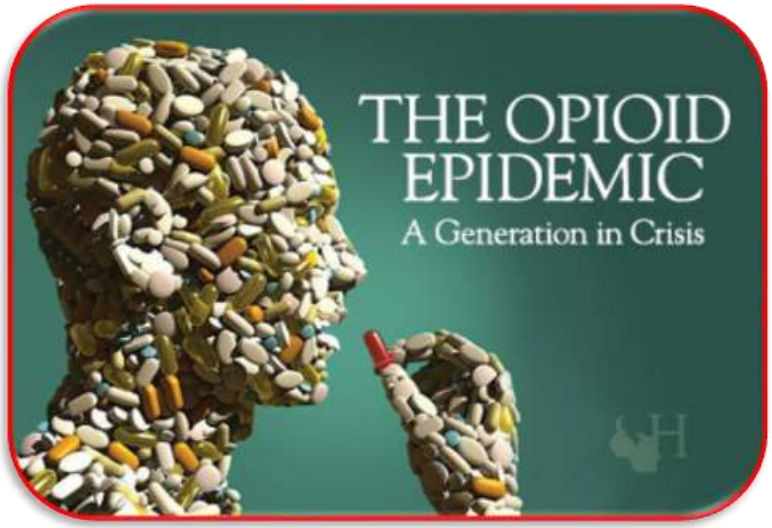
The Opioid Epidemic
And The Dentist's Role



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The Opioid Epidemic

- ✓ Opioid crisis – nature of the problem
- ✓ Dentist's role in in the opioid epidemic
- ✓ Identify best practice guidelines for managing acute dental pain.
- ✓ Discuss Oregon Prescription Drug Management Program
- ✓ Discuss disposal of prescription drugs

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Opioid Crisis in the U.S.

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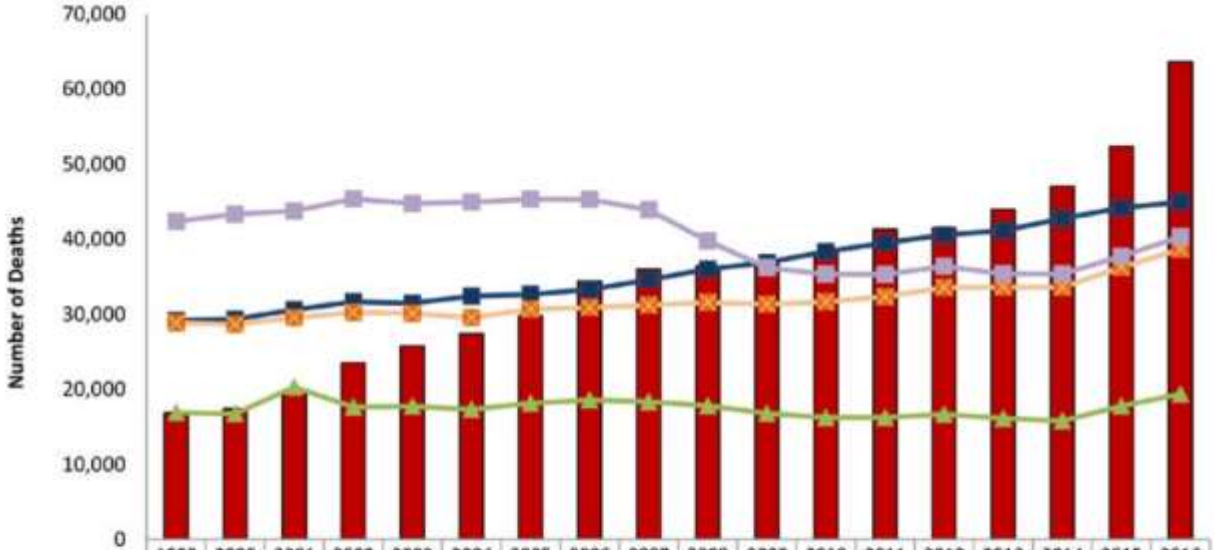
Opioid Crisis in the U.S.

