From Pain to Wellness
Opioids and Beyond

Pacific Dental Conference
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Occupational and Addiction Medicine
Key Points

- Opioid Addiction ‘Epidemic’
- Fentanyl ‘Crisis’
- Addiction?
- Health Professionals – Dentists
  - Prescribers?
  - Patients?
- Potentially impairing conditions
- Safe and sustainable return to work
• Endogenous opioids - ‘endorphins’
• Opium alkaloids e.g morphine and codeine – ‘opiates’
• Semi-synthetic ‘opioids’ - heroin, oxycodone, hydromorphone and buprenorphine
• Fully synthetic ‘opioids’ - methadone, fentanyl that have structures unrelated to the opium alkaloids
Since 2008, 15,000 deaths per year. This exceeds MVA deaths in 30 states.

How did we get here?

Industry-funded “education” emphasized

- Opioids are extremely safe and effective for treatment of chronic non-cancer pain.
- Opioid addiction is extremely rare in patients with pain - less than 1% (CR safer than IR)
- Opioid therapy can be easily discontinued.
- Because of “opioiphobia”, physicians are allowing patients with pain to suffer needlessly
‘In Guilty Plea, Oxycontin Maker to Pay $600M’

'three current and former executives pleaded guilty today in federal court to criminal charges that they misled regulators, doctors and patients about the drug’s risk of addiction and its potential to be abused'
Canada & Opioids?

- 2nd highest opioid consumption among developed countries
- Rate of pharmaceutical use tripled over past decade
- BC dispenses more than double the amounts of opioids compared to Quebec
- ‘Opioid Addiction Epidemic’, ‘Fentanyl Crisis’
Efficacy of Long-term Opioids?

• No study evaluated effects of long-term opioid therapy (>1 year) versus placebo or no opioid therapy for outcomes of pain, function or quality of life for ANY type of painful condition.

• Evidence on long-term opioid therapy for chronic pain is very limited but suggests an increased risk of serious harms that appears to be dose-dependent.

• Risk of Overdose

• Risk of Addiction
Prescription Opioid Involved Overdoses Washington State

120mg equivalents/day
Dose-related risk of Opioid Overdose

Risk of adverse event

- Dunn 2010
- Bohnert 2011
- Gomes 2011
- Zedler 2014

Dr Gary Franklin
Dose threshold policies

2007: Washington Agency Medical Directors’ Opioid Dosing Guidelines
- 120 mg MED/day threshold dose
- Re-evaluation and pain management consultation if needed

2009: APS/AAPM guideline
- 200 mg MED/day “watchful” dose
- Based on doses evaluated in trials and observed in observational studies
- Recommended re-evaluation for appropriateness of therapy, enhanced monitoring, consider consultation

2010 Canadian Guidelines for Opioids in Non-Cancer Pain
- Watchful dose 200 mg MED/day

Subsequent policies have generally recommended dosing thresholds of 80-120 mg/day MED;
• Preference ‘non-pharmacological ...non opioid pharmacological therapy’ for treatment of pain

• Prescribe ‘immediate-release...instead of extended-release/long-acting opioids’

• ‘lowest effective dosage of opioids’, in ‘no greater quantity than needed’, to address ‘pain severe enough to require opioids’

• ‘avoid... > 90mg ME/day’ dosing

• ‘evaluate benefits and harms’ of opioid therapy

• ‘avoid prescribing (opioids) and benzodiazepines concurrently’
Others

- **College of Physicians & Surgeons of BC**
  - Professional Standards and Guidelines: Safe Prescribing of Drugs with Potential for Misuse/Diversion
  - 50 mg/day careful reassessment and documentation
  - 90 mg/day substantive evidence of exceptional need & benefit
  - Effective June 1, 2016 & Revised August 5, 2016

- **American College of Occupational and Environmental Medicine** – 50 mg/day MED

- **2017 Draft recommendations for the Use of Opioids in Chronic Non-Cancer Pain** – National Pain Centre – < 50 mg/day MED
Six Steps to Safe and Effective Prescribing Opioids *IF* prescribed

