

# Prescription Order Entry

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## Prescription Order Entry

- Transcription of your supervising physician's verbal orders into the patient's medical records may be *one of the most frequent tasks you perform!*
- **Many MAs now act as a type of "medical scribe".**
  - Prescription information verbalized by the provider is in turn entered into the medical record by staff.
- For practices utilizing *electronic medical records* (EMR), this process is known as "CPOE".
  - **Computerized Physician Order Entry**
    - **Major** focus of Meaningful Use!

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## Prescription Order Entry

### Why Is This Important?

- As many as **1 in 4** ambulatory care (outpatient) clinic patients suffer an *Adverse Drug Event (ADE)*.<sup>1</sup>
- Cost of medication errors occurring in outpatient clinics alone is estimated at nearly \$5 billion/year.<sup>2</sup>
- Estimated **7,000 deaths** occur every year as a result of preventable medication errors.<sup>3</sup>

1) Gandhi TK, Weingart SN, Borus J, et al. Adverse drug events in ambulatory care. *N Engl J Med* 2003;348:1556-1564.  
2) Berwick DM, Winickoff DE. The truth about doctors' handwriting: a prospective study. *BMJ* 1996;313:1657-1658.  
3) Institute of Medicine (IOM). *To Err is Human: Building a Safer Health System*. Washington, DC: National Academy Press; 1999.

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## Prescription Order Entry

### Written Prescription Components

- *Patient Name*
- *Medication Name*
- *Strength*
- *Formulation*
- *Quantity (Per Dose)*
- *Route of Delivery*
- *Frequency of Dose*
- *Duration*
- *Total To Dispense*
- *Refills*

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## Prescription Order Entry

### Written Prescription Components

- *Patient Name*
  - **Date of birth (DOB)** is typically the best method of distinguishing "same name" patients from one another.
  - Other considerations include:
    - **Middle Initial**
    - **Address**
    - **Date of Last Visit**

**WHAT IF "SULFA-ALLERGIC MARY WILLIAMS" WERE MISTAKENLY PRESCRIBED BACTRIM?**

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The screenshot shows a 'Patient Lookup' window with a search bar containing 'williams, mary'. The search criteria are set to 'Name' and 'by'. The results table shows three entries for 'Williams, Mary' with different dates of birth and last visits.

ID#	Name	DOB	Phone	Account No.	Last Appointment	Physician Name
1	Williams, Mary	05/10/1971	507-234-1234	507-234-1234	05/10/2011	
2	Williams, Mary	12/08/1971	507-234-1234	507-234-1234	12/08/2014	
3	Williams, Mary	12/10/1971	507-234-1234	507-234-1234	12/10/2014	

## Prescription Order Entry

### Written Prescription Components

- *Medication Name*
  - In dermatology, we're fortunate to only prescribe a *fraction* of the **thousands** of medications available.

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## Prescription Order Entry

### Written Prescription Components

- *Strength*
  - **Systemic Medications**
    - Pills, Tablets, Etc.
      - Almost always *milligrams (mg)*.
      - e.g., Doxycycline 100 mg
    - Liquids
      - Generally measured in *mg/ml*.
      - e.g., Cetirizine 5 mg / 5 ml
  - **Topical Medications**
    - Almost always as *percentage/concentration*.
    - e.g., Tretinoin 0.025%

5 ml = 1 tsp

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## Prescription Order Entry

### Written Prescription Components

- *Formulation*
  - **Systemic Medications**
    - Pill, Capsule, Liquid, etc.
    - e.g., Fluconazole 150 mg *Capsules*
  - **Topical Medications**
    - Ointment, Cream, Lotion, Solution, Foam, etc.
      - aka, "Medication Vehicle" (reviewed elsewhere in the ACDT course).
    - e.g., Clindamycin 1% *Solution*
    - **Formulation of topical medications is always important.**

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## Prescription Order Entry

### Written Prescription Components

- *Quantity (Per Dose)*
  - **Systemic Medications**
    - Pills/Capsules
      - The *number* taken per dose.
      - e.g., "Take One", or "Take Two", etc.
    - Liquids
      - The *volume* of medication per dose, usually as "**tsp**" or "**ml**".
      - e.g., "Take ½ Teaspoon", or "Take 2 ML".
    - Injectables
      - The volume of medication per dose, usually as "**ml**" or "**cc**".
      - e.g., "Inject 0.5 ml".

