UniversityHospital Heidelberg

Minimal invasive biopsies and the requirements of the german S3 guideline

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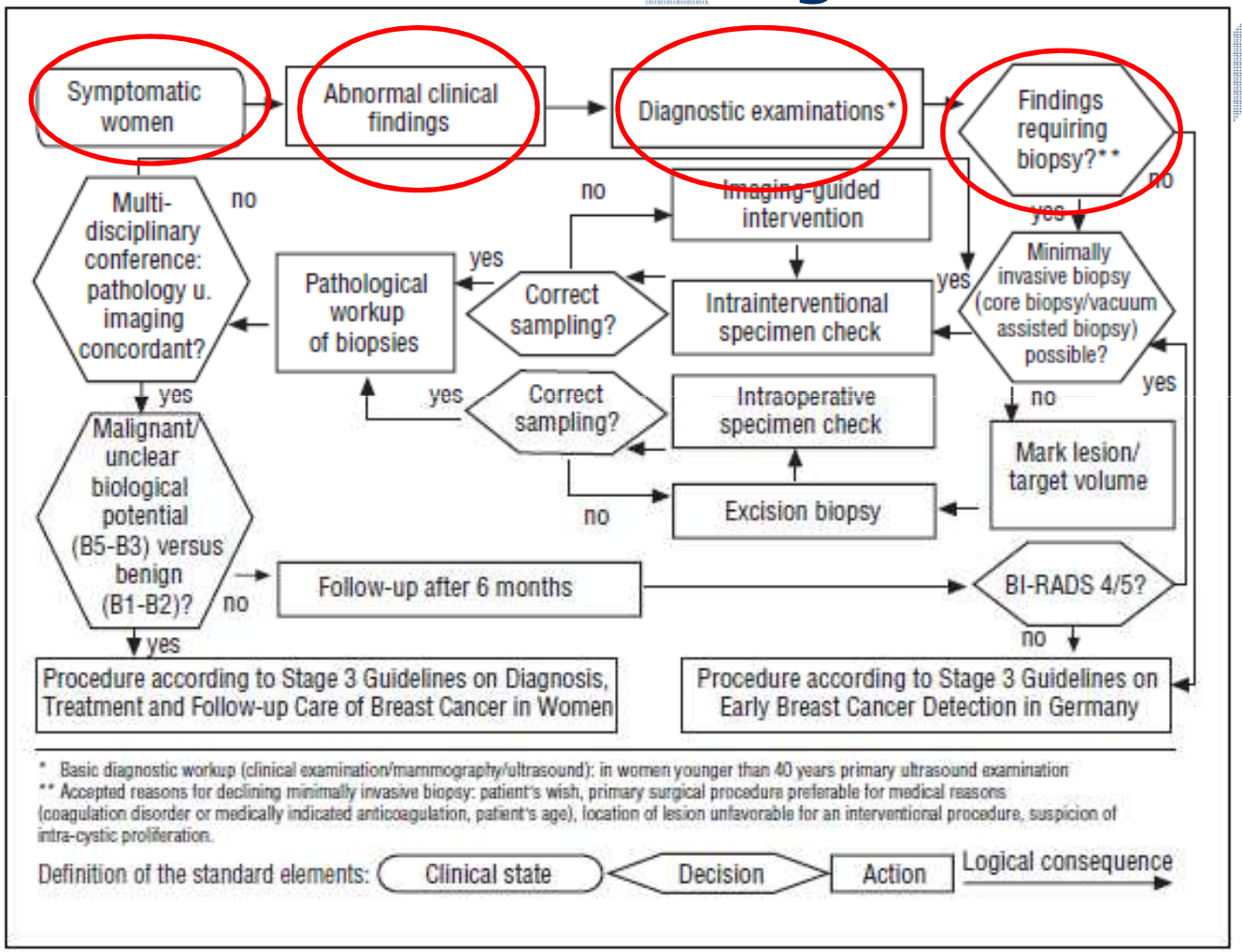
Diagnostic Chain for the Early Detection of Breast Cancer: Clinical Algorithm



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Interdisciplinary S3 Guidelines for the Diagnosis, Treatment and Follow-up Care of Breast Cancer

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Imaging-guided minimally invasive biopsy

Intervention-guided tissue biopsy for histopathological confirmation of the diagnosis and for therapeutic planning should be performed in patients with the following findings:

mammographic and/or sonographic and/or MRI classification

BI-RADS IV or V.

LOE 3a, Grade of Recommendation A (NCCN 2007; Schulz, KD et al. 2003)

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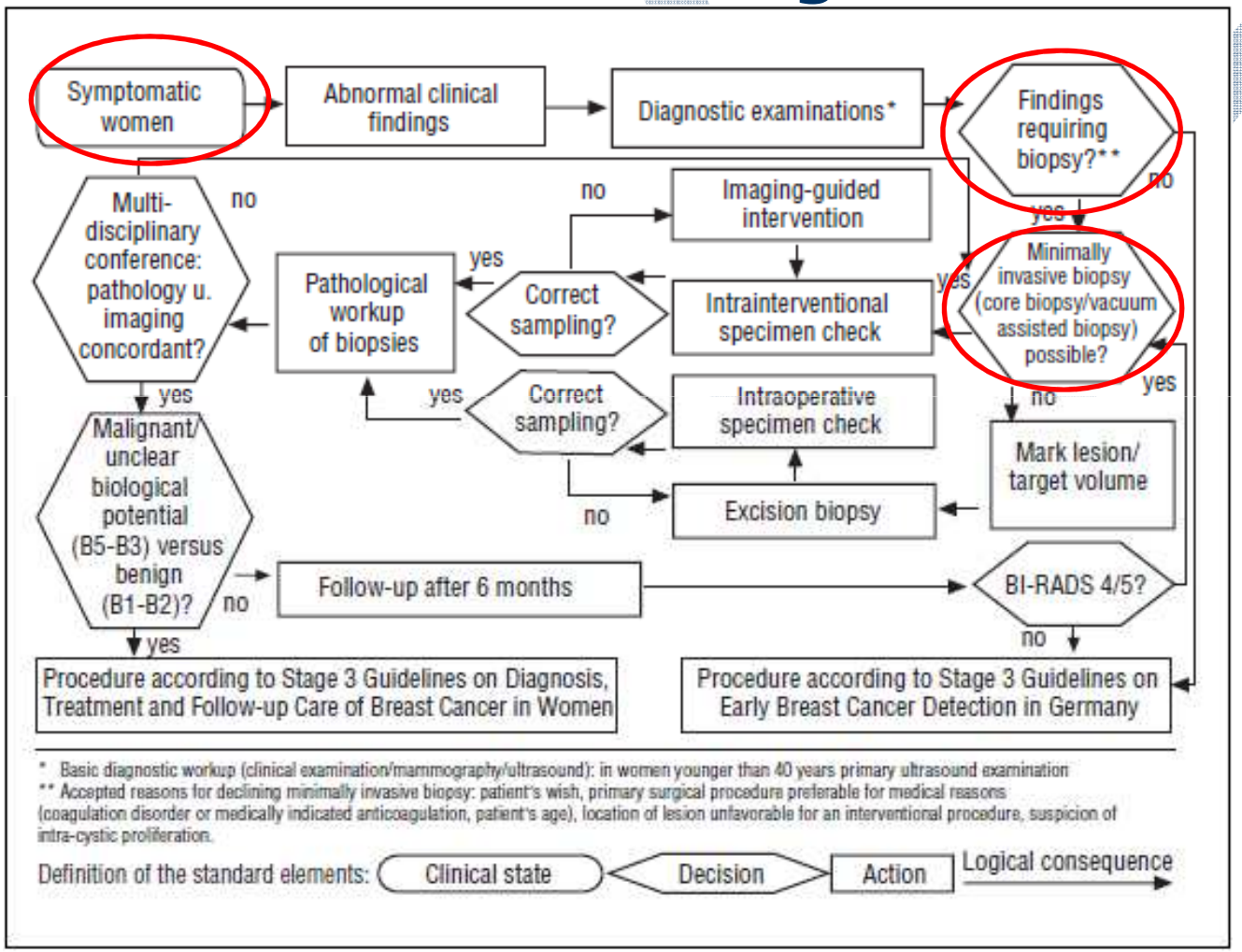

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Interdisciplinary S3 Guidelines for the Diagnosis, Treatment and Follow-up Care of Breast Cancer

