



**WELCOME TO
MUSC
PHARMACY SERVICES
ORIENTATION**

January 2009

OBJECTIVES

- STATE WHEN MEDICATIONS ARE DELIVERED TO NURSING UNITS
- RECOGNIZE PROPER USE OF AUTOMATIC THERAPEUTIC SUBSTITUTION
- DESCRIBE WHERE MEDICATIONS ARE KEPT ON NURSING UNITS
- IDENTIFY PROHIBITED ABBREVIATIONS
- IDENTIFY AN INCORRECT ORDER

DEPARTMENT OF PHARMACY SERVICES

- **INPATIENT PHARMACIES:**
 - ADULT AND CHILDREN'S HOSPITALS
 - MAIN AND RUTLEDGE TOWER ORS
 - ART, IOP AND CMH HOSPITAL

- **OUTPATIENT PHARMACIES:**
 - RUTLEDGE TOWER
 - HOLLINGS CANCER
 - EAST COOPER
 - ASHLEY AVENUE
 - ART

DEPARTMENT OF PHARMACY SERVICES (CONTINUED)

● CLINICS:

- FAMILY MEDICINE
- HOLLINGS CANCER CENTER
- ADULT PRIMARY CARE CENTER (APCC)
- ANEMIA CLINIC
- PHARMACOTHERAPY CLINIC
- TRANSPLANT CLINIC

GOALS

- TO IMPROVE PATIENT OUTCOMES AND PROVIDE THE HIGHEST STANDARDS OF PHARMACEUTICAL CARE,
- TO FOSTER A COLLABORATIVE APPROACH TO MEDICATION SAFETY AMONG ALL DISCIPLINES,
- TO PROVIDE AN EXCEPTIONAL WORK ENVIRONMENT THAT WILL ESTABLISH MUSC AS THE PHARMACY EMPLOYER OF CHOICE IN SOUTHEASTERN UNITED STATES

GOALS

- TO INTEGRATE NEW TECHNOLOGICAL DEVELOPMENTS WHICH IMPROVE EFFICIENCY AND SAFETY,
- TO PROMOTE RESEARCH TO IMPROVE PATIENT OUTCOMES AND THE EFFICIENCY OF CARE, AND
- TO EXPAND AND PROMOTE EXCELLENCE IN PHARMACY EDUCATION.

INPATIENT MEDICATION DELIVERY

- DELIVERY ROUNDS:
 - ALL NEW MEDICATION WILL BE DELIVERED HOURLY IN THE ADULT AND CHILDREN'S HOSPITALS
- PNEUMATIC TUBE SYSTEM:
 - **STAT** MEDS WILL BE TUBED
 - (EXCEPTION: THERE ARE SOME MEDICATIONS THAT CANNOT BE TUBED)
- MEDICATION TURN AROUND TIME:
 - ROUTINE: PER POLICY, TURN AROUND TIME IS 2 HOURS
 - **STAT**: TURN AROUND TIME IS 30 MINUTES

INPATIENT MEDICATION DELIVERY

- **CLIPBOARD MEDICATIONS: (HAND-DELIVERED, MUST BE SIGNED FOR)**
 - HIGH COST MEDS, MEDS WITH SHORT EXPIRATION, CONTROLLED SUBSTANCES
- **FLOOR STOCK:**
 - EACH UNIT HAS AN APPROVED LIST OF FLOOR STOCK ITEMS WHICH ARE ORDERED FROM OUR PROCUREMENT PHARMACY.
- **ACUDOSE®:**
 - CONTROLLED SUBSTANCES AND SOME OTHER COMMON MEDS ARE LOCATED HERE (YOUR PHARMACIST MUST STILL SCREEN AND PROCESS THE ORDERS).

QUESTION 1

1. WHEN ARE MEDICATION DELIVERY ROUNDS SCHEDULED TO IN THE ADULT AND CHILDREN'S HOSPITALS?
 - A. ROUTINE MEDICATIONS ARE DELIVERED EVERY 2 HOURS
 - B. ROUTINE MEDICATIONS ARE DELIVERED EVERY HOUR
 - C. ROUTINE MEDICATIONS ARE TUBED TO THE NURSING UNIT AS SOON AS POSSIBLE.
 - D. ROUTINE MEDICATIONS ARE DELIVERED EVERY HALF HOUR

WHERE ARE MEDICATIONS LOCATED ON THE NURSING UNITS?

- MEDICATION CARTS
- PEGBOARD
- REFRIGERATOR
- PNEUMATIC TUBE SYSTEM
- DELIVERY BIN
- ACUDOSE®

CLINICAL PHARMACISTS

- CLINICAL PHARMACISTS WORK OUT OF PHARMACY SATELLITES ON EACH FLOOR.
 - RECEIVE ORDERS BY FAX OR CPOE
 - REVIEW ORDERS FOR ACCURACY AND CLARIFY ORDERS WITH PHYSICIANS
 - ENTER ORDERS INTO THE COMPUTER FOR DISPENSING FROM THE CENTRAL PHARMACY

CLINICAL PHARMACISTS

- FIRST LINE RESOURCE FOR INFORMATION ON PATIENT MEDICATIONS
- CONTACT INFORMATION (PHONE, PAGER, FAX, LOCATION) IS POSTED ON EACH NURSING UNIT