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## Prescription Order Entry

### Written Prescription Components

- *Quantity (Per Dose)*
  - **Topical Medications**
    - A specific "quantity per dose" is *usually not* indicated.
      - General terms often used instead.
      - e.g., "Apply As Directed"
    - *Sometimes* more specific instructions are indicated.
      - e.g., "Apply One Pea-Sized Drop"

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## Prescription Order Entry

### Written Prescription Components

- *Route of Delivery*
  - **Systemic Medications**
    - Oral
      - "Orally", "By Mouth", and "PO" *all mean the same!*
      - "PO" is an abbreviation for the Latin *per os*, meaning "by way of the mouth".
      - e.g., "Take One PO".
    - Injectables
      - "Subcutaneously", "SQ", Sub-Q, and "SC" are all used to describe injections *under the skin*.
      - » e.g., "Inject 0.5 ML SQ".
      - "Intramuscularly" or "IM" means *within the muscle*.

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## Prescription Order Entry

### Written Prescription Components

- *Frequency of Dose*
  - “Plain English” Method
    - e.g., “Once Daily”, “Twice A Day”, “Three Times/Week”, etc.
    - This method is increasingly favored since it provides **least ambiguous** method of describing how often a medication is to be used.
  - Latin Abbreviations [\[Described Here On Wikipedia\]](#)
    - QD (*quaque die*) means “once a day”.
    - BID (*bis in die*) means “twice a day”.
    - TID (*ter in die*) means “three times a day”.
    - QID (*quater in die*) means “four times a day”.
    - QAM (*quaque die ante meridiem*) means “every morning”.
    - QHS (*quaque hora somni*) means “every evening”.

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## Prescription Order Entry

### Written Prescription Components

- *Duration*
  - How long is the prescribed quantity **supposed to last**?
    - e.g., “14 Days”, “30 Day Supply”, etc.

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Clobetasol Propionate Cream 0.05 % To Affected Area  
Disp: \*\*\*60 GM\*\*\* (SIXTY)  
Sig: Apply As Directed BID x 2 Weeks **14 Day Supply**  
Diagnosis:

**Until the specified duration has passed, the patient may not be able to refill the prescription - nor will insurance be willing to pay for the refill!**

## Prescription Order Entry

### Written Prescription Components

- *Total To Dispense*
  - **How much** medicine should be provided?
  - *For example...*
    - An antibiotic to be taken BID for one month would be written to dispense “60 Tablets” (#60).
    - An *Efudex*® prescription to be applied QD x 3 weeks to the face may be written to dispense “40 GM”.
    - A patient receiving a *Stelara*® injection every 3 months may be prescribed a dispense quantity of “0.5 ML”.

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## Prescription Order Entry

### Written Prescription Components

- *Refills*
  - **Always confirm** the number of refills authorized by your supervising dermatologist before sending prescription!
  - *What if too many refills were authorized for a patient who then becomes noncompliant with f/u visits or lab monitoring?*
    - **TOPICAL STEROIDS**
      - Steroid Atrophy
    - **SYSTEMIC ANTIFUNGALS**
      - Liver Damage
    - **DAPSONE**
      - Anemia

*Just A Few Examples!*

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# Medication Error Avoidance

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## Prescription Order Entry

### Medication Error Avoidance

*As a medical assistant, you...*

- **Are not responsible** for exercising independent clinical judgment with regard to medication selection.
- **Are responsible for-**
  - 1) Accurately entering the prescription details as communicated by your supervising physician.
  - 2) Recognizing and acting upon any *Clinical Decision Support* (CDS) alerts intended to prevent errors.

