

On review of the stereotactic (ST) image sets, some of our patients who had initially been proposed for regular ST radiotherapy (circular collimated arcs, the GTC relocatable frame, X-Knife Treatment Planning System (TPS) ) were found to be better suited to treatment with multiple (irregular) fixed fields. Since X-Knife did not accommodate fixed fields, we needed to use our regular TPS(CADPLAN) and provide for ST treatment by writing a program to transpose the CADPLAN coordinate system to the ST coordinate system.

The program is in C/MOTIF and runs parallel to CADPLAN. It requires the operator simply to select an appropriate CADPLAN CT slice, click the mouse near the 9 fiducial rods of the localiser, enter the isocenter coordinates in the CADPLAN system, and thereupon the ST coordinates of the isocentre will be calculated. The accuracy is limited by the 256x256 matrix of CADPLAN CTs (512x512 for Xknife), but is certainly good enough for fractionated ST Radiotherapy. This fixed field variant was initially used to salvage ST radiotherapy plans which did not work out, but it has become our front line treatment for selected ST radiotherapy cases. Subsequent work has also allowed the program to be adapted to interpret fiducials of different localiser systems, so it allows planning using other in-house designed localisers.