1. Thoughtful patient selection
2. Care with dose size – ?50 mg MED
3. Don’t stock medicine cabinets (3 days dosing)
4. Avoid prescribing combinations e.g. BZDs
5. Prescribe lifestyle interventions
6. Use pharmacovigilance – Pharmanet, UDT, pill counts etc
Sources of prescription opioids for those that abuse them (adapted from SAMHSA 2010)

- Prescribed by one doctor: 56%
- Drug dealer / stranger: 17%
- Taken from friend/relative: 11%
- Purchased from friend/relative: 5%
- Free from friend or relative: 7%
- Other source: 4%
Opioid Abuse and Addiction is Dose Dependent

Long-term prescribed opioid use (>90 days supply) associated with increased risk of an opioid abuse or dependence diagnosis vs. no opioid treatment

- Low dose (1-36 mg MED/day): OR 15
- Moderate dose (36-120 mg MED/day): OR 29
- High dose (≥120 mg MED/day): OR 122

(Edlund 2014)
Legitimate opioid use before high school graduation is associated with 33% increase risk of opioid misuse by age 23

Limit acute prescriptions for teens to 3days/10tabs short acting opioids

Opioid prescribing ....and illicit market filling a vacuum

“This has been a problem in the making for a decade. The main driver is that we have prescribed too many prescription opioids for too long.”

Benedikt Fischer, senior scientist at CAMH

The Current
Controlling an Opioid epidemic - oversimplified?:

**Four pillar approach to addiction?**

- **Prevent** new cases of opioid addiction.
- **Treatment** for people who are already addicted.
- **Harm Reduction** - policies, programmes and practices that aim to reduce the harms associated with the use of psychoactive drugs in people unable or unwilling to stop.
- **Enforcement** - Provincial Colleges & law enforcement efforts to reduce over-prescribing and black-market availability.
Opiate Addiction Rx

Abstinence-Based Treatment
- Assessment
- Residential Treatment
- Peer Support
- Rigorous Follow-up & Monitoring

Medication Assisted Treatment
- Antagonist
  - Naltrexone
- Agonist
  - Methadone
  - Buprenorphine/Naloxone (Suboxone)
  - Slow Release Oral Morphine
  - Injectables
We see what we want to see
**Substance Abuse**
- Hazardous or harmful use with potentially negative consequences - dumb drinking and drugging

**Substance Dependence (‘Addiction’) (3 C’s)**
- Loss of Control
- Negative Consequences
- Compulsive use
Alcohol & Drug Use

Abstinent | Regular Use

?15+ | ?50 - 60%

Substance Use Disorders

Abuse  Dependence 10%

Early | Mid-stage | Late

‘Addiction’

“Pickle Line”

Baker
Before ‘Rock Bottom’

- Emotional/Spiritual
- ‘Psychiatric’
- Medical
- Family
- Social
- Financial
- Legal
- Work

Diagram:
- Early
- Mid-stage
- Late

Before ‘Rock Bottom’
Dental profession

Competitive
Compulsiveness
Perfectionism
Caring
Solo Practices & Isolation
Owners
How do Health pros ‘do’ illness?

- Life long tendency to self-reliance
- Denial
- Difficulty ‘surrendering’
- Arrogance
- Worry about confidentiality and privacy
- Especially ‘brain’ illness
What Drugs?

• Alcohol
• Opiates
• Cocaine
• Benzodiazepines
• Nitrous Oxide
High levels of stress/burnout, consistent with other studies of dentists' stress, were recorded. Hazardous levels of alcohol consumption, which were between two and four times higher than the normative South Australian population, were also reported, particularly among males and rural dentists.
‘Invisible Patients’

UK Dept of Health-appointed Professor Alastair Scotland 2010

- ‘Thousands of doctors and dentists are putting patients at risk because they are addicted to alcohol’
- ‘As many as 15 % of dentists (1:7) may have an alcohol problem, while some 7 % of doctors (1:15) have been addicted to alcohol or drugs at some point in their career.’
- ‘Medical professionals often fail to seek help because they fear they will be stigmatized or could lose their jobs. Others simply remain in denial’
Continuum

