Principles of Breast Cancer Screening

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NCCN Clinical Practice Guidelines in Oncology (NCCN Guidelines®)

Breast Cancer Screening and Diagnosis

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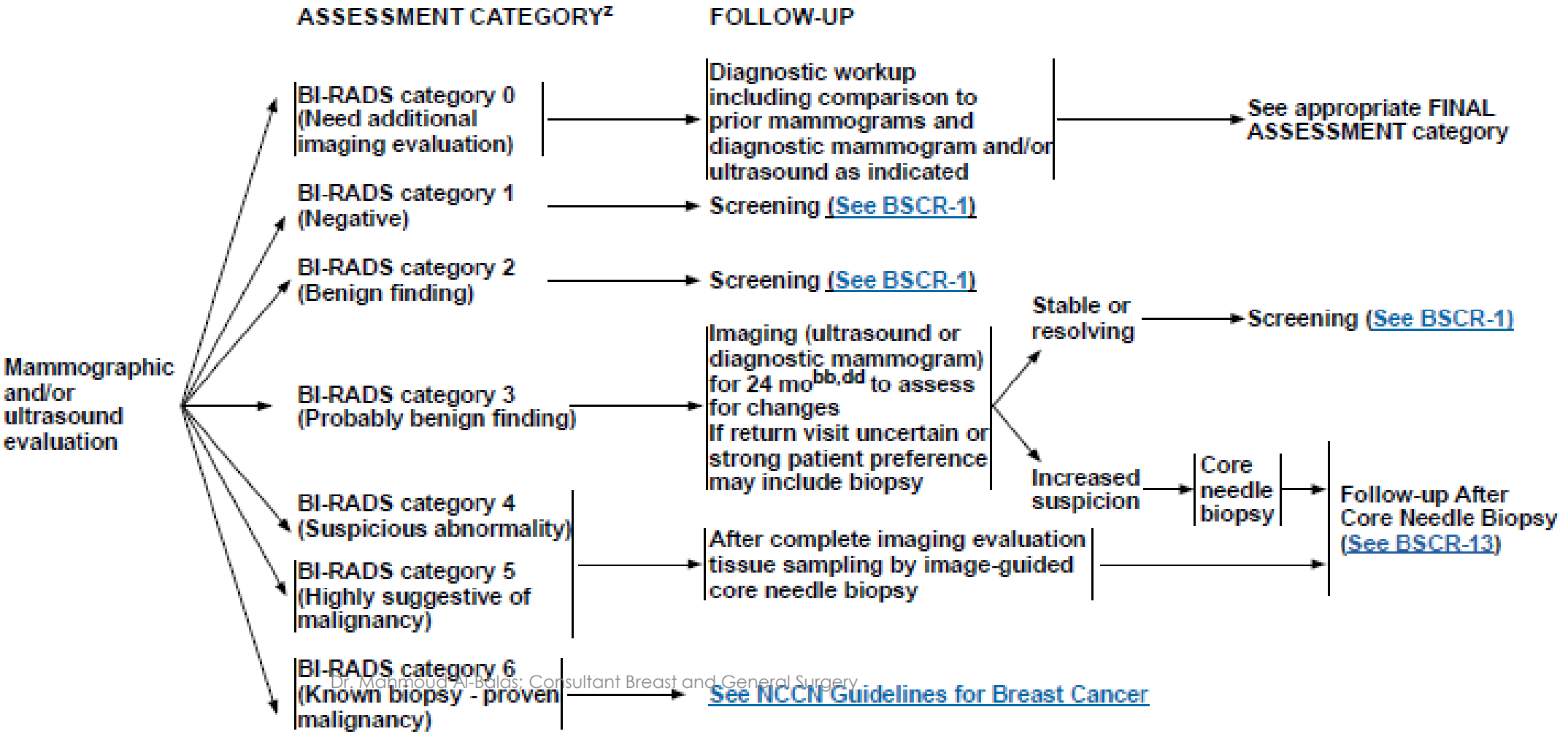
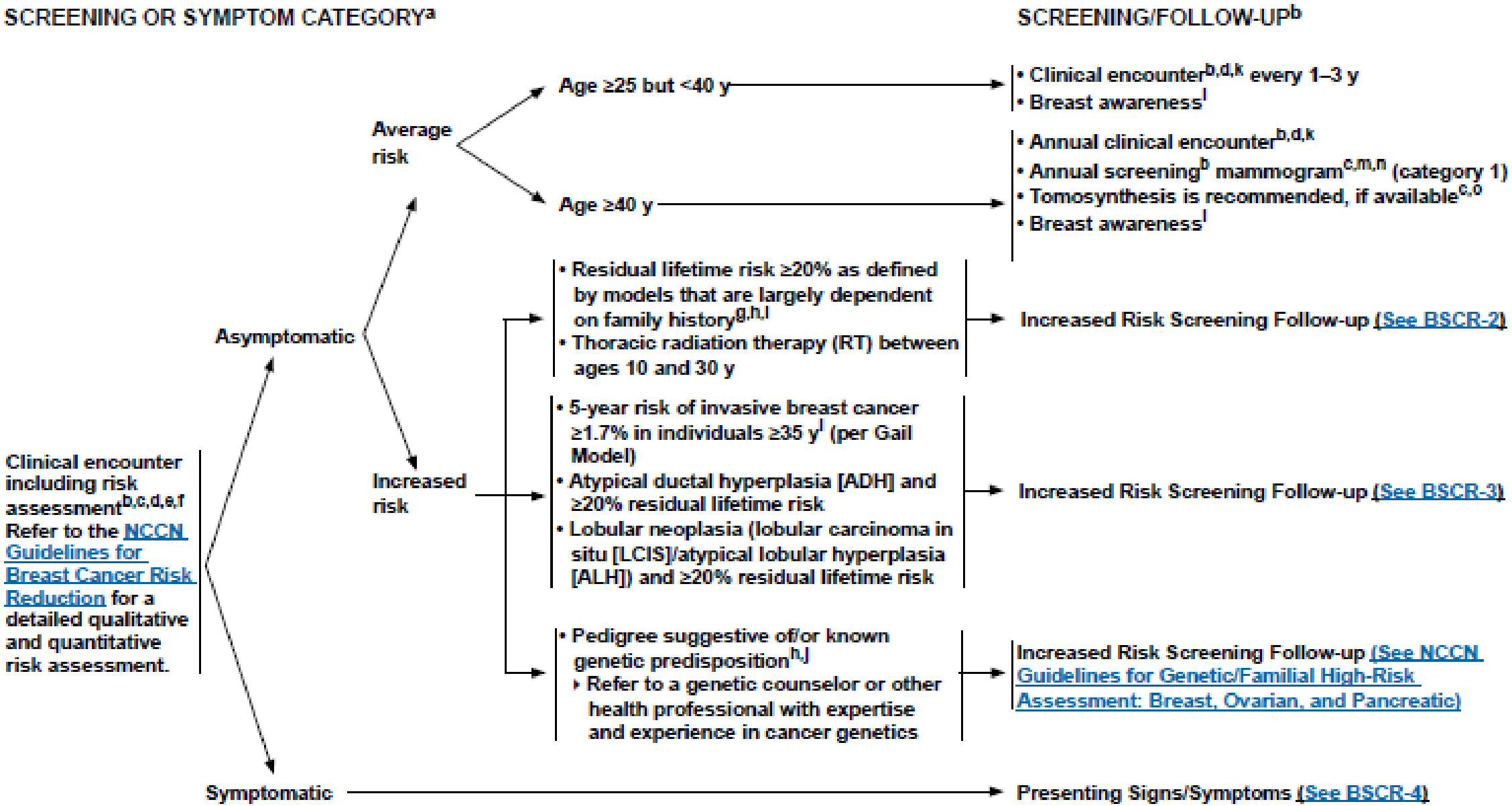
NCCN.org

