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

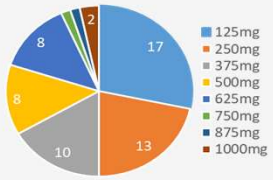
- Single center retrospective analysis between 10/1/2024 to 05/30/2025
- Inclusions: ≥ 18 years and hospitalized
- Exclusions: CKD patients receiving hemodialysis, heart failure, pregnancy
- Statistical analysis:
  - Mann-Whitney testing for continuous variables
  - Descriptive statistics for demographics

Results

Demographic Characteristics	n=60
Age (years)[a]	[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(%)

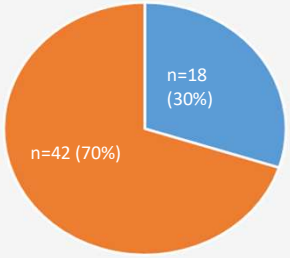
First dose IV iron was appropriate in 70% of patients based on the criteria

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

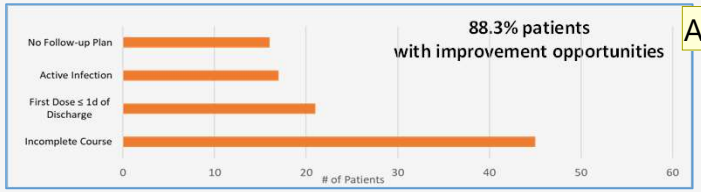
- Most common inappropriate IV iron use was non-candidate secondary to labs
- 50% individuals met criteria via ferritin ≤ 30 ug/mL
- Nearly 50% patients trialed P[illegible].7% switched to IV for unknown reason

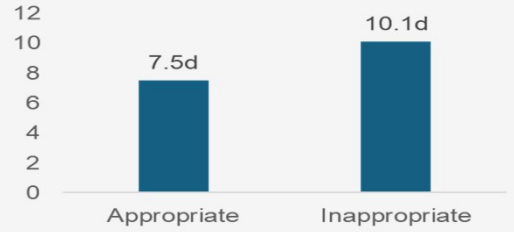
	Mean TSAT (%) [SE]	Mean Ferritin (ug/L) [SE]	Mean # Doses [SE]
Appropriate	7.2 [2.8]	112.0 [51.4]	2.4 [0.4]
Inappropriate	12.3 [1.2]	182.4 [76.4]	3.0 [0.2]
Difference/P-value	5.1 (p <0.011)	70.4 (p <0.001)	0.6 (p=0.123)

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





Length of Stay

-2.6 days
p=0.709

Discussion

- Appropriate 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 co[illegible] 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

Slide 1

RT1 Could consider removing top bullet and expanding on second bullet. For example, 'There is a lack of consensus amongst guidelines on when intravenous (IV) iron is appropriate for certain patient populations'
Rider, Taylor, 2025-11-12T22:20:12.523

RT2 Third bullet of intro section suggestion: 'IV iron is more expensive and increasingly prescribed inappropriately, leading to rising cost and increased exposure to adverse effects' - took this from the 'abstract
Rider, Taylor, 2025-11-12T22:25:01.205

RT3 Exclusion of those with pregnancy, HF and dialysis are listed in the objective section already. Would leave in the methods section only

Wondering if the appropriate use criteria should be in the methods section? What does everyone think? If its possible to move, that might give more room to discuss the primary objective more
Rider, Taylor, 2025-11-12T22:27:22.458

HC3 0 agree w/#1, I kinda like the criteria by the pie graph personally
Hamby, Christine, 2025-11-13T16:47:58.438

HC3 1 Also I don't think you need to say "received IV iron during admission" since that is the topic of the DUE - that will save you a line
Hamby, Christine, 2025-11-13T16:48:50.642

RT4 Add in median [IRQ] or n (%) as appropriate in rows

Add LOS to this table? Was 5.5 days ...
Rider, Taylor, 2025-11-12T22:32:23.854

HC4 0 agree, see other posters for example of how to put the units in the header or footer
Hamby, Christine, 2025-11-13T16:46:19.293

