10 Topics in Dentistry and Medicine

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Disclosures

- None
- Southeastern Virginia Health System
Mr. Mason tells you at the end of his visit that he has 6 days of fever, cough, runny nose and sore throat. He has no drainage from his ears. On physical exam he has a normal ear. What else would you like to know?
Case #1 Differential Diagnosis

- Eustachian tube dysfunction
- Temporo-mandibular dysfunction
Ear Pain
What are other possible causes?

- Teeth grinding (Bruxism)
- Clenching
- Caries (Referred Pain)
Case #2

- Miss Jenkins is 25 y. o. who comes in with complaint that something is wrong with her tongue. It has white patches on it and feels sore. She hasn’t been on medications or sick lately.

- Source: medical picturesinfo.com
She wants an antifungal.

- Benign- geographic tongue vs. thrush
Oral Manifestations

- Leukoplakia
Oral Manifestations

- Apthous ulcer
Oral Manifestations

- Lichen Planus

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Oral Manifestations

- Cold sores- Herpes Virus type 1
Oral Manifestations

- Coxsackie-Hand, Foot and Mouth Disease
Oral Manifestations -

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Fractured/Broken Teeth

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Dental Nomenclature - Permanent
Dental Nomenclature - Primary
Case #3

- Patient presents to the dental clinic for extraction of multiple teeth #3,#4,#5. Patient reports taking normal medications prior to appointment as directed, however BP prior to procedure is 181/91. Concerns?
Blood Pressure for Dental Tx

Blood Pressure Category

Systolic mm Hg  Diastolic mm Hg

- Normal  <120  <80
- Prehypertension  120–139  80–89
- Hypertension (Stage 1)  140–159  90–99
- Hypertension (Stage 2)  >160  >100
- Hypertensive Crisis  >180  >110

Source: American Heart Association
Case #4

- Patient presents for single tooth extraction #14.
- Medical Hx: Type II Diabetic - takes medication but ran out one month ago per patient.
- Social Hx: Smoker

Patient reports not eating due to being nervous.
Case #4

- Normal Glucose Levels (80-110 mg/dl) per American Academy of Oral Medicine
Signs & Symptoms of Hypoglycemia

- Nervousness or anxiety
- Sweating, chills and clamminess
- Confusion, including delirium
- Rapid/fast heartbeat
- Lightheadedness or dizziness
- Hunger and nausea
- Sleepiness
- Blurred/impaired vision
Signs & Symptoms of Hyperglycemia

- Frequent urination
- Increased thirst
- Breath that smells fruity
- Nausea and vomiting
- Very dry mouth
Case #5

- Mrs. Jewel is on eliquis for atrial fibrillation that was diagnosed 6 months ago. She is needing several tooth extractions and wants to know what to do with her medicine before procedure.
### Perioperative thrombotic risk

<table>
<thead>
<tr>
<th>Risk stratum</th>
<th>Indication for anticoagulant therapy</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Mechanical heart valve</strong></td>
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<tr>
<td>Very high thrombotic risk*</td>
<td>Any mitral valve prosthesis</td>
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<tr>
<td></td>
<td>Any caged-ball or tilting disc aortic valve prosthesis</td>
</tr>
<tr>
<td></td>
<td>Recent (within six months) stroke or transient ischemic attack</td>
</tr>
<tr>
<td>High thrombotic risk</td>
<td>Bileaflet aortic valve prosthesis and one or more of the following risk factors: atrial fibrillation, prior stroke or transient ischemic attack, hypertension, diabetes, congestive heart failure, age ≥75 years</td>
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<tr>
<td>Moderate thrombotic risk</td>
<td>Bileaflet aortic valve prosthesis without atrial fibrillation, diabetes mellitus, prior stroke or transient ischemic attack or thromboembolism (2 points), vascular disease (peripheral artery disease, myocardial infarction, or aortic plaque), age 65-74 years, sex category female</td>
</tr>
</tbody>
</table>

Refer to UpToDate topics on perioperative anticoagulation management for details.

VTE: venous thromboembolism; CHADS₂: congestive heart failure, hypertension, age ≥75 years, diabetes mellitus, and stroke or transient ischemic attack; CHA₂DS₂-VASc: congestive heart failure, hypertension, age ≥75 years (2 points), diabetes mellitus, prior stroke or transient ischemic attack or thromboembolism (2 points), vascular disease (peripheral artery disease, myocardial infarction, or aortic plaque), age 65-74 years, sex category female.

* Very high risk patients may also include those with a prior stroke or transient ischemic attack occurring >3 months before the planned surgery and a CHA₂DS₂-VASc score <6 (or CHADS₂ score <5), those with prior thromboembolism during temporary interruption of anticoagulation, or those undergoing certain types of surgery associated with an increased risk for stroke or other thromboembolism (e.g., cardiac valve replacement, carotid endarterectomy, major vascular surgery).

