



HOSPITAL PHARMACY STANDARDS OF PRACTICE 4

Case Report form, Common Abbreviations and Some
Important Equations
Summer 2022

Abbreviations:

- Abbreviations, can be a common source of confusion for healthcare providers.
- An unclear, poorly written or wrong medical abbreviation that leads to misinterpretation is one of the most common and preventable causes of medication errors.
- Should be standardized across the facility.

Demographics



Demographic and Admission Data				
Name:.....		Patient ID:.....		
Age:.....		MD:.....		
Date of admission:.....		Discharge Date:.....		
Height:.....	Wight:.....	Ward:.....	Room:.....	Bed:.....
Allergies:.....	Vaccines(up to age):	Clr:.....ml/min/1.73m2		

Common Abbreviations in Demographics

-
- Ht.: height
- Wt.: weight
- NKDA: no known drug allergies
- IBW: ideal body weight
- ABW: actual body weight also could mean adjusted body weight
- BMI: body mass index
- BSA: body surface area
- MD: medical doctor
- DOB: date of birth
- ClCr: Creatine Clearance
- GFR: Glomerular filtration rate

Some Equations

- IBW= in men $50 + (0.91 \times [\text{height in centimeters} - 152.4])$
in women as $45.5 + (0.91 \times [\text{height in centimeters} - 152.4])$
- Adjusted BW= $IBW + 0.4 \times (ABW - IBW)$
- $BSA = \sqrt{\frac{Ht \text{ (cm)} \times Wt \text{ (kg)}}{3600}}$
- $BMI = \text{weight (kg)} \div \text{height}^2 \text{ (meters)}$
- $CrCl^* = \frac{[140 - \text{age (year)}] \times \text{weight (kg)}}{[72 \times \text{serum Cr (mg/dL)}]}$ (x0.85 for women).

History of present illness (HPI), Acute and Chronic Diseases

[illegible]

Common Abbreviations

- AAA abdominal aortic aneurysm (called a "triple-A")
- BPH: benign prostatic hypertrophy
- C: with
- C.C.: chief complaint
- c/o: complaints of
- h/o: history of
- CABG: coronary artery bypass graft
- CAD: coronary artery disease
- CF: cystic fibrosis
- CNS central nervous system
- CXR chest x-ray
- UTI: urinary tract infection
- DKA diabetic ketoacidosis
- DM diabetes mellitus
- DVT deep vein thrombosis
- GERD: gastroesophageal reflux disease
- GI: gastrointestinal
- UGB: upper gastrointestinal bleeding
- HTN: hypertension
- Hx: history
- N/V, N&V: nausea and vomiting
- RA: rheumatoid arthritis
- STD: sexually transmitted disease
- ER: emergency room

Vitals

Vital Signs (Use a separate page necessary for modifying drug therapy if needed)											
Date											RR.
weight											
Temp.											
BP											
Pulse											
R.R											
O2 sat											

Common abbreviations

- BP: blood pressure
- BS: blood sugar (RBS, Random FBS, Fasting)
- RR: respiratory rate
- HR: heart rate
- F: Fahrenheit
- C: Celsius
- O₂ Sat: oxygen saturation
- T: temperature
- mm Hg: millimeters of mercury

Some Equations

- $MAP = DBP + 1/3(SBP - DBP)$
 - MAP: mean arterial blood pressure
 - DBP: diastolic blood pressure
 - SBP: systolic blood pressure

Labs:

[illegible][illegible]

Common abbreviations

- ALT: alanine aminotransferase
- AST: aspartate aminotransferase
- LFT: liver function tests
- aPTT: activated partial thromboplastin time
- INR: international normalized ration
- CBC: complete blood count
- FBS: fasting blood sugar
- Fe: Iron
- GTT: glucose tolerance test
- HCT, or Hct: hematocrit
- IU: international unit(s)
- Na: sodium
- Ng or ng: nanogram
- WBC: white blood cell
- K: potassium
- LDL: low-density lipoprotein
- mEq: milliequivalent
- mEq/L: milliequivalent per liter
- Mg: magnesium
- Mg: milligram
- mcg, μg : microgram
- MgSO_4 : magnesium sulfate
- mL: milliliter
- Mm: millimeter
- mMol: millimole

