Dr. J’s More Relaxed Gyn Constraints

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| **Gyn** | **Conventional** |  |
| Vagina | Upper < 120-150 Gy  Mid < 80-90 Gy  Lower < 60-70 Gy | Vaginal doses >50-60 Gy can cause significant fibrosis.  G2+ vaginal stenosis for 65 / 75 / 85 Gy of 20→ 27→ 34% [Kirchheiner RTO ’16] |
| Rectum | **75 Gy (15%)** (20%) 04-15, PACE (74 Gy)  **70 Gy (20%)** (25 - 30%) 04-15, PACE  **65 Gy (25%)** (35 - 40%) 04-15, 08-15, 05-34  69.5 Gy EQD2 (2 cc)Mazeron RTO ’16  **65 Gy** EQD2 **(2 cc)**Kircheiner RTO ’16  55 Gy EQD2 (11 cc)Ujaimi BT ’17  60 Gy (50 - 55%) 04-15, 08-15  45 Gy (60%) 07-24  40 Gy (80% - 100%) TIME-C / 04-18  30 Gy (60%) 04-18 | Fistula for D2cc ± 75 Gy of 12→ 2% [Mazeron RTO ’16].  G2+ rectal proctitis/bleeding for D2cc ± 65 Gy of 10→ 4% [Mazeron RTO ’16].  55 Gy > 11 cc may also be predictive of late G2+ rectal toxicity (in addition to D2cc < 70 Gy) [Ujaimi BT ’17]  Late G3+ and G2+ of < 10% and < 15% for the following constraints: QUANTEC   * V75 < 15%. *Add 10% for bladder (V75 < 25%).* * V70 < 20%. *Add 15% for bladder (V70 < 35%).* * V65 < 25%. *Add 25% for bladder (V65 < 50%).* * V60 < 35%. * V50 < 50%. |
| Bladder | **75 Gy (25%)** (30%) 04-15, 08-15  **70 Gy (35%)** (40%) 04-15, 08-15  **65 Gy (50%)** (55%) 04-15, 08-15, 05-34  **45 Gy (35%** - 70%) TIME-C / 04-18 / 07-24 | Dmax < 65 Gy with late G3+ toxicity ≤ 6% (bladder cancer). QUANTEC  Minimize late G3+ toxicity with the following constraints:   * V80 < 15% * **V75 < 25%**. *Subtract 10% for rectum (V75 < 15%).* * **V70 < 35%**. *Subtract 15% for rectum (V70 < 20%).* * **V65 < 50%**. *Subtract 25% for rectum (V65 < 25%).* |
| Uterus | 100 Gy |  |
| Ureters | 75 Gy |  |
| Duodenum | 50 Gy  60 Gy (2cc) Verma ’14  55 Gy (15cc) Verma ’14  55 Gy (1cc) George ’20  50 Gy (4cc) George ’20 | 3y G2+ for D2cc ± 60 Gy of 4→ 19% Verma ’14  3y G2+ for V55 ± 15 cc of 7→ 49% Verma ’14  G2+ for V55 ± 1 cc or V50 ± 4 cc of 4→ 8% George ’20  G2+ for V55 1 / 10cc of 10→ 20% George ’20  G2+ for V50 4 / 10cc of 10→ 14% George ’20 |
| Small Bowel | **55 Gy** (5 - 10 cc - bag)EMBRACE II  50 - 52 Gy  **45 Gy** (**195cc** - bag)Roeske RTO ’03  45 Gy (150 - 200 cc) 05-34 (SPPORT)  **40 Gy** (**30%** - 70%)TIME-C / 04-18 / 07-24  **15 Gy** (**120cc** - loop) | Small bowel: TD 5/5 50 Gy.  G3+ acute toxicity < 10% for bowel bag V45 < 195 cc. QUANTEC  G3+ acute toxicity < 10% for individual loops V15 < 20 cc. QUANTEC |
| FH | Mean < 45 Gy  44 Gy (5%) 05-29  **40 Gy** (**50%**, 35%)  35 Gy (10%)  30 Gy (15 - 20%) 04-18 |  |
| Iliac crest | **30 Gy (50%)**05-29  40 Gy (35%) 05-29  50 Gy (5%)05-29 |  |
| Bone marrow  (Cervical) | **Median < 34.2 Gy** Klopp IJROBP ’16  **40 Gy (37%)**TIME-C / 04-18, Klopp IJROBP ’16  20 Gy (75%) Mell IJROBP ’06  **10 Gy (90%)**TIME-C / 04-18, Mell IJROBP ’06 | Cervical cancer (weekly cisplatin):  G2+ heme for BM V40 ± 37% or median BM ± 34.2 Gy of 40→ 75% [Klopp IJROBP ’16]. *V20 and V10 did not pan out.*  G2+ neutropenia for BM V10 ± 90% of 11→ 74% and BM V20 ± 75% of 14→ 25% [Mell IJROBP ’06]. *V40 did not pan out.* |