Anticoagulation

- Dental procedures in general are low risk and do not require interruption of anticoagulation.
Anticoagulation

- Warfarin
- Dabigatran
- Rivaroxaban
- Apixaban
- Edoxaban
## Recommendations for preoperative and postoperative anticoagulation in patients on a vitamin K antagonist

<table>
<thead>
<tr>
<th>Indication</th>
<th>Before surgery</th>
<th>After surgery</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Venous thromboembolism</strong></td>
<td></td>
<td></td>
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<tr>
<td>Within first month</td>
<td>IV heparin or SQ LMWH</td>
<td>IV heparin or SQ LMWH</td>
</tr>
<tr>
<td>Second/third month</td>
<td>No change*</td>
<td>IV heparin or SQ LMWH</td>
</tr>
<tr>
<td>≥3 months</td>
<td>No change*</td>
<td>SQ heparin or LMWH</td>
</tr>
<tr>
<td><strong>Arterial thromboembolism</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recent, within one month</td>
<td>IV heparin or SQ LMWH</td>
<td>IV heparin or SQ LMWH</td>
</tr>
<tr>
<td>Prophylaxis (e.g., non-valvular AF, mechanical heart valve)</td>
<td>No change*</td>
<td>Resume oral anticoagulation*</td>
</tr>
</tbody>
</table>

**NOTE:** Warfarin should be withheld to allow the INR to fall spontaneously to 1.5 to 2 before surgery is performed.

IV: intravenous; SQ: subcutaneous; LMWH: low molecular weight heparin; AF: atrial fibrillation; INR: international normalized ratio.

* If the patient is hospitalized, SQ heparin or LMWH should be administered, but hospitalization is not recommended solely for this purpose.

† Can use SQ heparin or SQ LMWH if the surgery carries a high risk of postoperative thromboembolism.
### Perioperative management of oral direct thrombin inhibitors and factor Xa inhibitors

<table>
<thead>
<tr>
<th>Anticoagulant</th>
<th>Renal function and dose</th>
<th>Interval between last dose and procedure</th>
<th>Resumption after procedure</th>
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</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td><strong>High bleeding risk</strong></td>
<td><strong>Low bleeding risk</strong></td>
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<tr>
<td>Dabigatran</td>
<td>Ccr &gt;50 mL/minute</td>
<td>Give last dose three days before procedure (i.e., skip four doses on the two days before the procedure)</td>
<td>Give last dose two days before procedure (i.e., skip two doses on the day before the procedure)</td>
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<tr>
<td></td>
<td>Dose 150 mg twice daily</td>
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<tr>
<td></td>
<td>Ccr 30 to 50 mL/minute</td>
<td>Give last dose five days before procedure (i.e., skip eight doses on the four days before the procedure)</td>
<td>Give last dose three days before procedure (i.e., skip four doses on the two days before the procedure)</td>
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<tr>
<td></td>
<td>Dose 150 mg twice daily</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rivaroxaban</td>
<td>Ccr &gt;50 mL/minute</td>
<td>Give last dose three days before procedure (i.e., skip two doses on the two days before the procedure)</td>
<td>Give last dose two days before procedure (i.e., skip one dose on the day before the procedure)</td>
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<tr>
<td></td>
<td>Dose 10 mg once daily</td>
<td></td>
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<tr>
<td></td>
<td>Ccr 30 to 50 mL/minute</td>
<td>Give last dose two days before procedure (i.e., skip one dose on the day before the procedure)</td>
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<tr>
<td></td>
<td>Dose 15 mg once daily</td>
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<tr>
<td>Apixaban</td>
<td>Ccr &gt;50 mL/minute</td>
<td>Give last dose three days before procedure (i.e., skip four doses on the two days before the procedure)</td>
<td>Give last dose two days before procedure (i.e., skip two doses on the day before the procedure)</td>
</tr>
<tr>
<td></td>
<td>Dose 5 mg twice daily</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ccr 30 to 50 mL/minute</td>
<td>Give the last dose three days before the procedure (i.e., skip two doses on the two days before the procedure)</td>
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<tr>
<td></td>
<td>Dose 2.5 mg twice daily</td>
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<tr>
<td>Edoxaban</td>
<td>Ccr 50 to 65 mL/minute</td>
<td>Give the last dose two days before the procedure (i.e., skip one dose on the day before the procedure)</td>
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<tr>
<td></td>
<td>Dose 60 mg once daily</td>
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<tr>
<td></td>
<td>Ccr 15 to 50 mL/minute</td>
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<tr>
<td></td>
<td>Dose 50 mg once daily</td>
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</tbody>
</table>

Bleeding risk is determined primarily by the type of surgery; patient comorbidities may also play a role. In patients undergoing neuraxial anesthesia or a very high bleeding risk procedure, a longer period of interruption may be warranted. In many low bleeding risk procedures, the anticoagulant does not need to be interrupted. Bridging anticoagulation may be appropriate preoperatively in patients with a very high thromboembolic risk who require more prolonged interruption of the anticoagulant (e.g., for renal insufficiency) and/or postoperatively in patients who are unable to resume the anticoagulant (e.g., unable to take oral medication due to intestinal ileus). Refer to the UpToDate topics on perioperative management of patients receiving anticoagulants for further details.

Ccr: creatinine clearance.
Case #6

- Mr. Allen comes in complaining of 3-4 weeks of bad breath. He is not a smoker and reports brushing teeth regularly. What could be a source of his problem?
Bad Breath

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Case #6

- Nasal source: sinusitis, polyps
- Tobacco use
- GI source is temporary from reflux
- Mouth Breathing
Take a good look!

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Questions?