Study Helps Set Guidelines for Breast MRI

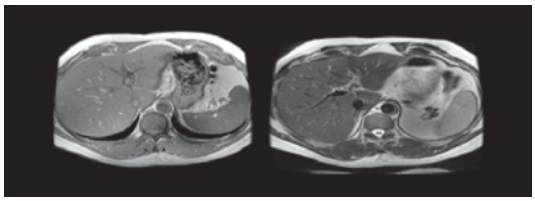
New guidelines published in the *Journal of the National Comprehensive Network* state that breast MRI should supplement and enhance current screening and diagnosis for breast cancer. Authored by teams at the Seattle Cancer Care Alliance and the Roswell Park Cancer Institute in Buffalo, NY, the study still maintains that screening should primarily be done with mammography and ultrasound, but that MRI should be used in selected situations, such as providing a better look within a breast believed to have cancer and to check for lesions in the other breast. In addition, the guidelines recommend biopsy of suspicious lesions found with MRI before deciding on whether to proceed with breast cancer surgery and suggests that imaging centers should be able to perform MR-guided needle biopsy of MR-detected lesions. ■

EllipTX Innovation Further Improves Image Quality in 3.0T Body Imaging

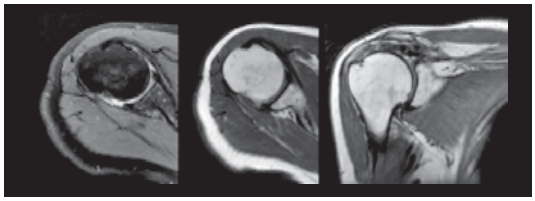
Early mid-1990s imaging on 3.0T systems exhibited non-uniform signal intensity, or shading artifacts, across the imaging field of view (FOV) in particular anatomies. Often called "dielectric shading," in reference to the interaction between the RF field and various tissues at high field, the severity of image shading was often patient-size dependent with some areas (e.g., abdomen, pelvis, spine, and breast) being inconsistently problematic. Over the years, improvements in RF body coil design have been introduced to minimize these effects, but until now, there has not been a straightforward and cost-effective technology developed to solve this physics phenomenon as unique as GE 3.0T EllipTX RF technology.

At high fields, the dielectric effect causes the conventional RF transmit systems to produce non-uniform flip angles across the anatomy of interest. GE's EllipTX technology optimizes the RF transmit system to remove this non-uniformity and improve the consistency, reliability, and image quality of abdominal, pelvic, breast, and spine exams. Unlike other approaches, GE EllipTX technology does not require additional software be installed, nor does it require the costly replacement of existing hardware. EllipTX technology is fast, efficient, and completely automated for the user. This technology does not require an additional calibration scan to improve 3.0T image quality. And finally, as a result of GE's commitment to the MR Continuum, EllipTX technology is being offered as a ContinuumPak, free of charge to GE 3.0T customers.

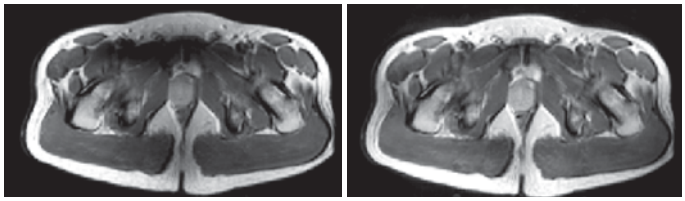
Below are examples of imaging studies with and without the EllipTX technology that demonstrates the effectiveness of this technique on a 3.0T Signa HDx system. ■



Liver Fast 3D SPGR (left) and T2 FSE (right) with EllipTX



T2 fat sat (left) and T1 (middle, right) image of the shoulder



Standard Drive EllipTX