

# ISMP's List of *Error-Prone Abbreviations, Symbols, and Dose Designations*

The abbreviations, symbols, and dose designations found in this table have been reported to ISMP through the ISMP National Medication Errors Reporting Program (ISMP MERP) as being frequently misinterpreted and involved in harmful medication errors. They should **NEVER** be used when commu-

nicating medical information. This includes internal communications, telephone/verbal prescriptions, computer-generated labels, labels for drug storage bins, medication administration records, as well as pharmacy and prescriber computer order entry screens.

| Abbreviations   | Intended Meaning                          | Misinterpretation   | Correction  |
|---|---|---|---|
| µg  | Microgram                                 | Mistaken as "mg"  | Use "mcg"   |
| AD, AS, AU  | Right ear, left ear, each ear             | Mistaken as OD, OS, OU (right eye, left eye, each eye)  | Use "right ear," "left ear," or "each ear"                              |
| OD, OS, OU  | Right eye, left eye, each eye             | Mistaken as AD, AS, AU (right ear, left ear, each ear)  | Use "right eye," "left eye," or "each eye"                              |
| BT  | Bedtime                                   | Mistaken as "BID" (twice daily)   | Use "bedtime"   |
| cc  | Cubic centimeters                         | Mistaken as "u" (units)   | Use "mL"  |
| D/C   | Discharge or discontinue                  | Premature discontinuation of medications if D/C (intended to mean "discharge") has been misinterpreted as "discontinued" when followed by a list of discharge medications   | Use "discharge" and "discontinue"                                       |
| IJ  | Injection                                 | Mistaken as "IV" or "intrajugular"  | Use "injection"   |
| IN  | Intranasal                                | Mistaken as "IM" or "IV"  | Use "intranasal" or "NAS"   |
| HS  | Half-strength                             | Mistaken as bedtime   | Use "half-strength" or "bedtime"  |
| hs  | At bedtime, hours of sleep                | Mistaken as half-strength   |   |
| IU**  | International unit                        | Mistaken as IV (intravenous) or 10 (ten)  | Use "units"   |
| o.d. or OD  | Once daily                                | Mistaken as "right eye" (OD-oculus dexter), leading to oral liquid medications administered in the eye  | Use "daily"   |
| OJ  | Orange juice                              | Mistaken as OD or OS (right or left eye); drugs meant to be diluted in orange juice may be given in the eye   | Use "orange juice"  |
| Per os  | By mouth, orally                          | The "os" can be mistaken as "left eye" (OS-oculus sinister)   | Use "PO," "by mouth," or "orally"                                       |
| q.d. or QD**  | Every day                                 | Mistaken as q.i.d., especially if the period after the "q" or the tail of the "q" is misunderstood as an "i"  | Use "daily"   |
| qhs   | Nightly at bedtime                        | Mistaken as "qhr" or every hour   | Use "nightly"   |
| qn  | Nightly or at bedtime                     | Mistaken as "qh" (every hour)   | Use "nightly" or "at bedtime"   |
| q.o.d. or QOD**   | Every other day                           | Mistaken as "q.d." (daily) or "q.i.d. (four times daily) if the "o" is poorly written   | Use "every other day"   |
| q1d   | Daily                                     | Mistaken as q.i.d. (four times daily)   | Use "daily"   |
| q6PM, etc.  | Every evening at 6 PM                     | Mistaken as every 6 hours   | Use "daily at 6 PM" or "6 PM daily"                                     |
| SC, SQ, sub q   | Subcutaneous                              | SC mistaken as SL (sublingual); SQ mistaken as "5 every;" the "q" in "sub q" has been mistaken as "every" (e.g., a heparin dose ordered "sub q 2 hours before surgery" misunderstood as every 2 hours before surgery) | Use "subcut" or "subcutaneously"  |
| ss  | Sliding scale (insulin) or ½ (apothecary) | Mistaken as "55"  | Spell out "sliding scale;" use "one-half" or "½"                        |
| SSRI  | Sliding scale regular insulin             | Mistaken as selective-serotonin reuptake inhibitor  | Spell out "sliding scale (insulin)"                                     |
| SSI   | Sliding scale insulin                     | Mistaken as Strong Solution of Iodine (Lugol's)   |   |
| i/d   | One daily                                 | Mistaken as "tid"   | Use "1 daily"   |
| TIW or tiw  | 3 times a week                            | Mistaken as "3 times a day" or "twice in a week"  | Use "3 times weekly"  |
| U or u**  | Unit                                      | Mistaken as the number 0 or 4, causing a 10-fold overdose or greater (e.g., 4U seen as "40" or 4u seen as "44"); mistaken as "cc" so dose given in volume instead of units (e.g., 4u seen as 4cc)                     | Use "unit"  |
| UD  | As directed ("ut dictum")                 | Mistaken as unit dose (e.g., diltiazem 125 mg IV infusion "UD" misinterpreted as meaning to give the entire infusion as a unit [bolus] dose)  | Use "as directed"   |
| Dose Designations and Other Information                                   | Intended Meaning                          | Misinterpretation   | Correction  |
| Trailing zero after decimal point (e.g., 1.0 mg)**                        | 1 mg                                      | Mistaken as 10 mg if the decimal point is not seen  | Do not use trailing zeros for doses expressed in whole numbers          |
| "Naked" decimal point (e.g., .5 mg)**                                     | 0.5 mg                                    | Mistaken as 5 mg if the decimal point is not seen   | Use zero before a decimal point when the dose is less than a whole unit |
| Abbreviations such as mg. or mL. with a period following the abbreviation | mg<br>mL                                  | The period is unnecessary and could be mistaken as the number 1 if written poorly   | Use mg, mL, etc. without a terminal period                              |