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## Prescription Order Entry

### Medication Error Avoidance

*To Prevent Errors, You Should...*

- **Enter medication name and directions precisely as described by your supervising physician.**
  - **Pay attention** while your SP is describing the treatment plan and directions.
  - Don't be afraid to ask if you're not sure!

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## Prescription Order Entry

### Medication Error Avoidance

*To Prevent Errors, You Should...*

- **Beware of "sound-alikes"!**
  - Pay attention and don't be afraid to ask if unsure!

**Did the doctor say "Fluorouracil" or "Fluocinonide"?**

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## Prescription Order Entry

### Medication Error Avoidance

*To Prevent Errors, You Should...*

- **Beware of "sound-alikes"!**
  - Pay attention and don't be afraid to ask if unsure!

**Did the doctor say "Hydroxyzine" or "Hydralazine"?**

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## Prescription Order Entry

### Medication Error Avoidance

*To Prevent Errors, You Should...*

- **Avoid confusing terminology.**
  - Abbreviations, acronyms, and "shorthand" were designed to speed up the *handwriting* process!
  - *For example-*
    - Instead of entering "QD", write "Once Daily".
    - Rather than write "TIW", say "Three Times Per Week".

**WHEN IN DOUBT, JUST SPELL IT OUT!**

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## Prescription Order Entry

### Medication Error Avoidance

*To Prevent Errors, You Should...*

- **Avoid "trailing zeros".**
  - e.g., Entering **25.0 MG** may be confused for **250 MG**

A zero at the end doesn't add any clarification!  
In this example, simply writing 25 MG would better.

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## Prescription Order Entry

### Medication Error Avoidance

To Prevent Errors, You Should...

- Include “leading zeros”.
  - e.g., Entering .1% may be confused for 1%

A leading zero *does* add clarification!  
In this example, entering 0.1% would be safer.

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## Prescription Order Entry

### Medication Error Avoidance

To Prevent Errors, You Should...

- **Recognize and Take Action When Presented Important Clinical Decision Support (CDS) Alerts!**
  - These are the “pop-up” alerts we sometimes see after a prescription is entered.
  - Unfortunately, not all CDS alerts are equally important, which can lead to “pop-up fatigue”.
    - *Your practice should establish a protocol which ensures patient safety while avoiding unnecessary concern over insignificant CDS alerts!*

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For example...

A patient is prescribed Doxycycline, but the physician didn't realize that he has reported a past history of “hive-like” reaction to Minocycline.

Drug Interaction

Drug To Drug Interaction - NONE

Drug To Allergy Interaction

Patient Allergy	Allergy Class	Allergy Type	Alert Severity
Minocycline HCl	Tetracyclines & Related	Severe	Major
Minocycline HCl		Severe	Major

Precaution Results - NONE

Age based Criteria Results - NONE

Drug To Food Interaction

Drug	Food Class	Severity	Food Warning
Doxycycline Hydrate Oral Capsule 100 MG	Food	Moderate	The gastrointestinal absorption as well as the antimicrobial effectiveness of Doxycycline Hydrate Oral Capsule 100 MG may be decreased when given with milk, dairy products or other calcium-rich foods. Efficacy against <i>Helicobacter pylori</i> is not impaired by food.
Doxycycline Hydrate Oral Capsule 100 MG	Alcoholic Beverages	Minor	The antimicrobial effectiveness of Doxycycline Hydrate Oral Capsule 100 MG may be decreased in patients who chronically take moderate to large amounts of Alcoholic Beverages.

Source: Issue Date: October 3, 2012

For example...

A patient is being prescribed Methotrexate, but the physician didn't notice that she is taking aspirin every day.

