

## Breast Cancer Update for General Practitioners in South Africa



Prevention better than cure

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## Learning Objectives

- Understand the burden of breast cancer in South Africa
- Apply practical breast cancer screening strategies in private practice
  - Review international breast cancer screening guidelines
- Identify high-risk patients needing intensified surveillance
- Recognise new developments in imaging, pathology and systemic therapy
  - Understand molecular subtypes and modern therapies
- Improve referral pathways and early diagnosis



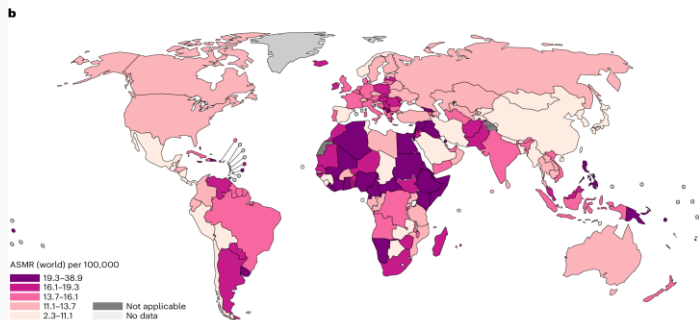
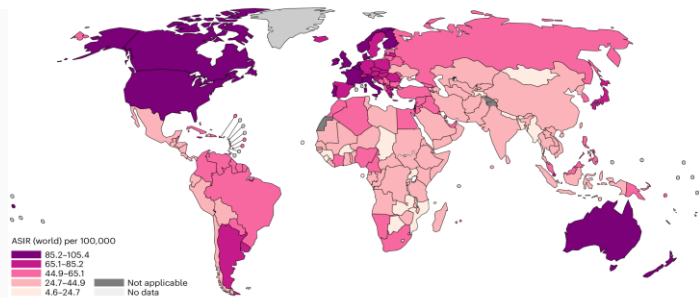
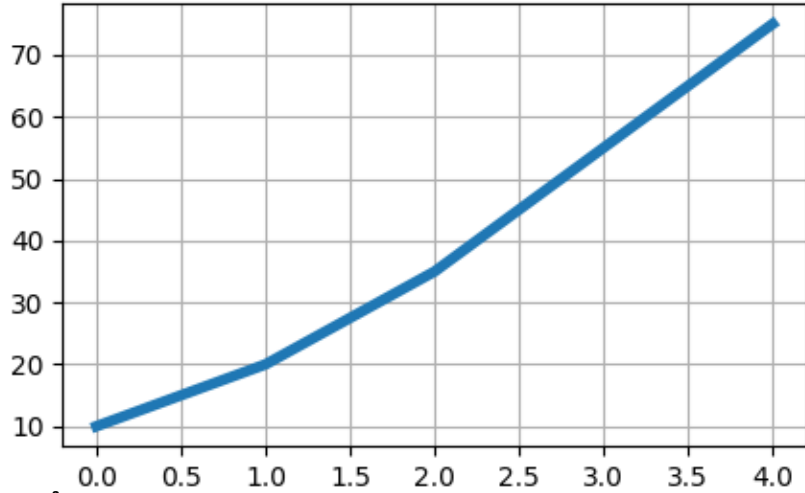
## Why Breast Cancer Matters

- Most common cancer in women globally and in South Africa. Incidence continues to rise globally
- Late presentation remains common in South Africa
- Early-stage detection significantly improves survival
- Disparities remain between high-income and low-middle income countries
- General practitioners are critical gatekeepers for early diagnosis

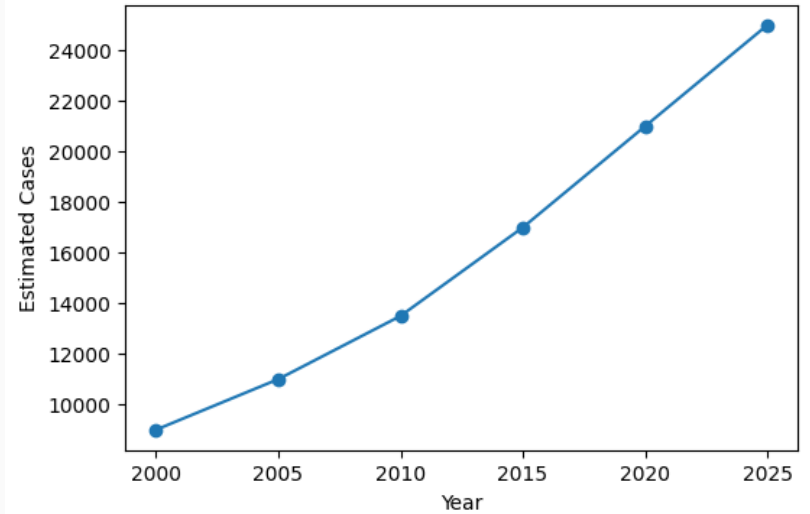
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# Global Breast Cancer Incidence

