Relieving Pain in the Urgent Phase

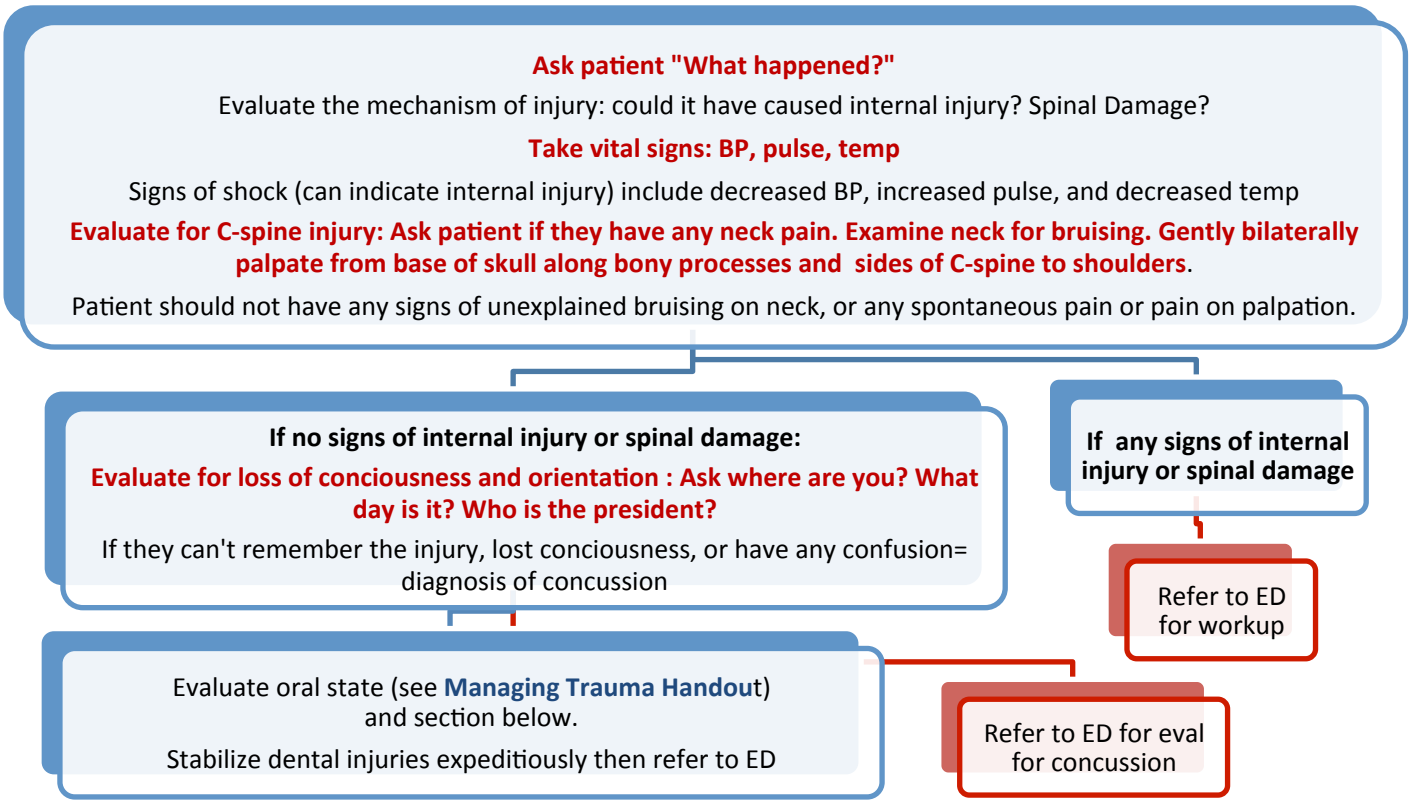
Patients present to the dental office in pain from a number of sources. It's up to the practitioner to determine first, the source of the pain, and then a feasible, predictable strategy for relieving pain. This process is greatly facilitated by having a good sense of the usual sources of dental pain and the characteristics of each type of pain, then gathering data in a methodical manner so as various diagnoses are tentatively eliminated, a working diagnosis can be developed.