Figure 1. Number of Injury Deaths by Drug Poisoning, Suicide, Homicide, Firearms, and Motor Vehicle Crashes in the United States, 1999 – 2015[2]



	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Drug Poisoning	16,849	17,415	19,394	23,518	25,785	27,424	29,813	34,425	36,010	36,450	37,004	38,329	41,340	41,502	43,982	47,055	52,404	63,632
Suicide	29,199	29,350	30,622	31,655	31,484	32,439	32,637	33,300	34,598	36,035	36,909	38,364	39,518	40,600	41,149	42,773	44,193	44,965
Homicide	16,889	16,765	20,308	17,638	17,732	17,357	18,124	18,573	18,361	17,826	16,799	16,259	16,238	16,688	16,121	15,809	17,793	19,362
Firearms	28,874	28,663	29,573	30,242	30,136	29,569	30,694	30,896	31,224	31,593	31,347	31,672	32,351	33,563	33,636	33,599	36,252	38,658
MV Crashes	42,401	43,354	43,788	45,380	44,757	44,933	45,343	45,316	43,945	39,790	36,216	35,332	35,303	36,415	35,369	35,398	37,757	40,327

Source: Centers for Disease Control and Prevention

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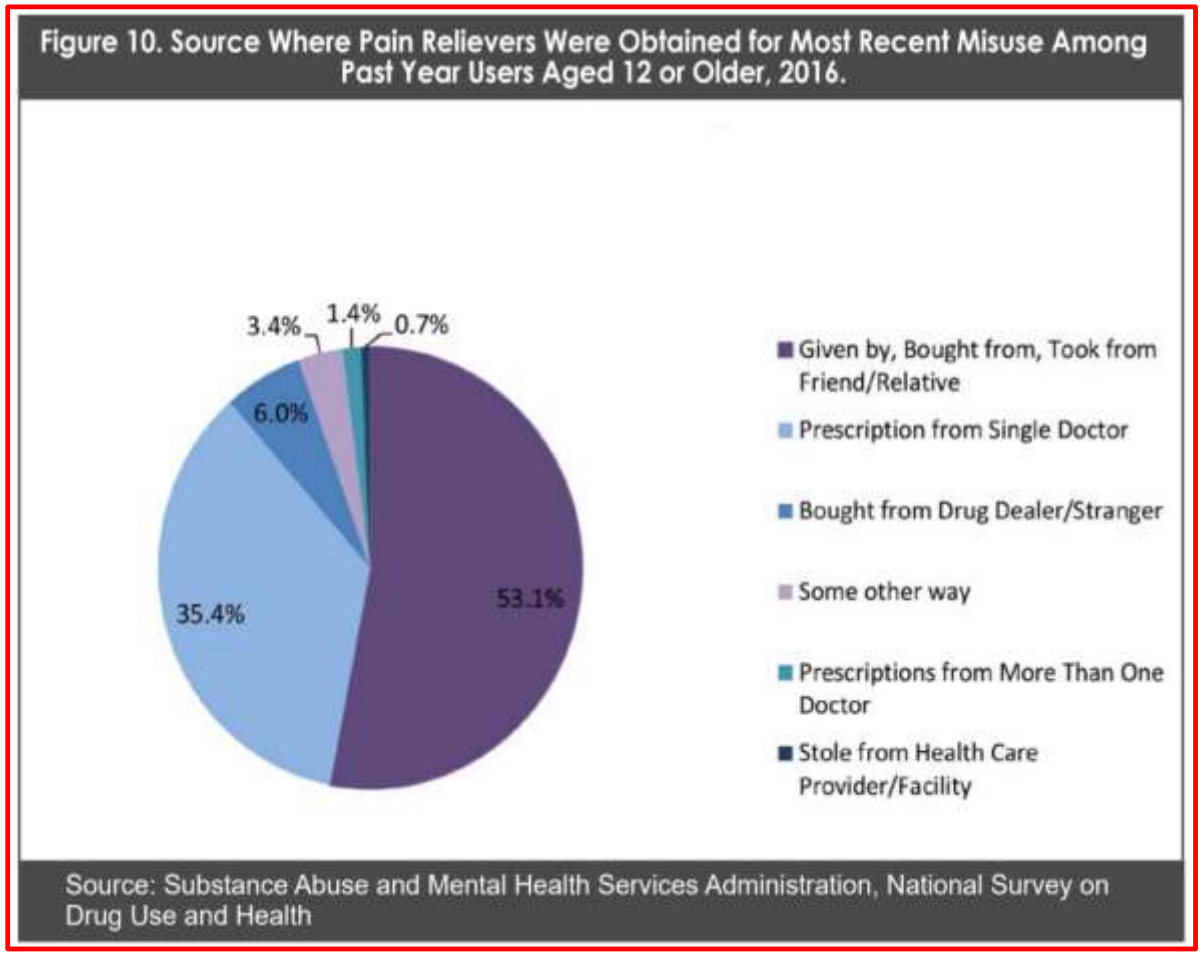
Opioid Crisis in the U.S.



