1. Pain is a complex, subjective response of intensity, time, quality, impact and personal meaning manifest as an unpleasant sensory and emotional experience arising from actual or potential tissue damage or described in terms of such damage.

2. The oral cavity has great *physiological* and *psychological* importance
   - Abundantly innervated both sensory and motor

3. Pain
   - Local reaction
     - use peripheral medications
   - Nerve pathways
     - local anesthetics
   - Brain perception
     - central medications

4. Oralfacial Apparatus Unequaled in Physiological Complexity
   - Facial expression displays emotions
   - Mastication for eating and enjoyment
   - T.M.J. - a unique ginglymoarthrodial joint
   - Mammalian nature and oral gratifications

5. Oral Cavity Emotional and Psychological Importance
   - Self-test

6. Significance of Pain Control
   - Emotional
   - Psychological
   - Cultural
   - Physiological

7. Psychiatric Disorders Related to Dentistry
   - Atypical facial pain
   - Dry mouth
   - Burning mouth/tongue
   - Caries
   - Oral delusions
   - Mucosa lesions

8. The potential for pain, acute and/or chronic and severity of pain confront the dental profession daily.

9. Pain Definitions
   - *Nociception* - Conduction of pain impulses to CNS
   - *Pain* - Conscious perception of nociception impulses
   - *Suffering* - Emotional response to pain
   - *Pain Behavior* - Patient's social conveyance of suffering
   - *Acute Pain* - Nociception without excessive suffering
   - *Chronic Pain* - Suffering is excessive and extends beyond the expected healing time
   - *Psychogenic Pain* - Pain without nociception - no organic cause
10. Acute Pain Functions
   • Promotes survival
   • Warns of impending tissue damage
   • Signifies need to rest
   • Degree of suffering consistent with degree of nociception

11. Chronic Pain Characteristics
   • Psychological/emotional features dominate the complaint
   • Preoccupation/obsession
   • May be non-anatomic distribution
   • Decreased pain tolerance
   • Long standing, continuous nociception
   • Relapse of symptoms with therapies
   • Physical and emotional deterioration
   • Frustration, anxiety, apprehension, fear

12. Chronic Pain Behavior
   • Tolerance, dependence, and addiction to drugs and all types of treatment
   • Dependency on family, friends, and medical-dental care providers
   • Anxiety
   • Depression
   • Hostility
   • Distraught in Detroit

13. Chronic Pain Features
   • No biological function
   • Destructive physically, psychologically and socially
   • Depletes and/or decreases endorphins
   • Have organic and psychogenic components
   • Treatment provides placebo effect, reinforces pain behavior and results in increased pain severity

14. Dental Treatment of Chronic Pain
   • Excessive morbidity and expense
   • Associated with headache, depression, anxiety and stress

15. All pains, no matter the original type or origin, develop psychological intensification with increased chronicity

16. Chronic Pain Management
   • Management shifts from local to systemic modalities as pain goes from acute to chronic
   • Improve coping skills
   • Focus pain control on behavior changes
   • Tricyclic antidepressants have minimal effect on acute pain, but work well with chronic pain

17. General Principles in Pain Control
   • Prevention
   • Assessment
   • Evaluation

18. Pain Control
   • The single, most important factor in patient acceptance and compliance is your presentation of the drug
19. Pain Control
   • You must be positive and make positive statements, "it will work and decrease your pain to an acceptable level"

20. Prevention of Pain
   • Established pain is difficult to control
   • Prevention - Before, During, and After dental procedures
   • Abort negative physical and psychological consequences

21. *Explain Unable to Eliminate Pain*
   • Not practical, desirable nor realistic
   • Discomfort reduced to acceptable levels

22. Assessments of Pain
   • Patient's self-report
     - Discuss patient's previous experiences with pain and medications
     - Patient's personal beliefs and preferences for pain assessment and management
     - Patient information about pain management, therapies and rationale

23. Evaluation of Pain
   Self-reported measurement scales
   • Numerical rating - basis for discussion and evaluation
   • 0 to 10, example 2 - 3/10 or 9/10
   • Record number for reference, 6/10 at 2:00 p.m.

