



Surgical treatment of breast cancer – including oncoplastic surgery

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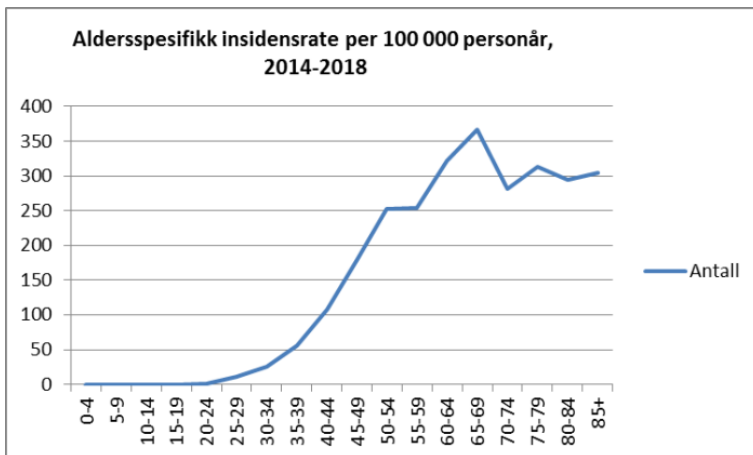
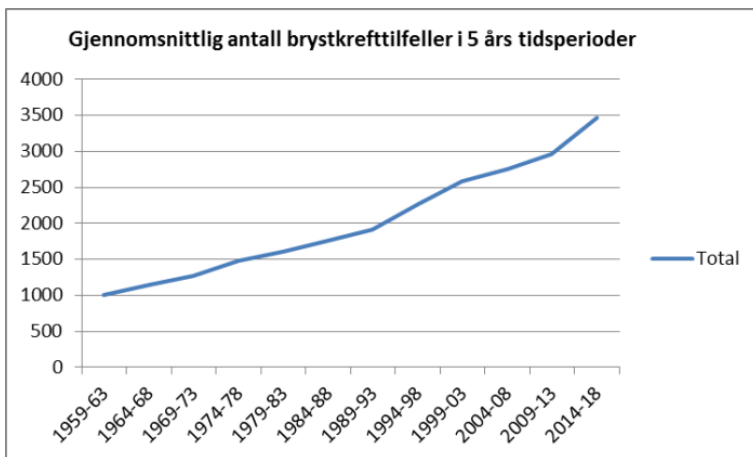


Incidence



nbcg

Norsk bryst cancer gruppe



Kreftform	Antall i 2019*	Antall i 2020*	Antall i 2021	Endring i antall fra 2020 til 2021
Prostata	4877	5030	5188	+158
Tykk- og endetarm (totalt)	4295	4494	4550	+56
Bryst (kvinner)	3726	3424	3991	+567
Lunge (totalt)	3320	3331	3499	+168
Melanom (totalt)	2330	2338	2443	+105

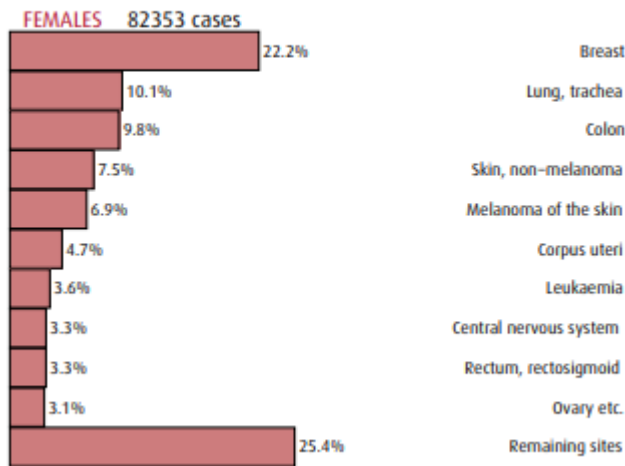
Worldwide 2020; 2 261 419
11.7%



Incidence

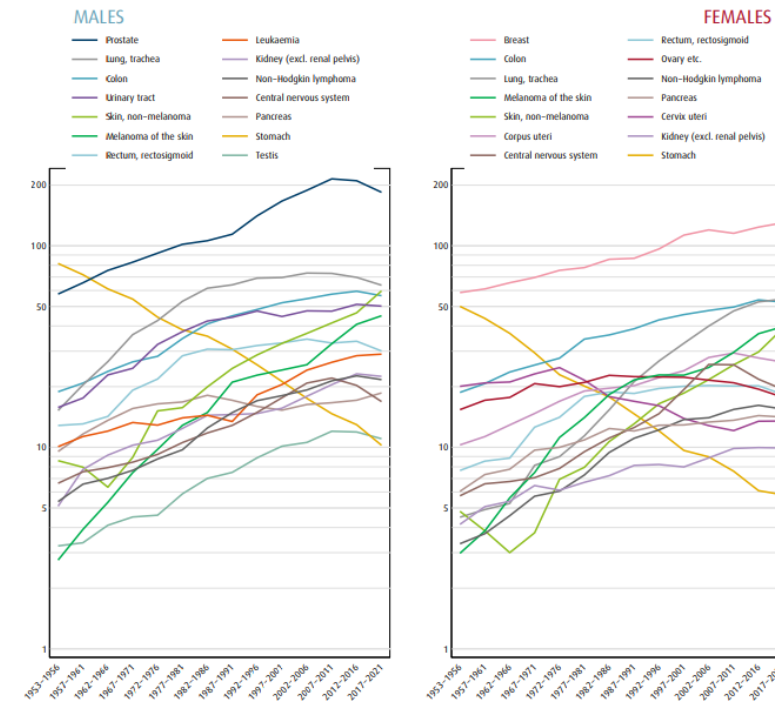
Figure 5.2: The most frequent types of cancer by age and sex, 2017–2021

A: All ages

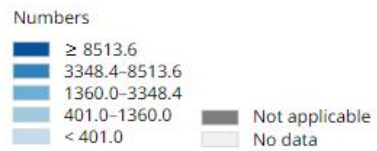
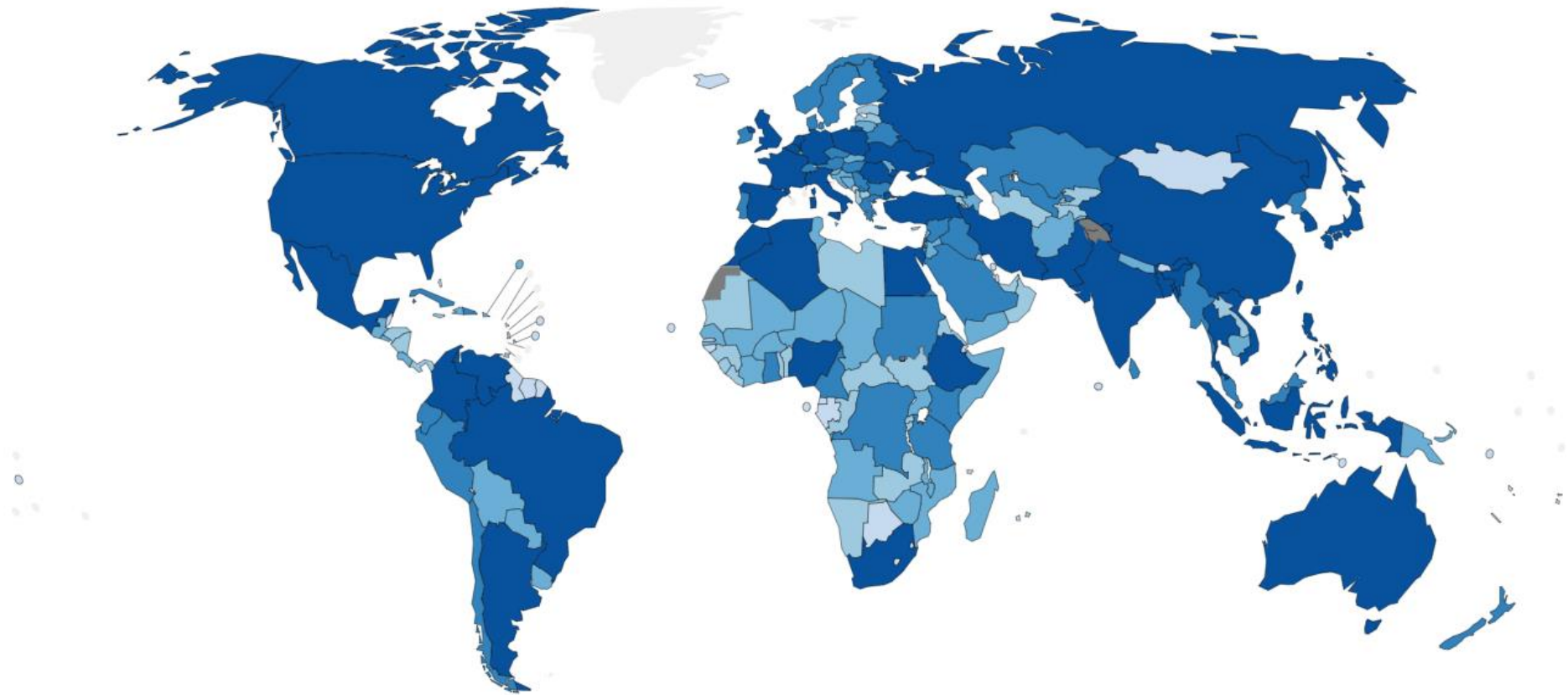


ICD-10	Site	Median age in			
		1987-91	1997-01	2007-11	2017-21
C50	Breast	66.0	61.0	61.0	62.0

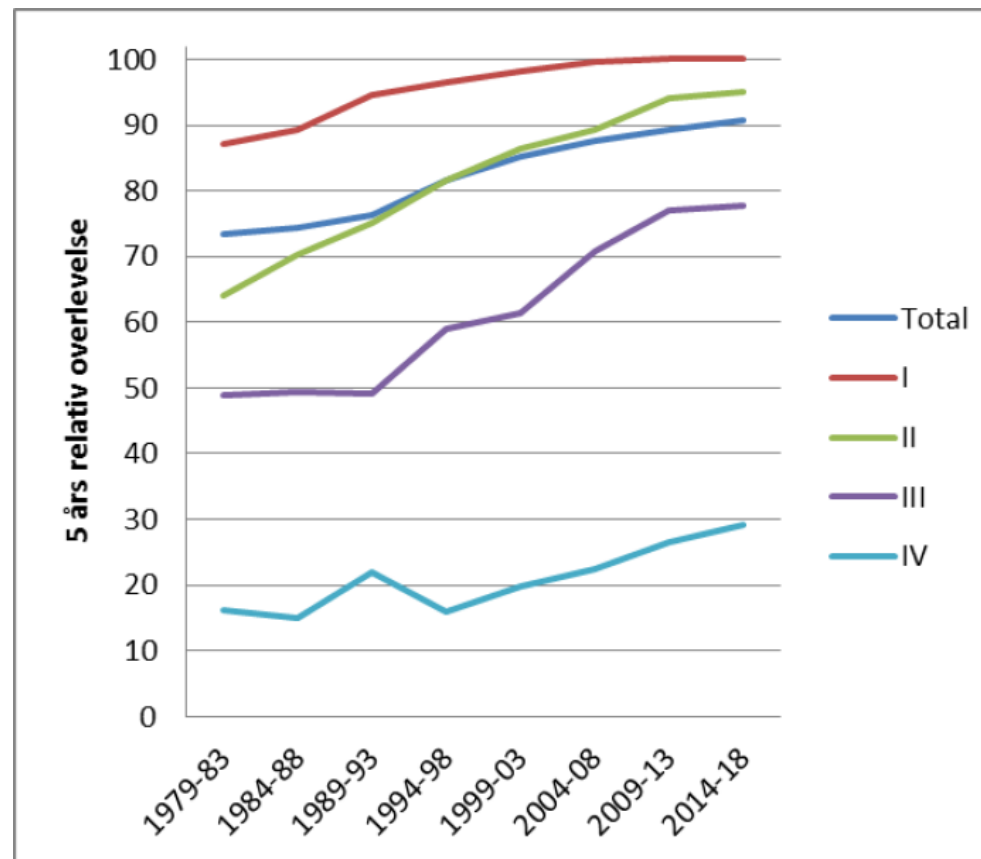
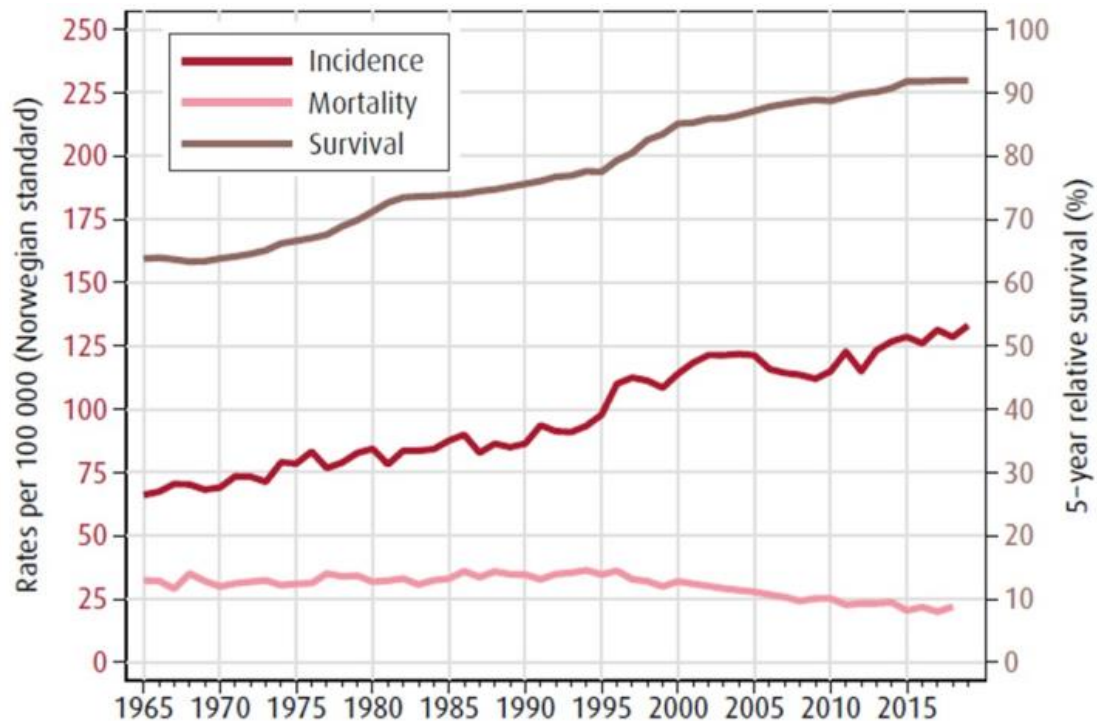
Figure 5.3: Time trends in age-standardised (Norwegian standard) incidence rates for selected cancers, 1953-2021



