



# **Meme Takip ve Tarama Yöntemleri**

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# Meme görüntüleme

## Amaç:

- Tarama

Saptama

- Tanısal

Karakterize etme

Biyopsiye rehberlik

Tedavi planlama

Takip

**Mamografi**

**US**

**MRG**







# Görüntülemenin kullanımı

- **Tarama**

**Yaşa ve riske göre planlama**

- **Tanısal**

**Yaş sınırı yok**

**Bulguya ve patolojiiye göre yaklaşım**



**RADYOLOJİK TARAMA**



**MEME KANSERİ**

**CERRAHİ**

**PATOLOJİ**

**ONKOLOJİ**



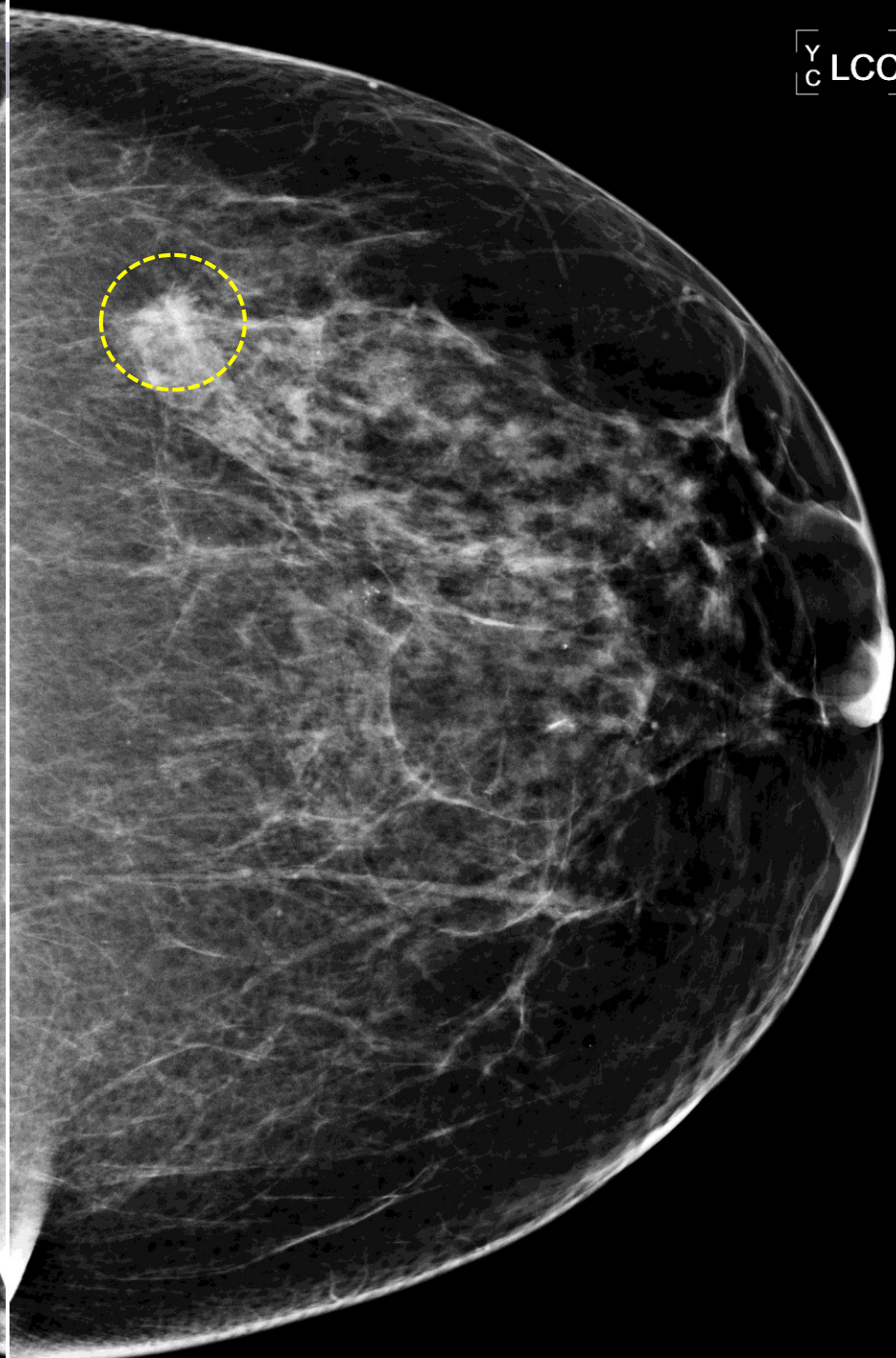
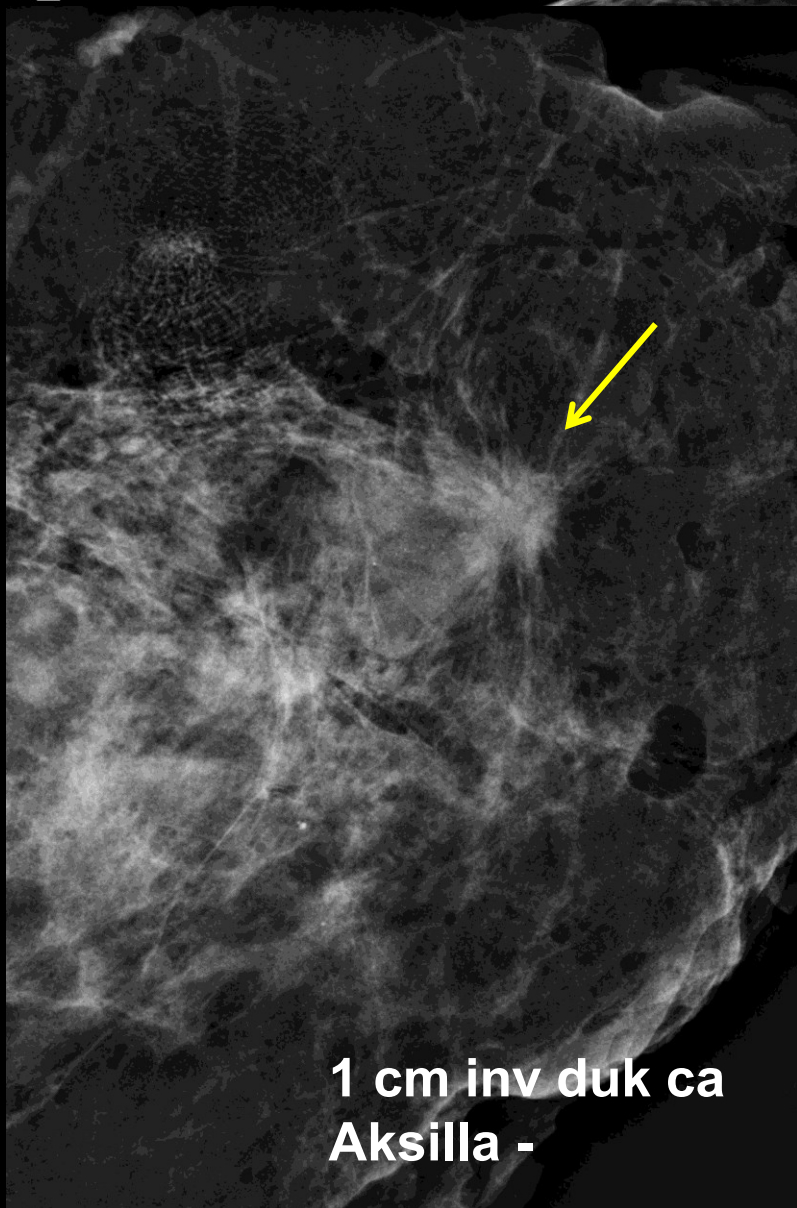


# Mamografinin taramada başarısı

- Randomize kontrollü çalışmalarda mortalite azalması %20-30
- Erken tedavi ile morbiditede azalma
- Teknik standardizasyon

