

CHAPTER 5

DENTAL CARE AND EMERGENCIES

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DENTAL CARE AND EMERGENCIES

INTRODUCTION

A dental emergency can easily become a major crisis out at sea. Treatment of dental emergencies is challenging under austere conditions and/or in minimally dentally equipped sick bays. Dental health and continual prevention of disease should be a constant priority. Regular dental exams and treatment can help prevent potential dental emergencies. However, recent dental treatment, such as tooth extractions, can also contribute to dental emergencies when there are post-operative complications. Thus, allow adequate healing time between dental treatment and going to sea.

Many dental problems present as pain. The first step in evaluating oral pain is to determine its cause. A differential diagnosis is important to identify or rule out active infection that could be treated, or, if untreated, could become life threatening. Many oral diseases result in infection but prompt diagnosis and treatment can help to avoid serious complications. Also, pain arising from non-dental sources such as myofascial inflammation, temporomandibular dysfunction, sinusitis, neuralgias, and the ears must always be considered in the differential diagnosis.

An organized approach to find the cause of the pain will help to make the diagnosis and determine the treatment. The following should be considered:

Location: Quadrant – Upper Left, Lower Left, Upper Right, Lower Right

Duration: Onset and length of time

Type of Pain: Sensitivity to temperature, mastication, sweets, and/or spontaneous pain

Swelling: Diffuse vs. Localized

Bleeding: Yes/No

Vitals: Normal vs. elevated/lowered Temperature, Blood Pressure, Pulse

DENTAL DISEASES THAT MAY PRESENT AS DENTAL EMERGENCIES

The following are dental diseases that may present as dental emergencies. It is always wise to consider a radio consult with a dentist or oral surgeon when treating a dental emergency. Additional dental information can be found at the American Dental Association website at: <http://www.ada.org/>

ACUTE NECROTIZING ULCERATIVE GINGIVITIS

Assessment:

The disease is characterized by bad breath and extremely painful, ulcerated gums that are covered by a grayish film that can be wiped off with gauze. The patient complains of not feeling well. The interproximal gums (the gums between the teeth) in the lower anterior region are most often affected.

Treatment:

Manually remove as much plaque as possible with a toothbrush. (Xylocaine gel may be placed on the gingiva before brushing. Tissue will be very sensitive with or without xylocaine.).

Stress to the patient the need for good nutrition, oral hygiene and plenty of rest. Cigarette smokers should discontinue habit. This is important since the cigarette smoke irritates the ulcers.

The use of dental floss and thorough brushing several times a day is a must!
Have patient swish with 1 cap full of chlorhexidine (Peridex) for 30 sec and expectorate, b.i.d. X 7 days

Administer analgesics, PO, for pain prn.

Options:

- Ibuprofen (Motrin), 400 mg, 1 - 2 tablets, q 4-6 hours.
- Acetaminophen (Tylenol), 650 mg, q 4-6 hours.
- Acetylsalicylic acid (Aspirin), 650 mg, q 4-6 hours.
- Acetaminophen with codeine (Tylenol # 3), 1 - 2 tablets q 4-6 hours for severe pain.

Notify dental clinic and arrange for patient to be seen as soon as possible.

ALVEOLAR OSTEITIS ("DRY SOCKET")

Assessment:

A "dry socket" can be a complication of a tooth extraction or when a tooth is just "knocked out". This is a very painful condition. It results if the clot that forms after tooth extraction is lost too early (usually 2-3 days after surgery). The extraction site (socket) will have a grayish appearance and there is usually a bad odor.

Treatment:

Use sterile water or saline to gently irrigate the socket and remove necrotic debris.

Apply a palliative medication: Nu-gauze slightly moistened with Eugenol placed in the socket for 24 hours. This should relieve the intense ache within 30 - 40 minutes. Continue to change the dressing every 24 hours for 3 days, gently irrigating the extraction site with sterile saline before replacing dressing.

Administer analgesics, PO, for pain prn.

Options:

- Ibuprofen (Motrin), 400 mg, 1 - 2 tablets q 4-6 hours.
- Acetaminophen (Tylenol), 650 mg, q 4-6 hours.
- Acetylsalicylic acid (Aspirin), 650 mg, q 4-6 hours.
- Acetaminophen with codeine (Tylenol # 3), 1 - 2 tablets q 4-6 hours for severe pain.

Notify dental clinic of any persistent symptoms and arrange for patient to be seen as soon as possible.

APHTHOUS ULCER

Assessment:

These blister-like sores usually appear on the tongue, lining of the cheeks, the floor of the mouth, and the roof of the mouth. The exact cause of them is unknown.

