

# MEDICATION ERRORS

Lecture Slides

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## Definition

- ▶ According to NCCMERP, A medication error is any preventable event that may cause or lead to inappropriate medication use or patient harm while the medication is in the control of the health care professional, patient, or consumer. Such events may be related to professional practice, health care products, procedures, and systems, including prescribing; order communication; product labeling, packaging, and nomenclature; compounding; dispensing; distribution; administration; education; monitoring; and use.
- ▶ NCCMERP: National Coordinating Council for Medication Error Reporting and Prevention

# Relationship between medication error and adverse drug events



# Types of Medication error

1. Wrong drug error
2. Extra dose error
3. Omission error
4. Wrong dose/strength error
5. Wrong route
6. Wrong time
7. Wrong dosage form

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# Types of Medication error

Continued...

## 1. Wrong drug error

A drug that was not ordered for a patient was administered.

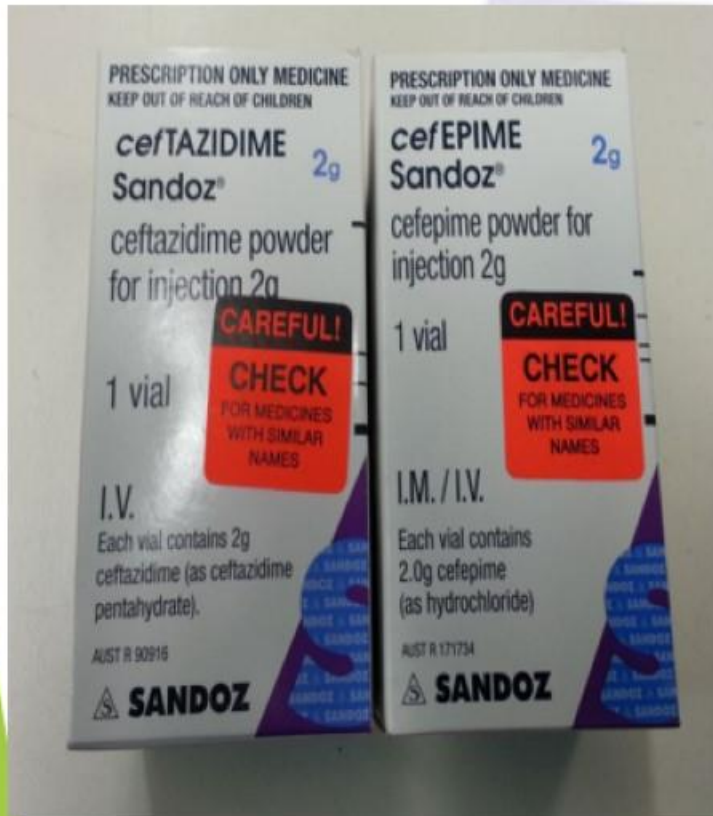


No.	Drug Name	Confused Drug Name
1	<b>DOBUTamine</b>	<b>DOPamine</b>
2	<b>DOPamine</b>	<b>DOBUTamine</b>
3	<b>DACTINomycin</b>	<b>DAPTOmycin</b>
4	<b>hydrALAZINE*</b>	<b>hydrOXYzine*</b>
5	<b>NIFEdipine</b>	<b>niCARDipine</b>
6	<b>NIFEdipine</b>	<b>niMODipine</b>
7	<b>predniSLONE</b>	<b>predniSONE</b>
8	<b>traMADol</b>	<b>traZODone</b>
9	<b>vinBLAStine</b>	<b>vinCRIStine</b>
10	<b>vinCRIStine</b>	<b>vinBLAStine</b>
11	<b>valACYclovir</b>	<b>valGANCiclovir</b>
12	<b>sulfaSALAZine</b>	<b>sulfADIAZINE</b>
13	<b>celeXA</b>	<b>celeBREX</b>
14	<b>DEPO-medrol</b>	<b>SOLU-medrol</b>
15	<b>METHyldopa</b>	<b>LEVODopa</b>
16	<b>penicillin</b>	<b>penicillAMINE</b>
17	<b>Valacyclovir</b>	<b>ValGANCiclovir</b>
18	<b>Alteplase</b>	<b>Retepase</b>
19	<b>Losec (Omeprazole)</b>	<b>Lasix (Furosemide)</b>

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# Types of Medication error Continued...



# Types of Medication error

Continued...

## 2. Extra dose error

A patient receives more doses of a drug than were ordered.

## 3. Omission error

A dose of a drug was not administered as ordered but was skipped.

## 4. Wrong dose/strength error

Either the wrong dose of a medicine or the wrong strength is administered.

# Types of Medication error

Continued...

## 5. Wrong route

A patient receives a dose of a medication by a route that was not ordered by the physician.

## 6. Wrong time error

A patient does not receive a dose of medication at the time at which it was to be administered.

## 7. Wrong dosage form

A patient receives a dose of medicine in a dosage form that was not intended.



# Types of medication errors

Continued...

- ▶ Based on sequence of medication use process

Health care professional

Prescribing errors

Dispensing errors

Patient or health care professional

Administering error

Dangerous Abbreviations	Intended meaning	Common Error
U	Units	Mistaken as a zero or a four (4) resulting in overdose. Also mistaken for "cc" (cubic centimeters) when poorly written.
µg	Micrograms	Mistaken for "mg" (milligrams) resulting in an overdose.
Q.D.	Latin abbreviation for every day	The period after the "Q" has sometimes been mistaken for an "l," and the drug has been given "QID" (four times daily) rather than daily.
Q.O.D.	Latin abbreviation for every other day	Misinterpreted as "QD" (daily) or "QID" (four times daily). If the "O" is poorly written, it looks like a period or "l."
SC or SQ	Subcutaneous	Mistaken as "SL" (sublingual) when poorly written.
T I W	Three times a week	Misinterpreted as "three times a day" or "twice a week."
D/C	Discharge; also discontinue	Patient's medications have been prematurely discontinued when D/C, (intended to mean "discharge") was misinterpreted as "discontinue," because it was followed by a list of drugs.
HS	Half strength	Misinterpreted as the Latin abbreviation "HS" (hour of sleep).
cc	Cubic centimeters	Mistaken as "U" (units) when poorly written.
AU, AS, AD	Latin abbreviation for both ears; left ear; right ear	Misinterpreted as the Latin abbreviation "OU" (both eyes); "OS" (left eye); "OD" (right eye)
IU	International Unit	Mistaken as IV (intravenous) or 10(ten)
MS, MSO4, MgSO4	Confused for one another	Can mean morphine sulfate or magnesium sulfate

# Factors causing medication errors

## Factors associated with health care professionals

- Lack of therapeutic training
- Inadequate drug knowledge and experience
- Inadequate knowledge of the patient
- Inadequate perception of risk
- Overworked or fatigued health care professionals
- Physical and emotional health issues
- Poor communication between health care professional and with patients

# Factors causing medication errors

## Factors associated with patients

- Patient characteristics (e.g., personality, literacy and language barriers)
- Complexity of clinical case, including multiple health conditions, polypharmacy and high-risk medications

## Factors associated with the work environment

- Workload and time pressures
- Distractions and interruptions (by both primary care staff and patients)
- Lack of standardized protocols and procedures
- Insufficient resources
- Issues with the physical work environment (e.g., lighting, temperature and ventilation)

# Factors causing medication errors

## Factors associated with medicines

- Naming of medicines
- Labelling and packaging