Some Equations

- Corrected sodium = measured sodium + $[1.6 (\text{glucose} - 100) / 100]$
- Corrected Calcium mg/dL = $(0.8 * (\text{Normal Albumin} - \text{Patient's Albumin})) + \text{Serum Ca}$
- $\text{INR} = \left(\frac{\text{Patient PT}}{\text{Control PT}} \right)^{\text{ISI}}$
- $\text{HcT} \approx (\text{RBC} * \text{MCV}) / 10$ or $\text{Hemoglobin(Hgb)} * 3$
- Absolute neutrophilic count (ANC) = $(\text{total WBC} * \% [\text{neutrophils} + \text{bands}]) \div 100$
- Osmolality = $\text{sodium} * 2 + \text{glucose} / 18 + \text{bun} / 2.8$

Drug Serum Concentrations

Drug	Serum Concentration	Reference

IV fluids calculations:

.....
.....
.....
.....
.....
.....
.....
.....
.....

❖ Some drugs that need drug serum concentration monitoring:

Class	Medicine Names
Antibiotics	vancomycin, gentamycin, amakacin
Antiarrhythmics	digoxin, procainamide, lidocaine
Anti-seizure drugs	phenytoin, phenobarbital
Immunosuppressants	cyclosporine, tacrolimus
Bipolar drugs	lithium, valproic acid

Some equations

- Maintenance fluid : 100 ml/kg for the 1st 10 kg of wt.
50 ml/kg for the 2nd 10 kg of wt.
20 ml/kg for the remaining wt.
- Fluid deficit* (mL) = % dehydration x weight (kg) x 10 or weight *0.6 *(1-140/Na) or 140-Na/3

Date (start/stop)	Name (Brand)	Dose		Indication		S/E	Monitoring
		current		current			
Start: Stop:							

Abbreviations

- A: before
- A.M.: morning
- AAA: apply to affected area
- Ac: before meals
- AD: right ear
- am, A.M.: in the morning; before noon
- Amp: ampule
- APAP: acetaminophen
- a.s., AS: left ear
- ASA: aspirin
- AU: each ear; both ears
- bid, BID: twice a day
- cap.: capsule
- CR: controlled-release
- cr, crm: cream
- D/C, dc, disc.: discontinue OR discharge
- D5 1/2/NS 5%: dextrose and half normal saline solution (0.45% NaCl)
- D5W: 5% dextrose in water
- dil.: diluted
- EC: enteric-coated
- elix.: elixir
- emuls.: emulsion
- ER: extended-release
- fl or fld: fluid
- HS: half-strength
- hs or HS: at bedtime, hours of sleep
- ID: intradermal OR infectious disease
- IM: intramuscular
- IN: intranasal
- Inf: infusion
- inj.: injection
- IP: intraperitoneal
- IR: immediate-release

Abb. Cont.

- IUD: intrauterine device
- IV: intravenous
- Lot: lotion
- LR: lactated ringer (solution)
- MDI: metered-dose inhaler
- MR: modified-release
- n or noct.: in the night
- N/A: not available
- NSAID: nonsteroidal anti-inflammatory drug
- NS: normal saline
- OC: oral contraceptive
- o.d.,: OD right eye
- o.s., OS: left eye
- OTC: over-the-counter
- Pc: after meals
- PRN: as needed
- PM: evening
- PO: orally or by mouth
- q: every
- q4h: every 4 hours
- q6h: every 6 hours
- q8h: every 8 hours
- q12h: every 12 hours
- qam: every morning
- qd, QD, q.d., Q.D.: every day
- qhs: each night at bedtime
- q.i.d. , QID: four times a day
- qod, QOD, q.o.d., or Q.O.D.: every other day

Abb cont.

