

Supplemental Table 1: Codes to Identify Mastectomy and Codes Suggestive of Surgical Site Infection after Mastectomy

Description	ICD-9-CM diagnosis code	CPT-4 code	ICD-9-CM procedure code
Mastectomy			85.33-85.36, 85.41-85.48
Suggestive of surgical site infection	041.10, 041.11, 041.12, 041.19, 567.82, 611.0, 611.3, 682.2, 682.3, 682.9, 683, 875.0, 875.1, 879.0, 879.1, 996.69, 998.32, 998.51, 998.59, 998.83	10060, 10061, 10140, 10160, 10180, 11000, 11001, 11005, 11008, 11040-11047, 19020, 20000, 20005, 38300, 38305, 97597, 97598, 97602, 97605, 97606, A6550, A6551, E2402, K0538	54.0, 54.3, 83.44, 83.45, 83.49, 85.91, 86.01, 86.04, 86.09, 86.22, 86.28

Abbreviations: CPT-4= Current Procedural Terminology, 4th edition; ICD-9-CM= International Classification of Diseases, 9th Revision, Clinical Modification.

Supplemental Table 2: Changes Made to the NHSN Criteria for Diagnosis of Breast Surgical Site Infection (BRST SSI) from 2012-2017 (no changes since 2017)

Criteria for Diagnosing SSI – BRST Category	2012	2013	2014	2015	2016	2017
Superficial SSI - involves the skin and subcutaneous tissue of the incision						
Infection occurs within 30 days after the operative procedure. Must have ≥ 1 of the following:						
Purulent drainage from the superficial incision						
Organisms isolated from an aseptically obtained culture of fluid or tissue from the superficial incision						
\geq one of the following signs or symptoms: pain or tenderness, localized swelling, redness or heat, and superficial incision is deliberately opened by surgeon and are culture* + or not cultured. A culture negative finding does not meet the criterion						
Diagnosis of superficial incisional SSI by surgeon or attending physician						
Deep Incisional SSI - involves the deep soft tissues (fascial and muscle layers) of the incision						
Infection occurs within 30 days after the operative procedure if no implant is left in place or within one year if implant is in place and infection appears to be related to the operative procedure. ^a						
Infection occurs within 90 days after the operative procedure ^a						
Must have ≥ 1 of the following:						
Purulent drainage from the deep incision but not from the organ/space component of the surgical site						
A deep incision spontaneously dehisces or is deliberately opened by a surgeon, physician or designee and is culture* + or not cultured and the patient has \geq one						

of the following signs or symptoms: fever (>38°C), or localized pain or tenderness. A culture negative finding does not meet this criterion						
An abscess or other evidence of infection involving the deep incision is found on direct examination, during reoperation, or by histopathologic or radiologic examination						
Diagnosis of a deep incisional SSI by a surgeon or attending physician ^b						
Organ Space SSI - infection involves the breast, excluding the skin incision, fascia, or muscle layers, that is opened or manipulated during the operative procedure						
Infection occurs within 30 days after the operative procedure if no implant or within one year if implant is in place and the infection appears related to the operative procedure ^a						
Infection occurs within 90 days after the operative procedure ^a						
If an infection develops after manipulation of the areas/ structures contiguous with an implant for diagnostic or therapeutic purposes, infection is not attributed to the operation in which the implant was inserted						
SSI not attributed to implant procedure following accession of breast expanders if there is no evidence of an infection at time of access ^c						
Must have >= 1 of the following:						
purulent drainage from a drain that is placed into the organ/space						
organisms isolated from an aseptically-obtained culture* of fluid or tissue in the organ/space						
an abscess or other evidence of infection involving the organ/space that is found on direct examination, during invasive procedure, or by histopathologic examination or						

imaging test						
diagnosis of an organ/space SSI by a surgeon or attending physician ^b						

Green cells indicate similarity in criteria for diagnosing SSI over the years. Red indicates the removal of the specific criterion for diagnosing an SSI.

*In 2016, non culture-based microbiologic test was added to define positive results, other than surveillance testing.

^a Timing for deep incisional and organ space SSI changed between 2012 to 2013. For operative procedures with an implant, surveillance for SSIs performed through one year after surgery until 1/2013, when it was changed to 90 days.

^b Criterion removed as of 2014.

^c SSI following accession of breast tissue expanders specifically excluded from definition of SSI starting 2017.

Supplemental Table 3. Microbiology of Clinically Apparent Superficial Incisional and Deep Incisional/Organ Space SSIs According to Timing of SSI after Surgery

Organism	Superficial Incisional SSI		Deep Incisional/Organ Space SSI	
	Within 30 days N = 32	> 30 Days N = 22	Within 90 days N = 75	> 90 Days N = 19
Methicillin sensitive <i>Staphylococcus aureus</i>	6	10	18	6
MRSA	1	2	1	1
<i>Staphylococcus lugdunensis</i>			2	1
<i>Streptococcus agalactiae</i>				1
<i>Streptococcus intermedius</i>			1	
<i>Enterococcus sp</i>	2		3	
Common skin contaminants*	3	2	15	3
<i>Moraxella catarrhalis</i>			1	
<i>Pseudomonas aeruginosa</i>	4		13	3
<i>Enterobacteriaceae</i>	2	1	5	
No growth	4	1	12	2
Not done	10	6	4	2

*Common skin contaminants using the NSHN list of common commensals
(<https://www.cdc.gov/nhsn/acute-care-hospital/clabsi/>)