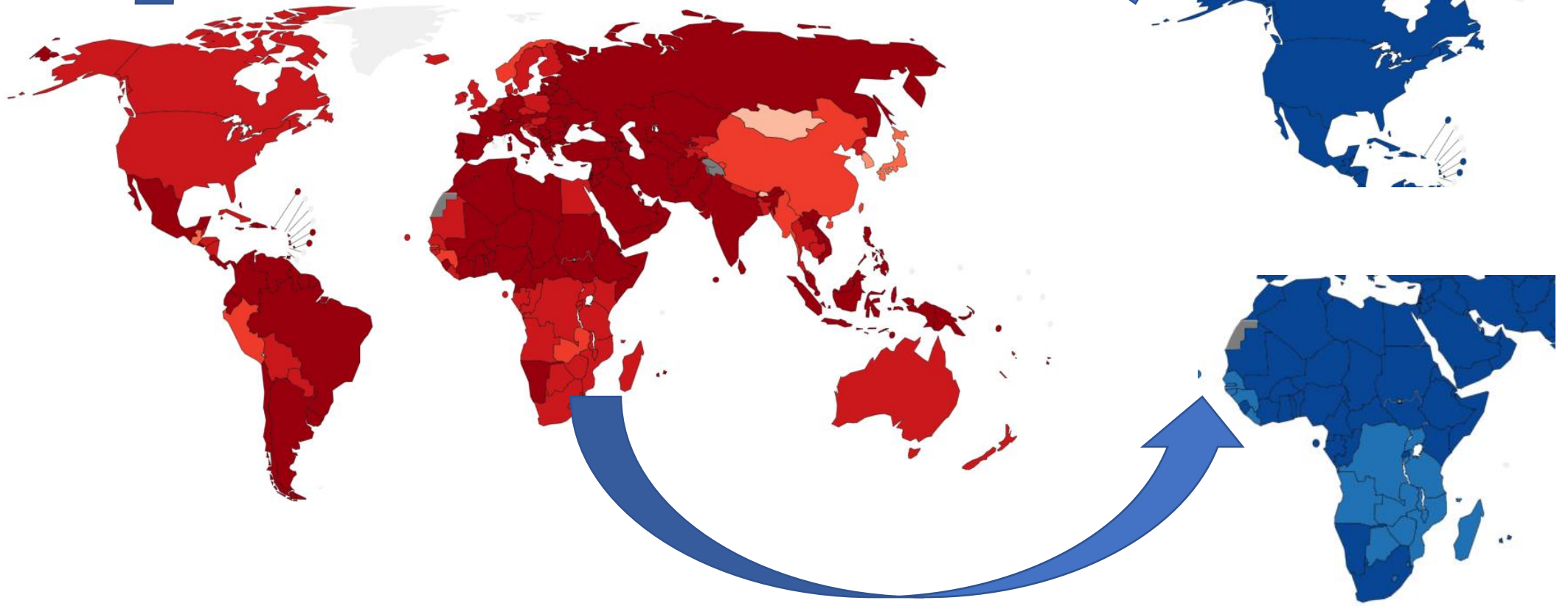
Estimated number of new cases in 2020, breast, females, all ages



Mortality/Survival



Ranking (Breast), estimated number of deaths in 2020, all ages



- 1st (113)
- 2nd (60)
- 3rd (7)
- 4th (2)
- 5th (1)
- 6th - 10th (2)
- >= 11th (0)
- Not applicable
- No data

Risk factors and Risk Evaluation

- According to the National Cancer Institute, **12.9% of women** born in the United States — or **one in eight women** — develop breast cancer at some point in their lives.
- For men born in the United States, the current lifetime risk of developing breast cancer is 0.13%.
- Older age
 - age 20: 0.1% or one in 1,479
 - age 30: 0.5% or one in 209
 - age 40: 1.5% or one in 65
 - age 50: 2.4% or one in 42
 - age 60: 3.5% or one in 28
 - age 70: 4.1% or one in 25
 - age 80: 3.0% or one in 33



BREASTCANCER • ORG

Known risks

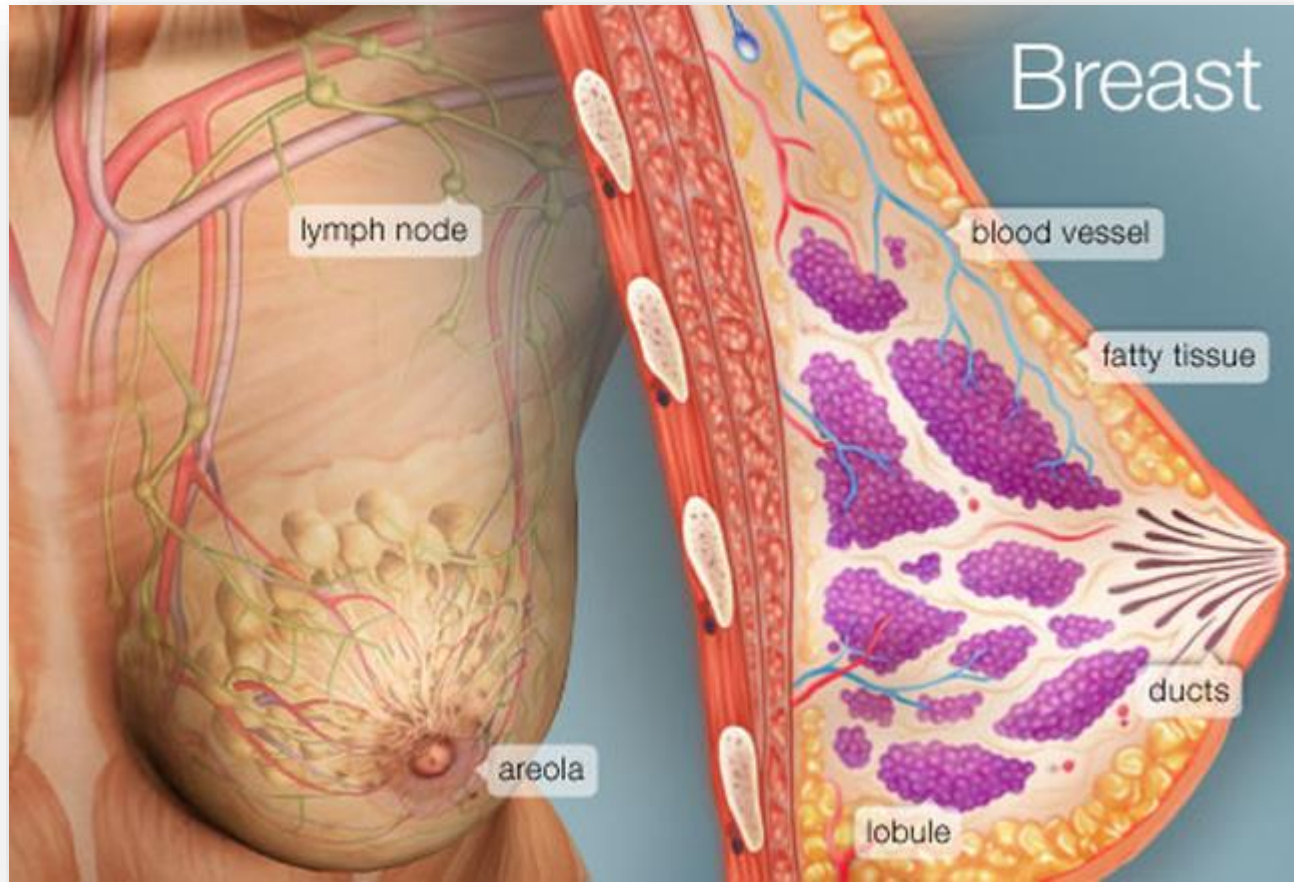
- Being a Woman
- Age
- Family History
- Genetics
- Personal History of Breast Cancer
- Radiation to Chest or Face Before Age 30
- Certain Breast Changes – atypical hyperplasia
- Race/Ethnicity
- Being Overweight
- Menstrual History/ Hormonal changes
 - Early menarche
 - Late first living birth
 - Not given birth
 - Late menopause
- Using HRT (Hormone Replacement Therapy) – before 35 years
- Drinking Alcohol
- Dense Breasts
- Lack of Exercise
- Smoking

• Reducing risks

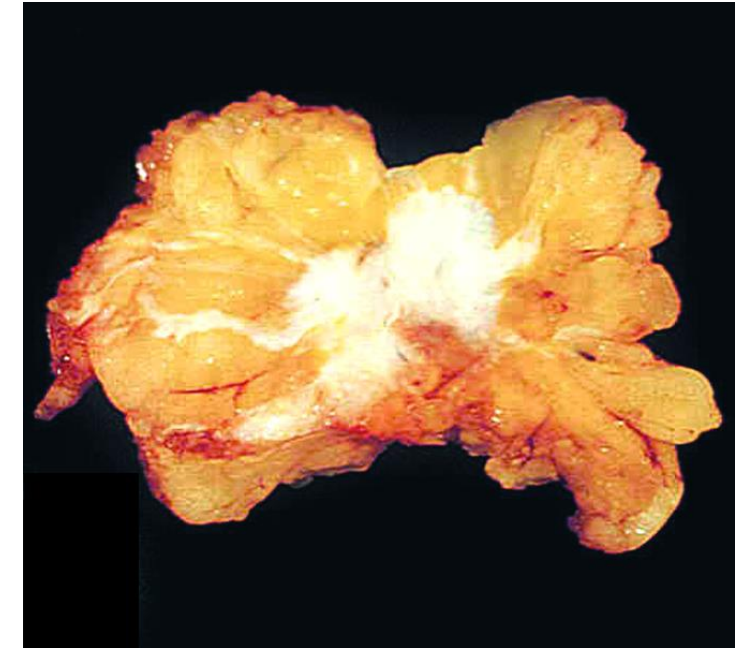
- Time of first pregnancy < 20–25 years
- Multiple pregnancies < 25 år
- Breastfeeding history
- Asian inheritance
- Regular exercise



