

# COURSE OUTLINE:



## PHARMACY TECHNICIAN PRINCIPLES AND PRACTICES



## **Pharmacy Technician Principles and Practices**

### **Course Introduction**

#### **Module 1 - Medicine Through The Ages**

Origins of Medicine

The Medicine Timeline

A Timeline...

600 BC - 162 AD

1500 - 1803

1846 - 1921

1928 - 1981

1987 - 1996

2000 - 2004

2005 - 2015

Living Longer

The 20th Century

Life Span

The Age of Antibiotics

The Drug Industry

Patenting Discoveries

Facts about Patents

Steps to Drug Development

Step 1: Discovery and Development

Step 2: Preclinical Research

Step 3: Clinical Research

Step 4: FDA Review

Step 5: FDA Post Market Study Monitoring

Lesson Review

#### **Module 2 - Pharmacy Settings**

Pharmacy Settings

Community Pharmacy

Community Pharmacy Characteristics

Community Pharmacy Atmosphere

Community Pharmacy Regulations

Community Pharmacy Set-up



Institutional and Hospital Pharmacies  
Institutional Pharmacy  
Hospital Pharmacy  
Hospital Pharmacy Responsibilities  
The Hospital Team  
Hospital Pharmacy Branches  
Hospital Pharmacy Organization  
Hospital Distribution  
Hospital Pharmacy Formulary  
General Hospital Issues  
Mail Order Pharmacy  
Mail Order Pharmacy Regulations  
Advantages and Disadvantages  
All Pharmacy Settings  
Lesson Review

### **Module 3 - The Pharmacy Technician**

The Pharmacy Technician  
The Role of a Pharmacy Technician  
Early Traditional Roles of the Pharmacy Tech  
Responsibilities of the Pharmacy Technician  
Retail Pharmacy Technician Duties  
Hospital Pharmacy Technician Duties  
Additional Pharmacy Technician Careers  
The Changing Role of the Pharmacy Technician  
New Roles Assist with Therapeutic Outcomes  
Medication Therapy Management  
Patient Triage  
Third Party Resolution Specialist  
Client Care Coordinator  
Professional Standards and Guidelines  
Important Qualities  
Personal Guidelines  
Key Skills  
Training and Competency  
Performance  
Qualifying for the PTCE Certification Exam  
Certification  
Continuing education/ Re-certification  
Lesson Review



## **Module 4 - HIPAA and HITECH**

HIPAA

Scope of HIPAA

HITECH

Covered Entity & Business Associate

HIPAA and HITECH related terms

Defining Privacy

Requirements of the Pharmacy

Privileged Information

Privacy and Patient Rights

What does PHI include?

Patient Bill of Rights

Right to Notice of Privacy Practices

Notice of Privacy Practices

NPP for Prescription Delivery

Right to Access and Obtain Copy of PHI

Other Patient Rights

Have a Complaint?

Criteria for a Complaint

Privacy Rule

Required Activities of the Privacy Rule

Training

Safeguards to Privacy

Security Rule

Safeguards to Security

Risk Analysis

Compliance

HIPAA/HITECH Civil Penalties

HIPAA/HITECH Criminal Penalties

HIPAA Privacy Reminder

Lesson Review

## **Module 5 - Legal and Ethical Issues**

Drug Regulation, Control and Testing

Standards and Ethics

Laws and Regulations

Drug Regulation and Control



New Drug Approval  
Testing  
Adult Testing  
Trials  
Marketed Drugs, OTC and Behind-The-Counter  
Marketed Drugs  
Product Labels  
Behind-The-Counter  
Exempt Narcotics  
Emergency Contraceptives  
Prescription Drug Labels  
Controlled Substances and the Schedules  
Controlled Substance Regulations  
Controlled Substance Responsibility  
Transferring Controlled Substances  
Public Safety  
Drug Recall  
Recall Classifications  
Law and the Technician  
Legal Responsibility  
Liability  
Certification, Licensure and Registration  
Other Legal Organizations  
Code of Ethics  
Code of Ethics for Pharmacy Technicians  
Legal Duties of Pharmacy Technicians  
Law Violations  
Lesson Review

