

FIRST-Oncentra Prostate Combo System: pros and cons

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Using combined hardware for permanent and temporary prostate brachytherapy planning has many advantages and disadvantages. The UNIX based FIRST system (SPOT PRO treatment planning system and SeedSelectron treatment control system, Nucletron) for permanent and the Windows based Oncentra Prostate planning system (SWIFT system, Nucletron) for temporary brachytherapy have been developed by different workgroups. The basic concept of the FIRST is similar that used in Plato, but a new menu system is applied in Oncentra Prostate which is similar to Oncentra Brachy and Oncentra MasterPlan. The shared hardware – computer, cart, US machine and floor stand – is comfortable in small operation theatres, and their mobility is also convenient. However, it can not be used for simultaneous permanent and temporary prostate treatments. The two planning systems have two different

patient databases, which is generally practical, but uncomfortable when both image servers need to be run. Both systems work in Windows environment, therefore both systems – including the offline system – are exposed to virus infections. The different hardware components of the two systems imply potential source of errors: different video cables, different ultrasound image capture techniques (more preferable for the FIRST system), and different templates. The contouring modules are easy to use in both systems, but since the functions of the mouse and keyboard buttons are not the same, their use is cumbersome. This module in Oncentra Prostate is superior due to its better functions, for example the immediate 3D volume reconstruction. The reconstruction of needle's depth is more improved in the FIRST system, to adjust the tip of the needles directly on live axial image is more precise than to measure the free lengths physically in Oncentra Prostate. The storage of the US images, contours and plans in different files is really useful in Oncentra, because different contours and treatment plans for the same patient can be created e.g. for study purposes. This functionality is very limited in the FIRST system. Expenses can be saved with purchase of the FIRST-Oncentra Prostate Combo System due to the shared hardware elements. Its use could be more efficient if the image acquisition technique and the software functions for the two treatment types were identical.