BREASTCANCER • ORG

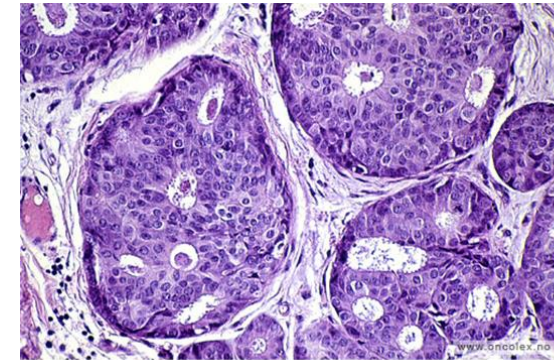
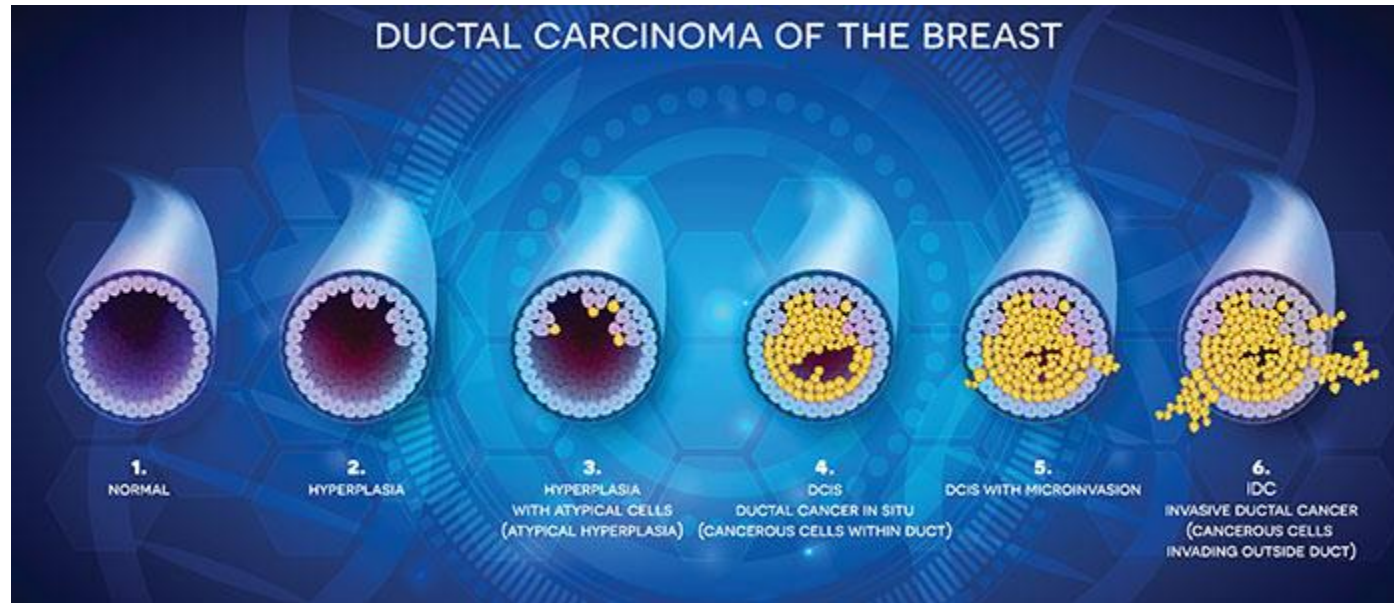


Macroscopic section adenocarcinoma of the breast

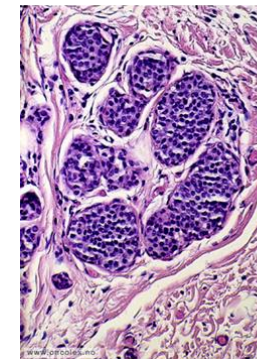


www.oncolex.no

In situ changes of the breast

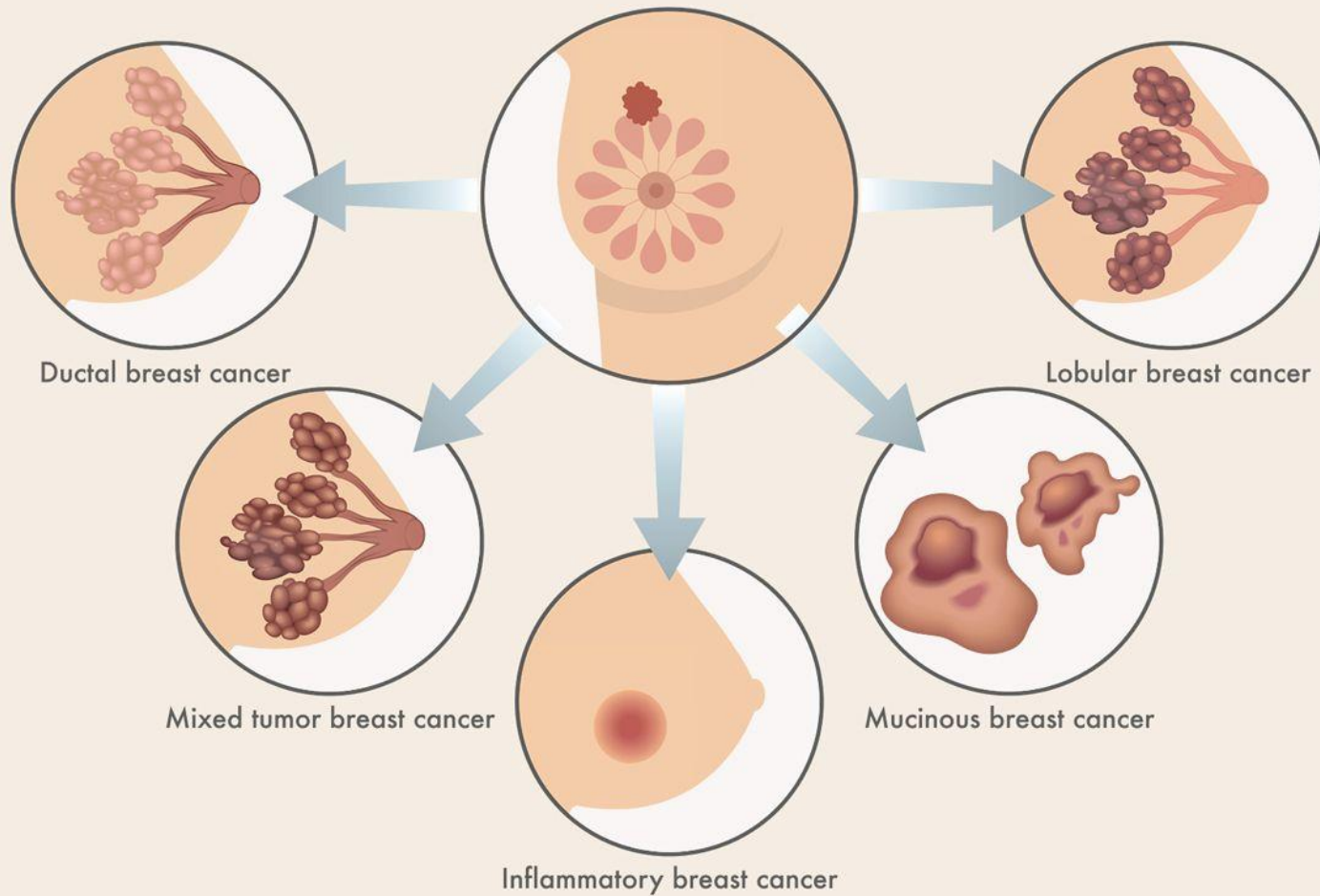


DCIS

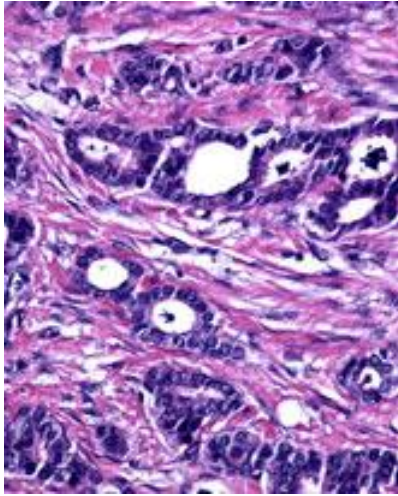


LCIS

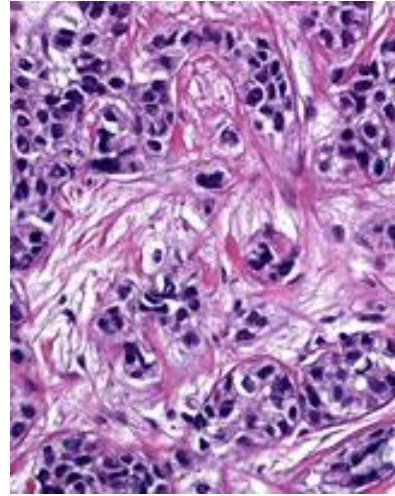
Types of Breast Cancer



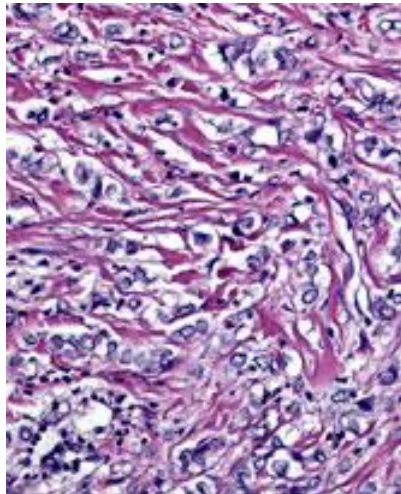
Histology



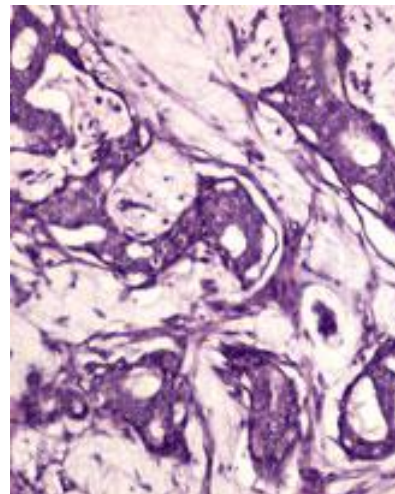
Infiltrerende duktalt
karsinom grad I.



Infiltrerende duktalt
karsinom grad III

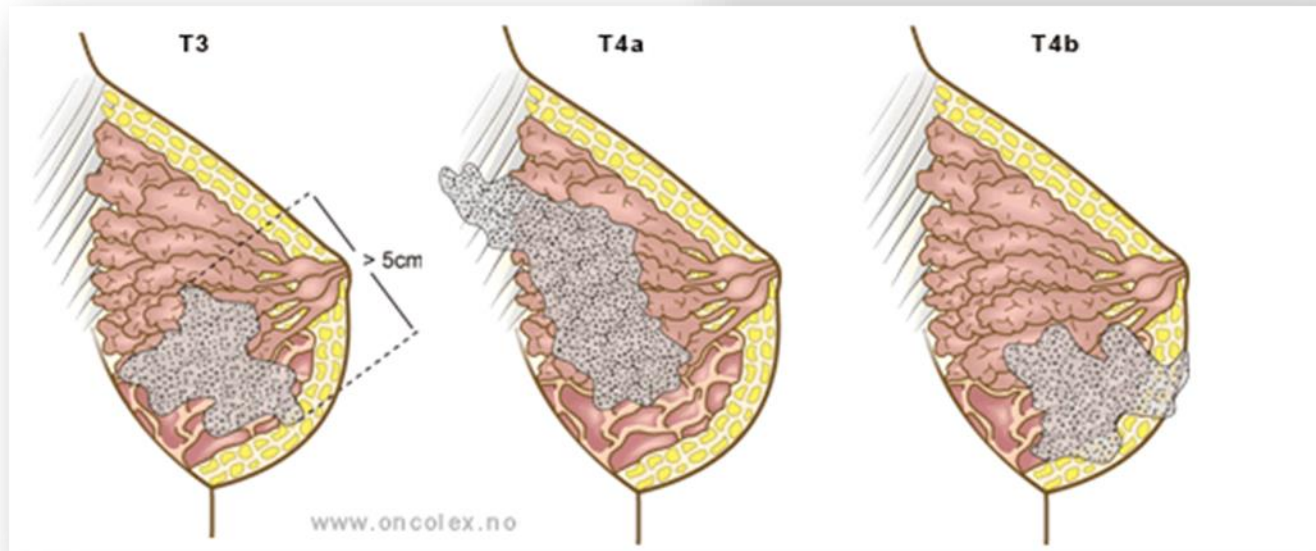
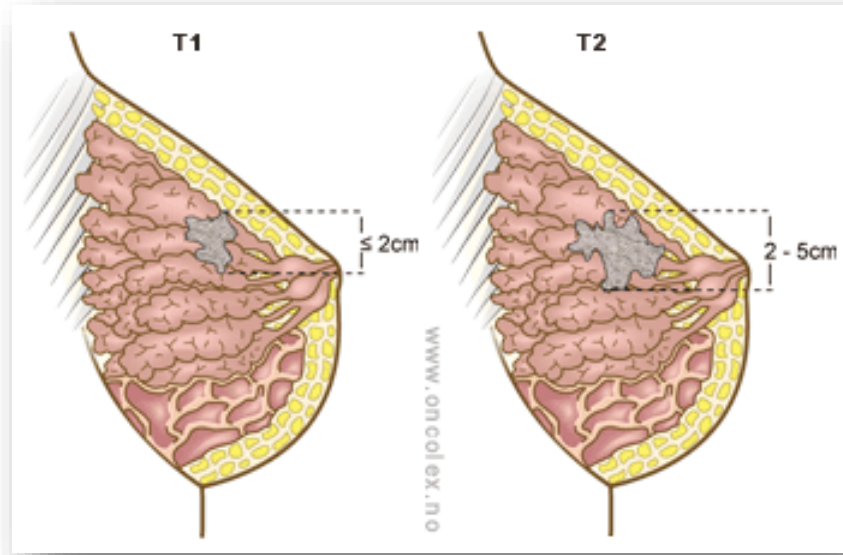