## Global Incidence



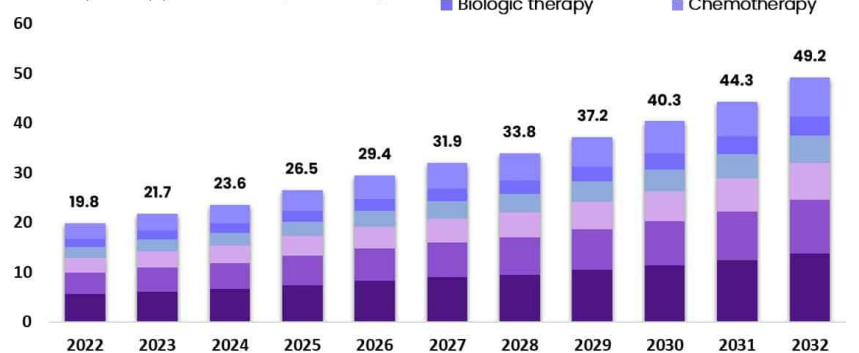
## Global Increase in Breast Cancer Diagnoses



Estimated worldwide increase in breast cancer diagnoses over time.

## Global Breast Cancer Market

Size, by therapy, 2022-2032 (USD Billion)



The Market will Grow At the CAGR of:

**9.8%** The forecasted market size for 2032 in USD:

**\$49.2B** market.us

## Common GP Pitfalls



- Treating persistent lump as infection repeatedly
- Delaying imaging in young women
- Ignoring bloody nipple discharge
- Failure to follow up abnormal imaging



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# Risk Factors for Breast Cancer

- Non-modifiable factors
  - Female sex and increasing age
  - Family history and BRCA mutations
  - Previous chest irradiation
  - Dense breasts
- Modifiable factors
  - Obesity and sedentary lifestyle
  - Alcohol use
  - Post-menopausal hormone therapy
  - Delayed childbirth



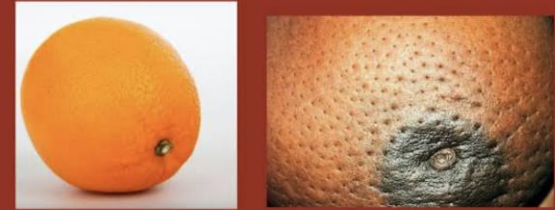
BUT.....

I would like to show you something

## Clinical Red Flags in Primary Care

- New painless breast lump
- Skin tethering or peau d'orange
- Nipple inversion or bloody discharge
- Persistent unilateral breast pain with mass
- Axillary lymphadenopathy

### Peau d' Orange Appearance



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## Triple Assessment – Still the Gold Standard

- Clinical breast examination
- Imaging: mammogram ± ultrasound
- Histology/cytology confirmation