## **Module 6 - HIV and AIDS**

What are HIV and AIDS?  
Why is education necessary?  
What happens due to HIV and AIDS  
HIV  
AIDS  
HIV Infection  
Lymphocytes  
Primary HIV infection  
Window Period  
Asymptomatic Stage  
Transmission



Transmission of body fluids  
Methods of transmission  
Pregnancy  
Factors affecting HIV Transmission  
Blood borne Pathogens  
Occupational Exposure  
Exposure Incident  
The Immune System  
Viral Infections and Illnesses  
What is a Virus?  
Characteristics of a Virus  
Viral Infection Stages  
Viral Infection Classifications  
Duration and Severity  
Latency  
Cellular Interaction  
Vaccination  
Interferon  
Antivirals  
Care and Treatment  
HIV / AIDS and Anti-retrovirals  
Pre-Exposure Prophylaxis (PrEP)  
Post Exposure Prophylaxis (PEP)  
Classes of Anti-retroviral Drugs  
Nucleoside Reverse Transcriptase Inhibitors (NRTIs)  
Protease Inhibitors (PI)  
Fusion Inhibitors and Chemokine Co-Receptors  
Integrase Inhibitor  
Responding to HIV Exposure  
Combining Anti-Retrovirals  
Non-Nucleoside Reverse Transcriptase Inhibitors (NNRTIs)  
Nucleotide Reverse Transcriptase Inhibitors (NtRTIs)  
Testing  
Who should get tested?  
Tests  
Results  
Counseling  
Psychosocial Issues  
Difficult Realities  
Prevention and Reducing Risk  
Reducing Risks



Prevention and Risk Reducing Strategies  
Lesson Review

## **Module 7 - Emergency Preparedness in Healthcare**

The Role of the Pharmacist  
What is Emergency Preparedness  
Pharmacist Role During an Emergency  
Responsibilities of the Pharmacist  
Other Responsibilities of the Pharmacist  
Basic Life Support (BLS)  
When should BLS be Administered  
Keys for Successful BLS  
CPR in Adults  
CPR in Child (Age 1 - Puberty)  
CPR in Infants (Less than 1 Year)  
Pharmacy Technician's Role in Emergency  
Benefits of Basic Life Support Training  
Lesson Review

## **Module 8 - Terminology**

Terminology  
Medical Terminology  
Drug Classifications and Medical Abbreviations  
Organ Systems and Common Disorders  
Cardiovascular System  
Cardiovascular System Disorders  
Cardiovascular System Drugs  
Endocrine System  
Endocrine System Disorders  
Endocrine System Drugs  
Gastrointestinal Tract  
Gastrointestinal Tract Disorders  
Gastrointestinal Tract Drugs  
Integumentary System  
Integumentary System Disorders  
Integumentary System Drugs  
Lymphatic System  
Lymphatic System Disorders  
Lymphatic System Drugs  
Muscular System  
Muscular System Disorders



Muscular System Drugs  
Nervous System  
Nervous System Disorders  
Nervous System Drugs  
Skeletal System  
Skeletal System Disorders  
Skeletal System Drugs  
Female Reproductive System  
Female Reproductive System Disorders  
Female Reproductive System Drugs  
Male Reproductive System  
Male Reproductive System Disorders  
Male Reproductive System Drugs  
Respiratory System  
Respiratory System Disorders  
Respiratory System Drugs  
Urinary Tract  
Urinary Tract Disorders  
Urinary Tract Drugs  
Senses - Hearing  
Senses - Hearing Disorders  
Senses - Hearing Drugs  
Senses - Sight  
Senses - Sight Disorders  
Senses - Sight Drugs  
Other Areas of Concern  
Geriatrics  
Geriatric Drugs  
Conditions Associated with Pain  
Pain and Controlled Drugs  
Neoplastic Disorders  
Neoplastic Drugs  
Antimicrobials (Antibiotics)  
Antimicrobials (Antibiotics) Drugs  
Neuro-Psych Disorders  
Neurological/Psychiatric Drugs  
Muscle Relaxants and Nonsteroidal Anti-Inflammatory Drugs (NSAIDs)  
Lesson Review