Infiltrerende lobulært
karsinom

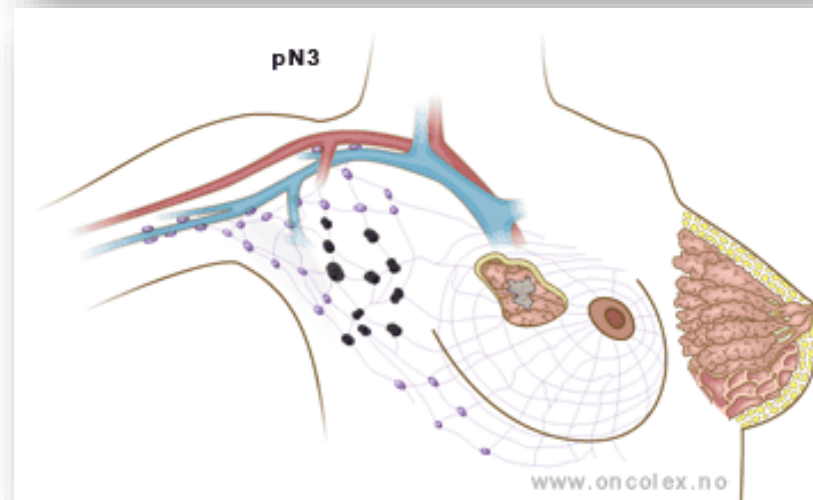
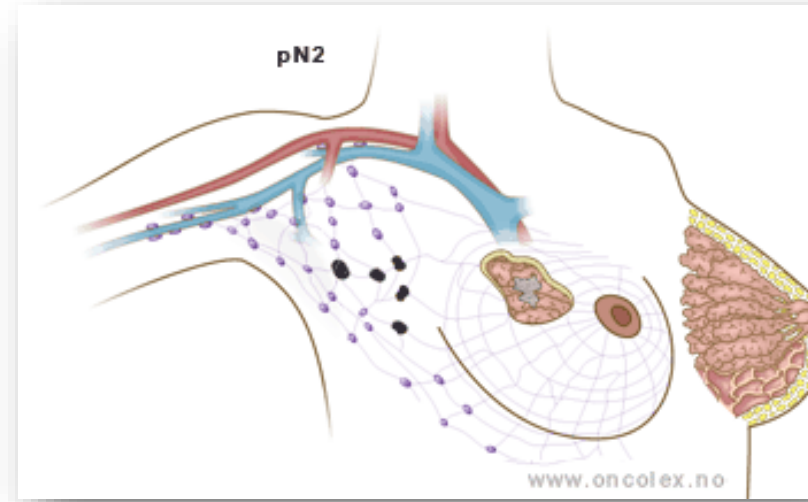
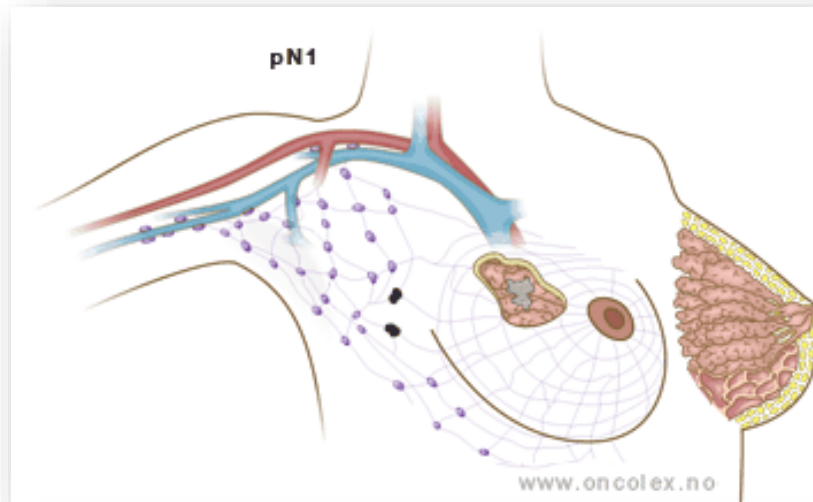


Infiltrerende mucinøst
karsinom.

T stage



N stage



Stages of Breast Cancer TNM

Tabell 3. Stadielinndeling primært operabel brystkreftsykdom

Primært operabel brystkreftsykdom	
Stadium I	kliniskT1N0M0
Stadium II	kliniskT0-2N1M0
	kliniskT2N0M0

Tabell 4. Stadielinndeling primært inoperabel brystkreftsykdom

Primært inoperabel brystkreftsykdom	
Stadium II	kliniskT3N0M0
Stadium III	kliniskT0-2N2M0
	kliniskT3N1-2M0
	kliniskT4N0-2M0
	kliniskT0-4N3M0
Stadium IV	kliniskT1-4N0-3M1



Histological examination of the surgical specimen should include;

- Tumor location/multifocality
- Tumor size / extent of diffuse growth / one or multiple foci
- Histological type
- Histological grade
- Extent of growth, and possible involved DCIS in tumor and if so grade of DCIS
- Tumor relation to edge of resection /positive vs negative margins (mm), growth into dermis or thoracic wall
- Number of lymphnodes examined and number of lymphnodes with metastasis
- Size of the largest lymphnode metastasis
- Perinodal growth (lymphnode)
- hormonereceptorstatus
- Her2 status
- Ki67 status

Distant metastasis (M)

- MX – M-classification not possible due to lack of information
- M0 – No distant metastasis
- M1 – Metastasis are diagnosed

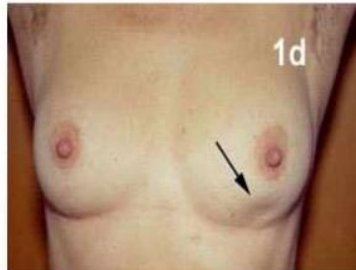
Symptoms

- Palpable lump in breast or axilla
- Ulceration in the skin of the breast
- Changes in the nipple; inversion,, nipple diversion, assymetri,
- Discoloration of the skin where abscess is not the primary cause
- Exzema of the skin of the nipple
- Increased thichness of the skin, peu d'orange
- Discharge from the nipple



Arms overhead

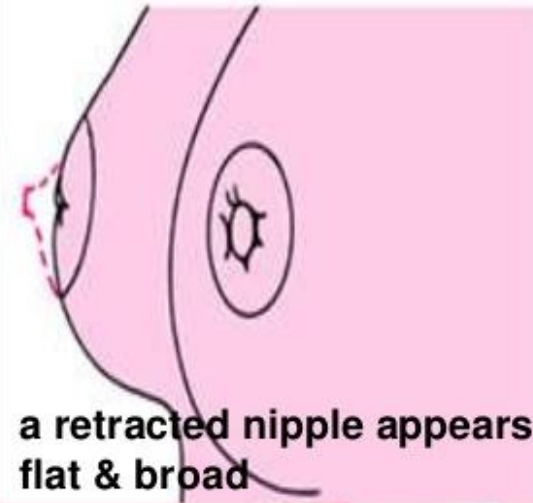
Arms raised straight above head makes the lump or dimple more marked.



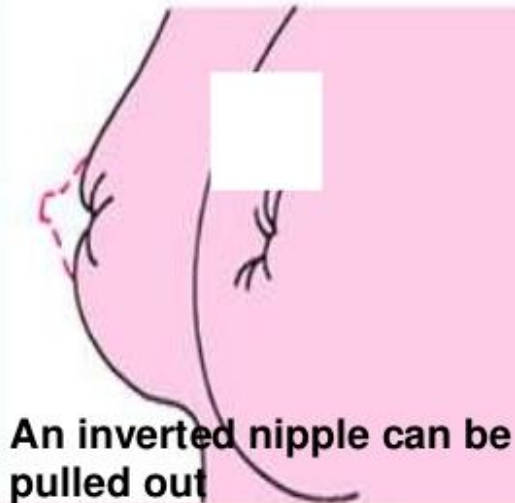
Changes of the Nipple

Retraction of nipple: differentiating from nipple inversion

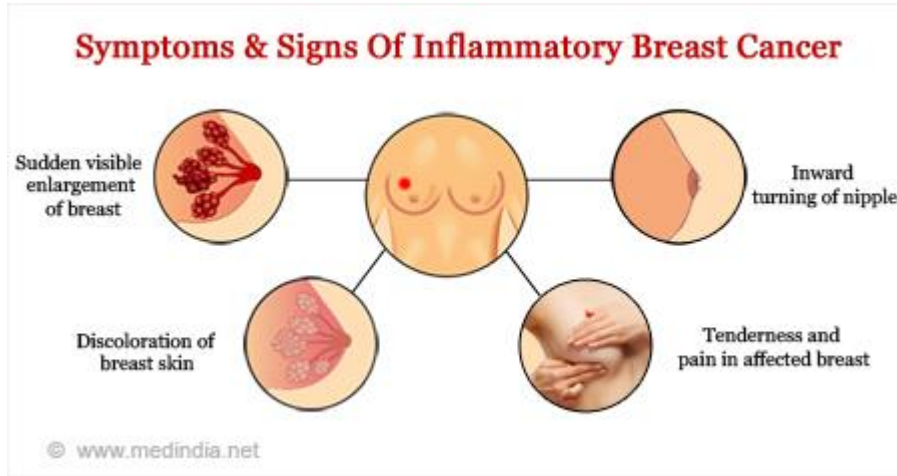
NIPPLE RETRACTION



NIPPLE INVERSION



Inflammatory Breast Cancer

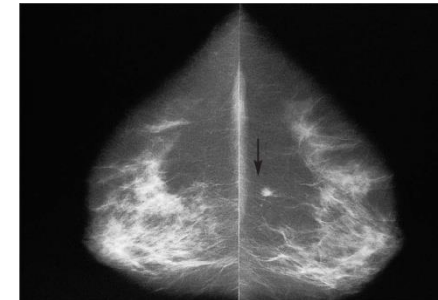
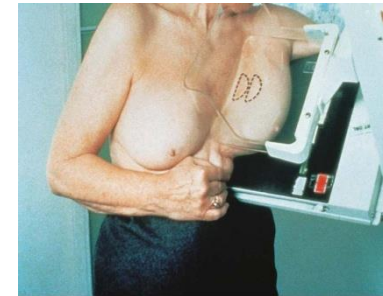


Diagnostic Workup

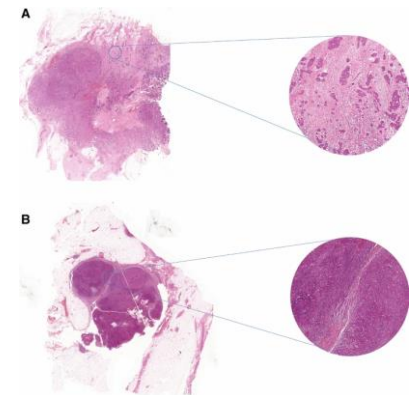
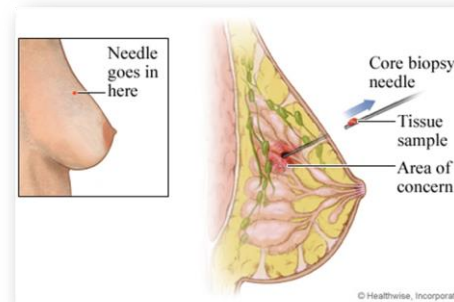
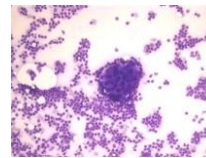
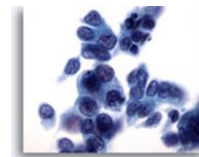
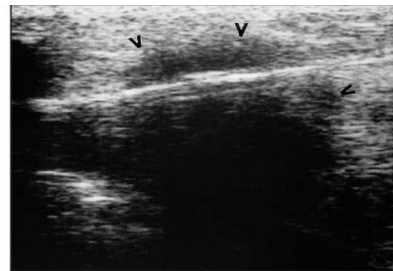
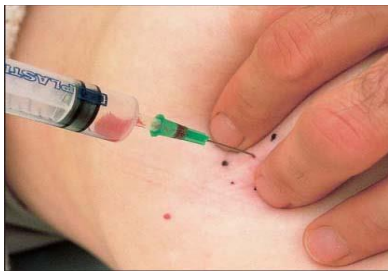
1. Clinical examination and palpation