BI-RADS Category

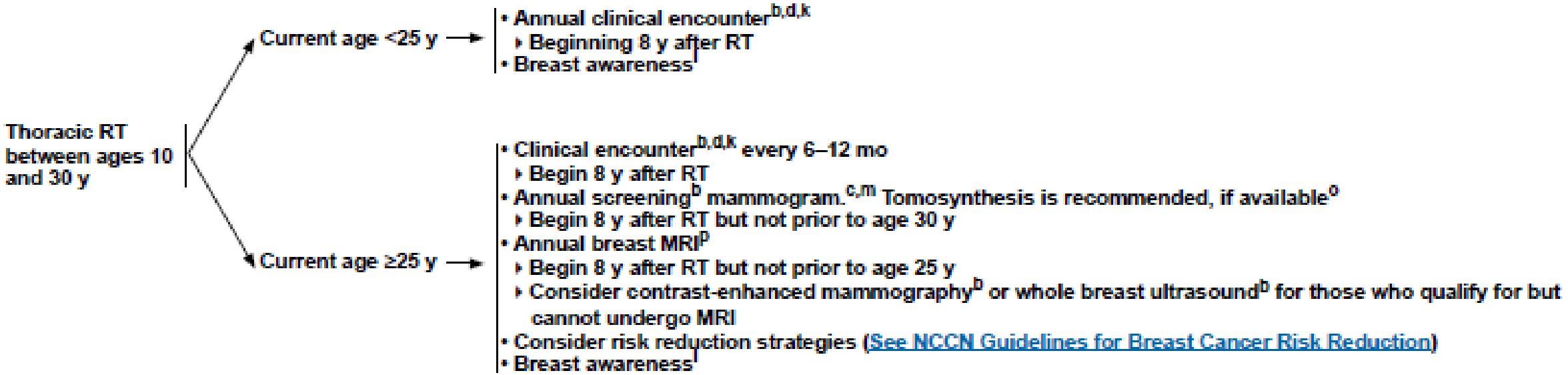



SCREENING OR SYMPTOM CATEGORY[a]
SCREENING/FOLLOW-UP[b]
Clinical encounter including risk assessment[b,c,d,e,f] Refer to the NCCN Guidelines for Breast Cancer Risk Reduction for a detailed qualitative and quantitative risk assessment.
Asymptomatic
Average risk
Age ≥25 but <40 y
• Clinical encounter[b,d,k] every 1–3 y
• Breast awareness[l]
Age ≥40 y
• Annual clinical encounter[b,d,k]
• Annual screening[b] mammogram[c,m,n] (category 1)
• Tomosynthesis is recommended, if available[c,o]
• Breast awareness[l]
Increased risk
• Residual lifetime risk ≥20% as defined by models that are largely dependent on family history[g,h,l]
• Thoracic radiation therapy (RT) between ages 10 and 30 y
Increased Risk Screening Follow-up (See BSCR-2)
• 5-year risk of invasive breast cancer ≥1.7% in individuals ≥35 y[l] (per Gail Model)
• Atypical ductal hyperplasia [ADH] and ≥20% residual lifetime risk
• Lobular neoplasia (lobular carcinoma in situ [LCIS]/atypical lobular hyperplasia [ALH]) and ≥20% residual lifetime risk
Increased Risk Screening Follow-up (See BSCR-3)
• Pedigree suggestive of/or known genetic predisposition[h,l]
‣ Refer to a genetic counselor or other health professional with expertise and experience in cancer genetics
Increased Risk Screening Follow-up (See NCCN Guidelines for Genetic/Familial High-Risk Assessment: Breast, Ovarian, and Pancreatic)
Symptomatic
Presenting Signs/Symptoms (See BSCR-4)

Increased Risk:

Residual lifetime risk ≥20% as defined by models that are largely dependent on family history[g,h,l] →

- Clinical encounter[b,d,k] every 6–12 mo
  - To begin when identified as being at increased risk, but not prior to age 21 y
  - Consider referral to a genetic counselor or other health professional with expertise and experience in cancer genetics, if not already done
  - Consider referral to a breast specialist as appropriate
- Annual screening[b] mammogram.[c,m] Tomosynthesis is recommended, if available[o]
  - To begin 10 years prior to when the youngest family member was diagnosed with breast cancer, not prior to age 30 y or begin at age 40 y (whichever comes first)
- Annual breast MRI[p]
  - To begin 10 years prior to when the youngest family member was diagnosed with breast cancer, not prior to age 25 y[q] or begin at age 40 y (whichever comes first)
  - Consider contrast-enhanced mammography[b] or whole breast ultrasound[b] for those who qualify for but cannot undergo MRI
- Consider risk reduction strategies (See NCCN Guidelines for Breast Cancer Risk Reduction)
- Breast awareness[l]


Thoracic RT between ages 10 and 30 y
Current age <25 y
• Annual clinical encounter[b,d,k]
‣ Beginning 8 y after RT
• Breast awareness
Current age ≥25 y
• Clinical encounter[b,d,k] every 6–12 mo
‣ Begin 8 y after RT
• Annual screening[b] mammogram.[c,m] Tomosynthesis is recommended, if available[o]
‣ Begin 8 y after RT but not prior to age 30 y
• Annual breast MRI[p]
‣ Begin 8 y after RT but not prior to age 25 y
‣ Consider contrast-enhanced mammography[b] or whole breast ultrasound[b] for those who qualify for but cannot undergo MRI
• Consider risk reduction strategies (See NCCN Guidelines for Breast Cancer Risk Reduction)
• Breast awareness

5-year risk of invasive breast cancer ≥1.7% in individuals ≥35 y (per Gail Model)[l]