## **Module 9 - References and Research Tools**

Research and Reference Materials

Steps to Researching Information

Determine Purpose of Search

Gather Supporting Information

Determine Resource Materials

Data Collection

Data Analysis

Organize Information and Take Action

Key Points for Referencing Medications

General Information of Medications

Brand Name of Medication

Generic Name of Medication

Classification and Usage of Medication

Other Reference and Research Materials Used in the Pharmacy Setting

Reference Materials Used in the Pharmacy Setting

Journals and Magazines

Pharmacy Organizations

Electronic Referencing

The Internet

Lesson Review

## **Module 10 - Basic Biopharmaceutics**

Basic Biopharmaceutics

How Drugs Work

Seven Routes of Administration

Cell Receptors

Types of Action

Receptors

Concentration and Effect

ADME Processes and Diffusion

Biological Membranes

Passive Diffusion

Active Transport

Absorption and Distribution

Absorption

Distribution

Metabolism and Excretion

Metabolism

Enzyme Activity

First Pass Metabolism



Inhibitors (NRTIs)

Excretion

Bioequivalence

Bioequivalence Definitions

Lesson Review

## **Module 11 - Common Drugs and Their Uses**

Common Drugs and Their Uses

Drug Names and Classes

Drug Names Development

Drug Patent

USAN and USP

Drug Reference Books

Drug Classes

Common Drug "Stems"

Tall Man Lettering

Classification Schemes

Analgesics

Use of Analgesics

Analgesics

Common Analgesics

Anesthetic Agents

Why Use Anesthetic Agents?

