Addiction and Opioid Epidemic: Current Concepts and the Role of The Dentist

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Virginia Board of Dentistry Emergency Regulations: Why, What and Where?

- **Why**  Do We need regulations?
- **What**  Are the new regulations?
- **Where**  Do we go from here?
WHY DO WE NEED REGULATIONS?
1996
In his presidential address, James Campbell of the American Pain Society introduced the phrase, "Pain as the 5th Vital Sign." He emphasized pain as being an essential component and part of the four traditional vital signs.

1999
The Veterans' Health Administration initiated the National Pain Care Initiative, which included an electronic medical record of patients' self-report of pain and the use of pain medication as "the 5th Vital Sign." This initiative required use of a Numeric Rating Scale to rate pain severity.
Answer: Tens of thousands of stories, and millions of numbers
20.5 million Americans 12 or older had a substance use disorder.

2 million of the 20.5 million have substance use disorder involving prescription pain relievers.

591,000 had a substance use disorder involving heroin.
Drug problem was classified as an epidemic by the U.S. Centers for Disease Control and Prevention in 2012.

The US Surgeon General on November 26, 2016, declaring for the first time substance abuse a public-health crisis.

Virginia Health Commissioner declared on November 21, 2016 a statewide public health emergency.
Drugs now kill more people than cars, guns

Number of deaths from drug poisonings vs. other causes, 1999–2014

- Drug overdoses
- Car accidents
- Shootings
How heroin drives opioid overdose deaths

Number of opioid-related deaths involving heroin, 1999–2014

- **Heroin**
- **All opioids**
Prescription Painkiller Sales and Deaths

Sales (kg per 10,000)\textsuperscript{a}

Deaths (per 100,000)\textsuperscript{b}

Sources:
\textsuperscript{a}Automation of Reports and Consolidated Orders System (ARCOS) of the Drug Enforcement Administration (DEA), 2012 data not available.
The United States produces less than 5% of the world's prescription painkillers. And yet, we consume 80% of the world's prescription painkillers.

American Society of Interventional Pain Physicians
Drug death rates by county
West Virginia, 2015

Drug overdose deaths per 100,000 people
- 0–15
- 15–28
- 28–43
- 43–63
- 63–80
- 80–131

Cabell County: 80
Huntington
Wyoming County: 108
McDowell County: 131
Drug deaths rising in all 50 states

Drug and opioid overdose deaths per 100,000 people (age-adjusted), 1999–2014

- Pink: 1.9–7.5
- Light red: 7.5–11.5
- Medium red: 11.5–15.5
- Dark red: 15.5–21.5
- Darkest red: 21.5–36.3
- Gray: Unavailable
24% of American high school students are taking prescription pills for recreational purposes

The Partnership for Drug-Free Kids, 2012
Two-thirds of teens who abused pain relievers in the past year say they got them from family and friends.

This includes getting them in their own homes from medicine cabinets and the kitchen counter. Grandparents' homes are especially vulnerable.
Where Pain Relievers Were Obtained

Source Where Pain Relievers Were Obtained for Most Recent Nonmedical Use Among Past-Year Users Aged 12 or Older: 2012–2013

- Free From Friend/Relative (53.0%)
- Bought/Took from Friend/Relative (14.6%)
- Drug Dealer/Stranger (4.3%)
- Bought on Internet (0.1%)
- Other (4.3%)
- One Doctor (21.2%)
- More Than One Doctor (2.6%)

1. The Other category includes the sources "Wrote Fake Prescription," "Stole from Doctor's Office/Clinic/Hospital/Pharmacy," and "Some Other Way." Note: The percentages do not add to 100 percent due to rounding.

Substance Abuse and Mental Health Services Administration (SAMHSA), 2014
94% of people in treatment for opioid addiction said they chose to use heroin because prescription opioids were "far more expensive and harder to obtain."

Prescription opioids abuse progresses to heroin use within an average of 2 years.
What is the Role of Dentists in Opioid Epidemic?
Figure 1. Percentage of Prescriptions Dispensed for Opioid Analgesics From Outpatient US Retail Pharmacies by Age and Physician Specialty, 2009
Dentists and Oral Surgeons Prescribe 12% of All Opioids in the US

~1.5 Billion Doses Annually Prescribed by Dentists and Oral Surgeons

- 85% of oral surgeons almost always prescribe an opioid
- Approximately 42% of patients fill their opioid prescription after oral surgery
- 30% of patients worried about becoming addicted

Common Opioid-related Adverse Events

- Pruritus
- Urinary retention
- Nausea
- Vomiting
- Respiratory depression
- CNS effects

Opioids are the leading cause of pharmaceutical overdose mortality

- In a survey study, ~13% of patients undergoing third molar extraction complained of nausea and vomiting for up to 7 days

CNS=central nervous system.

