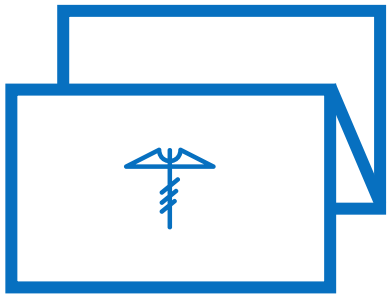
Inpatient Pocket Cards



tinyurl.com/InptPCS

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Satya Patel, MD, Kelley Chuang, MD, Jennifer Fulcher, MD, PhD,
Simon Wu, MD, Tyler Larsen, MD, Michael Spiker, MD,
Michael F. Ayoub, MD, Sean McCarthy, MD, Estelle Everett, MD,
Pamela Tsing, MD, Ashley Saito, MD, Anand Jagannath, MD,
Priyanka Moolchandani, MD, George Tran, MD,
Jaime Betancourt, MD, Esther Kim, MD, Antonio Pessegueiro, MD

Made with assistance from OpenAI ChatGPT, OpenEvidence, and Google Gemini

For additional resources go to
tinyurl.com/InptPCSResources

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*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 (FASTHUGS BID G)

FEN/GI	Data are mixed on benefit of modified texture diets	IV fluids (put end-time/total amount and review daily)	Indications for NPO Upcoming procedure PET scan (also avoid dextrose-containing IV fluids – review all IV meds) Concern for aspiration of all PO intake (including medications) Avoid caffeine prior to regadenoson stress testing[a]		
Analgesia	Should be ordered to cover entire pain scale (mild 1-3, moderate 4-6, severe 7-10) and frequencies should match	Pain not ↓ to patient-aligned goal? ↑ dose or change agent	Pain control not lasting long enough? Change frequency	See "Pharmacologic Pain Management Options" card for details	
Sedation/Sleep	Personalize best sleep practices for each patient; data are mixed on effective inpatient sleep strategies				
Thromboprophylaxis	Non-chemical prophylaxis Frequent ambulation SCDs	Chemical prophylaxis Consider in ↑ patients (Padua score >4); avoid in active bleeding and thrombocytopenia Enoxaparin subQ if CrCl > 30 (hold 24 hours before most procedures) Heparin subQ if CrCl < 30 (hold 12 hours before most procedures)			
Aspiration risk (head of bed elevation)	NPO status does not decrease risk of aspiration				
Ulcer prophylaxis	On ventilator for ≥48 hours	Coagulopathy (INR >1.5 or plt <50)	High-dose/chronic steroid or NSAID use	Recent GI bleed	
Glycemic control	Target glucose goal of 140-180 mg/dL with preference for basal + bolus over sliding scale alone See "Type 2 Diabetes Mellitus Inpatient Medication Guide" card for details				

Supplementation of O_2

Avoid liberal oxygen therapy and target >92% in general population and 88-92% in COPD population

O_2 delivery method	Typical flow (L/min)	Effective FiO_2 (%)
Room air (RA)	0	21
Nasal canula	1-6	24-39
Simple face mask	6-10	39-51
Non-rebreather mask (NRB)	10-15	51-66
High-flow nasal cannula (HFNC)	20-60	21-100
CPAP/BiPAP	Variable	21-100
Ventilator	Variable	21-100

Bowel care	Scheduled senna is superior to scheduled polyethylene glycol to prevent opioid induced constipation See "Bowel Regimen Guide" card for details
Indwelling catheter removal	Remove lines ASAP See "Primer on Access and Tubes" for details
De-escalation of antibiotics	See "Antimicrobial Stewardship" card for details
Goals of care	Code status options[b]: 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 institutional policies require patients to be NPO prior to stress testing
b. At the VA, patients cannot legally have mixed code status (if pulseless, patients must be Full Code or DNR/never intubate)

Inpatient Pocket Cards

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
	Be honest
Plan of Action	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

Inpatient Pocket Cards

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

Inpatient Pocket Cards

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	Melanosis 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

Inpatient Pocket Cards

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

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

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, Barreveld 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.

