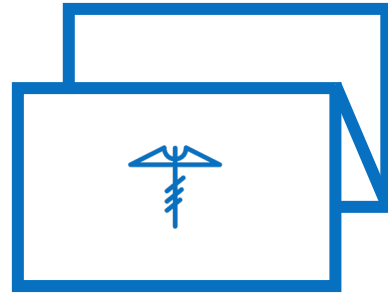


Inpatient Pocket Cards



tinyurl.com/InptPCS

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For additional resources go to
tinyurl.com/InptPCSResources

*This material is educational and does not represent medical advice.
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Pre-Rounding Guide	
Overnight Events	Night float signout, nursing notes
Interdisciplinary Notes	Review original note and any addendum
Vital Signs	Trends and ranges (min and max) values
I/O and Weights	Input: Oral, IV, via feeding tube Output: Urine, stool, drains, ostomy, hemodialysis Weight trends
Labs	Include trends Review pending/send-out labs Consider which ones are truly needed on daily basis
Radiology	Review images yourself Note if interpretation is preliminary or final
Microbiology	Bacterial culture not considered “negative” until at least 48 hours (does not finalize until day 5)
Pathology	Review initial stains and pending stains
Medication Administration Record (MAR)	IV fluids and drips
	Missed doses of medications (and reason for missed doses)
	Review medications that have expired/“fallen off”
	Review medications that need to be discontinued
	Overnight medications that were written by night float
	Pain medications
	Insulin requirements (and glucose ranges)
	Antibiotics received and start/end dates
Review if held/modified home meds can be restarted/returned back to home dose	
Cardiac Monitoring/Pulse Oximetry	Review telemetry Consider if cardiac monitoring and/or pulse oximetry needs to be continued
Tubes, Lines, Drains	Review dates of when these were placed Review indications for removal and/or replacement on daily basis

Daily Checklist

FEN/GI	<p>IV fluids (put end-time/total amount and review daily)</p> <p>Indications for NPO</p> <ul style="list-style-type: none"> <input type="checkbox"/> Upcoming procedure <input type="checkbox"/> PET scan (also avoid dextrose-containing IV fluids – review <u>all</u> IV meds) <input type="checkbox"/> Concern for aspiration of <u>all</u> PO intake (including medications) <input type="checkbox"/> Avoid caffeine prior to regadenoson stress testing^a
DVT prophylaxis^b	<ul style="list-style-type: none"> <input type="checkbox"/> SCDs <input type="checkbox"/> Enoxaparin subQ if CrCl >30 (hold 24 hours before most procedures) <input type="checkbox"/> Heparin subQ if CrCl <30 (hold 12 hours before most procedures) <input type="checkbox"/> Contraindications: active bleeding, low platelet count,
Stress ulcer prophylaxis^c	<p>Indications (for critically ill patients)</p> <ul style="list-style-type: none"> <input type="checkbox"/> On mechanical ventilator for ≥ 48 hours <input type="checkbox"/> Coagulopathy (INR >1.5, plt <50) <input type="checkbox"/> High-dose/chronic steroid or NSAID use <input type="checkbox"/> Recent GI bleed
Code status^d	Options include: Full, DNR/never intubate, DNR/okay to intubate, compressions okay/never intubate

Disposition Checklist

- Update family/DPOA on status of patient
- Fill out/update POLST form (if indicated)
- Post-hospitalization living situation
- Insurance for meds (prior authorization) and nursing homes
- Post-discharge transportation
- Equipment at home for safety/function
- Outpatient referrals and appointments
- Consider need for prescriptions (new medications, refills)
- Discharge medication education
- Discharge summary (include pending inpatient labs that require outpatient follow-up)
- Outpatient labs (if needed) and identify provider responsible for results
- Handoff communication to accepting provider (PCP, SNFist, etc.)

a. Some centers require patients to be NPO prior to stress test simply due to policy

b. The FDA has approved some DOACs and fondaparinux as options as well

c. If a patient is on long-standing PPI or H₂-blocker therapy which cannot be discontinued due to symptoms or specific medical indication, this will suffice as stress ulcer prophylaxis. Consider de-prescribing if no indication

d. At the VA, patients cannot legally have mixed code status (if pulseless, patients must be Full Code or DNR/never intubate)