The opioid epidemic continues to devastate the United States. In 2015, opioids killed a record 33,000 people, according to the Centers for Disease Control and Prevention. About half of those deaths involved a prescription opioid. Now, a new study drills down to one source of these drugs: wisdom-tooth extractions.

More than half of the opioid painkillers prescribed to patients after wisdom tooth removal surgery in a recent Drug and Alcohol Dependence study went unused. If those numbers were to play out for all practicing oral surgeons, that would translate to a startling annual figure:

100 MILLION OPIOID PILLS, PRESCRIBED FOR WISDOM-TOOTH EXTRACTIONS, GO UNUSED.
Ask your oral surgeon to stop prescribing oxycodone for teen wisdom teeth removal

And parents please stop asking for it.

Seven percent of patients prescribed narcotic or opioid analgesics will become addicted.* Some statistics put it as high as 10%. Still others will abuse it or sell it. Do you want that to be your kid?

If you've never had an opiate, percocet, oxycodone or vicodin, you shouldn't risk it either.

One pill can trigger an addiction

Opiate Addiction is up

3,203 %
from 2002-2014

Ask oral surgeons to stop prescribing oxycodone & other opiates for wisdom teeth removal

annemoss.com
Heroin use has more than doubled in past decade among young adults aged 18 to 25 years.

Figure 1: Heroin use is part of a larger substance abuse problem. Source: National Survey on Drug Use and Health (NSDUH), 2011–13.
WHAT ARE THE NEW REGULATIONS?
Key Elements of the New Regulations

- Defining acute Vs. Chronic pain
- General prescribing suggestions
- Requiring specific documentation for patients receiving opioid treatment
- Guidelines for prescribing for acute pain
- Guidelines for prescribing for chronic pain
- New CE Requirement for opioid prescribers
- Requiring Use of MME and PMP
Prescription Monitoring Program
Uses of Prescription Drug Monitoring Programs (PDMPs)

- Is a State program that provide information. The is very useful tool a prescriber can use **solely** in making prescribing decisions for information for prescriptions in all substances of abuse.
<table>
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<th>Product, Str, Form</th>
<th>Quantity</th>
<th>Days</th>
<th>Pt ID</th>
<th>Prescriber</th>
<th>Written</th>
<th>Rx #</th>
<th>N/R</th>
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Uses of Prescription Drug Monitoring Programs (PDMPs)

- **Prescribe as planned**: Negative PDMP/ no concern.
- **Contact pharmacy that dispensed the prescription**: there is a question about information on the report
- **Contact a previous prescriber**: there is a question about a previous prescription
Uses of Prescription Drug Monitoring Programs (PDMPs)

- **Discuss concerns with the patient**: to resolve or clarify questions about the report.
- **Refer to a specialist**: a pain management specialist or other specialist
- **Refer to substance treatment**: contact your state or local professional organization for resources.
- **Discharge from practice**: But mindful of laws regarding patient abandonment
Few using Virginia's program to monitor prescriptions

By Tammie Smith Richmond Times-Dispatch  Jan 16, 2016
VBOD Definitions

Morphine Milligram Equivalent (MME)
Use of MME

- What is Morphine Milligram Equivalent (MME)?
- Why use MME?
Use of **MME**

- Why use of MME is necessary?
50 MME/day:

90 MME/day:

- 90 mg of hydrocodone (9 tablets of hydrocodone/acetaminophen 10/325)
- 60 mg of oxycodone (~2 tablets of oxycodone sustained-release 30 mg)
- ~20 mg of methadone (4 tablets of methadone 5 mg)
What is Morphine Milligram Equivalent (MME) /day?
Factors Considered in the Calculation of MME

- Potency of the drug (Oxy vs. Hydro), "multiplier"
- Strength of the drug (e.g., 5mg, 7.5mg, etc.)
- Quantity of the drug (Number of tablets)
- Intended duration of treatment (how many days is the prescription is for)
### MME: Drug Potency