- Rx: prescription
- SL, s.l.: sublingual (under the tongue)
- SC, SQ sq, or sub q: subcutaneous or subcutaneously
- SR: sustained release
- Supp: suppository
- Susp: suspension
- Syr: syrup
- tbsp or Tbsp: tablespoon
- TID, t.i.d.: three times a day
- top.: topical
- Tsp: teaspoon
- ud, ut, dict, UD: as directed
- XR: extended-release

Abbreviations That Should NEVER be Used When Communicating Medical Information

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"

Child-Pugh Score

- The Child-Pugh scoring system (also known as the Child-Pugh-Turcotte score) was designed to predict mortality in cirrhosis patients.
- Three categories:
A - good hepatic function,
B - moderately impaired hepatic function,
C - advanced hepatic dysfunction

Clinical and Lab Criteria	Points*		
	1	2	3
Encephalopathy	None	Mild to moderate (grade 1 or 2)	Severe (grade 3 or 4)
Ascites	None	Mild to moderate (diuretic responsive)	Severe (diuretic refractory)
Bilirubin (mg/dL)	< 2	2-3	>3
Albumin (g/dL)	> 3.5	2.8-3.5	<2.8
Prothrombin time			
Seconds prolonged	<4	4-6	>6
International normalized ratio	<1.7	1.7-2.3	>2.3
Child-Turcotte-Pugh Class obtained by adding score for each parameter (total points)			
Class A = 5 to 6 points (least severe liver disease)			
Class B = 7 to 9 points (moderately severe liver disease)			
Class C = 10 to 15 points (most severe liver disease)			

HAS-BLED bleeding risk score

- HAS-BLED scoring system was developed to assess the risk of major bleeding.
- A score of 0 indicates low risk for bleeding, 1–2 indicates moderate risk, and ≥ 3 indicates high risk.

H ☐ **Hypertension** -(systolic blood pressure >160 mmHg) (Points: 1)

A ☐ **Abnormal renal function** (defined as the presence of chronic dialysis or renal transplantation

or serum creatinine $\geq 200\mu\text{mol/L}$ ($>\sim 2.3$ mg/dL)) (Points: 1)

☐ **Abnormal liver function** (defined as chronic hepatic disease (eg. cirrhosis) or biochemical

evidence of significant hepatic derangement (eg. bilirubin $>2\times$ upper limit of normal, in association

with AST/ALT/ALP $>3\times$ upper limit normal) (Points: 1)

S ☐ **Stroke** (Previous history of stroke) (Points: 1)

B ☐ **Bleeding** (Major bleeding history (anemia or predisposition to bleeding)) (Points: 1)

L ☐ **Labile INRs** (refers to unstable/high INRs or poor time in therapeutic range(eg $<60\%$)) (Points: 1)

E ☐ **Elderly** (age ≥ 65) (Points: 1)

D ☐ **Drug Therapy** (concomitant therapy such as antiplatelet agents, NSAID's) (Points: 1)

☐ **Alcohol intake** (consuming 8 or more alcoholic drinks per week) (Points: 1)

Padua score

- Used to estimate risk of venous thromboembolism (VTE) in hospitalized medical patients.
- ≥ 4 points indicates high risk and so thromboprophylaxis must be applied.

Items	Score
Active cancer (metastases and/or chemoradiotherapy in the previous 6 months)	3
Previous VTE (with the exclusion of superficial vein thrombosis)	3
Bedrest for ≥ 3 days	3
Thrombophilia	3
Recent (≤ 1 month) trauma and/or surgery	2
Elderly age (≥ 70 years)	1
Heart and/or respiratory failure	1
Acute myocardial infarction or ischemic stroke	1
Acute infection and/or rheumatologic disorder	1
Obesity ($\text{BMI} \geq 30 \text{ kg/m}^2$)	1
Ongoing hormonal treatment	1

Dosing:

- In scientific references, doses are usually given in mg, mEq, IU,
- However, in most cases, especially for parenteral preparations, the final order is expressed as volume (in ml, cc, drops per time)

Dosing cont.