- Identification
- ‘Intervention’
- Comprehensive Assessment
- Primary Treatment
- ‘Aftercare’
- Medical Monitoring
- Return to Work
- ‘Recovery’
‘Impaired’ dental practice

- a dentist’s inability to perform essential job functions because of chemical dependency on drugs or alcohol or mental illness

- Many health professionals are not identified as having a problem until patient safety has been compromised (Clark & Farnsworth 2006)

- Most substance dependent dentists are excellent clinicians & many are ‘workaholics’
The Problems with Addictions

- Mimic other psychiatric and medical conditions
- Don’t get diagnosed by HCPs, in HCPs – no index of suspicion
- Colleagues, physicians, friends, families look the other way, cover up for, make excuses for
- Hence - They resist detection
• Physical signs?
• More likely signs?
• More likely Behaviours?
• Diverting drugs at work?
Barriers to asking for help?

- The distorted thinking of the disease - DENIAL
- Rationalizing/Minimizing
- Seeking help is a personal failure
- Lack of knowledge regarding help
- Insurance discrimination
- Fear of Confidentiality/Practice/License
- ‘Pedestal effect’
- Shame and Stigma
Barriers to dealing with drug and alcohol problems in peers?

- **No** index of suspicion!
- Hoping it will go away, not confronting, covering up
- Fear of reaction
- Pressure of time
- Lack of interest/ general pessimism
- Fear of having to notify CDSBC
- Co-dependency & Enabling - *Killing with Kindness*
Identification of Problem?

- Rarely Self
- Colleagues
- Family
- Staff
- Friends
- Patients
- Law
- College
- Coroner
‘Intervention’ = doing something

- Individual confronted by important people in his/her life with the help of experienced intervener
- Compassion & Caring
- Compelled to face the facts of dependency/behavior
- Agreed Outcome, e.g. DPAP, Stop Work, Proper Assessment
- No ‘Splitting’
- ‘Benevolent Coercion’
- Err on the side of action
Comprehensive Independent Bio-psycho-social Assessment

- Medical, psychiatric, psychosocial, addiction medicine, pain evaluation (include PharmaNet and collateral info) performed skilled addiction medicine physician
- Always includes lab work
- Result in itemized diagnoses, stressors and problems due to absent coping skills
- Produces a detailed, stepwise treatment plan
Comprehensive Independent Bio-psycho-social Assessment

Diagram:
- Biomedical
- Addictions
- Psychiatric
- Psychosocial
Treatment

• Right Place!
• Opportunity for prolonged inpatient care
• Psycho-educational emphasis
• Reconnecting with anesthetized feelings
• Introduce - Mutual Support concept
• Develop relapse prevention strategies
• Develop detailed ‘Aftercare’ Plan
• Coordinate monitoring, plan safe return to work, etc.
Relapse - a defining feature

- ‘The return of signs and symptoms of a disease after a patient has enjoyed a remission’.

- Recurrence of psychoactive substance dependent behaviour in an individual who had previously achieved and maintained abstinence for a significant period of time beyond withdrawal. (ASAM)
Relapse prevention – Isn’t he fixed

Amygdala not lit up

Amygdala activated

Nature Video

Cocaine Video
Factors contributing to relapse

- Failure to understand and accept the illness - Denial
- Poor mechanisms to deal with stress
- Poor relationship skills
- Inability to accept feedback
- Social and professional isolation
- Setting unrealistic goals
- Complacency & Overconfidence
- No ongoing recovery program
Roadblocks to Recovery

- Denial/sabotage by the addicted dentist
- Enabling by GP, family, employer, insurer, assn.
- Lack of baseline bio-psycho-social assessment
- Incomplete treatment
- Lack of contingency management & medical monitoring
Addicted MDs – What did we learn?

Using comprehensive monitoring, coordinated by an experienced Physician Health Program, reports demonstrate that over 70% of addicted physicians achieve five years of sobriety, are able to return to work, and resume a functional lifestyle.

