

**EXPOSURE ELIMINATED BY A SIMPLE VACUUM SYSTEM  
CONSTRUCTED TO ENABLE WELL CHAMBER ASSAY OF SINGLE OR  
MULTIPLE RADIOACTIVE SEEDS FROM GROUPS OF LOOSE SEEDS AND  
CONTAIN THEM FOR EITHER GAS OR STEAM STERILIZATION PRIOR TO  
SEED NEEDLE LOADING FOR PROSTATIC SEED IMPLANTATION.**

**William Kan, S.E. Medical Radiation Physics, Dothan, AL; Zoubir Ouhib, Lynn  
Regional Cancer Center, Boca Raton, FL; Ken Clark, S.E. Medical Radiation  
Physics, Dothan, AL.**

**TG-40 requires assay of at least 10% of radioactive seeds for seed implantation. A procedure is described here wherein radioactive seeds may be assayed singly or in multiples in a Well Chamber permitting more rapid assay but with no exposure to personnel. A lead glass dome is located over the Well Chamber with an extension from the dome platform to the bottom of the well. Radioactive seeds are introduced through shielded transfer from their original container into the interior of the glass dome. Using a vacuum source, the seeds are manipulated into the extension for assay. After each assay, the seed or seeds are removed by vacuum back to a specially constructed vacuum probe/shielded vial and the process is repeated with a new seed or group of seeds. The seed-containing shielded vial is detached from the specially constructed vacuum probe and can then be sent directly for gas or steam sterilization without further transfer, thereby eliminating exposure. For a typical prostate seed implant case with more than 100 seeds, 100% of the radioactive seeds can be assayed in about 20 minutes. Details of equipment and actual timed case data will be presented.**