*Kalite güvencesi*

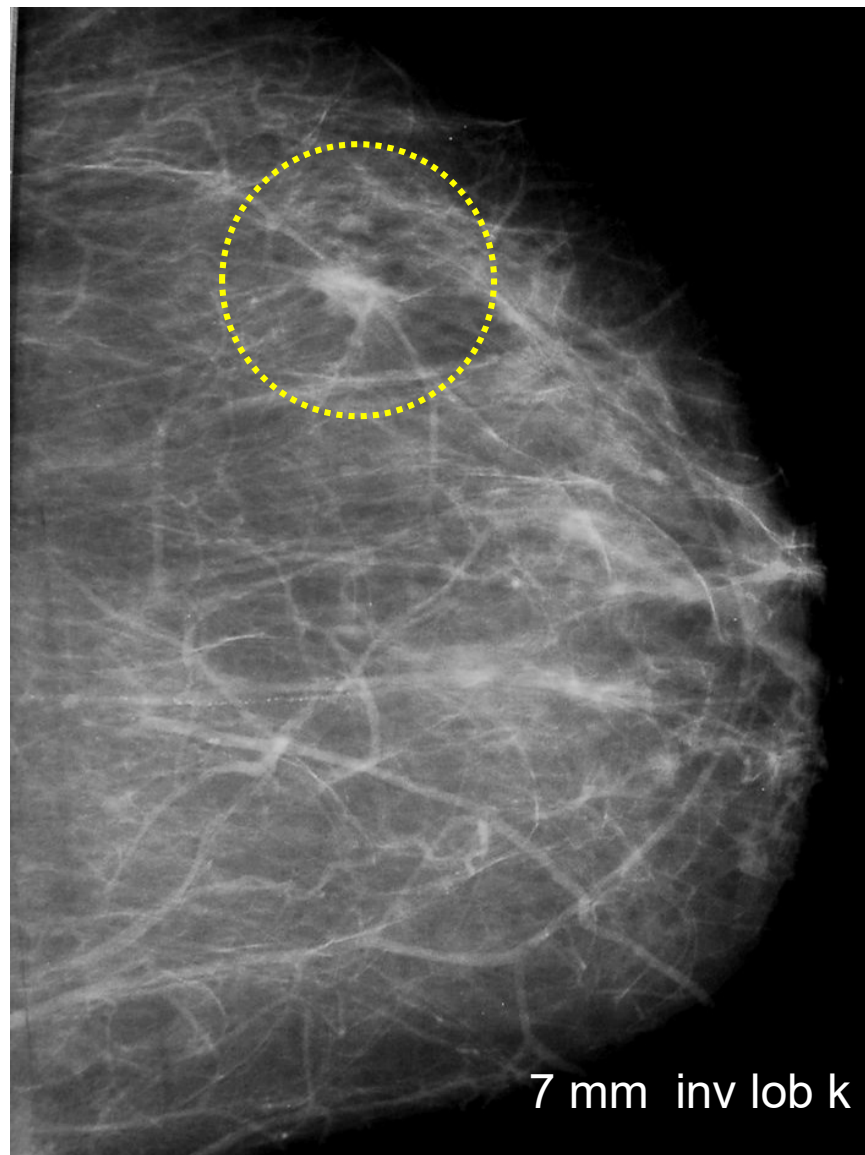








6 mm dkis



7 mm inv lob k



# Tümör boyutu ve aksiller lenf nodu tutuluşuna göre meme kanserinde 5 yıllık yaşam oranları

5 yıllık yaşam, %

Tm boyutu, <i>cm</i>	Lenf nodu		
	0 pozitif	1-3 pozitif	4 ve üzeri pozitif
< 0.5	99.2	95.3	59.0
0.5-0.9	98.3	94.0	54.2
1.0-1.9	95.8	86.6	67.2
2.0-2.9	92.3	83.4	63.4
3.0-3.9	86.2	79.0	56.9
4.0-4.9	84.6	69.8	52.6
≥5.0	82.2	73.0	45.4






# Tarama önerisi

- 50- 69 yaş grubu/ 2 yılda bir  
IARC, European Council,  
US Preventive Services Task Force (USPSTF)
- 40 yaşından sonra her yıl  
ACR, NCCN, TRD
- 40-69 yaş aralığında 2 yılda bir  
TC Sağlık Bak





## ACS 2015

1. Women with an average risk of breast cancer should undergo regular screening mammography starting at age 45 years. (*Strong Recommendation*)
  - 1a. Women aged 45 to 54 years should be screened annually. (*Qualified Recommendation*)
  - 1b. Women 55 years and older should transition to biennial screening or have the opportunity to continue screening annually. (*Qualified Recommendation*)
  - 1c. Women should have the opportunity to begin annual screening between the ages of 40 and 44 years. (*Qualified Recommendation*)
2. Women should continue screening mammography as long as their overall health is good and they have a life expectancy of 10 years or longer. (*Qualified Recommendation*)
3. The ACS does not recommend clinical breast examination for breast cancer screening among average-risk women at any age. (*Qualified Recommendation*)





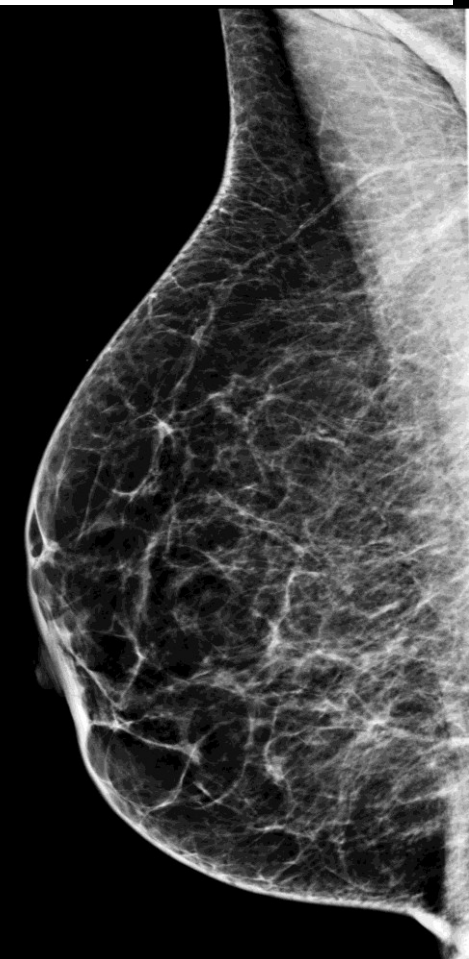
# Mg sınırlılıkları

- Mg ort sensitivitesi %70-90
- Yağlı memede saptama >%98
- Dens memelerde %30-66