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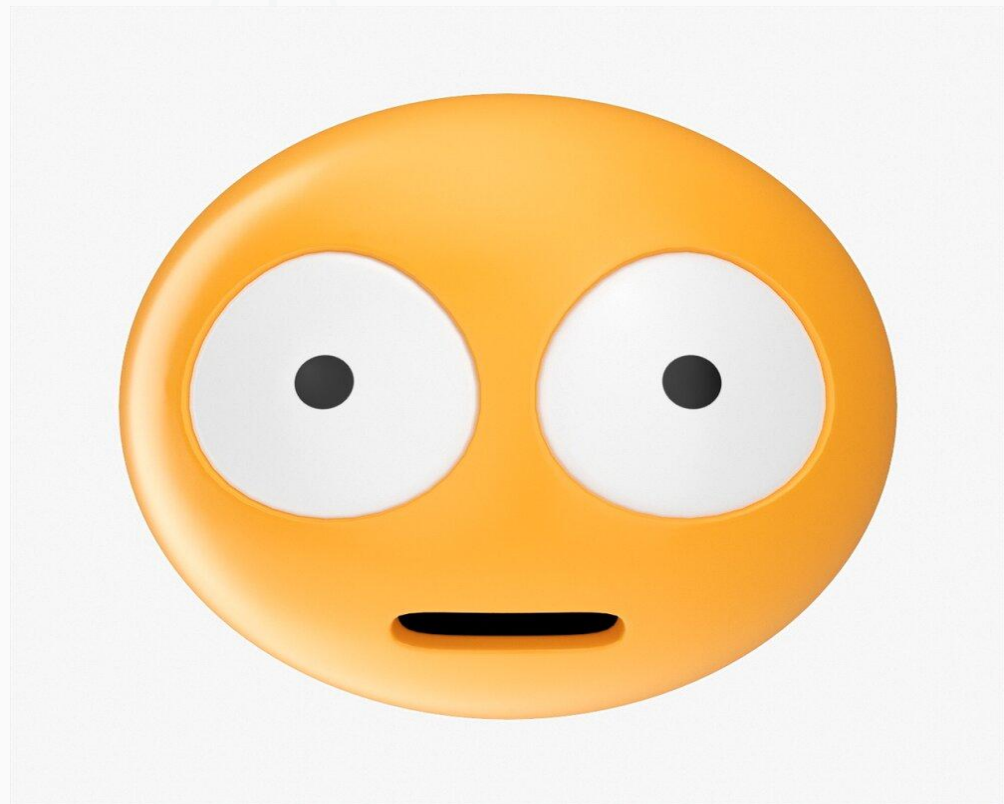
- Any suspicious lesion requires tissue diagnosis
- **Any new breast lesion woman >40 years = biopsy**

## Average-Risk Screening: Practical GP Approach

- Age 40–49: discuss annual mammography individually
- Age 50–74: mammography every 1–2 years
- Continue after 75 if life expectancy >10 years
- Clinical breast awareness encouraged

## High-Risk Patients

- BRCA1/2 mutation carriers
- Prior chest irradiation
- Strong family history
- Lifetime risk >20%



## Risk calculation: QR code



Gail model

## Key Screening Recommendations 2025–2026

- NCCN: annual mammography from age 40
- Risk-based screening increasingly recommended
- High-risk women require MRI surveillance
- Dense breast – Discussion

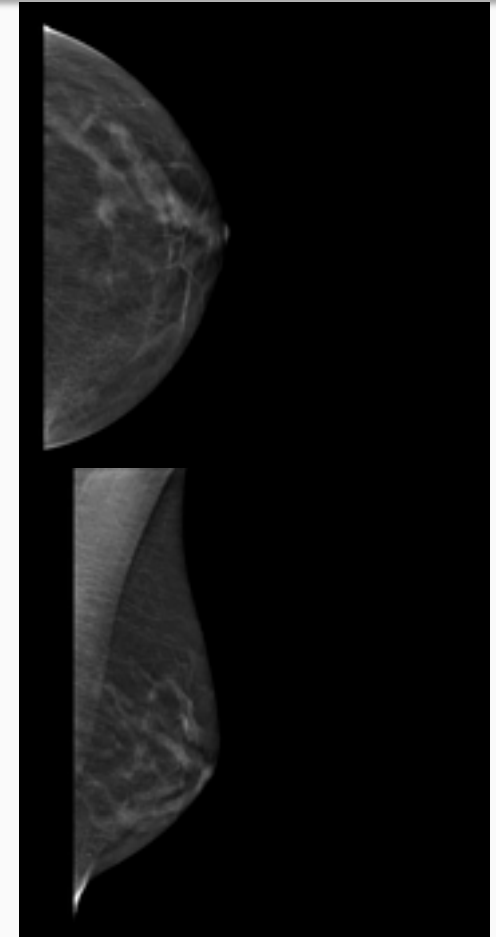
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## Dense Breasts and Supplemental Imaging

- Dense breasts reduce mammographic sensitivity
- Tomosynthesis improves detection
- Abbreviated MRI gaining evidence
- Contrast-enhanced mammography emerging
- Associated with increased cancer risk
- Supplemental ultrasound or MRI may help selected women
  
