

(Ref: Oral Pathology Ibsen & Phelan Ch 1-5, Darby & Walsh Ch. 39, Where There is no Dentist)

Objectives for Section E-1

Types of Dental Pain

Upon successful completion of this section the student will:

- a) Describe and differentiate between acute and chronic pain
- b) Describe and differentiate between localized and generalized pain
- c) Describe and differentiate between hypersensitivity pain and infection causing pain
- d) Describe and differentiate between hard tissue and soft tissue source of pain

Objectives for section E-2

Causes of Dental Pain

Upon successful completion of this section the student will:

- a) List the possible etiologies of hypersensitivity
- b) List the possible etiologies of hard tissue pain
- c) List the possible etiologies of soft tissue pain
- d) List the possible etiologies of pain arising from diseases of microbial origin
- e) List the possible etiologies of pain due to physical and chemical trauma

Objectives for section E-3

Treatment of Dental Pain

Upon successful completion of this section the student will:

- a) Describe and differentiate between temporary and permanent treatment for pain
- b) List at least 3 methods to reduce dentinal hypersensitivity
- c) Recognize signs of pain which require referral to the dentist
- d) Differentiate between scientific methods of pain control and local folklore
- e) Identify effective traditional methods of pain control

Manual for Section E-1

(Ref: Oral Pathology Ibsen & Phelan Ch 1-5, Darby & Walsh Ch. 38, 39, Where There is no Dentist)

Types of Dental Pain

- a) ***Describe and differentiate between acute and chronic pain***
 - Acute pain - short duration and relatively severe course
 - Chronic pain - persisting over a long time
- b) ***Describe and differentiate between localized and generalized pain***
 - Localized - restricted to a particular place
 - Generalized - diffuse, spread out over a larger area
- c) ***Describe and differentiate between hypersensitivity pain and infection causing pain***
 - Hypersensitivity - As an adverse reaction or pain in one or more teeth resulting from a thermal, chemical, or mechanical stimulus
 - Pain from inflammation/infection accompanies other signs of infection/inflammation: pain, redness, heat, swelling, loss of normal function. Can be from bacterial, viral, physical, autoimmune, developmental etc.....causes.
- d) ***Describe and differentiate between hard tissue and soft tissue source of pain***
 - Hard tissue –Injuries to the teeth including: Bruxism, abfraction, fractured tooth, abrasion, attrition, and erosion, recession,
 - Soft tissue – injuries to the soft tissue structures in the oral cavity; dry socket, pericoronitis, oroantral fistula,
 - Signs of inflammation - redness, swelling, heat, pain, loss of normal tissue function

Manual for section E-2

Causes of Dental Pain

- a) ***List the possible etiologies of hypersensitivity***
 - For dentinal hypersensitivity to occur the dentin must be exposed and dentinal tubules must be open at the dentinal surface and open to vital pulp.
 - The dentin is exposed as a result of gingival recession (cementum is exposed) or enamel loss (attrition, abrasion, erosion –intrinsic/extrinsic, abfraction)
 - Bruxism, abfraction, fractured tooth, abrasion, attrition, and erosion can all be causes of tooth sensitivity
- b) ***List the possible etiologies of hard tissue pain***
 - Bacterial, traumatic, iatrogenic (inadvertently caused by a dentist or by dental procedures)
 - Pulpitis – inflammation of the pulpal tissue that may be acute or chronic, with or without symptoms and reversible or irreversible
 - Periapical abscess - progression of acute pulpitis and is composed of exudate surrounded by connective tissue

- Acute osteomyelitis - a rapidly destructive inflammatory process in the bone consisting of granulation tissue, exudate, and islands of nonvital bone (Ref: Contemporary oral and max path.)

c) List the possible etiologies of soft tissue pain

- Inflammation, autoimmune diseases, infectious diseases, fungal and viral diseases
- Sialadenitis – painful swelling of the salivary gland
- Necrotizing sialometaplasia – painful swelling and ulceration in the affected area usually found in the junction of the hard and soft palate and caused by a blocked blood supply to the area
- Periapical abscess – inflammation of the dental pulp
- Alveolar osteitis (dry socket) – complication from tooth extraction , when blood clot is broken down and is lost before the healing can take place and pain develops
- Solar cheilitis – over sun exposure that results in degeneration of the tissue of the lips

d) List the possible etiologies of pain arising from diseases of microbial origin

