- **Modified RM –** the pectoral muscle is not removed.
- **Wide excision –** used for wide excision

Sentinel Node Biopsy:

1. The **sentinel lymph node** is defined as the **first** lymph node to which cancer cells are most likely to spread from a primary tumour.
2. The sentinel lymph node biopsy (SLNB) is a procedure in which the sentinel lymph node is identified, removed, and examined to determine whether cancer cells are present.
3. A surgeon injects a *radioactive substance or a blue dye* near the tumour to locate the positon of the sentinel lymph node then uses a device that detects this substance in turn in order to remove the node.
4. A negative SNLB result suggests that the cancer has **not** developed the ability to spread to nearby lymph nodes or other organs.
5. Whereas a positive SLNB result indicates that cancer is present in the sentinel lymph node and may be present in other nearby lymph nodes and possibly other organs.
6. This information can help a doctor determine the stage of the cancer and develop an appropriate treatment plan.
7. This technique does not have 100% sensitivity because you could miss some positive nodes and we are still unaware of the impact on mortality.

Tamoxifen vs. Surgery:

1. Predominantly in older women, their cancers are *hormone sensitive* – i.e. oestrogen receptors were blocked by **tamoxifen.**
2. Up to 80% of women relapsed on tamoxifen alone leading to more deaths from breast cancer – unless the patient has a very poor prognosis, giving hormonal treatment alone is not an appropriate treatment.
3. Comparing tamoxifen accompanied by wide excision to mastectomy revealed that there was the **same overall survival** thus demonstrating that there was a simpler way in managing the disease.
4. Factors increasing relapse are tumour necrosis (cell death due to the tumour outgrowing its blood supply rapidly), number of estrogen receptors and lympho-vascular invasion (nodal involvement).
5. Indicators for mastectomy:
   - **Multicentric disease** – where cancer is in two different quadrants of the breast, which *forces* the surgeon to carry out a mastectomy.
   - **DCIS associated microcalcification** in over 4cm of the breast
   - **Invasive cancer** in over 4cm
   - **Relapse** after breast conserving therapy
   - Women with family history, i.e. BRAC genes