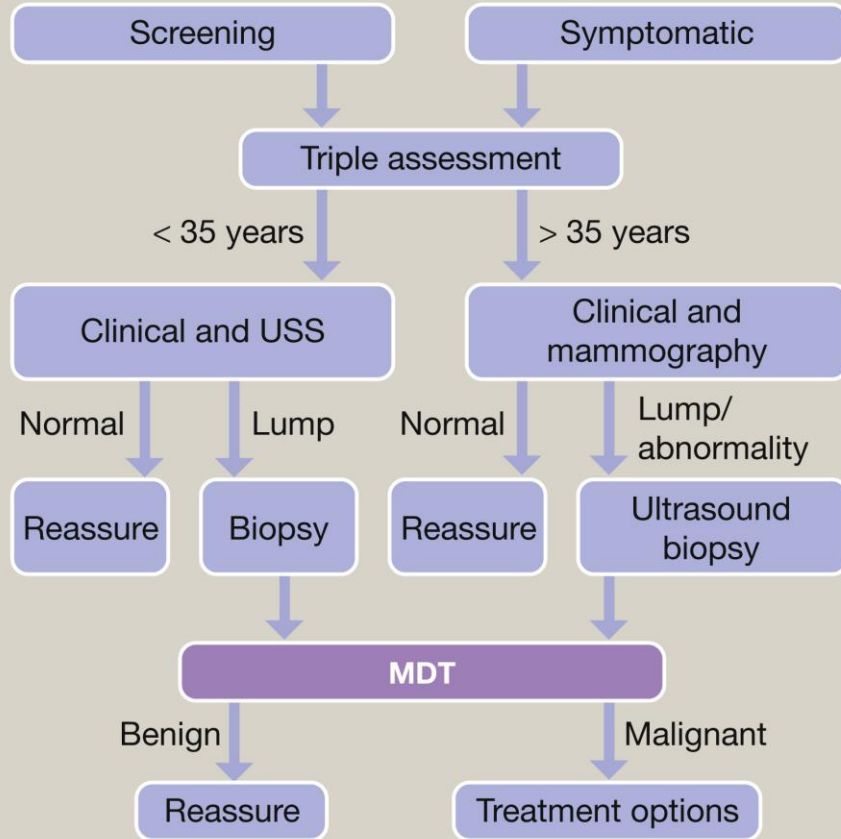
2. Radiology MX, US, MRI



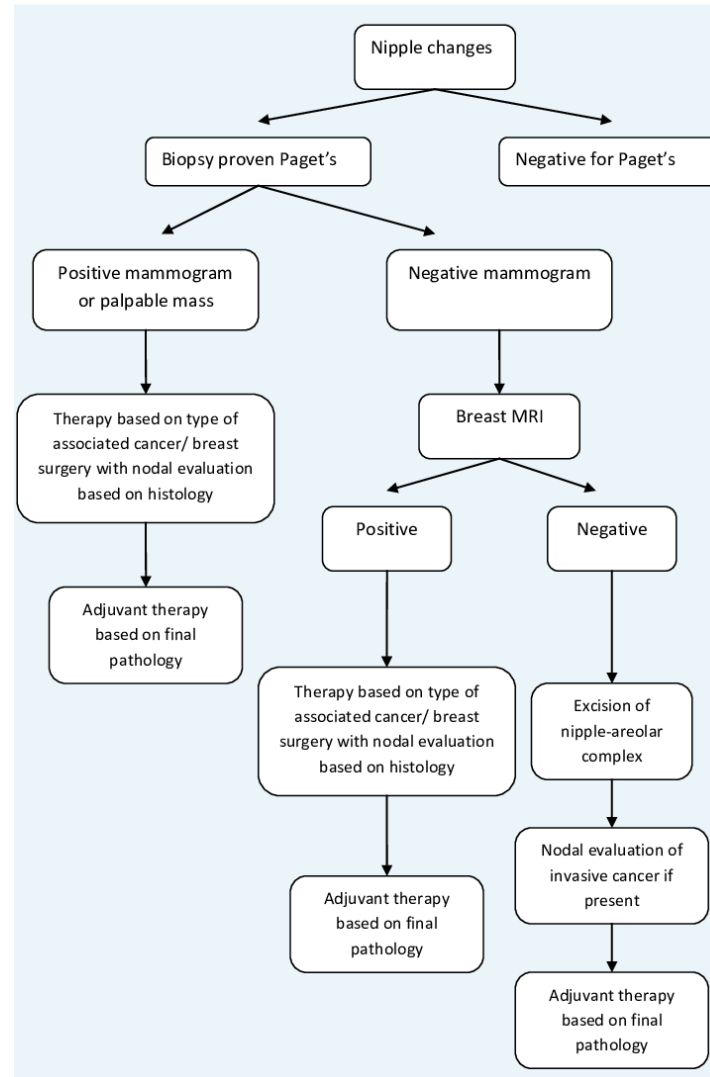
3. Biopsy; fine needle and core needle biopsy



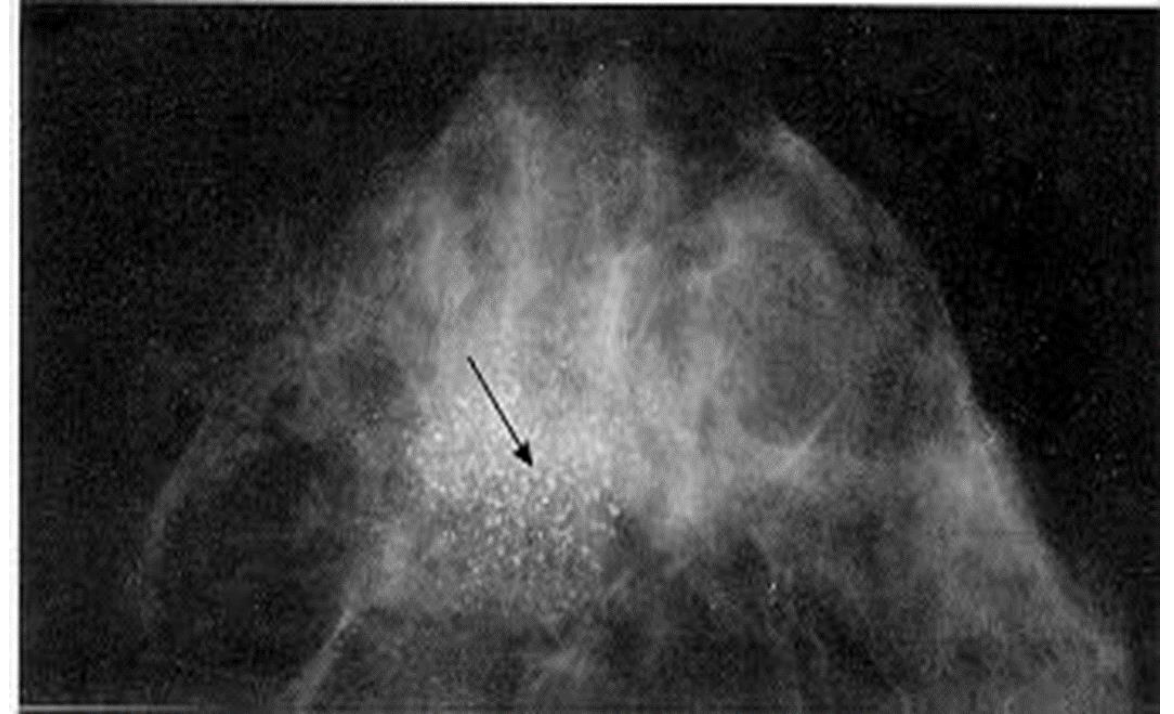
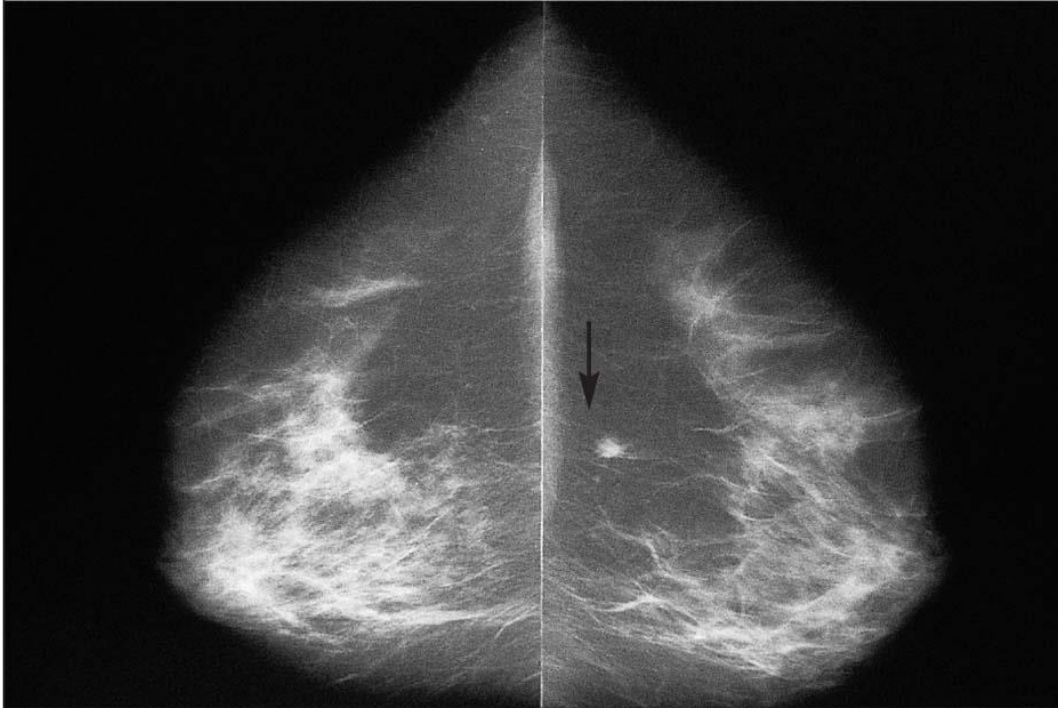
Algorithm of the triple assessment process



MDT, multidisciplinary team; USS, ultrasound scanning



Mammography



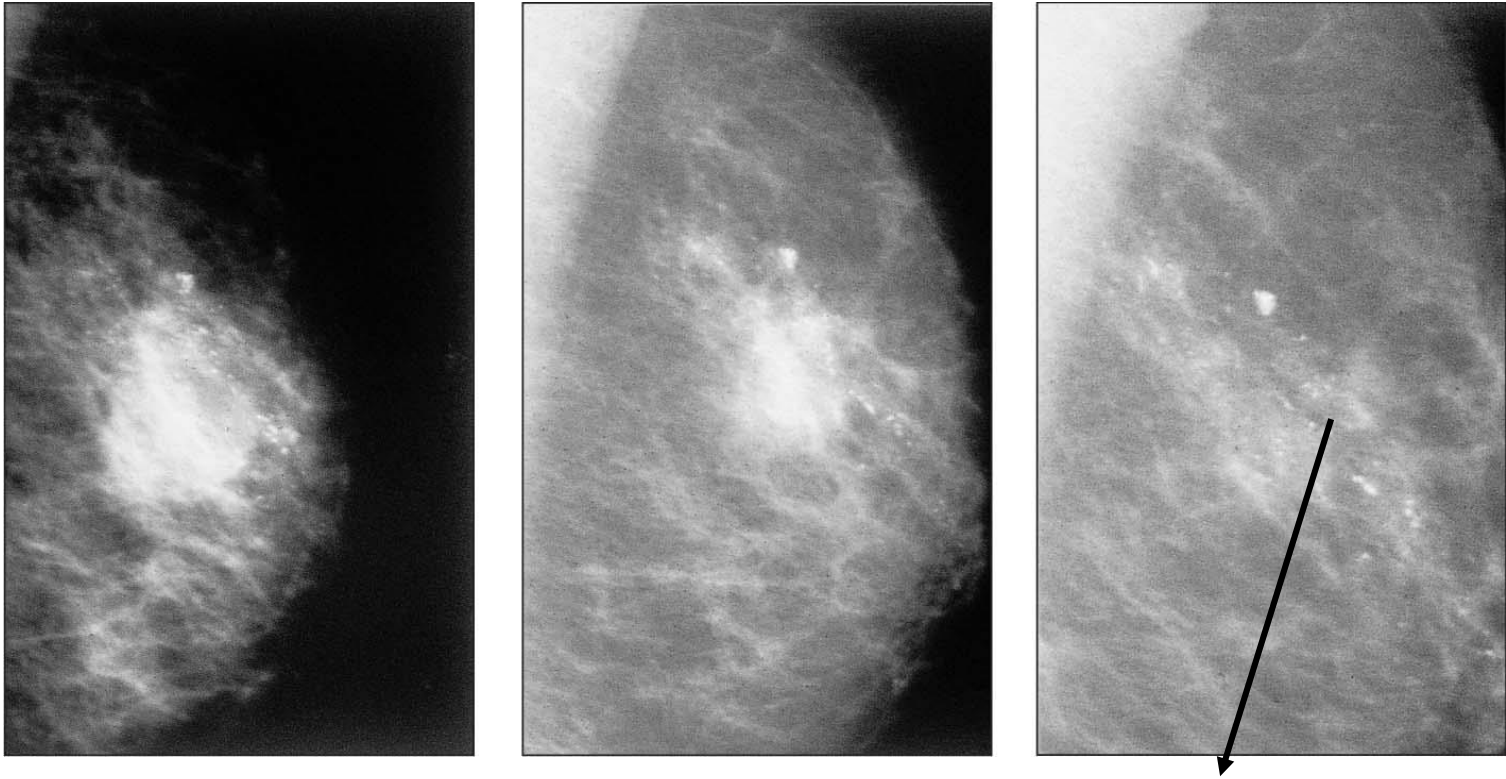
Multidisciplinary Meetings



Neoadjuvant treatment

- Systemic treatment before surgery
- Initially meant for T3 tumors, >5 cm
 - Now also administered to patients with tumors 2-5 cm given HER2 positive tumor, or tripple negative
- Advantage
 - Evaluate effect of treatment (tumor regression). Terminate and change course if there is no effect
 - Makes it possible to perform breast conserving surgery in large tumors if they respond

Mammograms throughout neoadjuvant therapy



Remaining calcification

SURGICAL TREATMENT OF BREAST CANCER

Målsetting for kirurgisk behandling er å oppnå lokal kontroll for dermed å bedre overlevelsen. I dette ligger intensjonen om å unngå lokoregionale residiv, herunder også residiv etter brystbevarende behandling.

The aim of surgical treatment in breast cancer is to achieve local control and further improve prognosis. With this there is the intention to prevent locoregional recurrence

Surgical options

- Mastectomy
 - Without reconstruction
 - Primary reconstruction
 - Secondary reconstruction
- Breast conserving surgery
 - With or without levels of oncoplastic surgery
- Sentinel node
- Axillary dissection



How to choose?? Effect on prognosis?