- Smith and Smith-Oklahoma
- Canavan- New Jersey
- Talbott-Georgia
- Mansky-New York

* Under written agreement (MONITORED)
Contingency Management

- Evidence based
- Consequences/rewards for behaviour
- Couple benefits (licensure, disability insurance, employment, freedom) with attempted adherence
- Physicians, dentists, pilots, drug courts, driver diversion programs
- Support & Accountability
- The opposite to “enabling”
- Early Warning signs
‘What is Medical Monitoring’

• ‘Compulsory’ Supervision of patients who have completed comprehensive IME, and (satisfactory) primary treatment for Substance Dependence; and currently stable

• Monitors Compliance with ongoing treatment recommendations as detailed in written Relapse Prevention Agreement

• Assess quality of recovery

• Essential for safe RTW for SS workers with SD’s (and some mental disorders e.g. bipolar)

• It is not just ‘Pee-Testing’ by GP or ‘counsellor’
Physician Health Program  Monitoring:

- **Rigorous**
  - Comprehensive, no attrition
- **Biological**
  - Random or “for cause” biological testing
- **Behavioural**
  - Observations of treatment team, others
- **Contractual (RPA)**
  - With contingencies
- **Accountable**
  - Reporting on “need to know” basis
- **Minimize relapse or Identify early**
Re-evaluation/Fitness to Work

- Comprehensive Evaluation
- Appropriate Primary Treatment completed
- Reassuring Medical Monitoring in place
- Feel confident about timely reporting
- Contingency Behavioural Management
- Return to work planning integrated into a balanced recovery lifestyle
- Workplace conditions, restrictions and accommodations
- Transfer of information to workplace? College?
Facts of Addiction Treatment

- ‘Addiction’ is a progressive brain disease
- Chronic pattern of Remission & Relapse
- Identify & Intervene early
- Assessment & Treatment
- Not ‘curable’ but responds to treatment
- When you get the switch switched off – Keep it off!
- Monitored Aftercare works
- Medical Monitoring is not tyranny – It is part of therapy
Some Nuggets

- Alcohol is by far the most likely drug affecting workplace health, safety & morale (10%)
- Most clinics have no index of suspicion, no process
- Individual becomes progressively more ill for many years before ‘impairment’
- Regulatory body can make a huge difference and save lives
- Colleagues can often intervene earlier and save careers
Dealing With The Chemically Dependent Health Professional?

- Because the illness is often progressive and potentially lethal in Health Professionals, early diagnosis is important.
- Self diagnosis would be great but true ‘self-referral’ is rare.
- Because of Denial, waiting for the impaired colleague to “get it” is unconscionable.
- Death from suicide or lethal overdose may be the initial presentation of substance use disorder.
- Early Identification, Timely Intervention, Comprehensive Assessment, Specialized Treatment and Monitoring works!
- ‘Community served – Career saved’
- Don’t take it personally
Practitioner Health
Ensuring public protection/assisting colleagues

Dr. Cathy McGregor, DMD
CDSBC Health & Directed Education, Program Head
The College’s role
Professional responsibility
CDSBC Wellness Program
Successes
Protection of the public is our mandate

As a self-regulating health profession, we make a commitment to protect the safety of the people we treat
Duty to Report

In reporting well founded concerns you may save a career. You may save a life.
Extraordinary action to protect the public

35(1) If the inquiry committee considers the action necessary to protect the public ... it may, by order,

(a) impose limits or conditions on the practice of the designated health profession by the registrant, or

(b) Suspend the registration of the registrant
All health and wellness matters are handled in a separate, non-disciplinary stream whenever possible.

- It is a confidential process
- You don’t automatically lose your license
CDSBC Wellness Program

55 health files

• Half were self-referred
• Half are addictions cases
• Half are a variety of other health concerns that can affect safety to practise
A recent experience

Patients must be able to trust they will be cared for by their dentist, CDA or dental therapist.
CDSBC Wellness Program

Voluntary Withdrawal from Practice

What happens at the ... College

• Registration changed to Temporary Leave of Absence
• Name will not appear on the CDSBC website’s Registrant Lookup
• Insurers and CDSP1 advised

Practice

• Will not be covered for malpractice
• Billings under the dentist’s unique identification number will not be honoured
• Locum
CDSBC Wellness Program