*Kolb et al. Radiology 2002*

*Mandelson J Natl Cancer Inst 2000*



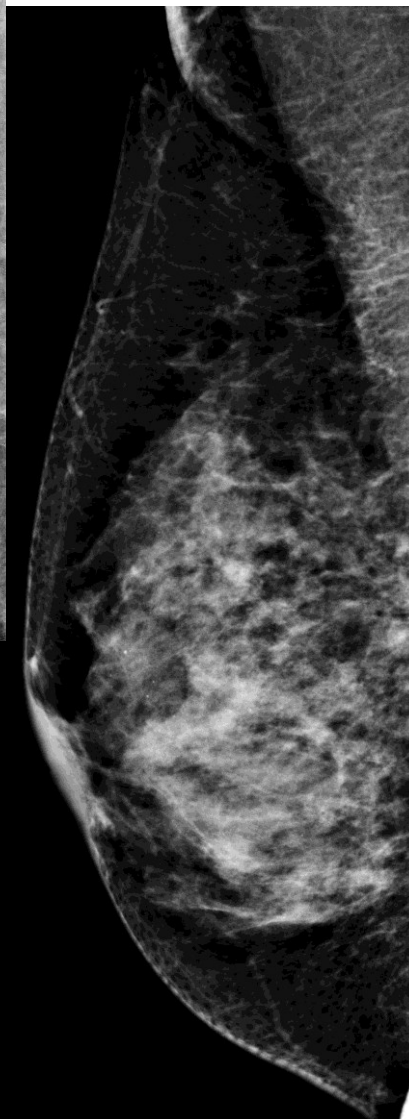


**tip A**

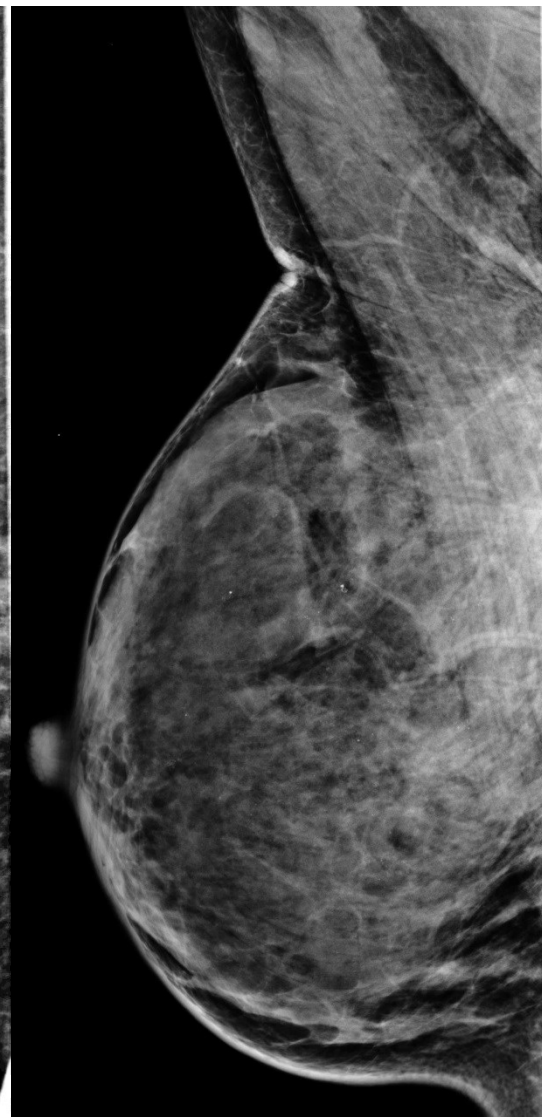


**tip B**

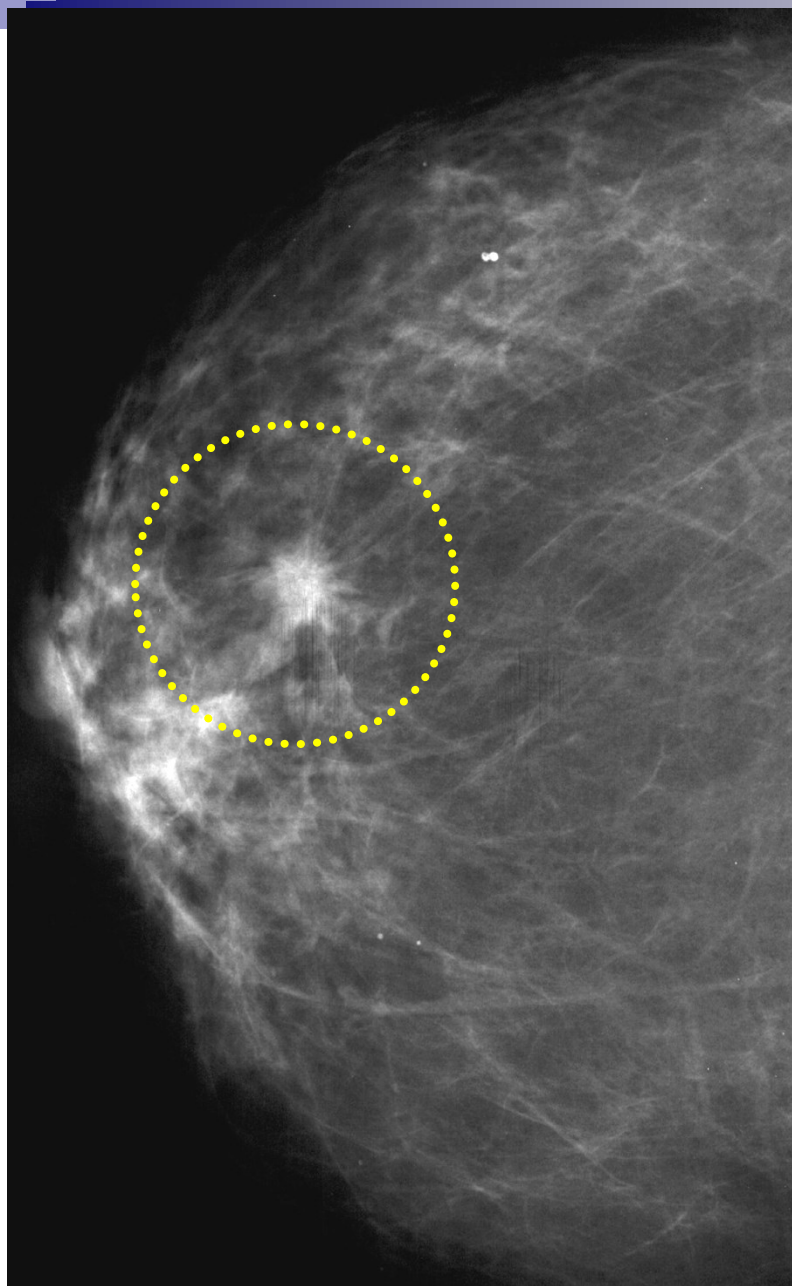
**tip C**



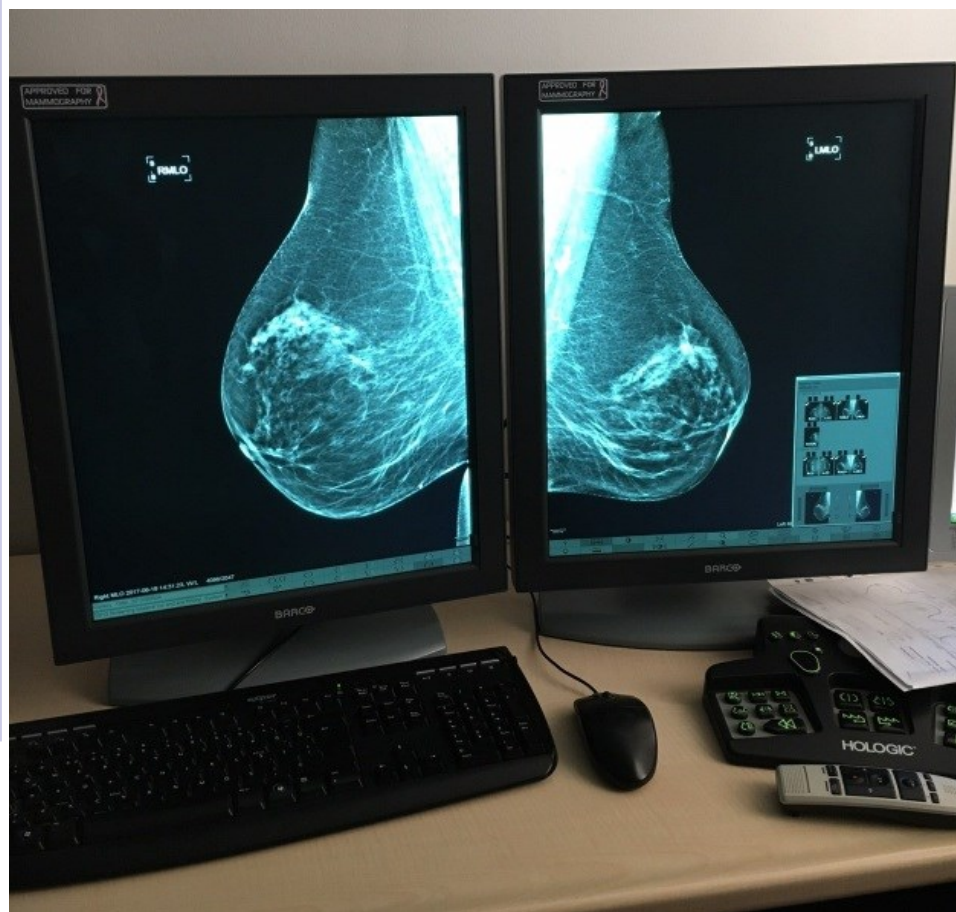
**tip D**














- 
- < 50 altı kadınlarda
  - Perimenapozal ya da premenapozal
  - Dens meme dokusunda

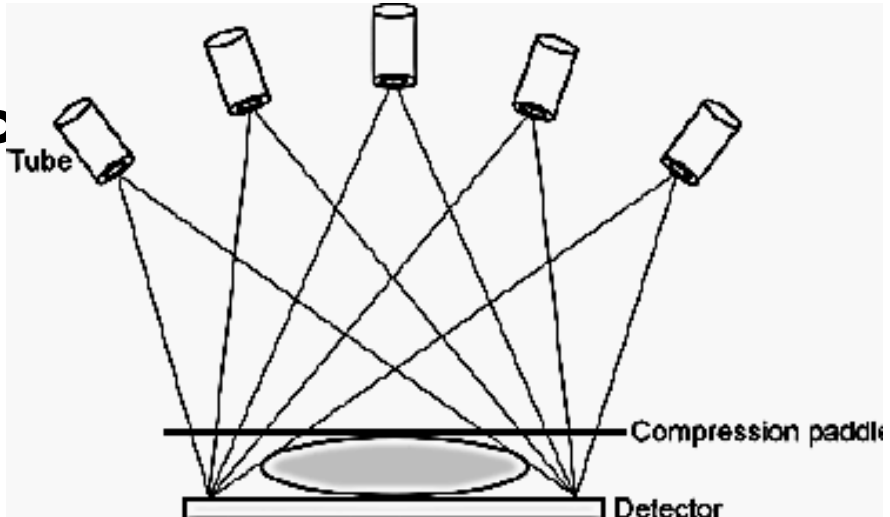
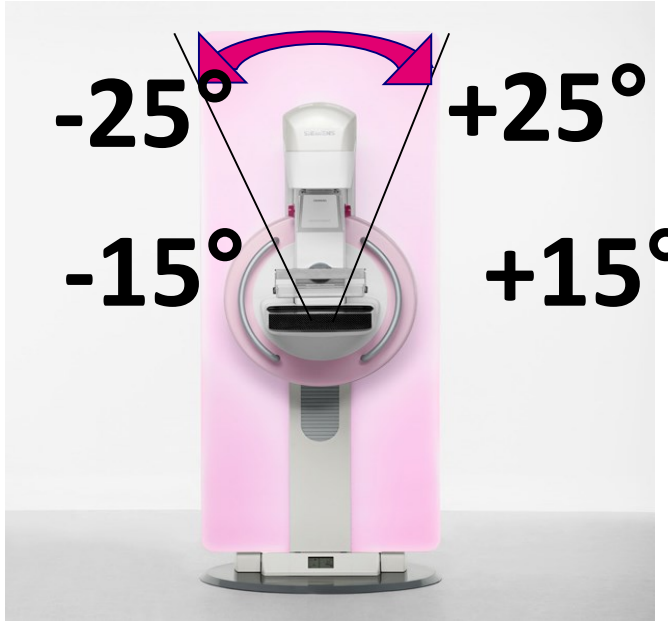
**Dijital mamografi film mamografiden daha üstündür**

*Pisano ED, Gatsonis C, Hendrick E, et al. Diagnostic performance of digital versus film mammography for breast-cancer screening. N Engl J Med 2005;353(17):1773-83*