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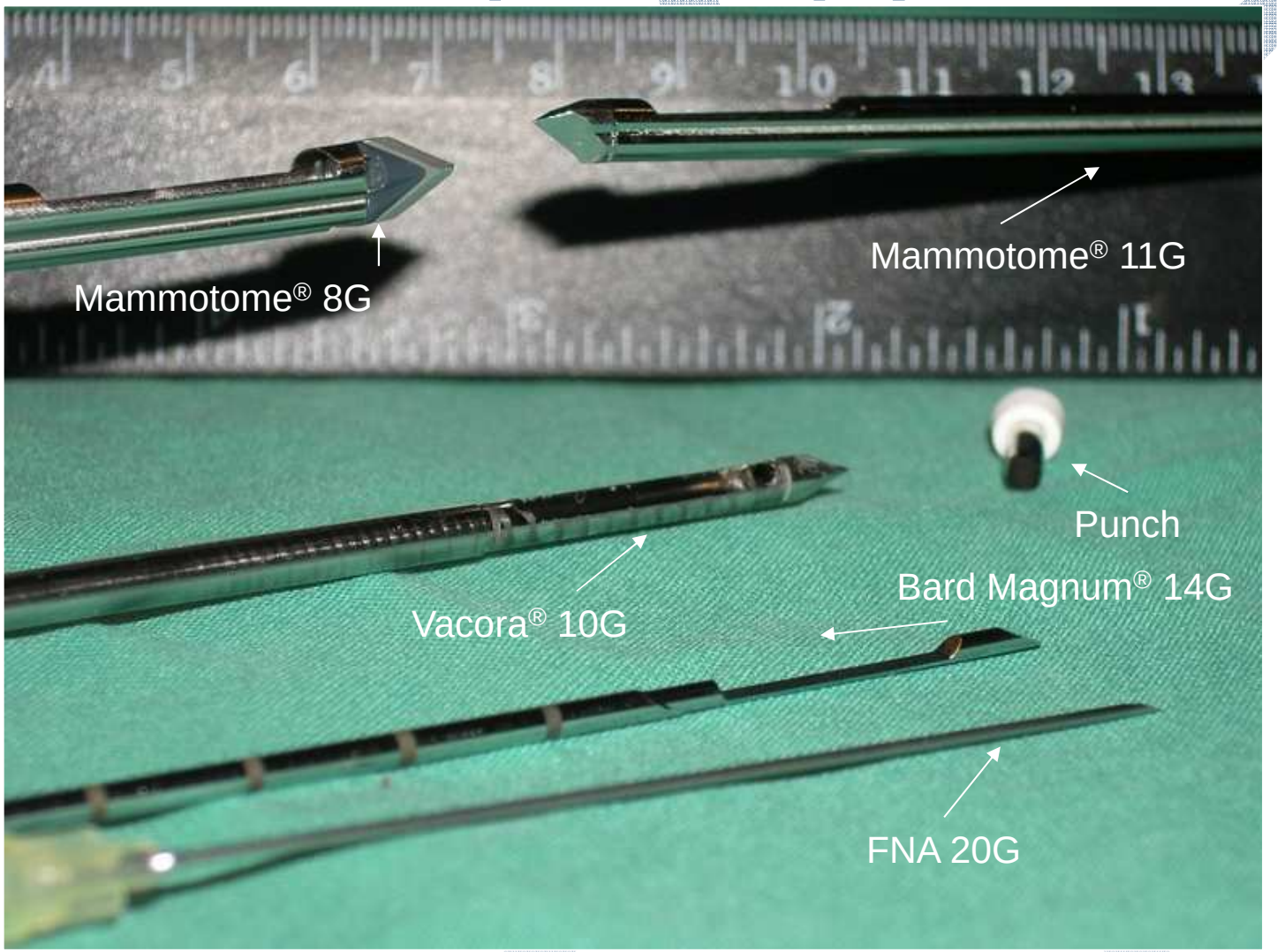
Imaging-guided minimally invasive biopsy

The histological diagnostic investigation of unclear findings should be carried out via core biopsy, vacuum-assisted biopsy or open biopsy.

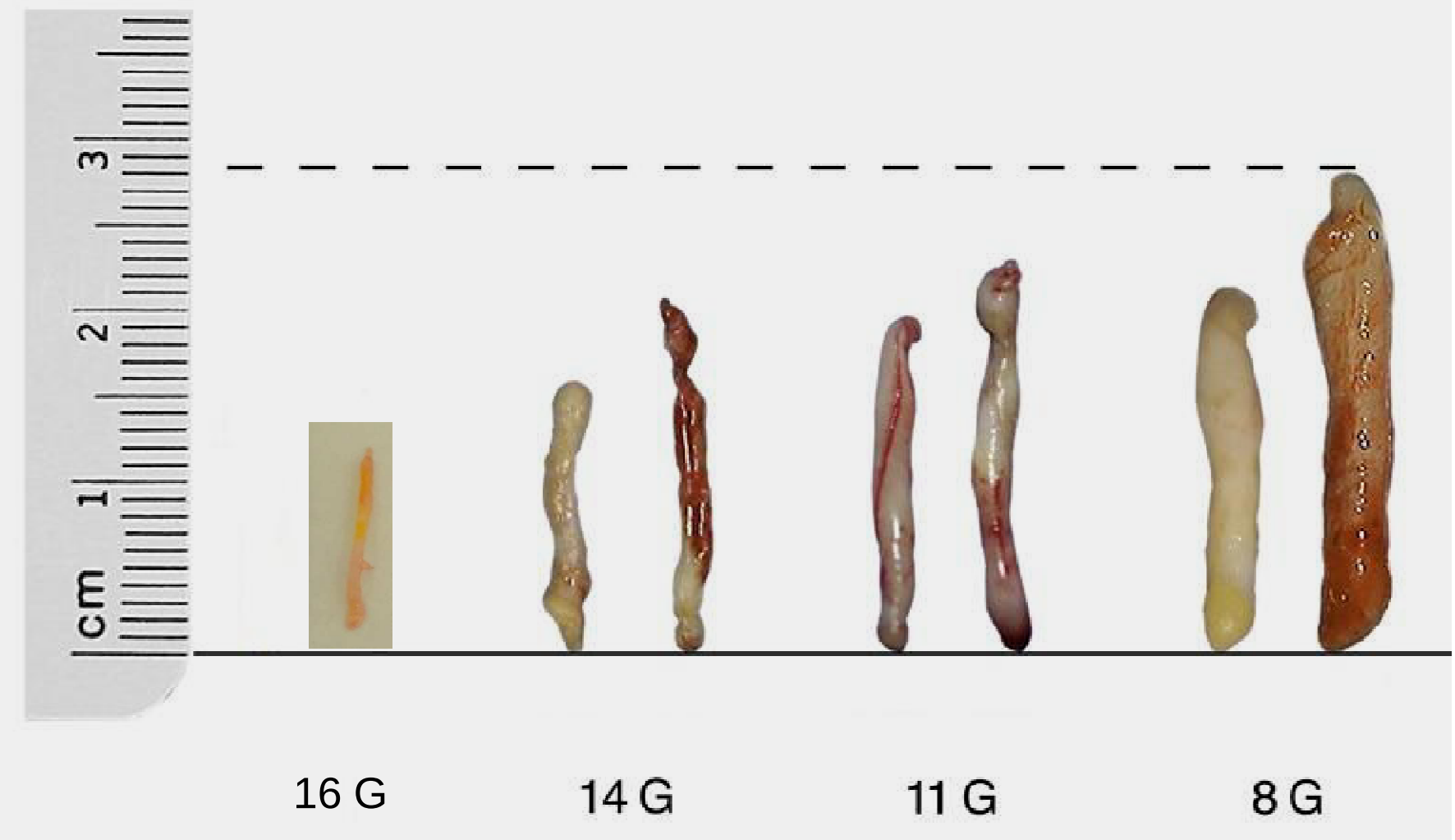
Percutaneous interventions should be carried out in accordance with the quality recommendations.

LOE 3a, Grade of Recommendation A (NCCN 2007; NICE 2006a; Perry N, et al. 2006; Schulz, KD et al. 2003)

