

Breast Skin Markers for Mammography Imaging

Purpose

The purpose of this document is to provide diagnostic mammography (DM) departments with a procedure for the use of radiopaque skin markers during mammographic imaging for either 2D full field digital mammography (FFDM) or digital breast tomosynthesis (DBT) to indicate palpable areas of concern, skin lesions and surgical scars.

Site Applicability

This procedure applies to Medical Imaging (MI) departments within Fraser Health (FH), Providence Health Care (PHC), Provincial Health Services Authority (PHSA) and Vancouver Coastal Health (VCH).

Practice Level

Profession	Responsibilities
Mammographers	Place the appropriate skin marker on the area of concern
Radiologists, fellows, residents	Use the identified area of concern for reporting purposes

Need to Know

In alignment with the American College of Radiology (ACR), standardizing the use of radiopaque breast skin markers in diagnostic mammography across MI will:

- 1) Improve consistency across MI departments
- 2) Improve communication between mammographers and radiologists by:
 - i. Identifying skin lesions such as skin tags, moles and scars to ensure they are not considered to be within the breast and requiring further investigation.
 - ii. Identifying area of clinical concern drawing the radiologist attention to a particular area for assessment.
- 3) Reduce potential for retakes and callbacks therefore reducing radiation exposure
- 4) Improve patient safety and satisfaction

See Appendix A: **Recommendations for Using Breast Skin Markers**

Procedure

Assessment

Interview the patient following the Mammography Technologist Observation Worksheet to determine if skin markers are required. (See Appendix B: Access to Forms)

Examples of what is marked:

- i. Nipple
- ii. Fine wire entry
- iii. Mole(s) or raised skin lesion(s)
- iv. Palpable mass(es)
- v. Surgical scar(s)
- vi. Occasionally used for an area of pain

Steps

When a marker is required:

- Explain the necessity of skin markers prior to placing the marker on the patient's skin.
- Select the appropriate radiopaque skin marker. Refer to [Table 1](#) for examples.
- Place the skin marker on the area of concern.
- Image the patient.
- Review examination with radiologist when required.

Documentation

Document on the Mammography Technologist Observation Worksheet and diagram:

- Areas of concern
- Marker shape and placement

See [Appendix C: FHA Mammography Tech Observation Worksheet Example](#) or [Appendix D: VPP Mammography Tech Observation Worksheet Example](#)

Table 1: Skin Marker Use

MI Mammography Radiopaque Skin Markers Suggestions	
Area of Concern or Use	Marker Type
Nipple Marker or Fine Wire Entry	BB Lead
Mole or Raised Skin Lesion	Circle Lead or Tomo safe
Lumps-Palpable Mass	Triangle Lead or Tomo safe
Surgical Scar	Line Lead or Tomo safe
Non-palpable area of concern or pain	Square Lead or Tomo safe

References

American College of Radiology ACR, ACR PRACTICE PARAMETER FOR THE PERFORMANCE OF SCREENING AND DIAGNOSTIC MAMMOGRAPHY, Revised 2018 Resolution 35. <https://www.acr.org/-/media/ACR/Files/Practice-Parameters/screen-diag-mammo.pdf>

The Beekley Skin Marking System® for Mammography (2021) <https://www.beekley.com/Portals/0/Resource%20Library/Other/Mammography/The%20Beekley%20Skin%20Marking%20System%20for%20Mammography%20-%20Booklet.pdf3>.

Gary J. Whitman, M. D. Associate Professor of Radiology and Associate Radiologist - Division of Diagnostic Imaging The University of Texas M. D. Anderson Cancer Center (UTMDACC), Houston, Texas. (2005) SKIN MARKING PROTOCOLS IN DIGITAL MAMMOGRAPHY [Skin Marking Protocols in Digital Mammography.pdf \(beekley.com\)](#)

Beekley Medical: Mole Markers. [Mole Markers \(beekley.com\)](#)

Kevin Jaquith (2023). 3 Advantages Of Disposable Skin Markers In Mammography

[Advantages Of Disposable Skin Markers In Mammography \(universalmedicalinc.com\)](#)

PDC Medical: Mammography Skin Markers. Accurate Imaging. Fewer Retakes. A Better Patient Experience.