Anesthetic Agents

Common Anesthetic Agents

Stages of General Anesthesia

Anesthetic Agent Routes

Anti-Infectives

Common Anti-infectives

Anti-Infectives Safety

Antineoplastics

Common Antineoplastics

Antineoplastics Safety

Cardiovascular Agents

Uses for Cardiovascular Agents

Cardiovascular Agents

Classes by Action

Cardiovascular Agent Safety

Classes by Condition

Dermatologicals

Common Dermatologicals



Electrolytic Agents

Common Electrolytic Agents

Gastrointestinal and Urinary Agents

Uses of Gastrointestinal Agents

Gastrointestinal Side Effects

Urinary Tract Agents

Hematological Agents

Hematological Side Effects

Hormones

Adrenal Hormones

Insulin and Glucagon

Female Hormones

Contraceptives

Male Hormones

Immunobiologic Agents and Vaccines

The Flu and H1N1

Musculoskeletal Agents

Gout

Osteoarthritis and Osteoporosis

Muscle Spasms

Neurological Agents

Common Neurological Agents

Other Common Neurological Agents

Ophthalmic and Otic Agents

Common Ophthalmic and Otic Agents

Psychotropic Agents

Common Psychotropic Agents

Other Psychotropic Agents

Respiratory Agents

Common Respiratory Agents

Respiratory Agent Side Effects

Lesson Review

## **Module 12 - Drug Routes and Formulations**

Drug Routes

Routes

Route Effects

Enteral Route and Form

Parenteral Route and Form

Oral Formulations

Importance of pH



Solid Formulations - Tablets  
Solid Formulations - Capsules  
Solid Formulations - Bulk Powders  
Modified Release Formulations  
Liquid Formulations - Solutions, Solvent, and Aqueous Solutions  
Liquid Formulations - Syrups and Non-aqueous Solutions  
Liquid Formulations - Elixirs and Spirits  
Liquid Formulations - Tinctures and Suspensions  
Liquid Formulations - Emulsions  
Liquid Formulations - Gels  
Sublingual and Buccal Administration  
Rectal Administration  
Parenteral Routes  
Parenteral Route Methods  
Intravenous Formulations  
Syringeability and Injectability  
Intravenous Formulations - Dry Powder and Emulsions  
Intravenous Devices  
Intravenous Complications  
Intramuscular Injections  
Intramuscular Formulations  
Subcutaneous Injections  
Intradermal Injections  
Ophthalmic Formulations  
Ophthalmic Delivery  
Ophthalmic Inserts  
Intranasal Formulations  
Inhalation Formulations  
Inhalation Devices  
Atomizers and Nebulizers  
Dermal Formulations  
Dermal Formulation Advantages and Disadvantages  
Types of Dermal Formulations  
Vaginal Formulations  
Vaginal Formulation Advantages and Disadvantages  
Lesson Review



## **Module 13 - Factors Affecting Drug Activity**

Factors Affecting Drug Activity

Human Variability

Age

Neonates and Infants

Children

Adults

The Elderly

Gender

Pregnancy

Pregnancy Risk Classifications

Genetics

Body Weight

Psychological Factors

Adverse Drug Reactions

Patient Package Inserts

CNS Effects and Hepatotoxicity

Hypersensitivity and Anaphylactic Shock

Gastrointestinal, Nephrotoxicity, Idiosyncrasy, and Hematological Effects

Drug Dependence

Teratogenicity and Carcinogenicity

Drug-Drug Interactions

Drug-Diet Interactions

Disease States

Hepatic

Circulatory

Renal

Thyroid

Lesson Review

## **Module 14 - Medication Therapy Management**

A Team Approach to Patient Care

Patient-Centered Care and Team Approach

The Pharmacy Technician's Role on the Team

Medication Therapy Management in the Pharmacy

Medication Therapy Management origins

Definition of MTM

CMS Reimbursement for MTM

Goals and Importance of MTM

Strategies for MTM



Services Included in MTM  
Patient-Centered Care Process of the Pharmacist  
Patient-Centered Care  
The Pharmacy Technician's Role with MTM  
The Pharmacy Technician and MTM  
Aging Patient Population  
Requirements for Pharmacy Techs  
Improving Therapeutic Outcomes  
Evaluating Compliance and Adherence Patterns  
Medication Worksheet  
Nomenclature and Pathophysiology  
Beer's List and Criteria  
START/STOPP Criteria  
Frayer Model Drug Worksheet  
Red Flags for Medication Related Action Plan  
Advanced Duties of the Technician  
Advanced Technician Duties  
Motivational Interviewing  
Medication Synchronization (Med Sync)  
Comprehensive Medication Review (CMR)  
The Technician's Role in CMR  
Benefits of the CMR  
Documentation and Reimbursement  
Technician's Role in Reimbursement  
SOAP Notes  
Reimbursement Codes  
Billable Procedure Codes for MTM  
Lesson Review

### **Module 15 - Pharmacy Equipment**

The Compounding Process  
Compounding Process General Steps  
The Four Step Process  
The First Step  
Second Step  
Third Step  
Fourth Step  
Types of Pharmacy Equipment  
Child Resistant Packaging  
Class A Prescription Balance  
Digital Scales



Weighing Containers and Spatulas  
Mortars and Pestles  
Ointment Slabs and Hot Plates  
Pill Counting Trays  
Pharmacy Automation  
Volumetric Equipment  
Graduated Cylinders and Volumetric Flasks  
Flasks  
Pipets  
Syringes  
Droppers  
Oral Syringes  
Laminar Flow Hoods  
Horizontal Flow Hoods  
Intravenous (IV) Bags  
Lesson Review