- Explain limitations clearly to patients

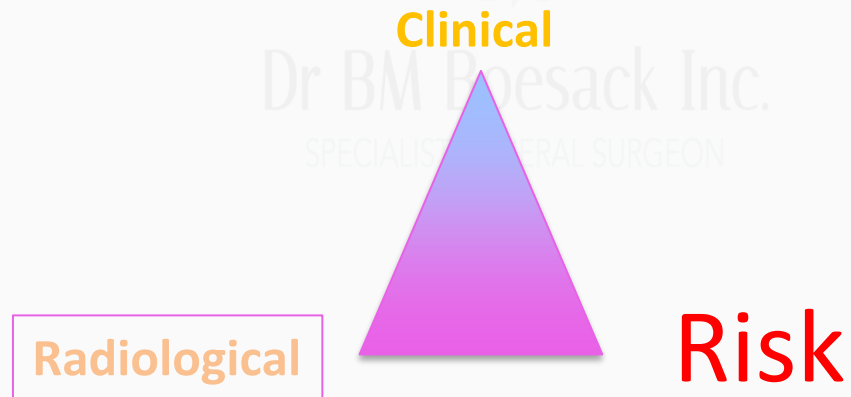
## Imaging Modalities

- Mammography
  - Standard screening tool
  - Digital breast tomosynthesis increasingly used
- Ultrasound
  - Useful in younger women and dense breasts
- MRI
  - Most sensitive modality for high-risk screening



## BI-RADS in nutshell

- BI-RADS 1–2: benign
- BI-RADS 3: short interval follow-up / Discuss / Risk
- BI-RADS 4–5: biopsy required

