**Imaging Project**

**Assignment 1**

**Exercise 1**

The evaluation of breast cancer patients for the presence of metastases in the sentinel lymph node (SLN), which is the first lymph near the breasts, is done as it provides proof that a tumor with the capacity to metastasize has done so and may have metastasized to distant sites as well. A tumor-free SLN makes it hence highly unlikely for other lymph nodes, like the axillary lymph nodes, to be affected. (Manca, 2016) This can thereby give the doctors an indication whether treatment is only necessary on the tumor in the breast or that screening must be done to look for possible metastasized tumors in the patient as well.

Multivariate analyses have also indicated the detection of metastases in axillary lymph nodes, which are located directly after the SLN, as the single most important predictor of posttreatment recurrence and death. The absolute number of involved nodes is also known to provide an indication for recurrence and is thus indirectly related to the survival probabilities of the patient. (Donegan, 1997)

# References

Donegan, W. (1997). Tumor‐related prognostic factors for breast cancer. *CA: a cancer journal for clinicians*(47), 28-51.

Manca, G. (2016). Sentinel Lymph Node Biopsy in Breast Cancer. *Clinical Nuclear Medicine*, 126-133.