

## AbstractID: 11401 Title: Evaluation of an application to transfer Tomotherapy plans to step-and-shoot IMRT plans

### **Purpose:**

The goal of this study is to determine if the IMRT plans generated by SharePlan were equivalent to the original Tomotherapy treatment plans and if this could be used to generate IMRT plans for clinical sites/patients.

### **Method and Materials:**

For the purpose of evaluation, a total of eight patient plans that are currently being treated with the Tomotherapy system at the University of Wisconsin, Madison were chosen. Along with some of the common sites like the prostate, lung and H&N, complex plans for which Tomotherapy system provides the best results were chosen. The three special cases were 1) whole brain (WB) with hippocampal sparing 2) nasal structure 3) multiple lesions on the scalp with brain sparing.

### **Results:**

For simple cases such as prostate, lung and H&N treatment plans, SharePlan generates clinically acceptable plans that are similar to the original Tomotherapy plans. For special cases such as surface lesions and WB treatment with hippocampal avoidance, Tomotherapy provides better target coverage and organ sparing.

### **Conclusion:**

SharePlan is a fast and robust tool to translate Tomotherapy plans to step-and-shoot IMRT plans. SharePlan generates treatment plans comparable to Tomotherapy, and the time required to generate one plan for a simple case on an intermediate grid resolution is approximately 7 minutes.