### Eclipse™ Treatment Planning System
New Features and Enhancements for Version 15.5

<table>
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<tr>
<th>Feature</th>
<th>New Feature/Enhancement Description</th>
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| **Photon Optimization Enhancements*** | Avoidance structure  
- Ability to avoid radiating the target through user-defined volumes or organs at risk (OAR)  
- Can select to block the entrance and exit dose or just entrance dose |
| | Target auto crop  
- Simple one-button solution that replaces the manual process for editing overlapping target structures with contradicting objective settings |
| | Convergence mode (New selection within the calculation options for photon optimizer) |
| | Aperture shape controller (New selection within the calculation options for photon optimizer)  
- Allows for control over the complexity of the leaf modulation in volumetric modulated arc therapy (VMAT) plans |
| | Auto feathering  
- Creates smooth dose gradients in plans with multiple isocenters where the treatment fields overlap |
| | Eclipse clinical protocol details (clinical goals) are now displayed during optimization. |
| | VMAT planning  
- Use up to 20 arc fields when creating VMAT plans |
| | New dose and objective cost function evaluation tools  
- Cost bubbles  
- Dose profile  
- Focus on structure  
- Relative dose |
| **RapidPlan™ Knowledge-Based Planning Enhancements**** | DVH estimation model enhancements  
- Target levels – A DVH estimation model configured with one target dose level can be used for plans with multiple target dose levels.  
- Improved OAR and target overlap modeling  
- Small structure handling improvements  
- New line objective types  
  - Target preferring  
  - OAR preferring |
| | Maximum number of model targets changed from 3 to 10. |
| | New Varian multi-metastatic intracranial model*** |
| **Algorithm Enhancements** | Graphics processing unit (GPU) algorithm support enables the use of modern GPU technology for optimization and final dose calculation.  
- Supported algorithms  
  - Acuros® XB advanced dose calculation (purchasable option)  
  - Photon optimizer® (PO) for intensity-modulated radiation therapy (IMRT) optimization  
  - Requires GPU supported hardware (purchasable option) |
| | Tongue-and-groove handling improvements |
| | Support of MLC add-on which allows defining the dosimetric leaf gap and leaf transmission separately for each photon algorithm |
| | Y-jaw tracking improvements |

* Photon optimization requires either the purchase of an IMRT or RapidArc® radiotherapy technology license.
** RapidPlan knowledge-based planning is a purchasable option.
*** Requires HyperArc™ technology planning license.
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<tr>
<th>Purchasable Options</th>
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<td><strong>HyperArc</strong></td>
<td>HyperArc is an intracranial class solution which provides pre-planned delivery trajectories and pre-planned imaging locations and modality. The HyperArc treatment technique is a frameless MLC-based technique, which includes simplified planning of single and multi-metastatic intracranial non-coplanar plans in Eclipse and automated delivery of these plans on the Edge™ and TrueBeam® systems.</td>
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<td><strong>Multi-Criteria Optimization (MCO)</strong></td>
<td>Multi-criteria optimization allows clinicians to explore what happens when different clinical criteria are varied, such as the degree to which particular organs are spared versus coverage of the targeted tumor. Eclipse MCO leverages both RapidPlan and the existing optimization workflows to expedite finding the optimal plan for a given patient with minimal trial and error iterations.</td>
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