Vacuum – assisted, high-speed core, fine-needle and punch biopsy



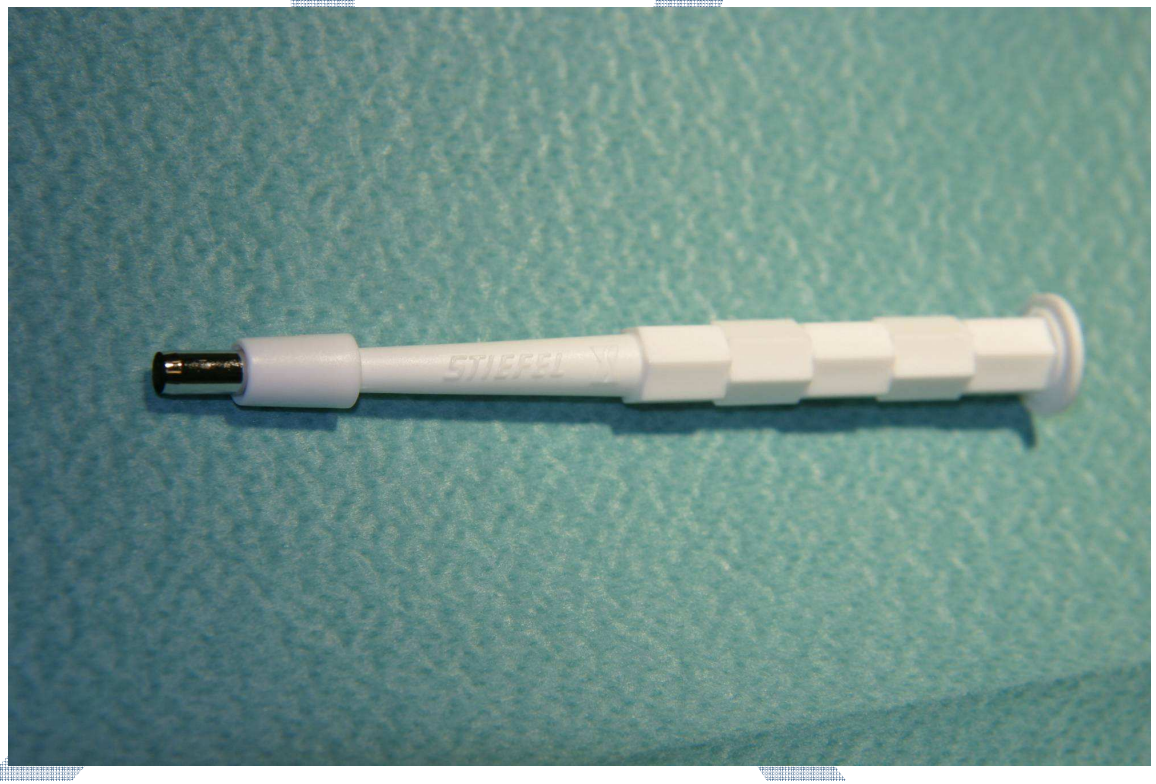
Different volume size



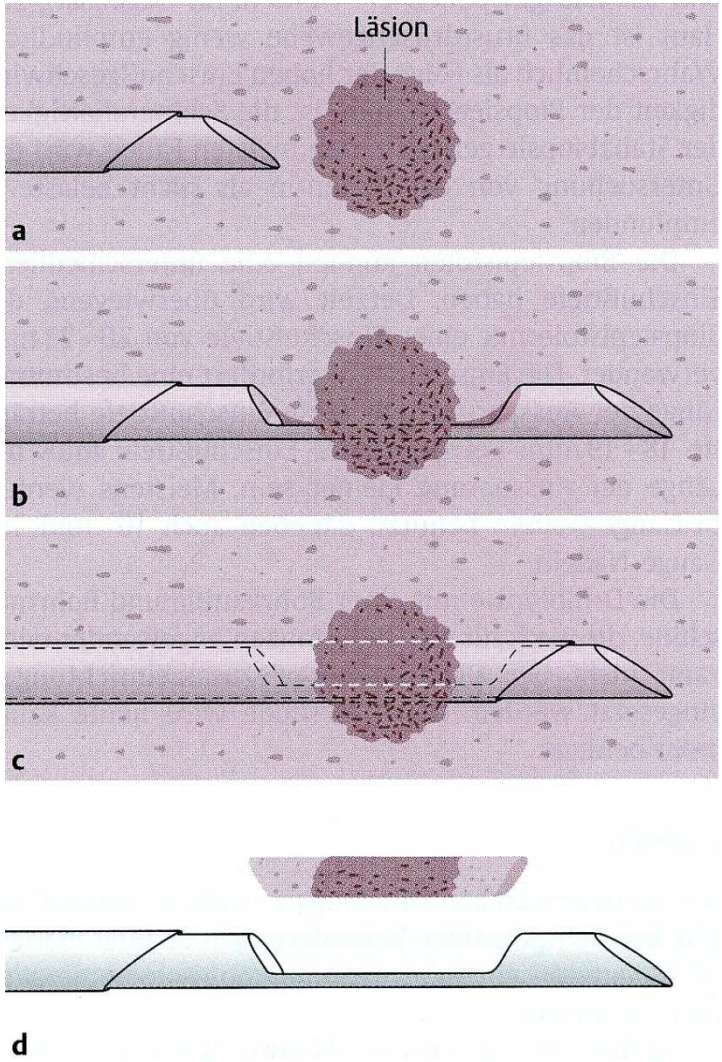
Punch biopsy

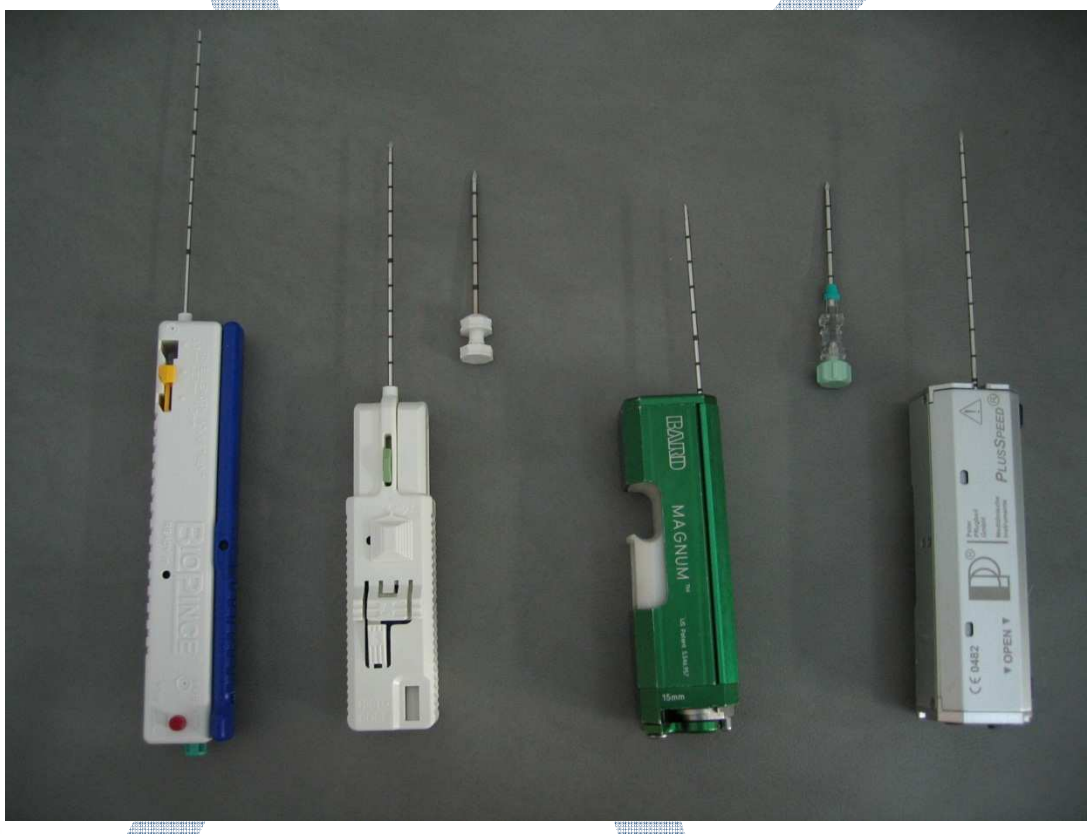
Pro: - Easy and quick to use
- low cost
- nearly no complications