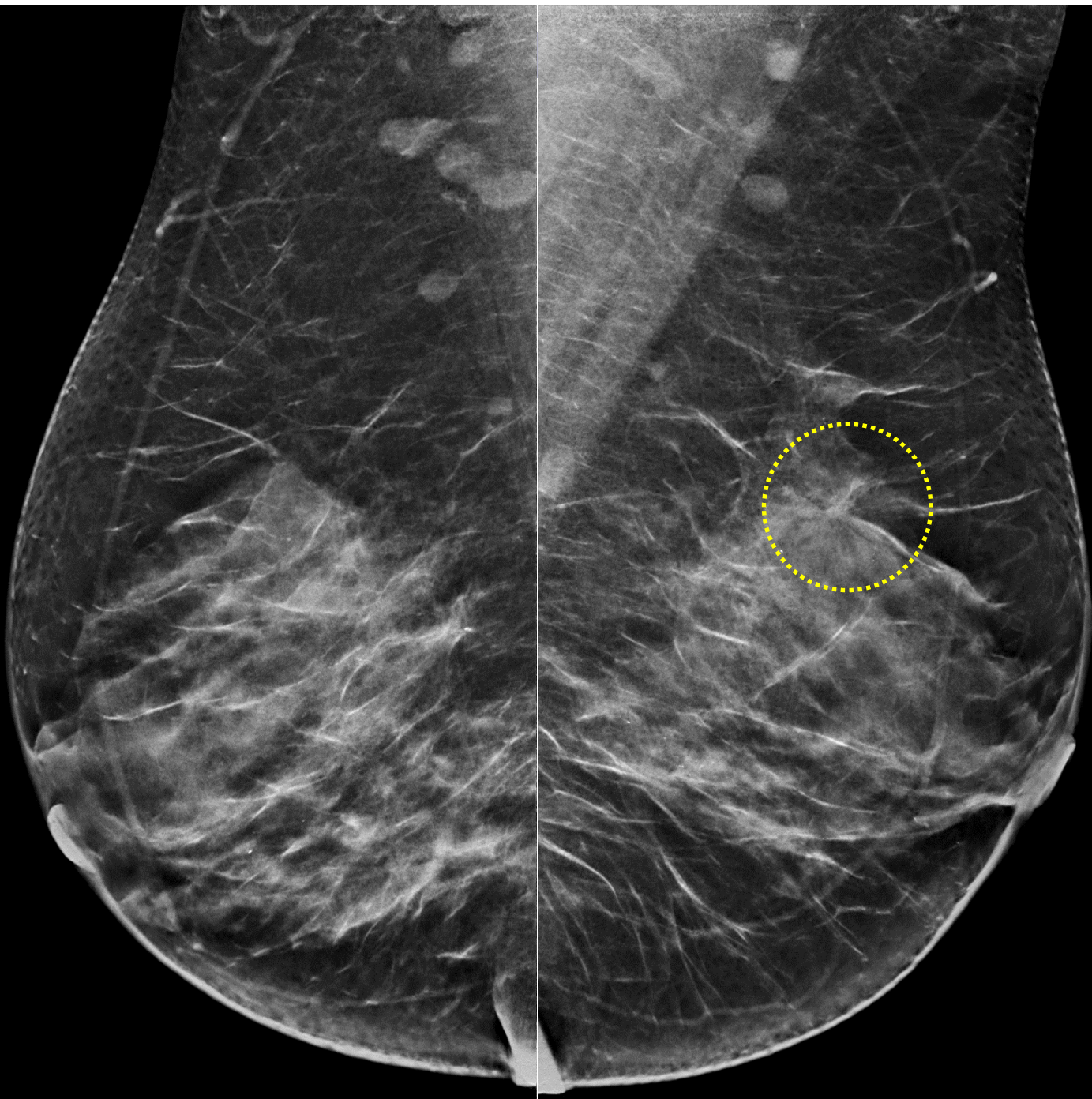


# Dijital Meme Tomosentezi

- Değişken bir açı arkı boyunca tüp hareketi
- Çoklu projeksiyon görüntüleri (11, 25, vs)
- Rekonstrüksiyon (1 mm kesit kalınlığı)
- 3 B kesit görüntüler









**ABD, çok merkezli, prospektif, 142883 DM/ 55998 DMT**

	<b>DM</b>	<b>DM + DMT</b>
■ <b>Kanser saptama oranı</b>	<b>4,4/1000</b>	<b>5,9/1000</b>
■ <b>Yalancı (+) oranı</b>	<b>%10,4</b>	<b>%8,7</b>

***Conant EF, ve ark.***

*Breast cancer screening using tomosynthesis in combination with digital mammography compared to digital mammography alone: a cohort study within the PROSPR consortium.*

***Breast Cancer Res Treat 2016***



## Oslo/ prospektif, tarama/12621 olgu

	<b>MG</b>	<b>MG + DMT</b>
■ Kanser saptama oranı	6.1/1000	8/1000
■ Kanser sayısı	77	101 (%40 artış)
■ Yalancı (+) oranı	61.1/1000	53.1/1000 (%15 azalma)

**DMT eklenerek, total performansda belirgin artış**

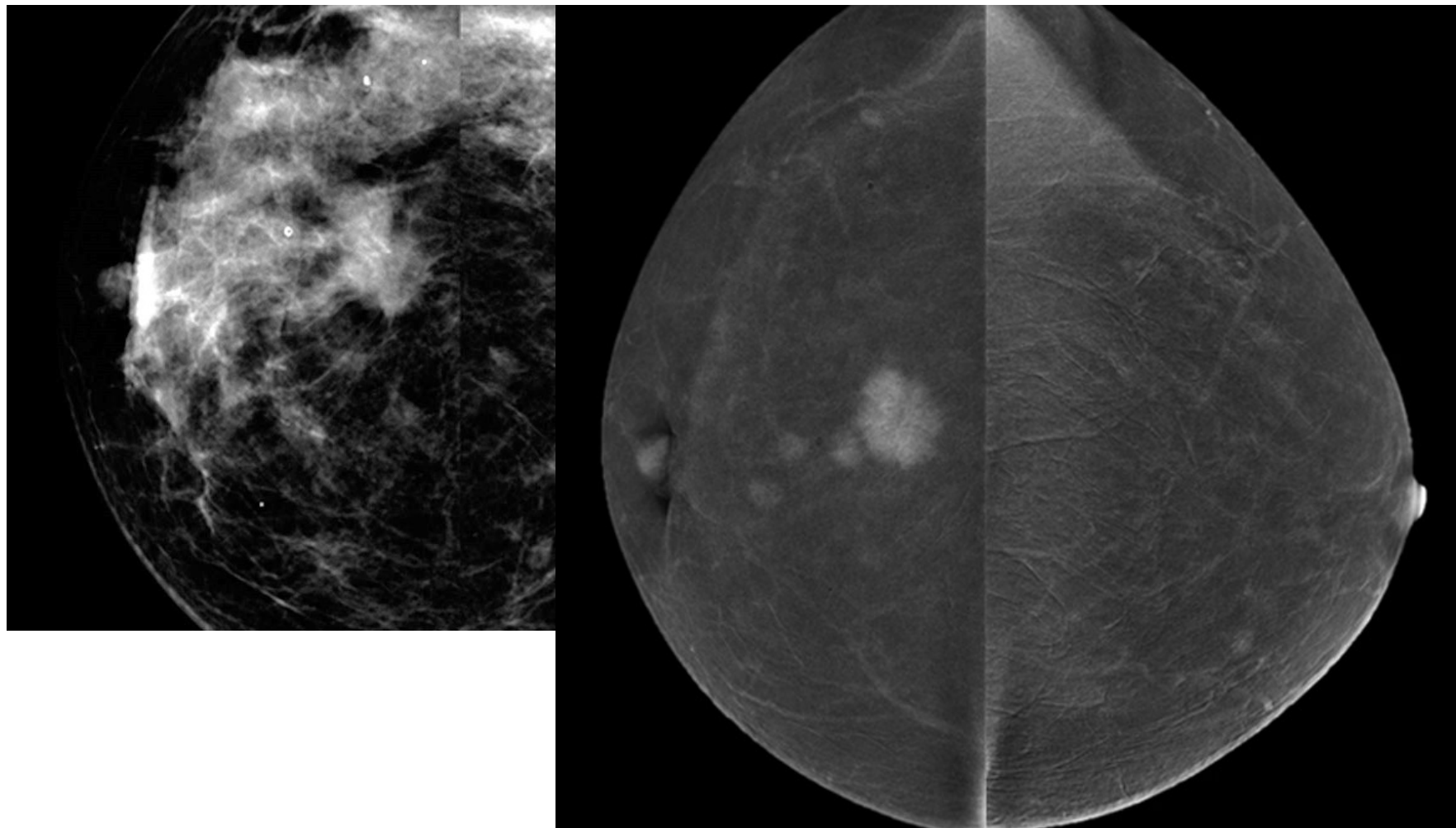
***Skaane P ve ark.***

*Comparison of digital mammography alone and digital mammography plus tomosynthesis in a population based screening program*

