Sonora Quest Laboratories

Arizona Governor's Award for Quality 2005 Recipient

Testing and Management of Secondary Hyperparathyroidism in Patients with Chronic Kidney Disease[1, 2]

Step 1

Monitor eGFR for at risk patients. Sonora Quest Laboratories reports eGFR values of <60 mL/min/1.73m^2 as recommended by the National Kidney Disease Education Program[3]. Stage patients according to the table below once two separate eGFR values, <60 mL/min/1.73m^2, are obtained 3 or more months apart.

Chronic Kidney Disease Stage	eGFR Value
1	>90 ml/min/1.73m^2 with associated Kidney Damage
2	60-89 ml/min/1.73m^2 with associated Kidney Damage
3	30-59 ml/min/1.73m^2
4	15-29 ml/min/1.73m^2
5	<15 ml/min/1.73m^2

Step 2

Patients in Stages 4 and 5 should be referred to a Nephrologist. Patients in Stage 3 require laboratory testing including: Intact PTH with Calcium and Serum Phosphorous, as well as testing for co-morbid factors including cardiovascular disease, diabetes and anemia. Determine if patient is above the recommended levels for Intact PTH according to the table below[2].

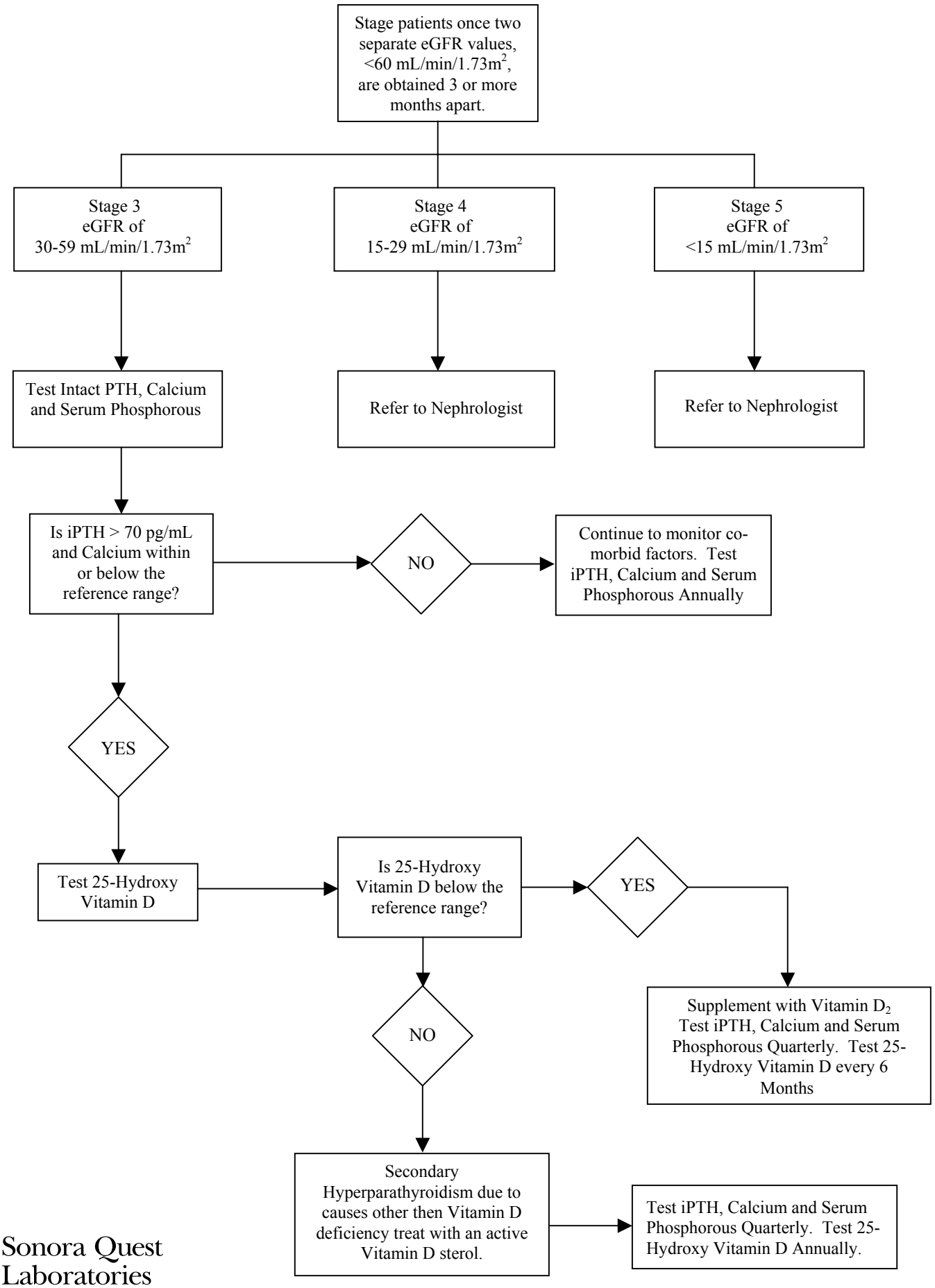
Chronic Kidney Disease Stage	Recommended iPTH Reference Range
3	35-70 pg/mL
4	70-110 pg/mL
5	150-300 pg/mL

Step 3

In all CKD patients, iPTH elevations above the normal population reference range represents secondary hyperparathyroidism that is mutifactorial in etiology (Vitamin D deficiency either nutritional or due to increased losses in urine or peritoneal dialysate, hypocalcemia, hyperphosphatemia, resistance to PTH and Vitamin D and impairment of 1,25 Dihydroxy -Vitamin D synthesis). However, thresholds for screening and treatment are CKD stage specific. If the patient's iPTH exceeds the recommended reference range for their corresponding CKD stage, and the serum calcium is within, or below the reported reference range, test 25 Hydroxy Vitamin D. If the 25 Hydroxy Vitamin D is below the CKD recommended reference range, treat patient for Vitamin D deficiency. If the 25 Hydroxy Vitamin D is within, or above, this reference range, then Vitamin D deficiency is ruled out and the most likely cause is one or more of the other factors stated above and the patient should be treated with an active Vitamin D analog (1,25 Dihydroxy Vitamin D).

Please refer to the algorithm, adopted from the K/DOQI guidelines, provided on page 2 of this document to provide an easy to view flow sheet.

1. National Kidney Foundation. *K/DOQI Clinical Practice Guidelines for Chronic Kidney Disease: Evaluation, Classification and Stratification.* Am J Kidney Dis 39:S1-S266, 2002 (suppl 1)
2. National Kidney Foundation. *K/DOQI Clinical Practice Guidelines for Bone Metabolism and Disease in Chronic Kidney Disease.* Am J Kidney Dis 42:S1-S202, 2004 (suppl 3)
3. National Kidney Disease Education Program www.nkdep.nih.gov/resources/laboratory_reporting.pdf



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