

Measure #1 (ASPS 27): Avoidance of Post-operative Systemic Antibiotics for Office-based Closures and Reconstruction After Skin Cancer Procedures

This measure may be used as an Accountability measure.

Measure Description

Percentage of procedures in patients aged 18 and older with a diagnosis of skin cancer who underwent intermediate layer or complex linear closure or reconstruction after skin cancer resection in the office-based* setting who were prescribed post-operative systemic antibiotics to be taken immediately following reconstruction surgery (inverse measure)
This measure is stratified by intermediate layer or complex linear closure or reconstructive procedures.

Measure Components	
Numerator Statement	Patients who were prescribed post-operative systemic antibiotics by the surgeon or assistant to be taken immediately following surgery (inverse measure)
Denominator Statement	<p>All patients aged 18 and older with a diagnosis of skin cancer who underwent intermediate layer or complex linear closure or reconstruction after skin cancer resection in the office-based* setting</p> <p>Strata 1: Intermediate layer and complex linear closures after skin cancer resection</p> <p>Strata 2: Reconstruction after skin cancer resection</p> <p>Strata 3: Intermediate and complex linear closures AND reconstruction after skin cancer resection in the office-based setting (Weighted average of Strata 1 and 2)</p> <p>*Office based: not billed with an ASC or inpatient facility code</p>
Denominator Exceptions	<p>Medical reason exceptions for patients with wounds breaching the oral, nasal, genitourinary or anal mucosa; immunosuppressed patients (such as those on immunosuppressive medications); patients with lymphedema; on antibiotics prescribed by another physician; or exposed cartilage/bone; Clinical evidence of infection at the surgical site at time of reconstruction.</p> <p>“Clinical evidence of infection” is defined as:</p> <ul style="list-style-type: none"> • Purulent drainage, with or without laboratory confirmation, from the surgical site • Pathogenic organisms isolated from culture of fluid or tissue from the surgical site

	<ul style="list-style-type: none"> • At least one of the following signs or symptoms of infection at the surgical site: pain or tenderness, localized swelling, redness, or heat. • An existing antibiotic prescription from another provider based on the diagnosis of infection at the surgical site. • Underlying disease with high risk of surgical site infection – chronic inflammatory skin disease (such as psoriasis and atopic dermatitis) or documented staph aureus carrier status or patient history of 3 or more surgical site infections, presence of lymphedema, history of immunodeficiency or immunosuppression
Denominator Exclusions	<ol style="list-style-type: none"> 1. Surgical sites at intrinsically high risk of infection – lower extremities and intertriginous areas (groin, genitalia, perianal, axilla) 2. Surgical reconstructions at intrinsically higher risk of infection – <ol style="list-style-type: none"> a. flaps greater than 30 square cm* b. full thickness skin grafts greater than 20 square cm* c. multistage interpolation flaps* d. wedge reconstructions of ear e. reconstructions requiring 2 or more repair types (flap and graft)* f. cartilage or composite graft* g. repair of exposed cartilage or bone <p>*These exclusions apply only to strata 2 (Reconstruction)</p>
Supporting Guideline	<p>3b. The Work Group recommends that clinicians should not routinely administer perioperative systemic antibiotics for adult patients undergoing reconstruction after skin cancer resection in the office-based setting.</p> <p>Evidence Quality: Moderate</p> <p>Recommendation Strength: Moderate</p> <p>Chen et al, ASPS, Reconstruction After Skin Cancer Resection Guideline 2019, in press</p>
Measure Importance	
Rationale/ Opportunity for Improvement	<p>Based on the preponderance of evidence, in the <i>office setting</i>, it is recommended that clinicians <i>not</i> administer routine perioperative systemic antibiotics. Benefits of avoiding antibiotic prophylaxis include cost savings, absence of antibiotic side effects, prevention of drug-drug interactions, reduced time delay prior to reconstruction, avoidance of complications associated with oral or intravenous administration, and lack of contribution to antibiotic resistance. Potential risks and harms include medicolegal vulnerability if an infection occurs. Patient education on the need for antibiotic stewardship may help convey to patients that antibiotic prophylaxis is not without risk, and avoidance of such may be in their best interest. This measure is limited to procedures in the office-based setting. Procedures done in the hospital or ambulatory surgical center are often larger operations and are governed by "SCIP" protocol for antibiotic use, the Surgical care Improvement Project which dictates antibiotic selection for surgical patients.</p> <p>Gap in care:</p>

