HIGH RISK LESIONS OF THE BREAST

***Non-malignant**, non-invasive breast lesions. Includes lobular carcinoma in situ (LCIS) only. For atypical ductal hyperplasia (ADH), atypical lobular hyperplasia (ALH) and flat epithelial atypia (FEA), see "Code Set Determination and Rationale below."*

For malignant, non-invasive breast lesions, see "Ductal Carcinoma In Situ (DCIS)"case definition.

Background

This case definition was developed by the Armed Forces Health Surveillance Division (AFHSD) for the purpose of epidemiological surveillance of high-risk lesions of the breast. The case definition differs from the standard AFHSD oncology case definition used for surveillance of invasive and in situ cancers.

Clinical Description

High-risk lesions of the breast are *non-malignant, not-invasive* lesions of the ducts and lobules of the breast that are associated with an increased risk of developing breast cancer. Pathologically they are categorized as proliferative lesions with atypia; they are not considered early stage (0) breast cancer and are not a precursor for invasive disease. The most common high-risk breast lesions are atypical ductal hyperplasia (ADL), lobular carcinoma in situ (LCIS), atypical lobular hyperplasia (ALH) and flat epithelial atypia (FEA).

Lobular carcinoma in situ is identified in 1.8-2.5% of all biopsies.[1] The lesion is most often an incidental finding presenting without microcalcifications. Definitive diagnosis is with targeted core needle biopsy or excisional biopsy. For LCIS, the relative risk of subsequent invasive breast cancer is 7-11 times higher when compared to the normal population.[2] Upstaging rates for LCIS are low (<3%); therefore, management includes surgical excision or clinical surveillance (depending on histology subtype and imaging concordance) followed by risk reducing agents, (i.e., endocrine therapy).[3] For individuals with high-risk breast lesions, the National Comprehensive Cancer Network (NCCN) guidelines recommend annual mammography and breast examination every 6-12 months from the time of diagnosis.[4]

Case Definition and Incidence Rules *(May 2024-present)*

For surveillance purposes, a case of LCIS is defined as:

- *One hospitalization* with a case defining diagnosis of LCIS (see ICD9 and ICD10 code lists below) in *any* diagnostic position.

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[1] Myers DJ, Walls AL. Atypical Breast Hyperplasia. [Updated 2023 Feb 6]. In: StatPearls. Treasure Island (FL): StatPearls Publishing; 2023 Jan-. https://www.ncbi.nlm.nih.gov/books/NBK470258. Accessed February 2025.

[2] American Cancer Society. Breast Cancer. Atlanta: American Cancer Society; 2022. Lobular Carcinoma in Situ | LCIS | American Cancer Society. https://www.cancer.org/cancer/types/breast-cancer/about/types-of-breast-cancer/dcis.html. Accessed February 2025.

[3] Atypical and lobular carcinoma in situ: High risk lesions of the breast. UpToDate. Waltham, MA, 2023. https://www.uptodate.com/contents/atypia-and-lobular-carcinoma-in-situ-high-risk-lesions-of-the-breast?search=carcinoma%20in%20situ%20breast&source=search_result&selectedTitle=3~72&usage_type=default&display_rank=3. Accessed February 2025.

[4] National Comprehensive Cancer Network (NCCN) Version 2.2023. Clinical Practice Guidelines in Oncology. Breast Cancer screening and diagnosis. https://www.nccn.org/guidelines/category_1. Accessed February 2025.

Case Definition and Incidence Rules *(continued)*

- *Two or more outpatient medical encounters,* occurring *within a 90-day period*, with a case defining diagnosis of LCIS (see ICD9 and ICD10 code lists below) in *any* diagnostic position.

Incidence rules:

For individuals who meet the case definition:

- The incidence date is considered the date of the first hospitalization or outpatient medical encounter that includes a case defining diagnosis of LCIS.
- An individual is considered an incident case *once per lifetime.*

Exclusions:

- *Optional*: Individuals with bilateral mastectomy (see *Case Definition and Incidence Rule Rationale*)

Codes

The following ICD9 and ICD10 codes are included in the case definition:

Condition	ICD-10-CM Codes	ICD-9-CM Codes
Lobular carcinoma in situ (LCIS)	*D05.0 (lobular carcinoma in situ of breast…)*	*Translated code (233.0 carcinoma in situ of breast) too broad for inclusion.*
	- D05.00 (*unspecified* breast)	
	- D05.01 (*right* breast)	
	- D05.02 (*left* breast)	