Signing Out to Covering Services		
Context	"Patient being actively diuresed for volume overload, anticipate arrhythmias from electrolytes"	
Concrete steps	<u>Patient-specific</u> How does my patient's care differ from typical management of common issues?	"Patient had cardiac arrest after beta blocker use, so if patient goes into A-fib with RVR, consider amiodarone" "Patient has an EF of 15% so be cautious with fluid administration"
	<u>Accelerated management</u> What information can be related to save time and accelerate care for the patient?	"Patient with QTc of 560, if nauseous, try trimethobenzamide or low-dose lorazepam" "Patient prefers omeprazole over lansoprazole"
Contingencies	Recent procedure and relevant complications	"Patient s/p ERCP, pancreatitis can occur"
	Logistical considerations	"Patient may need urgent IR intervention overnight, here is the number for the on-call IR fellow"
	Psychosocial challenges	"Patient lacks capacity to make decisions surrounding discharge planning"

Signouts are considered part of medical records

Conversing with a Consultant	
Preparation	Determine the consult question
	Obtain relevant information from the chart/patient
Presentation	Introduce yourself and your role clearly
	Deliver a concise relevant one-liner
	Always provide context
Plan of Action	Be honest
	Review steps that have been taken so far
	Formulate next steps with your consultant

"Hello, I am the resident on the inpatient medicine service, and I am here with my attending. We have a young patient with no past medical history who has been reporting melena for the past week and their Hgb is currently 10 g/dL (baseline of 14 g/dL based on chart review). We have not witnessed the melena and the patient just had a bowel movement, but we forgot to notify them to not flush it for us to examine it. We placed 2 large-bore peripheral IVs, completed a type and screen, are giving IV fluids, and started a PPI IV BID due to suspicion for upper GI bleed. Is an inpatient EGD appropriate? Are there additional steps that we should be taking right now? FYI the patient is expressing a desire to leave tomorrow as they are the sole caregiver for their children."

Some institutions have auto-consults (e.g., all with Type 1 Diabetes Mellitus automatically get an inpatient endocrinology consult); even so, make sure to do your due diligence before reaching out to the consultant

Anti-Emetic Regimen Guide

Class	Medication	Route	Common Side Effects	QT-Prolongation
Serotonin antagonists	Ondansetron (Zofran)	PO, IVP, IM, sublingual	Headache, constipation, drowsiness, diarrhea	✓
	Granisetron (Kytril, Sancuso)	PO, IV, transdermal		✓
Dopamine (DA) antagonists	Metoclopramide (Reglan)	PO, IVP, IM	Drowsiness, EPS, do not use if increased GI motility	✓
	Olanzapine (Zyprexa)	PO, IM, sublingual	EPS, hyperglycemia	✓
	Prochlorperazine (Compazine)	PO, IVP, PR	EPS, NMS	✓
	Haloperidol (Haldol)	PO, IM	EPS, constipation, dry mouth, blurred vision, somnolence	✓
	Chlorpromazine (Thorazine)	IM, IV	EPS, dry mouth	✓
Histamine antagonists	Diphenhydramine (Benadryl)	PO, IVPB, IVP	Dizziness, drowsiness, paradoxical excitation	✓
ACh antagonists	Scopolamine	PO, IVP, IM, transdermal	Bradycardia, flushing, thirst, xerostomia, urinary retention	✓
DA/Histamine/ACh antagonist	Promethazine (Phenergan)	PO, PR, IVP, IM	EPS, NMS, drowsiness, sedation, leukopenia, thrombocytopenia	✓
Neurokinin-1(NK-1) receptor antagonists	Aprepitant (Emend)	PO	Hiccups, bradycardia, neutropenia	
	Fosaprepitant (Ivemend)	IV	Angioedema, bradycardia, neutropenia	
Centrally acting	Dexamethasone	PO, IVP, IM	Leukocytosis, mood changes, adrenal suppression, hyperglycemia	
	Trimethobenzamide (Tigan)	PO, IM	EPS, disorientation, seizure	
	THC, dronabinol	PO	Hyperemesis, tachycardia, nystagmus, ataxia	
	Lorazepam (Ativan)	PO, IVP, IM	Respiratory depression	