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Opioid Epidemic

Drug overdose deaths continue to increase in the United States:

From 1999 to 2017, more than 700,000 people have died from a drug overdose.

Around 68% of the more than 70,200 drug overdose deaths in 2017 involved an opioid.

In 2017, the number of overdose deaths involving opioids (including prescription opioids and illegal opioids like heroin and illicitly manufactured fentanyl) was 6 times higher than in 1999.

On average, 130 Americans die every day from an opioid overdose

Opioid Epidemic

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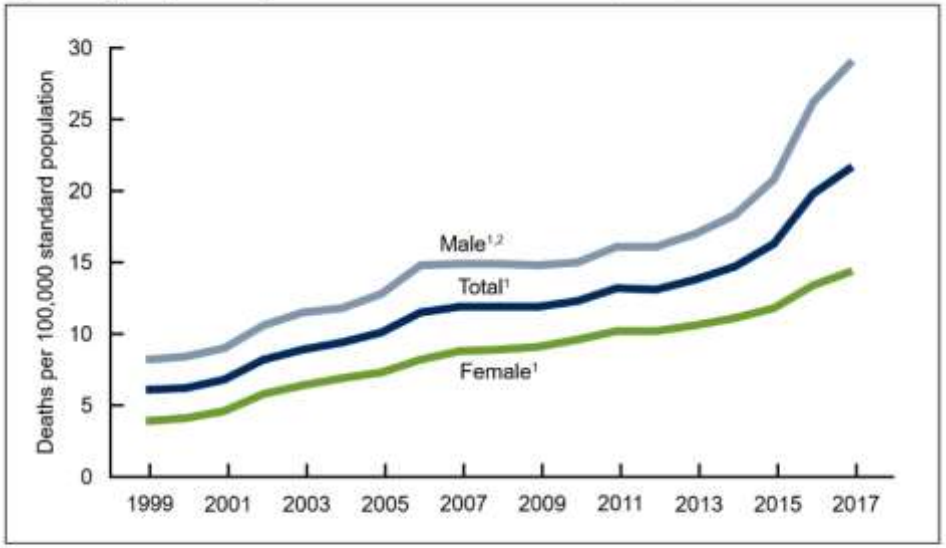
Opioid Overdoses

NCHS Data Brief ■ No. 329 ■ November 2018

Drug Overdose Deaths in the United States, 1999–2017

Holly Hedegaard, M.D., Arialdi M. Miniño, M.P.H., and Margaret Warner, Ph.D.

Figure 1. Age-adjusted drug overdose death rates: United States, 1999–2017



[1]Significant increasing trend from 1999 through 2017 with different rates of change over time, $p < 0.05$.
[2]Male rates were significantly higher than female rates for all years, $p < 0.05$.
NOTES: Deaths are classified using the *International Classification of Diseases, 10th Revision*. Drug-poisoning (overdose) deaths are identified using underlying cause-of-death codes X40–X44, X60–X64, X85, and Y10–Y14. The number of drug overdose deaths in 2017 was 70,237. Access data table for Figure 1 at: https://www.cdc.gov/nchs/data/databriefs/db329_tables-508.pdf#1.
SOURCE: NCHS, National Vital Statistics System, Mortality.

