

SEED STABILITY IN THE PROSTATE/PERIPROSTATIC REGION FOLLOWING BRACHYTHERAPY

This study evaluates the stability of seeds implanted in the prostate gland and periprostatic tissue and the time dependency of seed embolization to the lungs.

175 consecutive patients were implanted with about 130 seeds each of either I-125 or Pd-103. 42% of I-125 seeds (71% of the total seeds were Rapid Strand) and 40% of Pd-103 seeds were intra-operatively placed in periprostatic tissue. Serial orthogonal films obtained from day 0 through 15 months evaluated seed stability in the target area. Post-implant chest x-rays were obtained from day 1 through 15 months.

The average seed loss per patient at 30 days was 2.2 seeds and 3.0 seeds for I-125 and Pd-103, respectively. After 30 days, an additional 0.5% seed loss was noted in each group. The seed pulmonary embolization rate for the entire group was 21% (range 1-3 seeds per patient). The actual percent of implanted seeds embolizing to the lungs was 0.24%. Chest x-rays obtained less than 30 days following implantation resulted in 0% of patients being detected with pulmonary seeds. Of patients who experienced local seed loss, approximately 50% of those seeds were identified in the lungs and the other 50% were lost to other sites.

A significant number of I-125 Rapid Strand or Pd-103 seeds can safely be placed in the periprostatic tissue with a high probability of prostate bed seed stability and a low incidence of seed embolization to the lung.