Hospital Medicine Literature Review

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No Disclosures

Objectives

1. Identify clinical questions that arise during an inpatient admission

2. Review published literature relevant to hospital medicine

Articles from 2025

- Journal TOCs
- “Journal Watch” emails
- Colleagues, Trainees
- AI! (Open Evidence, ChatGPT)

Articles choice

- Relevance to HM
- Common questions
- Impact on practice/teaching

Follow an admitted patient

- “Medium dives”
- “Quick hits”

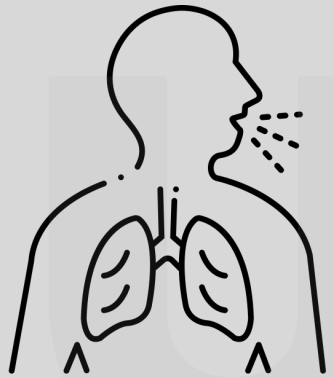
A 75-year-old female presents to the ED

ED presentation:

- Shortness of breath
  - 2 days (exertion → rest)
  - Productive cough (clear → yellow/green)
  - Rescue inhaler isn't helping
- "It's been so hot"
- Wheezing
- T 98.4, HR 100, BP 100/78, RR 26, O2 84% RA

PMHx:

- COPD (ICS/LABA, LAMA, SABA)
- HFrEF (EF 35-40%; BB, ARB, spiro, loop diuretic)
- DM (A1c 8.0%, metformin)
- CKD 4 (Cr 2.8)
- HTN



Work up:

- WBC 9.8, Hb 10.8 (11.0)
- VBG 7.36/50, bicarb 22
- CXR → emphysema

ED Rx:

- Methylpred 125mg
- Duonebs
- Azithromycin
- 2L O2 → SaO2 91%

QUICK HIT:

Anything new in treating COPD exacerbations?

Not much!

More clarifications

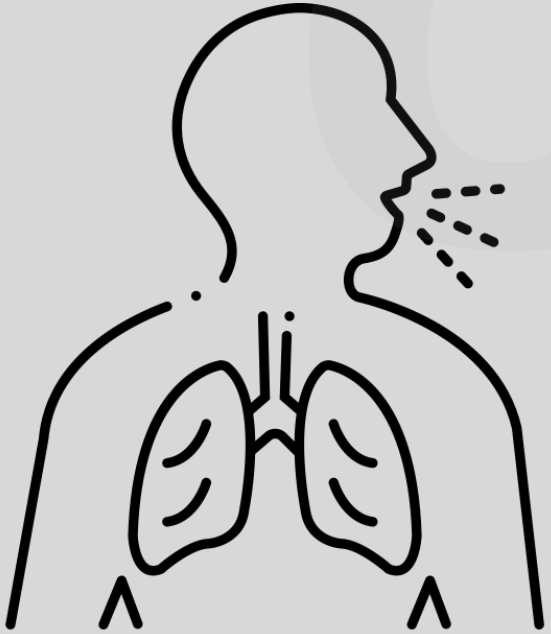
Mild/Moderate
- SABA + SAMA
- ± steroids/abx
- Outpatient

Severe
- Steroids/abx
- ± O2/NIPPV
- Hospital

Global Initiative for Chronic Obstructive Lung Disease 2025

- **Severity classification is clinical** (not FEV1)
  - Severe/life-threatening → pH <7.35, pCO2 > 60
- **Use nebulizers**
- **Keep steroid courses short**
- Keep O2 between 88-92% and **monitor for hypercapnia**
- If Severe, **early NIPPV decreases intubation** rates
- **Revisit outpatient meds before discharge**
  - Consider exacerbation history