[Mammography Skin Markers - Medical Imaging \(pdchealthcare.com\)](#)

Erin P. Crane, MD; Drini Makariou, MD; (2020). Dermal or Not? The Surprising Question We Find Ourselves Asking in Digital Breast Tomosynthesis <https://beekley.com/LinkClick.aspx?fileticket=fUSawt41pJE%3D&portalid=0>

Joseph C. Benjamin, MD, Specialist in Breast Imaging and Lead Interpreting Physician; Mercy Health, Cincinnati, Ohio (2021). Skin Marking in Digital Breast Tomosynthesis: Unique Markers Establish Consistency and Efficiency. <https://beekley.com/LinkClick.aspx?fileticket=vyre0WZjURM%3D&portalid=0>

Christina V. Jacobs, MD, Director of Breast Imaging Bronson Health System. (2020) <https://beekley.com/LinkClick.aspx?fileticket=WALzEa1Rt44%3D&portalid=0>

M.B. Hermel, M.D.; J.Gershon-Cohen, M.D., D.SC (Med); R.N. Byrne, M.D. April 1969. Philadelphia and West Chester, Pennsylvania. Mammographic Technique: Need for Routine Spot Roentgenograms.

Definitions

“Skin marker” in mammography refers to a radiopaque marker placed on the breast prior to imaging to identify areas of clinical concern (such as a palpable lump) or other entities that could affect interpretation (eg. Raised skin lesions or postsurgical changes).

Appendices

- [Appendix A: Recommendations for Using Breast Skin Markers](#)
- [Appendix B: Access to Forms](#)
- [Appendix C: FHA Mammography Technologist Observation Worksheet](#)
- [Appendix D: VPP Mammography Technologist Observation Worksheet](#)

Reviewed and Approved By

- 1) Mammography Professional Practice Committee [Nov 2023]
- 2) Dr. Amarjit Bajwa, Lead Radiologist, Abbotsford Regional and Chilliwack Hospitals [December 2023]
- 3) Dr. Tahir Khalid, Breast Imaging Clinical Lead, Abbotsford Regional and Chilliwack Hospitals [Dec 2023]
- 4) Dr. Kevin Ibach, Medical Director Breast Imaging, BC Cancer Vancouver [December 2023]
- 5) Dr. Dennis Janzen, Breast Imaging Clinical Lead, Lead Jim Pattison Out Patient Surgical Center [Dec 2023]
- 6) Dr. Catherine Phillips, Chief Breast Screener. Lions Gate Hospital [Dec 2023]
- 7) Dr. Jessica Farell, Associate Head Department of Medical Imaging; Mount St. Joseph Hospital [Dec 2023]
- 8) Dr. Bippan Sangha, Lead Radiologist, Peace Arch Hospital [Dec 2023]
- 9) Dr. Jennifer Dolden, Breast Imaging Clinical Lead, Royal Columbian and Eagle Ridge Hospital [Dec 2023]
- 10) Dr. Beth Tanton, Breast Imaging Clinical Lead, Delta and Richmond Hospital, Brooke Radiology [Dec 2023]
- 11) Dr. Todd Penney, Breast Imaging Clinical, Ridge Meadows Hospital [Dec 2023]
- 12) Kerry Macey, Operations Director, Medical Imaging

This material has been prepared solely for use at Fraser Health (FH), Providence Health Care (PHC), Provincial Health Services Authority (PHSA) and Vancouver Coastal Health (VCH). FH, PHC, PHSA and VCH accept no responsibility for use of this material by any person or organization not associated with FH, PHC, PHSA and VCH. A printed copy of this document may not reflect the current electronic version.

Appendix A: Recommendations for Using Breast Skin Markers

The American College of Radiology (ACR) Recommends:

- “Facilities should require consistent use of radiographically distinct markers to indicate palpable areas of concern, skin lesions, and surgical scars”.
- In addition, there should be an indication of the type of underlying lesion denoted by each marker, either as a permanent annotation on the appropriate mammographic image(s) or **as a description in the mammography report**. It may also be helpful to record such findings on the patient’s intake sheet and/or technologist worksheet.”