Treatment:

Administer topical anesthetic, lidocaine viscous (oral preparation), 1 tablespoon four times a day (before meals and at bedtime) to provide short-term relief and to facilitate eating if patient has multiple ulcers. Have patient swirl medication in mouth for one to two minutes and expectorate.

Apply a protective dental paste (Orabase) to individual ulcers 4 times a day (after meals and at bedtime) to prevent irritation by the teeth and oral fluids.

Notify dental clinic if condition worsens or does not resolve in 7-10 days.

AVULSED TOOTH / DISPLACED TOOTH

Avulsed Tooth

Assessment:

An avulsed tooth is one that has been torn or knocked out of the socket.

Treatment:

Immediate Action: Examine socket area and gums for any obvious bone fragment or deformity (remove any loose deformity).

Place tooth in Save A Tooth solution (Hanks Balanced Salt Solution) for 20 min.

Reimplant tooth in socket site (If unable to reimplant leave in solution).

Place a small amount of wax on the avulsed tooth and adjacent teeth to help stabilize tooth.

Clinical Note: Do not scrape tooth. If Save A Tooth solution is not available, other storage solution options include the following (in order of preference): milk, saline, saliva, or sterile water.

Administer analgesics, P.O. for pain as required.

Options:

- Ibuprofen (Motrin), 400 mg, 1 - 2 tablets q 4-6 hours.
- Acetaminophen (Tylenol), 650 mg, q 4-6 hours.
- Acetylsalicylic acid (Aspirin), 650 mg, q 4-6 hours.

Administer appropriate antimicrobial therapy:

- If patient is **NOT** allergic to penicillin, administer Phenoxymethyl Penicillin (Pen VK), 500 mg P.O. q.i.d. x 7 days. OR
- If patient **IS** allergic to penicillin, administer Clindamycin (Cleocin), 300 mg P.O. q.i.d. x 7 days.
- Administer tetanus toxoid 0.5 ml or immunoglobulin as indicated.

Seek definitive care based on dental consultation.

DISPLACED TOOTH

Assessment:

A displaced tooth is one that is traumatically moved from its normal position in the jaw but is not completely knocked out of its socket.

Treatment:

Immediate Action: Attempt to reposition tooth in socket with finger pressure and stabilize with wax if tooth is very loose.

If unable to move tooth into original position, place gauze between posterior teeth as a jaw rest.

Contact dentist to determine evacuation priority and modality

Administer analgesic P.O. for pain as required.

Options:

- Ibuprofen (Motrin), 400 mg, 1 - 2 tablets q 4-6 hours.
- Acetaminophen (Tylenol), 650 mg, q 4-6 hours.
- Acetylsalicylic acid (Aspirin), 650 mg, q 4-6 hours.
- Acetaminophen with codeine (Tylenol # 3), 1 - 2 tablets q 4-6 hours for severe pain.

Seek definitive care based on dental consult.

CARIES**Assessment:**

Dental decay (caries) is a disease caused by bacterial plaque that forms on the teeth. It is also known as “cavities”. The appearance will vary depending on the severity. Initial caries appears as a white spot on the tooth or a halo-like dark shadow in the enamel. Caries that produce pain are usually in the advanced stages, appearing as very large dark areas or even as a wide-open hole in the tooth.

Treatment:

Remove any gross debris if visible with saline irrigation or floss.

Administer analgesics, P.O., for pain as required.

Options:

- Ibuprofen (Motrin 400 mg, 1 - 2 tablets q 4-6 hours.
- Acetaminophen (Tylenol), 650 mg, q 4-6 hours.
- Acetylsalicylic acid (Aspirin), 650 mg, q 4-6 hours.

If symptoms are relieved, make a routine scheduled appointment.

If symptoms are not relieved with analgesics, notify dental clinic and arrange for patient to be seen as soon as possible.

FRACTURED TOOTH OR CROWN

Assessment:

A fractured tooth will show an obvious piece of missing tooth. The fracture can involve just the enamel or can be so severe as to involve the pulp, where the nerves and blood vessels are located.

Treatment:

Immediate Action:

- Mix glass ionomer restorative material (Vitrebond).
- Cover exposed area with restorative material.
- Smooth surfaces of material applied.
- Have patient bite down gently to check occlusion of teeth.
- Remove any excess material.

Administer analgesics, P.O. for pain as required.