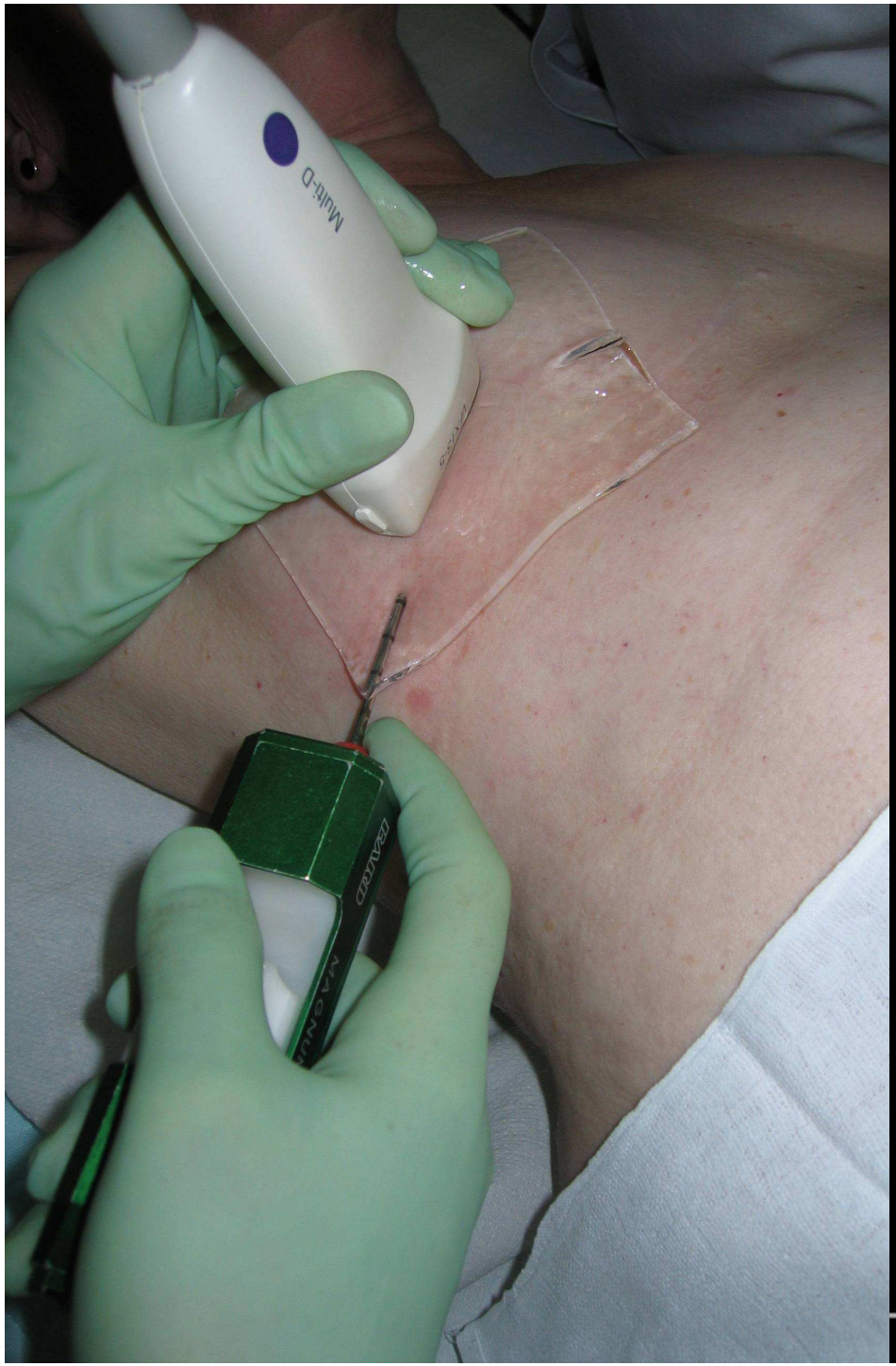
Contra: only for skin alterations

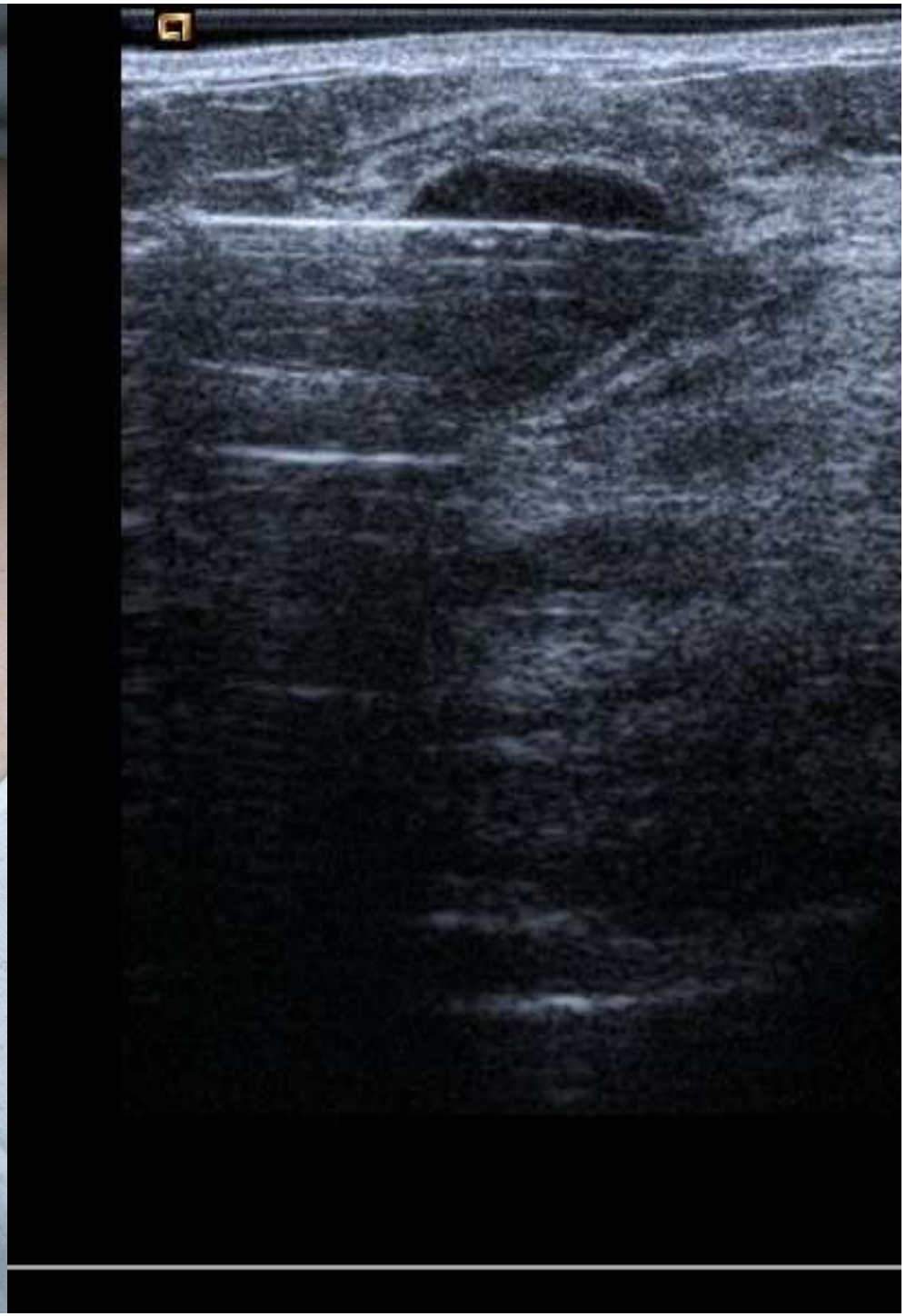


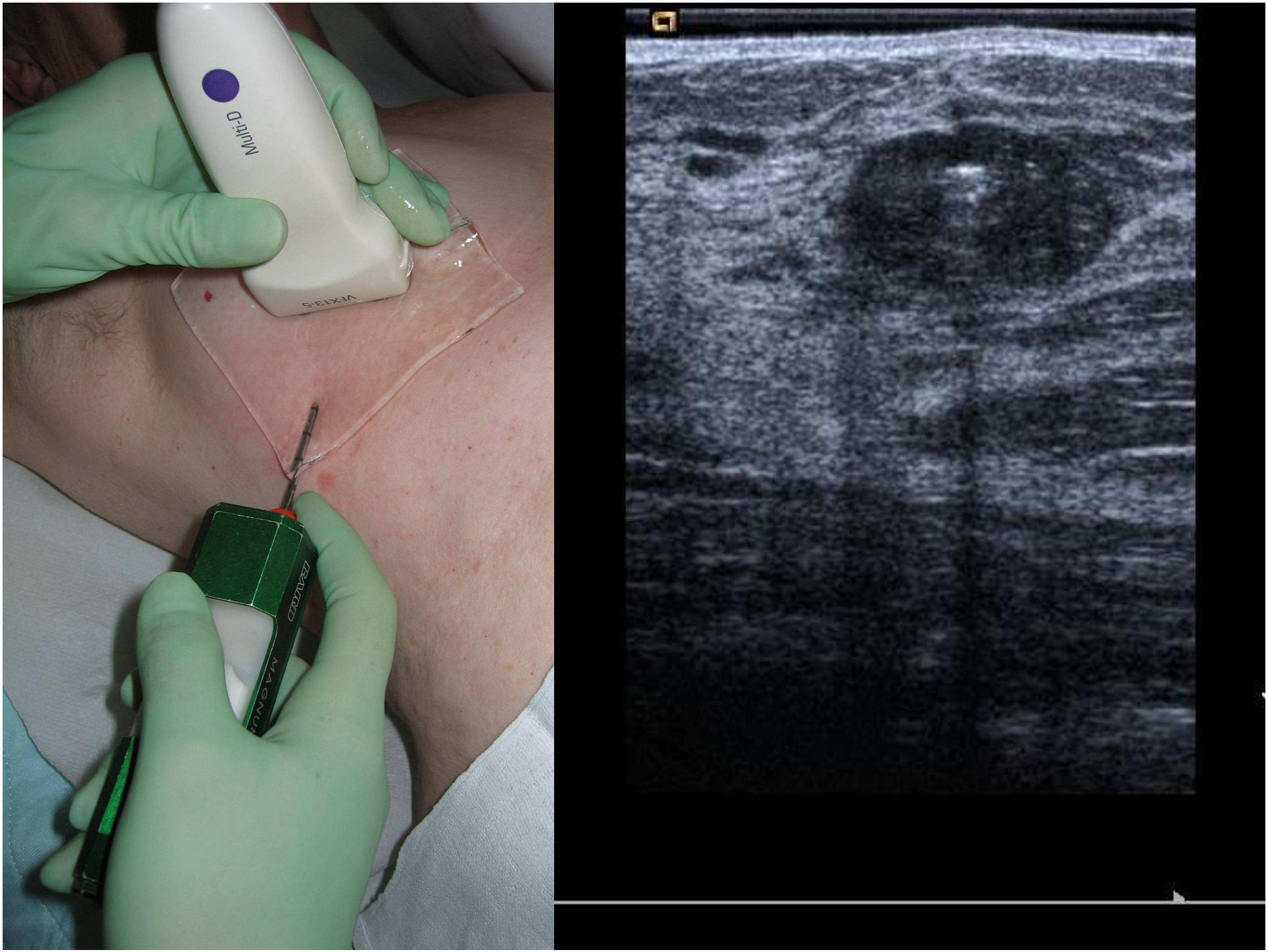
Core cut biopsy






Multi-D
BRAUN
MADEUP

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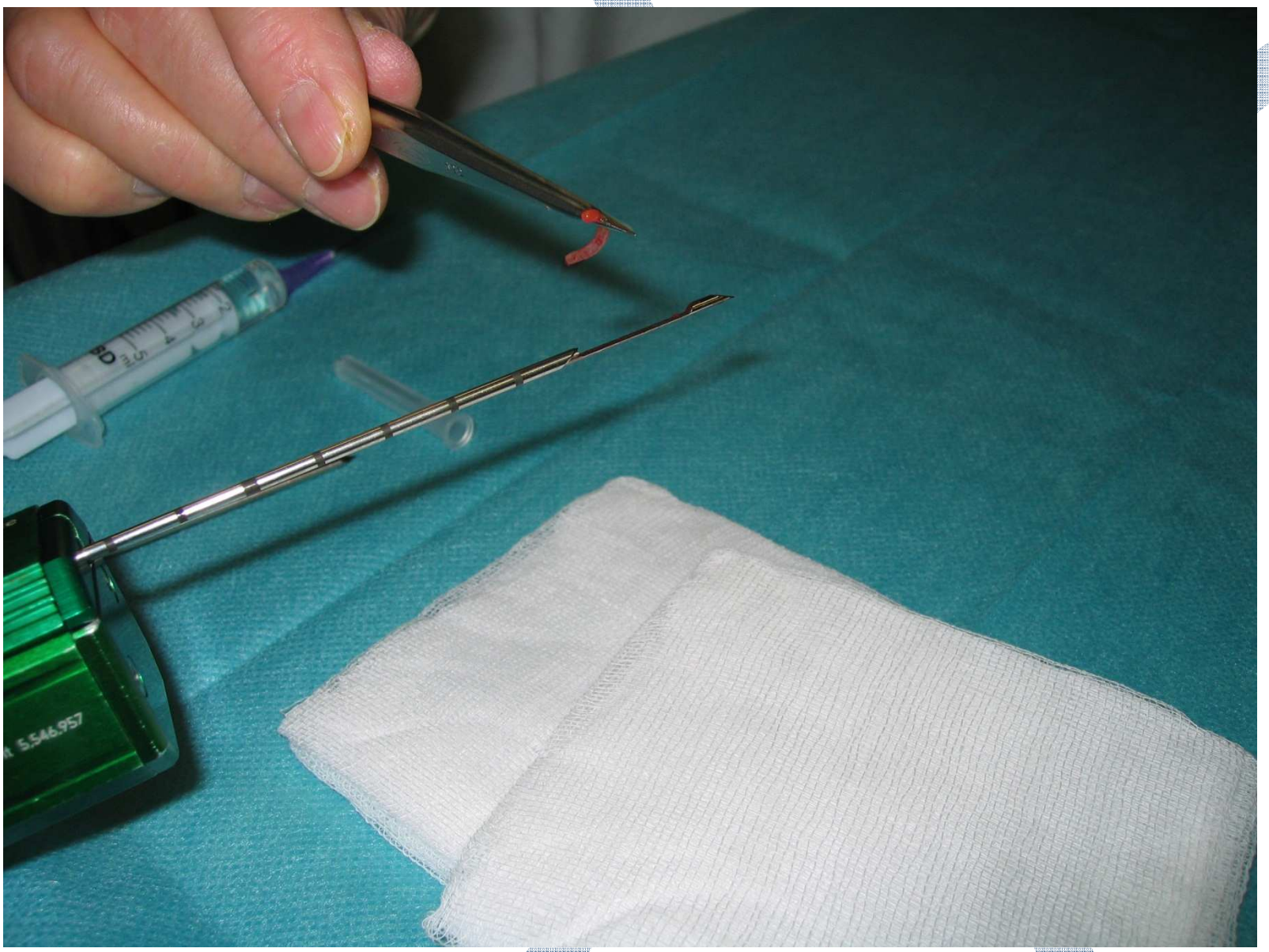
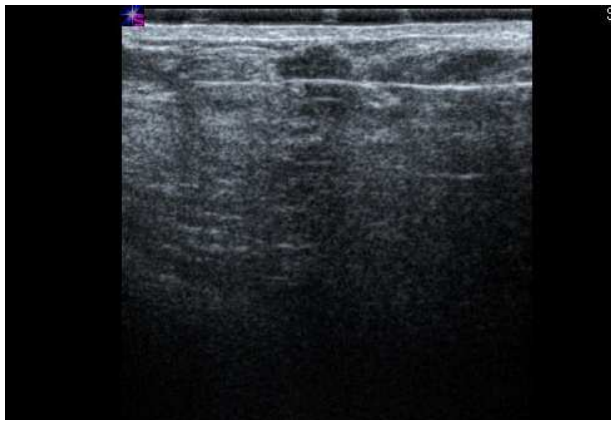
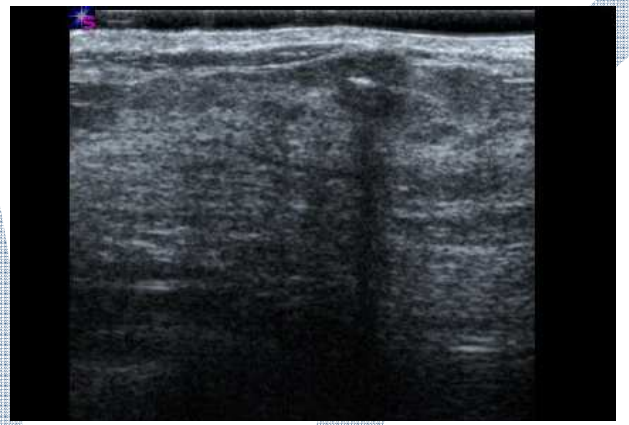