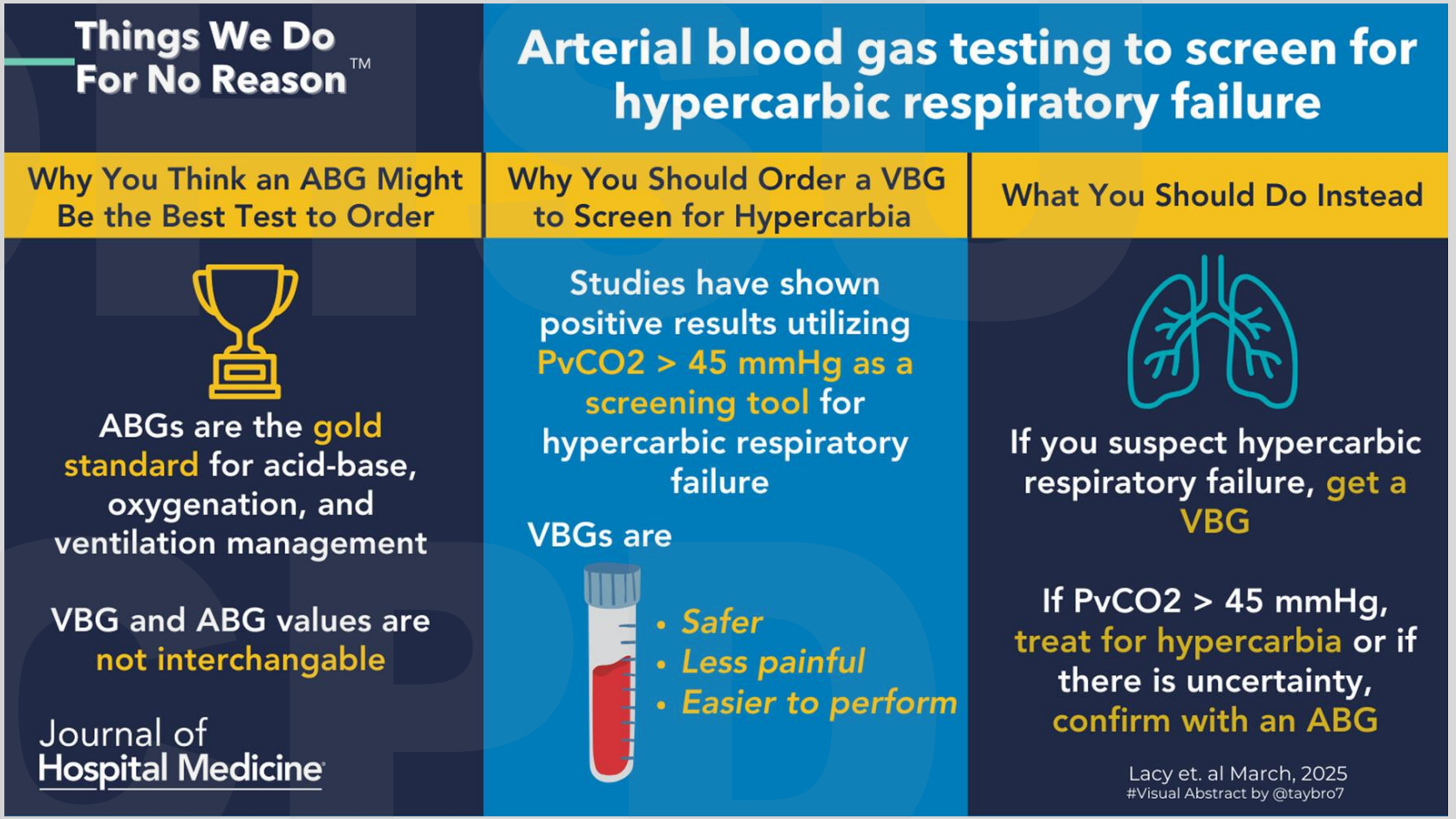
https://goldcopd.org/2025-gold-report/



O2 84% → 91% (2L)
VBG 7.36/50, bicarb 22

Duonebs
O2
Pred 40
Azithromycin

QUICK HIT:
Don’t need an arterial poke for pCO2



Hospital Day 2

RN to MD page:

"Patient is still coughing up yellow/green sputum.
Lab called: WBC 12.1 (9.8)"

Question:

How much does WBC increase after steroids in non-infected patients?

