

Supplement Table 1. Codes to Identify Operative Characteristics of Mastectomy Cohort

	CPT-4 code	ICD-10-PCS code
Mastectomy	N/A	0HTT0ZZ, 0HTU0ZZ, 0HTV0ZZ
Bilateral mastectomy	N/A	0HTV0ZZ ^a
Autologous flap reconstruction ^b	N/A	0HRT075, 0HRT076, 0HRT077, 0HRT078, 0HRT079, 0HRU075, 0HRU076, 0HRU077, 0HRU078, 0HRU079, 0HRV075, 0HRV076, 0HRV077, 0HRV078, 0HRV079
Implant reconstruction	N/A	0H0T0JZ, 0H0T0KZ, 0H0U0JZ, 0H0U0KZ, 0H0V07Z, 0H0V0JZ, 0H0V0KZ, 0HHT0NZ, 0HHU0NZ, 0HHV0NZ, 0HHW0NZ, 0HHX0NZ, 0HUT0JZ, 0HUT0KZ, 0HUU0JZ, 0HUU0KZ, 0HUV0JZ
Tissue expander reconstruction	N/A	

Abbreviations: CPT-4= Current Procedural Terminology, 4th edition; ICD-10-PCS= The International Classification of Diseases, Tenth Revision, Procedure Coding System. N/A= not available due to proprietary restrictions by the American Medical Association.

^a Also defined as use of two unilateral mastectomy procedure codes, or mention of bilateral mastectomy in the operating room surgeon description.

^b Used to identify autologous reconstruction for exclusion from the study population.

Supplement Table 2: Codes Suggestive of Surgical Site Infection and/or Non-Infectious Wound Complication in the 180 days after Mastectomy

ICD-10-CM diagnosis code	CPT-4 code	ICD-10-PCS code
A49.01, A49.02, B95.61, B95.62, B95.7, B95.8, L02.211, L02.212, L02.213, L02.216, L02.219, L02.411, L02.412, L02.91, L03.111, L03.112, L03.121, L03.122, L03.311, L03.312, L03.313, L03.316, L03.319, L03.321, L03.322, L03.323, L03.326, L03.329, L03.90, L03.91, L04.1, L04.2, L04.8, L04.9, N61.0, N61.1, N64.1, ^a S21.001*, S21.002*, S21.009*, S21.101*, S21.102*, S21.109*, T81.30X*, T81.31X*, T81.32X*, T81.40X*, T81.41X*, T81.42X*, T81.43X*, T81.49X*, T85.79X*, T86.822	N/A	0H8(5-8)XZZ, 0H9(5-8)XZZ, 0H9(T,U,V,W,X)00Z, 0H9(T,U,V,W,X)(0,3,7,8)ZZ, 0HB(T,U,V,W,X)0Z(X,Z), 0HC(T,U,C,W,X)0ZZ, 0HJ(T,U)0ZZ, 0HP(T,U)0(J,K)Z, 0HPT0NZ, ^b 0HPU0NZ, ^b 0J9(6-9)00Z, 0J9(6-9)(0,3)ZZ, 0JB(6-9)(0,3)ZZ, 0JD(6-9)0ZZ, 0JJT0ZZ, 0JWT(0,3)(7,J,K)Z, 0KB(F,G,H,J,K,L)(0,3,4)ZZ, 0KQ(K,L)0ZZ, 0KT(F,G,H,J,K,L)(0,4)ZZ, 0W9(F,H,K)00Z, 0W9(F,H,K)0ZZ, 0W9(H,K)(0,3,4)0Z, 0W9(H,K)(0,3,4)ZZ, 0WBF(0,3,4,X)ZZ, 0WJ(F,H)0ZZ, 0WQF0ZZ, 0X9(4,5)(0,3,4)0Z, 0X9(4,5)(0,3,4)ZZ, 0Y9(0,1)(0,3,4)0Z, 0Y9(0,1)(0,3,4)ZZ, 0KB(5,6)(0,3,4)ZZ, 0KT(5,6)(0,4)ZZ, 0W9L(0,3,4)0Z, 0W9L(0,3,4)ZZ, 0X92(0,3,4)0Z, 0X92(0,3,4)ZZ, 0X93(0,3,4)0Z, 0X93(0,3,4)ZZ, 0X94(0,3,4)0Z, 0X94(0,3,4)ZZ, 0X95(0,3,4)0Z, 0X95(0,3,4)ZZ