24. Supplemental Non-Pharmacological Pain Control Options - Allows Patient Control
   • Behavioral interventions
     - Relaxation, imaging, music distraction, biofeedback
   • Physical agents
     - Heat, cold applications, massage, exercise, T.E.N.S. (transcutaneous electrical nerve stimulation)
   • Both provide comfort, correct physical dysfunction, alter physiological responses and pain-related immobility

25. Reassess the Pain If Patient Does Not Respond To Control Measures
   • Poorly controlled pain
   • Changing interventions, i.e. adding opioid to NSAID
   • Recheck diagnosis - seek additional diagnoses, infection, other problem
   • Reevaluate current pain therapy
   • Question emerging chronic pain syndrome behavior

26. Pain Control - Pharmacological Considerations
   • Disease-drug interactions
   • Drug-drug interactions
   • Potential drug abuse
   • Age
   • Culture
   • Patient preferences

27. Systemic Disease Via History and Interview
   • Analgesic selection
   • Dosage
   • Use
28. Systemic Disease/Analgesic Selection
   • Allergy to drugs
   • Liver disease
   • Kidney disease
   • Coagulopathy
   • Ulcers
   • Hepatic impairment
   • Renal impairment
   • Psychiatric disorders
     - Major depressive disorder - suicide
   • Pulmonary diseases
   • Neurological disorders
     - Seizure disorder

29. Systemic Disease/Dosage Selection
   • Metabolized by
     - Liver
     - Kidney
   • Dose adjusted - pharmacokinetics
     - Lower
     - Less frequently
     - Both lower and less frequently

30. Drug History and Drug Usage
   • Drug-drug interactions
     - Prescribed/O.T.C. medications
     - Recreational drugs
   • Previous chemical dependency
   • Drug patient specific responses
     - High/low tolerance
     - Side effects
     - Unusual effects

31. Elderly Patient Responses
   • Sensitive to opioids
     - Depression/sedation
     - Urinary retention in elderly males with prostate hypertrophy
     - Constipation/intestinal obstruction
     - Mental/cognitive impairment
     - Gastric/renal toxicity
     - Headaches

32. Current or Previous Chemical Dependency
   • Addressed openly
   • "Legal" drug addicts
     - Addicted to sedatives, anti-anxiety, tranquilizers
   • "Recreational" drug users
     - Dentists - "easy touches"
     - Pain medications, alone, combined with other drugs, alcohol, or "traded up"
33. Recovering or Previous Drug Abusers
   • Potential for "Iatrogenic Sabotage"
     - Always ask if they ever had a chemical dependency problem
   • Before prescribing
     - Ask patient what to use
     - Call chemical dependency program/support group
     - Call for substance abuse information
     - Hospitals/pharmacies
   • Use peripheral analgesics/NSAIDS

34. Drug-Drug Interactions
   • Complex and changing
   • Careful patient monitoring for unusual reactions
   • Sources of information
     - Consultation with dispensing pharmacist
     - Newer computer programs (medical status, current medications offer suggestions for analgesics)

35. Development of Drug List
   • Anesthetic or analgesic agent
     - Understanding of administration, dosage, contraindications, side effects, overdose treatment, etc.
     - Familiarity with drug
   • Previous prescribing practice
     - Cost
   • Have three to five drugs for
     - Peripheral
     - Opioid
     - Combination drugs

36. Pain Management
   • Anticipate the amount of pain and treat degree of severity
   • Treat aggressively before pain becomes established and difficult to manage
   • Administer around the clock to prevent pain
   • Have available "rescue" doses

37. Pain Control
   • Start with NSAIDS for mild to moderate
   • Moderately severe to severe use opioids with NSAIDS
     - NSAIDS are opioid dose-sparing
     - NSAIDS reduce side effects of opioids
   • Opioid analgesics tolerance and physiological dependence are rare in short term use
   • Acute pain use of opioids unlikely to cause addiction and/or psychological dependence

38. N.S.A.I.D.S. Propionic Acid Types
   - Fenoprofen - Nalfon
   - Flurbiprofen - Ansaid
   - Ibuprofen - Motrin (& Advil, Nuprin, etc.)
   - Ketoprofen - Orudis
   - Naproxen - Naprosyn
   - Naproxen Sodium - Anaprox (& Aleve)
39. N.S.A.I.D.S. Acetic Acids
   - Diclofenac Potassium - Cataflam
   - Diclofenac Sodium - Voltaren
   - Etodolac - Lodine
   - Ketorolac - Toradol
   - Oxaprozin - Daypro
   - Mefenamic Acid - Ponstel
   - Diflunisal - Dolobid