***Radiology 2013***



# Kontrastlı spektral mamografi





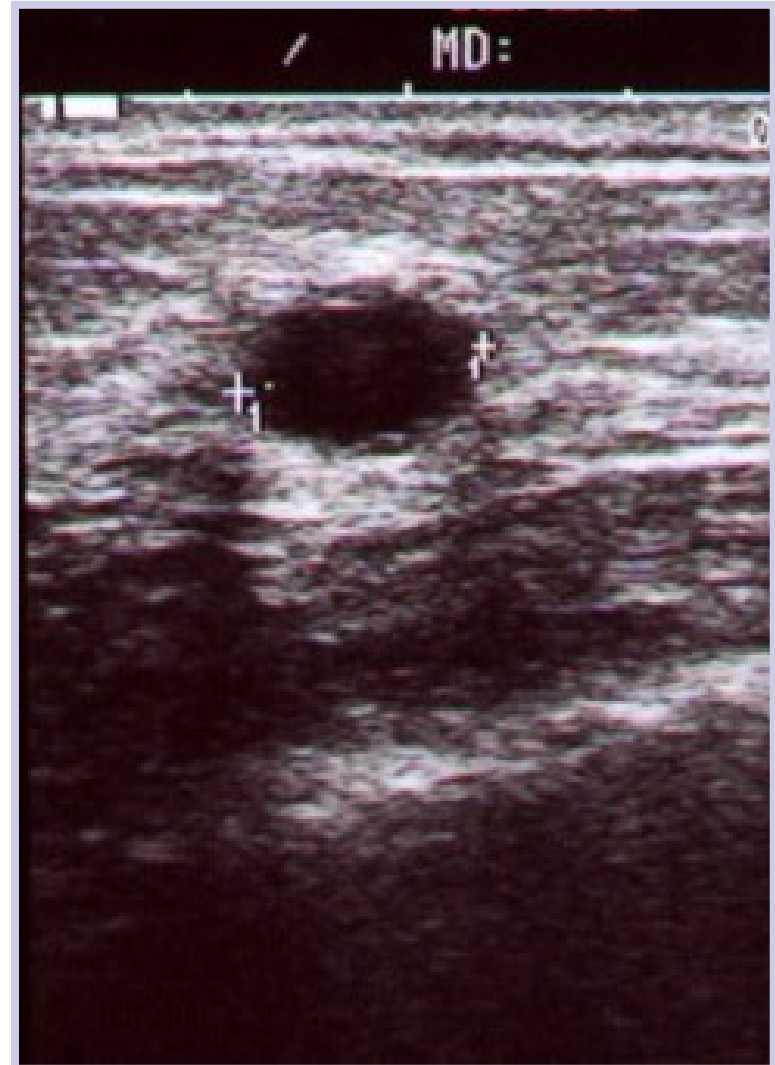
Bonnie Timmons



[www.bonnettimmons.com](http://www.bonnettimmons.com)



# Ultrasonografi



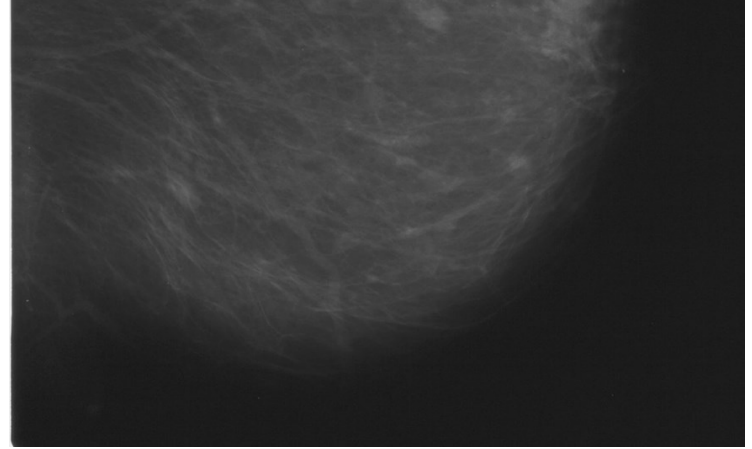
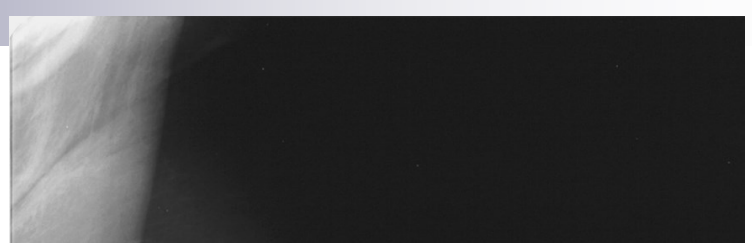
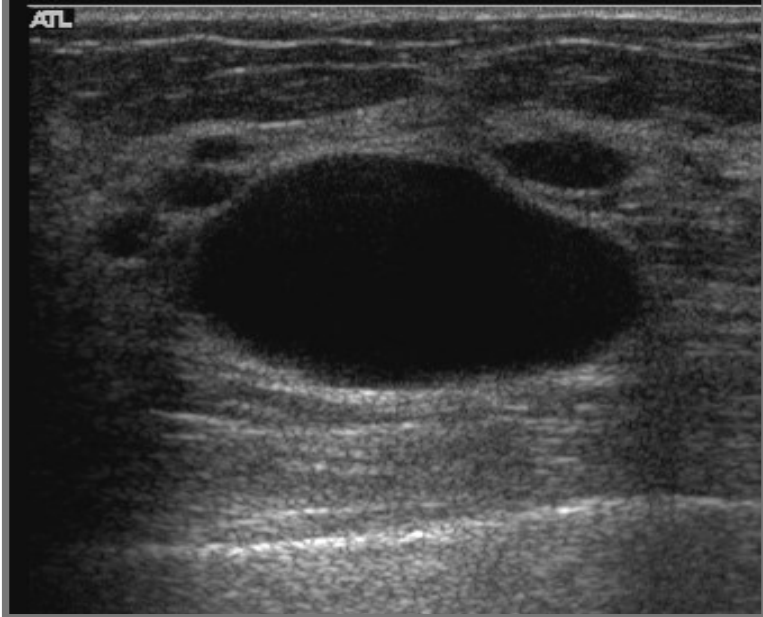
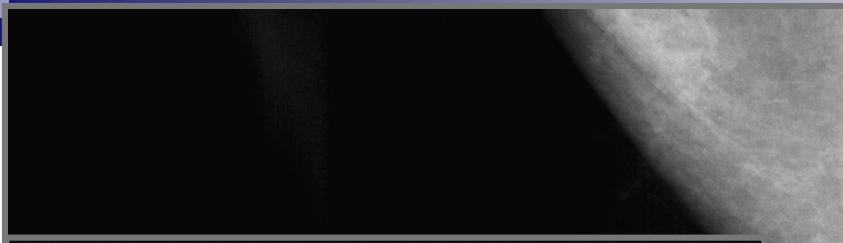




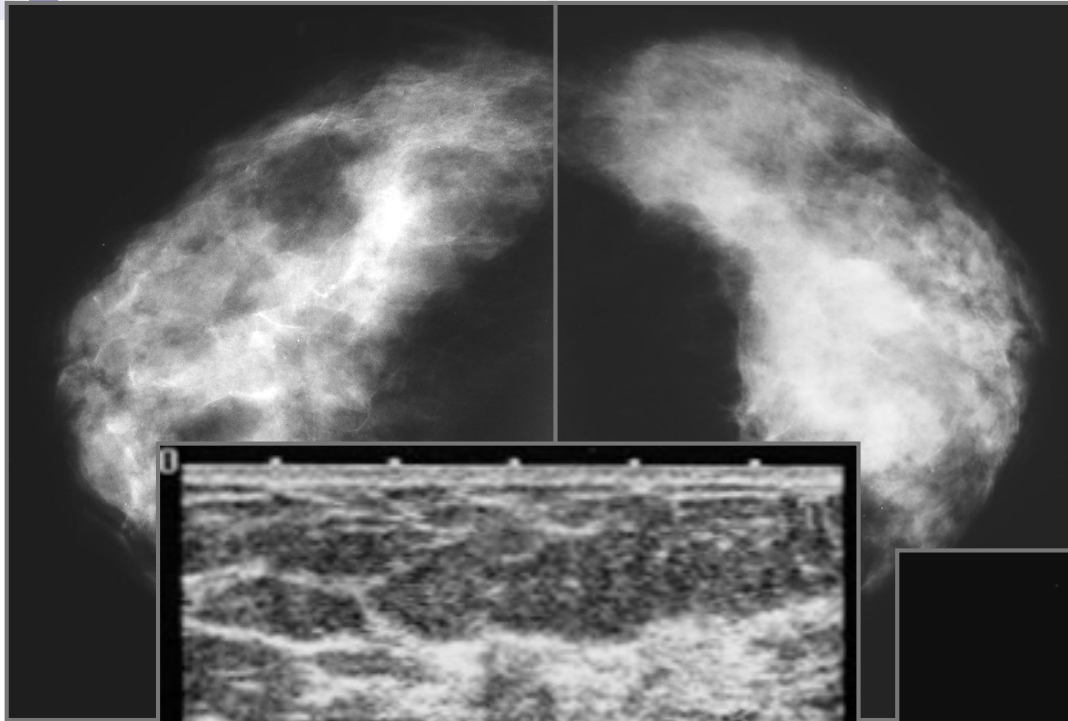
# **Meme US**

- **Palpabl lezyonların değerlendirmesinde**
- **Mamografik bulguların değerlendirmesinde**
- **Genç kadınlarda ilk inceleme olarak**
- **Gebe/ laktasyon/ erkek memesi**
- **Girişimsel işlemlere rehber olarak**
- **Tarama amaçlı ek inceleme\*\***