	<p>A 2019 study by Barbieri et al. characterized temporal trends in antibiotic prescribing patterns of dermatologists and associated patient diagnoses and outcomes from January 2008-December 2016. During this time, postoperative oral antibiotics associated with surgical visits increased dramatically by nearly 70%, from 3.92 courses per 100 surgical visits (95% CI, 3.83-4.01) to 6.65 courses per 100 surgical visits (95% CI, 6.57-6.74). Additionally, the study authors note in their discussion that a 2012 survey sent to members of the American College of Mohs Surgery identified many surgeon prescribing patterns that were not aligned with guideline recommendations concluding that dermatologic surgeons prescribe more antibiotics than needed for infection prevention. 30% of survey members reported that they were unfamiliar with the Journal of the American Academy of Dermatology 2008 advisory statement on antibiotic prophylaxis in dermatologic surgery (Bae-Harboe & Liang, 2013). In this study, 10% of respondents prescribed a postoperative antibiotic for most of their Mohs surgery cases, while 30.4% prescribed the same for any breach of the oral mucosa, regardless of a patient's medical history; 17% also prescribed the same for surgical flap cases regardless of surgical site. Less than 40% of respondents noted that they do not routinely administer postoperative antibiotics. As a voluntary, self-reported survey with no audit of provider practice, it is likely this study actually underestimates the overutilization of postoperative antibiotics.</p>
Exception Justification	<p>Exceptions to this recommendation and measure are appropriate for reconstructions in special high-risk populations, such as those requiring large or complex reconstructions, those with clean-contaminated or chronic wounds, or those with medical histories or co-morbidities associated with immunosuppression or elevated risk of infection. Below-knee surgery has been shown to have a higher infection rate (Heal et al 2006; Heal et al 2012; Smith et al 2014). The reasons for this are unclear, but reduced perfusion pressure in the distal limbs (Syladis 1997), higher tension closures (Rosengren et al 2012), as well as the frequent necessity for complex graft/flap surgery are postulated reasons.</p>
Harmonization with Existing Measures	<p>There are no relevant antibiotic overuse measures.</p>
Measure Designation	
Measure Purpose	Accountability, Quality Improvement
Type of Measure	Process
Care Setting	Ambulatory care
Data Source	Medical record (paper or EHR), administrative data
Guidance	Reconstruction After Skin Cancer Resection: Reconstructive options may include tissue rearrangement, grafts, or flaps. See the specifications at the end of the document for exact codes included in each measure and strata.
High Priority Measure	Yes
National Quality Strategy (NQS) Domain	Effective Clinical Care
Proportional Measure	Yes

Measure #1 (ASPS 27): Avoidance of Post-operative Systemic Antibiotics for Office-based Reconstruction After Skin Cancer Resection Procedures