When using multiple agents, avoid choosing from the same class

Bowel Regimen Guide

Class (Mechanism)	Medication	Side Effects
Osmotic agents (draws water into bowel, thereby loosening stool and promoting evacuation)	Polyethylene glycol	Nausea, bloating, cramping
	Lactulose	Abdominal bloating, flatulence
	Sorbitol	
	Glycerin	Rectal irritation
	Magnesium sulfate PO	Watery stools and urgency
	Magnesium citrate	
Stimulant laxatives	Bisacodyl	Rectal irritation
	Senna	Melanos coli
Bulk-forming laxatives (fiber absorbs excess water and stimulates elimination)	Psyllium	Impaction above strictures, fluid overload, gas, and bloating
Rectal distension	Tap water enema Fleet enema*	Discomfort during procedure

Avoid docusate as it does not help with constipation in hospitalized patients^a

*Fleet enemas contain phosphate and should be avoided in renal insufficiency

a. Robert J Fakheri, MD, Frank M Volpicelli, MD, Things We Do for No Reason: Prescribing Docusate for Constipation in Hospitalized Adults. *J. Hosp. Med* 2019;2;110-113. doi:10.12788/jhm.3124

Pharmacologic Pain Management Options

Class	Options
Anti-inflammatory	Acetaminophen (24 hours: <3-4g in healthy adults, <3g in CKD, <2g in liver disease or cirrhosis) Oral NSAIDs or IV ketorolac (avoid NSAIDs if CKD or ≥ 2 of the following risk factors: history of GI ulcer, age >60, on steroids, on ASA/anticoagulation)
Opioid	Hydrocodone, morphine, oxycodone, hydromorphone, fentanyl, tramadol, codeine
Topical	Lidocaine patch, menthol cream, lidocaine/prilocaine cream, capsaicin cream
Neuropathic agents	Gabapentin, pregabalin, SNRIs, TCAs
Anti-spasmodic	Baclofen, cyclobenzaprine, tizanidine

Opioid Conversion Table^{a,b,c}

Opioid	Equianalgesic dosing (mg)		Onset	Peak	t _{1/2}	Considerations
	IV, SC, IM	PO				
Morphine	10	25	IV: 5-10m PO: 30m	IV: 15m PO: 60m	2-4h	Avoid in renal failure, active metabolites
Hydromorphone	2	5	IV: 5m PO: 30m	IV: 10-20m PO: 60m	2-3h	Reduce dosing in hepatic dysfunction
Oxycodone	N/A	20	10-30m	1-2h	3-4h	Caution in hepatic dysfunction
Hydrocodone	N/A	25	10-30m	1-2h	4h	Caution in hepatic dysfunction
Fentanyl	0.15	n/a	1.5m	IV: 5-10min	2h	Preferred for hepatic/renal failure
Tramadol	N/A	120	1h	2h	6-8h	Risk for serotonin syndrome Can ↓ seizure threshold
Codeine	N/A	200	30m-1h	1-1.5h	3h	Prodrug metabolized to morphine in liver, variable metabolism

a. Different tables will reference different values. This table uses McPherson (Demystifying Opioid Conversion Calculations: A Guide for Effective Dosing, 2nd Edition by Dr. Mary Lynn McPherson PharmD, BCPS, CPE), while others utilize CDC guidance. Choose one and stick with it.

b. When rotating opioids, consider reducing equivalent dose by 25-50% to account for incomplete cross tolerance

c. If patients with renal failure, consider fentanyl, methadone or hydromorphone. Avoid morphine due to renally cleared metabolites

d. Kohan L, Potru S, Barrevel AM, Sprintz M, Lane O, Aryal A, Emerick T, Dopp A, Chhay S, Viscusi E. Buprenorphine management in the perioperative period: educational review and recommendations from a multisociety expert panel. Reg Anesth Pain Med. 2021 Oct;46(10):840-859. doi: 10.1136/rapm-2021-103007. Epub 2021 Aug 12. PMID: 34385292.