Tumor size

Tumor localisation

Patient's wish



Size of the breast



Surgeon's wish????

Age??

Possibility for radiation therapy



ORIGINAL ARTICLE – BREAST ONCOLOGY

Survival is Better After Breast Conserving Therapy than Mastectomy for Early Stage Breast Cancer: A Registry-Based Follow-up Study of Norwegian Women Primary Operated Between 1998 and 2008

Olaf Johan Hartmann-Johnsen, MD^{1,4}, Rolf Kåresen, MD, PhD^{2,3}, Ellen Schlichting, MD, PhD⁴, and Jan F. Nygård, PhD^{1,2}

¹Cancer Registry of Norway, Oslo, Norway; ²University of Oslo, Oslo, Norway; ³Nesøya, Norway; ⁴Department of Breast and Endocrine Surgery, Oslo University Hospital, Oslo, Norway

CONCLUSIONS:

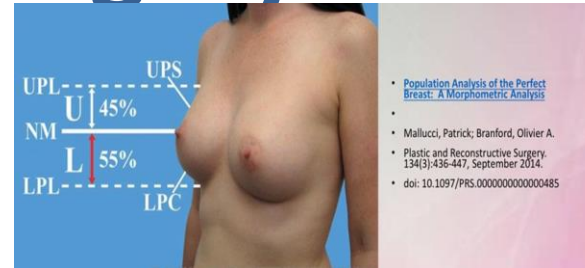
Survival was better or equal after breast-conserving therapy than mastectomy in all early stages, surgical subcohorts, and age groups. This advantage could not only be attributed to differences in tumor biology.



Mastectomy



Breast conserving surgery



- Aim:

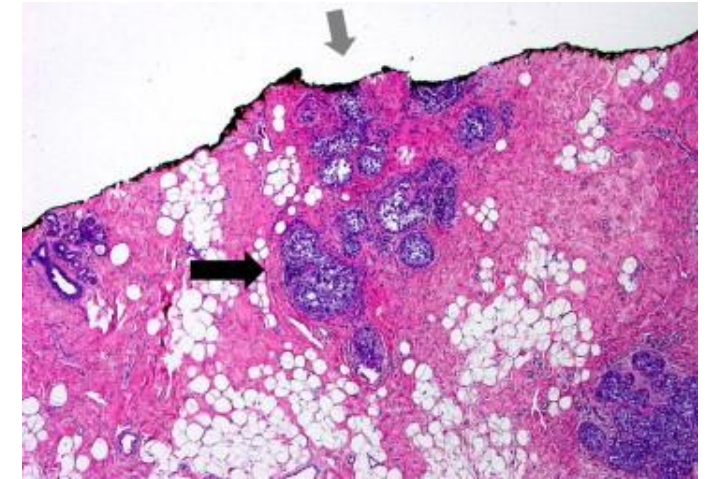
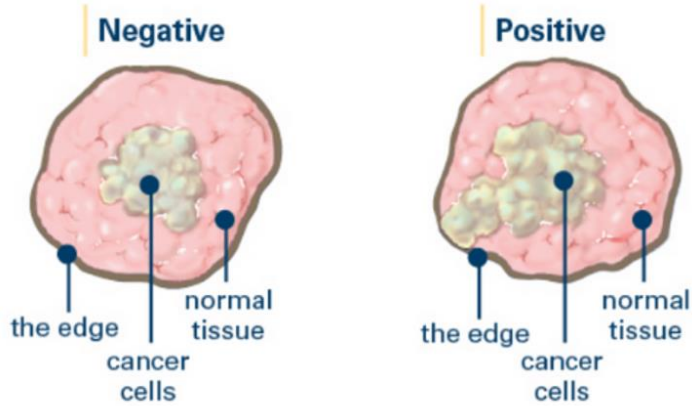
- Complete excision of tumor with free margins
- Preserve the natural configuration of the breast
- Best surgical result with least possible risk for the patient

- Challenges:

- Biggest challenge is discrepancy between tumor size and size of the breast
- Challenging location, upper medial quadrant



Resection margin in breast conserving surgery



Horrible results



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Retroareolar resection



Oncoplastic surgery

- “third pathway” between standard BCS and mastectomy
 - Allows wide excisions without compromising the natural shape of the breast (K Clough, 2010)

Indication

- Large lesions where standard BCT gives large deformities
 - Eg.: extensive ductal carcinoma in situ(DCIS), ILC, multifocality, poor response on neoadjuvant treatment
- > 20% of the breast volume is to be excised

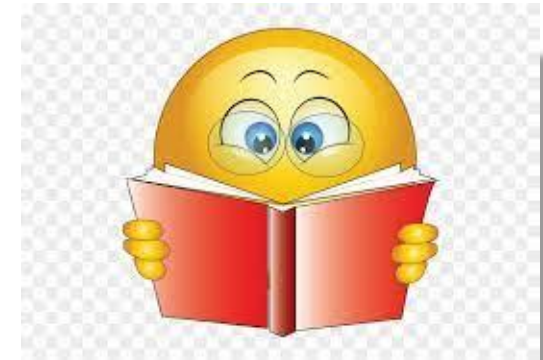
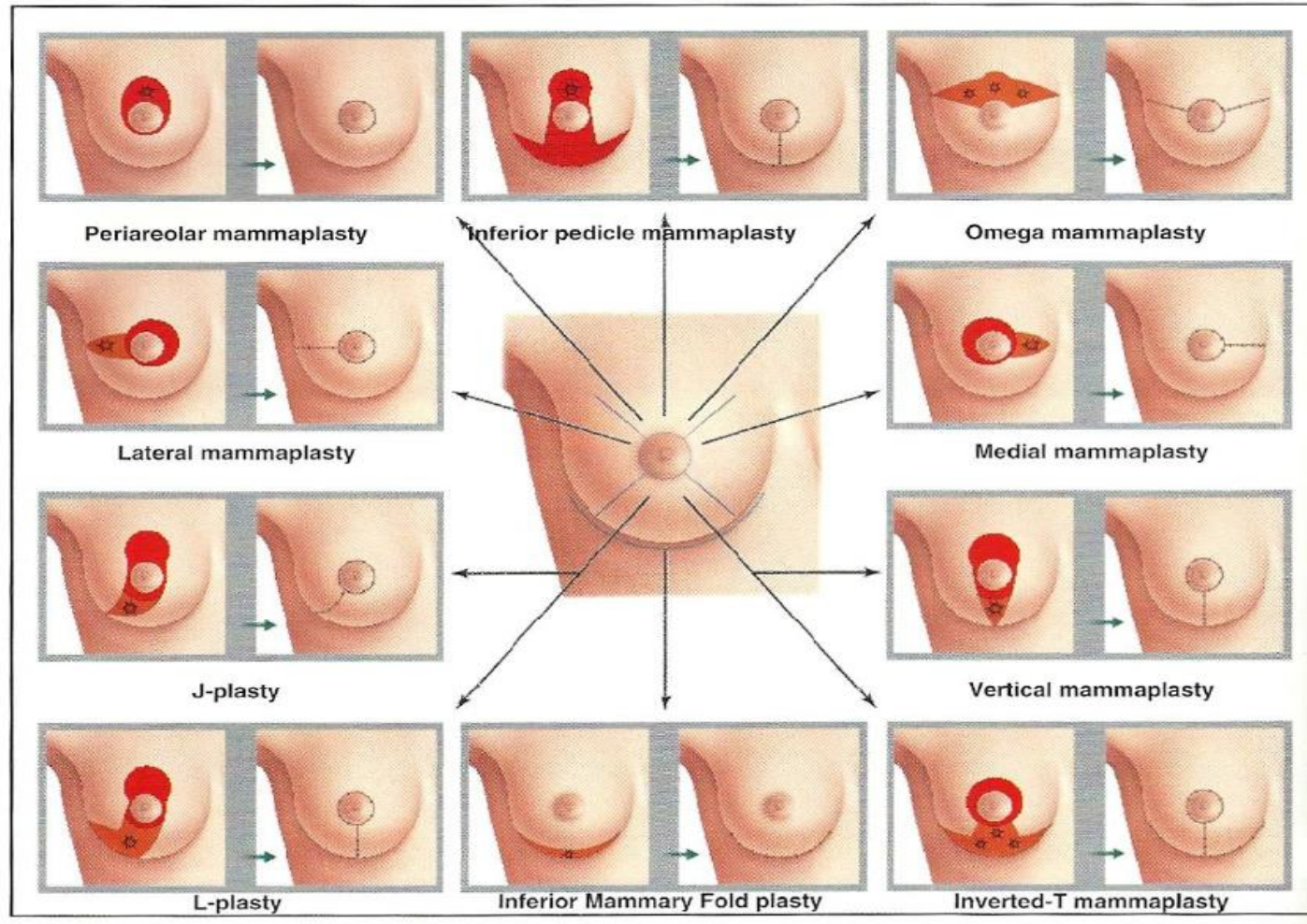
Techniques and surgical principals:

1. Volume displacement (tennis racket, batwing, round block etc)
Lumpectomy and local rearrangement of the breast tissue adjacent to the tumor cavity

2. Volume reduction (reduction mammoplasties)
Modified BCT based on classical techniques for reduction mammoplasties or mastopexies.

3. Volume replacement (LICAP, MICAP, TDAP, LD etc)
BCT and replace defect by gathering tissue from another site

Tumorlocalisation



Volum displacement

- Replace volume defect by rearrangement of breast tissue
 - Mastopexi/Rotation

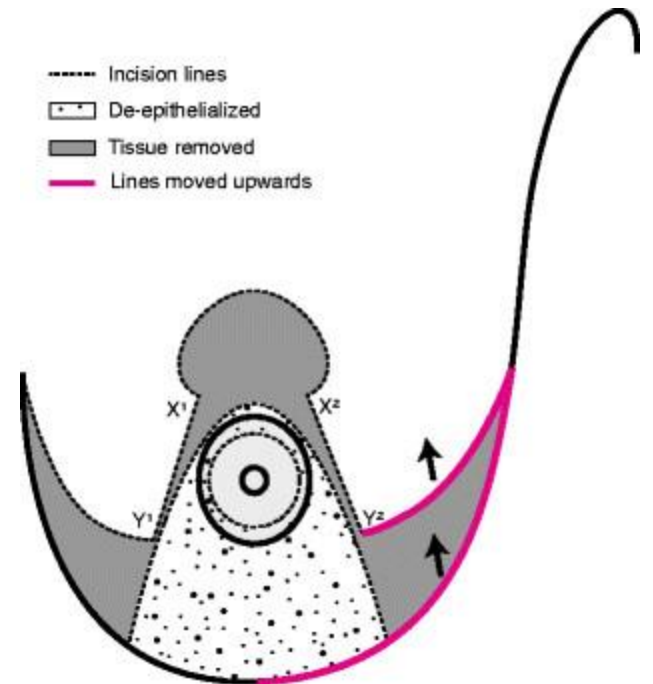
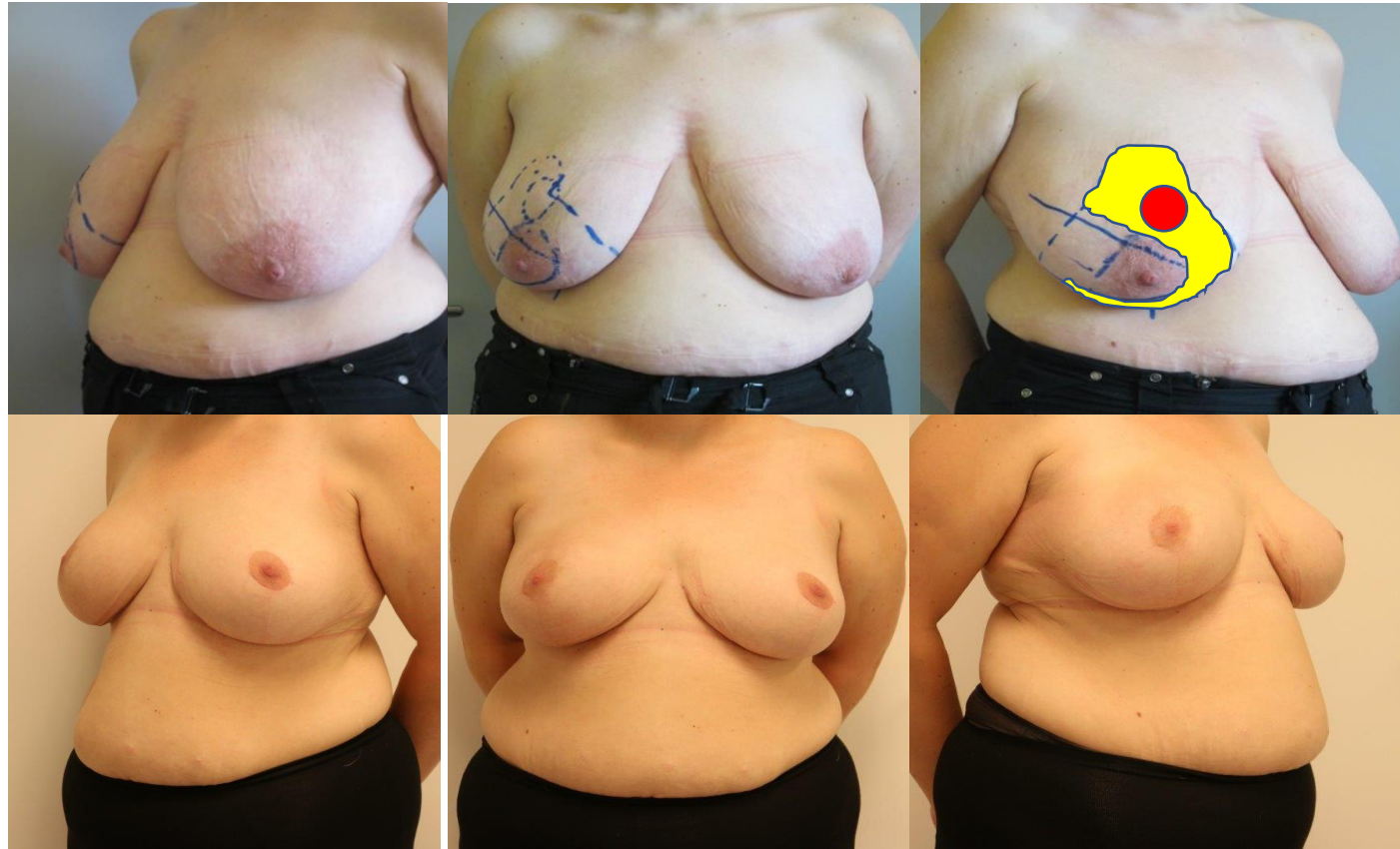