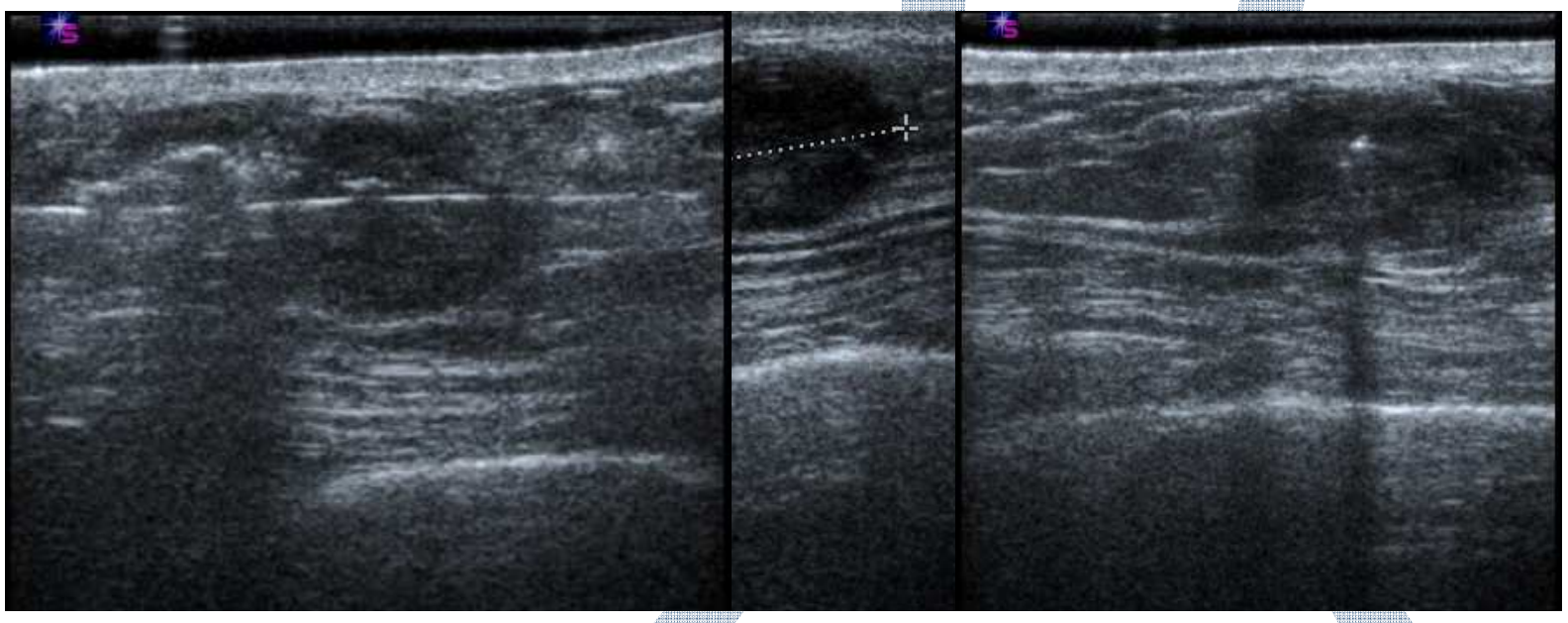


Documentation always in two dimensions







Interdisciplinary S3 Guidelines for the Diagnosis, Treatment and Follow-up Care of Breast Cancer

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Imaging-guided minimally invasive biopsy

During intervention-guided (preferably sonography-guided) core biopsy, ≥ 4 representative specimens should be taken at ≤ 14G.