## **Module 16 - Inventory Management**

Wholesalers  
Benefits of Wholesalers  
The Formulary  
The Government  
The Pharmacy and Drug Manufacturers  
Inventory Systems  
Inventory Systems and the Role of the Pharmacy Technician  
Spoilage  
Turnover, Availability, and POS  
Reorder Points and Automated Reports  
Order Entry Devices  
Computers and Inventory  
Automated Dispensing Systems  
Key Computer Considerations  
System Care and Maintenance  
Ordering  
Material Safety Data Sheets (MSDS)  
Receiving and Credits>Returns  
Reverse Distribution  
Methods of Drug Disposal  
Forms  
Stocking and Storing  
Physical Organization and Refrigeration



Point of Use Stations  
Lesson Review

## **Module 17 - Financial Issues**

Financial Issues

Third Party Programs

Understanding Benefits

Medicare Benefits

Types of Medicare Coverage

Pharmacy Benefit Managers

Computers and Third Party Billing

Co-Pay and Co-Insurance

Dual Co-Pay

Deductibles

Prescription Drug Benefit Cards

Government Health Plans

Commercial/Private Insurance

Managed Care Programs

Other Programs

Coordination of Benefits

Online Adjudication

Adjudication

Online Claim Information

Online Coverage Review

Drug Utilization Review and Dispense as Written

DAW Indicator

Online Adjudication Process

Online Adjudication Records

Billing Special Medications

Rejected Claims

Common Reasons for Rejection

Prior Authorization

Other Billing Procedures

Disease State Management Services

Medication Therapy Management Services

Billing Codes

Lesson Review





## **Module 18 - Introduction to Medical Documentation and Coding**

Changing Approach in Healthcare Roles

Team-Based Care Services

The Pharmacy Technician's Role

Documentation and SOAP Notes

Purpose of Documentation

Documenting in the Medical Record

Medication Administration Record (MAR)

Prescription Orders

Allergies

Immunization/Vaccines

SOAP Notes

SOAP Approach

Subjective

Objective

Assessment

Plan

Code Standards

Purpose of Coding

Billing Codes

What is Diagnosis Coding?

ICD Coding

ICD-9 vs. ICD-10

Inpatient Hospital Procedures

ICD-9-CM Code Structure

ICD-10-CM Code Structure

Structure of ICD-10

Coding Rules

CPT Codes

CPT-4

Alphabetic Index

Guidelines

Notes

CPT Contents

Format of CPT Codes

Procedure Format

Example of Procedure Format

Evaluation and Management

Consultations

Key Components for E/M



History of E/M  
History - PFSH  
Exam for E/M  
Medical Decision Making  
Contributing Factors  
Medicine  
CPT Codes for Pharmacy Services  
HCPCS Codes  
Healthcare Common Procedure Coding System (HCPCS)  
HCPCS Codes for Pharmacy Services  
Medication Therapy Management  
Medication Therapy Management Services  
CPT Codes for MTM  
The Pharmacy Technician's Role in MTM  
Lesson Review

### **Module 19 - Pharmacy Management Software**

Pharmacy Information Systems  
Retail Prescription Filling  
Physician/Prescriber Information  
DEA Identification Number  
Seven Digit Encoding  
New Patients  
Existing Patients  
Adding Insurance Plans  
Adding Drugs  
Reading Prescriptions  
New and Refill Prescriptions  
Adding a New Prescription  
Refilling a Prescription - Retail/Mail Order  
Refilling a Prescription - Facilities  
Reports  
Custom History Report  
Control Drug Report  
Activity Summary Report  
Daily Prescription Log Report  
Lesson Review



## **Module 20 - Fractions, Decimals, Percents, and Roman Numerals**

Fractions

What is a Fraction?