Buprenorphine/Naloxone (Suboxone) Pearls^d

Always continue in patients who have been taking prior to admission

If patient develops acute pain while on the medication, **split the same total daily dose** into q12h – q6h to utilize buprenorphine's analgesic window

If patient continues to have pain, **discuss ↑ total daily dose OR add a high-affinity full μ agonist** (such as hydromorphone or fentanyl) with assistance from pain medicine/addiction medicine

Continue this medication in the peri-operative setting; doses >16mg/day may be decreased in discussion with pain medicine

Discuss starting this medication with all hospitalized patients with opioid use disorder

Inpatient Blood Pressure Management Guide

Class	Route		Frequently Used Agents	Relative/Absolute Contraindications	Effect on ICP
	PO	IV			
β-blockers	✓	✓	Metoprolol, Carvedilol, Labetalol	Bradycardia, heart block, ADHF, COPD exacerbation	↔
ACEI/ARBs	✓	✓	Captopril, Enalaprilat (IV), Lisinopril, Valsartan	AKI, hyperkalemia, angioedema	↔
α2 agonists ^a	✓	✓	Clonidine	Severe bradycardia	↔
Nitrates ^a	✓	✓	Isosorbide dinitrate	Severe AS, PDE inhibitor use	↑
CCBs ^b	✓	✓	Nifedipine ER, Diltiazem, Amlodipine	HFrEF For non-dihydropyridines: Bradycardia, heart block	↔
Diuretics	✓	✓	Chlorthalidone, Hydrochlorothiazide, Spironolactone	AKI, hypovolemia, difficulty with transferring to urinate	↓
Vasodilators	✓	✓	Hydralazine	Can develop severe reflex tachycardia due to the unpredictable drop in SBP	↑
Non-selective α blockers		✓	Phentolamine		↓
Partial D1 agonists		✓	Fenoldopam	Glaucoma	↑

Avoid acute treatment of asymptomatic severe hypertension (formerly known as hypertensive urgency)^c

a. Transdermal formulation is available

b. Amlodipine takes approximately 30 hours to become effective

c. Breu AC, Axon RN, Acute Treatment of Hypertensive Urgency. *J. Hosp. Med* 2018;12;860-862. Published online first October 31, 2018. doi:10.12788/jhm.3086

IV Fluid Timeout^a

Step 1: Indication	Step 2 Approach	Step 3: Type of fluid ^b	Step 4: Amount of fluid
Low preload state leading to vital sign changes +/- symptoms	Resuscitation	Colloids are not superior to crystalloids LR and Plasma-Lyte can be given in hyperkalemia You cannot rely on serum lactate levels if you give LR to a patient with cirrhosis If increased ICP, consider using Plasma-Lyte instead of LR	Give IV fluids (in 250-1000 mL increments) and re-assess volume status In sepsis, consider 20-30 mL/kg (use extra caution with heart failure, renal failure and cirrhosis)
Disrupted oral intake	Maintenance	0.45% NS with 5% dextrose	Calculate amount using "4-2-1" rule

Electrolyte Repletion Guide

Electrolyte	Amount	Route	Details
Potassium (ref range 3.5-4.5)	$\frac{\text{Goal K} - \text{Actual K}}{\text{Creatinine}^c} \times 100 = \text{mEq of KCl}$	Oral, IV (10 mEq/hr peripherally, 20 mEq/hr centrally) KCl	>4 if acute MI, cardiac conditions >4.5 if VT
Magnesium (ref range 1.3-1.7)	$\frac{\text{Goal Mg} - \text{Actual Mg}}{\text{Creatinine}^c} \times 10 = \text{gm of MgSO}_4$	Oral (MgO causes diarrhea, Mg- protein complex does not cause diarrhea), IV MgSO ₄	>2 if CAD or active cardiac conditions >2.5 for VT
Calcium (ref range 8-10)	1 gm at a time	IV calcium carbonate	No need to replete unless symptomatic or if QT prolongation
Phosphate (ref range 2.5-4.5)	See table below	Oral, IV	Pay attention to K load