Assessment & Treatment
CDSBC Wellness Program

Recovery & Post-treatment Assessment
ACKNOWLEDGEMENT AND UNDERTAKING BETWEEN THE COLLEGE OF DENTAL SURGEONS OF BRITISH COLUMBIA (THE COLLEGE) AND DR. (REGISTRANT) WITH SUPPORTING PHYSICIAN’S AGREEMENT

I, DR. (REGISTRANT),

1. Acknowledge that I have been diagnosed with substance dependence, which is a chronic, progressive disease and that I need to participate indefinitely in an abstinence based recovery program to treat this illness;
• College receives regular reports of compliance by a monitoring service
• Monitoring period typically a 5 year minimum
‘Illness doesn’t belong to us. It belongs to them, the patients. Doctors need to be taught to be ill. We need permission to be ill and to acknowledge that we are not superhuman.’

McKevitt C, Morgan M.

*Illness doesn’t belong to us*

*J R Soc Med* 1997;90: 491 -495
Success Story
Appropriate analgesic prescribing for orofacial pain

Dr. Mark Donaldson, BSP, RPH, PHARMD, FASHP, FACHE
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The number of overdose deaths from painkillers more than tripled over a decade – a trend that a U.S. health official called an epidemic.
Opioids are the most prescribed medication of any drug category in the United States, exceeding 250 million prescriptions annually.

Results from a 2014 analysis indicate that emergency department visits related to opioid overdose quadrupled over the past 2 decades.

Less Tolerant Public

“The number of pharmaceutical opioid related deaths exceeds the number of deaths from motor vehicle accidents involving alcohol in BC.”

Dentists follow primary care physicians as the second-leading prescribers of immediate-release opioids and, as such, dentists have been identified as having an important role in opioid abuse prevention efforts.


Consistent with best-practice recommendations, opioids should be reserved for only a minority of cases of moderate to severe postoperative pain in which all other management options have been exhausted.

An average of 20 doses of an opioid analgesic (commonly hydrocodone or oxycodone) are prescribed post-procedure and most dentists expect patients to have leftover analgesics.


The Use of Opioid Analgesics in the Management of Acute and Chronic Orofacial Pain in Canada: The Need for Further Research

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In late 2013, a focus group met to participate in the Orofacial Pain Team Workshop, held in Montreal, Canada, where the issue of appropriate opioid analgesic prescribing for pain by Canadian dentists was discussed. There was agreement that the use of opioid analgesics by dentists for either acute or chronic orofacial pain conditions has not been investigated satisfactorily in this country.

A number of questions related to the use of opioid analgesics by dentists were raised by the focus group: How well do dentists manage post-operative pain? How often do patients report inadequate analgesia after dental surgery? How often are opioid analgesics prescribed and for which procedures? Do dentists overprescribe? Do they instruct their patients about the risks related to leftover doses? Do dentists monitor the use of opioid analgesics by their patients and, if so, how does monitoring vary in urban compared to rural areas? Is opioid use different in underserved populations? What are the risk factors for problematic use? What is the current level of knowledge about the use of opioid analgesics in populations thought to be more vulnerable to misuse or abuse?

Opioid analgesic prescribing for acute dental pain

The existing literature suggests that the use of opioid analgesics for acute procedural pain varies significantly in different countries. In the UK in 2001, of all prescriptions for analgesics written by dentists, the most commonly prescribed analgesic was ibuprofen, representing 73% of prescriptions. The only commonly prescribed opioid analgesic was codeine, which represented only 19% of prescriptions. One of the most studied acute surgical procedures in dentistry is third molar extraction. Meta-analyses indicate that NSAIDs, like ibuprofen, show the best evidence for efficacy for pain post-extraction (roughly 80% of patients given 600 mg ibuprofen had >50% pain relief), consistent with the use of ibuprofen by UK dentists. Use of codeine (60 mg) with acetaminophen (650 mg) is less likely to produce significant pain relief post-extraction, and is associated with a much greater incidence of adverse effects.