QUESTION 3

3. WHERE ARE MEDICATIONS LOCATED ON THE NURSING UNITS?
- A. MEDICATION DRAWERS
 - B. PEGBOARD
 - C. REFRIGERATOR
 - D. ALL OF THE ABOVE

AUTOMATIC THERAPEUTIC SUBSTITUTION (ATS)

- PHARMACY AND THERAPEUTICS (P&T) COMMITTEE APPROVED PROGRAM
- PURPOSE: REDUCE USE OF NONFORMULARY MEDICATIONS THAT CAN BE SAFELY SUBSTITUTED BY ANOTHER MED IN THE SAME CLASS
- PHARMACIST WRITES AN ORDER ON AN ATS STICKER & PLACES ON PHYSICIANS' ORDER FORM
- MD DOES NOT NEED TO COSIGN
- CONTACT YOUR CLINICAL PHARMACIST WITH QUESTIONS/CONCERNS ABOUT AN ATS

AUTOMATIC THERAPEUTIC SUBSTITUTION

- CLASSES OF DRUGS IN ATS PROTOCOL
 - ANGIOTENSIN-CONVERTING ENZYME INHIBITORS (ACEIS)
 - ENTERAL FORMULAS
 - HISTAMINE₂ ANTAGONISTS
 - INSULIN PRODUCTS (SELECTED)
 - INTRANASAL STEROIDS
 - LEVALBUTEROL
 - NONSEDATING ANTIHISTAMINES
 - POLYETHYLENE GLYCOL 3350 AND ELECTROLYTES
 - PROTON PUMP INHIBITORS

QUESTION 2

2. A PHARMACIST MAY MAKE AN AUTOMATIC THERAPEUTIC SUBSTITUTION (ATS):
 - A. WHEN THE DRUG ORDERED IS NOT IN THE MUSC FORMULARY
 - B. WHEN THE DRUG IS IN A CLASS IDENTIFIED IN THE ATS PROTOCOL
 - C. WITHOUT A PHYSICIAN ORDER
 - D. ALL OF THE ABOVE

WHAT WE'VE DONE TO ENSURE MEDICATION SAFETY:

- INCORRECT ORDERS WILL NOT BE ACTED UPON
- THESE ARE ORDERS THAT INCLUDE:
 - PROHIBITED ABBREVIATIONS
 - PRN ORDERS WITHOUT AN INDICATION
 - ORDERS FOR “RESUME PRE-OP MEDS”
 - ORDERS WITHOUT A DATE AND TIME

PROHIBITED ABBREVIATIONS

Abbreviation	Intended Meaning	Misinterpretation
Drug names may NOT be abbreviated (e.g., MS, MSO4, AZT)		
Absence of preceding zero (.5 mg)	0.5 mg	The decimal point is not seen or copied, resulting in a 10 fold overdose (5 mg).
Presence of trailing zero (5.0 mg)	5 mg	The decimal point is not seen or copied, resulting in a 10 fold overdose (50 mg).
mcg and µg	microgram	Mistaken for "mg" when written resulting in an overdose
q.d. or QD	every day	The period after the "Q" has sometimes been mistaken for "I," and the drug has been given "QID" (four times daily) rather than daily

Abbreviation	Intended Meaning	Misinterpretation
q.o.d. or QOD	every other day	Mistaken as "q.d." or "q.i.d." if the "o" is poorly written
MgSO4	Magnesium sulfate	Morphine sulfate
U or u	unit; umbilicus	Mistaken as zero or a four (4) resulting in overdose (4U seen as "40" or 4u seen as "44")
IU	Inter-national unit	Misread as IV (intravenous)

WHAT WE'VE DONE TO ENSURE MEDICATION SECURITY

- PHARMACIES— ALWAYS LOCKED!!!
- ACUDOSE CABINETS
- MEDICATION CARTS THAT LOCK
- LOCKED MED ROOMS
- REFRIGERATOR LOCKS
- LOCK BOXES
- LOCKED DRAWERS AND CABINETS
- MEDS AT THE BEDSIDE— NOT ALLOWED!

QUESTION 4

4. WHICH OF THE FOLLOWING IS *NOT* A PROHIBITED ABBREVIATION AT MUSC?
- A. MEQ
 - B. HCTZ
 - C. QD
 - D. MCG

QUESTION 5

5. WHY IS THE FOLLOWING ORDER INCORRECT?

“MORPHINE 2MG IV EVERY 4 HOURS PRN – FIRST DOSE STAT”

- A. MG IS NOT AN APPROVED ABBREVIATION
- B. MORPHINE SHOULD BE WRITTEN WITH A CAPITAL M
- C. STAT IS NOT AN APPROVED ABBREVIATION
- D. AN INDICATION FOR THE PRN MEDICATION IS NOT INCLUDED



CONGRATULATIONS!
YOU HAVE COMPLETED
THE MODULE ON
PHARMACY SERVICES

VISIT OUR WEBSITE FOR GREAT RESOURCES AT
[HTTP://WWW.MUSC.EDU/PHARMACYSERVICES/](http://www.musc.edu/pharmacyservices/)