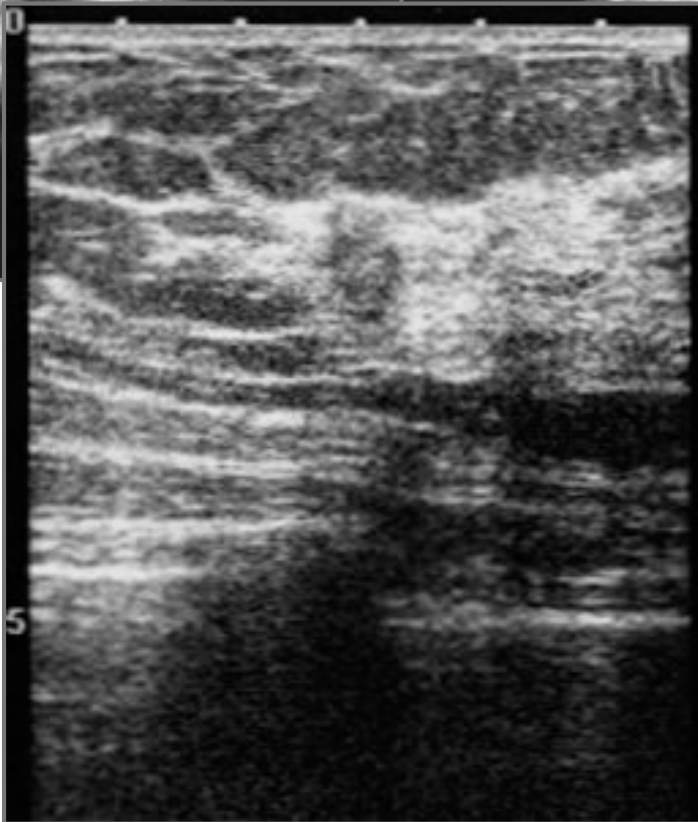




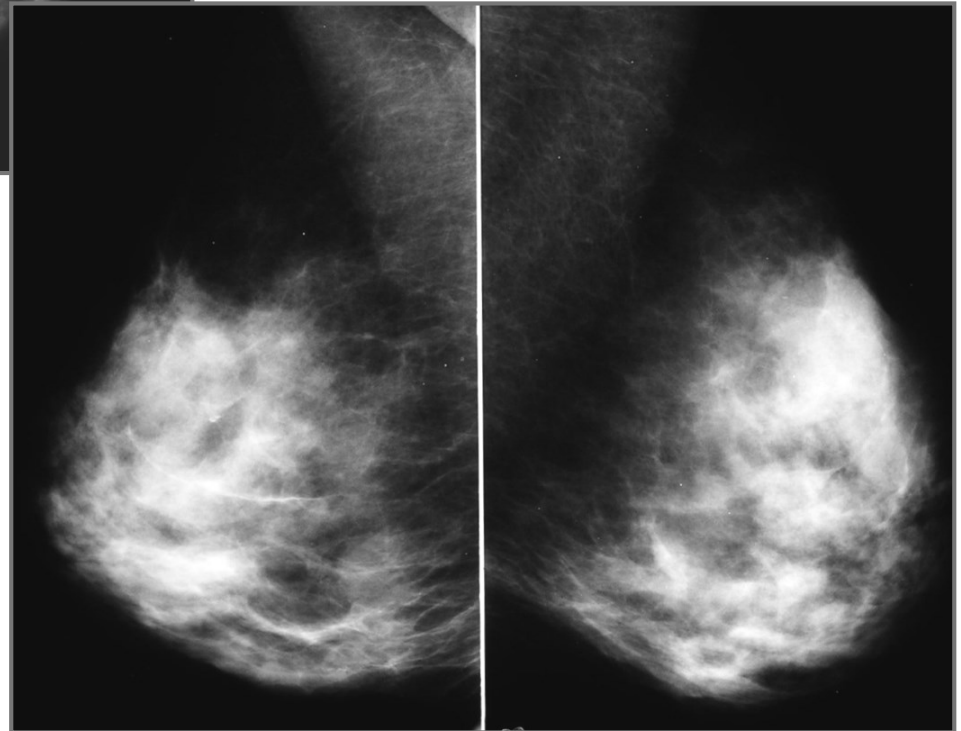




**ele gelmiyor**  
mam (-) US tarama



**inv duk ca**







# Taramada US nin mamografiye katkısı

- Meme dansitesine göre sensitivitedeki artış  
(13547 kadın)

Tip B: MG %88, MG+US %100

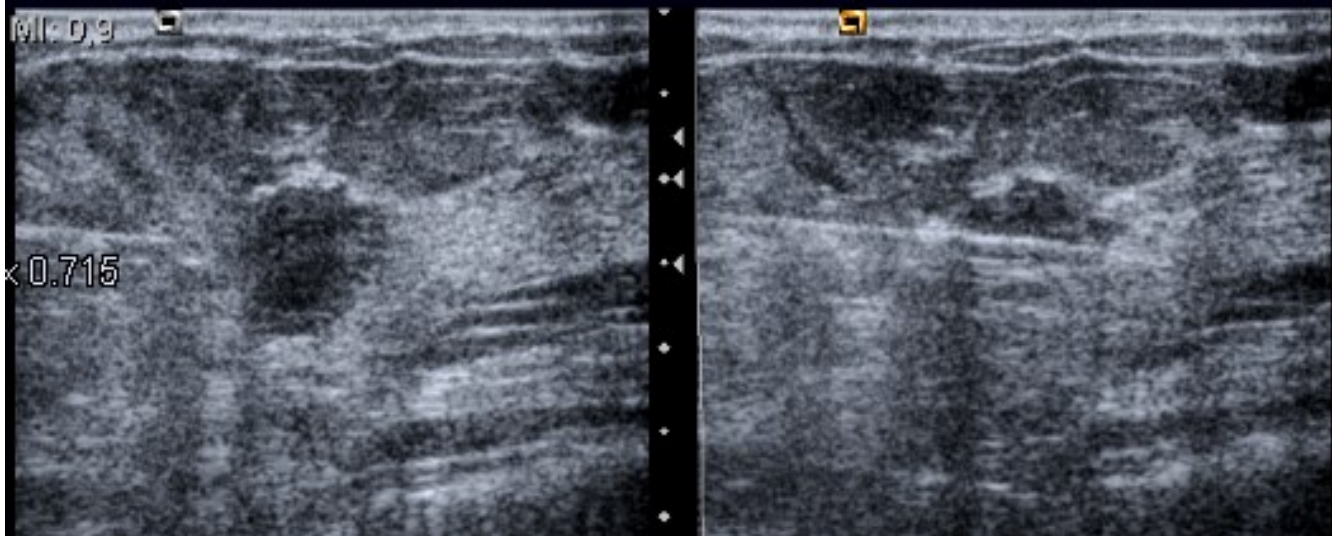
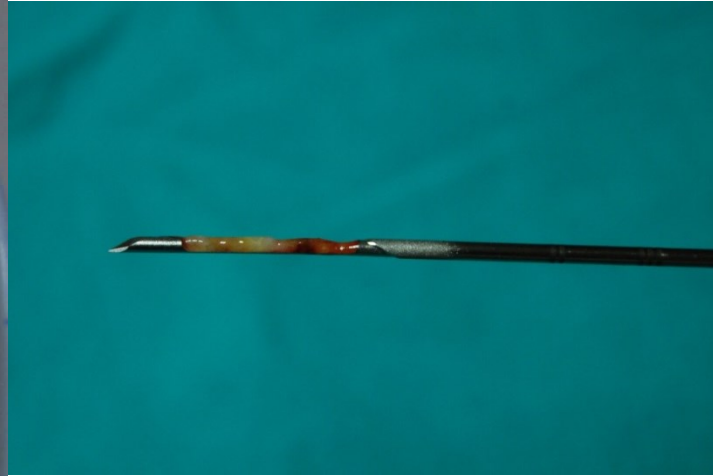
Tip C: MG %75, MG+US %98

Tip D: MG %48, MG+US %94

*Kolb et al. Radiology 2002*

- Tarama US de kanser prevalansı %0.2-0.4









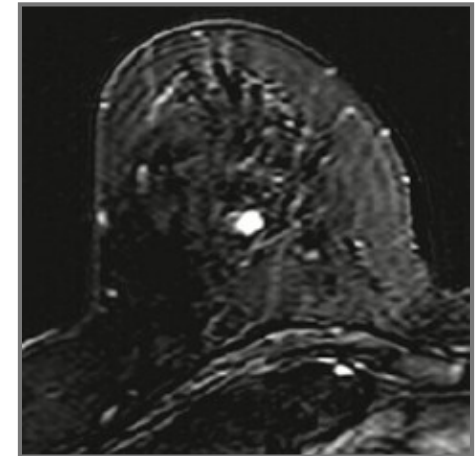
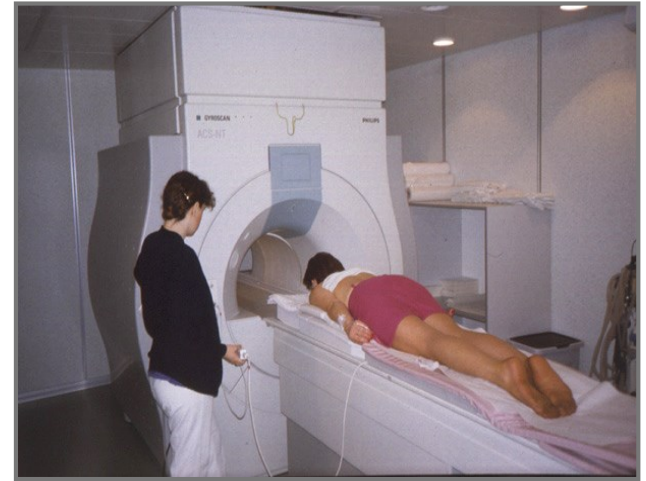
*John Beahm*