Volume reduction

- Reduction mammaoplasty
 - Tumor location in the area for removal of tissue in standard reduction mammoplasties
 - Requires a certain size of the breast
- Wedge resection
 - Same technique except with removal of the nipple

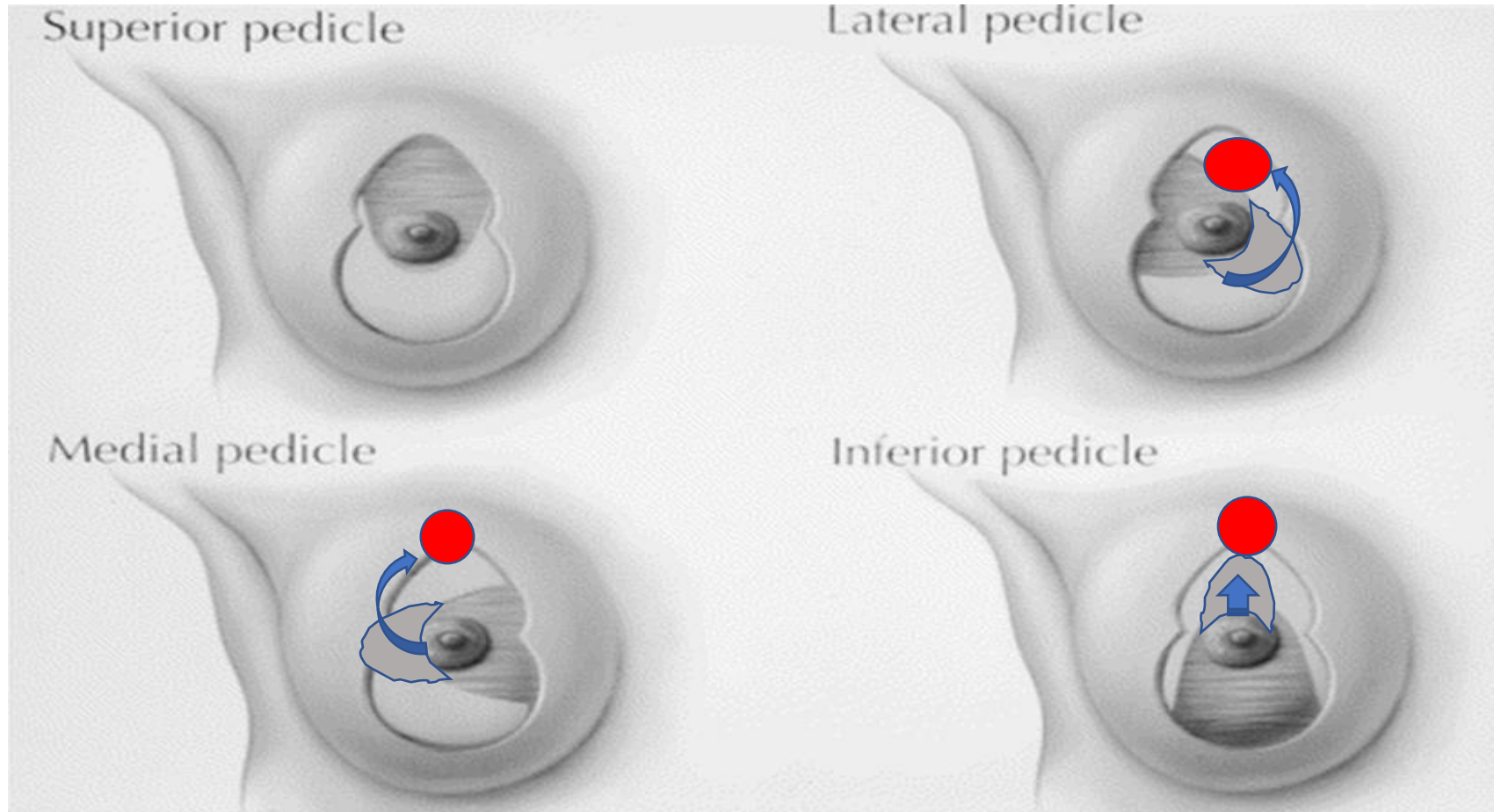
Therapeutic reduction mammoplasty

Wise-pattern technique



Therapeutic reduction mammoplasty

- tumor outside «wise-pattern» area







My Mom has nicer breast than me

Volume replacement

- Replace volume loss by other autologous tissue
 - Perforatorflap (Fasciocutan flap, eg LICAP)
 - Fat Tx (not in Norway at primary surgery)

