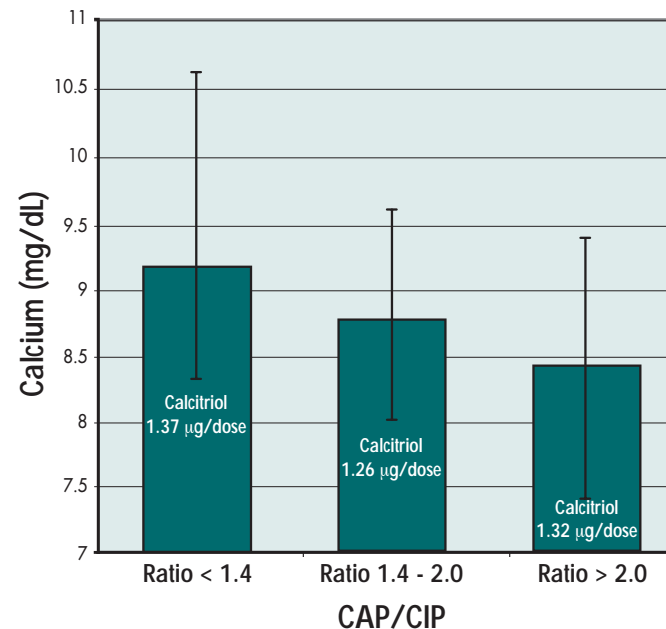


# THE RELATIONSHIP BETWEEN THE CAP/CIP RATIO AND SERUM CALCIUM

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Dr. Tokumoto has demonstrated with bone histology that a 1-84 PTH/7-84 PTH (CAP/CIP) ratio value of <1.4 predicts that a patient has adynamic bone disease. We compared the serum calcium concentrations with the CAP/CIP ratio for 138 of our routine hemodialysis patients. Based on this criteria we investigated the serum calcium levels associated with adynamic bone disease (<1.4 CAP/CIP ratio), and 2 higher ratio ranges of 1.4-2.0 CAP/CIP and > 2.0 CAP/CIP. The only vitamin D used among these patients was calcitriol. The CAP/CIP ratio had not been used prior to this study for the determination of vitamin D dosing. Only the intact PTH assay was used to determine vitamin D dosing. The group with the highest dose of vitamin D was the ratio <1.4 at 1.37 ugm/dose. The group with 1.4-2.0 ratio received an average vitamin D dose of 1.26 ugm/ml and the group with a ratio value of >2.0 received a vitamin D dose of 1.32 ugm/dose. It was found that the highest serum calcium was associated with the <1.4 ratio and progressively lower serum calcium was associated with the higher ratio groups. High serum calcium levels have been demonstrated to be associated with increased mortality risk. These data confirm the understanding that when bones are in an adynamic bone state, they are not able to properly incorporate and buffer serum calcium.

## Relationship of CAP/CIP and Calcium



Data from ESRD patients at North Shore University Hospital, New York, November 2003

Ashfaq A, Mossey R, Bellucci A, et al. The Relationship between the CAP/CIP Ratio and Serum Calcium. *Am J Kidney Dis* 2004(April); 43(4):12, pp. A17.