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Opioid Overdoses

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Drug Overdose Deaths in the United States, 1999–2017

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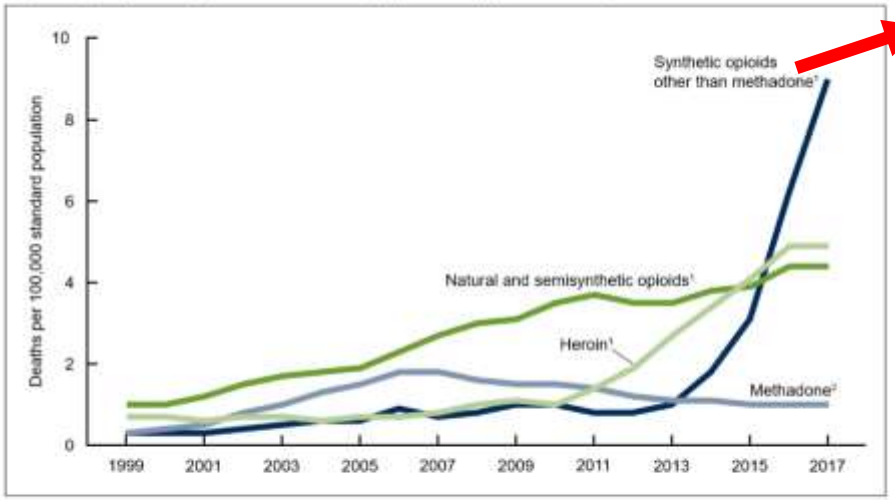
Figure 4. Age-adjusted drug overdose death rates, by opioid category: United States, 1999–2017



[1]Significant increasing trend from 1999 through 2017 with different rates of change over time, $p < 0.05$.
[2]Significant increasing trend from 1999 through 2006, then decreasing trend from 2006 through 2017, $p < 0.05$.
NOTES: Deaths are classified using the *International Classification of Diseases, 10th Revision*. Drug-poisoning (overdose) deaths are identified using underlying cause-of-death codes X40–X44, X60–X64, X85, and Y10–Y14. Drug overdose deaths involving selected drug categories are identified by specific multiple-cause-of-death codes: heroin, T40.1; natural and semisynthetic opioids, T40.2; methadone, T40.3; and synthetic opioids other than methadone, T40.4. Deaths involving more than one opioid category (e.g., a death involving both methadone and a natural and semisynthetic opioid) are counted in both categories. The percentage of drug overdose deaths that identified the specific drugs involved varied by year, with ranges of 75%–79% from 1999 through 2013 and 81%–88% from 2014 through 2017. Access data table for Figure 4 at: https://www.cdc.gov/nchs/data/databriefs/db329_tables-508.pdf#4.
SOURCE: NCHS, National Vital Statistics System, Mortality.

