucous membranes.

**HORMONE:** a substance, formed by one organ that is transported through the bloodstream to a distant site where it affects the function of another organ.

**HYPERTENSION:** high blood pressure.

**HYPNOTIC:** a drug that induces sleep (e.g. flurazepam HCl).

**HYPOTENSION:** low blood pressure.

**IMMUNITY:** ability to resist and overcome infection.

**INCOMPATIBLE:** unsuitable to be combined or mixed with another agent or substance without resulting in an undesirable reaction.

**INFECTION:** invasion of the body by pathogenic organisms.

**INFLAMMATION:** reaction of tissue to injuries, characterized by pain, heat, redness, and swelling.

**INFUSION:** slow injection of a solution or emulsion into a vein or subcutaneous tissue.

**INHALATION:** route whereby a drug is administered into the lungs or to the respiratory tract.

**INTRADERMAL:** into the skin; route of administration whereby a drug is injected into the skin.

**INTRAMUSCULAR:** into or within a muscle; route of administration whereby a drug is injected into a muscle (IM).

**INTRATHECAL:** into the subarachnoid space surrounding the brain and spinal cord; route of administration whereby a drug is injected into this space.

**INTRAVENOUS:** into or within a vein; route of administration whereby a drug is injected into a vein.

**JAUNDICE:** yellow appearance of skin, eyes, and other tissues resulting from deposition of bile pigment.

**LAXATIVE:** a drug used to stimulate evacuation of the bowels or to promote softer, bulkier stools (e.g. psyllium).

**MALIGNANT:** condition tending to become progressively worse if untreated.

**METABOLISM:** biochemical alteration of substances (including drugs) within the body.

**NARCOTIC:** a drug that induces insensibility and relieves pain but is also addicting, causing dependence and tolerance (e.g. morphine sulfate).

**NEPHRITIS:** inflammation of the kidney.

**OPHTHALMIC:** relating to the eye; route whereby a drug is administered to the eye.

**ORAL:** relating to the mouth; route whereby a drug is administered via the mouth.

**OTIC:** relating to the ear; route whereby a drug is administered into the ear.

**PARENTERAL:** 1) not intestinal; administration by any route other than orally. 2) the administration of drugs by injection; the most common injectable routes are intradermal, intramuscular, intravenous, and subcutaneous.

**PASTILLES:** see TROCHES

**PATIENT MEDICATION PROFILE:** record of all medication dispensed at a pharmacy to an individual patient or family.

**PHARMACOLOGY:** study of drugs and their effect on the human body.

**PHLEBITIS:** inflammation of the veins.

**PHOTOSENSITIVITY:** sensitivity of the skin to light, usually due to the action of certain drugs (or plants and other substances).

**PRESCRIPTION:** order for a medication or device issued by a licensed prescriber such as a physician, dentist, veterinarian, optometrist, or podiatrist.

**PRURITIS:** itching.

**RENAL:** pertaining to the kidneys.

**RESPIRATION:** process by which an organism exchanges gases with its environment. It includes oxygen uptake and carbon dioxide release by breathing through lungs, diffusion through gills, and diffusion through body surfaces.

**SEDATIVE:** a drug that exerts a quieting effect on mental processes or nervous irritability (e.g. phenobarbital).

**SIDE EFFECT:** Often-undesirable pharmacological effects of a drug produced within therapeutic doses of the drug administered.

**STERILIZE:** to render objects, wounds, etc., free of microorganisms, usually by destroying those present with heat or by other means.

**SUBCUTANEOUS:** beneath the skin; route of administration whereby a drug is injected beneath the skin (sub-Q, SC).

**SYMPTOM:** specific functional evidence of disease observed by the patient.

**SYNERGISTIC RESPONSE:** when the effect of two or more combined drugs is greater than the sum of their individual effects.

**TERATOGENIC EFFECT:** induction of a defect in an unborn child (fetus) by a drug administered to the mother.

**TOLERANCE:** condition where a drug has a lesser than normal effect on the body, which may develop when the drug has been used repeatedly over a long period of time. When tolerance develops the dose of a drug must be increased to maintain a desired therapeutic effect.

**TOXICITY:** harmful or poisonous effect on the human body.

**TOXIN:** a poison produced by a living organism, often by a bacterium.

**TRANQUILIZER:** a drug that relieves anxiety and tension (e.g. diazepam).

**TROCHES:** lozenges; small disk-shaped body composed of solidifying paste containing an astringent, antiseptic demulcent drug, used for local treatment of the mouth or throat.

**VACCINE:** an agent administered to establish resistance to an infection, or disease (e.g. polio vaccine).

**VASOCONSTRICTOR:** a drug that causes narrowing of the blood vessels (e.g. phenylephrine HCl).

**VASODILATOR:** a drug that causes widening of the blood vessels (e.g. nitroglycerin)

**VERTIGO:** dizziness.

**VIRUS:** submicroscopic agent capable of growth and replication only within living cells. Viruses cause many human diseases (e.g. HIV, Herpes Simplex).