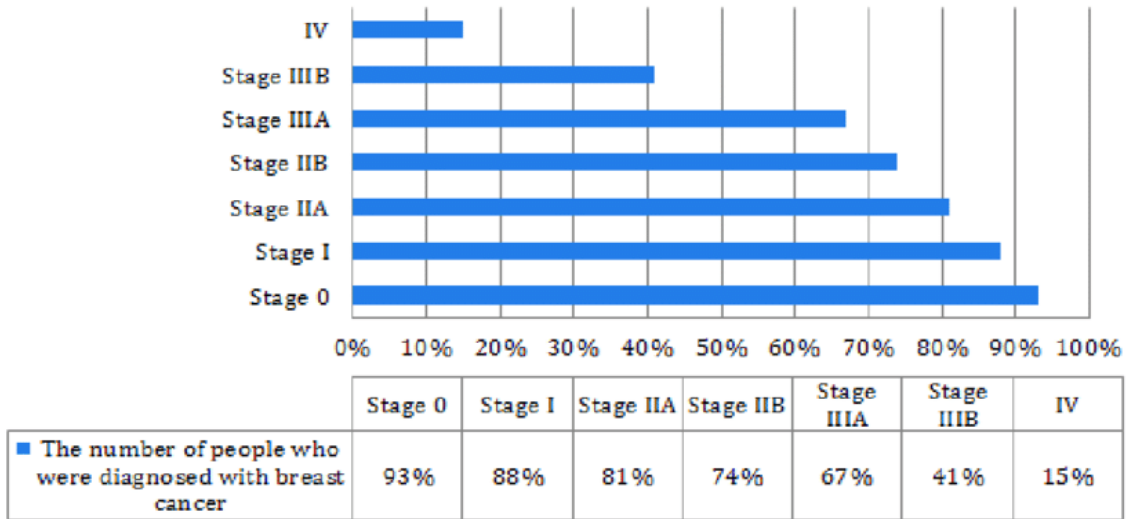


- **Always correlate imaging with clinical findings**

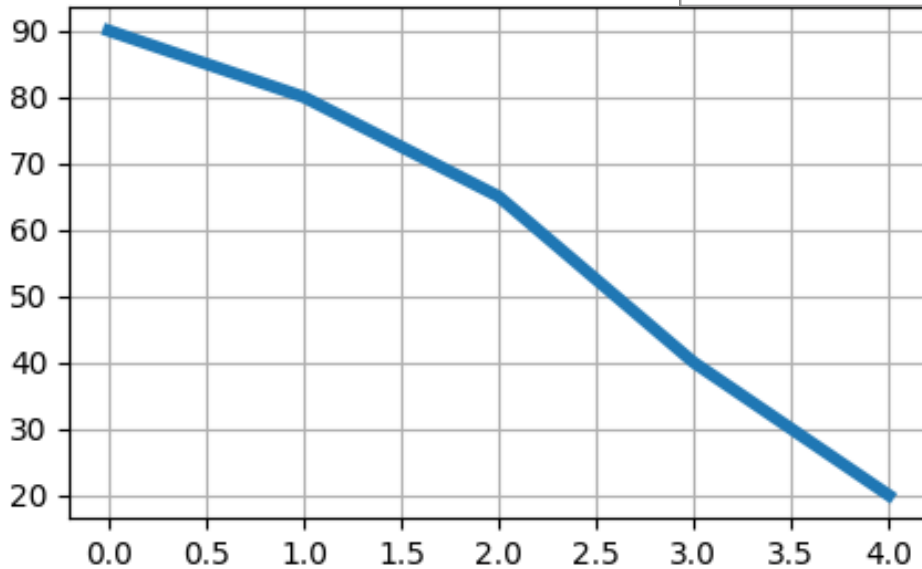
## New in Imaging

- 3D tomosynthesis improving
- Contrast-enhanced mammography
- AI-assisted mammography
- Risk-based screening gaining

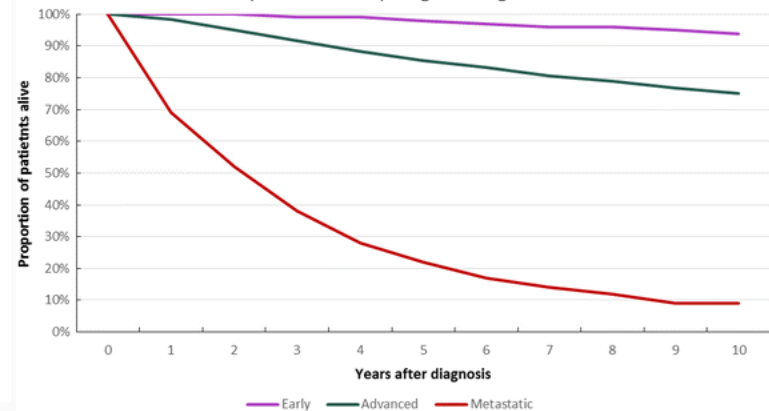
### 5-years Relative Survival Rate



### Early Detection



### 10 year survival by stage of diagnosis



## Stages of breast cancer

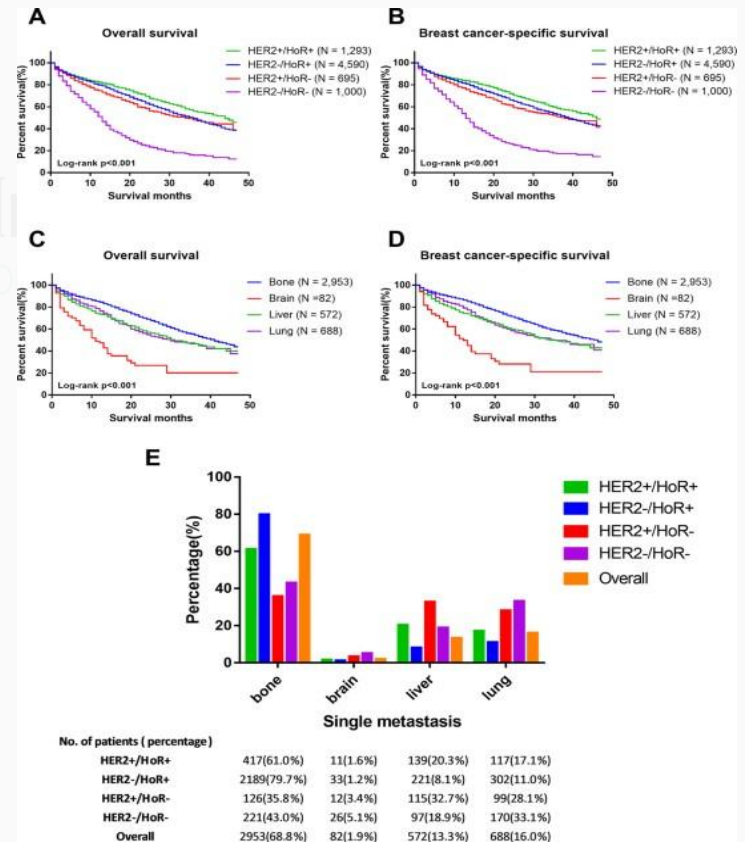
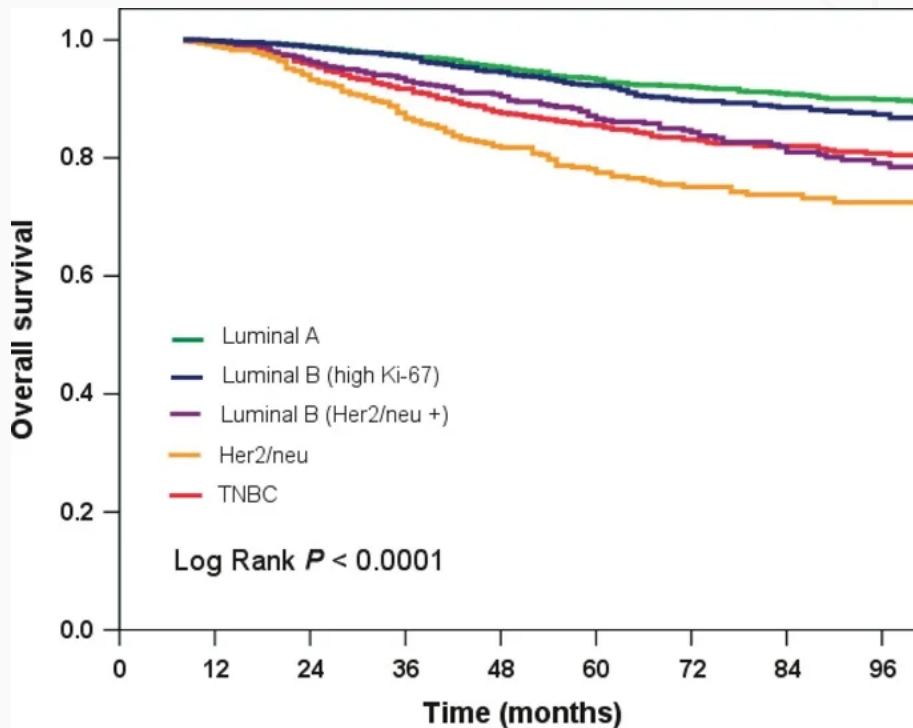
- >5cm = Stage 3
- <2cm no nodes – Stage 1

