

**Measure #2 (ASPS 28): Continuation of Anticoagulation Therapy in the Office-based Setting for Closures and Reconstruction After Skin Cancer Resection 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, on prescribed anticoagulation therapy, who had intermediate layer and/or complex linear closures OR reconstruction after skin cancer resection performed in the office-based setting where anticoagulant therapy was continued prior to surgery.

This measure is stratified by intermediate layer or complex linear closures AND reconstructive procedures.

Anticoagulants include:

- Antiplatelet agents: aspirin (ASA), clopidogrel, dipyridamole, prasugrel, ticagrelor, ticlopidine
- Vitamin K antagonists: warfarin
- Direct thrombin inhibitors: dabigatran
- Direct factor Xa inhibitors: rivaroxaban, apixaban, edoxaban, bertrixaban

Measure Components	
Numerator Statement	Patients for whom anticoagulant therapy was continued prior to surgery
Denominator Statement	<p>All procedures in patients aged 18 and older with a diagnosis of skin cancer, on prescribed anticoagulation therapy, who underwent:</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>Definitions:</p> <p><b>Prescribed Anticoagulant therapy includes:</b></p> <ul style="list-style-type: none"><li>-Antiplatelet agents: aspirin (ASA), clopidogrel, dipyridamole, prasugrel, ticagrelor, ticlopidine</li><li>-Vitamin K antagonists: warfarin</li><li>-Direct thrombin inhibitors: dabigatran</li><li>-Direct factor Xa inhibitors: rivaroxaban, apixaban, edoxaban, bertrixaban</li></ul>
Denominator	None

<b>Exclusions</b>	
<b>Denominator Exceptions</b>	<p>Medical reason exceptions such as consultation with managing physician which resulted in medication modification</p> <p>Patients who are taking aspirin (ASA) without a prescriber's recommendation / prescription</p> <p>Patient taking warfarin, with a supratherapeutic INR</p>
<b>Supporting Guideline</b>	<p><b>4a. The Work Group recommends that clinicians should continue anticoagulant, antithrombotic, and antiplatelet medications for adult patients undergoing reconstruction after skin cancer resection in the office-based setting.</b></p> <p><b>Evidence Quality: Moderate</b></p> <p><b>Recommendation Strength: Moderate</b></p> <p>Chen et al, ASPS, Reconstruction After Skin Cancer Resection Guideline 2019, in press</p>
<b>Measure Importance</b>	
<b>Rationale/ Opportunity for Improvement</b>	<p>There is a common long held belief that discontinuation of anticoagulation therapy prior to surgery (including cutaneous surgery) is necessary to prevent bleeding complications. However, research has indicated that it is not only safe to continue anticoagulation therapy but there are significant risks associated with discontinuation of these medications.</p> <p>Recent studies have shown that risks associated with thromboembolic events associated with cessation of anticoagulation prior to MMS outweigh potential risks of perioperative bleeding, both in scope and scale. Risks associated with bleeding are exceedingly low and were reported at 0.11% in a large prospective cohort study, and 1.3% in another smaller study. (Alam 2013, Antia 2017) Another study showed a slightly higher rate at 7.14% (9154 cases). However, even with the higher rate the vast majority of bleeding was controlled with conservative measures, like dressing change (2.93%), pressure dressing (3.31%), or additional electrocautery (0.74%). Less than 1% required more advanced intervention like surgical revision (0.1%) or transfusion (0.02%) (Koenen et al 2017).</p> <p>Pragmatic case series and cohort studies that have detected a higher rate of bleeding in reconstructions associated with anticoagulant use recommend continuing such medications perioperatively as the same studies have noted that cases of increased bleeding did not result in serious consequences for patients (Bordeaux JS 2011; Cook-Norris RH 2011; Otley CC 1996; Billingsley EM 1997). On the other hand, there are numerous case reports of medication cessation being associated with death as well as serious adverse events (Khalifeh MR 2006; Alam M 2002; Schanbacher CF 2000; Kovich O 2003) including strokes, cerebral emboli, myocardial infarctions, transient ischemic attacks, deep venous thromboses, pulmonary emboli, and retinal artery occlusion leading to blindness.</p> <p>Potential benefits of continuing anticoagulant, antithrombotic, and antiplatelet medications include, most importantly, reduced risk of any thromboembolic event, and reduction in mortality. From a patient standpoint, not stopping medications may improve compliance, decrease patient confusion, and reduce the risk that medications</p>