- Single-institution (13 hospitals)
- Retrospective cohort study
- 28,425 patients
- All conditions (including COPD)

Sullivan E., et al. JHM. 2025; 20: 824-828.

Primary Outcome

Overall WBC count

Three dosing tertiles
- Low: pred 50mg
- Med: pred 150mg
- High: pred 379mg

Peak WBC → Day 2 (all groups)
- Low: 0.32 ± 2.72
- Med: 1.70 ± 3.76
- High: 4.84 ± 5.24 (p <0.01)

No rise in first 24 hours

No differences across comorbid groups

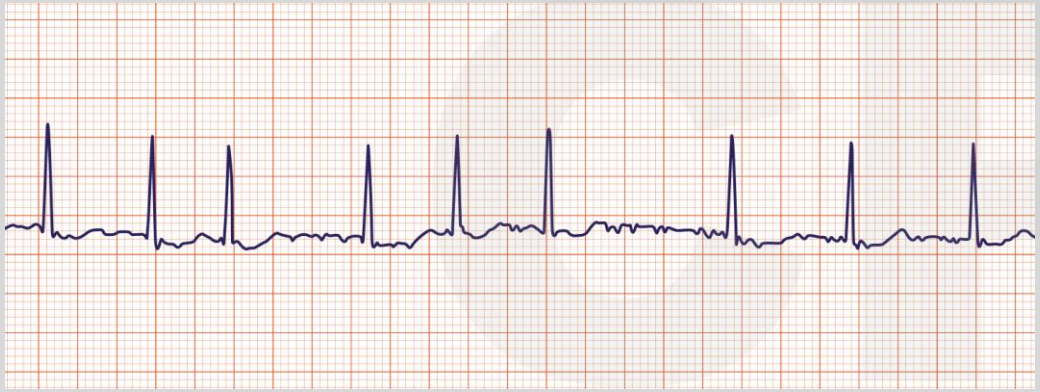
WBC decreased in all groups after day 2

Expect WBC to ↑ 3 – 5 in first 48 hours

Hospital Day 3 - morning

"I'm feeling kinda lightheaded and my heart is pounding, doc!"

Radial pulse: irregular
HR 100, BP 105/78



$\underline{CHA_2DS_2\text{-}VASc}$

HFrEF

DM

HTN

Female

"Do I really need a blood thinner?"

Question:

Stroke risk after new dx AF during hospitalization for another reason?

- Population-based cohort study (Ontario, Canada)
- 2013-2023, age ≥ 66
- 38,909 patients eligible

29k patients screened →

Exclusion Criteria:

- Stroke
- Age ≥ 105
- Prior AF dx within 5 yrs
- Long-term care residents
- Valvular disease
- AC/antiarrhythmics within 6 mo.

→ **20,639 patients** w/new dx AF while hosp. for another cause

Followed for 1 yr

Primary Outcome: CVA hosp.

Abdel-Qadir H, et al. Ann Int Med. 2025; 178(6).

Patient Stratification

- Primary Diagnosis type
  - Cardiac (medical vs surgical)
  - Non-Cardiac (medical vs surgical)
- CHA_2DS_2-VASc
  - 1-4 vs 5-8

Cardiac Medical Primary Diagnosis

- Most likely to be on AC at 1yr
  - Cardiac surgical least likely
- Highest 1-year stroke risk (1.5%, HR 1.36)
  - 0.9-1.0% for others
  - HTN HR 2.14!!
- Highest bleeding risk (HR 1.57)
- Largest proportion of high CHA_2DS_2-VASc

Post-DC anticoagulation

- Less than 50%
- All comers

Stroke risk by CHA_2DS_2-VASc

- Score 1-4: 0.8%
- Score 5-8: 1.5%

Patient Post-DC stroke risk W/O anticoagulation

- Cardiac Medical
  - Highest risk at 0-60 days and 8-12 months
- Non-cardiac surgical
  - Lowest risk at 0-60 days
- Cardiac surgical
  - Lowest risk at 8-12 months

Abdel-Qadir H, et al. Ann Int Med. 2025; 178(6).