# APPENDIX 5

## ABBREVIATIONS

aa	of each	NSAID	non-steroidal anti-inflammatory
ac	before meals	NTG	nitroglycerin
ad lib	as much as desired	N/V, N & V	nausea and vomiting
ad	up to; to make	O <sub>2</sub>	oxygen, both eyes
a.d.	right ear	od	right eye
a.m.	morning	os, ol	left eye
APAP	acetaminophen	ou	both eyes
aq	water	pc	after meals
a.s.	left ear	PCN	penicillin
ATC	around the clock	Ped	pediatric
au	each ear	p.m.	evening
bid, b.i.d	twice daily	po	by mouth
BS	blood sugar	prn	as needed
c	with	q	every
cap	capsule	qd	once daily
cath	catheter	qid, q.i.d.	four times a day
cc	cubic centimeter	qod, q.o.d.	every other day
CNS	central nervous system	qs	sufficient quantity
DAW	dispense as written	qt	quart
DC, d/c	discontinue	R	rectal
E.C.	enteric coated	s	without
elix	elixir	soln	solution
e.o.d.	every other day	SMZ/TMP	sulfamethoxazole/trimethoprim
et	and	SIG	label such, let it be labeled
Gm.	gram	ss	half
gr	grain	stat	immediately
gtt, gtts	drop(s)	sup	suppository
h, hr	hour	susp	suspension
HCTZ	hydrochlorothiazide	syr	syrup
hs	at bedtime	sob	shortness of breath
IBU	ibuprofen	subl, sbl, SL	sublingual
IM	intramuscular	tab	tablet
IV	intravenous	TAT	until all taken
L	liter	TAG	until all gone
liq	liquid	TCN	tetracycline
mcg	microgram	TID, T.I.D.	three times a day
mEq	milliequivalent	ung	ointment
mg	milligram	ut dict., UD	as directed
ml	milliliter	URI	upper respiratory infection
NMT	not more than	UTI	urinary tract infection.
non rep, NR	do not repeat	V, Vag	vaginal
NPO	nothing by mouth		

# APPENDIX 6

## MEASUREMENTS/MATHEMATICS

- I. Fractions
    - a. Numerator/Denominator
    - b. Lowest Common Denominator – used to combine multiple dissimilar fractions; find by testing successive multiples of the largest given denominator.
    - c. Reduce fractions to lowest terms
  - II. Basic Algebra
  - III. Ratio and Proportion
    - a. Ratio: expressed as a fraction but not reduced to lowest terms and  $\frac{1}{2}$  would be read as *1 to 2*, not one-half.
    - b. Proportion: expression of the equality of two ratios
      - i. may be written  $a:b = c:d$ ,  $a:b::c:d$ ,  $a/b = c/d$
      - ii. may solve for missing number
  - IV. System of Weights and Measures
    - a. Deci = 1/10
    - b. Centi = 1/100
    - c. Milli = 1/1000
    - d. Micro = 1/1000000
    - e. Nano = 1/1000000000
    - f. Pico = 1/1000000000000
    - g. Deka = 10 times
    - h. Hecto = 100 times
    - i. Kilo = 10000 times
- Useful Equivalents**

1 inch = 2.54 cm	1 meter = 39.37 in
1 fl. oz. = 29.57 mL	1 pint = 473 mL
1 quart = 946 mL	1 gallon, US=3785 mL
1 tsp. = 5 mL	1 gallon, UK=4545 mL
1 tlbs. = 15 mL	
1 pound = 454 g	1 kg = 2.2 lbs
- V. Percentage Preparations
    - a. Weight-in-Volume (w/v) = # of grams/100 mL
    - b. Volume-in-Volume (v/v) = # of mL/100 mL
    - c. Weight-in-Weight (w/w) = # of g/100 g
  - VI. Patient Compliance
    - a. % Compliance Rate = # of days supply of medication/# of days since last Rx refill (x100)
  - VII. Temperature Conversion
    - a.  $F = (9/5 \times C) + 32$
    - b.  $C = (F - 32) \times 5/9$
  - VIII. Dilution of Stock Solutions
  - IX. Alligation
    - a. Method to solving problems that involve the mixing of solutions or mixtures of solids possessing different percentage strengths.
- $95 \xrightarrow{\quad} 70 \xleftarrow{\quad}$   
 $50 \xrightarrow{\quad} 70 \xleftarrow{\quad}$

20 (parts 95% solution)      total parts = 45  
 25 (parts 50% solution)
- X. Intravenous Solutions

## APPENDIX 7

### SAMPLE WORK SCHEDULE:

	JOE	MARY
Sunday	OFF	10-4 T
Monday	9-12 T 1-6 T	9-12 S 12-1 T 2-6 S
Tuesday	9-12 S 12-1 T 2-6 S	9-12 T 12-1 S 2-6 T
Wednesday	9-12 T 1-6 T	9-12 S 12-1 T 2-6 S
Thursday	9-12 S 12-1 T 2-6 S	9-12 T 1-6 T
Friday	9-12 T 1-6 T	9-12 S 12-1 T 2-6 S
Saturday	9-5 T	OFF
T = working as a Tech S = working as Supportive Personnel		

According to the pharmacy technician rules and regulations, if more than one technician has been trained you must display a work schedule showing when each technician is working.

