**APPENDIX 1. Procedure Codes Used to Identify Mastectomy and Immediate Reconstruction Procedures**

|  |  |  |
| --- | --- | --- |
| **Operative Category** | **ICD-9-CM Procedure Code** | **CPT-4 or HCPCS Procedure Code** |
| Mastectomya | 85.41–85.48 | 19180, 19200–19240, 19303, 19305–19307 |
| Breast implant | 85.33, 85.35, 85.53, 85.54, 85.95  | 19325, 19340, 19342, 19357 |
| Flap reconstruction | 85.7–85.79, 85.85 | 19361, 19364, 19367–19369, S2066–S2068 |

NOTE. ICD-9-CM, International Classification of Diseases, 9th Revision, Clinical Modification; CPT-4, Current Procedural Terminology, 4th edition; HCPCS, Healthcare Common Procedure Coding System.

a For mastectomy coded by facility- or provider-only, a code for anesthesia (CPT-4 00400–00406), pathology (CPT-4 88307, 88309), or a surgery revenue code (Uniform Billing 0201, 0360, 0361, 0369, 0370, 0379, 0490, 0499, 0963, 0964, 0975) was required as evidence for surgery.

**APPENDIX 2. Procedures and Diagnoses Suggestive of Breast Conserving Surgery (BCS)**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Indication** | **ICD-9-CM Diagnosis Code** | **CPT-4 or ICD-9-CM Procedure Code** |
| Pathology level IV code at time of surgery | Breast biopsy, reduction mammoplasty |  | 88305 |
| Only benign diagnoses before surgery |  | 216.5, 217, 610.0–610.4, 610.8, 610.9, 611.3, 611.71, 611.72, 611.79, 757.6 |  |
| Radiology procedure performed for BCS only at time of surgery | Needle localization of tumor, placement of clip or wire |  | 19290–19295, 19297, 19298, 76003, 76095, 76096, 76355, 76360, 76393, 76942, 77002, 77011, 77012, 77021, 77031, 77032, 92.27 |
| Brachytherapy catheters placed at time of surgery | Brachytherapy catheters | 19297, 19298 |  |
|  |  |  |  |
|  |  |  |  |
| Subsequent BCS within 30 days after mastectomy |  |  | 19120, 19125, 19160, 19162, 19301, 19302, 85.20–85.23  |
| Subsequent bilateral mastectomy  |  |  |  |
| Subsequent unilateral mastectomy plus reduction mammoplasty |  |  | Mastectomy + 19318, 85.31, 85.32 |
| Radiotherapy in year after surgery with no evidence of positive lymph nodesa or secondary neoplasm of breastb |  | V58.0 | 77280–77295, 77300–77336 |

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

a ICD-9-CM diagnosis codes 196.0–196.3.

b ICD-9-CM diagnosis codes 198.2, 198.81*.*

**APPENDIX 3. Procedure and Diagnosis Codes Used in Combination to Identify Surgical Site Infection Following Mastectomy With and Without Immediate Reconstruction**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **ICD-9-CM Diagnosis Code** | **CPT-4 or HCPCS Procedure Code** | **ICD-9-CM Procedure Code** |
| **Breast-specific codes** |
| Infection, lymphadenitis | 611.0, 683.0, 996.69a |  |  |
| Incision/drainageb, c |  | 19020, 38300, 38305 | 85.0, 85.91 |
| Non-infectious wound complicationb | 611.3, 875.0, 875.1, 879.0, 879.1, 996.79d |  |  |
| Breast implant removalc |  | 11971, 19328 | 85.94, 85.96 |
| **General codese** |
| Postoperative infection  | 998.5–998.59 |  |  |
| Cellulitisb | 682.2, 682.3, 682.9f |  |  |
| S*taphylococcus aureus*c,g | 041.1–041.19 |  |  |
| Incision/drainage b,c |  | 10060, 10061, 10140–10180, 11000, 11001, 11005,h 11008,h 11040–11044, 20000, 20005, A6550, A6551, E2402, K0538 | 54.0,h 54.3,h 83.44–83.49, 86.01, 86.04, 86.09, 86.22, 86.28 |
| Non-infectious wound complicationb | 567.82,h 998.12, 998.3, 998.32, 998.6,h 998.83  |  |  |
| **Antibiotics**  |
| Aminoglycosides, aztreonam, cephalosporins, chloromphenicol, cilastatin and imipenem, daptomycin, doripenem, ertapenem, fluoroquinolones, lincosamides, linezolid, macrolides, meropenem, metronidazole, penicillins, polymyxin, rifampin, sulfamethoxazole-trimethoprim, tetracyclines, tigecycline, trimethoprim, and vancomycin |

NOTE. ICD-9-CM, International Classification of Diseases, 9th Revision, Clinical Modification; CPT-4, Current Procedural Terminology, 4th edition; HCPCS, Healthcare Common Procedure Coding System.

a ICD-9-CM diagnosis code 996.69 was excluded if it was coded before a breast implant or flap reconstruction procedure or if it was on a claim with pathology code 88300 on the same day as a catheter removal (because 996.69 could be referring to an infection found on gross examination of the catheter).

b Codes were used in combination with an ICD-9-CM diagnosis code for S*taphylococcus aureus.*

c Codes were used in combination with an ICD-9-CM diagnosis code for cellulitis.

d ICD-9-CM diagnosis code 996.79 was not allowed before a breast implant or flap reconstruction procedure.

e Excluded if occurred +/-7 days of an SSI code that was specific to another type of device (ICD-9-CM 996.61–996.68, 999.31) while a catheter was in place.

f Diagnosis code 682.9 codes for cellulitis and abscess at an unspecified site; it was used only if it was on the same claim line as a breast-specific incision/drainage code, on the same day as an implant removal, or coded by the patient's breast surgeon.

g A *S. aureus* diagnosis code associated with an incision/drainage code was only used if the incision/drainage code was breast-specific or coded by the patient's breast surgeon.

h Excluded if coded before a non-latissimus dorsi flap reconstruction procedure.