Fentanyl

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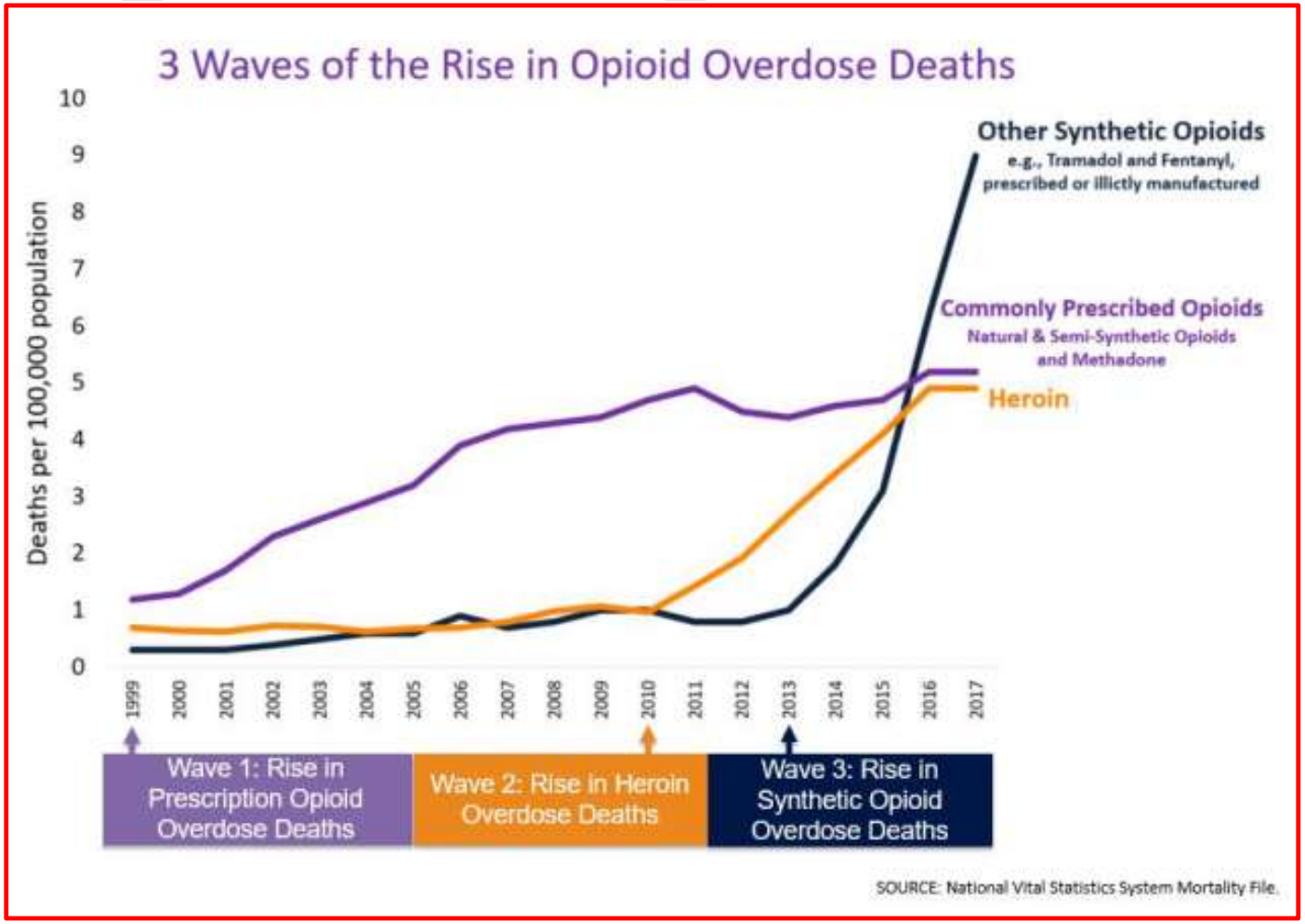
Opioid Overdoses

- ✓ **The pattern of drugs involved in drug overdose deaths has changed in recent years. The rate of drug overdose deaths involving synthetic opioids other than methadone (drugs such as fentanyl, fentanyl analogs, and tramadol) increased 45% from 6.2 per 100,000 in 2016 to 9.0 in 2017.**
- ✓ **The rates of drug overdose deaths involving heroin (4.9 per 100,000), natural and semisynthetic opioids (4.4), and methadone (1.0) were the same in 2016 and 2017.**

