AMERICAN BOARD OF DERMATOLOGY
Maintenance of Certification (MOC)
Module: *Blood thinner management in dermatologic surgery*
Category: *Dermatologic surgery*

Justification
25% of patient undergoing cutaneous surgery are taking blood thinners. Proper management of blood thinners in the perioperative period can have broad health impacts, including on underlying comorbidities.

Summary
In a 2007 survey, 40% of dermatologic surgeons report sometimes discontinuing medically necessary warfarin during cutaneous surgery.

Recent evidence suggests that continuation of medically necessary blood thinners during cutaneous surgery is the most reasonable strategy. While continuation of blood thinners during cutaneous surgery may be associated with minor increases in bruising and postoperative bleeding, there is no evidence that life threatening consequences are associated with these minor risks. Preliminary evidence suggests that newer blood thinners such as clopidogrel, dabigatran and rivaroxaban are not associated with life-threatening hemorrhagic risks.

In contrast, perioperative discontinuation of medically necessary blood thinners has been repeatedly associated with life-threatening and lethal thrombotic complications, including myocardial infarction and stroke.

Additionally, evidence exists that cutaneous surgeons cannot detect whether a patient is or is not taking a blood thinner based on the degree of intraoperative oozing.

Although there are no official guidelines on the management of medically necessary blood thinners during cutaneous surgery, evidence suggests that, in most cases, continuation of these agents is safe and will prevent the increased risk of thrombotic complications that can occur with a strategy of discontinuation. Clinicians should use judgment based on the specifics of each case when determining a final management strategy.

Literature
1. Callahan S, Goldsberry A, Kim G, Yoo S. The management of antithrombotic medication in skin surgery. Dermatol Surg 2012;38:1417-1426.
2. Cook-Norris RH, Michaels JD, Weaver AL, Phillips PK, Brewer JD, Roenigk RK, Otley CC. Complications of cutaneous surgery in patients taking clopidogrel-containing anticoagulation. J Am Acad Dermatol 2011;65:584-91.
3. Chang TW, Arpey CJ, Baum CL, Brewer JD, Hochwalt PC, Hocker TL, Roenigk RK, Otley CC. Complications With New Oral Anticoagulants Dabigatran and Rivaroxaban in Cutaneous Surgery. Dermatol Surg. 2015 Jun 5.

Key Points
Patients undergoing dermatologic surgery who take medically necessary blood thinners should continue to take their blood thinners in most cases.

Conflict of Interest & Disclaimer
The individuals involved in the writing and editing of this PA/PI activity have no financial interest related to this topic. Determination of the most appropriate treatment for a given patient should rest with the physician and patient. The information provided about the particular treatment in this PA/PI activity is based on a good faith effort to assure the validity of the content, but there is no guarantee that subsequent or even existing studies may have contradictory results.

Practice Profile / Assessment:
This module requires that you review 5 records of patients on medically necessary blood thinners who underwent cutaneous surgery to answer the follow questions:
1. Was the medically necessary blood thinner continued during surgery? Yes No
2. If the blood thinner was warfarin and it was continued during surgery, was the INR within therapeutic range? Yes No N/A
3. If the blood thinner was discontinued, was the patient informed to restart the medication as soon as possible? Yes No N/A

4. Was the management of blood thinners documented in the medical record? Yes No

If your answer to question 1 was yes for all 5 cases, your performance shows no margin for improvement. You have completed the exercise. If your answer to question 1 was no for any case, please repeat review of 5 more records after making any changes to your practice as indicated.