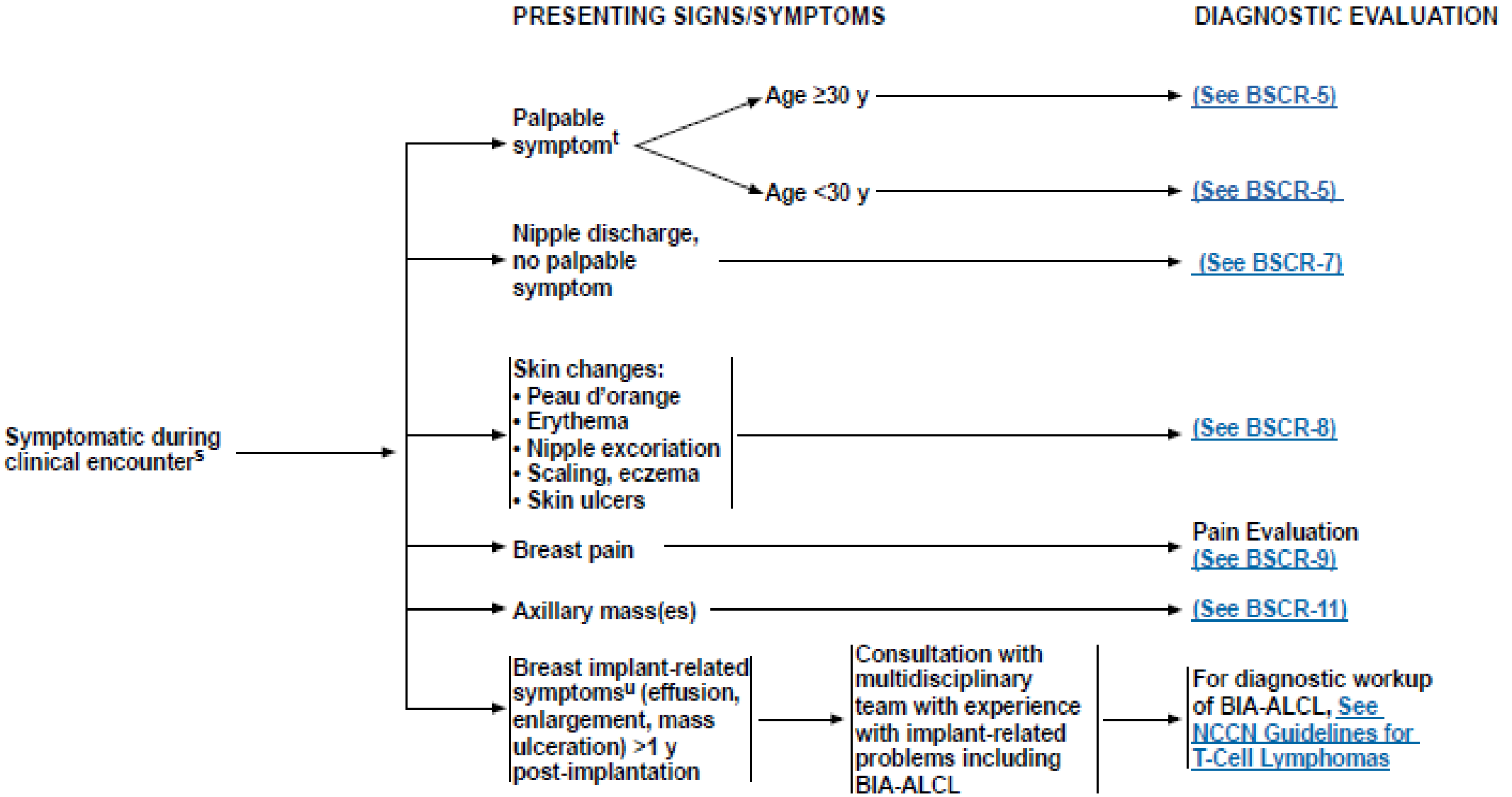
→

- Clinical encounter[b,d,k] every 6–12 mo
  - To begin when identified as being at increased risk by Gail Model
- Annual screening[b] mammogram.[c,m] Tomosynthesis is recommended, if available[o]
  - To begin when identified as being at increased risk by Gail Model
- Consider risk reduction strategies (See NCCN Guidelines for Breast Cancer Risk Reduction)
- Breast awareness[l]

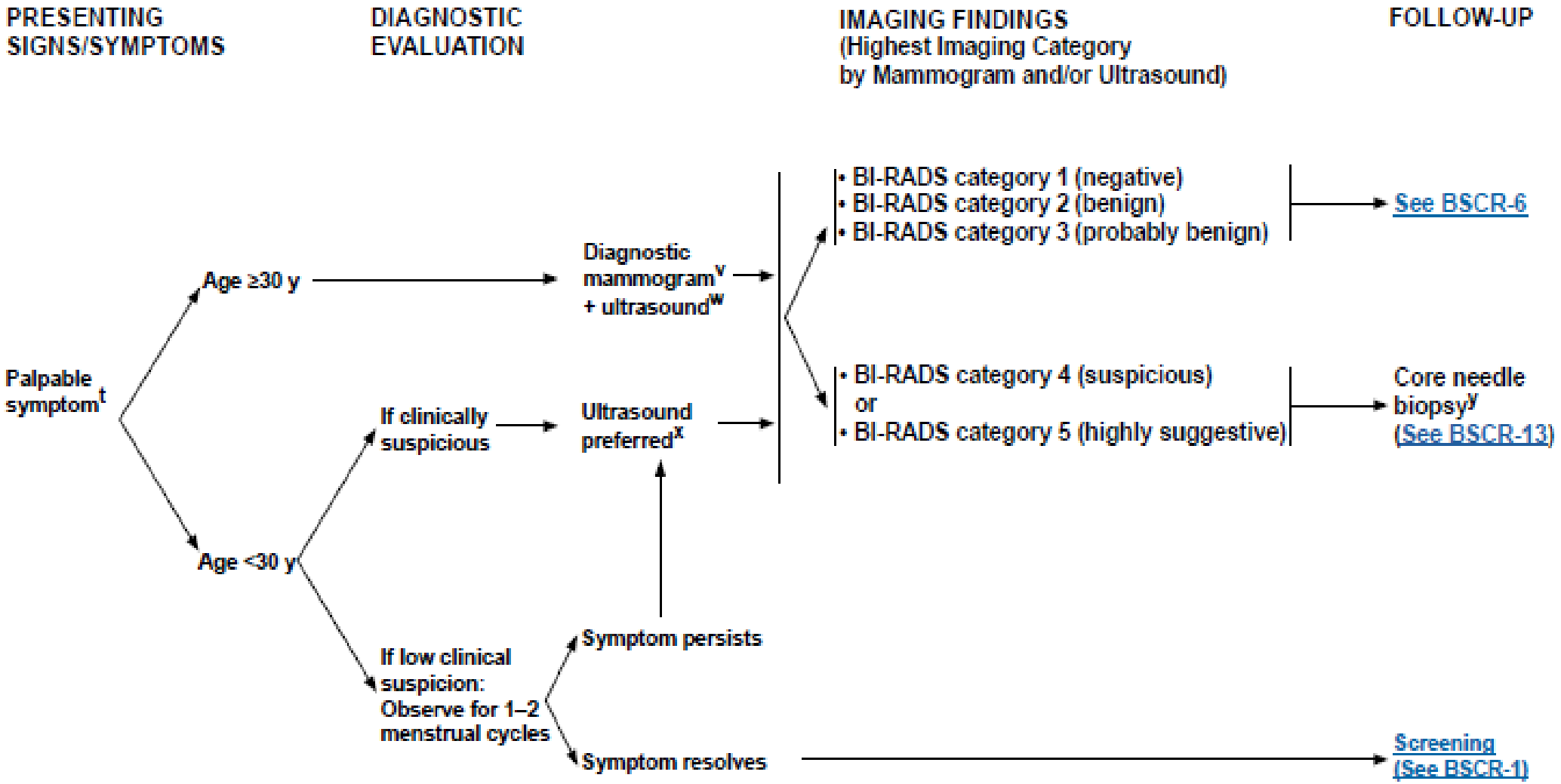
ADH[r] or Lobular neoplasia (LCIS/ALH) and ≥20% residual lifetime risk →