Options:

- Ibuprofen (Motrin), 400 mg, 1 - 2 tablets q 4-6 hours.
- Acetaminophen (Tylenol), 650 mg, q 4-6 hours.
- Acetylsalicylic acid (Aspirin), 650 mg, q 4-6 hours.
- Acetaminophen with codeine (Tylenol # 3), 1 - 2 tablets q 4-6 hours for severe pain.

Clinical Note: If symptomatic after treatment, notify dental clinic and arrange for patient to be seen as soon as possible (ASAP). If asymptomatic after treatment, make a routine scheduled appointment

GINGIVITIS (ACUTE PAINFUL)

Assessment:

Gingivitis is red swollen, painful gums.

Treatment:

Advise patient to maintain good oral hygiene.

Have patient swish with 1 cap full of Peridex for 30 sec and expectorate, b.i.d.. x 7 days.

Administer analgesic, P.O. for pain as required.

Options:

- Ibuprofen (Motrin), 400 mg, 1 - 2 tablets q 4-6 hours.
- Acetaminophen (Tylenol), 650 mg, q 4-6 hours.

- Acetylsalicylic acid (Aspirin), 650 mg, q 4-6 hours.

Notify dental clinic and arrange for patient to make a routine scheduled appointment.

PERIAPICAL ABSCESS

Assessment:

A periapical abscess forms in the bone at the tip of the root as a result of a dying or infected tooth. As the abscess forms, pressure from the swelling and pus formation causes the tooth to be pushed up in its socket. If the built up pus has no where to drain, the jaw may swell and the patient will have much pain.

Treatment:

Immediate Action: If obvious superficial fluctuant swelling is present, induce drainage with #11 Bard Parker.

Contact Dentist

Administer analgesics P.O. for pain as required.

Options:

- Ibuprofen (Motrin), 400 mg, 1 - 2 tablets q 4-6 hours.
- Acetaminophen (Tylenol), 650 mg, q 4-6 hours.
- Acetylsalicylic acid (Aspirin), 650 mg, q 4-6 hours.
- Acetaminophen with Codeine (Tylenol# 3), 1 - 2 tablets q 4-6 hours for severe pain.

Administer appropriate antimicrobial therapy:

- If patient is NOT allergic to Penicillin, administer Phenoxymethyl Penicillin (Pen VK), 500mg P.O. q.i.d. x 7 days. OR
- If patient IS allergic to Penicillin, administer Clindamycin (Cleocin), 300 mg, P.O. q.i.d. x 7 days.

Notify dental clinic and arrange for patient to be seen as soon as possible.

PERICORONITIS

Assessment:

This is inflammation of the flap of tissue formed over a partially erupted tooth. The most common site is around the second or third molar (wisdom tooth).

Treatment:

Immediate Action: If possible, remove obvious plaque buildup by irrigation of the area using large amounts of saline and an irrigation syringe. Care must be used, as this area will be very tender.

Stress to the patient the need for good oral hygiene to improve the condition of the gum in spite of the pain or bleeding.

Have patient swish with 1 cap full of Peridex for 30 sec and expectorate, b.i.d. x 7 days.

Dispense an irrigation syringe to patient and show them how to irrigate area four times a day with saline solution.

Administer analgesics, P.O. for pain as required.

Options:

- Ibuprofen (Motrin), 400 mg, 1 - 2 tablets q 4-6 hours.
- Acetaminophen (Tylenol), 650 mg, q 4-6 hours.
- Acetylsalicylic acid (Aspirin), 650 mg, q 4-6 hours.
- Acetaminophen with codeine (Tylenol # 3), 1 - 2 tablets q 4-6 hours for severe pain.

Contact Dentist

If relief is not evident in 4 to 8 hours, administer appropriate antimicrobial therapy and notify dental clinic of any persistent symptoms:

- If patient is **NOT** allergic to Penicillin, administer Phenoxymethyl Penicillin (Pen VK), 500 mg, P.O. q.i.d. x 7 days. OR
- If patient **IS** allergic to Penicillin, administer Clindamycin (Cleocin), 300 mg P.O. q.i.d. x 7 days.
- Notify dental clinic and arrange for patient to be seen as soon as possible.

PERIODONTAL ABSCESS**Assessment:**

A periodontal abscess forms in the gum tissue. It is associated with toothache, mobility, and eventually loss of the tooth.

Treatment:

Immediate Action: If possible, remove obvious plaque buildup by irrigation of the area using large amounts of saline and an irrigation syringe. Care must be used, as this area will be very tender.

Stress to the patient the need for good oral hygiene to improve the condition of the gum in spite of the pain or bleeding.

Have patient swish with 1 cap full of Peridex for 30 sec and expectorate, b.i.d. x 7 days.