Many practitioners find this process stressful. They dislike dealing with patients who are fearful, cranky, and frequently sleep-deprived and just not their usual sunny selves. A calm, confident manner usually defuses the patient's fears; however, expect defensiveness and even hostility if the patient has neglected their teeth. But they trust us now, and deserve our best.

Help! What do I do if there is acute trauma?

Luckily, dentists (except OMF surgeons, of course) don't see trauma that often. However, you still have to know how to handle it, and while it can be complicated, the first steps are always the same. First, remember your **ABC's – Airway, Breathing, and Circulation**- with special attention on the **possible damage to the cervical spine** since you know there is head trauma. Be aware of those signs and symptoms that **indicate an immediate referral to the Emergency Department** is indicated:

- Difficulty Breathing
- Trouble swallowing
- Obvious confusion, dizziness, or other signs of significant head trauma



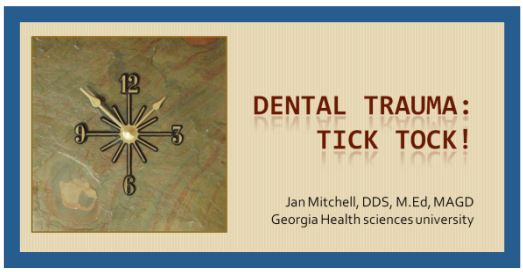
Look for signs that **referral to an Oral and Maxillofacial Surgeon** maybe indicated. You will need to have arrangements with that specialist to know if they would prefer a call or a direct referral to the ED:

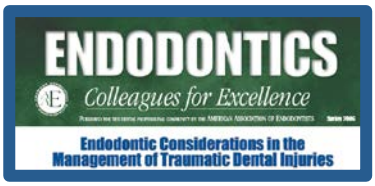
- Evidence of jaw fracture: Occlusal discrepancies, difficulty opening, changes on a screening panoramic radiograph that might indicate a fracture (check condylar necks carefully!)
- Facial swelling or facial deformity (look for depressed areas like the zygomatic arch)
- Conjunctival hemorrhage in head trauma

Now, if we have narrowed down our focus to **trauma to the dentition and alveolar bone only**, there are very specific recommendations based on decades of research, and it's critical to follow these recommendations precisely. Don't expect yourself to remember it because you won't! The **Managing Trauma Handout** is the reference that contains screening information, a clinical cranial nerve exam go-by, and specific treatment recommendations. Print out copies for your front desk and home so you can look it up when you need it!

Managing Trauma Handout

For an **overview of the concepts**, see the **Dental Trauma: Tick Tock!** presentation or the **Endodontic Colleagues for Excellence Consideration in the Management of Traumatic Dental Injuries** for and excellent summary on the topic.





There are two basic phases to managing trauma:

1. **Assessment of overall injuries**. Before you look at the teeth, a general assessment is required. Any history of head trauma calls for a screen for concussion, as well as an evaluation for central spinal fluid leaks, and a quick screen of cranial nerve integrity. See **Managing Trauma Handout** for details.
2. **Management of dental injuries**. A huge body of clinical research has shown that there are two basic types of dental injuries, which require a different treatment philosophy:
    - Hard Tissue Injuries- Tooth and Alveolar Fracture. These are *uncomplicated if* pulp not involved, *complicated* if it is. Key concepts:
        - **Stage of tooth development**. If root end not formed, do a vital pulp procedure or refer to an endodontist.
        - **Time since trauma**? After 24 hours, more likely to be contaminated, Direct Pulp Cap less likely to be successful. Consider Cvek pulpotomy.
        - **How much additional PDL injury?** Additional PDL injury means pulp more compromised. Also see PDL injuries.
        - **What is the restorative treatment plan?** Vital pulp therapy is not a good choice if significant restorative care planned. Endo may be a better choice.
    - Injuries to the Periodontal Ligament- From least to most injurious: concussion, subluxation, extrusion, lateral luxation, and intrusion. Consequences can include attachment damage, including resorption or ankylosis, and/or pulpal damage. Treatment is dependant of many factors, so check the guidelines in the handout carefully.

What are the usual sources of dental pain?