Inpatient Pocket Cards

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

Inpatient Pocket Cards

IV Fluid Timeout

Step 1: Indication	Step 2: Amount	Step 3: Type of fluid				
Low preload state leading to vital sign changes +/- symptoms (Resuscitation)	250-1000mL increments 20-30 mL/kg in sepsis (careful in heart failure, renal failure, and cirrhosis)	Consideration	0.9% NS	LR	Plasma-Lyte	Colloids are not superior to crystalloids
		Can cause hyperkalemia	✔	x	x	
		Can cause NAGMA	✔	x	x	
		Can cause lactic acidosis	x	x	x	
		In patients with cirrhosis receiving this fluid, the serum lactate can be trended reliably	✔	x	✔	
		Safe to give to patients with elevated ICP	✔	x	✔	
		Preferred in patients with metabolic acidosis	?	?	?	
Disrupted oral intake (Maintenance)	(Weight (in kg) + 40) mL/hr (based on 4-2-1 rule)	0.45% NS with 5% dextrose				

Electrolyte Repletion Guide

Electrolyte	Amount	Route	Details
Potassium (ref range 3.5-4.5)	$\frac{Goal\ K - Actual\ K}{Creatinine^a}$ x 100 = 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)	$\frac{Goal\ Mg - Actual\ Mg}{Creatinine^a}$ x 10 = 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[b]