Abbreviations: CPT-4= Current Procedural Terminology, 4th edition; ICD-10-CM= International Classification of Diseases, Tenth Revision, Clinical Modification; ICD-10-PCS= The International Classification of Diseases, Tenth Revision, Procedure Coding System. N/A= not available due to proprietary restrictions by the American Medical Association.

^a Did not count during mastectomy admission.

^b Did not consider an implant removal code as a complication if there was a same-day procedure code for implant insertion (ICD-10-PCS: 0H0T0JZ, 0H0T0KZ, 0H0U0JZ, 0H0U0KZ, 0H0V07Z, 0H0V0JZ, 0H0V0KZ, 0HHT0NZ, 0HHU0NZ, 0HHV0NZ, 0HHW0NZ, 0HHX0NZ, 0HUT0JZ, 0HUT0KZ, 0HUU0JZ, 0HUU0KZ, 0HUV0JZ) or autologous reconstruction (Supplement Table 1).

Supplement Table 3: Identification of Patient Factors as Potential Risk Factors for Surgical Site Infection and/or Non-Infectious Wound Complication After Mastectomy Using ICD-10 and/or CPT-4 Codes

Condition	ICD-10-CM diagnosis code	Drug name	CPT-4 code
Comorbidities^a			
Congestive heart failure	Elixhauser		
Depression	Elixhauser		
Diabetes	Elixhauser		
Hypertension	Elixhauser		
Liver disease	Elixhauser		
Rheumatologic disease	Elixhauser		
Smoking	F17*, T65.2*, Z87.891		
Cancer treatment^b			
Neoadjuvant chemotherapy	D61.810, D70.1, K12.31, T45.1X5A, T45.1X5S, Z51.11	carboplatin, cyclophosphamide, docetaxel, doxorubicin, epirubicin, filgrastim, fluorouracil, paclitaxel, pegfilgrastim, vinorelbine	N/A