Phosphate Repletion Guide^d

Route	Formulation	Dose (based on phosphate level)			Amount of K
		Phos <1.5	Phos 1.5-1.9	Phos 2-2.5	
Oral	Neutra-Phos	2 packets	1-2 packets	1 packet	7.1 mEq per packet
	Neutra-Phos-K	2 packets	1-2 packets	1 packet	14.3 mEq per packet
	K-Phos Neutral (Na and K Phos)	2 tablets q4h x4 doses	2 tablets q4h x3 doses	2 tablets q4h x2 doses	1.1 mEq per tablet
IV	Potassium Phosphate	18-21 mmol	12-15 mmol	9-12 mmol	4.4 mEq per 3 mmol phos
	Sodium phosphate	18-21 mmol	15 mmol	9-12 mmol	0 mEq

- Consider aggressive IV fluids for nephroprotection in specific situations (e.g., tumor lysis, hypercalcemia, etc.)
- For a table on options for considerations for crystalloids, go to bit.ly/crystalloids (case-sensitive)
- If creatinine is <1, just divide by 1
- If CrCl <30, divide dose by 50%

Antimicrobial Stewardship

What syndrome? (e.g., UTI, bacteremia, etc.)
What bug? (Use culture data. If none, what is most likely?)

What drug? (IV or PO?)
Check local antibiogram
Initial duration of therapy?

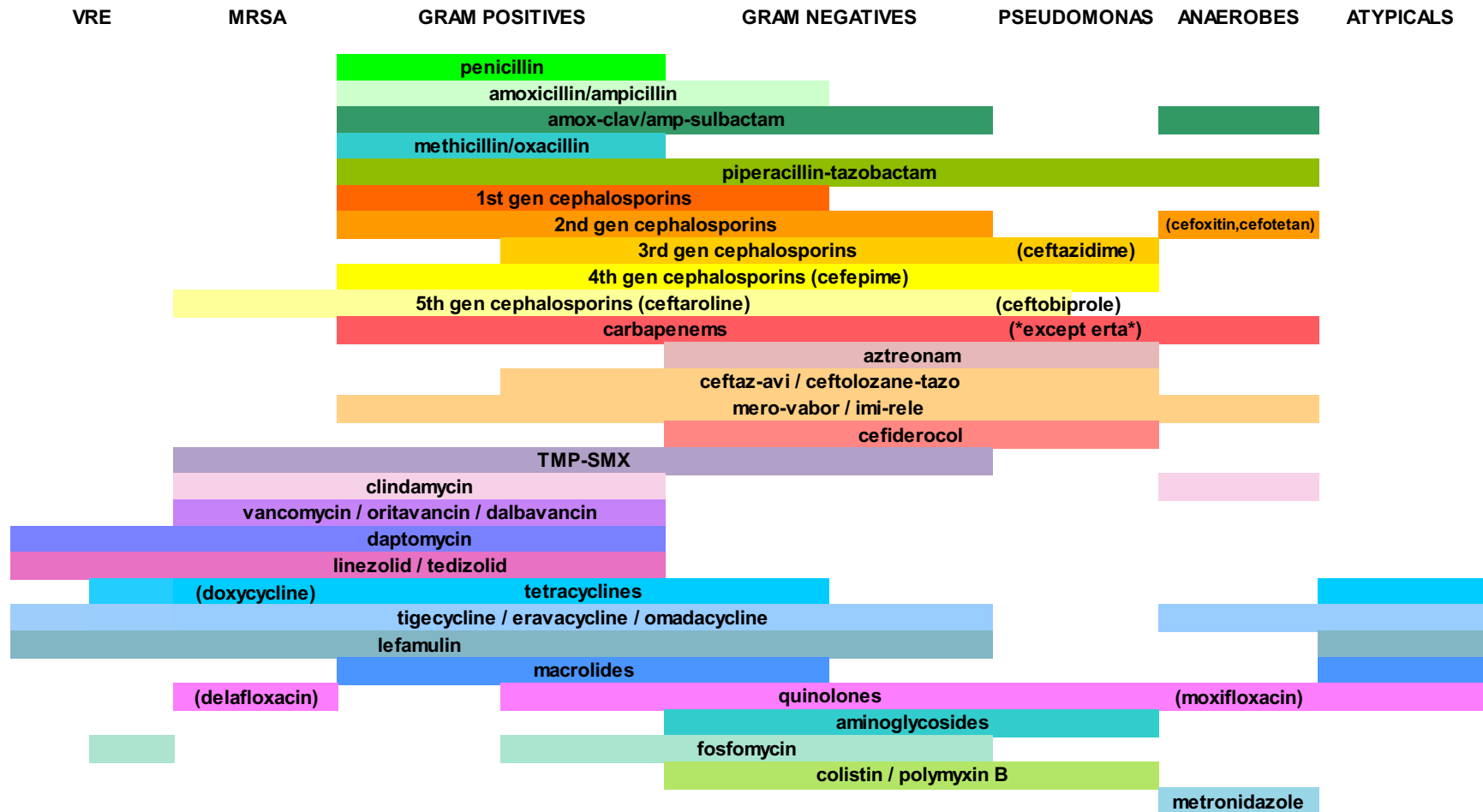
Can I de-escalate? If on IV, can I switch to PO?
Can I stop? (Use clinical data like vitals, WBC count, and cultures to tailor therapy)