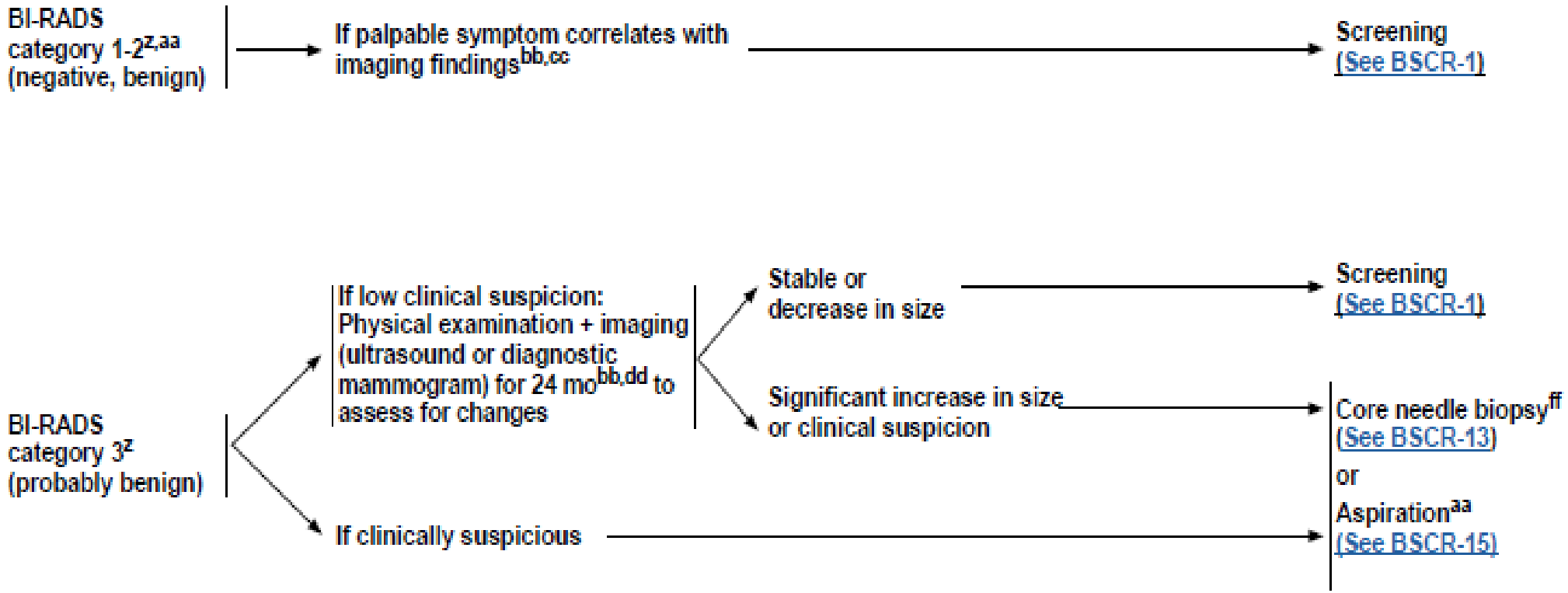
- Clinical encounter[b,d,k] every 6–12 mo
  - To begin at diagnosis of ADH or lobular neoplasia (LCIS/ALH)
- Annual screening[b] mammogram.[c,m] Tomosynthesis is recommended, if available[o]
  - To begin at diagnosis of ADH or lobular neoplasia (LCIS/ALH) but not prior to age 30 y
- Consider annual breast MRI[b,p]
  - To begin at diagnosis of ADH or lobular neoplasia (LCIS/ALH) but not prior to age 25 y
  - Consider contrast-enhanced mammography[b] or whole breast ultrasound[b] for those who qualify for but cannot undergo MRI
- Consider risk reduction strategies (See NCCN Guidelines for Breast Cancer Risk Reduction)
- Breast awareness[l]

Diagnostic Pathway


PRESENTING SIGNS/SYMPTOMS
DIAGNOSTIC EVALUATION
Symptomatic during clinical encounter[s]
Palpable symptom[t]
Age ≥30 y
(See BSCR-5)
Age <30 y
(See BSCR-5)
Nipple discharge, no palpable symptom
(See BSCR-7)
Skin changes:
• Peau d'orange
• Erythema
• Nipple excoriation
• Scaling, eczema
• Skin ulcers
(See BSCR-8)
Breast pain
Pain Evaluation
(See BSCR-9)
Axillary mass(es)
(See BSCR-11)
Breast implant-related symptoms[u] (effusion, enlargement, mass ulceration) >1 y post-implantation
Consultation with multidisciplinary team with experience with implant-related problems including BIA-ALCL
For diagnostic workup of BIA-ALCL, See NCCN Guidelines for T-Cell Lymphomas

Symptomatic Mass


PRESENTING SIGNS/SYMPTOMS
DIAGNOSTIC EVALUATION
IMAGING FINDINGS (Highest Imaging Category by Mammogram and/or Ultrasound)
FOLLOW-UP
Palpable symptom[t]
Age ≥30 y
Diagnostic mammogram[v] + ultrasound[w]
Age <30 y
If clinically suspicious
Ultrasound preferred[x]
If low clinical suspicion: Observe for 1–2 menstrual cycles
Symptom persists
Symptom resolves
• BI-RADS category 1 (negative)
• BI-RADS category 2 (benign)
• BI-RADS category 3 (probably benign)
See BSCR-6
• BI-RADS category 4 (suspicious) or
• BI-RADS category 5 (highly suggestive)
Core needle biopsy[y] (See BSCR-13)
Screening (See BSCR-1)


BI-RADS category 1-2[z,aa] (negative, benign)
If palpable symptom correlates with imaging findings[bb,cc]
Screening (See BSCR-1)
BI-RADS category 3[z] (probably benign)
If low clinical suspicion: Physical examination + imaging (ultrasound or diagnostic mammogram) for 24 mo[bb,dd] to assess for changes
Stable or decrease in size
Screening (See BSCR-1)
Significant increase in size or clinical suspicion
Core needle biopsy[ff] (See BSCR-13) or Aspiration[aa] (See BSCR-15)
If clinically suspicious