- Assuming our patient has a pulmonary embolism and treatment with heparin is indicated, consider the following steps when deciding on the correct dose:
 - Refer to a reliable reference (e.g., Lexicomp) and verify the dose for the stated indication.
 - Review the preparations available at the facility and their strengths.
 - Check the administration and compatibility
 - Check the capacity of the administration devices

Dosing

So, if our patient weighs 70 kg, the needed maintenance dose is 18 IU/kg/hr

* 70 kg = **1260 IU/hr**

[PHAR4101](#)

Venous thromboembolism treatment, deep vein thrombosis and/or pulmonary embolism: Note: IV heparin may be preferred for initial therapy in patients who are hemodynamically unstable, may need invasive procedures or thrombolysis due to extensive clot burden, are obese, have renal failure, or when rapid reversal of anticoagulation may be needed (Lip 2022). If thrombolytics are used, it is recommended to discontinue heparin during administration then resume upon completion of the thrombolytic infusion (ASH [Ortel 2020]); Tapson 2019).

*Inpatient treatment: **IV:*** Initial: 80 units/kg bolus followed by a continuous infusion of 18 units/**kg**/hour **or** 5,000 unit bolus followed by 1,333 units/hour; adjust infusion rate to maintain target laboratory values based on institutional protocol (ACCP 16, 2015).

Dosing

it's compatible
with N/S, and
wee need a
pump syringe

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Trissel's IV Compatibility

🔍 Filter result

Solution

Study 1



- **Heparin sodium**
10 units/mL
- **NS (Normal Saline) - Sodium Chloride 0.9%**



Study 2



- **Heparin sodium**
1 unit/mL
- **NS (Normal Saline) - Sodium Chloride 0.9%**



Study 3



- **Heparin sodium**
1 unit/mL
- **NS (Normal Saline) - Sodium Chloride 0.9%**



Study 4



- **Heparin sodium**
10 units/mL
- **NS (Normal Saline) - Sodium Chloride 0.9%**



Study 5

Lexi-Drugs / Heparin

Administration: IV

Continuous IV infusion: Infuse via infusion pump.
If preparing solution, mix thoroughly prior to administration.

Heparin lock: Inject via injection cap using positive pressure flushing technique. Heparin lock flush solution is intended only to maintain patency of IV devices and is **not** to be used for anticoagulant therapy.

Central venous catheters: Must be flushed with heparin solution when newly inserted, daily (at the time of tubing change), after blood withdrawal or transfusion, and after an intermittent infusion through an injectable cap. A volume of at least 10 mL of blood should be removed and discarded from a heparinized line before blood samples are sent for coagulation testing.

Do **not** administer IM due to pain, irritation, and hematoma formation.

Dosing

Suppose our pump syringe capacity is 50 ml

If we dilute a 5 ml vial of 500IU/ml heparin in 50 ml, the final concentration become $(5 \times 5000 \text{ IU}) / 50 \text{ ml} = 500 \text{ IU/ml}$

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بحث

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المجموعة	Processing	الاسم	الكود
Medicines affecting the blood			
Medicines affecting coagulation	Vial:5000 IU/ml (5ml)	Heparin sodium	M-112-0005



Dosing

- The final dose in ml would be $(1260 \text{ IU/hr}) / (500 \text{ IU/ml}) = \mathbf{2.52 \text{ ml/hr}}$
- **Note: for many drugs, the dose might need to be adjusted based on certain laboratory or clinical parameters, for heparin we need to adjust the dose to reach a target aPTT**

○ Thank you 😊