Administer analgesics, P.O. for pain as required.

Options:

- Ibuprofen (Motrin), 400 mg, 1 - 2 tablets q 4-6 hours.
- Acetaminophen (Tylenol), 650 mg, q 4-6 hours.
- Acetylsalicylic acid (Aspirin), 650 mg, q 4-6 hours.
- Acetaminophen with codeine (Tylenol # 3), 1 - 2 tablets q 4-6 hours for severe pain.

Contact Dentist

Administer appropriate antimicrobial therapy:

- If patient is **NOT** allergic to penicillin, administer phenoxymethyl penicillin (Pen VK), 500 mg, P.O. q.i.d. x 7 days.
- If patient **IS** allergic to penicillin, administer Clindamycin (Cleocin), 300 mg, P.O. q.i.d x 7 days.
- Notify dental clinic and arrange for patient to be seen as soon as possible.

PULPITIS

Assessment:

Pulpitis is inflammation of the pulp. (Pulp is the living material inside the tooth.) Pulpitis occurs when bacteria from the mouth gets into the tooth's pulp from deep caries (cavities).

Treatment:

Immediate Action: Administer analgesics, P.O. for mild or moderate pain as required.

Options:

- Ibuprofen (Motrin), 400 mg, 1 - 2 tablets q 4-6 hours.
- Acetaminophen (Tylenol), 650 mg, q 4 - 6 hours.
- Acetylsalicylic acid (Aspirin), 650 mg, q 4 - 6 hours.
- Acetaminophen with codeine (Tylenol # 3), 1 - 2 tablets q 4-6 hours for severe pain.

Clinical Note: If symptoms do not improve in 24 hours, notify dental clinic and arrange for patient to make a routine scheduled appointment.

Administer appropriate antimicrobial therapy:

- If patient is **NOT** allergic to penicillin, administer phenoxymethyl penicillin (Pen VK), 500 mg P.O. q.i.d. x 7 days. OR
- If patient **IS** allergic to penicillin, administer Clindamycin (Cleocin), 300 mg P.O. q.i.d. x 7 days.

Notify dental clinic and arrange for patient to be seen as soon as possible.

SUGGESTED DENTAL MATERIALS TO HAVE STOCKED IN YOUR SICKBAY

1. 2-tray cantilever style heavy-duty plastic utility box (1)
2. Dental rope utility wax used for stabilizing loose or subluxed teeth
3. Cotton gauze rolls 50 per pkg (4)
4. 3"x 3" mixing pads 100 sheets/pkg (2)
5. Stainless steel cement spatula for mixing medicaments, cements, dressings, etc. (1)
6. Stainless steel plastic filling instrument for application of cements, dressings, etc. (1)
7. Cotton tipped applicators for application of topical anesthetic (50)
8. Wooden tongue depressors for mixing of periodontal dressing (50)
9. Topical anesthetic 20% Benzocaine gel 30gm bottles (2) - used for topical mucosal anesthetic
10. Glass ionomer restorative material such as Vitrebond standard package (1) - used for covering fractured teeth.
11. Zinc oxide/eugenol temporary cement (powder and liquid) such as Temp Bond NE (1) - used to cement loose crowns or bridges.
12. Topical oral bactericidal solution such as Peridex 16oz. Multi-dose bottle (1) - used as a topical antibacterial agent in the mouth or buccal mucosa.
13. Dry socket medicament such as Nu-gauze 1 oz size. (1) – used for packing dry sockets (alveolar osteitis)
14. Save A Tooth solution (Hanks Balanced Salt Solution) kit (1)

Prompt treatment of dental emergencies can prevent potential life threatening complications. Recognition of disease states, accurate diagnoses, and appropriate treatment will contribute to successful outcomes.

SUGGESTED MEDICATIONS TO HAVE STOCKED IN YOUR SICKBAY:

Analgesics:

- Ibuprofen (Motrin), 400mg
- Acetaminophen (Tylenol), 650 mg
- Acetylsalicylic acid (Aspirin), 650 mg
- Acetaminophen with codeine, (Tylenol# 3)

Antibiotics:

- Phenoxyethyl penicillin (Pen VK), 500 mg
- Clindamycin (Cleocin), 300 mg

Adjunctives:

- Chlorhexidine Rinse

Prompt treatment of dental emergencies can prevent potential life threatening complications. Recognition of disease states, accurate diagnoses, and appropriate treatment will contribute to successful outcomes

REFERENCES:

Delmar's Dental Assisting, by Phinney and Halstead

Clinical Procedures for Medical Assistants, by Bonewit
Third Edition