In contrast to the modest prescribing rate of opioid analgesics by UK dentists, in the US, 12% of all immediate release opioid analgesic prescriptions are written by dentists (just slightly less than family physicians). An American Dental Association survey from 2006 suggested that while a majority of oral and maxillofacial surgeons (74%) preferred patients to use ibuprofen after third molar extraction, 85%
This is the new “War on Drugs.”
Our Armamentarium

Peripheral Analgesics
• non-opioid analgesics

Central Analgesics
• opioid analgesics

Co-Analgesics

Local Anesthetics
Acetaminophen

- Comparable to ASA and NSAIDs in analgesic & antipyretic activity
- Weak anti-inflammatory activity
- Minimal antiplatelet effect
- Minimal injury to gastric mucosa
- Dose 325mg to 1000mg TID or QID
- Max. dose is 4.0 grams daily to ↓ hepatotoxicity
- Increased danger of hepatotoxicity with chronic alcohol consumption (max: 2g/day)
What is the Maximum Daily Dose of Acetaminophen (Tylenol)?

- FDA Analgesic Advisory Panel
- Facts & Comparisons
- PDR for Non-Prescription Drugs
- Goodman & Gilman
- Alcohol Use / Abuse
J & J: 3000mg/day Maximum

Tylenol Lowers Dosage to Curb Accidental Overdose
FDA Drug Safety Communication: Prescription Acetaminophen Products to be Limited to 325 mg Per Dosage Unit; Boxed Warning Will Highlight Potential for Severe Liver Failure

[1-13-2011] The U.S. Food and Drug Administration (FDA) is asking drug manufacturers to limit the strength of acetaminophen in prescription drug products, which are predominantly combinations of acetaminophen.
Acetaminophen

Learn about acetaminophen, how to safely use it and its health risks, including potential overdose.

Overdose

Taking too much acetaminophen, either by accident or on purpose, is called an overdose. With acetaminophen, symptoms don’t appear for many hours following an overdose. You could have liver damage and not know it.

Acetaminophen overdose is a leading cause of acute liver failure in Canada, the U.S. and many other developed countries. The term acute in this context means that the damage takes place rapidly over hours or days. In comparison, the damage from chronic liver failure takes place over many years.

There are approximately 4500 hospitalizations in Canada each year due to acetaminophen overdose. Approximately 700 or 16% of these were reported as accidental or unintentional overdoses. In about 6% of hospitalizations for overdose, patients develop liver injuries, including acute liver failure. This means the liver suddenly stops working, which may:

- require a liver transplant
- lead to death
Peripheral Analgesics: NSAIDs

• Third-molar extraction model
• Probably best overall model for oral analgesics (strongly validated)
• Reliable stimulus for moderate-severe pain
• Healthy young subjects
• Healthy preoperative tissues
Evidence-based recommendations for analgesic efficacy to treat pain of endodontic origin

A systematic review of randomized controlled trials

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ABSTRACT

Background. The purpose of this investigation was to identify evidence-based clinical trials to aid dental clinicians in establishing the efficacy for recommending or prescribing analgesics for pain of endodontic origin. Types of Studies Reviewed. The authors prepared and registered a protocol on PROSPERO and conducted electronic searches in MEDLINE, Scopus, the Cochrane Library, and ClinicalTrials.gov. In addition, the authors manually searched the bibliographies of all relevant articles, the gray literature, and textbooks for randomized controlled trials. Two authors selected the relevant articles independently. There were no disagreements between the authors. Results. The authors analyzed 27 randomized, placebo-controlled trials. The authors divided the studies into 2 groups: preoperative and postoperative analgesic treatments. There was moderate evidence to support the use of steroids for patients with symptomatic irreversible pulps. Also, there was moderate evidence to support nonsteroidal anti-inflammatory drugs (NSAIDs) preoperatively or postoperatively to control pain of endodontic origin. When NSAIDs were not effective, a combination of NSAIDs with acetaminophen, tramadol, or an opioid appeared beneficial. Conclusions and Practical Implications. NSAIDs should be considered as the drugs of choice to alleviate or minimize pain of endodontic origin if there are no contraindications for the patient to ingest an NSAID. In situations in which NSAIDs alone are not effective, the combination of an NSAID with acetaminophen is recommended.