# Meme MRG

## Dinamik kontrastlı inceleme

- Kesitsel morfoloji
- Fonksiyonel lezyon özellikleri
  - Kontrastlanma kinetiği
  - Doku vaskülarite, perfüzyonu







# **Meme MRG : Endikasyonlar**

- **Aksiller metastaz ile gelen, klinik ve MG negatif olgularda gizli odak araştırılması**
- **Hastalığın lokal yayılımının gösterilmesi (evreleme) / tedavi planlaması**
- **Opere meme takibi**
- **Neoadjuvan tedavi takibi**
- **Yüksek genetik riskli olguların taranması**
- **Problem çözücü yöntem olarak**

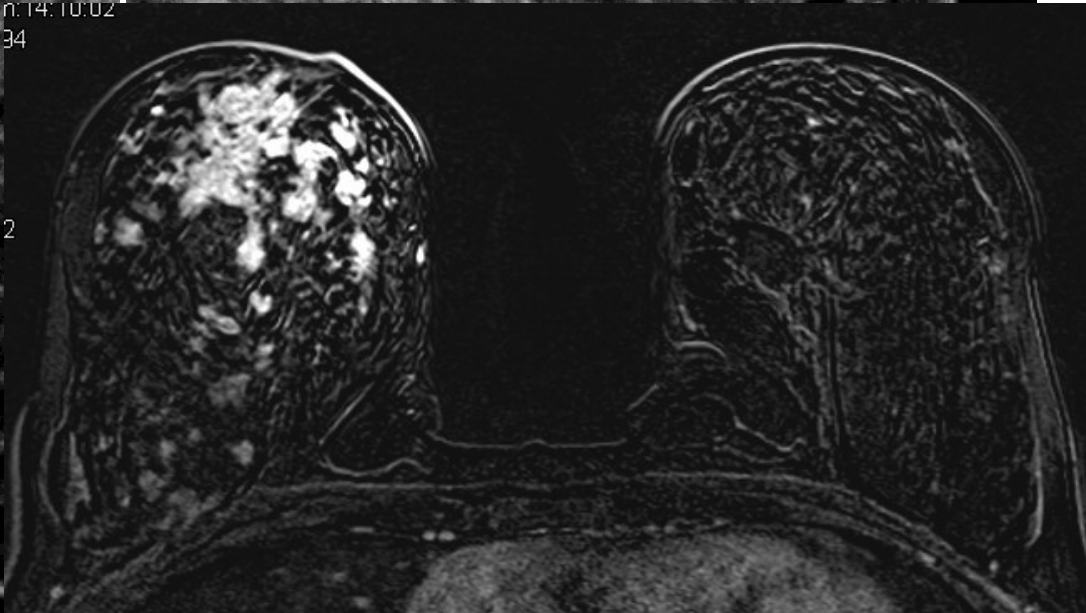
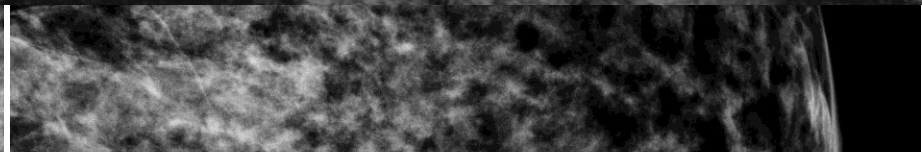
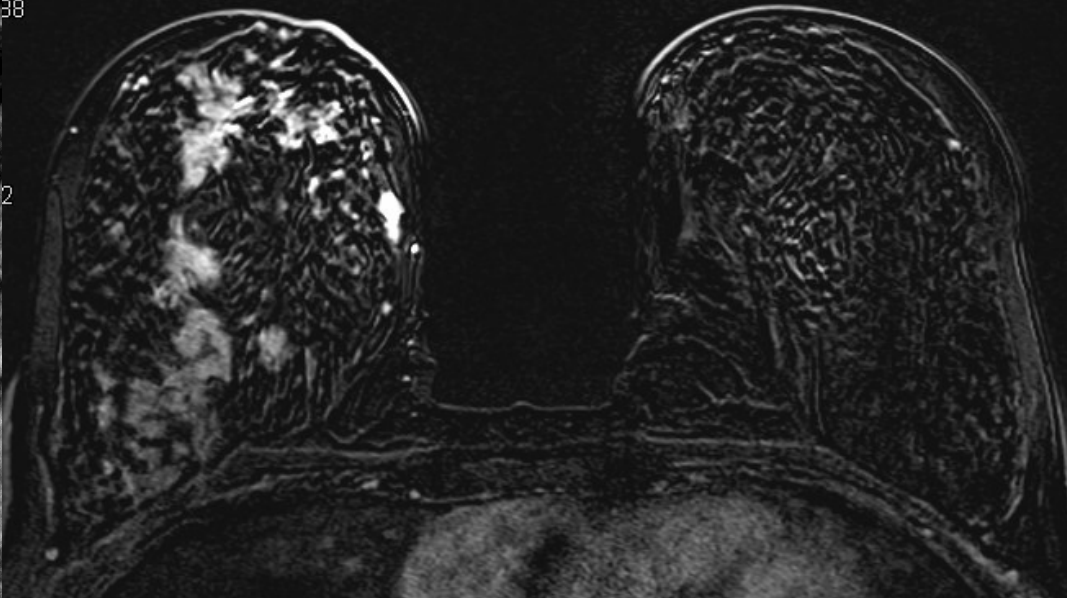
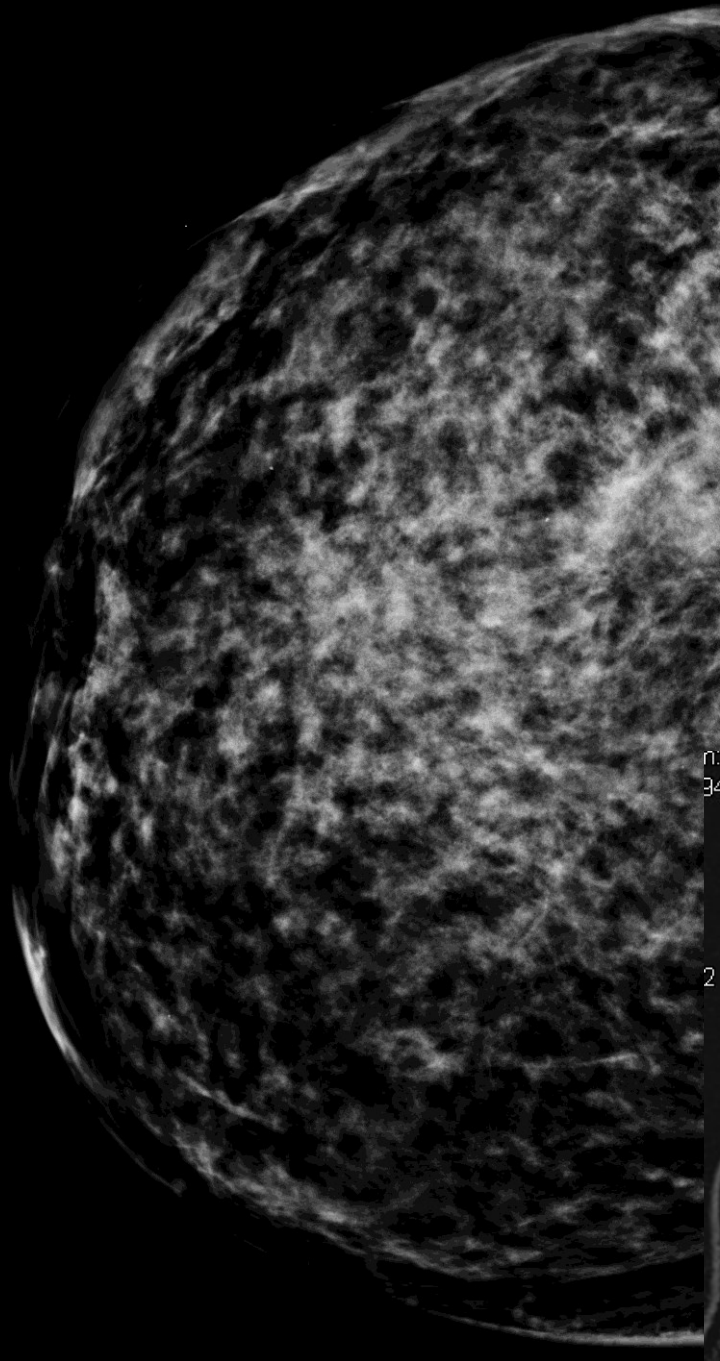


n.14: 10:02  
38

2

n.14: 10:02  
34

2





# Kişiselleştirilmiş tarama

	<u>Yağlı</u>	<u>Dağınık FGD</u>	<u>Heterojen</u>	<u>Çok dens</u>
Düşük risk	MG	MG	MG	MG+US
Orta risk	MG	MG	MG+US	MG+US
Yüksek risk	MG+MRG	MG+MRG	MG+MRG	MG+MRG
(<60 yaş)				

