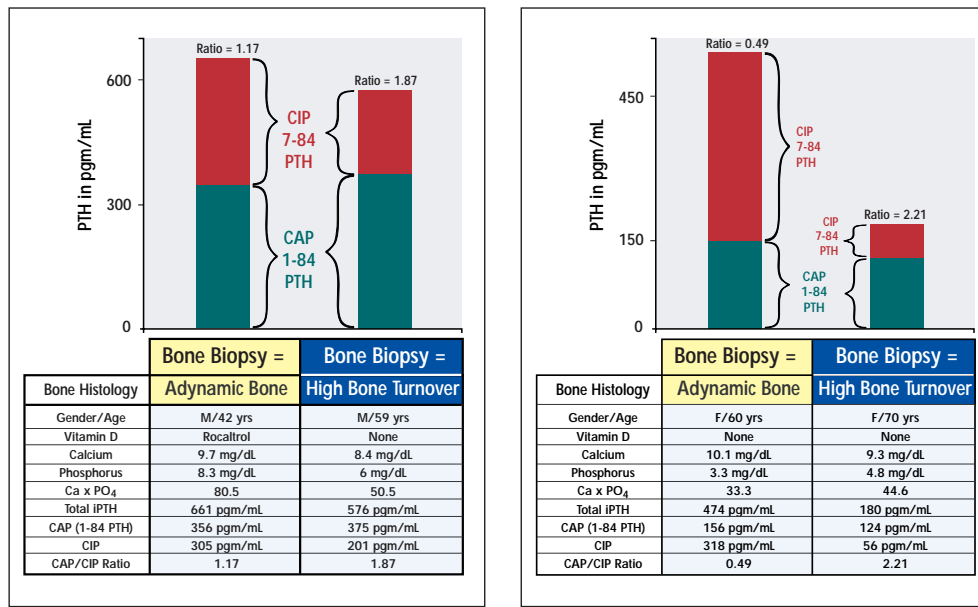


BONE HISTOLOGY DEMONSTRATION OF THE UTILITY OF THE CAP/CIP RATIO TO ACCURATELY DISCRIMINATE ADYNAMIC BONE DISEASE FROM HIGH BONE TURNOVER DISEASE WITH THE SIMILAR 1-84 PTH VALUES

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The intact PTH assay represents a measurement of 1-84 PTH and 7-84 PTH. The 7-84 PTH has been demonstrated to function in a biological manner opposite to that of 1-84 PTH. 7-84 PTH has been demonstrated to be hypocalcemic, inhibit the formation of osteoclasts, and inhibit bone resorption. Therefore, there has been a trend to adopt the specific 1-84 PTH assay in place of the traditional intact PTH assay. However, the biological actions of the 7-84 PTH should not be overlooked in the ESRD patients. Therefore, the 1-84 PTH/7-84 PTH (CAP/CIP) ratio has been investigated for its predictive value for bone status. Using bone histology, Faugere, Malluche et al found an overall 93% accuracy for the 1-84 PTH/7-84 PTH ratio. We independently confirmed with bone histology their findings regarding this 1-84 PTH/7-84 PTH ratio in our patient population. To demonstrate the value of this ratio we present 2 pairs of patients that were bone biopsied. Each patient has a similar specific 1-84 PTH value as the partner patient. Yet, in each case one of the patients had low bone turnover disease that was not detected by the specific 1-84 PTH assay value, but was detected with the ratio. CAP/CIP ratios allow discrimination of low, normal, and high bone turnover in patients with similar 1-84 PTH values.

Ratio Separates Adynamic Bone and High Bone Turnover ESRD Patients with the Same Elevated 3rd Generation 1-84 PTH Value



Tokumoto A, Amerling R. Bone Histology demonstration of the utility of the CAP/CIP Ratio to accurately discriminate Adynamic Bone Disease from High Bone Turnover Disease with the similar 1-84 PTH Values. *Am J Kidney Dis* 2004(April); 43(4):4, pp. A15.