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

a. If creatinine is <1, just divide by 1
b. If CrCl <30, divide dose by 50%

Inpatient Pocket Cards

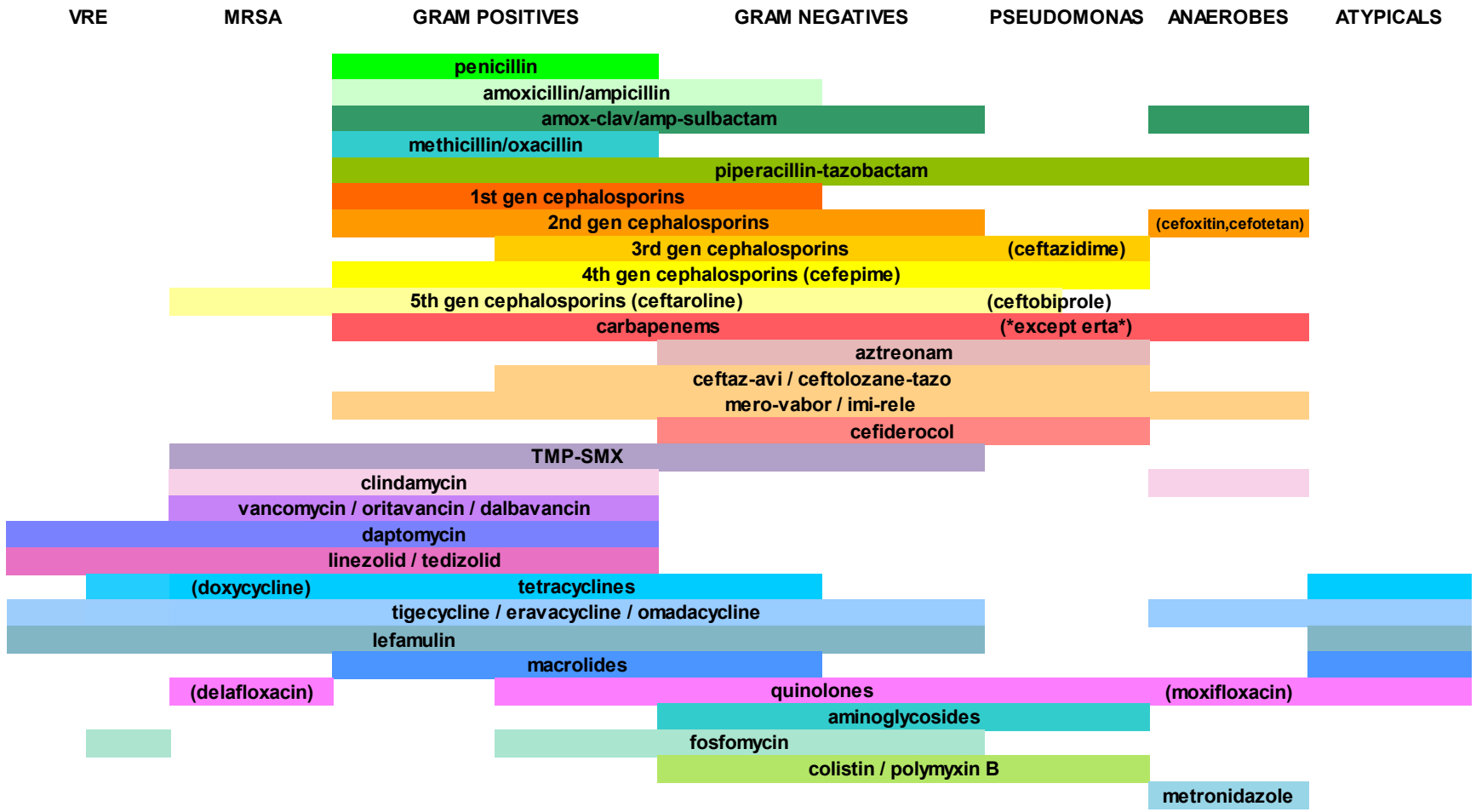
Antimicrobial Stewardship

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



Inpatient Pocket Cards

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]

Inpatient Pocket Cards

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]		Insurance
	Long term	Secured	Custodial care[b] with varying degrees of security based on ability to elope and safety risk if elopement occurs		
		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

Inpatient Pocket Cards

Rapid Response Guide

1. Identify yourself as the rapid response leader
   Position yourself at the foot of the bed
   Ask why the rapid response was initiated

2. Airway, Breathing, Circulation, Code status
   Consider nebulizers, escalation of O_2 (including HFNC), naloxone

3. Vital signs, POC glucose and possibly blood gas
   Confirm/obtain access (IVs, NG tubes, lines)
   "Rainbow" labs if indicated

4. Obtain one-liner with relevant history and recently administered/ withheld meds from the bedside nurse, primary team

5. Notify patient and family/loved ones in room of situation
   Examine patient and determine chronicity of findings
   Consider EKG and bedside ultrasound

6. Address rapid response team and delegate different tasks to different members

7. Always discuss post-rapid response level of care with primary nurse, primary team, and triage team

8. Communicate endpoint of rapid response with triage team
   Summarize the key findings, the differential diagnosis, and what treatment has been done

9. If higher level of care is needed, designate an ACLS-trained provider to accompany patient during transfer

10. Update family members and/or legal surrogates (if available) after rapid response has ended
    Document rapid response based on institutional requirements

Rapid Response Pearls

- There are institution-specific preferences and policies surrounding rapid responses
- Bring a workstation on wheels (if available) and any equipment (such as a badge) to be able to log in
- The default team leader is based on institutional preference or policy
- For patients with stable vital signs that need imaging:
  1. Ensure they are appropriately accompanied
  2. Discuss next level of care based on result
- Some medications cannot be given during a rapid response based on institutional preference or policy
- When clinically appropriate, ensure that IV fluid boluses are not running through a pole with a standard rate limit; use a pressure bag to administer fluids even faster

Rapid responses are clinical contexts that require collaboration, support, and clear communication

Inpatient Pocket Cards

Inpatient Pocket Cards

Primer on Access and Tubes

Review daily and try to remove them ASAP when appropriate
Brand names are listed for recognition and are not an endorsement of a specific product

Venous Access

Name	Indication	Replace every	Details/Complications
Peripheral IV	Short-term access	3-4 days	Infiltration, phlebitis
Midline	Intermediate access	6-14 days	Cannot administer vesicants (eg vancomycin, calcium chloride, IV contrast)
Peripherally-inserted central catheter (PICC)	Long-term IV access (TPN, antibiotics)	Weeks to months	Malposition, infection
Non-tunneled central venous catheter (CVC), central line*	ICU medications, CVP assessment, emergent access	2-3 weeks	Cannot advance the line if insufficiently inserted. CRBSI risk (femoral > IJ > subclavian)
Tunneled central venous catheter (Hickman)	Long-term IV access (chemotherapy, TPN, antibiotics)	Months to years	Reduced infection risk, mechanical complications (dislodgement)
Implantable port (Port-a-cath)	Long-term intermittent IV access (chemotherapy, TPN, antibiotics)	Indefinite (if working)	Reduced infection risk, fully subcutaneous