Development and Revisions

- This case definition was developed in May 2024 by the Defense Health Agency (DHA) Health Surveillance & Epidemiology (HSE) cancer surveillance Sub Working Group (SubWG). The definition was developed based on reviews of the ICD10 codes, the scientific literature and AFHSD analyses
- This case definition is designed to capture cases of *nonmalignan*t, non-invasive, lesions of the breast, (e.g., LCIS). While lobular carcinoma in situ contains the term "carcinoma in situ," it is nonmalignant and is *not* considered a form of early-stage (stage 0) breast cancer. Unlike DCIS, which is considered early form (stage 0) breast cancer and a precursor to invasive disease, LCIS is considered a high-risk lesion of the breast meaning the condition is associated with an increased risk of developing invasive breast cancer in the future. Given the relatively low upgrade rates for LCIS compared to DCIS (<3 vs 10-20 %), management of the condition also differs. "For DCIS, surgical excision is always recommended. Management of LCIS includes surgical excision or clinical surveillance (depending on histology subtype and imaging concordance) followed by risk

reducing agents, (i.e., endocrine therapy).[5,6] The National Comprehensive Cancer Network (NCCN) guidelines list management of LCIS under clinical guidelines for "breast cancer screening and diagnosis," not under "clinical guidelines for breast cancer."

Case Definition and Incidence Rule Rationale

- In May 2024, the DHA HSE cancer surveillance SubWG in consultation with breast cancer experts at the DHA determined *one hospitalization or two outpatient medical encounters, within a 90-day period,* with a case defining diagnosis of LCIS was sufficient to define a case. The determination was based on exploratory analyses and chart reviews of melanoma in situ and DCIS and the following assumptions: (1) LCIS is a histologic diagnosis based on a core needle biopsy or excisional biopsy and specific pathological criteria; (2) most clinicians would not enter a specific in situ diagnosis in the electronic health record (EHR) without pathologic confirmation of a tissue sample; and (3) when a definitive diagnosis is pending or unknown, clinicians document suspicious lesions with ICD10 codes N63.x (unspecified lump in breast).

- The methodology used in this case definition does not try to distinguish laterality; therefore, the diagnoses and associated ICD10 codes for the two or more outpatient medical encounters *are not required to reference the same breast.* While ICD-10-CM does allow investigators to distinguish right and left breast lesions, analyses of the data revealed the requirement was complicated by the frequent use the nonspecific code ICD10 D05.10 (intraductal carcinoma, unspecified breast) making it difficult to assign a tumor to a particular breast. For long term surveillance, attempting to distinguish laterality also makes it more difficult to link data with ICD-9-CM data as ICD9 codes do not distinguish laterality.

- To maintain consistency with the standard AFHSD methodology for surveillance of invasive cancers, AFHSC uses a *once per lifetime* incidence rule. The workgroup recognizes individuals, may be considered disease free after treatment or after an extended period of time, (e.g., 5 years), with no clinical evidence of disease. Individuals who develop a second primary tumor after being disease free could, theoretically, be counted as a new incident case. However, for surveillance of cancer using administrative, (i.e., billing), data, it is difficult to identify individuals who are disease free after treatment.

- Individuals who have, or develop over time, a second LCIS lesion in the same, or contralateral breast are only counted once using this definition. While both lesions are considered primary tumors, for surveillance of high-risk breast lesions, AFHSD counts cases (unique individuals), not individual tumors. Investigators interested in capturing the incidence of distinct primary tumors may want to modify the case finding criteria and consider utilizing different data sources such as pathology data or cancer registry data.

- The case definition does not exclude individuals with bilateral mastectomy; however, there may some benefit to incorporating this exclusion into the methodology. These individuals would contribute to the denominator of the rate, particularly among older age groups. Quantifying the number and percentage of women by age group that have a history of bilateral mastectomy and comparing that group with the population of women with no history could help clarify the accuracy of the rate.

- Individuals with a prior, case-defining, incident diagnosis of invasive or in situ breast cancer are *not* excluded from this definition. The AFHSD counts the "first-ever" occurrence of each cancer type separately. This methodology ensures rates and trends over time accurately reflect the condition of interest by eliminating the potentially confounding effect of disease trends of

[5] Defense Health Agency (DHA) Oncology consultants, May 2024.

