Hoffmann's method has been applied in our laboratory for the standardization of radioimmunoassay and thyroidal iodine uptake. It was observed that there exists uncertainty in the derivation of modal Gaussian distribution using the probability diagram due to the overlapping of distributions. To solve this problem, iterative fitting procedure was programed. The modal Gaussian distribution from a probability diagram was regarded as a first approximation, and parameters of Gaussian distribution were iteratively adjusted on the basis of distribution of residual probabilities. It became possible to fit multiple Gaussian distributions to the whole range of patients' data. Second, the computer system of RIA analysis was developed so as to register and sort patients' data following quality control. It made free an analyst from a tedious work of gathering and sorting a large number of patients' data. These improvements provide more accurate determination of normal range from patients' data, and facilitate Hoffmann's method in the standardization in clinical measurements.

We developed total information system in the department of Radiology. The language we used is MUMPS that has the numerous merits for the data base. We planed for 1. the patient registration, 2. the storage of patient's history and status and 3. reporting of the scan.

On searching the patient data, the stored data will be looked for by the various keys. The keys are not only patient name, age, ID number but also by history and status, the result of scintigraphy.

The merits of this system are though that 1. Multi-terminal support, 2. tree data base, 3. interactive language and 4. powerful string function. We feel the complexity at system booting and system shut down and it takes a few minutes to do so. The running speed is slower than other compiler language for example Fortran and Assembler. But we appreciate this system for the data management and update.