## Yüksek risk tarama





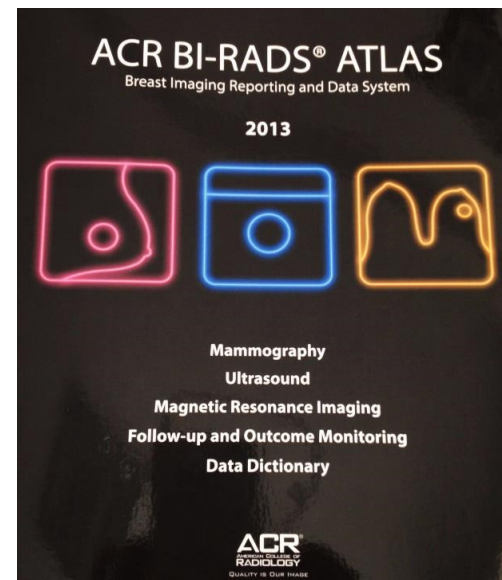
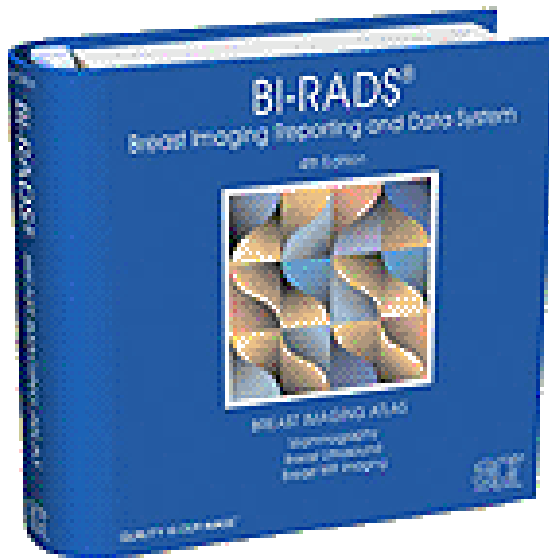




# BI-RADS

## Breast Imaging Reporting and Data System

### ACR- 1993



2013

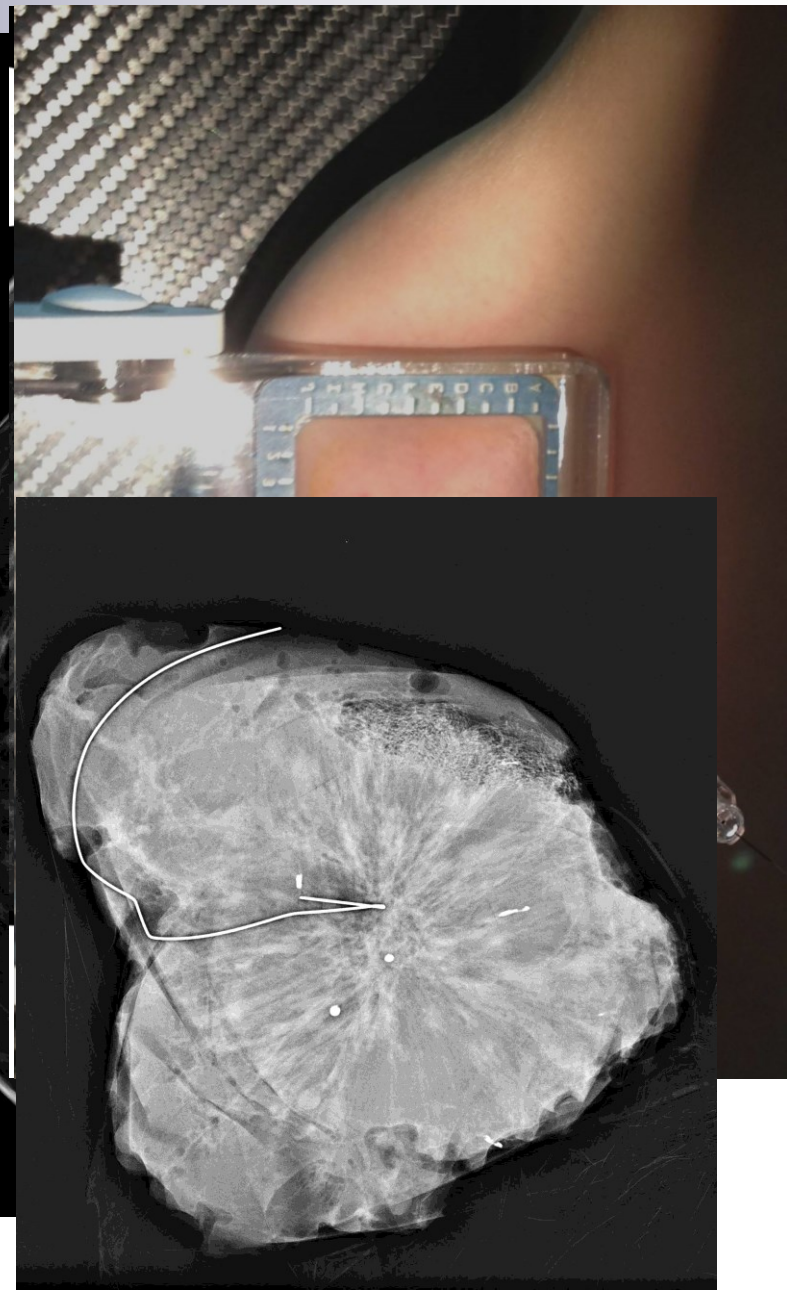
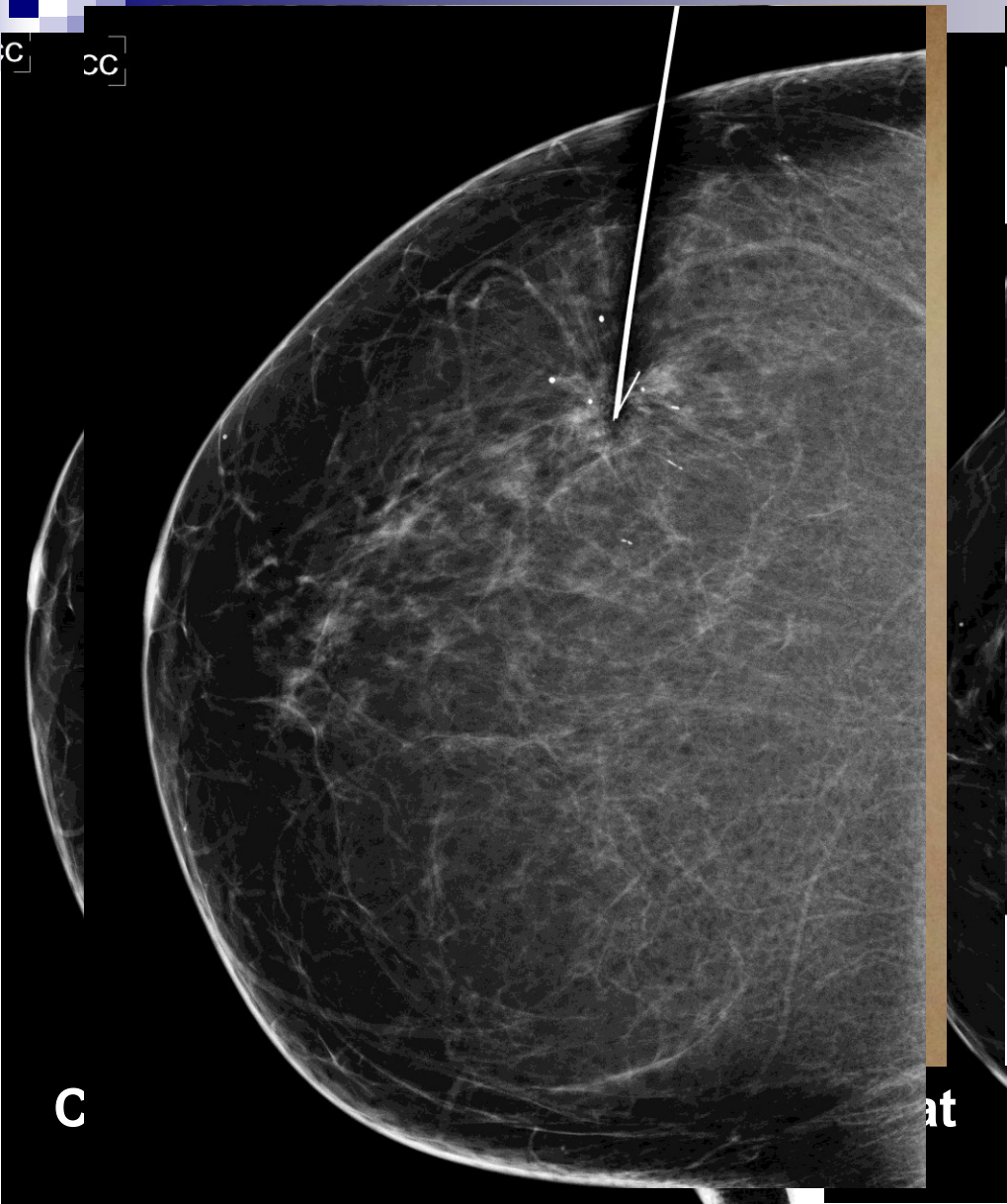




## Lezyon değerlendirme: Bİ-RADS sınıflaması

- **0: Geri çağırma; ek inceleme gerekir**
- **1: Negatif mammogram**
- **2: Benign bulgular**
- **3: Olası benign bulgular; kısa süreli takip**
- **4: Kuşkulu bulgular; biyopsi önerilir**
- **5: Malign kriter gösteren bulgular; biyopsi  
ve tanı gereklidir**
- **6: Bilinen malign lezyon var**







## • Görüntüleme rehberliğinde biyopsi (İİAB, kor, vakum)