Provoked AF plus…

- **Low** CHA_2DS_2-VASc **(≤4)** → probably OK without anticoagulation*
- **High** CHA_2DS_2-VASc **(≥5)** → probably better to anticoagulate**
- **Cardiac medical primary dx** → anticoagulate, but still high risk of stroke**

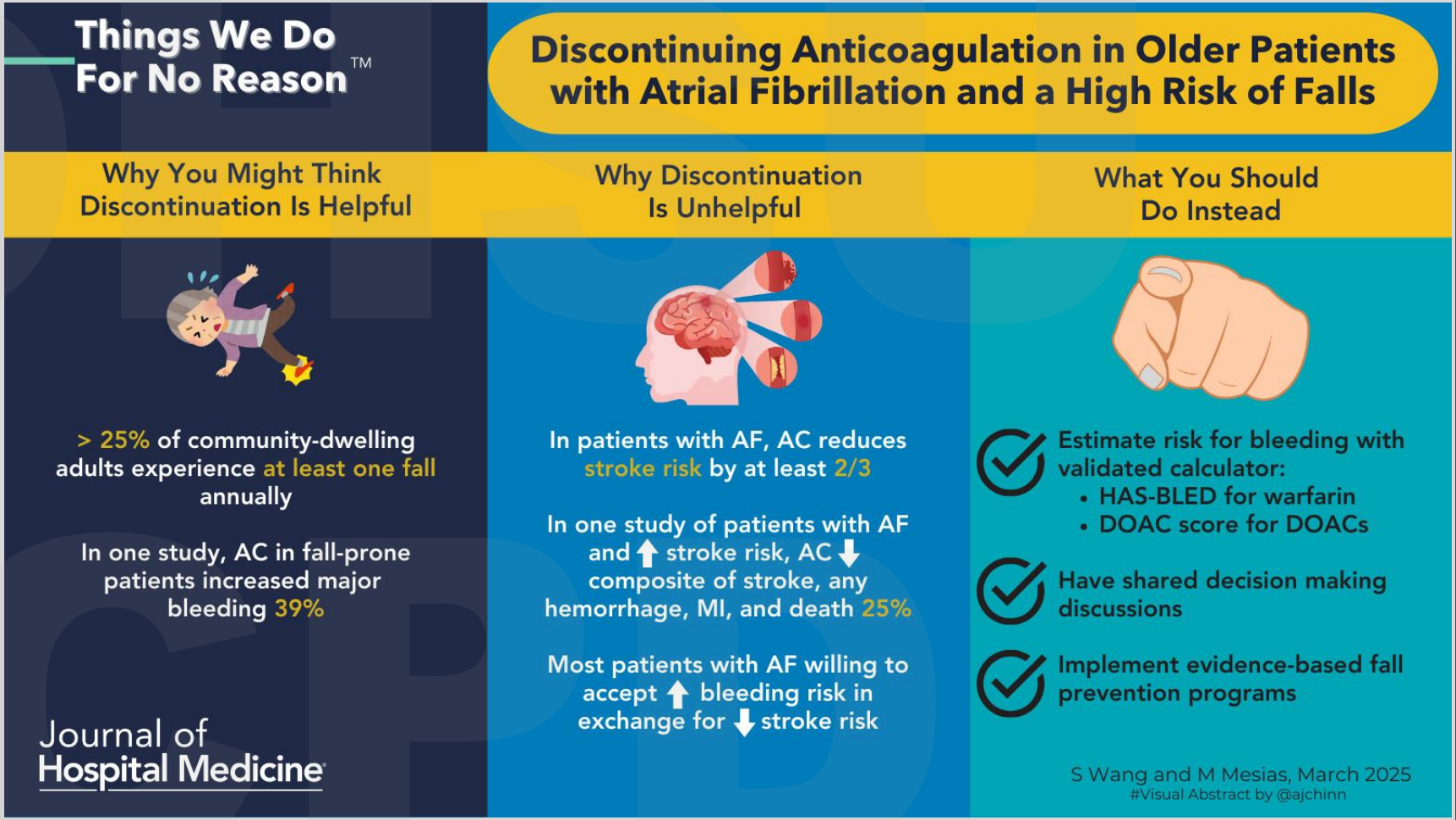
Most patients we take care of will likely need anticoagulation