Discharge patient
Confirm type of IV access (if indicated) and if frequency of medication and lab followup is feasible at discharge destination)

Check the dose, frequency, and duration (renally dose when appropriate). For duration, be sure to account for any inpatient days of effective therapy.

Antibiotic Coverage

Jennifer Fulcher, MD, PhD | Last updated May 20th, 2024



Type 2 Diabetes Mellitus Inpatient Medication Guide^a

Class	Examples	When to hold?	If NPO, ↑ risk of hypoglycemia?
Biguanide	Metformin	Lactic acidosis ↑ risk of developing AKI GFR <30	No
Sulfonylurea	Glipizide	↓ or variable oral intake GFR <30	Yes
TZD	Pioglitazone Rosiglitazone	Risk of heart failure or MI ALT >2.5x ULN	No
DPP-4 inhibitor	Alogliptin Saxagliptin	Prior or current pancreatitis Avoid saxagliptin in heart failure	No
GLP-1 receptor agonist	Dulaglutide Liraglutide Semaglutide	Hold pre-operatively for 1 day (if dosed daily) or for 1 week (if dosed weekly) Prior or current pancreatitis Nausea and/or vomiting Ileus or gastric dysmotility	No
SGLT2i	Empagliflozin Dapagliflozin	Hold pre-operatively for 72 hours ↓ or variable oral intake Hypovolemia	No*
Meglitinide	Repaglinide	NPO	Yes
α-glucosidase inhibitor	Acarbose Miglitol	Cirrhosis Partial bowel obstruction Cr >2	No

*Increased risk of euglycemic DKA

Insulin Pearls

Calculate total daily dose of insulin and adjust appropriately

Weight-based insulin
0.3-0.6 units/kg/day
~50% basal + ~50% mealtime

If NPO, stop mealtime insulin and reduce basal insulin by ~20%

Never completely discontinue basal insulin in Type 1 Diabetes Mellitus

Assess for presence of insulin pumps and continuous glucose monitors in Type 1 Diabetes Mellitus

If sliding scale insulin requirements are minimal, consider discontinuing it completely

Adjust insulin dose for renal dysfunction and older age

a. "Oral Diabetes Medications Inpatient: Mind the Gap Series." coreimpodcast.com. Patel, S., Trivedi, S., Umpierrez, G., Troy, A., Larsen, T. October 13, 2021. <https://www.coreimpodcast.com/2021/10/13/oral-diabetes-medications-in-hospitalization-mind-the-gap-segment/>

b. Nice-Sugar Study Investigators. "Intensive versus conventional glucose control in critically ill patients." *New England Journal of Medicine* 360.13 (2009): 1283-1297.

