

# Methoxy polyethylene glycol-epoetin beta (Mircera<sup>®</sup>) Protocol

**Methoxy polyethylene glycol-epoetin beta (Mircera<sup>®</sup>)** ICD 10 code D63.1

Anemia in chronic kidney disease

**Purpose:** To provide optimal management of ESRD related anemia in dialysis patients

**Hemoglobin Target Goal:** 10.0-11.0 g/dL

## **Methoxy polyethylene glycol-epoetin beta Dosing:**

Doses are based on estimated dry weight and rounded to the following steps:

Step	Dose
1	30 mcg every <i>four</i> weeks
2	50 mcg every <i>four</i> weeks
3	30 mcg every two weeks
4	50 mcg every two weeks
5	60 mcg every two weeks (30 mcg + 30 mcg)
6	75 mcg every two weeks
7	100 mcg every two weeks
8	150 mcg every two weeks
9	200 mcg every two weeks

**Table 1**

1. Methoxy polyethylene glycol-epoetin (Mircera<sup>®</sup>) will be increased and decreased in 1-step or 2-step increments, based on scale above.
2. Mircera<sup>®</sup> will be administered IV to in-center hemodialysis patients, and SQ to home dialysis patients.
3. Mircera<sup>®</sup> ceiling is 200 mcg every two weeks (or 3.0 mcg/kg every 2 weeks, whichever is lower). Orders above 200mcg every two weeks require facility medical director or CMO approval.
4. For in-center hemodialysis patients, if pre-dialysis systolic blood pressure is >190 mm Hg, do not administer Mircera<sup>®</sup>. Notify nephrologist and administer Mircera<sup>®</sup> dose at next hemodialysis session if systolic blood pressure is <190 mm Hg at that time.

## **Initiating Mircera<sup>®</sup> for new patients or ESA naïve patients**

For new patients or established patients who have not received an ESA within the last 3 months, initiate as follows:

1. Iron repletion per iron standing orders
2. AND
  - a. If Hgb < 10 g/dL, then start Mircera<sup>®</sup> at 0.6 mcg/kg every 2 weeks, and round down to closest step per Table 1 but no less than 30 mcg every 2 weeks (Step 3).

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- b. If Hgb 10.0-10.4 g/dL, then start Mircera® at 30 mcg every 2 weeks (Step 3).
- c. If Hgb  $\geq$  10.5 g/dL, then do not start Mircera® until Hgb falls to  $<$ 10.5 g/dL

**Mircera® Dosing Adjustment**

1. Titrate Mircera® per the following table for patients who have a Mircera® order and had not been changed in the last 4 weeks:

<b>Mircera® Dosing Adjustment</b>	
<b>Hgb decreased by greater than or equal to 0.5 g/dL since last dose change</b>	
<b>Current Hgb (g/dL)</b>	<b>Step Dose Change</b>
Less than 10	2 step dose increase
10.0-10.9	1 step dose increase
11-11.9	No Change
<b>Hgb increased/decreased by less than 0.5 g/dL since last dose change</b>	
<b>Current Hgb (g/dL)</b>	<b>Step Dose Change</b>
Less than 9.5	2 step dose increase
9.5-9.9	1 step dose increase
10.0-10.4	If Hgb decreased, do 1 step dose increase. If Hgb increased or stayed the same do NOT change
10.5-11.4	No change
11.5-11.9	1 step dose decrease; if patient is on Step 1, do not HOLD
<b>Hgb increased greater than or equal to 0.5 g/dL since last dose change</b>	
<b>Current Hgb (g/dL)</b>	<b>Step Dose Change</b>
Less than 10	1 step dose increase
10-10.4	No Change
10.5-11.9	1 step decrease; if patient is on Step 1, do not HOLD
<b>Current Hgb (g/dL)</b>	<b>Dose Change</b>
<b>Greater than or equal to 12 g/dL</b>	Hold Mircera; check Hgb within 2 weeks for patients who are on equal to or more than 50 mcg every 2 weeks
<b>If Hgb is increased or decreased at least 1.0 g/dl since the last Hgb level; recheck Hgb within next 2 dialysis treatments for in-center HD and at next redraw for home patients.</b> Follow the algorithm based on the results of the recheck, e.g., if the value remains the same as the first draw, then follow the algorithm for no change.	

**Table 2**

2. Do not change Mircera® dose more frequently than every 4 weeks EXCEPT:
  - a. If Hgb falls from above 10 g/dL to less than 10 g/dL, increase dose after 2 weeks.
  - b. If Hgb is already less than 10 g/dL and drops greater than 0.5 g/dL, increase dose after 2 weeks.
  - c. If Hgb  $\geq$  12 g/dL, hold Mircera® and check Hgb every week for in- center patients, and at next redraw for home dialysis patients. Resume Mircera® with 1-step decrease as soon as Hgb is  $<$  11.8 g/dL and last dose was administered 2 weeks ago or more. If Hgb remains  $\geq$  12 g/dL for more than 2 months, return to regular Hgb testing policy.
3. Post hospitalization: check Hgb at the first clinic visit after hospitalization and pre-hospitalization dose will be administered if patient is due for

**Patient Name** \_\_\_\_\_ **NKC#** \_\_\_\_\_

Mircera. When Hgb is back, then titrate Mircera as needed per Table 2.

**Conversion from darbepoetin or erythropoietin to Mircera®**

1. When a patient with a darbepoetin (Aranesp) or erythropoietin order switches to Mircera®, discontinue darbepoetin (Aranesp) or erythropoietin order.
2. Convert darbepoetin or erythropoietin to appropriate dose of Mircera®, per conversion dose chart below. Convert to Mircera® when the next ESA dose is due.
3. If ESA is on HOLD from another protocol, wait until Hgb is less than 11.8g/dl, then convert ESA as follows: See Table 3 or 4 to convert previous ESA dosing to Mircera® Step, then see Table 1 and decrease 1 Step.

<b>Erythropoietin to Methoxy Polyethylene Glycol Epoetin-beta Conversion Dose Chart</b>		
Epogen Dose (U) per week - total	Mircera® Dose	
	Dose (mcg)	Frequency
< 2000	30	Every 4 weeks
2000 - < 3000	50	Every 4 weeks
3000 - < 5000	30	Every 2 weeks
5000 - < 8000	50	Every 2 weeks
8000 - < 11,000	60	Every 2 weeks
11,000 - < 18,000	75	Every 2 weeks
18,000 - < 27,000	100	Every 2 weeks
27,000 - < 42,000	150	Every 2 weeks
>= 42,000	200	Every 2 weeks

**Table 3**

<b>Darbepoetin (Aranesp) to Methoxy Polyethylene Glycol Epoetin-beta Conversion Dose Chart</b>		
Darbepoetin Dose (mcg) per week - total	Mircera® Dose	
	Dose (mcg)	Frequency
< 10	50	Every 4 weeks
10 - <20	30	Every 2 weeks
20 - <30	50	Every 2 weeks
30 - < 40	60	Every 2 weeks
40 - < 50	75	Every 2 weeks
50 - < 60	100	Every 2 weeks
60 - < 100	150	Every 2 weeks
>= 100	200	Every 2 weeks

**Table 4**

**Labs:** Draw CBC per routine lab orders.

Matthew Rivara, MD

Physician Name (Please Print)

**Patient Name** \_\_\_\_\_ **NKC#** \_\_\_\_\_