WHAT YOU WILL LEARN IN THIS SEGMENT:

- What is INR?
- Do you stop Coumadin before extractions or not?
- If not, how many teeth can be removed per appointment?
- Which “local measures” are best?
- Does INR pertain to Plavix or Pradaxa?

One way to manage blood.

71 y.o. man. On Coumadin because of atrial fibrillation. MI nine years ago. Has a pacemaker. Current INR 2.3 (bleeding takes 2.3X as long to stop) checked 1/mo.) LL paresthesia from previous mandibular block.

Leech Therapy in Reconstructive Maxillofacial Surgery

Alexander Grob, MD, DDS,* Andreas Metzler, MD, PhD,* Bruno Riedler, MD, DDS,* Ralph Schedler, MD, DDS,* and Nez Hatipoğlu, MD, DDS, PhD*

Results: Our series has confirmed the excellent and predictable healing after medical leech therapy for local and microsurgical anastomosed flaps in case of venous congestion.

Conclusion: Leech therapy should be considered as a reliable additional procedure and an alternative to microvascular and plastic reconstructive surgery to remedy complications resulting from a hemodynamic imbalance or venous insufficiency in the immediate postoperative period.

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Hemostatic Management of Tooth Extractions in Patients on Oral Antithrombotic Therapy

Conclusion: A sufficient hemostasis can be obtained in most cases of tooth extraction under anticoagulant therapy with warfarin (INR <1.5–2.0) and antiplatelet drugs. Moreover, appropriate local hemostatic methods can be successful when postoperative hemorrhage occurs.

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Most of the studies to go ahead with oral surgery are based on no more than 3 simple extractions. No studies involved more than 5 teeth.

1% (of 493 people) had serious embolic complications with four deaths.

Prothrombin time (PT) is a blood test that measures how long it takes blood to clot. (Normal: 11-15 sec.)

- Normal values may vary from lab to lab.
- So, a method of standardizing prothrombin time results, called the international normalized ratio (INR) system, has been developed. (Only for Coumadin which prevents the formation of Vit. K dependent clotting factors.)

International normalized ratio (INR): Normal is 1.0 - 1.4
r-PA (recombinant tissue Plasminogen Activator) – Protocol when stroke within the last three hours.

**Case Report**

An 88-year-old male presented to the University of Michigan emergency department with difficulty speaking. His wife reported he had awakened with normal neurologic function and am breakfast with her at 7:30 am, he could not speak and his wife called 911. On arrival, the acute stroke team was activated.

**Summary:**

Stopped Coumadin 5 days later, 1 tooth extracted 12 hours later Coumadin re-started 2 days after surgery, had a stroke - INR only 1.3 Treated for stroke Had uncontrollable bleeding from the socket Stent placed to hold in hemostatic agent

**Postextraction bleeding...**

Gen Dent. May-June, 2016.

For more than the last two decades...

S

Since the 1950s, there has been great interest in whether to continue or interrupt antithrombotic therapy lowered recommended therapeutic levels of medication, large reported numbers of anticoagulated patients safely undergoing dental surgery, and some serious embolic complications and deaths in patients whose antithrombotic medications were interrupted. The vitamin K antagonist

**EXAMPLE**

- 5,400 patients underwent 11,300 extractions (simple and surgical). Mostly on Warfarin.
  - No fatal hemorrhage.
  - 2,600 similar patients stopped anticoagulants. There were 22 embolic complications including 6 deaths.


**AMERICAN DENTAL ASSOCIATION**

- “There is strong evidence for the older medications, as well as limited evidence for the new medications that, for most patients, it is not necessary to alter anticoagulation or antiplatelet therapy prior to dental interventions.”


**Dentistry for the Medically Compromised**

**Postextraction bleeding in a patient taking antithrombosis: report of a case**

Michael J. Rolf, DDS • Margaret H. Schrauf, DMD

Antithrombotic medications, including anticoagulants and anti-platelets, are used by millions of patients to prevent stroke or heart attack. When a patient requires dental surgery, a decision must be made whether to continue the antithrombotic medication or to interrupt it. The bleeding risk or to interrupt the medication and risk an embolic complication or a stroke or heart attack. In patients taking antithrombotic medications, consideration of the risk associated with stopping the medication and the risk of the embolic complications if the medication is continued. This case report discusses an episode of minor postextraction bleeding in a patient on antithrombotic therapy.

Postextraction bleeding... Gen Dent. May-June, 2016.

“Dentists should be wary of asking the physician whether a patient’s anticoagulation should be interrupted for dental surgery, because dentists are more familiar with the bleeding risks and hemostasis methods associated with dental surgery than are physicians.”

If the physician recommends interruption contrary to the statements of national medical and dental groups and evidence of dental and medical literature, the patient might be subjected to an unnecessary, elevated risk of stroke or heart attack.
FROM DENTAL LITERATURE...