For a complete review of the topic, click on the **Diagnosing the Patient in Pain Tutorial** below. To simplify, we will lump the sources into three categories:

- **Pulp**- Includes dentinal pain like dentinal hypersensitivity, reversible and irreversible pulpitis, and since it's treated as the sequellae of pulpal pathosis, periapical pathosis of endodontic origin.
- **Periodontal**- Usually periodontal disease is not painful, but acute periodontal abscess (including pericoronitis) and certain acute general infections like a gingival abscess (like a popcorn kernel stuck for a few days), Acute Necrotizing Periodontitis or Herpes Simplex can bring a patient in. Diseases of soft tissue like aphthae (major and minor) can be so painful they interfere with eating and drinking.
- Other **head and neck sources**-
    - Sinus pain can mimic tooth pain and always needs to be kept in mind
    - TMD- acute pain in the TM joint or pain in the muscles can trigger an emergency visit
    - Neurgogenic pain- of course, nerve pathosis can cause a puzzling array of symptoms

- Referred pain- is not that uncommon in the head and neck region and must always be considered if the usual suspects have been ruled out. The most troubling, **angina**, must be kept in mind because of the serious implications.

What is the usual reason for presenting with dental pain?

Most commonly (75% of patients), a diseased pulp is the culprit. Half of these have vital pulps, half have non-vital pulps.

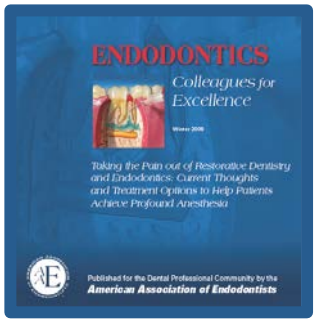
What is a good sequence for managing a pain patient?

Sorting Out Endodontic Symptoms Pocket Guide

1. Take a good **medical history** (as always!)
2. **History of present illness** will usually lead you to a tentative diagnosis, so explore the following issues:
    - **Onset.** How long has it been hurting, is it getting better, worse or staying the same, does it come and go, did you ever have pain in the past here, even if it stopped?
    - **Location.** Ask them to take one finger and point to the location
    - **Duration.** How long does the pain last when provoked, and if it hurts when unprovoked.
    - **Character.** Focus questions to determine if sharp or dull, throbbing, constant or intermittent, if it wakes the patient up at night.
    - **Aggravating factors.** Does anything make it hurt- hot or cold food, biting pressure, and if so every time or just with certain foods. Is the pain to biting sharp, electric pain or dull, achy pain. Do positional changes make it worse?
3. **Dental Exam.** You should have a good idea of what is causing the pain (pulp or perio) and if it is pulpal pain, you will be looking for teeth with a reason to have pulpal pathosis:
    - **History of caries or extensive restoration**
    - **History of trauma.** Discolored teeth, change in pulp size compared to contralateral teeth
    - **Vertical root fracture, cracks**
    - **Evidence of necrotic pulp**
4. **Diagnostic Tests.** Armed with your tentative diagnosis, you will test your suspect teeth and comparison teeth, usually the contralateral tooth and adjacent tooth. However, if you are puzzled by the results consider referred pain and test additional teeth in the quadrant or even opposing quadrants if in the posterior.
    - Cold test.
    - Percussion

- Palpation
- Periodontal probing
- Radiographs if indicated.

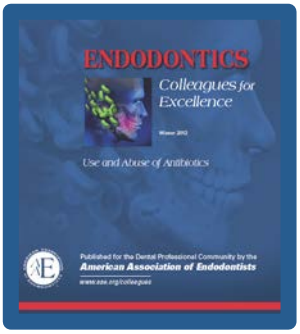
5. **Develop a diagnosis**. If the pulp is involved, list both pulpal and periapical diagnoses.
6. **Once you have a diagnosis, develop a treatment plan**. That, of course, is too complex to put on a cheat sheet! In general, consider the major sources of pain and how they can be managed:
    - **Pulpal pain**. The major decision is either the tooth needs a root canal or it doesn't, and the break point is usually between reversible and irreversible pulpitis, which is why it's so important to be able to diagnose this correctly. Once you have decided the pulp is either irreversibly inflamed or necrotic, either the pulp must be removed (endo) or the tooth with the pulp inside it must be removed.