LOE 3b–2b, Grade of Recommendation B (Crystal, P et al. 2004; Fishman, JE et al. 2003)

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Imaging-guided minimally invasive biopsy

In the presence of microcalcifications, stereotactically guided vacuum-assisted biopsy should preferably be performed.

LOE 3b–2b, Grade of Recommendation A (Nothacker, M et al. 2007)

Case

Presenting indication:

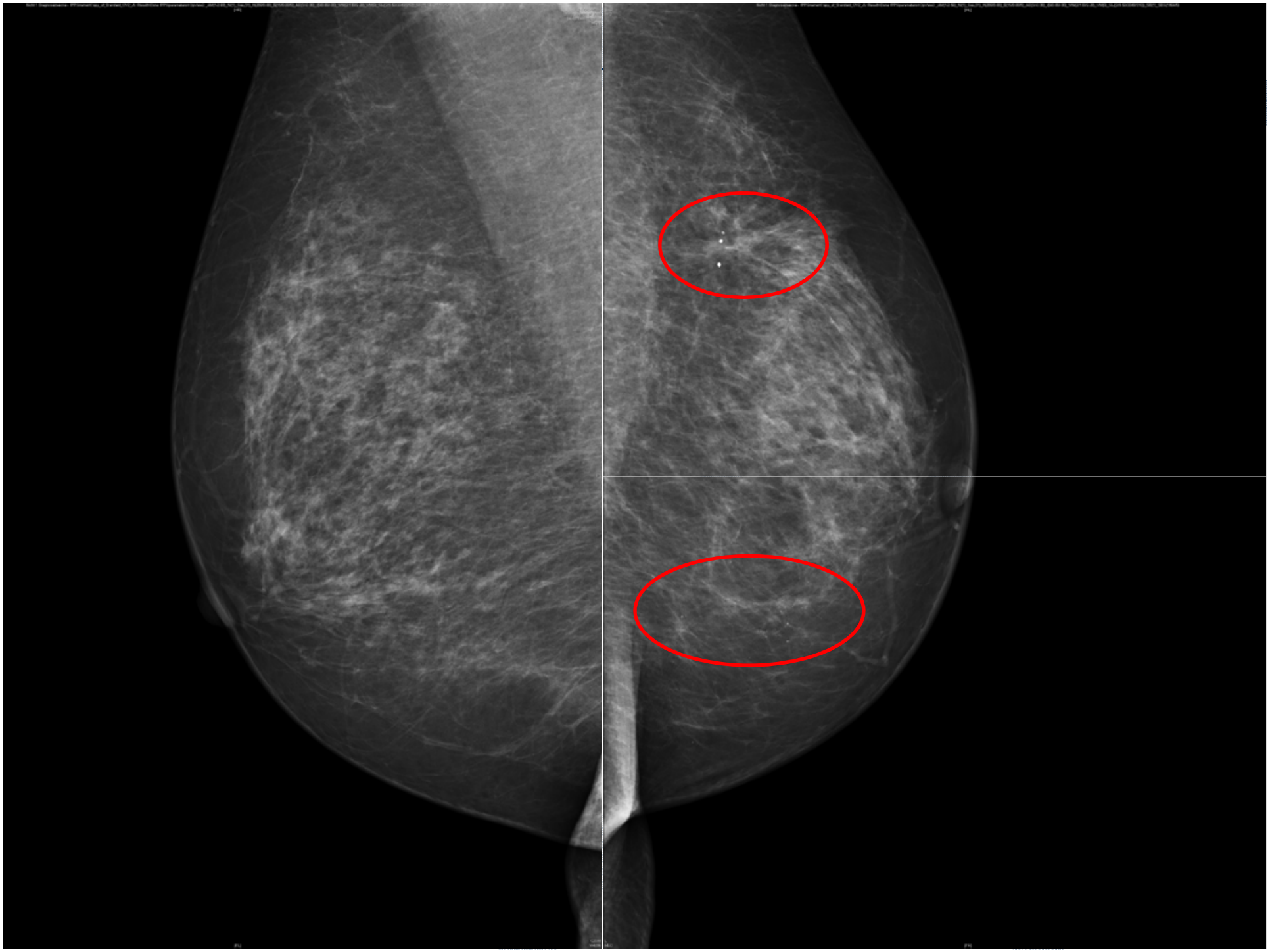
Routine check-up after a personal history of breast cancer

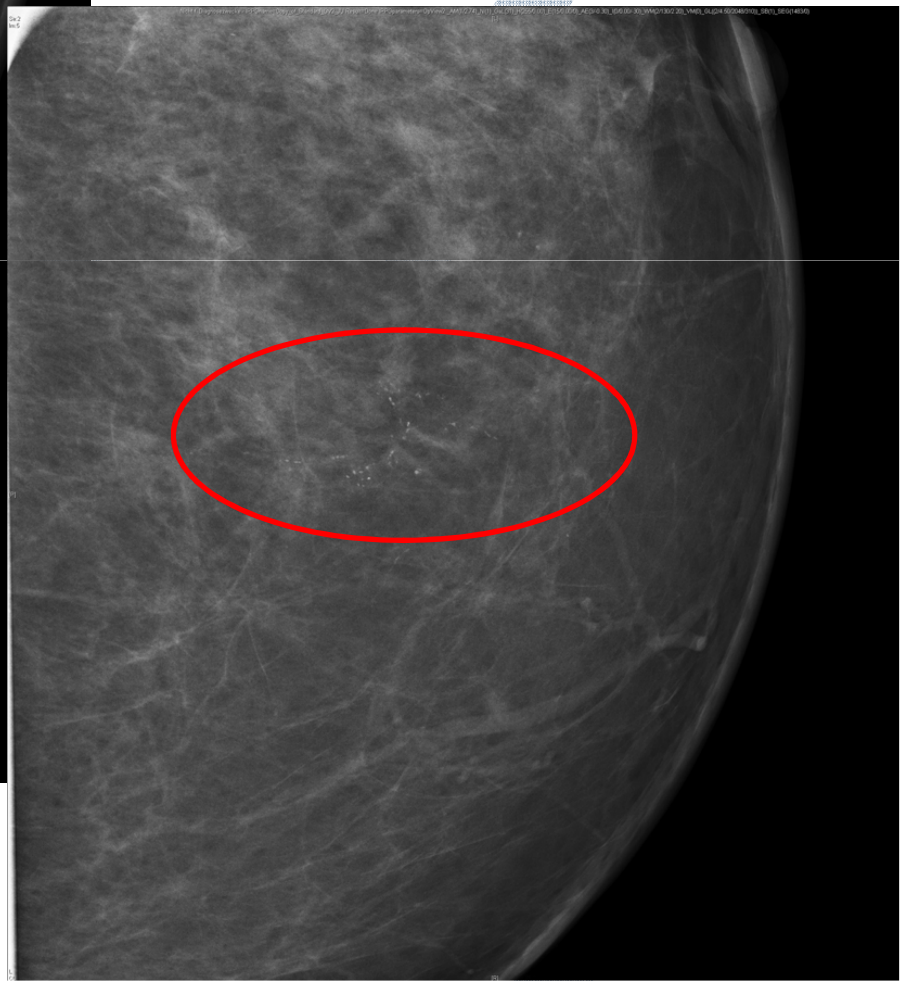
Anamnesis:

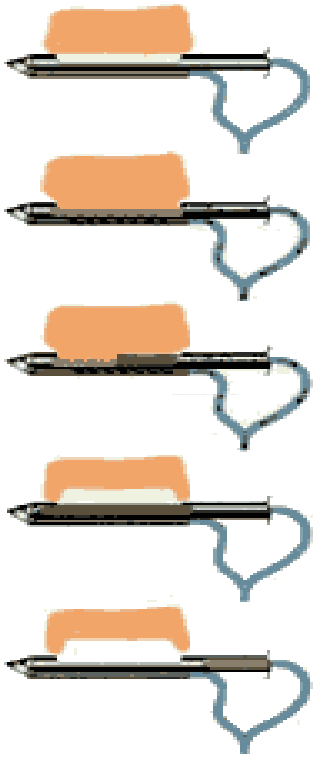
- 69 - year old patient
- 1995 Ductal invasive cancer in the left breast →

Breast conserving therapy + axillary dissection + radiation therapy + chemotherapy (pT1c, pN1a (3/17), L1, G3, R0).