- **Consult with the physician** to discuss any treatment with Coumadin, platelet-altering meds (such as Plavix and/or aspirin), Pradaxa, or other similar meds.
- **Inform the physician that:** 1) only minor oral surgery will be done (only a few simple extractions), 2) local measures will be used, and 3) you don’t feel it is necessary to alter the anticoagulation regimen.

COUMADIN AND AMOXICILLIN?

OTHER NOTES FROM THE COMPENDIUM ARTICLE:

- Certain antibiotics **can** decrease Vit. K absorption, limit the production of 4 clotting factors, and increase the INR (thin the blood). Example: preop tetracycline, amoxicillin, ampicillin, augmentin, metroidazole, the macrolids - **not penicillin or clindamycin.** (Friedlander, AH, et al. Atrial fibrillation: pathogenesis, medical-surgical management and dental implications. JADA. 140(2):167-177, 2009.)
- Avoid NSAIDs (increase bleeding but not the INR)

Warfarin users, beware of antibiotics

Interactions may increase the risk of internal bleeding.

Many antibiotics and related medications, including azole antifungal agents, heighten warfarin’s blood-thinning ability and raise the risk of internal bleeding. Some antibiotics, such as rifampin, decrease warfarin’s ability to “thin” the blood, increasing the risk a blood clot will form. People taking warfarin and antibiotics must be monitored closely. That’s why if you are prescribed an antibiotic to treat or prevent an infection, you should immediately tell the clinician who manages your warfarin.

"Monitoring is key. It is important to maintain a level of warfarin that is high enough to prevent unwanted blood clots without overly increasing the risk of bleeding," says Dr. Tejal Gandhi, associate professor of medicine at Harvard Medical School and an expert on outpatient drug safety.
COUMADIN AND ACETAMINOPHEN?

Or laser...

3 MINUTES POSTOP.

BENIGN LIPOMA
Luxator? Skinny bur?

**Patient on Warfarin (INR 2.3)**

Age 71

Do the surgery, but... use local measures.
Don't stop the Coumadin.
Don't do more than 3 simple extractions.

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**Daily Herald/Obituaries.**

**Lula B. Smith**

Lula B. Smith passed away peacefully, with her children by her side on Sunday morning, June 27, 2005 in the Mountain View Hospital. She had suffered a stroke on Friday.

Age: 79
14 extractions
Stopped Coumadin 4 days before
Massive stroke
Dental work Thursday, stroke Friday
died Sunday.

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**SAFEST TREATMENT:**

1. DON'T TAKE THE PATIENT OFF BLOOD THINNERS.
2. DON'T EXTRACT MORE THAN 3-5 TEETH AT ONE APPT.

3) USE THINGS TO STOP BLEEDING (LOCAL MEASURES).

4) Don't do the case if they are beyond the therapeutic range (INR over 3). Refer or talk to physician.

This product will resorb in 1-2 weeks to glucose and Saline. It is FDA approved for oral cavity use.
BONE BLEEDING
(CONT.)

Bony artery (nutrient canal)

- Crush adjacent bone into the bleeding orifice with a hemostat or periosteal elevator
- Apply bone wax into the bony bleeding source

PLAVIX VS. COUMADIN

- Plavix: not influenced by the INR or vitamin K
  - Impairs platelet function (anti-platelet drug)
  - Also anti-platelet: Aspirin, Plavix, Ticlid, Aggrenox
  - Mainly for arteries (fast flowing blood, where platelets attach to rough surfaces...)
  - Doesn't play much of a role in preventing venous clots

ANECDOtal PLAVIX SItUAtIOnS...

1. Iowa dentist with mentally compromised patient.
   - Two premolar extractions
   - Tried to call him that night – no answer
   - Found dead from exsanguination the next day by family

2. Illinois dentist – did one extraction on a patient.
   - Went to emergency room that night
   - Physician criticized the dentist for not giving proper tx

   - Went to emergency room that night and had blood transfusions

Forgot the Plavix!

60 y.o patient in poor health.
Six maxillary teeth to be removed – involving some bone removal.

8 1X1 inch pieces of hemostatic gauze placed in the 6 sockets.
Sutures.
The patient taking antplatelet drugs: A review with dental management considerations

By Mary A. Auer, CDA
Featured in General Dentistry, May-June 2003
Fig. 360-369

Dental Literature

Table 2. Dental management considerations for patients taking antplatelet drugs.

| Anticoagulated patient. |

Anticoagulated patient.

Schedule procedures early in the morning or early in the week.
Lind cooling and periodontal surgery to small areas until bleeding potential has been determined.

Avoid oral surgery if possible; aspirin during surgery.

Do not stop aspirin, NSAIDs, or thienopyridines more than 48 hours prior to dental surgery.

Patients taking combined antplatelet therapy may stop clopidogrel and continue aspirin on the advice of the prescriber.

Use patient-specific perioperative care instructions.

Use local anesthetics, including aprotinin, resorbable collagen, and injectable epinephrine.

Use nonabsorbable sutures.

Avoid pain relief containing aspirin or NSAIDs.

Use tranexamic acid or epsilon aminocaproic acid in topical hemostatic agents.