

20 cases who showed the delay in reaching a plateau of the activity. But there was no definite correlation between the uptake of

sequential pancreatic scintiphotos and other diabetic conditions.

The Analysis of Calcium and Bone Metabolism in Humans

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According to the recent ICRP report on the alkaline earth metabolism in the adult man, we studied the long term retention of strontium in the whole body.

Four patients with various bone disorders were injected tracer dosis of radioactive strontium intravenously, and the isotope retentions were measured 3 to 24 months.

The data were fitted to the equation which was composed of the exponential and the gamma functions as advocated by ICRP, but was modified by combining the retention in the cancellous and compact bone as a whole.

The parameters of the equation were optimized by the simplex or Powell's direct search method. In order to prevent for the parameters to become negative during their search, the log-normal distribution was assumed for their errors. This assumption was checked by simulating the isotope retention in the whole body, and examining the frequency distribution of the errors of data.

The results on four cases showed that the calculated parameters were closely agreed with the values set as standard by ICRP report.