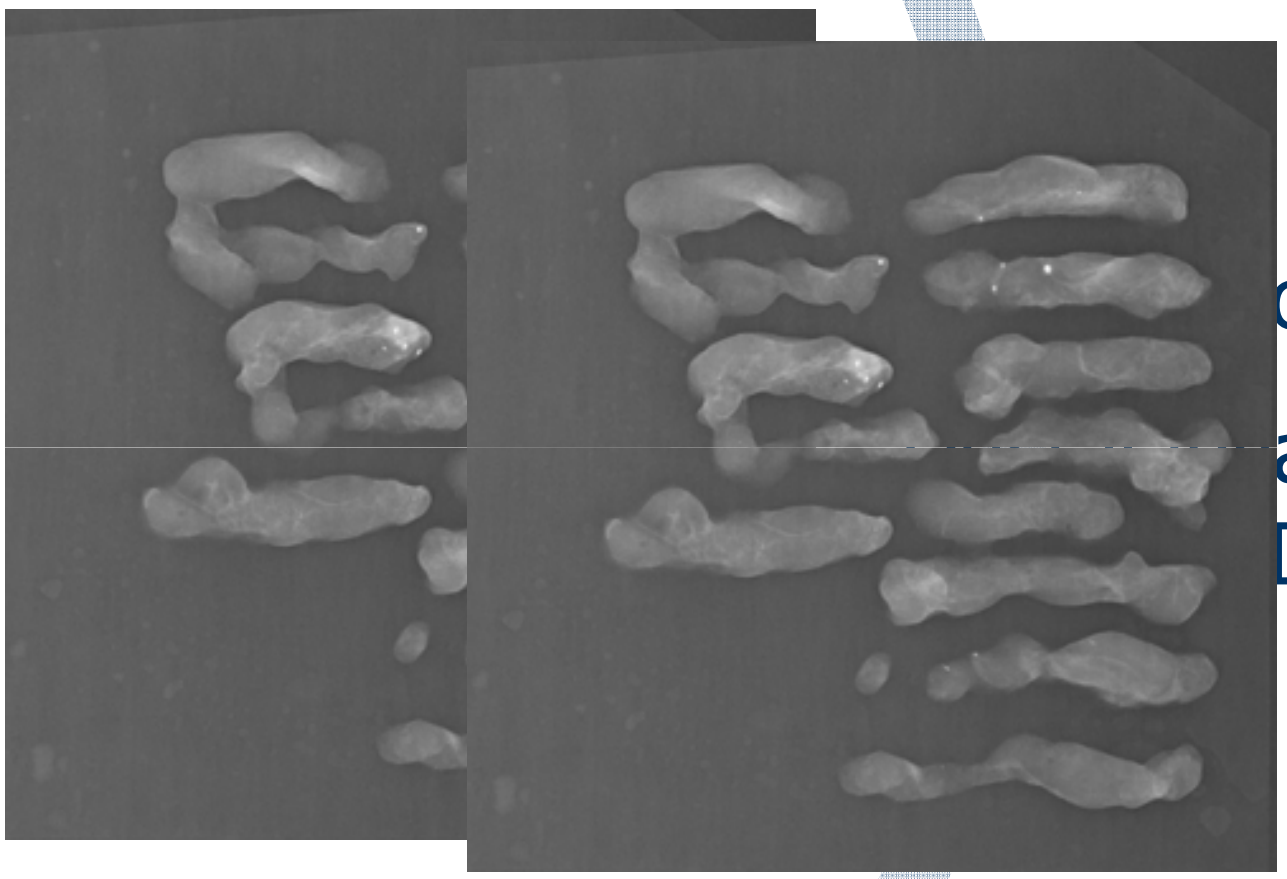
- No complains due to her breasts







Vacuum assisted biopsy



ology:

asive cancer
DCIS

Interdisciplinary S3 Guidelines for the Diagnosis, Treatment and Follow-up Care of Breast Cancer

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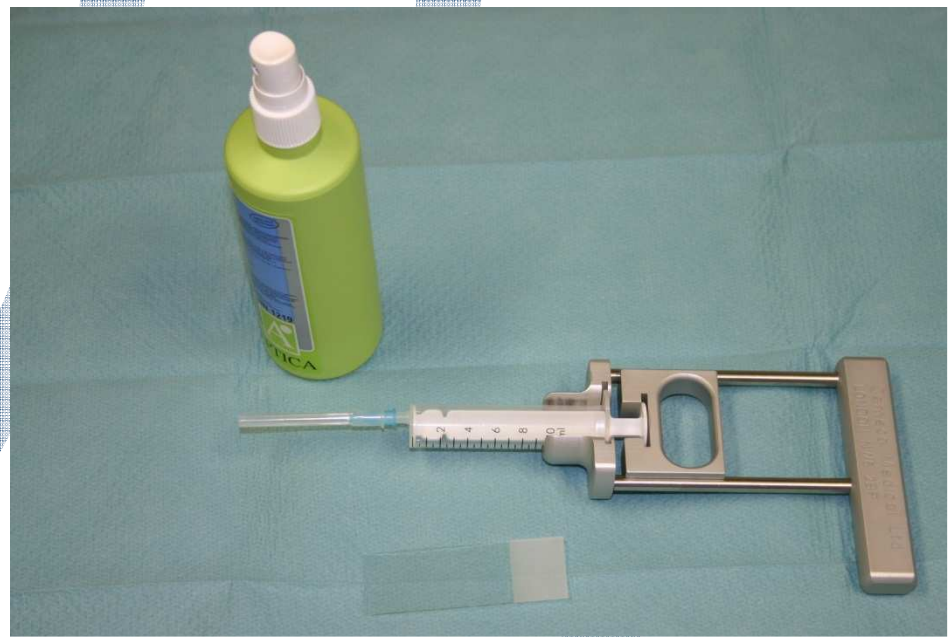
Imaging-guided minimally invasive biopsy

Fine-needle biopsy should not be employed as the standard biopsy method.

LOE 2b, Grade of Recommendation A (NCCN 2007; NICE 2006a; Schulz, KD et al. 2003)



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Imaging-guided minimally invasive biopsy

Vacuum-assisted biopsy should also be used for MRI-guided tissue sampling.

GCP

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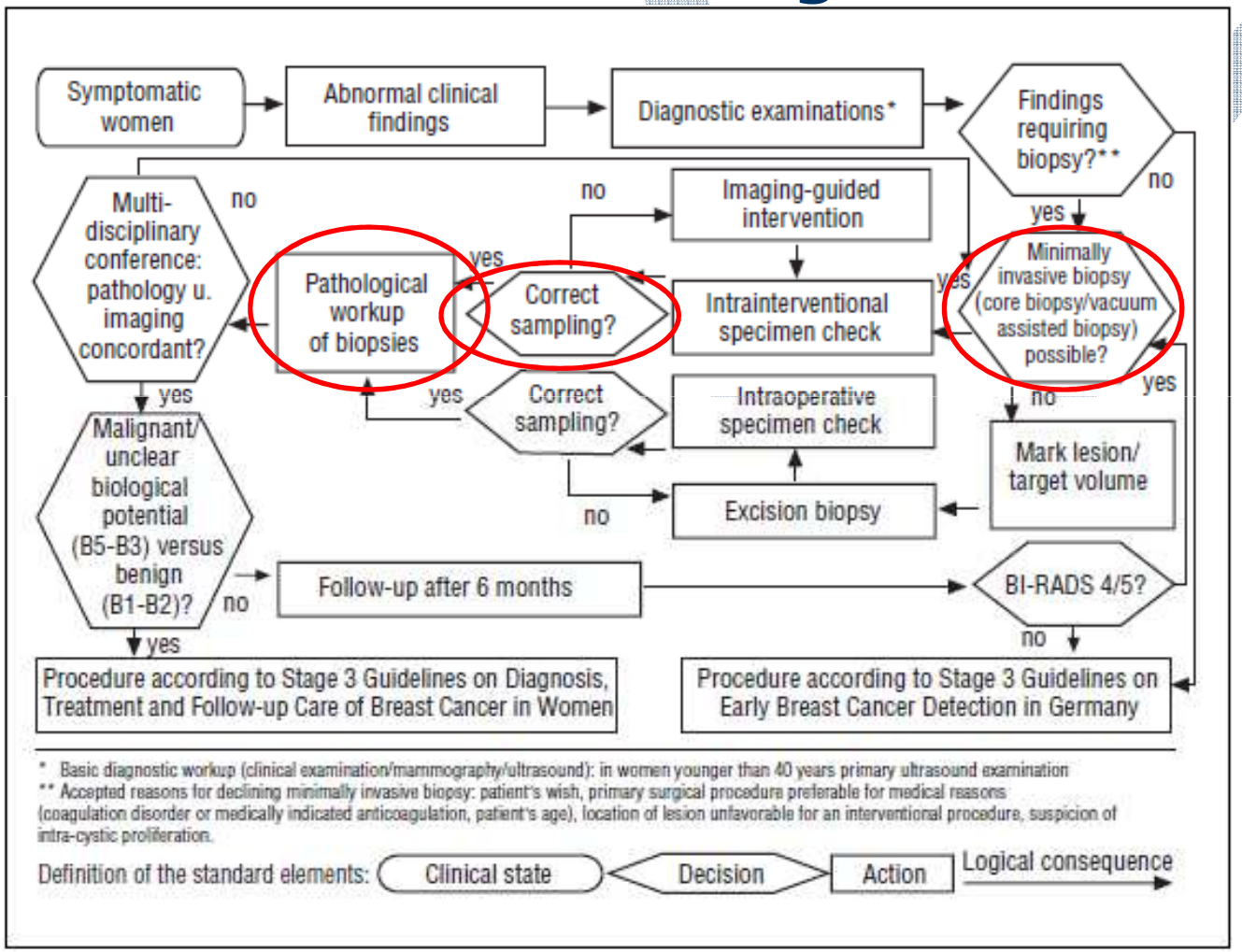

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Histological workup

BREAST SCREENING WIDE BORE NEEDLE BIOPSY FORM

Surname _____ Forenames _____ Date of birth _____

NHS no. _____ Screening no. _____ Hospital no. _____

Centre _____ Report no. _____

Side ☐ Right ☐ Left Number of cores _____

Calcification present on specimen x-ray? ☐ Yes ☐ No ☐ Radiograph not seen

Histological calcification ☐ Absent ☐ Benign ☐ Malignant ☐ Both

Localisation technique ☐ Palpation ☐ X-ray guided ☐ Ultrasound guided ☐ Stereotactic

Opinion

☐ B1. Unsatisfactory/Normal tissue only

☐ B2. Benign

☐ B3. Lesion of uncertain malignant potential

☐ B4. Suspicion of malignancy

☐ B5. Malignant

a. ☐ In-situ

b. ☐ Invasive

c. ☐ Not assessable

PATHOLOGIST _____ Operator taking biopsy _____

Date _____

Comment _____

Figure 8 Example of a WBN reporting form.