		Tumour size (cm)	Lymph nodes involved?	Metastasised?
Non-invasive cancer	Stage 0	N/A	No	No
Early breast cancer	Stage 1	<2	No	No
	Stage 2A	<2	Yes: Category 1	No
		2–5	No	No
		No cancer found in breast	Yes: Category 1	No
	Stage 2B	2–5	Yes: Category 1	No
		>5	No	No
Advanced breast cancer	Stage 3A	<2	Yes: Category 2	No
		2–5	Yes: Category 2	No
		>5	Yes: Category 1	No
		>5	Yes: Category 2	No
		No cancer found in breast	Yes: Category 2	No
	Stage 3B	Any size but cancer has spread to nearby muscles and skin	Any	No
	Stage 3C	Any size	Yes: Category 3	No
	Stage 4	Any size	Any	Yes

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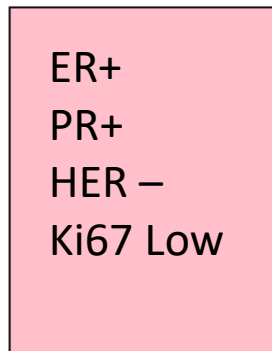
# Pathology Updates

- Routine receptor testing: ER, PR, HER2
- Ki-67 used in treatment decisions
- Molecular profiling guiding precision oncology



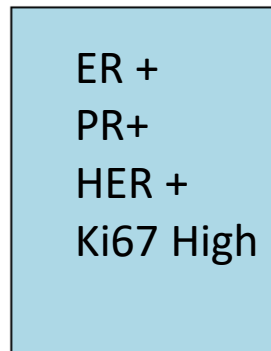
# Molecular Subtypes of Breast Cancer

Breast Cancer Molecular Subtypes



Luminal A

Best Prognosis

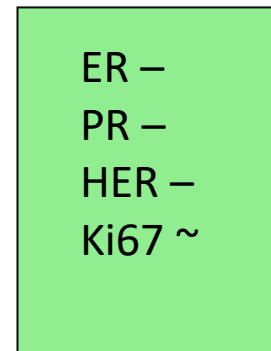


Luminal B

More aggressive



HER2+



Triple Negative

Subtyping guides prognosis and systemic treatment.