**ISMP's List of Error-Prone Abbreviations, Symbols, and Dose Designations** (continued)

| Dose Designations and Other Information   | Intended Meaning   | Misinterpretation  | Correction   |
|---|--|--|--|
| Drug name and dose run together (especially problematic for drug names that end in "i" such as Inderal40 mg; Tegretol300 mg)  | Inderal 40 mg  | Mistaken as Inderal 140 mg   | Place adequate space between the drug name, dose, and unit of measure  |
|   | Tegretol 300 mg  | Mistaken as Tegretol 1300 mg   |  |
| Numerical dose and unit of measure run together (e.g., 10mg, 100mL)   | 10 mg<br>100 mL  | The "m" is sometimes mistaken as a zero or two zeros, risking a 10- to 100-fold overdose                       | Place adequate space between the dose and unit of measure  |
| Large doses without properly placed commas (e.g., 100000 units; 1000000 units)  | 100,000 units<br>1,000,000 units                                       | 100000 has been mistaken as 10,000 or 1,000,000; 1000000 has been mistaken as 100,000                          | Use commas for dosing units at or above 1,000, or use words such as 100 "thousand" or 1 "million" to improve readability |
| Drug Name Abbreviations   | Intended Meaning   | Misinterpretation  | Correction   |
| To avoid confusion, do not abbreviate drug names when communicating medical information. Examples of drug name abbreviations involved in medication errors include: |  |  |  |
| APAP  | acetaminophen  | Not recognized as acetaminophen  | Use complete drug name   |
| ARA A   | vidarabine   | Mistaken as cytarabine (ARA C)   | Use complete drug name   |
| AZT   | zidovudine (Retrovir)  | Mistaken as azathioprine or aztreonam  | Use complete drug name   |
| CPZ   | Compazine (prochlorperazine)   | Mistaken as chlorpromazine   | Use complete drug name   |
| DPT   | Demerol-Phenergan-Thorazine  | Mistaken as diphtheria-pertussis-tetanus (vaccine)   | Use complete drug name   |
| DTO   | Diluted tincture of opium, or deodorized tincture of opium (Paregoric) | Mistaken as tincture of opium  | Use complete drug name   |
| HCl   | hydrochloric acid or hydrochloride                                     | Mistaken as potassium chloride (The "H" is misinterpreted as "K")  | Use complete drug name unless expressed as a salt of a drug  |
| HCT   | hydrocortisone   | Mistaken as hydrochlorothiazide  | Use complete drug name   |
| HCTZ  | hydrochlorothiazide  | Mistaken as hydrocortisone (seen as HCT250 mg)   | Use complete drug name   |
| MgSO4**   | magnesium sulfate  | Mistaken as morphine sulfate   | Use complete drug name   |
| MS, MSO4**  | morphine sulfate   | Mistaken as magnesium sulfate  | Use complete drug name   |