NHSBSP Publication No 50

June 2001

Interdisciplinary S3 Guidelines for the Diagnosis, Treatment and Follow-up Care of Breast Cancer

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Imaging-guided minimally invasive biopsy

Following minimally invasive imaging-guided tissue sampling, the results should be verified by correlating the results of the imaging diagnostic studies with the histopathological findings.

Grade of Recommendation A (NBCC 2006a; NCCN 2007; NICE 2006b; Perry, N et al. 2006; Schulz, KD et al. 2003)

Correlation: histological finding – imaging

Biopsy

Correlation

Histology B2 / 3 / 4
US BI-RADS IV, V

Follow – up

in 6 month

Open Excisional Biopsy

Vacuum Biopsy

Correlation: histological finding – imaging

NHSBSP Publication No 50

June 2001

B3 (lesion of uncertain malignant potential)

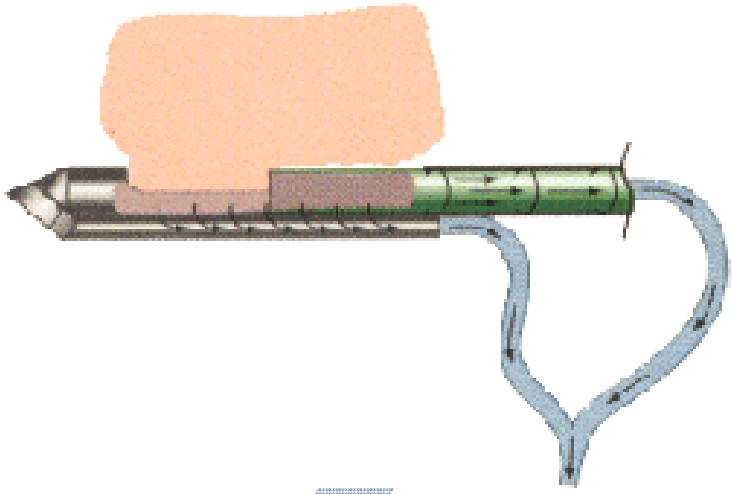
This category mainly consists of lesions which may provide benign histology on core biopsy but are known to show heterogeneity or to have an increased risk (albeit low) of associated malignancy.

B4 (suspicious)

The management of cases classified as B4 will usually be either diagnostic excision biopsy of the area or repeat core biopsy sampling to obtain definitive diagnosis. **Definitive therapeutic surgery should not be undertaken as a result of a B3 or B4 core biopsy diagnosis.**

Vaccumbiopsy

An option to prevent open excisional biopsy



Interdisciplinary consensus recommendations for the use of vacuum-assisted breast biopsy under sonographic guidance

First update 2012*

Hahn M, Boecker W, Gissler J, Kluge S, Krapfl E, Peisker U, Töllner T, Gruber I

* Paper submitted – first version published 2005

Indications for diagnostic representative VB

1.

After core needle biopsy (CNB) following a benign histological report, yet persistent suspicion of carcinoma (BIRADS IV/V, mismatch between diagnostic imaging studies and histology)

2.

Suspicious findings (BIRADS IV/V) that cannot be clarified with sufficient reliability by core needle biopsy

Indications for diagnostic therapeutic VB

3.

Symptomatic lesions not suspicious of carcinoma, with the aim of complete image-guided excision (e.g. fibroadenoma, recurrent cysts)

4.

Intraductal/Intracystic growths with the aim of complete image-guided resection

Interdisciplinary S3 Guidelines for the Diagnosis, Treatment and Follow-up Care of Breast Cancer

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Imaging-guided minimally invasive biopsy

If the histopathological examination reveals a benign lesion, a follow-up imaging study should be performed … in six months' time.

Grade of Recommendation B (NCCN 2007; NICE 2006b)

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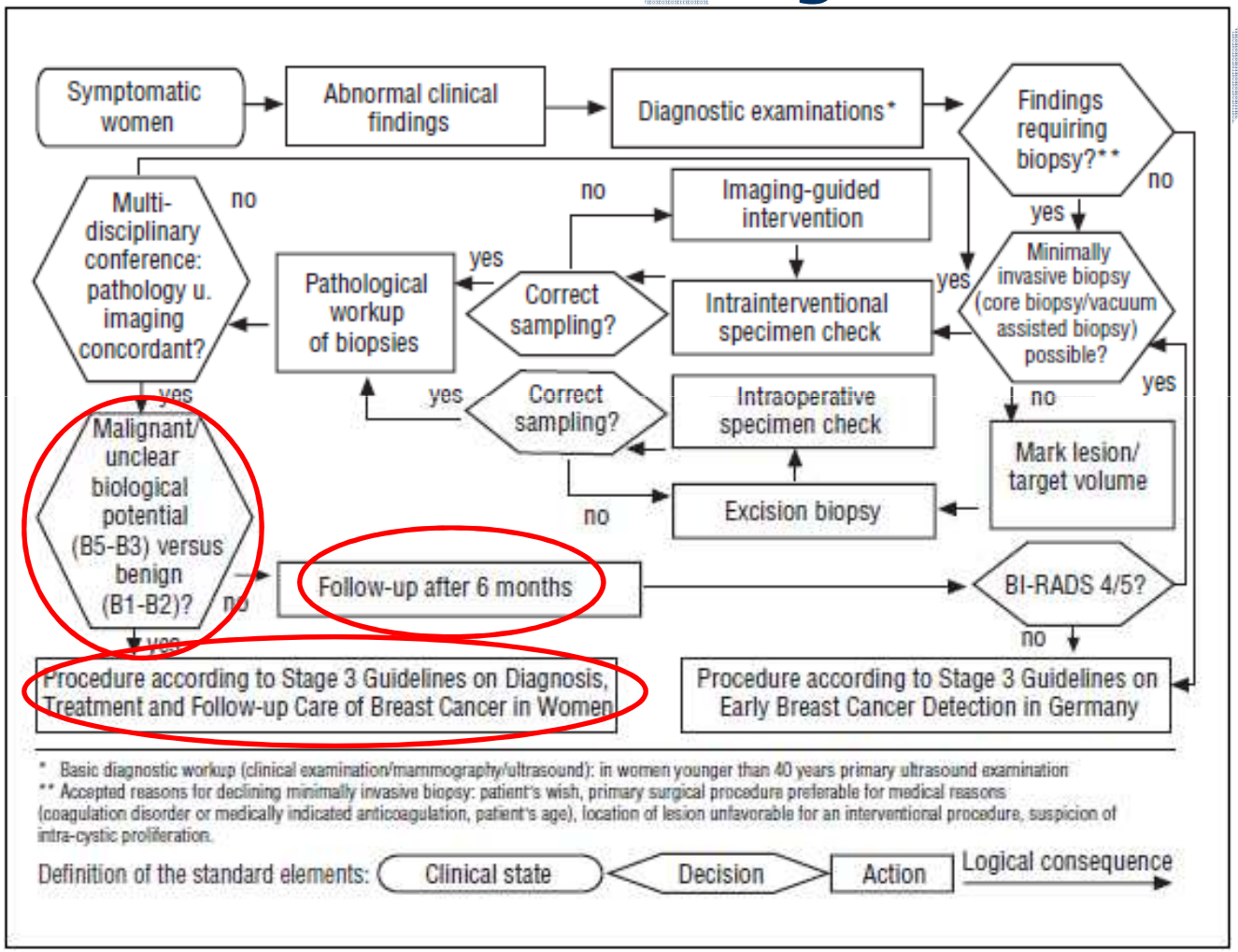

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S3 Guidelines - Quality indicators and assessment results

Quality Indicator (QI)	Reference Range
QI 4: Percentage of all symptomatic patients with primary disease who undergo mammography using standard radiographic techniques (cc and mlo views) before treatment	≥ 95 %
QI 5: Percentage of all symptomatic patients with primary disease who undergo high-frequency ultrasound examination before treatment	≥ 95 %
QI 6: Percentage of all symptomatic patients treated for breast cancer in whom the diagnosis of breast cancer is confirmed histologically before the beginning of treatment	≥ 95 %
QI 7: Percentage of all symptomatic patients treated for breast cancer in whom the diagnosis of breast cancer is confirmed via minimally invasive histological techniques before the beginning of treatment	≥ 70 %

Thank you very much for your attention!