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Iron Panel—Now Available

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An iron panel has been created to ensure correct tests are run for diagnosis of anemia in addition to other causes such as B12 or folate deficiency, to minimize lab draws, and to aid in blood conservation by promoting the use of IV iron to decrease transfusions. The iron panel will include the 4 tests in the chart on the next page. If a patient is iron deficient, a trial of oral iron is warranted. IV iron is an alternative for patients who cannot tolerate or have failed oral iron therapy or who might have greater iron requirements due to chronic bleeding, inability to receive blood (such as Jehovah's Witnesses), other conditions that would impair iron absorption, or are receiving epoetin therapy.

Use of Iron Lab Values

Absolute iron deficiency in patients with normal kidney function occurs when iron saturation is <16% and serum ferritin <12 mcg/L. In patients with chronic kidney disease (CKD) these levels are iron saturation <20% and serum ferritin <100 mcg/L (200 mcg/L in patients on hemodialysis (HD). Functional iron deficiency occurs when the body cannot mobilize iron stores, which can occur during erythropoietin therapy. In patients with CKD, lab values in patients with functional iron deficiency would show iron saturation <20% but ferritin levels >100 mcg/L. Functional iron deficiency can be differentiated from inflammatory iron block in that the ferritin levels will drop with erythropoietin therapy in functional iron deficiency but could increase or remain constant with iron block.

Iron therapy should be used in CKD patients to keep serum ferritin ≥100 mcg/L (200mcg/L in patients on HD) and % saturation >20%. In most patients on HD, oral iron will not keep up with increased demand so IV iron therapy will be necessary at some point during therapy. It is recommended to start iron therapy when erythropoietin therapy is initiated, and to check an iron panel after one week.

Iron overload is possible when serum ferritin ≥800 mcg/L and % saturation ≥50%. IV iron is contraindicated in these patients. The DRIVE trial in patients on HD indicated that IV iron therapy was safe in patients with serum ferritin up to 1200 mcg/L but current product information for IV iron states caution should be used in patients with a serum ferritin level > 500 mcg/L. It is often difficult to interpret elevated ferritin levels as this is also an acute phase reactant that might be elevated for many other reasons. If iron saturation is <20% these patients might show a positive response to IV iron but should be monitored closely for signs of iron overload.

June P&T Update:

- Dexlansoprazole (Kapidex), a recently approved proton pump inhibitor, was reviewed by the committee and was not added to the formulary. Orders for dexlansoprazole will be therapeutically interchanged to pantoprazole.
- Traimcinolone (Triesence) was added to the formulary with restriction for use in outpatient areas only.
- Febuxostat (Uloric) was reviewed and was not added to the formulary. The committee did not feel this drug offered significant clinical advantages over allopurinol.

Evaluation and Cost of Iron Panel

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Tests	Iron-store depletion	Iron-deficient erythropoiesis	Iron-deficiency anemia (IDA)	Functional IDA	FMC cost
Serum ferritin (50-200 mcg/L) FMC 10-291	<20	<15	<15	≥ 100	$4.49
TIBC (300-360 mcg/dL) FMC 250-470	>360	>380	>400	>400	$4.49
Serum Iron (50-150 mcg/dL) FMC 42-135	WNL	<50	<30	<30	$3.61
Saturation (30-50%) FMC 20-55	WNL	<50	<30	<20	n/a

Stenotrophomas Treatment Options

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The gram negative bacterium is a common contaminant in medical devices like catheters, ventilators, and irrigation solutions. When treating Stenotrophomonas it is often difficult to distinguish between colonization, contamination, or true infection. The sterility of the body site where the sample is collected may help provide some insight between the three possible sources of Stenotrophomonas. Antibiotic selection should be made based on susceptible culture results, patient's risk factors, and the presence of a true infection.

Sites of infection	Treatment choices
Respiratory disease Urinary tract infections Catheter related infections Bacteremia	1) Sulfamethoxazole/trimethoprim 1st line: 15-20mg/kg/day iv/po q8 2) Levofloxacin 750mg iv/po daily or Moxifloxacin 400mg iv/po daily - Both show good in-vitro susceptibility 3) Ticarcillin/clavulanate 3.1gm iv q4 4) Ceftazidime 2gm iv q8

*Avoid ciprofloxacin- (higher in-vitro resistance)

Ticarcillin/clavulanate is Nonformulary. The therapeutic interchange from Ticarcillin/clavulanate to Piperacillin/tazobactam has been stopped. Physician must write a clinical reason before pharmacy can dispense it.