## What's New in Treatment?

- Shorter radiotherapy regimens
- Expanded use of immunotherapy
- CDK4/6 inhibitors in earlier disease
- PARP inhibitors for BRCA-mutated cancers
- Antibody-drug conjugates changing metastatic care

## Immunotherapy in Breast Cancer

- Particularly important in triple-negative disease
- Pembrolizumab now used in selected early and metastatic settings
- PD-L1 testing increasingly relevant

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## HER2-Positive Disease Revolution

- Trastuzumab dramatically improved survival
- New agents include trastuzumab deruxtecan
- HER2-low category now clinically important (previous HER negative)

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## Endocrine Therapy Update

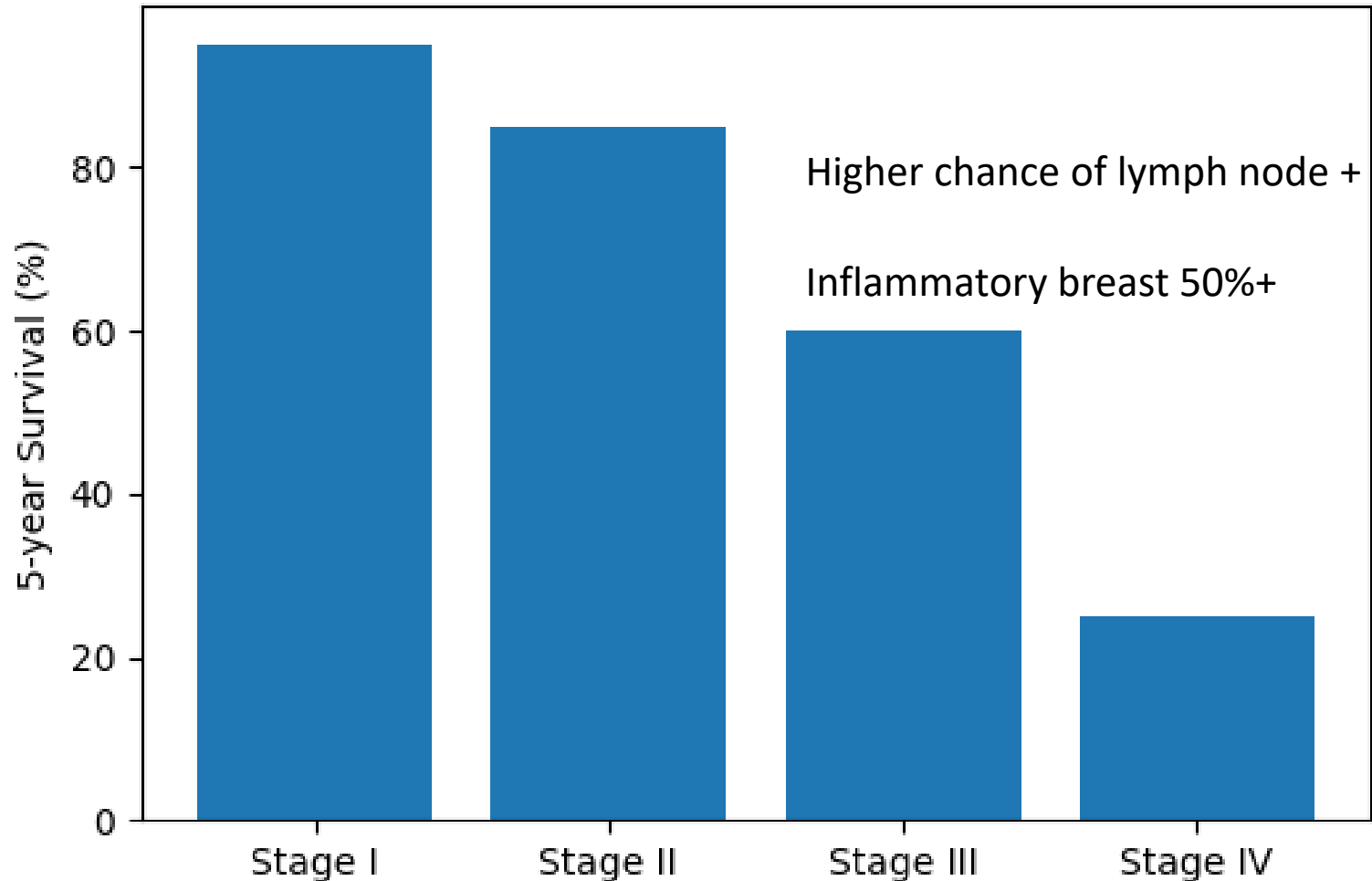
- Tamoxifen remains important in premenopausal women
- Aromatase inhibitors standard post-menopause
- CDK4/6 inhibitors improving disease-free survival
- Adherence remains a major GP issue