[6] Sue GR, Lannin DR, Killelea B, Tsangaris T, Chagpar AB. Does time to definitive treatment matter in patients with ductal carcinoma in situ? *Am Surg*. 2013 Jun;79(6):561-5. PMID: 23711263.

excluded conditions, (i.e., ensures rates of high risk lesions of the breast are not dependent upon invasive or in situ breast cancer rates and vice versa).

Code Set Determination and Rationale

- The code set includes ICD10 codes for LCIS only: it does not include ICD10 codes for ADH, ALH and FLE. These lesions are nonmalignant, noninvasive breast lesions; however, there are no *specific* codes for these conditions in the ICD-10-CM coding manual at this time. The conditions are typically coded in the ICD10 category of benign mammary dysplasia: a broad category of codes that includes other benign mammary conditions, such a benign dysplasia, ductal dysplasia and sebaceous cyst of the skin of the breast (*see below*).

  Due to the lack of specificity in the ICD10 coding system, epidemiology surveillance of ADH, ALH and FLA would require a pathology report from a core needle biopsy or an excisional biopsy to define a case. Currently, pathology reports are not available in the Military Health System (MHS) Genesis.

Condition	**ICD-10-CM Codes**	**ICD-9-CM Codes**
Other benign mammary dysplasias	*N60.[8,9] (benign mammary dysplasias)*	*610. [8,9] (benign mammary dysplasias)*
	N60.8 (other benign mammary dysplasias…)	610.8 (other specified benign mammary dysplasias) *Includes ADH, ALH, benign dysplasia, ductal hyperplastic and sebaceous cyst of skin of breast.*
	- N60.81 (right breast)	
	- N60.82 (left breast)	
	- N60.09 (unspecified breast)	
Unspecified benign mammary dysplasia	N60.9 (unspecified benign mammary dysplasias…)	610.9 (benign mammary dysplasias, unspecified)
	- N60.91 (*right* breast)	
	- N60.92 (*right* breast)	
	- N60.99 (*unspecified* breast)	

- The following nonspecific ICD10 codes related to carcinoma in situ of the breast are not included in this case definition. Given more specific codes to define breast lesions exist, (e.g., DCIS, LCIS), the codes are not favored for diagnostic purposes and are infrequently used. Exploratory analysis of administrative data revealed the codes were the incident diagnosis in about 5% of cases: 3.7% for unspecified carcinoma in situ and 1.5% for other specified type of carcinoma in situ). Most of the cases had a more specific diagnosis occurring within a short timeframe. Other cases also had an invasive breast cancer diagnosis occurring prior to or post the in situ carcinoma diagnosis.

Condition	**ICD-10-CM Codes**	**ICD-9-CM Codes**
Other specified carcinoma in situ of breast	D05.8 (other specified type of carcinoma in situ of breast…)	233.0 (carcinoma in situ of breast) ICD9 coding system does not distinguish pathologic subtype of in situ breast carcinoma, (e.g.., DCIS, LCIS, other carcinoma in situ and unspecified carcinoma in situ all translate to 233.0).
	- D05.80 (*unspecified* breast)	
	- D05.81 (*right* breast)	
	- D05.82 (*left* breast)	

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Unspecified carcinoma in situ of breast	D05.9 (unspecified type of carcinoma in situ of breast…)	
	- D05.90 (*unspecified* breast)	
	- D05.91 (*right* breast)	
	- D05.92 (*left* breast)	

- *Screening for disease* codes ICD10 Z12.xx / ICD9 V76.xx (encounter for screening for malignant neoplasms) are not included in the code set. Screening codes are used for "testing for disease or disease precursors in seemingly well individuals so that early detection and treatment can be provided for those who test positive for the disease, (e.g., screening mammogram)."[7] They would not be used for follow-up medical encounters of a specific disease.

- *Personal history of malignant neoplasms* (ICD10 Z85.xx) codes are not included in the code set. While these codes may be beneficial for identifying individuals with a history of cancer, analysis of administrative data reveal these codes lack the specificity to count incident cancer cases and are inconsistently used by providers. [8] Given these findings, the AFHSD does not use personal history codes to exclude prevalent cases, (i.e., individuals with a history of cancer), nor to identify individuals who are disease free after treatment.

  Personal history codes are intended to be used by providers for individuals who have a history of cancer *and* documented evidence in the medical record that the malignancy has been "excised or eradicated and all treatment is complete." They are not used for a "self-reported" history of malignancy, and they should be used in conjunction with ICD10 codes for follow-up visits (Z08- encounter for follow-up examination after completed treatment for a malignant neoplasm), aftercare visits (Z51.0 - encounter for antineoplastic radiation therapy; Z51.1- encounter for antineoplastic chemotherapy and immunotherapy), and screening visits (Z12 - encounter for screening for malignant neoplasms).[9]

Reports

The AFHSD reports on LCIS in the following reports:

- Periodic *Medical Surveillance Monthly Report (MSMR)* articles.