NSAIDs should be considered as the drugs of choice to alleviate or minimize pain of endodontic origin. In situations in which NSAIDs alone are not effective, the combination of an NSAID with acetaminophen is recommended.
Peripheral Analgesics: NSAIDs

- Prostaglandins generated during tissue damage direct some actions of inflammation:
  - Fever
  - Pain
  - Vasodilation

- Inhibiting prostaglandin synthesis leads to a decrease in this response
Injury to cell membrane

Phospholipids

Phospholipase A

Arachidonic Acid

COX-1

COX-2

Cytoprotective Prostaglandins
- Maintain normal physiology
  - Healthy gastric mucosa
  - Platelet aggregation

Inflammatory Prostaglandins
- Induced with tissue injury
  - Pain and tenderness
  - Vasodilation
  - Fever

NSAIDs Mechanism of Action
U.S. Mortality Data for Seven Selected Disorders in 1997. A total of 16,500 patients with rheumatoid arthritis or osteoarthritis died from the GI toxic effects of NSAIDs. Data are from the National Center for Health Statistics and the Arthritis, Rheumatism, and Aging Medical Information System.

The use of NSAIDs may be considered relatively safe when prescribed at the most effective dose and for the shortest duration of time, which was defined as 10 days or fewer.

The Perfect Prescription: “2 - 4 - 24”

Ibuprofen 600mg po q6h x24 hours
Acetaminophen 1g po q6h x24 hours

Other thoughts:
Celecoxib 400mg 30 minutes pre-op
Submucosal injection of dexamethasone reduces postoperative discomfort after third-molar extraction

A systematic review and meta-analysis

Qian Chen, BS; Jin Chen, BS; Bo Hu, BS; Ge Feng, PhD; Jinlin Song, PhD

Submucosal injection of dexamethasone reduces early and late edema, as well as early trismus, after third-molar extraction extraction.

The Perfect Prescription: “1 - 2 - 4 - 24”

Ibuprofen 600mg po q6h x24 hours
Acetaminophen 1g po q6h x24 hours

Other thoughts:
Celecoxib 400mg 30 minutes pre-op
dexamethasone 4-8mg pre-/perioperatively
Pain Management: Part 1: Managing Acute and Postoperative Dental Pain

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Safe and effective management of acute dental pain can be accomplished with nonopioid and opioid analgesics. To formulate regimens properly, it is essential to appreciate basic pharmacological principles and appropriate dosage strategies for each of the available analgesic classes. This article will review the basic pharmacology of analgesic drug classes, including their relative efficacy for dental pain, and will suggest appropriate regimens based on pain intensity. Management of chronic pain will be addressed in the second part of this series.

Key Words: Pain management; Analgesics; Postoperative pain; Dental pain.

Pain is a complex experience consisting of a specific sensation and the reactions evoked by that sensation. Conventional analgesics either interrupt ascending nociceptive impulses or depress their interpretation within the central nervous system (CNS). A variety of so-called “analgesic adjoints” have proven efficacy for managing chronic pain but will not be addressed in this article. They include various antidepressants and anticonvulsants that either enhance descending inhibitory pathways or modulate excitatory neural traffic that amplifies pain interpretation. These agents have marginal benefit in the management of acute pain, and they are not regarded as “analgesics” in the conventional sense. Management of chronic pain will be the topic of a subsequent continuing education article in this journal.

Analgesics are classified as opioids and nonopioids, but dated terms like narcotic and non-narcotic are used interchangeably. Formerly, it was believed that opioids acted only within the brain and spinal cord, but the action of nonopioids was confined to the periphery (i.e., the site of injury). This explanation is no longer tenable, however; both are known to act centrally and peripherally. In fact, the feature that best distinguishes these analgesic classes is their mechanism of action. Opioids activate specific receptors in a manner identical to opiates, such as morphine. Nonopioids interrupt prostaglandin synthesis, thereby resembling aspirin in action.