## Who Needs Genetic Referral?

- Breast cancer under age 50
- Triple-negative cancer under age 60
- Male breast cancer
- Multiple affected family members
- Bilateral breast cancer
- Ovarian or pancreatic cancer in family

# Survival Improves with Early Detection

Breast Cancer Survival by Stage



Earlier-stage diagnosis is associated with significantly improved survival.

Risk to life

1 -5%

15%

25-35%

50%+

## Future Directions

- AI-supported risk prediction
- Blood-based screening biomarkers
- Precision screening pathways
- De-escalation of surgery and radiotherapy

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## Survivorship and GP Follow-up

- Monitor recurrence symptoms
- Manage treatment toxicities
- Bone health and cardiovascular risk
- Psychological support and return-to-work issues

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## Managing Treatment Side Effects in Primary Care

- Hot flushes and arthralgia
- Lymphedema awareness
- Chemotherapy-related fatigue
- Cardiotoxicity monitoring with HER2 therapies

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## Breast Cancer in Young Women

- Often biologically aggressive
- Fertility counselling important
- Genetic implications more common
- Psychosocial impact substantial

  
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## Breast Cancer in Men

- Rare but important
- Usually presents later
- Strong association with BRCA2
- Any male breast mass warrants assessment

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## Key Resources for South African Doctors

- National Department of Health Breast Cancer Guidelines
- NCCN and ESMO guidance
- Breast Health Foundation South Africa
- Cancer Association of South Africa (CANSA)

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## Suggested Screening Algorithm

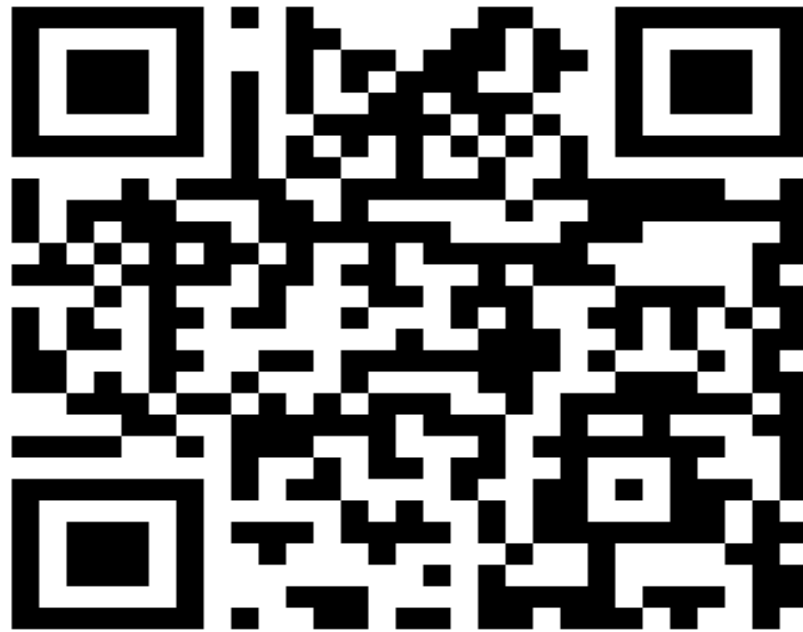
- Average risk: mammography from age 40–50 onward
- High risk: MRI + mammography earlier
- Symptomatic women: diagnostic pathway immediately
- Always biopsy suspicious lesions
- Always biopsy any new breast lesion in woman >40 years

## Take-Home Messages

- Early detection saves lives
- Risk-stratified screening is becoming standard
- GPs play a central role in timely diagnosis
- New therapies are improving survival rapidly
- Follow-up and survivorship care are essential

Thank You

Questions, Referrals & Collaboration



Dr Boesack - Website

## References

- South African National Department of Health Breast Cancer Guidelines
- NCCN Breast Cancer Screening and Diagnosis Guidelines 2025
- ESMO Breast Cancer Clinical Practice Guidelines
- Recent reviews on AI and risk-based screening
- Selected landmark breast oncology trials 2023–2026