<table>
<thead>
<tr>
<th>Drug</th>
<th>Equipotent Dose (mg)</th>
<th></th>
<th>Multiplier **</th>
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<tbody>
<tr>
<td></td>
<td>Parenteral</td>
<td>Oral</td>
<td></td>
</tr>
<tr>
<td>Morphine</td>
<td>10</td>
<td>30 (60)*</td>
<td>1</td>
</tr>
<tr>
<td>Hydromorphone</td>
<td>1.5</td>
<td>7.5</td>
<td>4</td>
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<tr>
<td>Codeine</td>
<td>130</td>
<td>180-200</td>
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<tr>
<td>Hydrocodone</td>
<td>-</td>
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<td>1</td>
</tr>
<tr>
<td>Oxycodone</td>
<td>-</td>
<td>20</td>
<td>1.5</td>
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</table>

* Due to poor oral bioavailability (~25%) a single or intermittent dose is 60mg

** Used by conventional pharmacy audits for relative potencies
Calculation of MME (Morphine MILLIGRAMS Equivalents /Day (MME/D))

\[ \text{MME/D} = \text{Strength} \times \text{Multiplier} \times \text{Quantity} \]

\[ \text{Days} \]
Calculation of MME

Daily Morphine Equivalents = Strength x Multiplier x Quantity / Days

<table>
<thead>
<tr>
<th></th>
<th>Prescription</th>
<th>Estimated Days</th>
<th>Calculation</th>
<th>Daily Morphine</th>
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<tbody>
<tr>
<td>MD</td>
<td>Oxycodone 5/325 #90</td>
<td>30</td>
<td>$\frac{5 \times 1.5 \times 90}{30}$</td>
<td>22.5 mg</td>
</tr>
<tr>
<td>DDS</td>
<td>Oxycodone 5/325 #20</td>
<td>3</td>
<td>$\frac{5 \times 1.5 \times 20}{3}$</td>
<td>50 mg</td>
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</table>

A physician prescriptions for chronic pain compared to a dentist prescription for postoperative pain (3 days)
2. Before exceeding 120 MME/day, the dentist must document the justification for such doses and shall refer to or consult with a pain management specialist.
Prescribing Guidelines: Acute Pain

3. **Naloxone must be prescribed** for any patient with risk factors

- Prior overdose,
- Substance abuse,
- Doses in excess of 120 MME/day,
- Concomitant benzodiazepine.
Where Do We Go From Here?
"The prescription overdose epidemic is doctor-driven. It can be reversed in part by doctor's actions. **Prescription opioid overdose deaths can be prevented by improving prescribing practices.** We can protect people from becoming addicted to opioids and clinicians are key to helping to reverse the epidemic."

Thomas R. Frieden, MD, MPH
Director of the CDC (Centers for Disease Control and Prevention)
I WANT YOU FOR TOTAL SAFETY
Understanding the nature of Dental/oral pain

Evidence-based pain management
Characteristics of Postoperative Pain

- **Highly variable** and depends on patient’s preoperative frame of mind.
- **Usually not severe** and can be managed in most patients with mild analgesics.
- **Peak pain experience occurs about 12 hours** after extraction and diminishes rapidly after that.
- The pain from extraction **rarely** persists longer than **2 days after surgery**.
General Principles of Management of Postoperative Pain

- The first dose of analgesic medication should be taken before the effect of the LA subsides to avoid the intense, sharp pain after local anesthesia.
- Pain is harder to control if administration of analgesic medication is delayed.
Strategies in Management of Postop Pain

- Patient Education
- Pain management goals should be to minimize or limit the pain.
- A goal pain scores of “0” is not a realistic
- Be aware of MISMATCH in prescriber-patient pain control goals
Methods of Management of Postop Pain

- Multimodal pain management approach:
  - Preemptive NSAID’s to limit pain severity
  - Long acting local anesthetics to delay pain
  - Corticosteroids to limit inflammation and swelling
  - Counseling patients about their anticipated pharmacologic treatment
Pharmacological Management of Postop Pain

- **Monotherapy:**
  - **Non-opioids:**
    - Acetaminophen, or N-acetyl-p-aminophenol (APAP),
    - Nonsteroidal anti-inflammatory drugs (NSAID’s)
  - **Opioids?**
Pharmacological Management of Postop Pain

- Multimodal Analgesia (Analgesic formulations containing more than one analgesic):
  - APAP, combined with the opioid hydrocodone
  - NSAID’s, combined with the opioid hydrocodone
  - Combinations of APAP- and NSAID’s
Combining ibuprofen and acetaminophen for acute pain management after third-molar extractions