NONOPIOD ANALGESICS
The nonopioid analgesics include acetaminophen (APAP) and the nonsteroidal anti-inflammatory drugs (NSAIDs). The analgesic efficacy of these agents is typically underestimated. This is unfortunate because they generally are equivalent or superior to opioids for managing musculoskeletal pain, and they produce a lower incidence of side effects, including the potential for abuse. Dental pain is included in the musculoskeletal category, and for decades studies have repeatedly found that NSAIDs are generally superior to opioids at conventional dosages. This principle will be revisited during the final portion of this article, but at this time it is important to review essential pharmacological features of the nonopioids.

NSAIDS
Actions and Effects. Ibuprofen is conventionally regarded as the prototype of this large group of synthetic compounds known for their analgesic, antipyretic, and anti-inflammatory efficacy. These therapeutic effects and their most notable side effects can be explained almost entirely by their ability to inhibit the cyclooxygenase (COX) required for synthesis of various families of prostanoïds. This action is illustrated and further explained in Figure 1.

Precautions and Side Effects. Clinical use of NSAIDs is predicated on their ability to reduce the
Pain Meds: What Works?

Gordon’s Clinical Bottom Line: Clinicians trend to prescribe analgesics they trust and with which they have had positive patient acceptance. However, over the last short period of time there have been changes that influence choices of analgesics, including new federal rules on prescribing narcotics, positive research on over-the-counter analgesics, and a general trend to avoid contributing to the challenge of prescription drug addiction.

This report demonstrates those changes and will probably motivate you to reconsider your analgesic favorites.

Because of the major content of this article, this edition of Clinicians Report has an additional two pages. Modern dentistry demands adequate pain management by treating pain at the site peripherally as well as centrally. This article, developed by information from a CR survey, oral surgeon Evaluators, CR staff, and current available literature, will aid the clinician to:

• Understand the physiological pain mechanism
• Learn contraindications to specific drugs
• Avoid and treat analgesic drug complications
• Know when and which narcotics are indicated
• Use an algorithm for pain management

Should Indirect Restorations be Pretreated before Resin Cementation?

Gordon’s Clinical Bottom Line: It is clear that some dentists do not have an understanding of agents that bond organic and inorganic materials such as resin cements to ceramic. Some of these priming agents are silanes and some are not silanes. Some bond relatively well and some do not. Which are the best materials to use? Do the bonds last? When is a high bond afforded by effective pretreatment desirable? CR Scientists and Evaluators have answered these questions and others for you to help you provide the best bond of resin cements to various indirect restorative materials.

• Restoration primers (coupling agents) may be used for: preparing indirect restorations for cementation; repairing/adding to direct or indirect composite materials; repairing ceramic/metal restorations; and bonding posts and cores using resin cements.
• The application of primers to restoration surfaces is intended to prepare the surface to be chemically bonded to subsequent resin cement/adhesive.
• Mechanical retention marks (surface roughening) created before priming (examples: acid etching, sandblasting, diamond bur) favorably increases the surface area to be bonded, thus creating additional bond strength.

Infection Control Challenges with Dental Loupes and Headlamps

Gordon’s Clinical Bottom Line: Dental loupes and headlamps are generally considered “non-critical” because they do not contact mucous membranes directly. As clinicians, however, do we remove our gloves every time we adjust our loupes or manipulate the controls? The result is clear: contamination on dental loupes and headlamp controls. This report provides some easy alternatives to minimize cross-contamination.

• CDC (Centers for Disease Control) recommends non-critical items be cleaned, or if “visibly soiled,” cleaned and disinfected after each use using intermediate- or low-level disinfection depending on the “degree and nature of the contamination.”
• According to a recent CR survey, only 16% of clinicians surveyed are cleaning and disinfecting loupes between patients.

Products Rated Highly by Evaluators in CR Clinical Trials

The following products were rated excellent or good by CR Evaluator use and science evaluations.

- Endo-Eze Find: Reasonably priced apex locator with large, easy-to-read display
- MiniCam HD: Lightweight video camera that can be easily mounted on dental loupes
- Cavitron FitGrips: Comfortable grip provides improved ergonomics for popular ultrasonic inserts
- Quartz Splint: Thin and adaptable Quartz Splint material is easy to place and strong when light cured