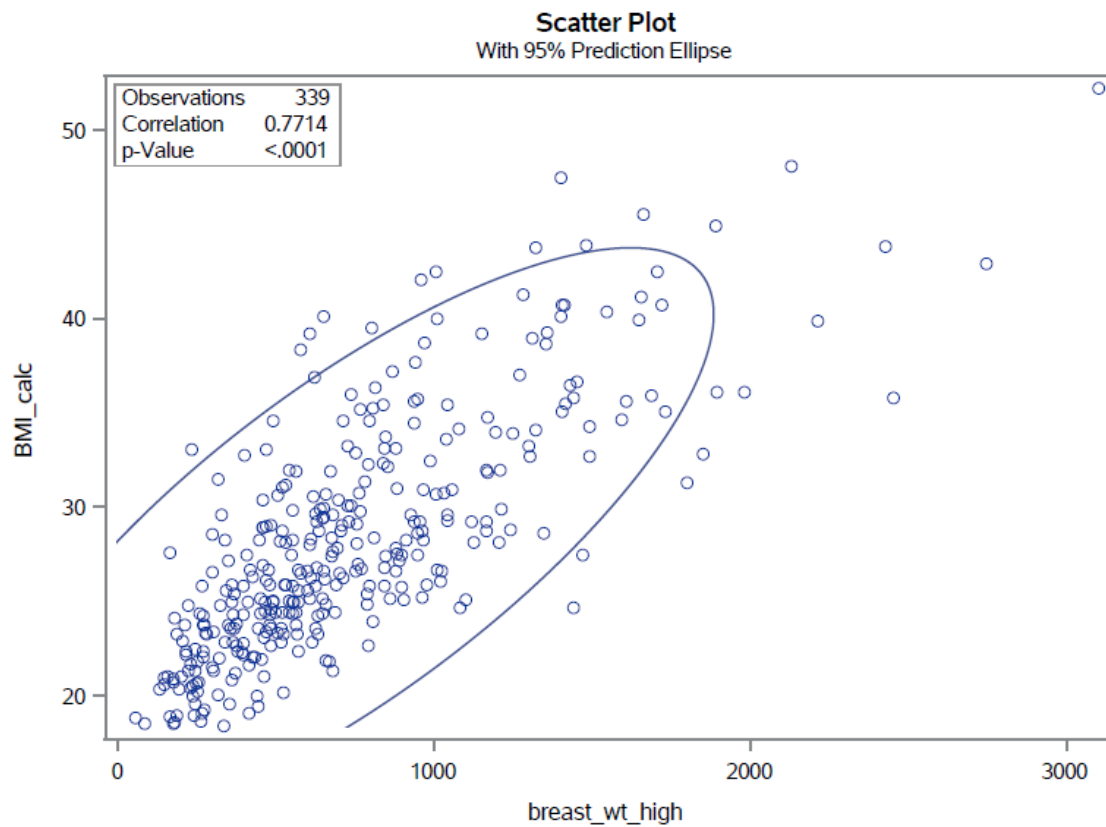
Abbreviations: CPT-4= Current Procedural Terminology, 4th edition; ICD-10-CM= International Classification of Diseases, Tenth Revision, Clinical Modification. N/A= not available due to proprietary restrictions by the American Medical Association.

* indicates any subsequent characters allowed following the code string.

^a Comorbidities defined during the mastectomy admission. Elixhauser refers to the classification of comorbidities using the Elixhauser comorbidity classification for ICD-10, version 2024.1 (https://hcup-us.ahrq.gov/toolssoftware/comorbidityicd10/comorbidity_icd10.jsp).

^b Neoadjuvant chemotherapy was defined in the 180 days (diagnoses, drug names) and 270 days (procedure code for port insertion) before the mastectomy admission.

Figure. Scatterplot of breast weight (maximum for those with bilateral mastectomy) and body mass index (BMI)



BMI_calc = body mass index calculated from weight and height

Breast_wt_high = breast weight recorded in the pathology note, with maximum value used for those with bilateral mastectomy

Supplement Table 4. Univariate Risk Factors Associated with Surgical Site Infection (SSI) After Mastectomy with Immediate Breast Reconstruction in 352 Women

