

| Name | Test | Conditionals | | | Recommended Action |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | | Pass | Warn | Fail | |
| Jaw Gap | Tests that jaw gaps are within deliverable tolerance | Deliverable | Not deliverable, will automatically fix and prompt recomputation | N/A | None required |
| MLC Gap | Tests that MLC leaves are within deliverable tolerance | Deliverable | Not deliverable, will automatically fix and prompt recomputation | N/A | None required |
| EDW Gap | For EDW: tests that MU > 20 and Y Jaws are between -10 and 10cm, with an opening between 4-30 cm For Elekta: tests that MU < 999 | Deliverable | N/A | Not deliverable | Failing: Fix wedged field settings |
| MLC Behind Jaws | Identifies if MLCs are open > 0.6 cm at a distance of > 0.1 cm behind the leaves | MLC not open behind leaves | MLCs open behind leaves | N/A | Warning: Select options box to identify specific leaves. Check control points to check if the error is egregious. |
| Collimator Angles | Checks that collimator angles are not zero for a VMAT or conformal arc plan, also checks if collimator angles are repeated | All beams have unique, non-zero collimator angles | Two beams share a collimator angle | A beam has a non-zero collimator angle | Warning: Check collimator angles, okay if two partial arcs use the same angle. Failing: Set collimator angles to non-zero. |
| CW/CCW Name Check | Checks that the usage of "CW" or "CCW" in beam names corresponds to the gantry motion. Checks that beams alternate CW or CCW. | Beams named properly | A CW or CCW beam are mis-labeled. Two beams with same rotation are ordered sequentially. | N/A | Warning: If using partial arcs, proceed. If not using partial arcs, confirm that the beam ordering is optimal. Confirm that beam naming corresponds to gantry rotation. |
| Bolus Check | Checks if all beams in a beam set have bolus attached. | All beams have bolus attached. | Not all beams have bolus attached. | N/A | Warning: Check bolus attachment to all beams. |
| Fif MU Limit | Checks that all Fif segments have >1 MU | All segments >1 MU | N/A | Any segment <1 MU | Failing: Fix beam weighting or remove segment below threshold |
| Rx Dose Limit | Checks that dose per fx > 150cGy | Dose > 150 cGy/fx | Dose < 150 cGy/fx | No fractionation entered | Warning: Check against the PD that a low dose / fx is prescribed. Failing: Enter the fractionation |
| Dose Grid Size | Checks that the proper dose grid size is used for VMAT or SBRT plans | A dose grid of <2mm is used | A dose grid of 3mm is used for a plan with >5 fractions | The dose grid is >3mm or 3mm with 5 or less fractions | Warning or failing: Apply default dose grid and recompute the dose |
| Iso Couch Distance | Checks that the isocenter is <24cm above the couch | Isocenter is <24 cm above the couch | Isocenter is >24 cm above the couch | N/A | Warning: Carefully assess clearance of the gantry. Changing the isocenter location is highly recommended. |
| Iso Shift Distance | Checks that any lateral shift > 5cm does not have an arc going through the opposite side of the patient (partial arcs are allowed) | Shifts > 5cm use partial arcs | Gantry contralateral to shifted direction, No Localization Point POI given, an unsupported orientation is used (not HFS / FFS) | N/A | Warning: If full arcs are used in conjunction with shift >5cm, check the machine used. Warning: If localization point not present, fix POI designation. |
| Collision Check | Creates a ring of 39.5cm around the isocenter, determines if any part of the external or couch lie outside of the ring | No part of the external or couch lie outside of d_CollisionCheckRing | A couch kick other than 0, 90 or 270 is used. Any part of the external or couch lie outside of d_CollisionCheckRing | N/A | Warning: Please review d_PossibleCouchCollision or d_PossibleExternalCollision structures to identify if the collision represents a risk to patient safety. Please also send the plan to Mobius for a more accurate estimate of patient clearance. |
| Dose Recomputation | Recomputes the dose with final dose calculation if otherwise not computed | No recomputation needed | Dose was recomputed | N/A | Warning: Please review the new dose distribution. |
| Dose Algorithm | Checks that the clinical dose algorithm is used. | Clinical algorithm used. | N/A | Clinical algorithm not used. | Failing: Compute the final dose. |
| Dmax OAR Overlap | Identifies the Dmax location, warns if overlapping with any ROIs designated as OARs. | Dmax does not lie within any OARs | Dmax is not within a "Target" type structure or Dmax lies within an "Organ" type structure. | N/A | Warning: Review the Dmax location. |