

Home Dialysis Programs Standing Orders – Erythropoietin

Erythropoietin (EPO, epoetin alfa, Epogen™) (ICD10 - D63.1)

1. **Goal:** Hgb 10-12 g/dl **Target: Hgb 11 g/dl**
2. **Labs:**
 - a. Monthly CBC.
 - b. When holding EPO, check Hgb every 2 weeks (twice monthly) until Hgb is <11.5.
 - c. If the patient remains on hold for > 4 weeks, return to monthly CBC draws only.
 - d. When Hgb <10 g/dl or >11.5 g/dl, check every 2 weeks (twice monthly) and adjust until target range is achieved.
3. **Maximum dose:** EPO dosage is not to exceed 30,000 units/week, or **450 units/kg of dry weight (DW) whichever is lower.**
4. **Administration:**
 - a. EPO will be administered subcutaneously (SC) according to the appropriate treatment tier.
 - b. Do not exceed 1 cc in volume for any single SC administration.
 - c. Weekly doses may be given on the same day.
 - d. When a nephrologist makes a dose adjustment off protocol, this is considered a one-time order, unless the nephrologist specifically states that the patient is off protocol. Otherwise resume protocol following the dose change.
5. **Conversion of In-center SC EPO to Home Patient SC EPO:**
 - a. Convert patients currently receiving in-center SC EPO to Home Patient SC EPO by determining total weekly in-center EPO dose.
 - b. Round the in-center total weekly dose down to closest home treatment tier using the “Average Weekly Dose” on the “Step/Tiers Table” below.
6. **Conversion of Aranesp to EPO:**
 - a. Convert patients currently receiving Aranesp to EPO using a conversion factor of 1 mcg:220 units Aranesp:EPO.
 - b. Round the dose to the nearest treatment tier.

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7. Conversion of IV to SC EPO:

- Existing patients on IV EPO, change to subcutaneous EPO using the formula: New weekly dose = (current per dialysis dose × frequency) × 0.8 (round to the nearest treatment tier.)
- IV administration of EPO requires prior approval from the Chief Medical Officer (CMO). **If CMO approves IV administration for the patient, monitoring and dose adjustments will be the responsibility of the attending nephrologist.**

8. New patients and patients naïve to EPO:

- Weight = Dry Weight.
- Ensure iron repletion before starting EPO ($\geq 25\%$ saturation.)
- Hgb ≥ 10.0 → Do not start EPO (label)
- Hgb < 10.0 start 100 units/kg/week (round to the nearest treatment tier.)
- Patients already on EPO will be treated as existing patients.

9. Dosage Adjustments:

- Do not make dose adjustments more frequently than every 4 weeks unless the Hgb > 11.5 or < 10 g/dl or patient is new to the Home Program.
- If Hgb > 11.5 or < 10 g/dl, make dose adjustments twice monthly, corresponding with Hgb checks.
- If Hgb drops > 2 g/dl, notify MD.
- Make dose changes based on the “Dose Change” and “Step/Tiers” tables below.
- Nurse has the discretion to counsel patient to take an existing dose until new dose arrives (if dose is to be increased).
- When EPO on hold x 6 months, inactivate order and restart as a new patient.

Dose Change Table		
If Current Hgb:	Hgb Change (g / dl)	EPO Dose Change
Hgb ≤ 10	$\downarrow \geq 1.5$	$\uparrow$ 2 steps
	$\uparrow 0.9 - \downarrow 1.4$	$\uparrow$ 1 step
	$\uparrow 1.0 - \uparrow 1.4$	No Δ
	$\uparrow \geq 1.5$	$\downarrow$ 1 step
Hgb 10.1 – 10.5	$\uparrow 0.4 - \downarrow \geq 1.5$	$\uparrow$ 1 step
	$\uparrow 0.5 - \uparrow 1.4$	No Δ
	$\uparrow \geq 1.5$	$\downarrow$ 1 step
Hgb 10.6 – 10.9	$\downarrow \geq 1$	$\uparrow$ 1 step
	$\uparrow 0.9 - \downarrow 0.9$	No Δ
	$\uparrow \geq 1$	$\downarrow$ 1 step

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Dose Change Table (continued)		
If Current Hgb:	Hgb Change (g / dl)	EPO Dose Change
Hgb 11.0 – 11.5	↓ ≥ 1.5	↑ 1 step
	↓ 0.5 – ↓ 1.4	No Δ
	↑ 1.4 - ↓ 0.4	↓ 1 step
	↑ ≥ 1.5	↓ 2 steps
Hgb 11.6 – 11.9	↑ 0.4 - ↓ ≥ 0.4	↓ 1 step
	↑ 0.5 – ↑ 1.4	↓ 2 steps
	↑ ≥ 1.5	Hold ESA, resume dose when Hgb < 11.5 ↓ 2 steps
Hgb ≥ 12.0		Hold ESA, resume dose when Hgb < 11.5 ↓ 2 steps

Step / Tiers Table			
Steps/ Tiers	Dosing		Average Weekly Dose
1	2,000 Q month		500
2	2,000 Q 2 weeks		1000
3	3,000 Q 2 weeks		1500
4	2,000 Q week		2000
5	5,000 Q 2 weeks		2500
6	3,000 Q week		3000
7	4,000 Q week		4000
8	5,000 Q week		5000
9	3,000 2x/week		6000
10	4,000 2x/week		8000
11	10, 000 Q week		10000
12	10,000 first dose of week;	2,000 second dose of week	12000
13	10,000 first dose of week;	4,000 second dose of week	14000
14	10,000 first dose of week;	6,000 second dose of week	16000

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Step / Tiers Table (continued)				
Steps/ Tiers	Dosing		Total Monthly Dose	Average Weekly Dose
15	10,000 first dose of week;	8,000 second dose of week	72000	18000
16	20,000 Q week		80000	20000
17	20,000 first dose of week;	2,000 second dose of week	88000	22000
18	20,000 first dose of week;	4,000 second dose of week	96000	24000
19	20,000 first dose of week;	6,000 second dose of week	104000	26000
20	20,000 first dose of week;	8,000 second dose of week	112000	28000
21	20,000 first dose of week;	10,000 second dose of week	120000	30,000

Physician Name (Please Print)_____
RN Name (Please Print)_____
Physician signature
(see *referral sheet*)_____
RN signature_____
Date

Patient Name _____ NKC# _____