Drug Interaction

Drug To Drug Interaction

Drug 1	Drug 2	Severity	Alert Severity
St Joseph Adult Low Dose Oral Tablet Chewable 75 MG	Methotrexate Oral Tablet 2.5 MG	Severe	Major

Precaution Results - NONE

Age based Criteria Results - NONE

Drug To Food Interaction

Drug	Food Class	Severity	Food Warning
Methotrexate Oral Tablet 2.5 MG	Alcoholic Beverages	Minor	Alcoholic Beverages may increase the risk of hepatotoxicity induced by Methotrexate Oral Tablet 2.5 MG.
St Joseph Adult Low Dose Oral Tablet Chewable 75 MG	Food	Minor	Analgesic and antipyretic effects of St Joseph Adult Low Dose Oral Tablet Chewable 75 MG may be delayed and reduced by food.
St Joseph Adult Low Dose Oral Tablet Chewable 75 MG	Alcoholic Beverages	Minor	Gastrointestinal blood loss due to St Joseph Adult Low Dose Oral Tablet Chewable 75 MG may be increased by Alcoholic Beverages. St Joseph Adult Low Dose Oral Tablet Chewable 75 MG may increase the blood concentration of alcohol consumed in the fed state.

Source: Issue Date: October 3, 2012



*For example...*

**A patient comes in for Psoriasis follow-up and refills of Clobetasol Cream. While here, he happens to have an abscess which needs I&D.**

The screenshot shows a window titled "Drug Interaction" with a sub-header "Drug To Drug Interaction - NONE". Below this is a section for "Precaution Results" which contains a table with four columns: Drug, Condition, Action, and Clinical Description. The table lists three entries for Clobetasol Propionate External Cream 0.05% with conditions like Cellulitis, Cellulitis at Injection Site, and Tissue Cellulitis, all with an "Extreme caution" action. A fourth entry for Staphylococcal Cellulitis has a "Use cautiously" action. Below the table are sections for "Age based Criteria Results - NONE" and "Drug To Food Interaction - NONE". At the bottom, there is a "Source" section with "Issue Date: October 3, 2012", "Database Edition: 12.4.1.001", and "Copyright © 2012 Wolters Kluwer Health, Inc.". There are also buttons for "Print Preview", "Print", and "Close".

Drug	Condition	Action	Clinical Description
Clobetasol Propionate External Cream 0.05 %	Cellulitis	Extreme caution	Clobetasol Propionate External Cream 0.05 % should be used with extreme caution in Skin and Skin Structure Infection. Since Cellulitis is a more specific form of Skin and Skin Structure Infection, the same precaution may apply.
Clobetasol Propionate External Cream 0.05 %	Cellulitis at Injection Site	Extreme caution	Clobetasol Propionate External Cream 0.05 % should be used with extreme caution in Skin and Skin Structure Infection. Since Cellulitis at Injection Site is a more specific form of Skin and Skin Structure Infection, the same precaution may apply.
Clobetasol Propionate External Cream 0.05 %	Tissue Cellulitis	Extreme caution	Clobetasol Propionate External Cream 0.05 % should be used with extreme caution in Skin and Skin Structure Infection. Since Tissue Cellulitis is a more specific form of Skin and Skin Structure Infection, the same precaution may apply.
Clobetasol Propionate External Cream 0.05 %	Staphylococcal Cellulitis	Use cautiously	Clobetasol Propionate External Cream 0.05 % should be used cautiously in Bacterial Infection, especially in Systemic Bacterial Infection. Since Staphylococcal Cellulitis is a more specific form of Bacterial Infection, the same precaution may apply.

## Prescription Order Entry

### THE BOTTOM LINE

Although you *aren't* expected to make independent clinical decisions, you *are* expected to responsibly enter medication orders. **This means that you must:**

- **Accurately transcribe the  $R_x$  order as verbalized by your supervising MD.**
- **Heed any important CDS alerts.**