BIRADS states “different skin marker should be used for palpable vs skin lesions”.

- To properly inform interpreting physicians within a given mammography facility, the facility should adopt a policy requiring consistent use of two different shapes of radiopaque devices for palpable and skin lesions, respectively.
- To properly inform interpreting physicians outside the facility, there should be an indication of the type of underlying lesion marked by every radiopaque device (palpable versus skin lesion), either as a permanent annotation on the appropriate mammographic image(s) or as a description in the mammography report.

Appendix B: Access to Forms

FH

ON LINE Forms Fast or Print Shop

- I. **DIXX106281D PS #263327 Mammography Tech Worksheet**
- II. **DIXX103478C PS #263328 Breast Lesion Fine Wire Localization Guide**
- III. **DIXX106864C PS #263421 Breast Interventional Procedural Check list**

Forms fast

- **All sites & staff have access to *forms fast* on the desktop.**
If it is not there, request access via service desk.

Print Shop

- **ONLY ORDER if no access to *forms fast***
- Order pads in 50 =more cost effective

VPP

ON LINE Forms Fast or Print Shop

- I. **BCHA.0010 Mammography Technologist Observation Worksheet**
- II. **BCHA.0011 Breast Fine wire Localization Guide Worksheet**
- III. **BCHA.0049 Breast Interventional Breast Procedure Check list**


Forms fast

- **All CST sites & staff have access to *forms fast* on the desktop.**
If it is not there, request access via service desk.


Print Shop

- **ORDER if no access to *forms fast***
- Order pads in 50 =more cost effective
- Access **HSSBC printing: <https://hssbcprinting.healthbc.org/>**
 (Search + order forms by assigned number)

Appendix C: FHA Mammography Technologist Observation Worksheet Example



MAMMOGRAPHY TECHNOLOGIST
Observation Worksheet - THIS IS NOT A REPORT



Form ID: DIXX106281D
Rev: Oct 09, 2019
Page 1 of 1

1. Previous Breast Imaging

Year	Location	MA	US	MRI
		B R L	B R L	B R L
		B R L	B R L	B R L
		B R L	B R L	B R L
		B R L	B R L	B R L

2. Side(s) to be Imaged: ☐ Right ☐ Left ☐ Bilateral

3. Reason: ☐ Routine ☐ Screening work-up ☐ Follow-up ☐ Implants ☐ Pre-br.ca ☐ Pre Surgery ☐ CT Findings ☐ Pre Transplant ☐ Fam Hx
New Findings: ☐ Lump ☐ Mastitis ☐ Nipple Discharge ☐ Pain ☐ Retraction ☐ Skin Changes/Rash ☐ Thickening ☐ Other _____

4. Surgery/Biopsy History: core bx, surgical bx, lumpectomy, mastectomy, reconstruction, implants, reduction/mastopexy, breast lift

Right _____

☐ Implants Year _____

☐ Reduction Year _____

☐ Explant Year _____

☐ Mastopexy Year _____

Left _____

☐ Implants Year _____

☐ Reduction Year _____

☐ Explant Year _____

☐ Mastopexy Year _____

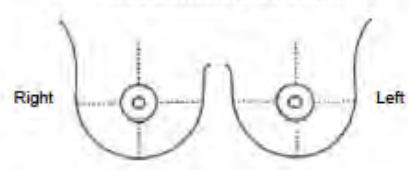
5. Cancer Treatment: ☐ Chemo ☐ Radiation ☐ Hormone Suppressants _____

6. Menstrual Status: Post-Menopausal ☐ Y ☐ N LMP _____ Hormones ☐ Y ☐ N _____

7. Family History of Cancer:
☐ Breast Who/Age: _____
☐ Ovarian Who/Age: _____

For Technologists ONLY

Right



Left

X
Lump/
Thickening

- - -
Scar

O
Bruise/
Trauma

●
Mole

⊕
Core
Biopsy

VVV
Pain

Radiologist Request for Ultrasound

Right



Left

Size: _____ mm mass / calcs / asymmetry / cystic / solid

Other: _____

Booking Priority: ☐ low ☐ mod ☐ high Dr. _____

Comments: _____

Tech: _____
Rad: _____

Printshop #263327





This material has been prepared solely for use at Fraser Health (FH), Providence Health Care (PHC), Provincial Health Services Authority (PHSA) and Vancouver Coastal Health (VCH). FH, PHC, PHSA and VCH accept no responsibility for use of this material by any person or organization not associated with FH, PHC, PHSA and VCH. A printed copy of this document may not reflect the current electronic version.