Dialysis Access

Name	Indication	Replace every	Complications
Non-tunneled dialysis catheter (Quinton)	Temporary HD	2-3 weeks	CRBSI risk (femoral > IJ > subclavian)
Non-tunneled CVC + dialysis catheter (Trialysis)	Temporary HD, ICU medications	2-3 weeks	CRBSI risk (femoral > IJ > subclavian)
Tunneled dialysis catheter (Perma-Cath)	Long-term HD	Indefinite	Reduced infection risk

*Usually one lumen (Cordis) or three lumens (triple lumen)

Enteric Tubes

Name	Indication	Replace every	Details/Complications
Nasogastric Tube (NGT)	Decompression, lavage, medication/feeding access	5-7 days	Can coil in the esophagus/stomach or go into the lungs, confirm placement with imaging
Small-bore NGT (Dobhoff)	Post-pyloric enteral feeding	4-6 weeks	
Orogastric Tube (OG Tube)	Decompression, medication, feeding	5-7 days	Often used in intubated or facial trauma patients, not tolerated awake
Percutaneous Endoscopic Gastrotomy (PEG) Tube / G-tube	Long-term gastric feeding	3-6 months	Early dislodgement can lead to peritonitis, wait ≥4 weeks before exchanging. Placed by GI or IR if no overlying bowel, otherwise placed by general surgery
Naso- Oro-Jejunal tube (NJ-, OJ-tube)	Jejunal feeding	3-6 months	Subtle dislodgement, for continuous feeds only
Jejunostomy tubes (J-tube, PEJ)	Long-term nutrition with gastric dysfunction and ↑ aspiration risk	6-12 months	Subtle dislodgement, for continuous feeds only
Gastrojejunostomy tubes (GJ tube)	Jejunal feeding and gastric venting/decompression	6-12 months	Balloon overinflation can cause mucosal damage Avoid in neutropenia, rectal pathology
Rectal Tube (Flexi-Seal)	Divert liquid stool, protect skin, monitor output	1 month	Avoid in neutropenia, rectal pathology; not effective for formed stool

Genitourinary Tract Tubes

Name	Indication	Replace every	Details/Complications
Condom catheter	Urinary incontinence	Daily	Leakage, dislodgement, penile skin breakdown. Use correct size; apply to clean, dry skin; never for retention
Urinary catheter (Foley)	Urinary retention, I/O measurement	4-6 weeks	Obstruction, UTI, traction injury If acute indication, attempt voiding trial ASAP
Suprapubic catheter	Long-term urinary diversion	4-6 weeks (by urology)	Tract closure if pulled early, requires trained team for reinsertion
Nephrostomy tube	Ureteral obstruction or diversion	6-12 weeks (by IR)	Leakage, dislodgement

Thoracic Tubes

Name	Indication	Replace every	Details/Complications
Chest tube (16-28 Fr)	Effusion, hemothorax, pneumothorax	Per clinical indication	Confirm placement on imaging
Pigtail catheter (14 Fr)	Pneumothorax, effusion	Until output ↓	Clogs easily, secure dressing
Tunneled pleural catheter (PleurX)	Recurrent effusions or ascites	Indefinite	Requires home teaching

Inpatient Pocket Cards

For an effective conversation, you must **match** the type of conversation your patient is trying to have with you.

Matching Communication Types[a]

Type	Purpose	Clues to identify type of conversation	Sample phrases to engage	Risk if mismatched
Emotional	To express or process feelings and for others to see what they are experiencing	"Why is this happening to me?" Same question is repeated after a clear answer You feel stuck or unsure how to respond	"That sounds really hard" "This feels like a lot to carry" "Thanks for sharing that. I want to understand better"	They feel dismissed or unheard if given facts too soon
Practical	To understand, plan, or make a decision	Logistical questions Patient is trying to make a decision	"Here's what we know so far…" "We're still waiting on [test, consult, etc.]" "What questions do you have? I want this to feel clear"	They feel frustrated if met only with empathy or vagueness

Communicating Uncertainty[b]

*The **GAP** framework can help if clinical trajectory or next steps are unclear*	Scenarios	
	Diagnostic (Patient with fevers despite extensive workup and is asking for a medical update.)	**Prognostic** (Patient with recent brain bleed, family wants to know if he will return to baseline.)
Given (what we know)	"You've had fevers, and your labs suggest inflammation, but common causes have been ruled out."	"We know the bleeding in their brain has stopped and they're stable right now."
Ambiguous (what we don't know)	"We don't know yet what's causing your symptoms. Some test results are still pending."	"We're not sure how much of their thinking and strength will return over time."
Plan (what we will do)	"We're reviewing more specialized labs and consulting rheumatology to help us figure this out."	"We'll monitor them closely and involve rehab specialists to guide the next steps."

