

Home Dialysis Programs Standing Orders – Erythropoietin

Erythropoietin (EPO, epoetin alfa, epoetin alfa-epbx, 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 Mircera to EPO:**
 - a. Convert patients currently receiving Mircera to EPO using a conversion factor of 1 mcg:220 units Mircera:EPO.
 - b. Round the dose to the nearest treatment tier.

Northwest Kidney Centers

Home Dialysis Programs Standing Orders - Erythropoietin

7. Conversion of IV to SC EPO:

- a. 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.)
- b. 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:

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

9. Dosage Adjustments:

- a. 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.
- b. If Hgb > 11.5 or < 10 g/dl, make dose adjustments twice monthly, corresponding with Hgb checks.
- c. If Hgb drops > 2 g/dl, notify MD.
- d. Make dose changes based on the "Dose Change" and "Step/Tiers" tables below.
- e. Nurse has the discretion to counsel patient to take an existing dose until new dose arrives (if dose is to be increased).
- f. 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	↓ ≥ 1.5	↑ 2 steps
	↑ 0.9 - ↓ 1.4	↑ 1 step
	↑ 1.0 - ↑ 1.4	No Δ
	↑ ≥ 1.5	↓ 1 step
Hgb 10.1 – 10.5	↑0.4 - ↓ ≥ 1.5	↑ 1 step
	↑0.5 - ↑ 1.4	No Δ
	↑ ≥ 1.5	↓ 1 step
Hgb 10.6 – 10.9	↓ ≥ 1	↑ 1 step
	↑ 0.9 - ↓ 0.9	No Δ
	↑ ≥ 1	↓ 1 step

Patient Name _____ **NKC#** _____

Northwest Kidney Centers

Home Dialysis Programs Standing Orders - Erythropoietin

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		
Step/Tier	Dose	Monthly total
1	2,000 U q 4 weeks	2,000 U
2	2,000 U q 2 weeks	4,000 U
3	2,000 U weekly	8,000 U
4	3,000 U weekly	12,000 U
5	4,000 U weekly	16,000 U
6	10,000 U q 2 weeks	20,000 U
7	6,000 U (3K + 3K) weekly	24,000 U
8	8,000 U (4K + 4K) weekly	32,000 U
9	10,000 U weekly	40,000 U
10	14,000 U (10K + 4K) weekly	56,000 U
11	20,000 U (10K + 10K) weekly	80,000 U
12	30,000 U (10K + 10K +10K) weekly	120,000 U

Matthew Rivara MD

Physician Name (Please Print)

Physician signature
(see Initial Order)

Date

Patient Name _____ **NKC#** _____