40. Advantages of N.S.A.I.D.S.
   • No sedation (+/-)
   • No constipation
   • No respiratory depression
   • No central side effects (nausea/vomiting)
   • No potential for abuse or habituation
   • Major (+) anti-inflammatory effect

41. Disadvantages of N.S.A.I.D.S.
   • G.I. irritation
   • No sedation
   • Not narcotic so patients will question pain relief (only narcotics work on my pain)
   • Possible platelet effects

42. Disease/Patient Considerations with N.S.A.I.D.S.
   • Bleeding/anticoagulant therapy
     - Avoid the use of NSAIDS
     - If major surgery, stop A.S.A. or Feldene 7-10 days before
     - Other NSAIDS stop 24 hours prior
   • Asthma
     - Use of them if had ASA/NSAID trigger attack
     - 5% of asthmatics allergic to them
   • Gastritis/alcoholism/hiatal hernia/ulcers/steroids - question the use of NSAIDS

43. Effects of N.S.A.I.D.S.
   • Gastric mucosa
     - Inhibit prostaglandins
     - Direct irritation & erosion (8 oz. of water better than food to decrease irritation)
   • Kidney
     - ↓ Renal perfusion/glomerular filtration
     - ↑ Sodium/water retention
   • Platelets
     - Reversible inhibition of platelet aggregation with nonsalicylate NSAIDS
     - Irreversible inhibition with aspirin
   • C.N.S.
     - Dizziness, headache and drowsiness
44. NSAID Drug Interactions
- Anticoagulants
  - Prolonged P.T.
  - G.I. bleeding
  - Additive antiplatelet effect
- Cyclosporine
  - ↑ Nephrotoxicity of both
- Digoxin
  - Ibuprofen may ↑ digoxin serum levels
- Diuretics (loop/thiazide)
  - ↓ effects
- Lithium
  - ↑ serum levels, watch toxicity
- Phenytin
  - ↑ levels
- Salicylates
  - ↑ adverse effects
  - no therapeutic advantage

45. Narcotics for Oral Use
- Codeine
- Hydrocodone - Vicodin, Lortab
- Meperidine - Demerol
- Oxycodone - Percodan/Percocet
- Propoxyphene Hcl - Darvon
- Propoxyphene Napsylate - Darvon "N"

46. My Preference for Pain Control
- Aspirin
- Aleve (Naproxen Sodium)
- Advil (Ibuprofen)
- Tylenol with Codeine #3 Acetaminophen and Codeine
- Vicodin E.S. Hydrocodone and Acetaminophen

47. Anticipated Pain Analgesics
- Mild Analgesics
  - Aspirin - usual adult dose 650 mg q 4 h
  - Acetaminophen (Tylenol) - 650 mg q 4 h not to exceed 4 g/day, peak 1/2 - 2 hr, 1/2 life 1-3 hr
- Moderate Analgesics
  - Ibuprofen - Advil 200 mg OTC; Motrin. Adult dose 200-800 mg qid, < 3.2 g/day, peaks 1-2 hr, 1/2 life 2-4 hr
  - Naproxen - Aleve (Naproxen sodium) 220 mg; Naprosyn - 250-500 mg bid, < 1 g/day. Adult dose 500 mg q 12 h, peaks 2-4 hr, 1/2 life 3-3.5 hr
- Moderate to Severe Pain Analgesics
  - Acetaminophen with Codeine DEA III
  - Tylenol with Codeine #1-4 - 7.5, 15, 30, 60 mg Codeine
  - Acetaminophen 300 mg
  - Adult dose 1 and rescue 2 q 3-4 hr
  - Codeine peak 1-2 hr, 1/2 life 2.5-4 hr
- Severe Pain Analgesics
  - Acetaminophen 750 mg DEA III, Vicodin-ES Hydrocodone 7.5 mg, adult dose 1 tablet q 4-6 h
  - Morphine DEA II, usual adult dose 10-30 mg q 4 h 10 mg q 4 h, rescue 10 mg dose in 30 minutes. Bed Rest!
48. The Unknown Emergency Patient
   • Ask for 2-3 forms of identification
   • Call the regular dentist
   • Look up the dentist's telephone number and address in the phone book
   • Verify information with their dentist
   • Limit number of pills

49. Prescription Protection
   • Blue ink
   • Lines before/after number of pills/dosage
   • Numbered order of script sheets
   • Lock up pads

NOTES: