What is Claimed:

1. Use of 25-hydroxyvitamin D in the manufacture of a medicament for treating secondary hyperparathyroidism in a patient having Chronic Kidney Disease Stage 3 or 4, wherein the 25-hydroxyvitamin D is to be administered to the patient in repeat doses of 25-hydroxyvitamin D effective to raise the patient's serum 25-hydroxyvitamin D level to greater than 90 ng/ml.

2. The use of claim 1, further comprising administering the repeat doses in an amount effective to control the patient's serum ratio of 25-hydroxyvitamin D to 24,25-dihydroxyvitamin D to less than 20.

3. Use of 25-hydroxyvitamin D in the manufacture of a medicament for treating secondary hyperparathyroidism in a patient having Chronic Kidney Disease Stage 3 or 4, wherein the 25-hydroxyvitamin D is to be administered to the patient in repeat doses of 25-hydroxyvitamin D effective to raise the patient's serum 25-hydroxyvitamin D level to greater than 90 ng/ml and to control the patient's serum ratio of 25-hydroxyvitamin D to 24,25-dihydroxyvitamin D to less than 20.

4. Use of 25-hydroxyvitamin D in the manufacture of a medicament for treating vitamin D insufficiency in a patient having Chronic Kidney Disease Stage 3 or 4, wherein the 25-hydroxyvitamin D is to be administered to the patient in repeat doses of 25-hydroxyvitamin D effective to control the patient's serum ratio of 25-hydroxyvitamin D to 24,25-dihydroxyvitamin D to less than 20.

5. The use of any of claims 1-4, wherein the repeat doses are to be administered for at least 3 months.

6. The use of any of claims 1-4, wherein the repeat doses are effective to raise the patient's serum 25-hydroxyvitamin D level to greater than 100 ng/ml.

7. The use of any of claims 1-4, wherein the amount is effective to control the patient's serum ratio of 25-hydroxyvitamin D to 24,25-dihydroxyvitamin D to less than 15.

8. The use of any of claims 1-4, wherein the doses of 25-hydroxyvitamin D are to be administered as controlled release oral dosages.

9. The use of any of claims 1-4, wherein the patient having Chronic Kidney Disease Stage 3 or 4 also has a serum total 25-hydroxyvitamin D concentration of less than 30 ng/ml.

10. Use of oral extended release formulation of calcifediol in the manufacture of a medicament for treating secondary hyperparathyroidism in a patient with Chronic Kidney Disease Stage 3 or Stage 4 and serum total 25-hydroxyvitamin D levels less than 30 ng/mL.

11. An extended release dosage form of 25-hydroxyvitamin D, or an extended release dosage form of 25-hydroxyvitamin D for use in therapy, comprising about 30 mcg of 25-hydroxyvitamin D_3, a waxy controlled release agent, an emulsifier, an absorption enhancer, an oily vehicle, and a stabilizing agent, wherein said dosage form, when administered to a patient having CKD Stage 3 or Stage 4, has one or more of the following baseline-adjusted pharmacokinetic parameters for 25-hydroxyvitamin D_3 after repeat dosing: (1) Cmax of about 10 ng/mL to about 45 ng/mL and (2) $AUC_{0\text{-}6\ weeks}$ of about 300 ng·d/mL to about 1300 ng·d/mL; and further optionally a Tmax of about 8 days to about 45 days.

12. An extended release dosage form of 25-hydroxyvitamin D, or an extended release dosage form of 25-hydroxyvitamin D for use in therapy, comprising about 60 mcg of 25-hydroxyvitamin D_3, a waxy controlled release agent, an emulsifier, an absorption enhancer, an oily vehicle, and a stabilizing agent, wherein said dosage form, when administered to a patient having CKD Stage 3 or Stage 4, has one or more of the following baseline-adjusted pharmacokinetic parameters for 25-hydroxyvitamin D_3 after repeat dosing: (1) Cmax of about 30 ng/mL to about 90 ng/mL and (2) $AUC_{0\text{-}6\ weeks}$ of about 700 ng·d/mL to about 2300 ng·d/mL; and further optionally a Tmax of about 29 days to about 45 days.

13. An extended release dosage form of 25-hydroxyvitamin D, or an extended release dosage form of 25-hydroxyvitamin D for use in therapy, comprising about 30 mcg of 25-hydroxyvitamin D_3, a waxy controlled release agent, an emulsifier, an absorption enhancer, an oily vehicle, and a stabilizing agent, wherein said dosage form, when administered to a patient having CKD Stage 3 or Stage 4, has one or more of the following baseline-adjusted pharmacokinetic parameters for 1,25-dihydroxyvitamin D after repeat dosing: (1) Cmax of about 1 pg/mL to about 21 pg/mL and (2) $AUC_{0\text{-}6\ weeks}$ of about 1 g·d/mL to about 460 g·d/mL, further optionally a Tmax of about 1 day to about 44 days.

14. An extended release dosage form of 25-hydroxyvitamin D, or an extended release dosage form of 25-hydroxyvitamin D for use in therapy, comprising about 60 mcg of 25-hydroxyvitamin D_3, a waxy controlled release agent, an emulsifier, an absorption enhancer, an oily vehicle, and a stabilizing agent, wherein said dosage form, when administered to a patient having CKD Stage 3 or Stage 4, has one or more of the following baseline-adjusted pharmacokinetic parameters for 1,25-dihydroxyvitamin D after repeat dosing: (1) Cmax of about 7 pg/mL to about 30 pg/mL and (2) $AUC_{0\text{-}6\ weeks}$ of about 1 g·d/mL to about 570 g·d/mL, further optionally a Tmax of about 8 days to about 44 days.

15. Use of an extended release dosage form of 25-hydroxyvitamin D comprising about 10 mcg to about 90 mcg 25-hydroxyvitamin D_3, a waxy controlled release agent, an emulsifier, an absorption enhancer, an oily vehicle, and a stabilizing agent in the manufacture of a medicament for treating a patient having CKD Stage 3 or Stage 4, wherein the extended release dosage form is to be administered in repeat doses of the extended release oral dosage form to the patient effective to achieve one or more of the following baseline-adjusted pharmacokinetic parameters for 25-hydroxyvitamin D_3: (1) Cmax of about 5 ng/mL to about 150 ng/mL; (2) Tmax of about 5 days to about 60 days; (3) $AUC_{0\text{-}6\ weeks}$ of about 100 ng·d/mL to about 3300 ng·d/mL.

16. Use of an extended release dosage form of 25-hydroxyvitamin D comprising about 10 mcg to about 90 mcg 25-hydroxyvitamin D_3, optionally including a waxy controlled release agent, an emulsifier, an absorption enhancer, an oily vehicle, and a stabilizing agent, in

the manufacture of a medicament for treating a patient in need thereof, optionally having CKD Stage 3 or Stage 4, wherein the extended release dosage form is to be administered in repeat doses of the extended release oral dosage form to the subject effective to achieve one or more of the following baseline-adjusted pharmacokinetic parameters for 1,25-dihydroxyvitamin D: (1) Cmax of about 0.1 pg/mL to about 50 pg/mL; (2) Tmax of about 1 days to about 44 days; (3) $AUC_{0\text{-}6\ weeks}$ of about 1 g·d/mL to about 1300 g·d/mL.

17. Use of an extended release dosage form of 25-hydroxyvitamin D comprising about 30 mcg 25-hydroxyvitamin D_3, optionally including a waxy controlled release agent, an emulsifier, an absorption enhancer, an oily vehicle, and a stabilizing agent; in the manufacture of a medicament for treating a patient in need thereof, optionally having CKD Stage 3 or Stage 4, wherein the extended release dosage form is to be administered in repeat doses of the extended release oral dosage form to the subject effective to achieve one or more of the following: (1) an increase in mean serum 25-hydroxyvitamin D of about 1 ng/mL/week to about 7 ng/mL/week; (2) an increase in mean serum 1,25-dihydroxyvitamin D of about 1 to about 10 pg/mL/week; (3) a mean steady state serum 25-hydroxyvitamin D level of about 50 ng/mL to about 55 ng/mL.

18. Use of an extended release dosage form of 25-hydroxyvitamin D comprising about 30 mcg to about 60 mcg 25-hydroxyvitamin D_3, optionally including a waxy controlled release agent, an emulsifier, an absorption enhancer, an oily vehicle, and a stabilizing agent; in the manufacture of a medicament for treating a patient in need thereof, optionally having CKD Stage 3 or Stage 4, wherein the extended release dosage form is to be administered in repeat doses of the extended release oral dosage form to the subject effective to achieve one or more of the following: (1) a reduction in plasma intact PTH from baseline of about 30 pg/mL to about 80 pg/mL; (2) a steady state serum 25-hydroxyvitamin D level of greater than about 50 ng/mL to about 100 ng/mL; (3) an increase in serum 1,25-dihydroxyvitamin D from baseline of at least about 10 pg/mL; (4) an increase in serum calcium from baseline of 0 to about 0.3 mg/dL; (5) an increase in serum phosphorous from baseline of 0 to about 0.3 mg/dL; (6) a decrease in serum BSAP from baseline of at least about 10 U/L; (7) a decrease in serum CTX-1 from baseline of at least about 100 pg/mL; and (8) a decrease in serum P1NP from baseline of at least about 30 ng/mL.

19. The use of any of claims 1-4 or 10-18; or the extended release dosage form of 25-hydroxyvitamin D of any of claims 11-14, wherein the repeat doses are effective to lower the patient's plasma PTH level by at least 15%, optionally by at least 30%, compared to baseline.

20. The use of any of claims 1-4 or 10-18; or the extended release dosage form of 25-hydroxyvitamin D of any of claims 11-14, wherein the repeat doses are to be administered at a frequency of one dose per day.

21. The use of any of claims 1-4 or 10-18; or the extended release dosage form of 25-hydroxyvitamin D of any of claims 11-14, wherein the repeat doses are to be administered for an extended period of at least one month, optionally at least six months.

22. Use of 25-hydroxyvitamin D in the manufacture of a medicament for treating a vitamin-D responsive disease in a patient, wherein the 25-hydroxyvitamin D is to be administered to the patient in repeated doses of 25-hydroxyvitamin D effective to raise the patient's serum 25-hydroxyvitamin D level to a range of 100 ng/ml to 500 ng/ml, and concomitantly raise the patient's serum 1,25-dihydroxyvitamin D level to a range of 50 pg/ml to 350 pg/ml, without inducing hypercalcemia.

23. Use of 25-hydroxyvitamin D in the manufacture of a medicament for treating secondary hyperparathyroidism in a patient having Chronic Kidney Disease Stage 3 or 4, wherein the 25-hydroxyvitamin D is to be administered to the patient in repeat doses of 25-hydroxyvitamin D effective to (a) raise the patient' s serum 25-hydroxyvitamin D level to greater than 90 ng/ml, (b) control the patient' s serum ratio of 25-hydroxyvitamin D to 24,25-dihydroxyvitamin D to less than 20, or (c) both (a) and (b).

24. The use of claim 23 wherein the repeat doses are to be administered until steady-state levels of serum total 25-hydroxyvitamin D are reached, optionally, wherein the repeat doses are to be administered for approximately 3 months.

25. The use of claim 23 wherein the repeat doses are effective to raise the patient' s serum 25-hydroxyvitamin D level to greater than 100 ng/ml.

26. The use of claim 23, wherein the patient's serum 25-hydroxyvitamin D level is greater than about 110 ng/mL, optionally, without any adverse reactions.

27. The use of claim 26, wherein the patient's serum 25-hydroxyvitamin D level is greater than about 110 ng/mL without causing one or more of hypercalcemia, hyperphosphatemia, hypercalciuria, and adynamic bone disease.

28. The use of claim 23, wherein the patient is not receiving Vitamin D hormone replacement therapy.

29. Use of an extended release formulation of 25-hydroxyvitamin D3 at 300 mcg per week, 600 mcg per week, or 900 mcg per week in the manufacture of a medicament for treating a patient with Chronic Kidney Disease Stage 5 who is undergoing dialysis three times per week.

30. The use of claim 25, wherein the repeat doses are effective to raise the patient's serum 25-hydroxyvitamin D level to greater than 125 ng/mL.

31. The use of claim 27, wherein the repeat doses are effective to raise the patient's serum 25-hydroxyvitamin D level to greater than 150 ng/mL.

32. The use of claim 28, wherein the repeat doses are effective to raise the patient's serum 25-hydroxyvitamin D level to greater than 200 ng/mL.

33. The use of claim 18, wherein the repeat doses of the extended release oral dosage form is to be administered to the subject to lower PTH and increase serum 25hydroxyvitam D levels.