

# Hot Spot Correction Algorithm

Adaptiiv’s patented hot spot correction algorithm makes it easier to achieve ideal dosimetry ranges within modulated electron radiation therapy (MERT) treatment plans. The algorithm calculates nearly instantaneous optimization of dose homogeneity and dose conformity to the planning target volume (PTV).

Adaptiiv software improves the quality of treatment plans that would otherwise be clinically unacceptable, ensuring patients receive the optimal treatment modality.

## Clinical Benefits

**Dose Conformity** – Achieves improved conformity of the prescribed dose to PTV.

**Dose Homogeneity** – Achieves clinically acceptable dose homogeneity to PTV.

**Optimal Balance** – Allows medical physicists and radiation oncologists to choose the optimal balance between dose homogeneity and dose conformity to PTV.

**Reduced Design Time** – Automation reduces the time required to design the MEB from several hours to minutes.

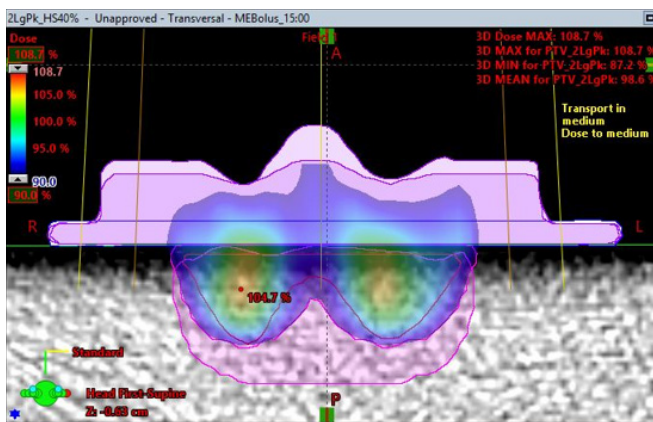


Figure 1. Hot spot corrected MEB reduces the hot spot to a clinically acceptable level of ~107%.

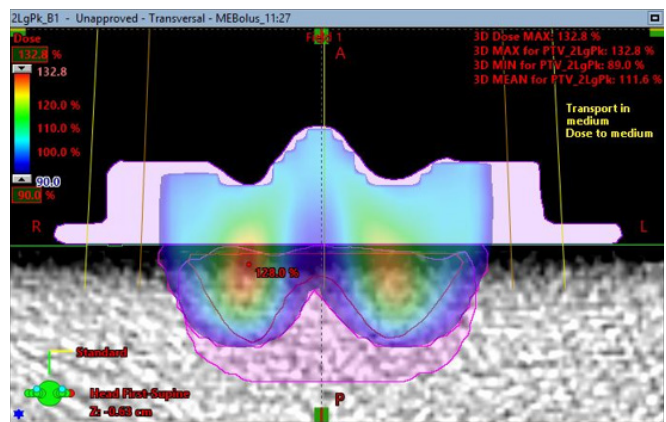


Figure 2. Original MEB yielding a hot spot of ~130%.



**“Adaptiiv has enabled us to confidently tackle situations where we would typically struggle to apply a bolus. The benefit has already been seen in reduced setup time, improved patient comfort and reproducibility. The ability to print the precise bolus required for electrons or photons is a powerful tool in an RT department.”**

Ciaran Malone, Medical Physicist  
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