- Necrotizing ulcerative gingivitis - painful, red gingiva with death of the interdental papillae. Occurs in people who are immunocompromised.
- Necrotizing ulcerative periodontitis-similar to NUG but affects the bone and support of the teeth. Painful, with deep periodontal pockets.
- Impetigo - bacterial infection caused by Staphylococcus Aureus. Presents as vesicles that rupture, resulting in thick amber crust.
- Tonsillitis and pharyngitis-inflammatory condition of the tonsils and pharyngeal mucosa.
- Tuberculosis - infectious chronic disease usually caused by Mycobacterium tuberculosis. Primarily infects the lung but organisms can be carried by saliva to the oral cavity. Painful, non healing, slowly enlarging ulcers.
- Actinomycosis - formation of abscesses that drain to the outside of the face by sinus tracts. Pus is made up of tiny, bright yellow grains.
- Syphilis-transmitted from direct contact from person to person through broken skin. Occurs in three stages.
- Pericoronitis - inflammation and infection around a partially erupted tooth.
- Acute / chronic osteomyelitis - inflammation of the bone and bone marrow. May be the extension of a Periapical abscess.

e) List the possible etiologies of pain due to physical and chemical trauma

Chemical

- Aspirin burn- placing aspirin directly onto tooth that is in pain instead of swallowing it
- Phenol burn- burning resulting in tissue destruction caused by a agent used in dentistry for cavity –sterilizing and cauterizing
- Electric burn- usually seen in children from have bitten an electric cord
- Mucosal burns from hot food, hydrogen peroxide, eugenol
- Lesions from crack cocaine

Physical trauma

- Lip, cheek and tongue biting, trauma to gingiva from fingernails
- Traumatic ulcers- forceful tooth brushing, biting sides of mouth
- Frictional keratosis- chronic rubbing oral mucosa that results in a thickening of keratin
- Nicotine stomatitis – raised red lesions on the hard palate from smoking
- Traumatic neuroma- lesion caused by injury to the peripheral nerve. May be caused by injection

- from local anesthetic or surgery

Manual for section E-3

Treatment of Dental Pain

a) Describe and differentiate between temporary and permanent treatment for pain

- Temporary – open and drain, antibiotics, pain killers, desensitization agents, temporary restorations
- Permanent- Restorative therapy, Root Canal Therapy, crowns, fillings, extractions

b) List at least 3 methods to reduce dentinal hypersensitivity

- Chemicals can be used to seal the dentinal tubules temporarily and eliminate or minimize the dentinal sensitivity.
 1. Fluorides can be used to precipitate fluoride rich crystals on the tooth surface
 2. Calcium hydroxide can be burnished into the root surface
 3. Cavity varnishes can be used to cover the tooth surface temporarily

c) Recognize signs of pain which require referral to the dentist

- Dental Pain, if from an unknown cause, should ideally always be referred to the dentist, however there are types of pain, such as dentinal hypersensitivity, mild soft tissue injuries, erupting permanent teeth, which can be managed with good oral hygiene, keeping the area clean and by letting time heal the source of the pain.

d) Differentiate between scientific methods of pain control and local folklore

Scientific methods of pain control involve:

- Removing the source of the pain:
Examples: removing the pulp (nerves and blood vessels) from an infected tooth, removing the severely decayed or broken tooth, placing moist heat on sore muscles.
- Anesthetizing (local anesthetic delivery with needles) when pain is going to be involved in repairing a dental problem

Local folklore for pain control involves:

- Acetaminophen by mouth
- Applying heat
- Eating soft foods
- Keeping the affected area clean

e) Identify effective traditional methods of pain control

(Ref: Where There is No Dentist)

Thrush (Candidiasis)

- Gently remove with a cloth or soft toothbrush 3 -4 times per day, rinse with salt water

Fever Blisters (Herpes Labialis)

- A virus which causes sores inside the mouth and around the lips. Usually affects kids between 1 & 4 yrs of age. Also occurs in people with HIV.
- Will normally clear up in 10 days.
- Modern dentistry recommends making sure the patient gets enough to eat and drink and waiting for the sores to clear up.
- Some local folklore recommends giving acetaminophen if there is a fever, wiping milk or yogurt over the sores before eating and possibly preparing a milk-oil drink if the patient is unable to eat normally.
Mix together: 9 cups of clean water, 3 cups of milk powder, 150 ml of peanut oil or coconut milk, and ½ cup of honey (or 1 cup of sugar)
- Local folklore also recommends holding ice against the sores for several minutes each day.

Sores at the corners of the mouth (Angular Cheilitis)

- May be due to multiple tooth loss or poor health.
- Modern dentistry would recommend dentures for the tooth loss to increase cheek and lip support, a diet high in vitamins and minerals will help when these sores are due to poor health.
- Local folklore may recommend washing the sores with soap and hot water, smearing a mixture of sulfur and petroleum jelly (1 part sulfur and 10 parts petroleum jelly/Vaseline) on the sores 3-4 times a day.

Dislocated Jaw

- In the absence of a dentist the jaw must be pushed back into position in the following manner:
Kneel in front of the patient. Put your fingers under the jaw and your thumbs inside the mouth beside the last molars on both sides (but not on the molars or you may get bitten). Press down hard with your thumbs and back quickly to force the jaw back into position. It must be quick and you must press down before you push back. The jaw can be supported with a bandage around the top of the head and under the chin for 3 or 4 days.