Symptomatic Nipple Discharge

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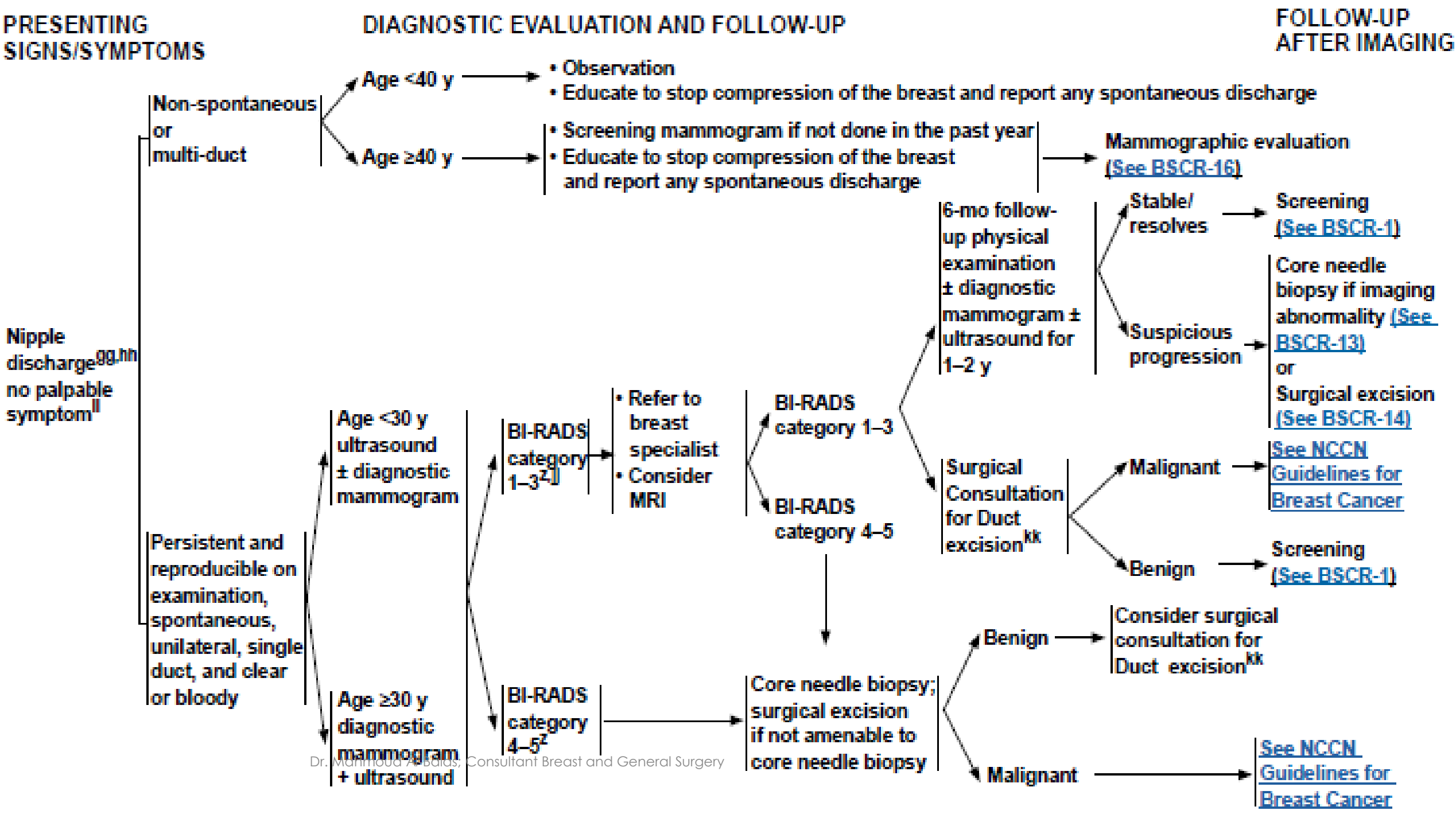
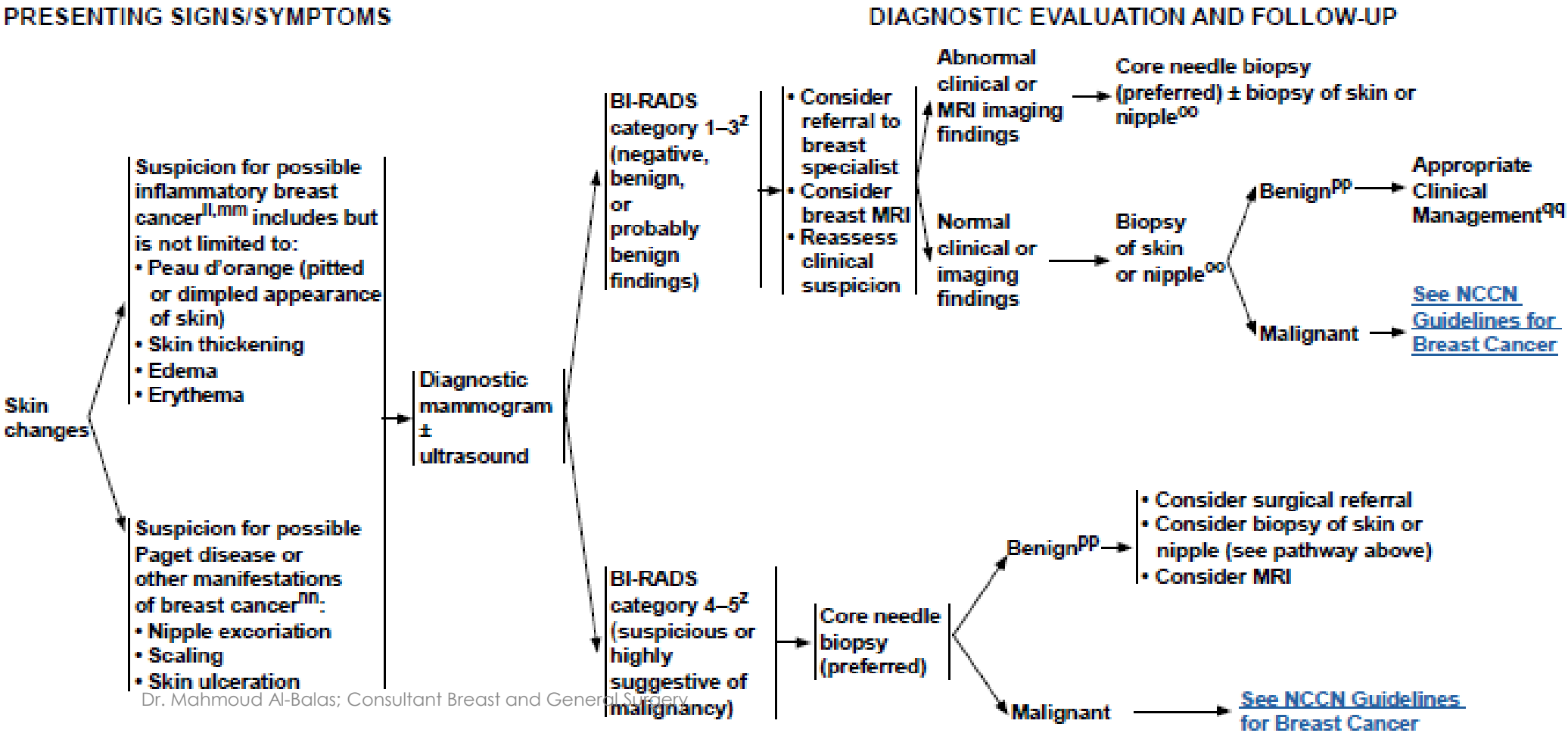
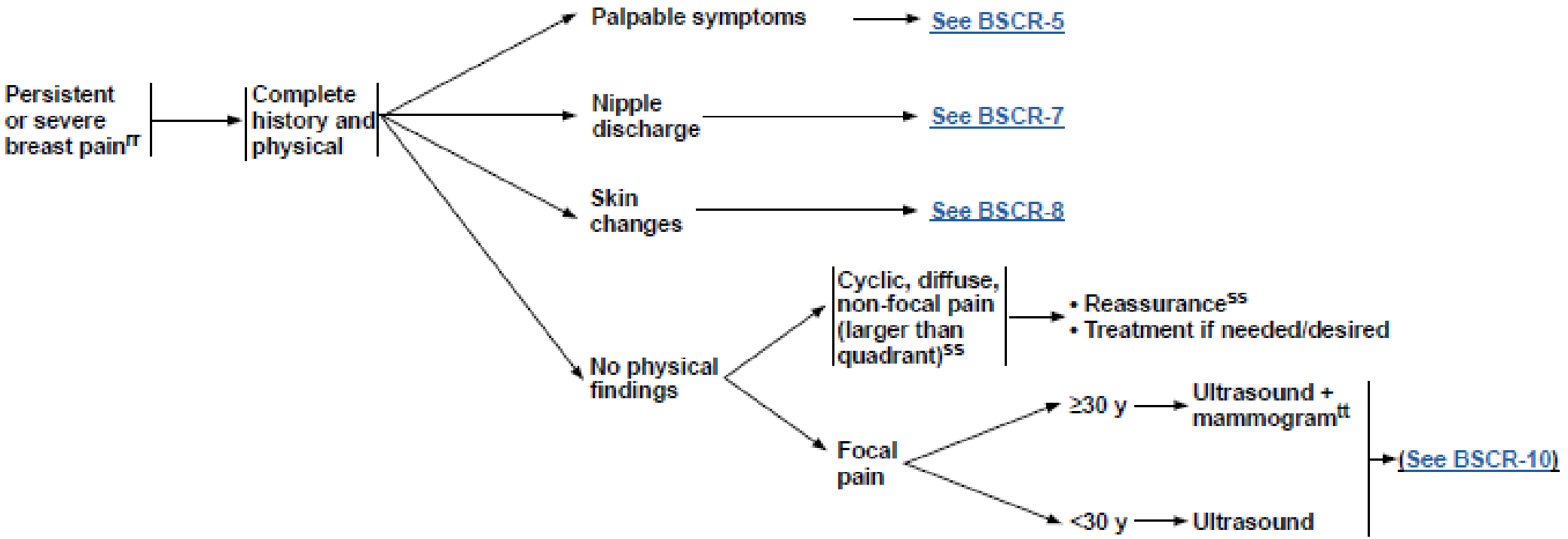


