The author and his group were responsible for the introduction of lymphoscintigraphy and the sentinel lymph node biopsy for breast cancer. This technique has proven to be a major advance in the management of breast cancer patients, avoiding a complete axillary lymph node dissection in a large proportion of patients with breast cancer. The technique is based on the premise, now proven unequivocally that the sentinel lymph node (SLN) reflects the lymph node status of a patient with breast cancer, and a negative SLN indicates that a complete axillary lymph node dissection may be obviated in these patients.

The authors provide a historical perspective of our understanding of the lymphatic system in the human body, and the initial usage of lymphoscintigraphy and identification of the sentinel lymph node with regard to various cancers, becoming initially a proven technique in the management of primary melanoma. The author and his group commenced the study in October, 1991, to determine the safety and feasibility of lymphatic mapping and the sentinel lymph node biopsy in breast cancer. This was based on the premise that the SNB may be an accurate staging technique of the regional lymph nodes, and that negative sentinel nodes may preclude the need for a completion axillary dissection. Numerous trials have now proven this technique, the reliable staging with SNB depending on the success of the SN identification, a low false negative rate, and reliable histological assessment of the SLN. The results of the initial trials were outlined in the article including the American College of Surgeons Z0010 trial, the Milan trial of Veronesi and the large NSABP-B32 trial which included 5611 women. These studies showed no difference in survival in patients undergoing a full axillary dissection or simply the SLN B in clinically node-negative patients with invasive breast cancer. The results with regard to overall survival (OS), disease-free survival (DFS) and regional control were the same.

Controversy arose with the further advances in histo-pathological assessment of the SLN, including the development of immuno-histo-chemical staining (IHC) which identified micro-metastases. The study of the American College of Surgeons Z0010, suggested that IHC positivity of the sentinel node had no clinical relevance, and that the presence or absence of micro-metastases should not affect the use of systemic therapy. The reports of the American College study Z0010 and NSABP-B32 trials supported this statement and the American Society of Breast Surgeons released a position statement on SN micro-metastases in August, 2011, indicating that micro-metastases shown only on IHC are clinically insignificant, and indeed that routine use of IHC staining of the sentinel node is unnecessary and should be limited to the selective use at the discretion of the pathologist.

Dr Currer’s comment:
The Multi-disciplinary Breast Cancer Meeting at the S.A.H. has taken this stance as supported by the guidelines of the American Society of Breast Surgeons based on the trials mentioned above. Micro-metastases shown on IHC at definitive histology, do not warrant a further operation with a full axillary dissection.