HC4 1 "Female sex", also define anemia. What is the difference between IDA and anemia? (is anemia just the ones who don't have IDA?)
Hamby, Christine, 2025-11-13T16:50:37.645

RT5 We may have to remove these two bullets if we need room
Rider, Taylor, 2025-11-12T22:38:24.108

RT6 I might need an in person explanation on how you went about the cost!
Rider, Taylor, 2025-11-12T22:40:17.815

HC6 0 Also round the number to $3357. Could you annualize the cost savings?
Hamby, Christine, 2025-11-13T16:54:25.242

HC6 1 can leave out last bullet - you've already stated that this is drug costs only, so not including the indirect costs is

implied
Hamby, Christine, 2025-11-13T17:00:06.323

HC7 would put % here instead of n/60 and use consistent formatting (before or after the words). Maybe highlight the table where this data came from?
Hamby, Christine, 2025-11-13T16:56:34.259

HC8 if it's in the conclusions it needs to be in a table too
Hamby, Christine, 2025-11-13T16:57:48.885

HC9 "Most common dose was 125 mg" or just take out, that's in the pie (I would take out)
Change Dosing Table to Total Dose or Total IV Iron Dose
If 3.3% received 1000 mg, where are they in the pie? (is that the red pie piece? It's not in the legend
I think you should have total iron dose (mean or median , as appropriate) and maybe even 50% got 2 or fewer doses -that is a big finding
Hamby, Christine, 2025-11-17T13:18:49.234

HC10 would add ferritin & TSAT to this table
Hamby, Christine, 2025-11-17T13:19:47.016

HC11 All of the patients received IV iron, so can remove this phrase
Hamby, Christine, 2025-11-17T13:23:34.610

HC12 Did you have a TSAT cutoff? The criteria next to the pie graph just says ferritin
Hamby, Christine, 2025-11-17T13:24:29.157

HC13 mean or median? do you have measure of spread? (IQR) - can just just same labels from demographics table if appropriate throughout the poster
Hamby, Christine, 2025-11-17T13:27:39.300

AN14 [@Kalabanka, Jack] Consider revision 'Guidance on IV iron from the AGA, ASH, and KDIGO exists, but there is no clear consensus.'
Ahmed-Sarwar, Nabila, 2025-11-17T23:38:28.956

AN15 [@Kalabanka, Jack] to avoid starting a statement with a number consider revising ' First dose IV iron use was appropriate in 70% of patients based on the criteria established.'
Ahmed-Sarwar, Nabila, 2025-11-17T23:50:21.599

AN16 [@Kalabanka, Jack] it may be more informative to the readers if you included the criteria you established given that your first bullet point identifies the guidelines are not clear.
You can speak to the statistical analysis if asked.
Ahmed-Sarwar, Nabila, 2025-11-17T23:52:41.132

AN16 0 [@Kalabanka, Jack] Okay, I just discovered you have this information in your results section. is there a way to

make the demographics table smaller and move the box with appropriate use criteria to methods?
Ahmed-Sarwar, Nabila, 2025-11-18T00:02:33.386

AN17 [@Kalabanka, Jack] Specify the units for Hgb similar to how you did for age.
Ahmed-Sarwar, Nabila, 2025-11-17T23:54:29.384

AN18 [@Kalabanka, Jack] you do not have report the proportion and percentage, choose one.
Ahmed-Sarwar, Nabila, 2025-11-17T23:56:39.010

AN19 [@Kalabanka, Jack] This is included in your main conclusions, you can remove it from here
Ahmed-Sarwar, Nabila, 2025-11-17T23:58:23.510

HC20 Seems like you need some space in the left hand side. You could try to shrink the height of the rows in the table or maybe change the exclusions line to "exclusions: hemodialysis, pregnancy, heart failure" it if would fit on one line?
Hamby, Christine, 2025-11-20T16:35:00.905

HC21 add a superscript b to the column labels to refer to legend of n(%)
Hamby, Christine, 2025-11-20T16:45:19.845

HC22 can you add "# patients" to the y-axis?
Hamby, Christine, 2025-11-20T16:45:51.751

HC23 how about bolding this section?
Hamby, Christine, 2025-11-20T16:49:55.644