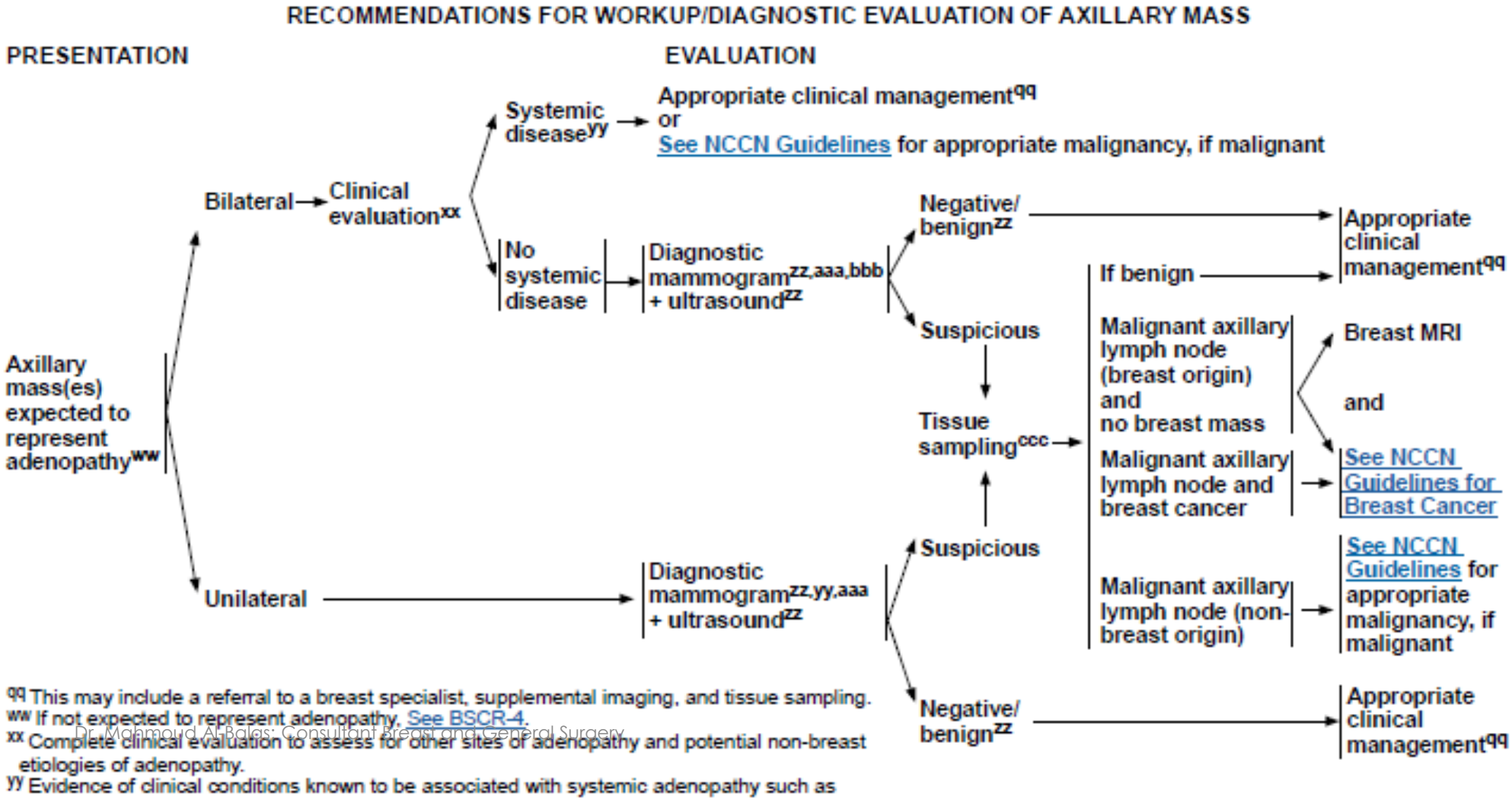
Skin Changes



Breast Pain

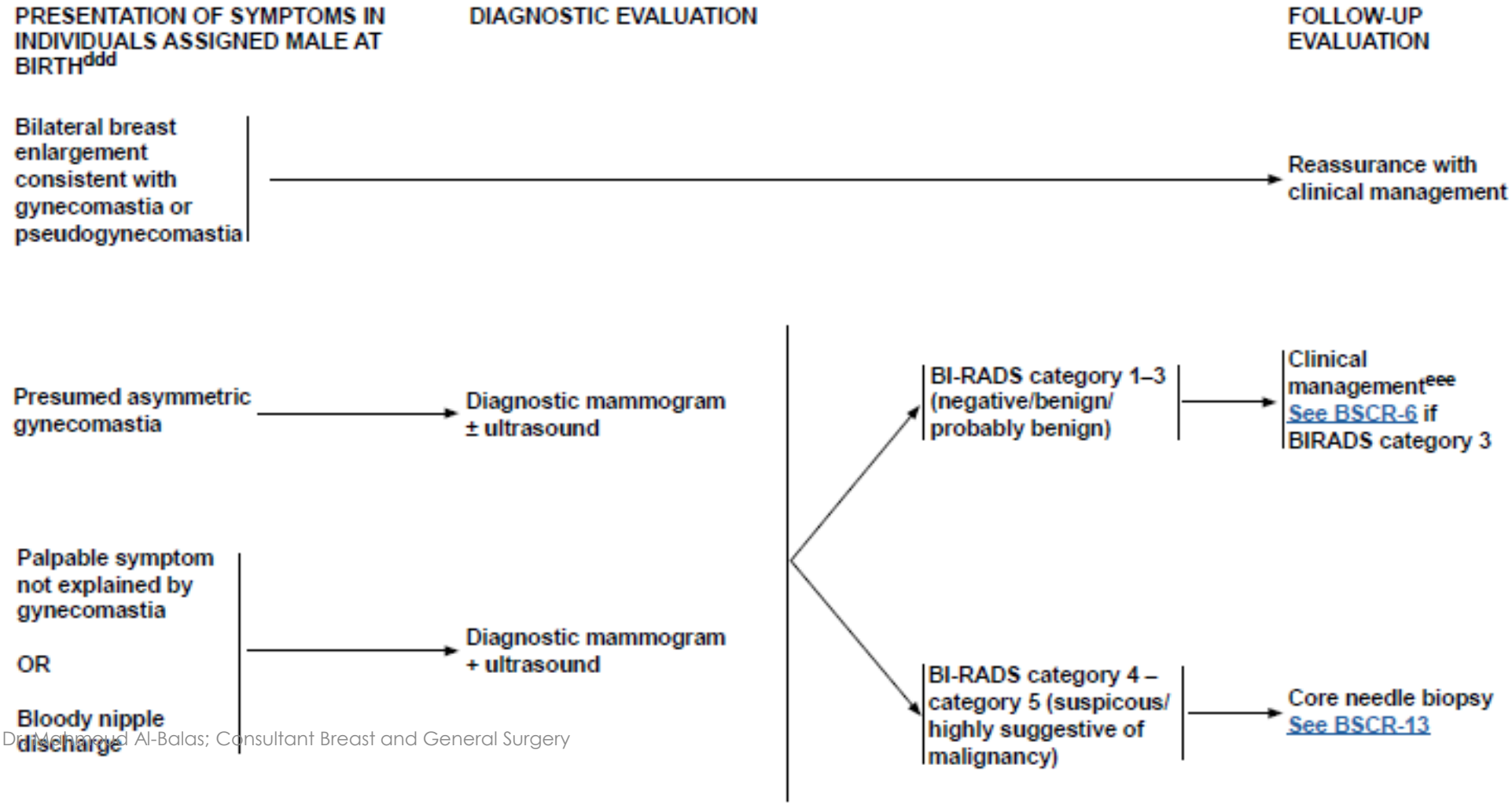

Persistent or severe breast pain[rr]
Complete history and physical
Palpable symptoms
See BSCR-5
Nipple discharge
See BSCR-7
Skin changes
See BSCR-8
No physical findings
Cyclic, diffuse, non-focal pain (larger than quadrant)[ss]
• Reassurance[ss]
• Treatment if needed/desired
Focal pain
≥30 y
Ultrasound + mammogram[tt]
<30 y
Ultrasound
(See BSCR-10)

