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SUBJECT: IMSure QA Software Use with Philips® (ADAC®) Pinnacle3® TPS

The following information is provided as a service to our customers:

IMSure QA Software gives the operator the ability to import predicted fluence maps from the treatment planning system. These maps can then be compared directly to the calculated fluence maps created by IMSure based on the MLC files imported from the RTP or DICOM RT treatment plan files.

A correlation coefficient shows how well the two maps match globally and a maximum difference is shown for a more localized comparison. More in depth comparisons can be accomplished by reviewing a difference map or a gamma map of the two.

The Philips (ADAC) Pinnacle3 treatment planning system does not output fluence maps at this time.   It does, however, allow the operator to output two types of reference images; optical density matrices (ODM) and planar dose maps.

ODMs more closely resemble fluence and can be imported into the IMSure QA Software for comparison purposes. The documentation that accompanies the Philips (ADAC) Pinnacle3 treatment planning system provides instructions for exporting these images. In many cases, because of the manner in which the Pinnacle3 system calculates the ODM, there is a 'blurring' of the pixels especially at the field edge and in high gradient areas of the treatment plan.

Due to this 'blurring', operators of the Philips (ADAC) Pinnacle3 treatment planning system may not be provided with a good correlation coefficient. Large maximum differences between the IMSure QA Software calculated fluence maps and the Pinnacle3 ODM may also result. Poor agreement when using the difference map and the gamma map comparisons can also be expected. Setting the 'Calculated Map Resolution' found in Preferences/IMRT QA to 1/2 cm minimizes this effect.

This issue only affects the ability to compare fluence maps within the IMSure QA Software. It does not affect the ability of the software to calculate dose or MU's for comparison to the treatment plan.

Planar dose maps contain 'dose' information, and thus do not correlate well to fluence. Therefore, IMSure QA Software will not import planar dose maps from the Philips (ADAC) Pinnacle3 treatment planning system.

For additional information on IMSure QA Software, refer to the User Manual.

If there are any questions or comments, please contact Standard Imaging or your authorized representative.