	SSI	No SSI	Relative risk (95% confidence interval)
N	49	303	
Patient characteristics			
Age ≥ 60 years	16 (32.7)	67 (22.1)	1.57 (0.91, 2.71)
Prior radiotherapy	8 (16.3)	17 (5.6)	2.55 (1.35, 4.84)
Adjuvant radiotherapy	0 (0.0)	52 (17.2)	NE
Neoadjuvant chemotherapy	6 (12.2)	40 (13.2)	0.93 (0.42, 2.06)
Prior noninfectious wound complication surgically treated in the operating room ^b	7 (14.3)	20 (6.6)	2.00 (1.00, 4.03)
Comorbidities			
Body mass index (BMI) category			
BMI <25: normal or underweight	9 (18.4)	116 (38.3)	1.00
BMI 25 to <30: overweight	17 (34.7)	100 (33.0)	2.02 (0.94, 4.35)
BMI 30 to <35: obese class 1	9 (18.4)	46 (15.2)	2.27 (0.95, 5.41)
BMI 35 to <40: obese class 2	7 (14.3)	27 (8.9)	2.86 (1.15, 7.12)
BMI ≥ 40: obese class 3	7 (14.3)	14 (4.6)	4.63 (1.93, 11.08)
Congestive heart failure	1 (2.0)	5 (1.7)	1.20 (0.20, 7.31)
Depression	9 (18.4)	61 (20.1)	0.91 (0.46, 1.78)
Diabetes	9 (18.4)	15 (5.0)	3.08 (1.70, 5.56)
Hypertension	19 (38.8)	74 (24.4)	1.76 (1.04, 2.98)
Liver disease	2 (4.1)	4 (1.3)	2.45 (0.77, 7.85)
Rheumatologic disease	0 (0.0)	5 (1.7)	NE
Smoking	17 (34.7)	82 (27.1)	1.36 (0.79, 2.33)
Operative characteristics			
Nipple-sparing mastectomy	19 (38.8)	109 (36.0)	1.11 (0.65, 1.89)
Bilateral mastectomy	44 (89.8)	251 (82.8)	1.70 (0.70, 4.10)
Tissue expander (versus direct-to-implant) reconstruction	41 (83.7)	226 (74.6)	1.63 (0.80, 3.34)

Abbreviations: NE, not estimable.

^a SSI restricted to those requiring surgical treatment in the operating room.

^b For patients with an SSI, surgically-treated noninfectious wound complication were only considered if it was before the date of the surgical site infection and was treated in the operating room.

Supplement Table 5. Univariate Risk Factors Associated with Composite Wound Complications (Surgical Site Infection (SSI) and/or Noninfectious Wound Complication (NIWC)) After Mastectomy with Immediate Breast Reconstruction

	SSI and/or NIWC	No SSI or NIWC	Relative risk (95% confidence interval)
N	70	282	
Patient characteristics			
Age ≥ 60 years	24 (34.3)	59 (20.9)	1.69 (1.10, 2.59)
Prior radiotherapy	11 (15.7)	13 (4.6)	2.55 (1.56, 4.17)
Adjuvant radiotherapy	1 (1.4)	51 (18.1)	NE
Neoadjuvant chemotherapy	8 (11.4)	38 (13.5)	0.86 (0.44, 1.67)
Comorbidities			
Body mass index (BMI) category			
BMI <25: normal or underweight	13 (18.6)	112 (39.7)	1.00
BMI 25 to <30: overweight	22 (31.4)	95 (33.7)	1.81 (0.96, 3.42)
BMI 30 to <35: obese class 1	14 (20.0)	41 (14.5)	2.45 (1.23, 4.86)
BMI 35 to <40: obese class 2	10 (14.3)	24 (8.5)	2.83 (1.36, 5.88)
BMI ≥ 40: obese class 3	11 (15.7)	10 (3.5)	5.04 (2.61, 9.71)
Congestive heart failure	1 (1.4)	5 (1.8)	0.82 (0.13, 4.94)
Depression	14 (20.0)	56 (19.9)	1.01 (0.60, 1.70)
Diabetes	12 (17.1)	12 (4.3)	2.83 (1.78, 4.49)
Hypertension	27 (38.6)	66 (23.4)	1.75 (1.15, 2.66)
Liver disease	2 (2.9)	4 (1.4)	1.70 (0.54, 5.36)
Rheumatologic disease	0 (0.0)	5 (1.8)	NE
Smoking	26 (37.1)	73 (25.9)	1.51 (0.99, 2.31)
Operative characteristics			
Nipple-sparing mastectomy	27 (38.6)	101 (35.8)	1.10 (0.72, 1.69)
Bilateral mastectomy	62 (88.6)	233 (82.6)	1.50 (0.76, 2.95)
Tissue expander (versus direct-to-implant) reconstruction	58 (82.9)	209 (74.1)	1.54 (0.87, 2.73)

Abbreviations: NE, not estimable.

^a SSI and NIWC restricted to those requiring surgical treatment in the operating room.