AbstractID: 9657 Title: Analysis of best fitting Tomo treatment planning parameters for Prostate, lung, breast, brain, liver, Head & Neck, Breast, Pelvis and Pancreas lesions from our 3 years experience planning for nearly 1000 patients.

Purpose:

Best fitting Tomotherapy treatment planning parameters for nine different lesion sites.

Materials & Method:

Tomotherapy treatment planning and delivery depends on parameters that are not necessarily familiar to a radiotherapy physicist. It is important for planners to familiarize themselves with these parameters and their impact on the time required for delivery:

51 Prostate plans, 268 lungs, 197 Brain, 21 Liver, 38 Head & Neck, 46 Breast, 51 Pelvis and 59 Pancreas plans for parameters like Pitch, Gantry period, treatment time, delivery modulation, total dose, calculated treatment length and slice width were analyzed for the best fit.

Results:

For Prostate average modulation delivery factor of 1.8 with average delivered dose of 51.53Gy and average treatment time of 342.4 seconds was used. Average numbers of fractions were 27. For Lung average dose of 50.70Gy with average modulation of 1.726. Average treatment time was 338.6 seconds and average numbers of fractions was 24. For Brain lesions average dose of 28.42Gy with average modulation of 1.71 was used. Average treatment time was 401.45 seconds. Average numbers of fractions was 11. For liver lesions average dose of 28.42Gy was used. Average modulation factor of 1.71 and average treatment time of 401.45 seconds. Average numbers of fractions was 11. For Head & Neck average dose of 36.08Gy with average modulation factor of 1.81 was used. Average treatment time was 420.64 seconds. Average numbers of fractions was 20. For Breast average dose of 41.44Gy with average modulation of 1.97. Average treatment time of 429.27 seconds with average numbers of fractions of 24. For Pelvis average dose of 38.8Gy with average modulation of 1.95. Average treatment time was 344.91 seconds. Average numbers of fractions was 19. For Pancreas average dose of 46.88Gy with average modulation of 1.78. Average treatment time was 266.64 seconds. Average numbers of fractions of 24.