[7] ICD-10-CM Official Guidelines for Coding and Reporting. FY 2022–Updated April 1, 2022. (October 1, 2021-September 30, 2022. https://stacks.cdc.gov/view/cdc/126426. Accessed February 2025.

[8] Analysis performed by the Defense Centers of Public Health-Dayton. Encounters with at least one Z85.x code in any diagnostic position (dx1- dx20) were pulled from Comprehensive Ambulatory Professional Encounter Records (CAPER) and Standard Inpatient Data Records (SIDR) for all Tri-Service beneficiaries between October 2016 and March 2024. A total of 546,962 encounters were identified. Of these, 68,395 (13%) had at least one neoplasm diagnosis (ICD10 C00-D49). With administrative data, there is no way to determine if the neoplasm codes refer to a resolved malignancy or a new cancer diagnosis. Records with conjunction codes for follow-up (Z08), aftercare (Z51.[0.1] and screening (Z12) were queried: 420,236 (77%) had no conjunction codes in any diagnostic position suggesting providers use personal history codes independent of the purpose of the visit and potentially inconsistently.

[9] Bredehoeft, Emily. Clear Up Confusion as to When Cancer Becomes "History Of." American Academy of Professional Coders (AAPC). https://www.aapc.com/blog/40016-clear-up-confusion-as-to-when-cancer-becomes-history-of/. Accessed February 2025.

Review

Feb 2025	Case definition reviewed and adopted by the AFHSD Surveillance Methods and Standards (SMS) working group.
May 2024	Case definition developed by the DHA HSE cancer surveillance SubWG.

Comments

- Atypical ductal hyperplasia (ADH), atypical lobular hyperplasia (ALH) and flat epithelial aplasia (FEA) are non-malignant, not-invasive lesions of the ducts and lobules of the breast that are associated with an increased risk of developing breast cancer. Pathologically they are categorized as proliferative lesions with atypia; they are not considered early stage (0) breast cancer and are not a precursor for invasive disease. Atypical ductal hyperplasia is identified in 5-20% of all biopsies. The condition, along with FEA, typically presents with microcalcifications on mammography, whereas ALH is an incidental finding on breast biopsy. Definitive diagnosis is made with core needle biopsy or excisional biopsy. Upstaging rates have been reported as high as 56% for ADH, between 0-21% for FEA, and 7% for ALH.[10,11] Factors contributing to upstaging include lesion size, palpability, and grade. The relative risk of subsequent invasive breast cancer for women with ADH and ALH is 3-5 times higher when compared to the normal population.[12] Management involves surgical excision, clinical and imaging follow-up and risk reducing agents (e.g., endocrine therapy) depending on risk assessment. For individuals with high-risk breast lesions, the National Comprehensive Cancer Network (NCCN) guidelines recommend annual mammography and breast examination every 6-12 months from the time of diagnosis.[5]

[10] Casaubon J, Niakan S, Vicks E, Perez Coulter A, Jacobbe DL, Mason H. The effect of delay of excisional biopsy on upstage rate for atypical ductal hyperplasia, flat epithelial atypia, intraductal papilloma, and radial scar. Breast Cancer Res Treat. 2022 Dec;196(3):527-534. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9526195/#:~:text=The%20rate%20of%20upstage%2C%20or,respectively%20%5B12%2C%2013%5D. Assessed February 2025.

[11] Szynglarewicz B, Kasprzak P, Hałoń A, Matkowski R. Lobular carcinoma *in situ* of the breast - correlation between minimally invasive biopsy and final pathology. Arch Med Sci. 2017 Apr 1;13(3):617-623. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5420626/#:~:text=Meroni%20et%20al.,and%20is%20of%20pleomorphic%20type. Accessed February 2025.

[12] Atypical and lobular carcinoma in situ: High risk lesions of the breast. UpToDate. Waltham, MA, 2023. https://www.uptodate.com/contents/atypia-and-lobular-carcinoma-in-situ-high-risk-lesions-of-the-breast?search=carcinoma%20in%20situ%20breast&source=search_result&selectedTitle=3~72&usage_type=default&display_rank=3. Accessed February 2025.