

Philips Elite Breast Clinical Solution

Designed to combine high patient throughput with high-quality imaging and optimum patient comfort, the Elite Breast Solution comprises the MammoTrak dockable patient support, integrated diagnostic and biopsy coils, and the DynaCAD Enterprise Solution for advanced data analysis and biopsy planning on the MR console.

The MammoTrak dockable patient support has an integrated MammoTrak breast coil with 7 or 16 channels. By allowing the patient to be prepared outside the scanner room while the current patient is still in the scanner, patient preparation time can be shortened and departmental efficiency improved. The patient is simply rolled into the scanner room, already positioned on the MammoTrak, as soon as the previous patient is ready.

Enhanced patient comfort

Care has been taken to make the breast MRI study as comfortable as possible. Patient comfort is particularly important in this type of examination. The patient is therefore positioned feet-first on the patient support, rather than head-first, on a sloping ramp. The most comfortable angle for the ramp was selected following a patient study. The MammoTrak has handgrips on both sides so that even elderly or large patients can be positioned on the coil. The MammoTrak has an adjustable headrest with integrated mirror so that the patient can see out during the examination. Increased space around the patient while she is in the MRI system and the refinements described above overcome many of the problems associated with conventional breast MRI.

The MammoTrak Breast coil

The integrated MammoTrak breast coil comes in two versions:

- New 16-channel SENSE MammoTrak Breast coil
- New open design 7-channel SENSE MammoTrak Breast coil.

Both versions offer improved visualization of the axilla region when compared with conventional breast coils.

The 16-channel integrated MammoTrak SENSE Breast coil provides the required diagnostic breast imaging by optimizing spatial and

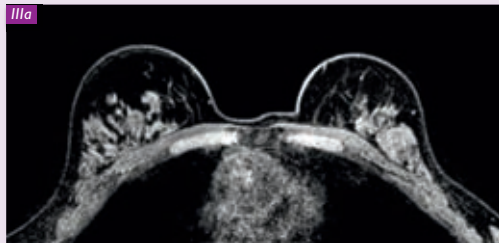


▲ I. The Elite Breast Solution II. The MammoTrak dockable patient trolley at the University of Chicago, with the 16-channel SENSE MammoTrak Breast coil. ▼



temporal resolution to visualize smaller lesions, which is important for early detection and improved treatment.

III. Comparison of eTHRIVE (left) and VISTA (right) images



The 7-channel MammoTrak SENSE Breast coil with integrated lighting is designed for breast biopsies, both for medial and lateral biopsies as well as cranial access. The biopsy procedures can thus be separated from the diagnostic procedures if desired by the hospital workflow.

Intuitive biopsy planning from MR console

Breast biopsy is usually a separate procedure from the diagnostic examination. As with the diagnostic examination, the patient is prepared on the MammoTrak outside the scanner room, and then wheeled into the room. After the lesion has been identified, the complete biopsy planning can be done on the MR console using the DynaCAD Enterprise. The system is compatible with core biopsies and vacuum assisted biopsies (VAB).

The DynaCAD shows the optimal trajectory to the breast lesions using the biopsy grid or the pillar. Lateral, medial and cranial approaches are available, ensuring the shortest path to the lesion. The same display as that on the MR console, showing the needle coordinates and position, is also shown on the in-room display near the magnet. It allows the correct needle coordinates to be checked at the magnet, exactly where they are needed. After the needle has been correctly positioned, the patient can be wheeled back into the prep room for the vacuum-assisted biopsy (VAB).

DynaCAD Enterprise

With the Elite Breast Clinical Solution, scans are processed and reviewed via the DynaCAD Enterprise. With a single click, all of the scans are automatically loaded in a pre-configured screen layout, and can be accessed by authorized staff from any computer in hospital. All breast

cases are always loaded in the way the physician wants to review them. DynaCAD comes with a full set of processing tools and offers reporting according to the standardized lexicon of the Breast Imaging Recording and Data System (BI-RADS) of the American College of Radiology.

SmartExam Breast

The Elite Breast Clinical Solution is supported by the Elite Breast Ambassador network, providing access to in-depth training courses on breast MRI by leading physicians.

eTHRIVE / VISTA comparison

eTHRIVE, a 3D T1-weighted gradient echo technique, enables fast dynamic scanning with sub-millimeter in-plane resolution optimized for high resolution and good fat suppression. The eTHRIVE technique is based on linear k-space filling with near-isometric voxels. Using VISTA instead of a T2-weighted multislice scan and eTHRIVE with the same voxel size (0.76 x 0.76 x 1 mm), images are matched slice-to-slice between eTHRIVE and VISTA. Matching is in-plane as well as through-plane, with identical dimensions for exact comparison of both image sets (Figure III).

The sagittal multi-planar reconstruction (MPR) views and maximum intensity projections (MIPs) are generated immediately and automatically using the Philips ExamCard*

*Philips ExamCards contain all the scans required for a complete MR examination in one easy-to-use file.

Users share ExamCards via the Philips MRI NetForum Community at www.philips.com/netforum, where ExamCards can be downloaded directly into a Philips MRI scanner.