

Appropriateness of Intravenous Iron Utilization in Hospitalized Adults

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Introduction

- IV iron guidance - AGA, ASH, and KDIGO, but there is no clear consensus
- IV iron is reserved for when oral iron fails or is intolerable; rising IV iron use underscores the need to review utilization patterns

Objectives

- Primary: Appropriateness of IV iron in hospitalized adults
- Secondary: Documented discharge planning for iron therapy, comparing costs of oral vs. IV iron

Methods

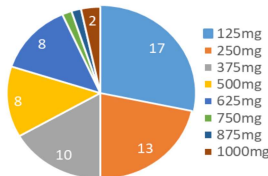
- Single center retrospective analysis between 10/1/2024 to 05/30/2025
- Inclusions: ≥ 18 years and hospitalized
- Exclusions: CKD patients receiving hemodialysis, heart failure, pregnancy
- Statistical analysis:
 - Mann-Whitney testing for continuous variables
 - Descriptive statistics for demographics

Results

Demographic Characteristics		n=60
Age (years) ^a		70.5 [58.3-76.2]
Female Sex ^b		34 (56.6)
Iron Deficiency Anemia ^b		32 (53.3)
Oral Iron Trial or PTA ^b		28 (46.6)
EGFR > 60 ml/min ^b		50 (83.3)
Hemoglobin (g/dL) ^a		8.1 [7.5-9.0]
Ferritin (ug/L) ^a		21.5 [8.0-76.5]
TSAT (%) ^a		5.0 [2.5-10.0]

Cumulative Doses (n=60)

- Only 3.3% of patients received a full 1000mg loading regimen
- 50% of patients received 2 or fewer doses



^a median [IQR], ^b n(%)

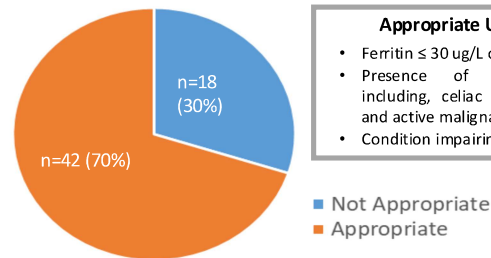
First dose IV iron was appropriate in 70% of patients based on the criteria

The most common follow-up plans were oral iron supplementation (61.6%) and outpatient IV iron administration (13.3%)

Opportunities for improvement were identified in 88.3% of patients

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Results – Primary Objective



Appropriate Use Criteria

- Ferritin ≤ 30 ug/L or TSAT < 20%
- Presence of a comorbidity including, celiac disease, anemia, and active malignancy
- Condition impairing absorption

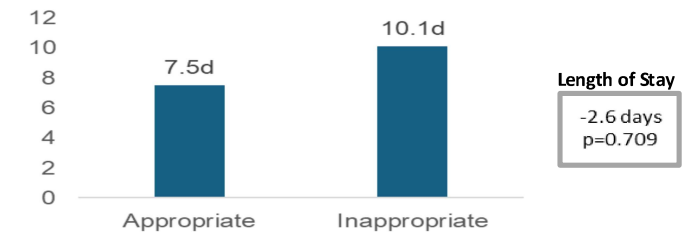
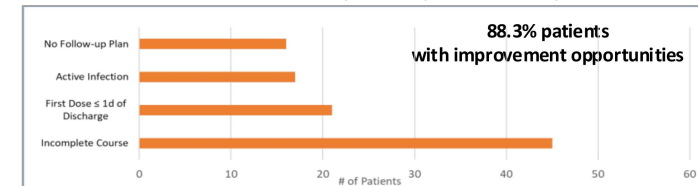
- Most common inappropriate IV iron use was non-candidate secondary to labs
- 50% individuals met criteria via ferritin ≤ 30 ug/mL
- Nearly 50% patients trialed PO iron, 35.7% switched to IV for unknown reason

	Mean TSAT (%) [SE]	Mean Ferritin (ug/L) [SE]	Mean # Doses [SE]
Appropriate	7.2 [2.8]	112.0 [51.4]	2.4 [0.4]
Inappropriate	12.3 [1.2]	182.4 [76.4]	3.0 [0.2]
Difference/P-value	5.1 (p < 0.011)	70.4 (p < 0.001)	0.6 (p=0.123)

Results – Secondary Objectives

n=60	With Follow-up Plan	Without Follow-up
Patients with IV Iron during admission ^b	44	16 (26.6%)
PO iron at discharge ^b	37 (84%)	-
Follow-up infusions ^b	8 (13.3%)	-

- Total estimated drug cost for inappropriate IV iron was \$795, or \$44 per patient
- 1-time doses ≤ 1 day before discharge and large doses with highest costs



Discussion

- Inappropriate use of IV iron most frequently related to ferritin/TSAT values
- Inappropriate use was associated with longer LOS
- Cost of IV iron was sample over 5 months, not inclusive of annual cost to system, as it does not include administration

Limitations

- Retrospective chart review, single-center study
- Small number of patients (n=60)
- No guideline consensus for when IV iron should be utilized over oral
- Limited visibility across EMR/outside hospital medical records

ASHP Midyear 2025
Authors have nothing to disclose