Components of Fractions

Proper vs. Improper Fractions

Common and Complex Fractions

Converting and Reducing Fractions

Converting Mixed Numbers to Improper Fractions

Examples - Converting Mixed Numbers to Improper Fractions

Converting Improper Fractions to Mixed Numbers

Fraction Examples

Reducing Fractions to Their Lowest Terms

Reducing Fractions - Example #1

Lowest term reduction Practice

Calculating a Common Denominator

Calculating the Lowest Common Denominator

Calculating the Lowest Common Denominator - Example #1

Calculating the Lowest Common Denominator - Example #2

Calculating the Lowest Common Denominator - Example #3

Finding the Same Lowest Common Denominator

Same Lowest Common Denominator - Special Formula

Same Lowest Common Denominator - Example #1

Same Lowest Common Denominator - Example #2

Same Lowest Common Denominator - Example #3

Tips for Making Comparisons

Change the Denominator Practice

Special Question

Answer

Special Exercise

Special Exercise - Part #1

Special Exercise - Part #2

Special Exercise - Part #3

Working with Fractions

Adding Fractions

Adding Fractions - Example #1

Addition Practice

Subtracting Fractions

Subtracting Fractions - Example #1

Subtraction Practice

Multiplying Fractions

Multiplication Practice



Dividing Fractions  
Dividing Fractions - Example  
Fraction Examples  
Decimals  
Decimal Placement  
Decimal Example  
Converting Fractions to Decimals  
Converting Decimals to Fractions  
Adding and Subtracting Decimals  
Multiplying Decimals  
Dividing Decimals  
Decimal Practice  
Decimal to Percent  
Percentage to Decimal  
Fraction Percent to Decimal  
Percentage to a Fraction  
Roman Numerals  
Roman Numeral Practice  
Lesson Review

## **Module 21 - Metric System and Military Time**

The Metric System  
Units of Measurement  
Prefixes  
e-Notes  
Converting to Metric Units and back to Imperial Units  
Comparative Measures  
Conversion Practice  
Converting lbs. to kg  
Converting kg to lbs.  
Converting Fahrenheit to Celsius  
Fahrenheit to Celsius Practice  
Converting Celsius to Fahrenheit  
Celsius to Fahrenheit Practice  
Converting Units within the Metric System  
Converting Units of Measurement  
Converting From a Small Unit to a Larger Unit  
Converting From mg to g  
Converting From mL to L  
Converting From a Large Unit to a Smaller Unit  
Converting From kg to mcg



Converting From kg to g  
Multiplying and Dividing Metric Values  
Multiplying Metric Values  
Dividing Metric Values  
Remember  
Practice Exercises  
Practice Exercise: 1  
Practice Exercise: Answer 1  
Practice Exercise: 2  
Practice Exercise: Answer 2  
Practice Exercise: 3  
Military Time (24 hour clock)  
Converting to Military Time  
Examples  
Lesson Review

## **Module 22 - Ratios and Proportions**

Ratios and Proportions  
Ratios  
Ratio Examples  
Steps to Convert  
Conversion Chart Example  
Conversion Example #1  
Conversion Example #2  
Converting a Decimal to a Ratio  
Converting Percentages to Ratios  
Proportions  
Cross Multiplying  
Insies and Outsies  
Examples of True Proportion  
The Unknown "X"  
Example #1  
Example #2  
Lesson Review

## **Module 23 - Dosage Calculation Methods**

Basic Calculation Methods  
Three Basic Methods  
D/A x Q  
Dimensional Analysis  
Steps for Dimensional Analysis