Inpatient blood glucose goal
140 – 180 mg/dL^b

Escalating Level of Care

Setting		Details	Minimum functional status	Admission requires
Intensive Care Unit (ICU)		On mechanical ventilation, pressors, q1-2h checks/interventions		
Intermediate Care/Step-Down Unit/ Progressive Care Unit (PCU)		On NIPPV, continuous drips		
Long-Term Acute Care (LTAC)		Stable on ICU/PCU level of care		Insurance
Med-surg ± telemetry	Inpatient status	Hospitalized, needing cardiac monitoring and/or pulse oximetry, q4h checks/interventions		
	Observation status	Hospitalized, needing cardiac monitoring and/or pulse oximetry, q4h checks/interventions, anticipated discharge within 72h (or 2 midnights for Medicare)		
Skilled Nursing Facility (SNF)	Short term		Skilled need ^a	
	Long term	Secured	Custodial care ^b with varying degrees of security based on ability to elope and safety risk if elopement occurs	Insurance
		Wanderguard		
Non-secured				
Acute Rehabilitation Unit (ARU)		≥3h of PT/OT per day	Independent (or have someone available to assist) in iADLs	Insurance
Residential Care Facility for the Elderly (RCFE) ^c	Secured (Memory)	Long-term housing, meals, and assistance with medication self-administration, but no skilled needs provided ^d	Independent in ADLs	Money
	Non-secured		Independent in ADLs/iADLs	
Substance rehabilitation		Facilities with daily group programs	Independent in ADLs/iADLs	Insurance or money
Recuperative care		For patients experiencing homelessness (services such as physical therapy, addiction therapy, and wound care can be done through home health)	Independent in ADLs/iADLs	
Section-8 Housing		Long-term subsidized housing	Independent in ADLs/iADLs	Money
Shelter		Conducts medical care by self	Independent in ADLs	
Home ± home health		Care by self ± help from family/friends/caregivers		

a. Medicare defines skilled need as IV antibiotics, daily complex wound care, speech therapy, PT/OT, first-time tube feeds comprising >26% of daily nutritional need

b. Medicare defines custodial care as care that helps you with usual daily activities, like getting in and out of bed, eating, bathing, dressing, and using the bathroom.

It may also include care that most people do themselves, like using eye drops, oxygen, and taking care of colostomy or bladder catheters.

c. Includes Board & Care (B&C) and Assisted Living Facility (ALF)

d. Some RCFEs can accommodate ADL dependence for an additional fee

Problem Representation

An evolving summary of a patient's clinical presentation that strives to identify (1) **Clinical syndrome** (signs/symptoms), (2) **Context** (relevant history/demographics), and (3) **Temporal pattern** to maximize diagnostic signal.

Component	Detail	Examples
What are they experiencing? (clinical syndrome)	Chief concern forms the first clinical syndrome Translate your patients' story into medical terminology Highlight the relevant clinical findings	<i>Chest pressure and short of breath when I walk</i> → angina <i>Fever, tachycardia, leukocytosis</i> → SIRS
Who is the patient? (context)	Use a patient's <u>relevant</u> epidemiology, medical, social, family, and exposure history as a framing tool	Age: 84-year-old with melena vs 24-year-old with melena Biological sex: male with RLQ pain vs female with RLQ pain Risk factors: patient with HTN and DM p/w chest pain vs patient on oral contraception p/w chest pain
When is this happening? (temporal pattern)	The temporal pattern of presentation is a key distinguishing feature that helps build and prioritize the differential diagnosis	Acute, subacute, chronic, sudden-onset Episodic, progressive Waxing, waning

Example problem representation

Middle-aged female with diabetes and GERD presents with acute progressive angina, elevated troponin x2, and inferior 2mm ST depressions.

Tips for making an effective problem representation

Use semantic qualifiers

Use words to characterize signs and symptoms

acute vs chronic
sharp vs dull
episodic vs constant
proximal vs distal
static vs progressive
painful vs painless

Keep it updated

Should evolve with new data

An elderly male with acute hypoxic respiratory failure from community acquired pneumonia → *An elderly male with improving community-acquired pneumonia now found to have acute diarrhea*

Lower the cognitive load

Translate and abstract data into clinical syndrome

Pain with inspiration → *pleuritic*
Fevers, cough, CXR infiltrate, hypoxia, tachycardia, hypotension, leukocytosis, positive sputum culture with S. aureus → *Severe sepsis from MSSA pneumonia*

Keep trying – if difficulty with arriving at a diagnosis, change the input to see if it changes the output

When to use?

One-liner at start of Assessment and Plan

Calling a consultant

Signing out a patient for cross coverage

Educating a team at a rapid response

Inpatient
Pocket
Cards