| MTX   | methotrexate   | Mistaken as mitoxantrone   | Use complete drug name   |
| NoAC  | novel/new oral anticoagulant   | No anticoagulant   | Use complete drug name   |
| PCA   | procainamide   | Mistaken as patient controlled analgesia   | Use complete drug name   |
| PTU   | propylthiouracil   | Mistaken as mercaptopurine   | Use complete drug name   |
| T3  | Tylenol with codeine No. 3   | Mistaken as liothyronine   | Use complete drug name   |
| TAC   | triamcinolone  | Mistaken as tetracaine, Adrenalin, cocaine   | Use complete drug name   |
| TNK   | TNKase   | Mistaken as "TPA"  | Use complete drug name   |
| TPA or tPA  | tissue plasminogen activator, Activase (alteplase)                     | Mistaken as TNKase (tenecteplase), or less often as another tissue plasminogen activator, Retavase (retaplase) | Use complete drug names  |
| ZnSO4   | zinc sulfate   | Mistaken as morphine sulfate   | Use complete drug name   |
| Stemmed Drug Names  | Intended Meaning   | Misinterpretation  | Correction   |
| "Nitro" drip  | nitroglycerin infusion   | Mistaken as sodium nitroprusside infusion  | Use complete drug name   |
| "Norflex"   | norfloxacin  | Mistaken as Norflex  | Use complete drug name   |
| "IV Vanc"   | intravenous vancomycin   | Mistaken as Invanz   | Use complete drug name   |
| Symbols   | Intended Meaning   | Misinterpretation  | Correction   |
| ♁   | Dram   | Symbol for dram mistaken as "3"  | Use the metric system  |
| ℥   | Minim  | Symbol for minim mistaken as "mL"  |  |
| x3d   | For three days   | Mistaken as "3 doses"  | Use "for three days"   |
| > and <   | More than and less than  | Mistaken as opposite of intended; mistakenly use incorrect symbol; "< 10" mistaken as "40"                     | Use "more than" or "less than"   |
| / (slash mark)  | Separates two doses or indicates "per"                                 | Mistaken as the number 1 (e.g., "25 units/10 units" misread as "25 units and 10" units)                        | Use "per" rather than a slash mark to separate doses   |
| @   | At   | Mistaken as "2"  | Use "at"   |
| &   | And  | Mistaken as "2"  | Use "and"  |
| +   | Plus or and  | Mistaken as "4"  | Use "and"  |
| °   | Hour   | Mistaken as a zero (e.g., q2° seen as q 20)  | Use "hr," "h," or "hour"   |
| ∅ or ∅  | zero, null sign  | Mistaken as numerals 4, 6, 8, and 9  | Use 0 or zero, or describe intent using whole words  |

\*\*These abbreviations are included on The Joint Commission's "minimum list" of dangerous abbreviations, acronyms, and symbols that must be included on an organization's "Do Not Use" list, effective January 1, 2004. Visit [www.jointcommission.org](http://www.jointcommission.org) for more information about this Joint Commission requirement.