Extending the Dimensional Formula  
Ratio - Proportion  
Solving the Problem  
Formula Method  
Example of Formula Method  
Acknowledgement  
Pediatric Dosage Calculations  
Special Age and Weight Calculations  
Various Calculation Methods  
Conversions  
Determine Child Dosage with Clark's Rule  
Young's Rule  
Determine Child Dosage with Young's Rule  
Fried's Rule  
Determine Infant Dosage with Fried's Rule  
Nomogram Method  
Determining BSA  
Nomogram Calculation  
Nomogram Chart  
Example of Nomogram Calculation  
Infusion Calculations  
Common Abbreviations for IV Solutions  
Flow Rates  
Flow Rate Problems  
Drip Rate Formula  
Infusion Flow Rate  
Drip Rate Problems  
Calculating Amount Received by Time  
Calculating Amount of Drug Received  
Calculating Amount Received by ml  
Infusion by Weight  
Practice Calculations  
Body Weight Examples  
Body Surface Area Reminder  
BSA Examples  
Infants and Children's Formulas  
Clarks Rule Reminder  
Clarks rule example  
Fried's Rule Reminder  
Fried's rule examples  
Young's Rule Reminder



Young's rule examples

Lesson Review

## **Module 24 - Safety and Aseptic Techniques**

Aseptic Techniques

General Rules

Personal Protective Gear

Proper Hand-Washing Technique

Keeping Puncture Surfaces Sterile

Laminar Flow Hoods

Laminar Flow Hoods Process

Horizontal or Vertical Flow Hoods

Types and Use of Biological Safety Cabinets

Aseptic Techniques and Guidelines for Hoods and Cabinets

Chemotherapy and Clean Rooms

Chemotherapy and Hazardous Drugs

Clean Rooms

Safe Disposal

Disposal of Instruments

Disposal of Clothing

Lesson Review

## **Module 25 - Tablets and Capsules**

Tablets

About Tablets

Types of Tablets

Tablet Identification

Forms of Tablets

Capsules

About Capsules

Capsule Sizing

Filling Capsules

Capsule Filling Machines

Sample Prescriptions

Sample Tablet Prescription

Sample Capsule Prescription

Calculation Orders

Oral Dose examples

Lesson Review



## **Module 26 - Liquid Prescriptions**

Solutions

Aqueous Solutions

The Solubility

Non-aqueous Solutions

Suspensions

Compounding Suspensions

Suspension Example

Emulsions

Types of Emulsions

Types of Emulsifiers

Dry Gum Method Prep

Wet Gum Method Prep

The Beaker Method

Emulsion Example

Calculation Orders

Practice

Liquid Oral Dose Examples

Unit examples

MEQ example

Lesson Review

## **Module 27 - Parenterals**

Parenteral Routes

Types of Parenteral Solutions

Parenteral Visual Inspection

Parenteral Precautions

LVP and SVP Solutions

Glass versus Plastic

Common Sizes of LVP's

Common Intravenous Solutions

Common LVP Solutions

Common LVP Solution Strength

Common Forms of SVP Solutions

Prefilled Syringes

Other SVP Solutions

Administration Devices

Administration Device Set

Heparin Lock & Piggybacks

Pumps and Controllers

Positive Pressure Pumps





Syringes and Needles  
Basic Parts of a Syringe  
Common Syringe Tips  
Parts of the Needle  
Syringes Sizes  
Syringe Measurements  
Filling the Syringe  
Needle Sizes  
Recapping and Disposing of Needles  
One-Handed Needle Recapping  
Filters, Vials and Ampules  
Types of Filters  
Filter Considerations  
Types of Parenteral Vials  
Working with Vials  
Working with Ampules  
Transferring the Solution  
Parenteral Practice Examples  
Parenteral Injection Dose Examples  
Special Solutions  
TPN Solution  
TPN Preparation  
TPN Administration  
Dialysis Solutions  
Units of Measurement  
Lesson Review

## **Module 28 - Insulin and Syringes**

What is Diabetes?  
What is Normal?  
Type I Diabetes  
Type II Diabetes  
Pre-Diabetes  
Gestational Diabetes  
Hypoglycemia  
Symptoms of Low Blood Sugar  
Hyperglycemia  
Symptoms of Hyperglycemia  
Insulin  
Types of Insulin  
Brand vs. Generic