Axillary Mass

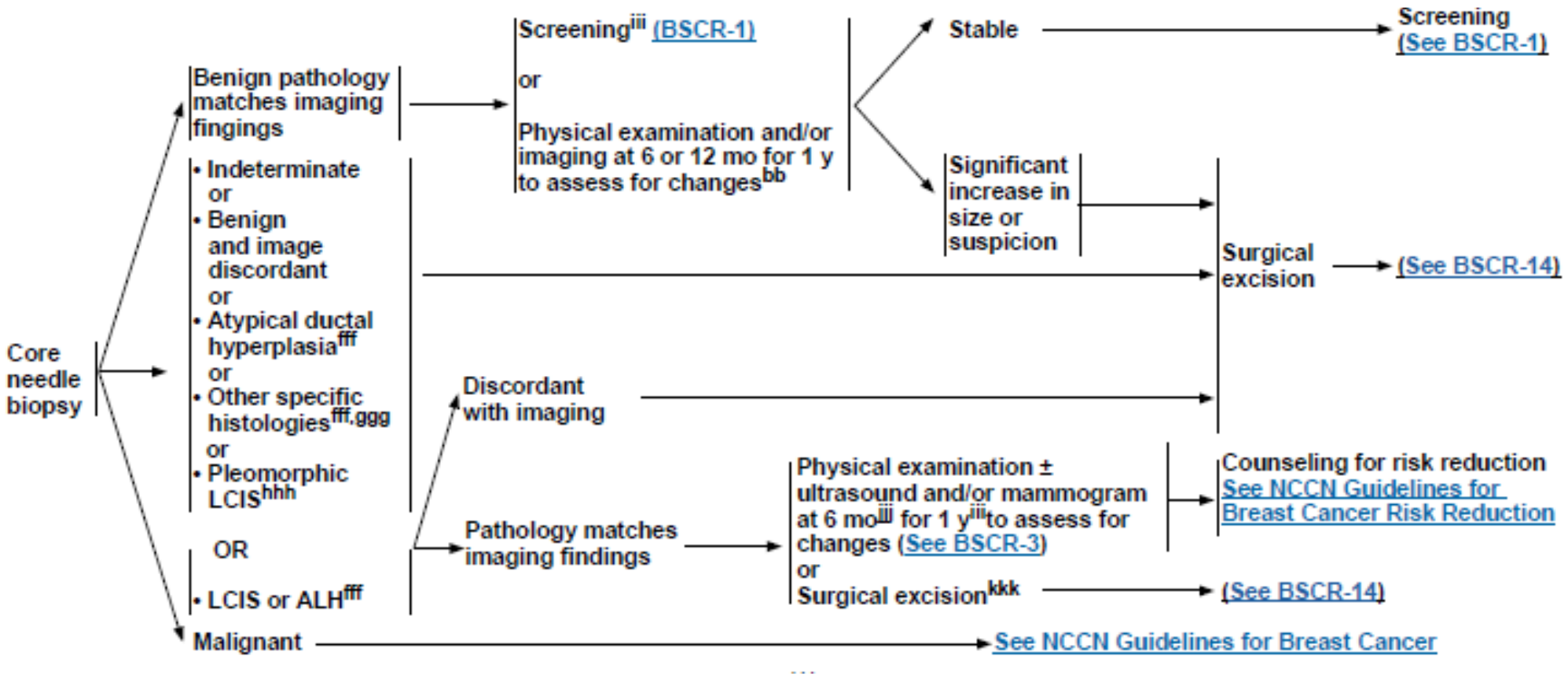


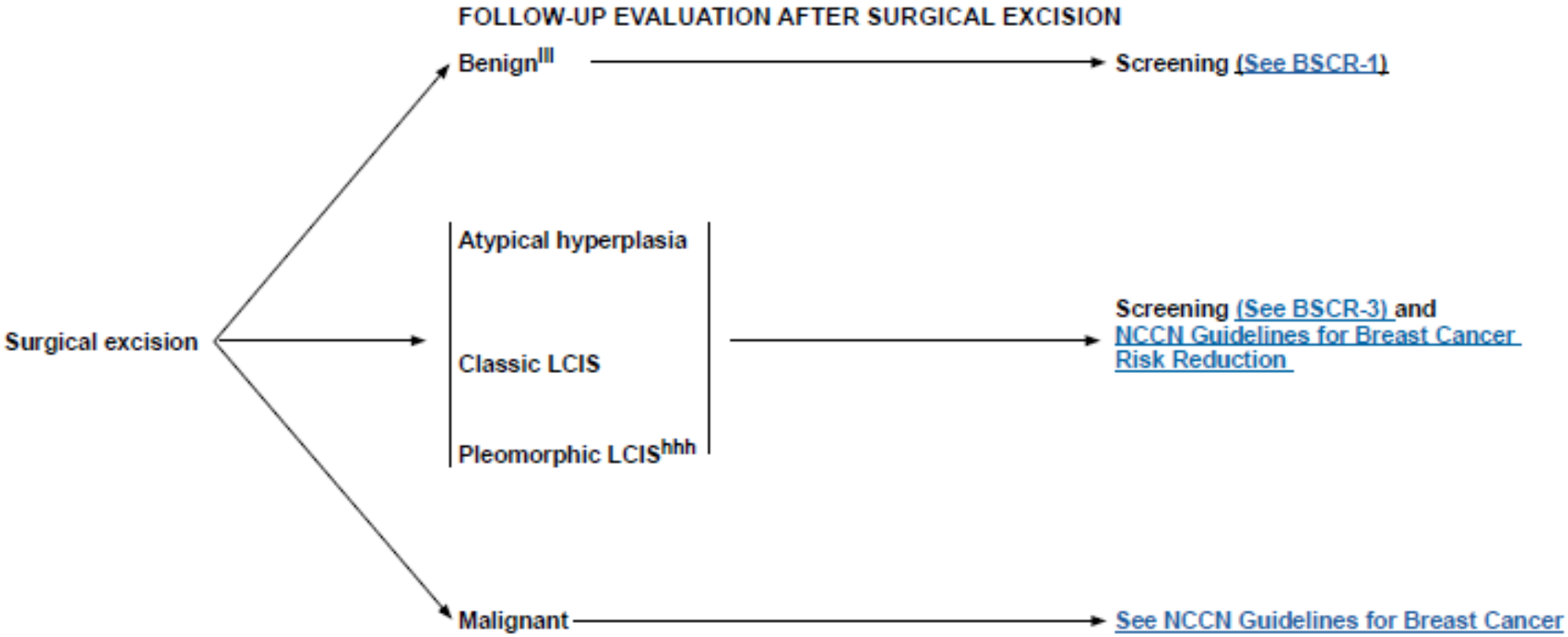
[qq] This may include a referral to a breast specialist, supplemental imaging, and tissue sampling.
[ww] If not expected to represent adenopathy, See BSCR-4.
[xx] Complete clinical evaluation to assess for other sites of adenopathy and potential non-breast etiologies of adenopathy.
[yy] Evidence of clinical conditions known to be associated with systemic adenopathy such as