Communicating Code Status

*The **CLEAR** framework can help guide code status conversations*	Scenarios	
	Clinical Decompensation (Patient with end-stage HFrEF, now on BPAP and borderline hypotension, showing signs of rapid decline.)	**Discordant Goals or Wishes** (Patient with metastatic cancer, with multi-organ failure, insists on being full code despite poor prognosis.)
Curiosity (explore goals, concerns, and values)	"When you think about everything you've been through recently, what feels most important to you right now?"	"Can you help me understand what you're hoping for?"
Language (use words that reflect values)	"We can use machines to support your breathing, but they may not help you recover."	"Some treatments might prolong life but not improve quality or function."
Empathy (acknowledge emotional experience)	"This must be overwhelming, we're here with you."	"I can see how hard this is for you and your family."
Assurance (provide comfort, normalize fears, and ensure continuity)	"Whatever you decide, we're going to make sure you're cared for and not in any discomfort."	"We'll stay with you and support you, even if we see things differently."
Recommendation (align care recommendations with what matters most)	"Given what's happening and what's most important to you, I'd recommend comfort and time with loved ones."	"Considering your goals, I'd recommend avoiding treatments that won't help you recover."

a. Duhigg, C. The science behind dramatically better conversations. [Video] TED Conferences. 2024 Mar. http://www.ted.com/talks/charles_duhigg_the_science_behind_dramatically_better_conversations _ may_2025

b. Dahm MR, Cattanach W, Williams M, Basseal JM, Gleason K, Crock C. Communication of Diagnostic Uncertainty in Primary Care and Its Impact on Patient Experience: an Integrative Systematic Review. J Gen Intern Med. 2023 Feb;38(3):738-754. doi: 10.1007/s11606-022-07768-y. Epub 2022 Sep 20. PMID: 36127538

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	*Chest pressure and short of breath when I walk* → angina *Fever, tachycardia, leukocytosis* → SIRS
Who is the patient? (context)	Use a patient's relevant 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

Perioperative Management Pearls

1 *Emergency surgery?* **Proceed to OR**

2 *Active Cardiac Condition (ACS, decompensated HF, arrhythmia)?* **Treat condition first**

3 Perioperative Cardiac Risk Stratification

Assess (using EKG, TTE, etc.) and optimize ACC/AHA risk modifiers (severe valvular disease, pHTN, congenital heart disease, cardiac implantable devices, frailty, recent CVA, PCI/CABG)

↓

Estimate risk of Major Adverse Cardiovascular Events (MACE)
MACE = composite of CV death, non-fatal MI, CVA | Use RCRI, Gupta, and/or NSQIP

↑ **MACE or RCRI >1** (>1% risk in 30d) → Assess functional status use Duke Activity Status Index (DASI) or Metabolic Equivalents (METS)

↓ **MACE** (and modifiers optimized) → Estimate and optimize perioperative risk of non-cardiac conditions

DASI >34 or METS ≥4 → Estimate and optimize perioperative risk of non-cardiac conditions

DASI ≤34 or METS <4 or unknown/Indeterminate → Consider further testing
(including EKG, echocardiography, stress testing, CCTA, etc.)
1. Will testing change management?
2. Consider discussing with cardiology if ordering a BNP, NT-proBNP, or troponin can inform risk stratification

Cardiac risk stratified → Perioperative medication management

Unnecessary testing can beget more testing and delay procedures without benefiting the patient

Cardiac Stress Testing		Stressor		
		Exercise[a] Limited if unable to walk and mount sufficiently ↑ HR	**Dobutamine**[a] Avoid in critical AS or LVOT obstruction	**Vasodilator**[b,c] Avoid if active bronchoconstriction
Modality	**EKG** Hard to interpret if pre-existing LBBB, V-paced rhythms, LVH w/ strain	✓		
	Echocardiogram Less helpful for mild ischemia	✓	✓	✓
	Nuclear Perfusion (SPECT/PET) Less helpful for balanced ischemia		✓	✓
	Cardiac MRI Long test, expensive	✓	✓	✓