Insulin Strengths  
Insulin Additives  
Other Considerations  
Syringes and Needles  
Insulin Syringe Sizing  
Needle Length  
Needle Gauge  
Insulin Pens  
Insulin Pumps  
A Need to Disconnect  
Injection Sites  
Injection Sites Diagram  
Lesson Review

## **Module 29 - Compounding Regulations & Considerations**

Compounding  
What is Compounding?  
Who Processes Compounds?  
Compounding and Manufacturing Guidelines  
NABP on Compounding  
The Manufacturer  
Regulations  
USP/NF  
Compounding Regulations  
USP 795 Guidance  
Personnel and Facility  
Ingredient Standards  
Quality Assurance and Quality Control  
Packaging and Storage  
Temperature Storage  
Label Regulations  
Documentation and Record Keeping  
Documentation and Record Keeping Guidelines  
Stability  
Beyond Use Dates  
Completion  
Compounding Considerations  
Considerations  
Before Compounding  
Lesson Review



## **Module 30 - Compounding Medications**

Mixing Solids and Semisolids

Mixing Powders

Using the Spatula

Ointment Slab

Levigation and Trituration

Compounding Principles for Dosage Forms

Aqueous Solutions

Syrups

Non-Aqueous Solutions

Suspensions

Flavoring

Compounding Principles for Dosage Forms

Coloring

Emulsions

Ointments

Suppositories

Ideal Suppository Bases

Capsules

IV Solution and Medication Examples

Solutes examples

IV Medication examples

Drops per Minute

Drops per minute examples

Infusion Times

Infusion Times examples

Weight in weight

Weight in weight example

Weight in volume

Weight in volume example

Volume in volume

Volume in volume example

Drugs and Solvents

Drugs and Solvents example

Dilution of Stock solutions

Stock solution examples

Alligations

Lesson Review



## **Module 31 - Interpreting Prescriptions & Scenario Discussions**

Tall Man Lettering

Examples of Confused Drug Names

ISMP

Interpreting Prescriptions

Rx #1

Rx #2

Rx #3

Rx #4

Rx #5

Rx #6

Rx #7

Rx #8

Rx #9

Rx #10

Scenario Discussions

Scenario #1

Scenario #2

Scenario #3

Scenario #4

Scenario #5

Scenario #6

Scenario #7

Scenario #8

Scenario #9

Scenario #10

Lesson Review

## **Module 32 - Communications and Telephone Techniques**

Communication

Building the Patient Relationship

Troubles with Communication

Communication Techniques

Verbal and Non-Verbal Communication

Body Language

Proxemics

Process of Communication

Active Listening

Open and Closed Questions

Other Questions and Statements

Motivational Interviewing (MI)



Telephone Communication and Handling Incoming Calls

Importance of Telephone Communication

Common Sources of Incoming Calls

Typical Incoming Calls

Screening Incoming Calls

Phone Etiquette

Your Phone Voice

Tone of Voice

Rate of Speech

Outgoing Calls

Taking Messages

Handling Difficult Communication

Barriers to Effective Communication

Conflict

Complaints

Angry Patients / Callers

Communication During Difficult Times

Lesson Review

### **Module 33 - Patient Empathy and the Pharmacy Technician**

Sympathy and Empathy

Sympathy

Empathy

Cognitive and Affective Empathy

Empathizing with the Patient

Why Practice Empathy?

Identifying the Needs of the Patient

Barriers to Meeting Patient Needs

How the Patient's Condition Effects Them

Pathophysiology

Ways to Show Empathy

Show Empathy

Show Respect

Encourage Expression

The Patient's View Point

Acknowledge Patient Fears

Use Interchangeable and Additive Responses

Addressing the Patient's Needs

Lesson Review



### **Module 34 - Cumulative Exercises**

Non-Sterile Compounding Culmination

Sterile Compounding Culmination

Parenteral Compounding Culmination