Perforator flap

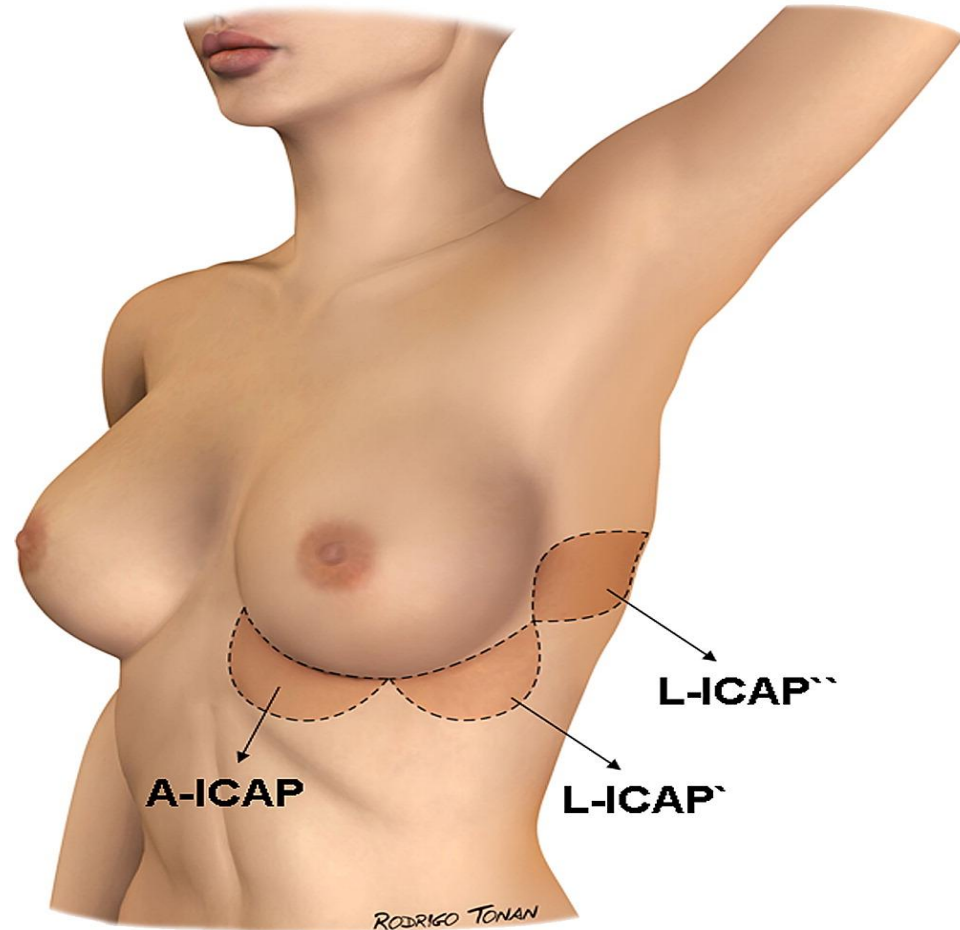
Perforator flaps

In the vicinity of the breast

ICAP: Inter Costal Artery Perforator

A: Anterior

L: Lateral

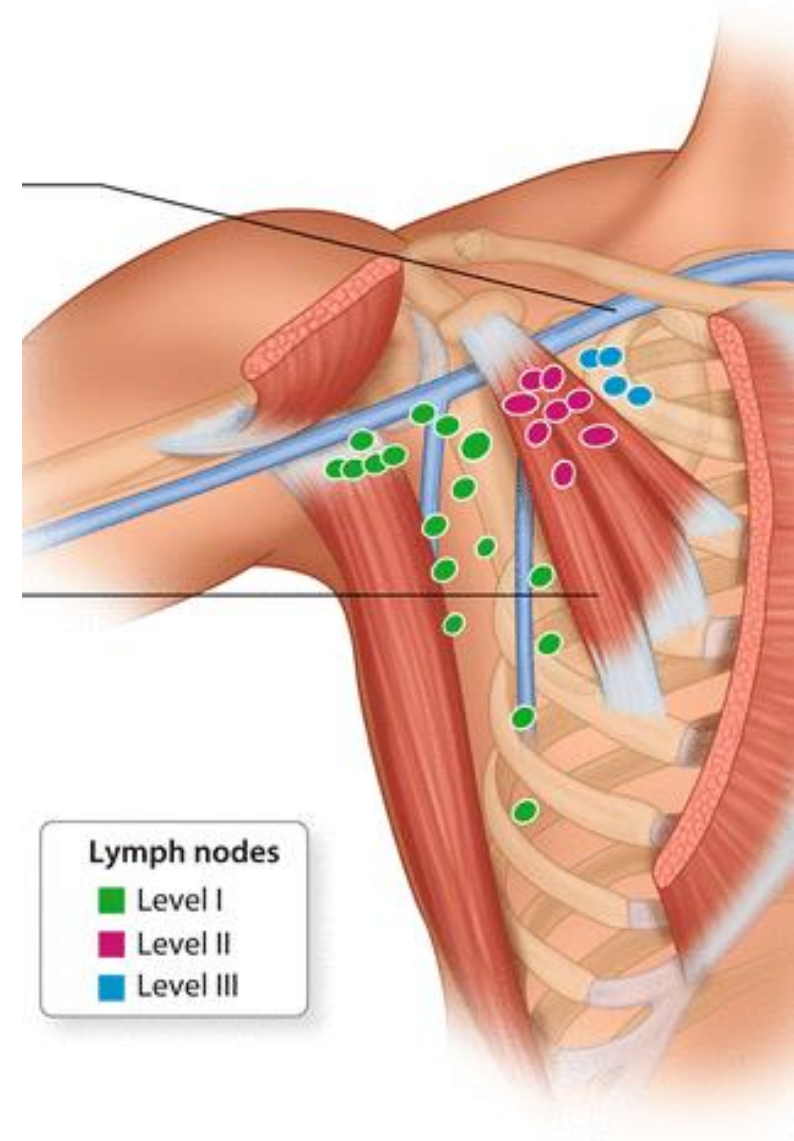


LICAP

Lateral InterCostal Artery Perforator

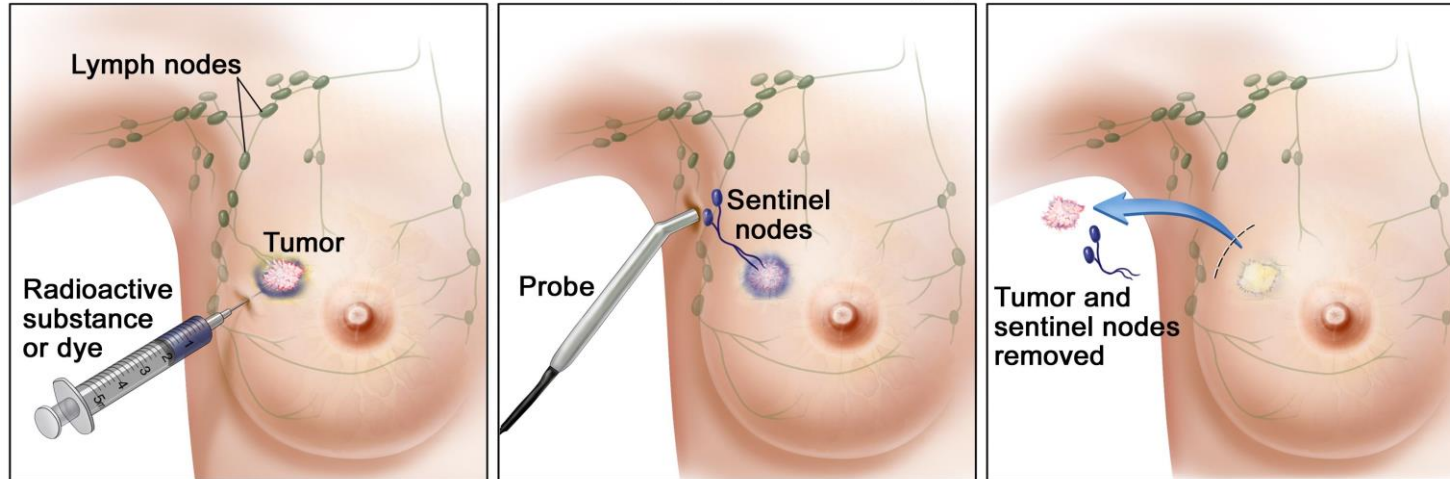


Surgery of the axilla

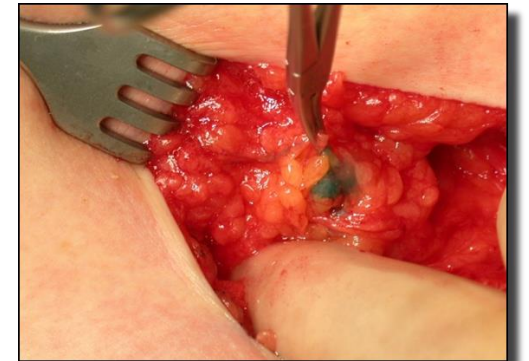
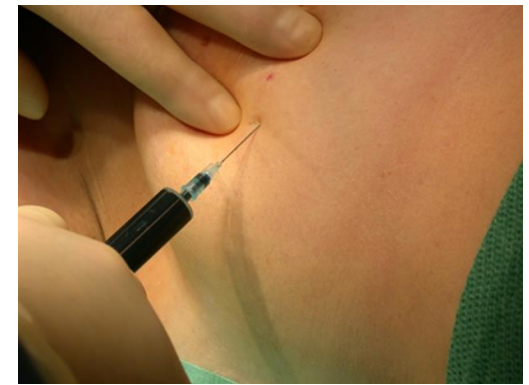


Sentinel Lymph Node

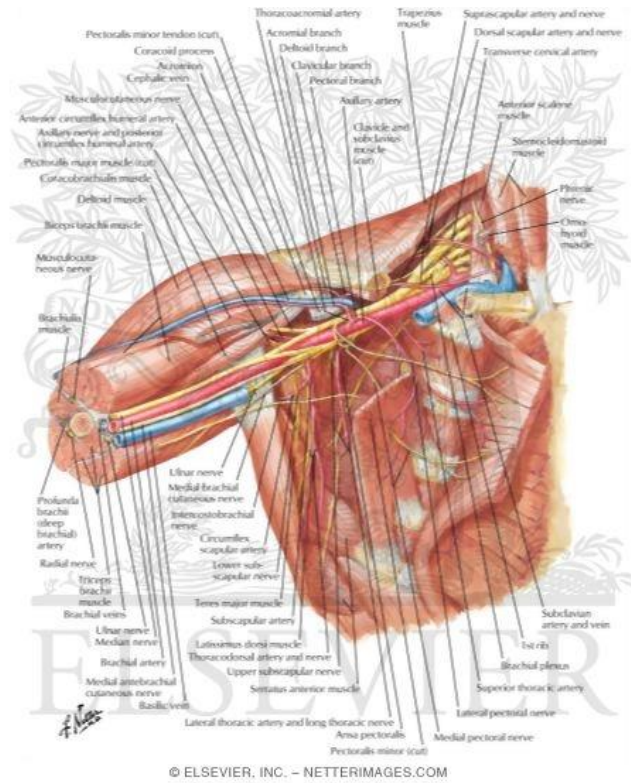
Sentinel Lymph Node Biopsy



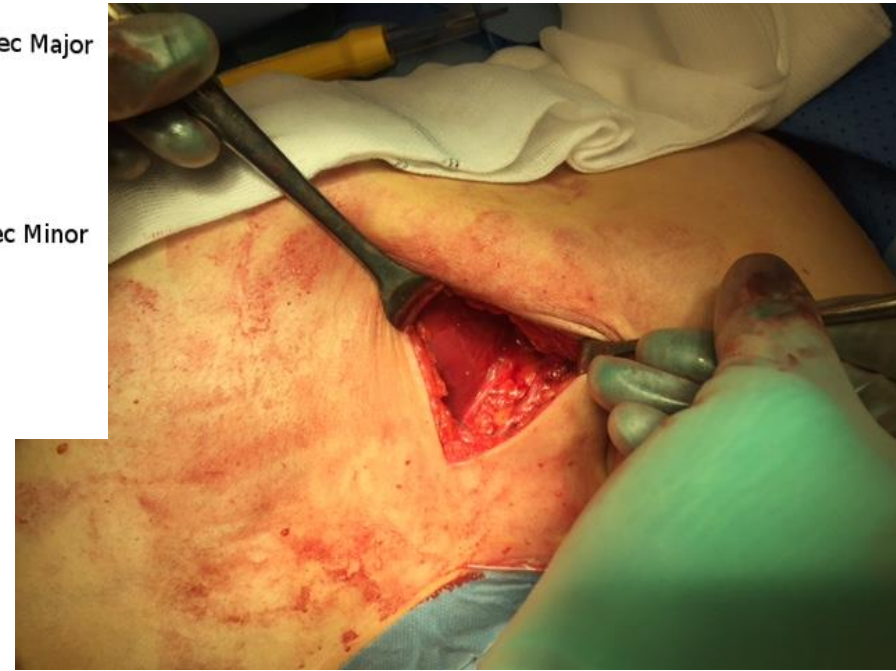
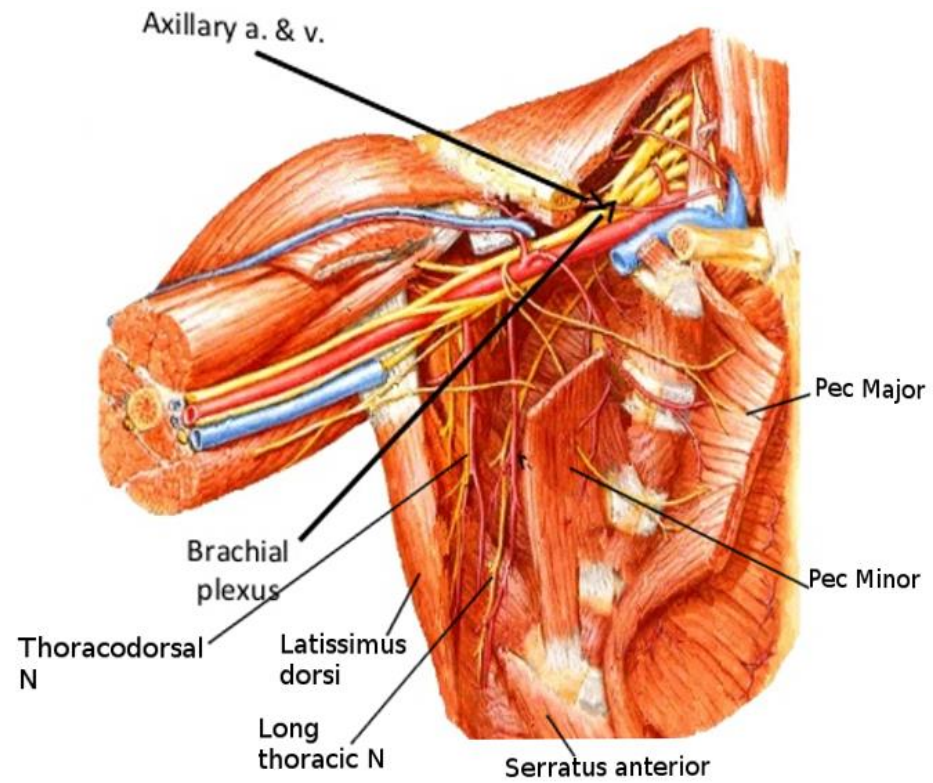
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Axillary Dissection



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Breast Reconstruction



Breast Reconstruction

Implant vs autologous tissue

	Implantat	Autologt vev
Bad skin quality	+	++++
Request for least mutilating surgery	++++	+
Comorbidity	+++	+
Wish for a natural look	++(++)	++++
Avoid long term complications	+	++++

Different techniques and different choices

Skinsparing
mastectomy

Nipple sparing
mastectomy

Implant vs
autologous

Mesh



Expander vs
permanent

Prepectoral vs
submuscular

Primary vs
secondary

Skinsparing mastectomy – oncological safety

Ann Surg Oncol (2015) 22:3241–3249
DOI 10.1245/s10434-015-4739-1

Annals of
SURGICAL ONCOLOGY
OFFICIAL JOURNAL OF THE SOCIETY OF SURGICAL ONCOLOGY



ORIGINAL ARTICLE – BREAST ONCOLOGY

Overall Survival, Disease-Free Survival, Local Recurrence, and Nipple–Areolar Recurrence in the Setting of Nipple-Sparing Mastectomy: A Meta-Analysis and Systematic Review

Lucy De La Cruz, MD¹, Alison M. Moody², Erryn E. Tappy², Stephanie A. Blankenship, MS², and Eric M. Hecht, MD, MSPH³

¹Department of Surgery, University of Miami Miller School of Medicine, Miami, FL; ²University of Miami Miller School of Medicine, Miami, FL; ³Department of Public Health Sciences, University of Miami Miller School of Medicine, Miami, FL

META ANALYSIS

Comparison of Skin-Sparing Mastectomy Versus Non–Skin-Sparing Mastectomy for Breast Cancer

A Meta-Analysis of Observational Studies

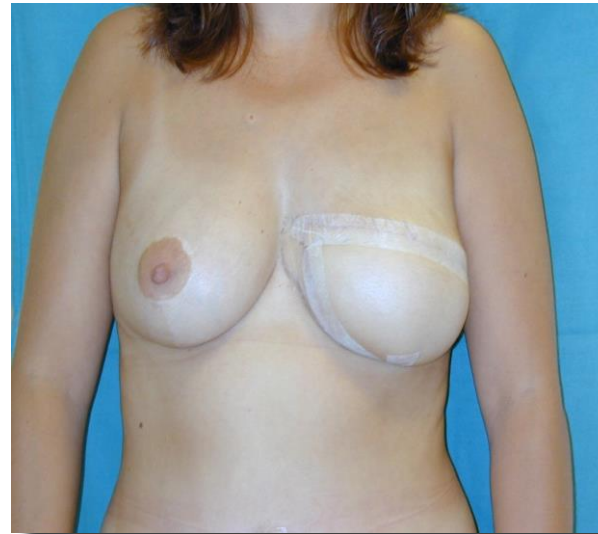
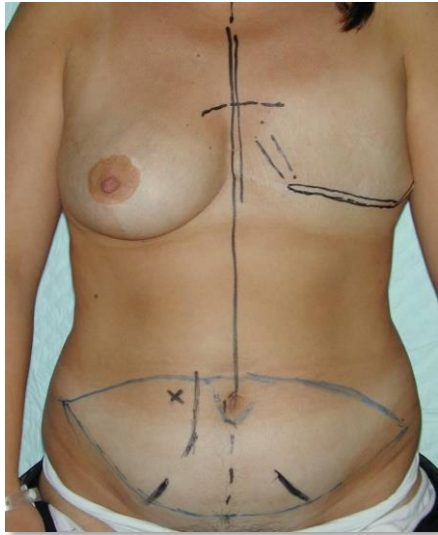
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Delayed reconstruction – autologous tissue



Bilder utlånt av Haris Mesic



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Changing Paradigms in the Local Therapy of Breast Cancer: Making Less More

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SPECIAL ARTICLE

De-escalating and escalating treatments for early-stage breast cancer: the St. Gallen International Expert Consensus Conference on the Primary Therapy of Early Breast Cancer 2017

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Panel Members of the St. Gallen International Expert Consensus on the Primary Therapy of Early Breast Cancer 2017



De-escalating and escalating surgery in the management of early breast cancer

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ABSTRACT

In the setting of increased awareness regarding the need to address potential overtreatment in the management of breast cancer patients with favorable-prognosis disease, this article reviews three relevant instances in which the extent of surgery has been safely decreased: margin width in patients with ductal carcinoma in situ; axillary management in clinically node-negative women undergoing primary breast-conserving surgery; and the use of neoadjuvant chemotherapy followed by sentinel node biopsy for patients presenting with node-positive breast cancer.

The management of the axillary nodes over the past decade highlights the potential to de-escalate surgery in the era of multimodality therapy. Similar opportunities exist for the use of radiotherapy. To fully realize the potential of de-escalating surgery, new communication strategies must be developed to convince patients that bigger is not necessarily better.

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Conclusion

- Breast cancer prognosis is good
- In Norway 3600 women diagnosed each year
- Increasing numbers of breast conserving surgery
 - BCT as good or better than mastectomi
- Deescalation of surgery in the axilla
- Good possibilities for reconstruction
- From max to minimal surgery
- Personalized treatment
- Research gives results!