**High Plains Technology Center**

**Health Careers**

**Learning Activity Packet (LAP) for Advanced Pharmacy Technician**

**Related unit of instruction:**

Sterile Products

**Approximate Completion time:**

15 hours

**Rationale for the Lap:**

This LAP is designed to help the student learn the theory and principal aspects of a pharmacy sterile program. Terminology, techniques, quality control and quality assurance are covered. Students will perform all pharmaceutical calculations for compounding sterile products.

**Criteria for successful completion:**

By the end of this LAP the student will

1. Read and turn in work sheets for Chapter 10 in Ballington & Anderson’s *Pharmacy Practice for Technicians*
2. Pass the test for the chapter

**Learning Objective:**

*Infection Control Chapter 10*

1. Explain the role of pathogenic organisms in causing disease.
2. Distinguish among bacteria, viruses, fungi, and protozoa.
3. Discuss the advantages and disadvantages of various forms of sterilization.
4. Identify sources and prevention of common causes of contamination.
5. Discuss the importance of the Centers for Disease Control and Prevention (CDC) guidelines on preventing the transmission of infectious disease within the hospital.
6. Contrast hand washing and hand hygiene practices when in a sterile work environment.
7. Discuss the importance of vaccinations for healthcare workers.
8. Contrast a manufactured sterile product with expiration dating vs. a compounded sterile preparation (CSP) with beyond-use dating according to USP Chapter 797 guidelines.
9. Identify procedures to minimize airborne contamination with CSPs.
10. Apply contamination risk level designations and appropriate beyond-use dating for CSPs.
11. Identify the role of the infection control committee.
12. List common universal precautions to protect hospital employees.

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**Health Careers**

**Learning Activity Packet (LAP) for Advanced Pharmacy Technician**

**Related unit of instruction:**

Preparing and Handling Sterile Products and Hazardous Drugs

**Approximate Completion time:**

15 hours

**Rationale for the Lap:**

This LAP is designed to help the student learn the basics of pharmaceutical compounding including compounding basics, equipment and supplies needed types of compounding, methods of administering compounded drugs and quality assurance and record keeping.

**Criteria for successful completion:**

By the end of this LAP the student will

1. Read and turn in work sheets for Chapter 11 in Ballington & Anderson’s *Pharmacy Practice for Technicians*
2. Pass the test for the chapter

**Learning Objective:**

*Preparing and Handling Sterile Products and Hazardous Drugs Chapter 11*

1. Identify two common methods of delivering IV preparations.
2. Describe common characteristics of intravenous solutions, including solubility, osmolality, and pH.
3. Identify common vehicles for intravenous solutions.
4. Identify the difference between large-volume and small-volume parenteral solutions.
5. Discuss the preparation of TPN, frozen products and close system transfer devices (CSTDs).
6. Differentiate expiration dating and beyond-use dating.
7. Summarize the steps necessary for aseptic technique in a hospital pharmacy.
8. Describe the correct procedure used in preparing compounded sterile preparations (CSPs) from vials and ampules.
9. Identify the role and function of equipment used in IV preparation and administration, including catheters, controllers, syringes, needles, IV sets and filters.
10. Identify the components of an intravenous administration set.
11. Calculate intravenous flow rates.
12. Discuss the importance of and techniques for preparing, handling and disposing of hazardous agents.

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**Health Careers**

**Learning Activity Packet (LAP) for Advanced Pharmacy Technician**

**Related unit of instruction:**

Pharmaceutical Compounding

**Approximate Completion time:**

15 hours

**Rationale for the Lap:**

This LAP is designed to help the student learn the basics of pharmaceutical compounding including compounding basics, equipment and supplies needed types of compounding, methods of administering compounded drugs and quality assurance and record keeping.

**Criteria for successful completion:**

By the end of this LAP the student will

1. Complete Labs 26 - 32 in Sparks and McCartney’s *Pharmacy Labs for Technicians*

**Learning Objective:**

*Aseptic Hand Washing Lab 26*

1. Demonstrate excellence in aseptic hand washing procedures.
2. Discuss the procedures for and rationale behind aseptic hand washing.

*Garbing According to USP 797 Standards Lab 27*

1. Demonstrate proficiency in some of the processes and procedures related to garbing as defined in USP 797.
2. Discuss the procedures and rationale of the garbing procedures and related technique testing outlined in USP Chapter 797.
3. Understand how USP Chapter 797 affects the institutional pharmacy technician.

*Hood Cleaning Lab 28*

1. Demonstrate proficiency in the cleaning of a standard horizontal laminar airflow hood.
2. Explain the rationale and procedures for basic hood cleaning.

*Preparing Large-Volume Parenteral Solutions Lab 29*

1. Demonstrate proficiency in aseptic technique as it relates to the preparation of large-volume parenteral products.
2. Demonstrate accuracy in basic calculations related to the preparation of large-volume parenteral products.
3. Discuss the procedures and rationale for the preparation of large-volume parenteral products.

*Preparing Small-Volume Parenteral Solutions Lab 30*

1. Demonstrate proficiency in aseptic technique related to the preparation of small-volume parenteral products.
2. Demonstrate accuracy in basic calculations related to the preparation of small-volume parenteral products.
3. Discuss the procedures and rationale for the preparation of small-volume parenteral products.

*Preparing Sterile Powder Drug Vials Lab 31*

1. Demonstrate proficiency in aseptic technique as it related to the preparation of sterile powder drug vials.
2. Demonstrate accuracy in basic calculations related to the preparation of sterile powder drug vials.
3. Discuss the procedures and rationale for the preparation of sterile powder drug vials.

*Using Ampules Lab 32*

1. Demonstrate proficiency in the aseptic preparation of an intravenous medication withdrawn from a glass ampule.
2. Demonstrate accuracy in basic calculations related to the preparation of an intravenous medication withdrawn from a glass ampule.
3. Discuss the procedures and rationale for the use of medications supplied in ampule form.