*aligns with ACC/AHA guidelines
**needs more study

Abdel-Qadir H, et al. Ann Int Med. 2025; 178(6).

QUICK HIT:

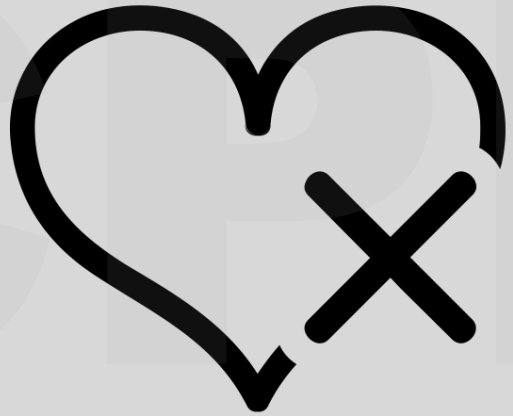
Reconsider stopping AC in older pts with AF and high fall risk



Wang S, Mesias M. J Hosp Med. 2025; 20(3).

Hospital Day 4

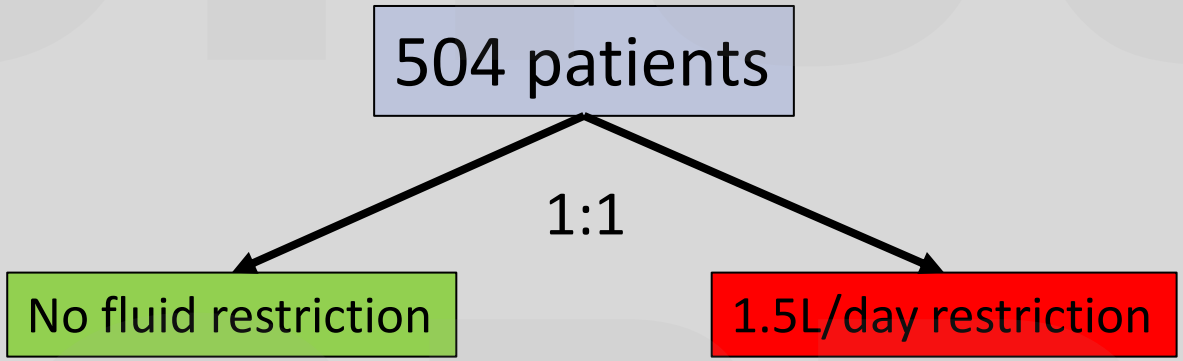
"Doc, my cardiologist said I have to limit my water. He's retiring though and I'm just so darn thirsty all the time! ***Can I drink more water*****?**"



Question:

Is liberal fluid intake worse than a 1.5L fluid restriction in chronic heart failure?

- Prospective, randomized, multicenter (7) open-label (Netherlands)
- Treated for chronic heart failure >6 months before trial
- NYHA class II or III
- Any ejection fraction



Primary: Kansas City Cardiomyopathy Questionnaire-Overall Summary Score
Secondary: Thirst Distress Scale in HF
Safety endpoints: death, all-cause vs HF hospitalization, IV loop diuretic use, AKI

Herrmann JJ, et al. Nature Medicine. 2025: 31; 2062-68.