4 Perioperative Management of Common Medications

Discuss perioperative bleeding risk with proceduralist/surgeon (and possibly anesthesiologist)

C = Continue
H = Hold

Medication	Perioperative Management	Risks if Deciding to Continue or Hold
Beta Blocker	C	H can cause withdrawal or arrhythmia
CCB	C	H can cause intra-operative HTN
ACEi, ARB, ARNI	H 24 hours prior C if poorly controlled HF or HTN	C can cause intra-operative hypotension and lead to ↓ responsiveness to adrenergic agents
Diuretics	H AM of procedure C if poorly controlled volume status	C can cause hypovolemia if NPO
Metformin[d, e]	H AM of procedure	C can lead to lactic acidosis
Sulfonylurea[d, e]	H AM of procedure	C can cause hypoglycemia if NPO
GLP-1 Ra[d, e]	H 1-7 days prior (depending on type and institution)	C can delay gastric emptying → aspiration
DPP-4 inhibitor[d, e]	C	C can interfere with CYP metabolism of anesthetics
SGLT2i[d, e]	H 3-5 days prior	C can cause euglycemic DKA if NPO
Insulin[d, e]	H short-acting/mealtime/bolus if NPO ↓ long-acting/basal by 0% or 50%	C bolus can cause hypoglycemia if NPO H basal can cause DKA in Type 1 DM
Steroids	C (can switch to IV if concern for ↓ PO absorption)[f]	H can cause adrenal crisis
Buprenorphine	C and add full agonist opioid PRN for acute pain; consider splitting equivalent dose q6h or q8h for ↑ analgesic effect	H can precipitate opioid withdrawal
NSAIDs	H 7 days prior	C can cause bleeding, AKI
Aspirin[g]	H 5-7d for most surgeries and 10-14d for brain/spine surgery prior if for 1° prevention C/H based on ischemic vs. bleeding risk if for 2° prevention	C can cause bleeding H can cause thrombotic event
Other antiplatelets[g]	C/H duration depends on indication, surgical bleeding risk, and half-life[g]	C can cause bleeding H can cause thrombotic event
Anticoagulation[g]	H DOACs 48h prior for ↓/↔ bleeding risk procedure and 72h prior for ↑ bleeding risk[g,h,i] **Bridging** DOACs is not indicated H VKA 5-7 days prior (based on INR)[i] **Bridge** VKA if for heart valve, A-fib ($CHA_2DS_2VASc \geq 7$), VTE in past 3 months, or severe thrombophilia	C can cause bleeding; ↑ risk with ↑ age, ↓ eGFR, ↑ risk procedure H can cause thrombotic event (risk depends on indication)

Scenario	↓/↔ thrombotic risk	↑ thrombotic risk
Mechanical heart valve	Bileaflet mechanical AVR (↑ if major stroke risk factors)	Mechanical MV or any mechanical valve with recent stroke
Non-valvular A-fib	↑ with ↑ CHA_2DS_2VASc score	
VTE	↑ with ↓ time from VTE diagnosis and treatment	

a. Hold β-blockers if no known CAD | b. Vasodilators used are adenosine, regadenoson, and dipyridamole | c. Hold caffeine | d. If T1DM, endocrinology should be consulted | e. Changing these can cause intra-operative hyperglycemia | f. Involve endocrinology if adrenal insufficiency and consider stress dose steroids | g. Often continued for cataract, minor derm procedure, dental procedure, angiogram, carotid endarterectomy | h. ↑ hold times in patients with CrCl<50 on dabigatran, or CrCl<30 on any DOAC | i. Neuraxial anesthesia requires ↑ hold times (at least 72 hours)

Inpatient Pocket Cards

1. 2024 AHA/ACC/ACS/ASNC/HRS/SCA/SCCT/SCMR/SVM Guideline for Perioperative Cardiovascular Management for Noncardiac Surgery. https://www.ahajournals.org/doi/10.1161/CIR.0000000000001285
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