# APPENDIX 8

## AUXILIARY LABELS

 <p><b>AVOID CHOCOLATE, WINE, CHEESE WHILE TAKING THIS MEDICATION</b></p>	 <p><b>DO NOT TAKE WITH ANTACIDS</b></p>
 <p><b>DILUTE BEFORE ADMINISTRATION</b></p>	 <p><b>DO NOT CHEW SWALLOW WHOLE</b></p>
 <p>Avoid taking this medication with grapefruit or grapefruit juice.</p>	 <p>IT MAY BE ADVISABLE TO DRINK A FULL GLASS OF ORANGE JUICE OR EAT A BANANA DAILY WHILE TAKING THIS MEDICATION</p>
 <p><b>IMPORTANT</b> FINISH ALL THIS MEDICATION UNLESS OTHERWISE DIRECTED BY PRESCRIBER</p>	 <p><b>DO NOT CRUSH</b></p>
 <p><b>DO NOT DRINK ALCOHOLIC BEVERAGES</b> when taking this medication</p>	 <p>Take Medication On An <b>EMPTY STOMACH</b> 1 Hour Before or 2 to 3 Hours After a Meal Unless Otherwise Directed By Your Dr.</p>
 <p>It is very <b>IMPORTANT</b> that you Take or Use <b>THIS EXACTLY AS DIRECTED</b> Do not skip doses or discontinue unless directed by your doctor</p>	 <p><b>DO NOT REFRIGERATE</b></p>
 <p><b>DO NOT DRINK MILK OR EAT DAIRY PRODUCTS WHILE TAKING THIS MEDICATION</b></p>	<p>Take only at recommended doses. Do Not Take with Nizoral, Sporanox, or Erythromycin or if you have liver disease.</p>
 <p>A pharmacist is available during normal business hours to answer questions concerning your prescription.</p>	 <p><b>FOR VAGINAL USE ONLY</b></p>
 <p><b>DO NOT TAKE ASPIRIN</b> WITHOUT KNOWLEDGE AND CONSENT OF YOUR PHYSICIAN</p>	 <p><b>TAKE WITH FOOD</b></p>
 <p><b>CAUTION: CERTAIN MEDICATIONS (Antibiotics, Anti-infectives) may ALTER THE EFFECTIVENESS of BIRTH CONTROL PILLS.</b> Ask your M.D. or Pharmacist</p>	 <p><b>KEEP IN REFRIGERATOR DO NOT FREEZE</b></p>
 <p><b>DO NOT TAKE DAIRY PRODUCTS ANTACIDS OR IRON PREPARATIONS WITHIN ONE HOUR OF THE MEDICATION</b></p>	 <p>MEDICATION SHOULD BE TAKEN WITH PLENTY OF WATER</p>
<p><b>DISSOLVE UNDER THE TONGUE OR IN THE MOUTH AS DIRECTED BY YOUR DOCTOR DO NOT CHEW OR SWALLOW WHOLE</b></p>	 <p><b>May Cause DROWSINESS</b></p>



Auxiliary labels are used to remind patients of important aspects to their medications such as route of administration or possible side effects to watch for. Some pharmacies may have computer systems that print the appropriate auxiliary labels. Others, however, will need to be chosen from a stock of labels such as these. The pharmacist will direct you to what labels to place on each prescription. Most agree that no more than 3 labels should be placed on each prescription.

## **APPENDIX 9**

### **DEFINITION OF THE PRACTICE OF PHARMACY**

THIS IS THE DEFINITION OF THE PRACTICE OF PHARMACY FROM  
THE CURRENT OKLAHOMA PHARMACY ACT (2004)

Professions and Occupations  
Oklahoma Statutes, Title 59, Chapter 8.  
-Drugs and Pharmacy

Title 535. Oklahoma State Board of Pharmacy

#### 353.1 Definitions

18. "Practice of Pharmacy" means:
- a. the interpretation and evaluation of prescription orders,
  - b. the compounding, dispensing, administering and labeling of drugs and devices, except labeling by a manufacturer, packer, or distributor of nonprescription drugs and commercially packaged legend drugs and devices,
  - c. the participation in drug selection and drug utilization reviews,
  - d. the proper and safe storage of drugs and devices and the maintenance of proper records thereof,
  - e. the responsibility for advising by counseling and providing information, where professionally necessary or where regulated, of therapeutic values, content, hazards and use of drugs and devices,
  - f. the offering or performing of those acts, services, operations, or transactions necessary in the conduct, operation, management and control of a pharmacy, and
  - g. the provision of those acts or services that are necessary to provide pharmaceutical care.