KCCQ-OSS

Liberal fluids: 74.0

Restricted fluids: 72.2

p = 0.06

TDS-HF

Liberal fluids: 16.9

Restricted fluids: 18.6

p < 0.001

Safety (Liberal vs Restricted)

- **Death**: 1 vs 2 patients
- **All-cause hospitalization**: 20 vs 15 patients
- **HF hospitalization**: 4 vs 4 patients
- **IV loop diuretic usage**: 5 vs 7 patients
- **AKI**: 3 vs 4 patients

A full tank is a happy tank; and not necessarily more sick

Herrmann JJ, et al. Nature Medicine. 2025: 31; 2062-68.

QUICK HIT:
IV Iron in Heart Failure

Syst. review/Meta-analysis

6 randomized trials, 7175 pts

Composite outcome
HF hospitalization + mortality

IV iron:
0.72 RR comp. outcome*
0.69 RR HF hosp.*
Lower all-cause/CV death

*$p < 0.05$

Give IV iron

Anker SD, et al. Nature Med. 2025; 31: 2640-46.

QUICK HIT:
Physical Function and Readmission

Systematic review

17 studies, 80,008 pts

Readmission within 90 days

Lower functional scores as assessed by PT/OT resulted in higher 90-day re-admission

When in doubt, give PT a shout

Thomas E, et al. J Hosp Med. 2025; 20:277-87.

QUICK HIT:
Explaining Roles and Terminology to Patients

Cross-sectional study

172 patients, 2 hospitals

Determine understanding of, "hospitalist" and other jargon

47% didn't know what a hospitalist is or what we do

Frequently misunderstood terms:
NPO, PA, attending

Take a moment to explain

Curatola M, et al. J Hosp Med. 2025; 20: 51-55.

Takeaways

Admission

- Nebulizers, steroids, and O2 remain standard. Early NIPPV for hypercapnia helps, revisit meds before discharge
- VBG works well to screen for hypercapnia ($pCO2 \geq 45$)

Inpatient

- Expect a WBC rise of 3-5k within 48h in non-infected patients placed on steroids
- Patients hospitalized for cardiac medical illness and develop new AF should be started on AC, but could still develop stroke at 12 months
- Stopping AC in elderly patients at risk for falls may not be necessary – use clinical risk tools and discuss

Discharge

- Let patients with chronic heart failure drink water to satisfy thirst
- Give IV iron to patients with HF
- Assess physical function prior to discharge to reduce readmission
- Take time to explain what you do as a hospitalist to your patients and avoid jargon

Cited articles

- Acute COPD treatment
  - https://goldcopd.org/2025-gold-report/ (GOLD COPD Guidelines, 2025 update)
  - https://shmpublications.onlinelibrary.wiley.com/doi/10.1002/jhm.70039 (TWDFNR - VBG > ABG for pCO2)

- Inpatient
  - https://shmpublications.onlinelibrary.wiley.com/doi/10.1002/jhm.70008 (WBC elevation w/steroids)
  - https://www.acpjournals.org/doi/10.7326/ANNALS-24-01967?url_ver=Z39.88-2003&rfr_id=ori:rid:crossref.org&rfr_dat=cr_pub%20%200pubmed (stroke risk w/new dx AF)
  - https://shmpublications.onlinelibrary.wiley.com/doi/10.1002/jhm.13464 (TWDFNR - AC in older pts w/AF)

- Discharge
  - https://www.nature.com/articles/s41591-025-03628-4 (liberal vs restricted fluids in chronic HF)
  - https://www.nature.com/articles/s41591-025-03671-1#Bib1 (IV iron in HF)
  - https://shmpublications.onlinelibrary.wiley.com/doi/10.1002/jhm.13538 (physical function and readmission)
  - https://shmpublications.onlinelibrary.wiley.com/doi/10.1002/jhm.13492 (explaining roles and terminology)

Thank you!

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