Figure 1 - Different PTV definitions for SBRT (PTVSBRT) and PT (PTVPT). For PTVSBRT isotropic margins of 3 mm plus maximum tumor displacement due to breathing were used on the CTV; For PTVPT margins of 3 mm laterally and 1 mm in beam’s eye view were used and then range-ITV was constructed with 2 mm + 2% range margins added for PTVPT in the end-inhale phase.

Figure 2 - Treatment plans for SBRT (left), PT (middle) and dose volume histogram (right) for SBRT (solid lines) and PT (dashed lines) for two patients. PT curves for OARs without any dose are not shown. Patient 9 (top row) might be better suited for PT and patient 2 (lower row) for SBRT. Patient 2 has a small lesion (1.6 cc) in a central lung region, resulting in large PTVPT - up to 32 cc, compared to PTVSBRT 7.7 cc. The CTV contour is outlined in white.

Figure 3 - CTV D99% for SBRT and different PT calculations. Four different breathing patterns are included for all targets in 4D-interplay and 4D-rescan. The dashed line shows the lower limit for clinical acceptance. One patient was an exception where lower target dose was accepted due to the proximity of a critical structure.

Figure 4 - Box plots of average OARs max point dose (DMax) and mean dose difference between SBRT and PT for patients with single CTV smaller (*n = 9*) or bigger (*n = 6*) than 2.5 cc. Boxes represent 25 % - 75 %, outliers are shown as whiskers and median is shown with solid lines. Values for patients with multiple lesions are shown with circle symbols.