	<p>will inadvertently be managed improperly. Potential risks of continuing medications perioperatively are milder, including slightly increased risk of bleeding, which may require bandage change, or further measures to secure the reconstruction with additional sutures or pressure dressings. Concurrent concerns may be a minor elevation in the risk of graft or flap loss, possible delay in wound healing, increased duration of the procedure, patient inconvenience relating to returning to the physician for a bleeding-associated complication, and the direct and indirect medical costs of additional medications, office visits, or procedures that may be required. Conceivably, surgeons concerned about a bleeding-associated complication may choose a less aesthetically or functionally optimal repair to minimize the risk. Importantly, the risks, harms, and costs of continuing oral anticoagulant, antithrombotic and antiplatelet medications can be collectively characterized as minor inconveniences and costs, while the potential benefits are reduction in the incidence of severe adverse events and death.</p> <p>Gap in care: A 2007 paper reported on a 2005 survey (Kirkorian et al 2007) of dermatologists and found that 37% discontinue medically necessary aspirin and 44% discontinue warfarin at least some of the time. Although clopidogrel was not surveyed, 78 physicians included comments about the management of this agent. The group is in the process of repeating the survey and should have new data for us soon.</p>
<b>Harmonization with Existing Measures</b>	N/A
<b>Measure Designation</b>	
<b>Measure Purpose</b>	Accountability Quality Improvement
<b>Type of Measure</b>	Process
<b>Care Setting</b>	Ambulatory care
<b>Data Source</b>	Medical record (paper or EHR), administrative data
<b>Guidance</b>	<p>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.</p> <p>Measures 2 (ASPS 28) and 3 (ASPS 22) are intended to be mutually exclusive for Reconstruction (strata 2 in ASPS 28)- for reporting measure 2, the physician either continues the anticoagulant or consults with the managing physician to be excepted from the measure. There is no overlap between Strata 1 of ASPS 28 and ASPS 22.</p>
<b>High Priority Measure</b>	Yes
<b>National Quality Strategy (NQS) Domain</b>	Patient Safety
<b>Proportional Measure</b>	Yes

**Measure #2 (ASPS 28): Continuation of Anticoagulation Therapy in the Office-based Setting for Reconstruction After Skin Cancer Resection Procedures**

<b>Denominator (Eligible Population)</b>	<p>All procedures in patients aged 18 and older with a diagnosis of skin cancer, on prescribed anticoagulation therapy, who underwent:</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>Age &gt; 18 years</p> <p><b>AND</b></p> <p>On prescribed anticoagulant therapy to include aspirin (ASA), clopidogrel, dipyridamole, prasugrel, ticagrelor, ticlopidine, warfarin, dabigatran, rivaroxaban, apixaban, edoxaban, bertrixaban</p> <p><b>AND</b></p> <p><b>Strata 1:</b>  <b>CPT for Encounter</b> 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, , 13150, 13151, 13152,</p> <p><b>OR</b></p> <p><b>Strata 2:</b>  <b>CPT® for Encounter Reconstruction</b>  14000, 14001, 14020, 14021, 14040, 14041, 14060, 14061  15050, 15100,15120  15200, 15220, 15240, 15260  15570, 15572, 15574, 15576  15740  40525, 40527</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><b>Strata 3: FOR REPORTING</b>  <b>Strata 1 + Strata 2;</b> Calculate as (numerator 1 + numerator 2 )/(denominator 1 + denominator 2), not the</p>
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	average of the performance rates	
	Code descriptions - for reference only:	
	Code Range	Descriptors
	14000 - 14061	Adjacent Tissue Transfer
	14350	Filletted finger or toe flap, including preparation of recipient site
	15050	Pinch graft, single or multiple, to cover small ulcer, tip of digit, or other minimal open area (except on face), up to defect size 2 cm diameter
	15100 - 15120	Split Thickness Grafts
	15200 - 15260	Full Thickness Grafts
	15570 -15576	Formation of direct or tubed pedicle
	15740	Island Pedicle Flap
	17311, 17313	Base codes used to report Mohs micrographic surgery
	40525 - 40527	Excision of lip, with flap
<b>Denominator Exclusions</b>	none	
<b>Numerator</b>	<p>Patients for whom anticoagulant therapy was continued prior to surgery</p> <p>Captured by attestation in the workflow of the ASPS QCDR</p>	
<b>Denominator Exceptions</b>	<p>Medical reason exceptions such as consultation with managing physician which resulted in medication modification</p> <p>Patients who are taking aspirin (ASA) without a prescriber's recommendation / prescription</p> <p>Patient taking warfarin, with a supratherapeutic INR</p>	