Denominator (Eligible Population)	<p>All patients aged 18 and older with a diagnosis of skin cancer who underwent intermediate layer or complex linear closure or reconstruction after skin cancer resection in the office-based* setting</p> <p>Strata 1: Intermediate layer or complex linear closures after skin cancer resection</p> <p>Strata 2: Reconstruction after skin cancer resection</p> <p>Strata 3: Intermediate layer and complex linear closures AND reconstruction after skin cancer resection in the office-based setting (Weighted average of Strata 1 and 2)</p> <p>*Office based: not billed with an ASC or inpatient facility code</p> <p>Age \geq 18 years</p> <p>AND</p> <p>Strata 1: CPT for Encounter Intermediate layer and complex linear closures 12031, 12032, 12034, 12035, 12036, 12037, 12041, 12042, 12044, 12045, 12046, 12047, 12051, 12052, 12053, 12054, 12055, 12056, 12057, 13100, 13101, 13120, 13121, 13131, 13132, 13151, 13152</p> <p>OR</p> <p>Strata 2: CPT® for Encounter Reconstruction 14000, 14001, 14020, 14021, 14040, 14041, 14060, 14061; 15050, 15100, 15120; 15200, 15220, 15240, 15260; 15740</p> <p>and</p> <p>ICD-10 Codes for most common skin cancers: C43-C44 D03-D04</p> <p>and</p> <p>Place of Service Code: 11 (office)</p> <p>Strata 3: FOR REPORTING Strata 1 + Strata 2; Calculate as (numerator 1 + numerator 2)/(denominator 1 + denominator 2), not the average of the performance rates</p> <p>Code descriptions - for reference only:</p> <table border="1"> <thead> <tr> <th>Code Range</th><th>Descriptors</th></tr> </thead> <tbody> <tr> <td>14000 - 14061</td><td>Adjacent Tissue Transfer</td></tr> <tr> <td>15100 - 15120</td><td>Split Thickness Grafts</td></tr> <tr> <td>15200 - 15260</td><td>Full Thickness Grafts</td></tr> </tbody> </table>	Code Range	Descriptors	14000 - 14061	Adjacent Tissue Transfer	15100 - 15120	Split Thickness Grafts	15200 - 15260	Full Thickness Grafts
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14000 - 14061	Adjacent Tissue Transfer								
15100 - 15120	Split Thickness Grafts								
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	15570 -15576	Formation of direct or tubed pedicle
	15740	Island Pedicle Flap
	15760	Composite Skin Graft
	40525 - 40527	Excision of lip, with flap
	67971 - 67975	Reconstruction of Eyelid
Denominator Exclusions	<p>Surgical sites at intrinsically high risk of infection – lower extremities and intertriginous areas (groin, genitalia, perianal, axilla)</p> <p>Surgical reconstructions at intrinsically higher risk of infection –</p> <ul style="list-style-type: none"> a. Flaps greater than 30 square cm* b. Full thickness skin grafts greater than 20 square cm* c. Multistage interpolation flaps* d. Wedge reconstructions of ear e. Reconstructions requiring 2 or more repair types (flap and graft)* f. Cartilage or composite graft* g. Repair of exposed cartilage or bone <p>*These exclusions only apply to strata 2 (Reconstruction)</p> <p>Codes for exclusion of skin cancer on lower legs, for which procedures have a higher risk of infection.</p> <p>ICD-10 Codes:</p> <p>BCC – C44.711, C44.712, C44.719</p> <p>SCC – C44.721, C44.722, C44.729</p> <p>MM – C43.70, C43.71, C43.72</p> <p>MMIS – D03.70, D03.71, D03.72</p> <p>SCCIS – D04.70, D04.71, D04.72</p> <p>Cartilage grafts: 21230, 21235, 20910, 20912</p>	
Numerator	<p>Patients who were prescribed post-operative systemic antibiotics to be taken immediately following surgery (inverse measure)</p> <p>Captured by attestation in the workflow of the QCDR</p>	

Denominator Exceptions	<p>Medical reason exceptions include patients with a history of:</p> <ol style="list-style-type: none"> 1. Lymphedema I89.0, I89.1, I89.8, I89.9 2. History of immunosuppressive medications Z92.24 3. Immunodeficiency syndromes D82.0, D82.1, D82.2, D82.3, D82.4, D82.8, D82.9 4. HIV B20 5. Underlying disease with high risk of surgical site infection – chronic inflammatory skin disease (such as psoriasis and atopic dermatitis) or documented staph aureus carrier 6. Clinical evidence of infection at the surgical site at time of reconstruction, defined as: <ul style="list-style-type: none"> • Purulent drainage, with or without laboratory confirmation, from the surgical site • Pathogenic organisms isolated from culture of fluid or tissue from the surgical site • At least one of the following signs or symptoms of infection at the surgical site: pain or tenderness, localized swelling, redness, or heat. • An existing antibiotic prescription from another provider based on the diagnosis of infection at the surgical site. • Underlying disease with high risk of surgical site infection – chronic inflammatory skin disease (such as psoriasis and atopic dermatitis) or documented staph aureus carrier status or patient history of 3 or more surgical site infections, presence of lymphedema, history of immunodeficiency or immunosuppression
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