Effective date: 29-JAN-2024

MI Professional Practice

Page 6 of 8

Appendix D: VPP Mammography Technologist Observation Worksheet Example

PCIS LABEL

MAMMOGRAPHY TECHNOLOGIST Observation Worksheet

THIS IS NOT A REPORT

1. Previous Breast Imaging:

Year	Location	MA	US	MRI
		B R L	B R L	B R L
		B R L	B R L	B R L
		B R L	B R L	B R L
		B R L	B R L	B R L

2. Side(s) to be Imaged: ☐ Right ☐ Left ☐ Bilateral

3. Reason: ☐ Routine ☐ Screening work-up ☐ Follow-up ☐ Implants ☐ Pre-br.ca ☐ Pre Surgery ☐ CT Findings ☐ Pre Transplant ☐ Fam Hx

New Findings: ☐ Lump ☐ Mastitis ☐ Nipple Discharge ☐ Pain ☐ Retraction ☐ Skin Changes/Rash ☐ Thickening ☐ Other

4. Surgery/Biopsy History: core bx, surgical bx, lumpectomy, mastectomy, reconstruction, implants, reduction/mastopexy, breast lift

Right _____

BILATERAL

☐ Implants
Year _____

☐ Reduction
Year _____

☐ Explant
Year _____

☐ Mastopexy
Year _____

Left _____

5. Cancer Treatment: ☐ Chemo ☐ Radiation ☐ Hormone Suppressants _____

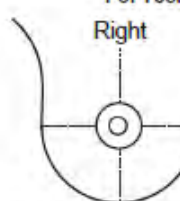
6. Menstrual Status: Post-Menopausal ☐ Yes ☐ No LMP _____ Hormones ☐ Yes ☐ No

7. Family History of Cancer: ☐ Breast Who/Age: _____

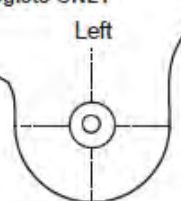
☐ Ovarian Who/Age: _____

For Technologists ONLY

Right




Left



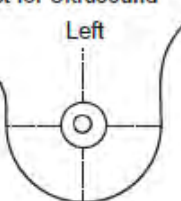
X	+++	○	●	⊕	W
Lump / Thickening	Scar	Bruise / Trauma	Mole	Core Biopsy	Pain

Radiologist Request for Ultrasound

Right



Left



Size: _____ mm mass / calcs / asymmetry / cystic / solid

Other: _____

Booking Priority: ☐ low ☐ mod ☐ high Dr: _____

Comments _____

BCHA.0010 | FEB. 2020
DIXX106281D
Tech: _____ Rad: _____
PAGE 1/1

This material has been prepared solely for use at Fraser Health (FH), Providence Health Care (PHC), Provincial Health Services Authority (PHSA) and Vancouver Coastal Health (VCH). FH, PHC, PHSA and VCH accept no responsibility for use of this material by any person or organization not associated with FH, PHC, PHSA and VCH. A printed copy of this document may not reflect the current electronic version.

Effective Date:	26-JAN-2024			
Posted Date:	26-JAN-2024			
Last Revised:	22-JAN-2024			
Last Reviewed:	18-JAN-2024			
Approved By:	Medical Imaging Executive Committee		Mammography Medical Practice Lead	
	06-DEC-2023		18-JAN-2023	
Owner:	Mammography Medical Practice Lead, MI Mammography Regional Practice Lead, MI			
Revision History:	Version	Date	Description/ Key Changes	Revised By (name and title)
	1.0	29-JAN-2024	Initial Release	Dr. M.J. Cloutier, Mammography MPL Annemarie Budau, Mammography RPL