Translating clinical research to dental practice

Paul A. Moore, DMD, PhD, MPH; Elliot V. Hersh, DMD, MS, PhD

Figure 2. Ibuprofen-acetaminophen combinations versus codeine-nonopioid combinations. APAP: Acetaminophen, or $N$-acetyl-$p$-aminophenol. mg: Milligrams. Adapted with permission of the International Association for the Study of Pain from Daniels and colleagues. $^{61}$
**Stepwise Guidelines for Pharmacological Acute Pain Management**

**Mild pain**
Ibuprofen 200-400 mg every 4-6 h: as needed for pain (p.r.n)

**Mild to moderate pain:**
Ibuprofen 400-600 mg every 6 h: fixed interval for 24 h. Then Ibuprofen 400 mg q 4-6 h: p.r.n. pain
Moderate to severe pain:
Ibuprofen 400-600 mg plus APAP 500 mg every 6 h: fixed interval for 24h. Then Ibuprofen 400 mg plus APAP 500 mg every 6 h p.r.n. pain
Stepwise Guidelines for Pharmacological Acute Pain Management

Severe pain:

- Ibuprofen 400-600 mg plus APAP 325 mg-hydrocodone 5 mg q 6h: fixed interval for 24-48 h.
- Then ibuprofen 400-600 mg plus APAP 500 mg q 6h p.r. n. pain.
Stepwise Guidelines for Pharmacological Acute Pain Management

**Severe pain:**

- Ibuprofen 400-600 mg plus APAP 325 mg-hydrocodone 5 mg q 6h: fixed interval for 24-48 h.
- Then ibuprofen 400-600 mg plus APAP 500 mg q 6h p.r.n. pain
Patients should be cautioned to avoid APAP in other medications.

To avoid potential APAP toxicity, should consider prescribing a rescue medication containing ibuprofen (Vicoprofen) for breakthrough pain.
Safety Considerations in Pharmacological Acute Pain Management

- Maximum dose for APAP (Tylenol) is 3000mg/day.
- Maximum does of Ibuprofen is 2400 mg/day.
- Keep in mind the common pain management control model (third molars)
New Concepts in Management of Postop Pain:

**Maxilla**
- 4 mL of liposomal bupivacaine:
  - On the buccal side
  - 2 mL right
  - 2 mL left

**Mandible**
- 6 mL of liposomal bupivacaine:
  - 3 mL right
  - 3 mL left
New Concepts in Management of Postop Pain: Buprenex

"I've been using it for all surgery in my OMS practice for several months and seeing excellent results. Have decreased my post op narcotic prescription by 70%. And at approx $3 per site, I can feel good about offering a virtually pain free post op experience for no additional cost to my patient."

Dr. Andrew Baber, OMFS
New Concepts in Management of Postop Pain: BUPRENORPHINE (Trade Names: Buprenex®, Suboxone®, Subutex®)

Buprenorphine With Bupivacaine for Intraoral Nerve Blocks to Provide Postoperative Analgesia in Outpatients After Minor Oral Surgery

Mancy Modi MDS; Sanjay Rastogi MDS†; Ashish Kumar MDS‡
Adding buprenorphine to the local anesthetic for IAN blocks provided a 3-fold increase in the duration of postoperative analgesia, for up 30 hours in 75% of patients.

Can benefit to patients undergoing minor oral surgery
Universal Precautions
Universal Opioid Prescribing Precautions for Dentists

Prior to prescribing, perform the following universally for ALL patients prescribed opioids:

- Check state PDMP data to corroborate patient’s history of opioid use
- Talk to all other providers (e.g., primary care), as appropriate
- Assess prescription opioid misuse risk, including substance use (tobacco, alcohol, illicit drugs, prescription drug misuse) history
- Prescribe minimum amount of opioids based on the expected duration of severe pain
- Give specific opioid prescribing directions (e.g., no more than four tablets in a day)
- If pain is more severe or lasts longer than expected, reassess patient before prescribing additional opioids
- Explain how to store opioids safely (e.g., a locked box/cabinet)
- Tell patients how to properly dispose of any unused opioids
Universal Opioid Prescribing Precautions for Dentists

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Give specific opioid prescribing directions (e.g., no more than four tablets in a day)
If pain is more severe or lasts longer than expected, reassess patient before prescribing additional opioids
Explain how to store opioids safely (e.g., a locked box/cabinet)
Tell patients how to properly dispose of any unused opioids
The course will resume after a short break