Anesthesia. One of the most difficult problems in treating patients with acutely inflamed pulps is obtaining and ascertaining that the patient has adequate anesthesia. The American Association of Endodontists has published this excellent reference on **Taking the Pain out of Restorative Dentistry and Endodontics: Current Thoughts and Treatment Options to Help Patients Achieve Profound Anesthesia.** Click on the icon to read it- it's just four pages with lots of pictures!

- **Periodontal pain**. The key issue to be decided is whether or not the tooth is periodontally hopeless or not. Acutely, if the infection can be resolved by draining the purulent exudate (usually simply by gently probing the pocket) which will frequently relieve the pain; however, the decision must still be made on removing the tooth or not.
- **Acute generalized conditions**. Usually these are treated symptomatically with NSAIDS and reassurance that the condition (if minor aphthous) is self-limiting. If you are unsure of the diagnosis, a referral to an Oral Medicine specialist or a Periodontist is appropriate to ensure that correct treatment is started.

When should I consider prescribing antibiotics for infections of pulpal origin?



Antibiotics have been hugely overprescribed by both medicine and dentistry in the past, and experts in the field see a looming danger of losing effective antibiotics as bacteria become increasingly resistant to our current arsenal and fewer and fewer are being developed. While we can't solve the research problem, we certainly can help by not prescribing antibiotics when they are NOT indicated, no matter how much our patients have been used to this in the past. WE need to educate them of the advantages to them, their children and grandchildren of wise use of this resource. Read this excellent explanation **Use and Abuse of Antibiotics** for good understanding of how and why to use antibiotics in dental infection.

So, in general, antibiotics are **only indicated for**:

- Persistent infections
- Infections that have become systemic: Temp > 100°, malaise, lymphadenopathy

- Progressing infections: trismus, cellulitis, increasing swelling
- Osteomyelitis- requires an OMFS referral

Usually, antibiotics are **NOT indicated**, and actually DO NOT work (they DO NOT CONTROL PAIN OR PERIAPICAL INFLAMMATION) in the following circumstances:

- Pulpitis
- Necrotic pulp with a radiolucency
- When a sinus tract is present
- Localized, fluctuant swellings with no evidence of systemic spread

Which antibiotic should I prescribe for a garden-variety infection of dental origin?

	Antibiotic	Dose		Notes
		Loading	Regimen Use all for 5-7 days Schedule	
1	Penicillin VK	1000 mg	500 mg qid	Should see improvement in 2-3 days
2	Amoxicillin	1000 mg	500 mg tid	Broader spectrum, more effective, BUT more expensive, should be reserved for unresolved infections /immunocompromised patients.
3	Augmentin	1000 mg	500 mg tid	
4.	Clindamycin	600 mg	300 mg qid	First choice for patients allergic to Penicillin
+	Metronidazole	1000 mg	500 mg qid	May add if sx worsen after 2-3 days. Only effective against anaerobes. Confirm dx, tx, before prescribing!

Not indicated for endodontic infection:	
Erythromycin	Doxycycline
Clarithromycin/Azithromycin	Ciprofloxacin
Cephalosporins	

Infection Basic Rules of Thumb:

1. The resolution for infections caused by an infected or necrotic dental pulp is hinges on **removal of the pulp or the tooth.**
2. **Pus must pass.**

a. If there is swelling causing pain, whatever the origin, in addition to removing the pulp or tooth, the swelling usually should also be drained.

b. Periodontal swellings are usually relieved when the swelling is drained, usually by incising a healthy area of tissue over the swelling (not an area where the abscess is "pointing" tempting as it is!), even though that's not the final treatment.

c. Pericoronitis can be drained with a perio probe and irrigated to relieve pain- sometimes if the pain is caused by occlusion macerating the tissue, the upper tooth can be removed (they are frequently easy to remove) and the tissue allowed to heal for a day or two prior to scheduling removal of the lower third molar.

What should I use for pain management?

There are lots of opinions on this as well as what you have learned in Pharmacology. In general, mild-moderate pain is best treated with NSAIDs unless there is a contraindication (other meds or a medical contraindication), with small number prescriptions (20 tabs or less) for short term management of break-though severe pain. For more information on specific options, click on the **Dental Pain Management** item.

Dental Pain Management