

Chronic Maintenance In-Center Hemodialysis Standing Orders - Erythropoietin

Erythropoietin (EPO, epoetin alfa, Epogen™) (ICD9- 285.21)

1. Hgb goal: 10 – 12 g/dl

2. Labs

- a. Draw CBC 2nd week of the month; Hgb draw 4th week of month. There are no other hemoglobin draws for EPO monitoring. EPO is to be adjusted immediately on both of these draws with the following exception: If a **dose decrease is made in response to a hemoglobin drawn in the fourth week of the month**, the dose decrease must become effective the first week of the following month.
- b. When EPO is on HOLD check Hgb weekly until Hgb is ≤ 11.5 . If EPO continues on hold, check Hgb weekly for 4 weeks and if Hgb is still > 11.9 , resume twice monthly measurements.
- c. If Hgb drops/rises > 2 g/dl, repeat with next run and call MD.

3. Administration:

- a. Administer EPO subcutaneously (SC) once per week (qwk) unless dose $> 20,000$ units per week.
- b. Do not exceed 1 ml in volume for any subcutaneous administration.
- c. If weekly dose is $> 20,000$ units (1 cc of 20,000 units/ml strength) divide total weekly dose by 2 and give twice per week (first and last runs of week).
- d. Existing patients on IV EPO change to subcutaneous EPO using the formula: New weekly dose = (current per dialysis dose \times frequency) $\times 0.8$ (round up to the nearest 100 units not to exceed ceiling dose (see item 3-f below.) Continued IV administration requires **prior** approval from the Chief Medical Officer (CMO). If patient declines change to SC administration notify nephrologist for follow up with patient. If patient still declines, notify the CMO. If CMO approves IV administration for the patient, monitoring and dose adjustments will be the responsibility of the attending nephrologist.

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- e. If weekly dose > 15000 units, work up cause (separate sheet). Continue dosing while doing work up.
- f. Total dose ceiling is 30,000 units/week, or 450 units/kg of dry weight (DW) whichever is lower.
- g. Give subcutaneous dose on first dialysis of the week. If patient misses the dialysis session administer the EPO with the next dialysis.

4. Dosing:

- a. Initial dosing for new patients and patients new to EPO:
 - i. Ensure iron repletion before starting EPO ($\geq 30\%$ saturation).
 - ii. Administer EPO as follows:
 - 1. If Hgb > 11.9, do not start EPO.
 - 2. If Hgb 11-11.9, start 80 units/kg/week (rounded to nearest 100 units).
 - 3. If Hgb < 11, start 150 units/kg/week (rounded to nearest 100 units).
 - iii. Calculate units/kg using patient's dry weight (DW).
 - iv. Patients already on EPO will be treated as existing patients (3d above).

b. Dose Adjustments

Make dose adjustments per tables below (round doses to nearest 100 units):

Hgb	Hgb Δ (g/dl)	EPO Δ dose
≤ 10 g/dl	$\downarrow \geq 1.5$	$\uparrow 50\%$
	$\downarrow 1.0$ to $\downarrow 1.4$	$\uparrow 40\%$
	$\downarrow 0.5$ to $\downarrow 0.9$	$\uparrow 30\%$
	$\downarrow 0.4$ to $\uparrow 0.4$	$\uparrow 20\%$
	$\uparrow 0.5$ to $\uparrow 0.9$	$\uparrow 10\%$
	$\uparrow 1.0$ to $\uparrow 1.4$	no change
	$\uparrow \geq 1.5$	$\downarrow 10\%$

Hgb	Hgb Δ (g/dl)	EPO Δ
10.1 – 10.5 g/dl	$\downarrow \geq 1.5$	$\uparrow 40\%$
	$\downarrow 1.0$ to $\downarrow 1.4$	$\uparrow 30\%$
	$\downarrow 0.5$ to $\downarrow 0.9$	$\uparrow 20\%$
	$\downarrow 0.4$ to $\uparrow 0.4$	$\uparrow 10\%$
	$\uparrow 0.5$ to $\uparrow 0.9$	no change
	$\uparrow 1.0$ to $\uparrow 1.4$	$\downarrow 10\%$
	$\uparrow \geq 1.5$	$\downarrow 20\%$

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Hgb	Hgb Δ (g/dl)	EPO Δ
10.6 – 11 g/dl	↓ ≥ 1.5	↑ 30%
	↓ 1.0 to ↓ 1.4	↑ 20%
	↓ 0.5 to ↓ 0.9	↑ 10%
	↓ 0.4 to ↑ 0.4	no change
	↑ 0.5 to ↑ 0.9	↓ 10%
	↑ 1.0 to ↑ 1.4	↓ 20%
	↑ ≥ 1.5	↓ 30%

Hgb	Hgb Δ (g/dl)	EPO Δ
11.1 – 11.5 g/dl	↓ ≥ 1.5	↑ 20%
	↓ 1.0 to ↓ 1.4	↑ 10%
	↓ 0.5 to ↓ 0.9	no change
	↓ 0.4 to ↑ 0.4	↓ 10%
	↑ 0.5 to ↑ 0.9	↓ 20%
	↑ 1.0 to ↑ 1.4	↓ 30%
	↑ ≥ 1.5	↓ 40%

Hgb	Hgb Δ (g/dl)	EPO Δ
11.6 – 12 g/dl	↓ ≥ 1.5	↑ 10%
	↓ 1.0 to ↓ 1.4	no change
	↓ 0.5 to ↓ 0.9	↓ 10%
	↓ 0.4 to ↑ 0.4	↓ 20%
	↑ 0.5 to ↑ 0.9	↓ 30%
	↑ 1.0 to ↑ 1.4	↓ 40%
	↑ ≥ 1.5	↓ 50%

Hgb	Hgb Δ (g/dl)	EPO Δ
12.1 – 12.5 g/dl	↓ 0.5 or >	↓ 25%
	↓ 0.4 to ↑ 0.4	↓ 30%
	↑ 0.5 to ↑ 0.9	↓ 40%
	↑ 1.0 to ↑ 1.4	↓ 50%
	↑ ≥ 1.5	↓ to 100 units

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Hgb	Hgb Δ (g/dl)	EPO Δ
≥ 12.6%	hold EPO	Resume EPO once Hgb ≤ 11.5 at 75% of dose before it was held

Physician Name (Please Print)

RN Name (Please Print)

Physician signature
(see referral sheet)

RN signature

Date

Patient Name _____

Revised 04/14/2011 -Brand refresh 12/28/2011

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