

# PERFORMING IMAGE REGISTRATION AT THE LONDON ATRIAL FIBRILLATION CENTRE WITH THE CARTOMERGE™ IMAGE INTEGRATION SOFTWARE MODULE

*As more electrophysiologists use the CARTOMERGE™ Image Integration Software Module, they are refining the registration process to suit their particular techniques. This is one in a series of White Papers that have been prepared to share the experts' methods.*

Dr. Richard Schilling of the London Atrial Fibrillation Centre has performed 150 procedures using the CARTOMERGE™ Module. He feels that the learning curve for the use of the CARTOMERGE™ Module and in particular the registration process is very short.

He currently uses landmark registration followed by surface registration. Dr. Schilling has found that the ideal way to register is to landmark using catheter locations at the proximal edge of the pulmonary veins, but no more distal than the first bifurcation. " Ideally we aim for four landmark pairs, but settle for three if one is proving difficult or time consuming to reach", explains Dr. Schilling. He then performs surface registration. It is important to ensure that points

are taken from every wall of the atrium but to limit the anterior points as much as possible to reduce inaccuracies secondary to volume changes or catheter stretch. Dr. Schilling feels confident in the landmark registration alone, but if a surface registration seems to change it significantly, he suggests taking more surface points and performing additional surface registration to increase confidence.

Dr. Schilling has found that in general, differing rhythms during the CT scan and the procedure do not affect registration significantly. Using the statistics provided by the module, he typically sees a mean error of 1.5 mm on all walls of the atrium.



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