Gynecomastia

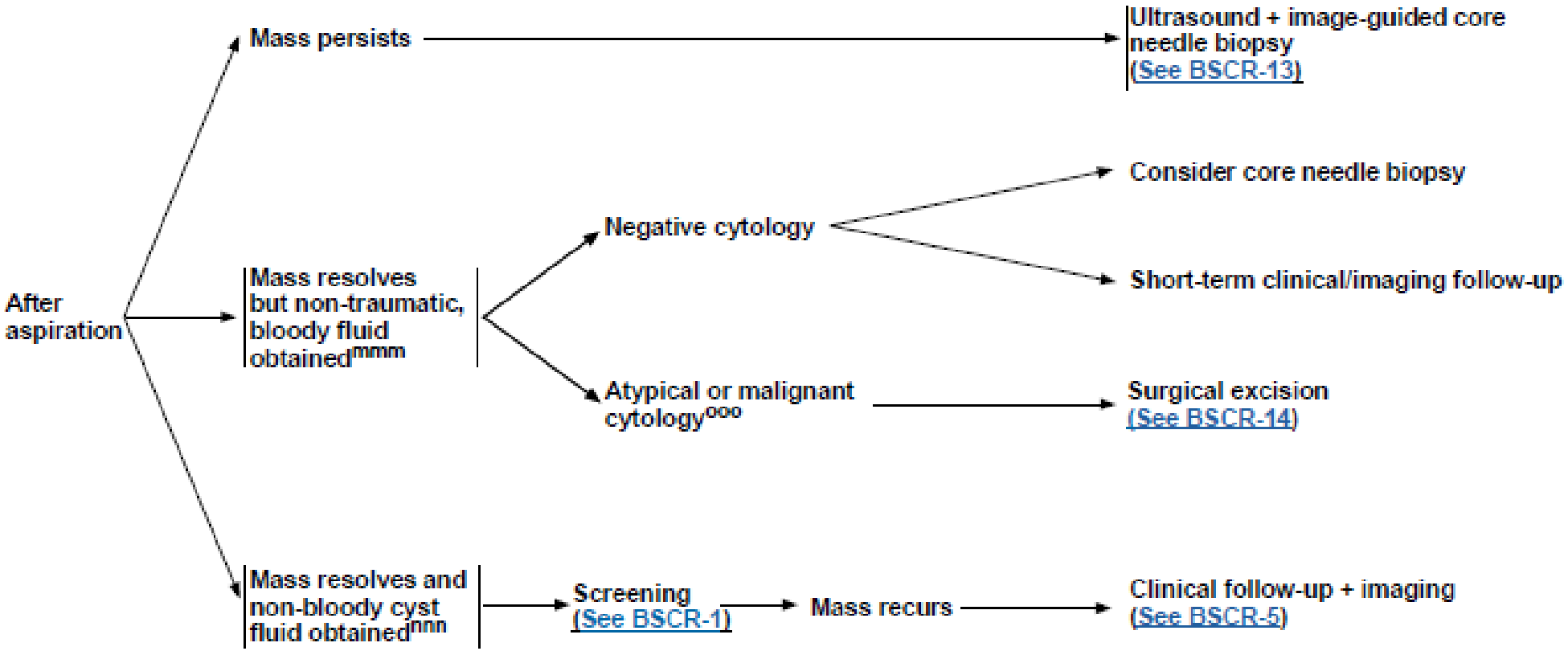


Breast Biopsy




FOLLOW-UP EVALUATION AFTER SURGICAL EXCISION
Surgical excision
Benign[lll]
Screening (See BSCR-1)
Atypical hyperplasia
Classic LCIS
Pleomorphic LCIS[hhh]
Screening (See BSCR-3) and NCCN Guidelines for Breast Cancer Risk Reduction
Malignant
See NCCN Guidelines for Breast Cancer

Breast Cyst Aspiration



Questions?