**Supplementary Table 1.** Manual scripted protocol VMAT optimisation settings

|  |  |  |  |
| --- | --- | --- | --- |
| OAR | Objective | Dose level | Priority weight |
| Spinal canal | Max dose | 42Gy | 25 |
| Lung total | Max DVH | 20 Gy at 35% | 25 |
| Lung total | Mean dose | 20 Gy | 1 |
| Heart | Max DVH | 20 Gy at 50% | 1 |
| Heart | Mean dose | 46 Gy | 0.01 |
| Kidney (L/R) | Max DVH | 20 Gy at 5 | 1 |
| Kidney (L/R) | Mean dose | 17 Gy | 1 |
| Liver | Max DVH | 45 Gy at 65% | 1 |
| Liver | Max DVH | 60 Gy at 25% | 1 |
| Ring 0 to 5 mm around PTV2 | Max DVH | 48 Gy at 15% | 1 |
| Ring 5 to 15 mm around PTV2 | Max DVH | 40 Gy at 10% | 1 |
| Ring 15 to 30 mm around PTV2 | Max DVH | 45 Gy at 5% | 1 |

**Supplementary Table 2**. Population mean treatment delivery metrics

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  |  | Autoplan | | Manual | |  |
| Target | Unit | Mean | SD | Mean | SD | P |
| MU | MU | 338 | 54 | 301 | 51 | 0.001 |
| Plan time | Min | 135 | 43 | - | - | - |
| Beam on time | Sec | 97 | 8 | 91 | 16.0 | 0.003 |
| Pass rate (3%,3mm) | % | 98.6 | 2.0 | 98.4 | 1.6 | 0.43 |
| Pass rate (2%,2mm) | % | 93.3 | 3.1 | 92.5 | 4.7 | 0.59 |