Opioid Epidemic



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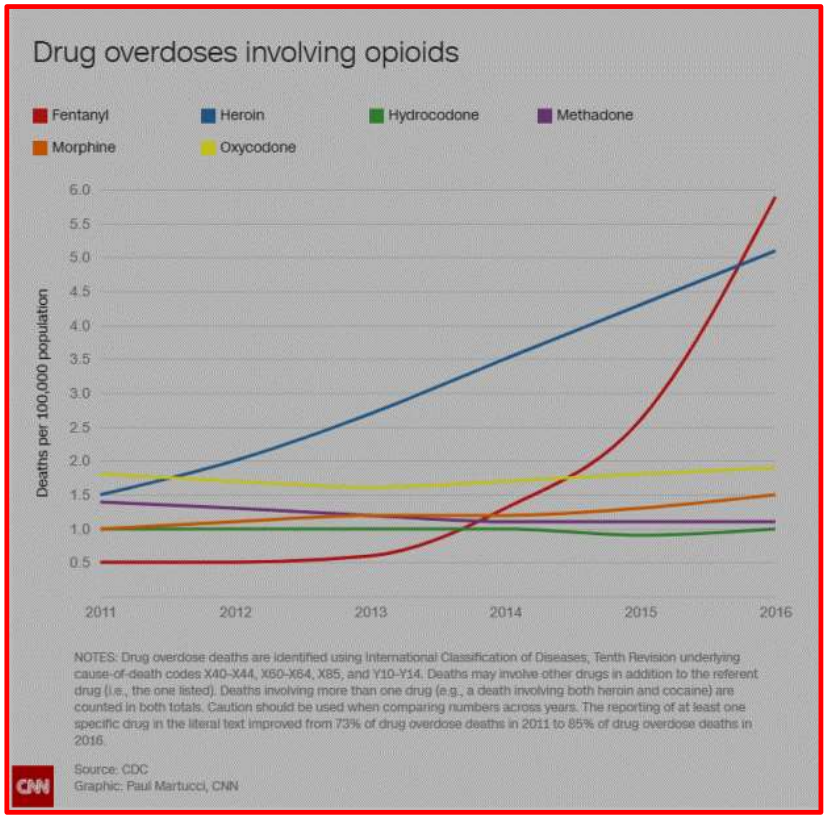
Fentanyl

Fentanyl is the Deadliest Drug in America, CDC Confirms

Most common drugs found in overdose deaths in 2016

Rank	Referent drug[1]	Number of deaths[2]	Percent of deaths[3]
1	Fentanyl	18,335	28.6%
2	Heroin	15,961	25.1%
3	Cocaine	11,316	17.8%
4	Methamphetamine	6,762	10.6%
5	Alprazolam	6,209	9.8%
6	Oxycodone	6,199	9.7%
7	Morphine	5,014	7.9%
8	Methadone	3,493	5.5%
9	Hydrocodone	3,199	5.0%
10	Diazepam	2,022	3.2%



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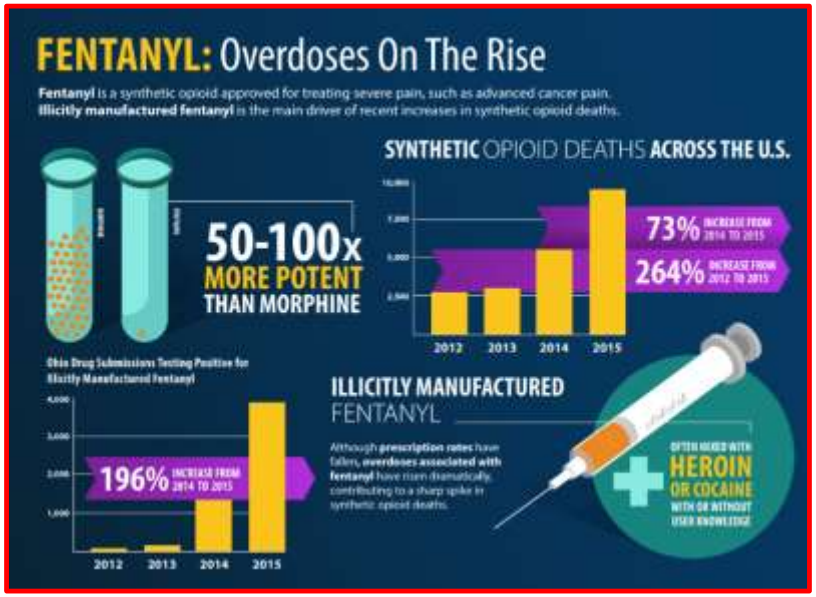
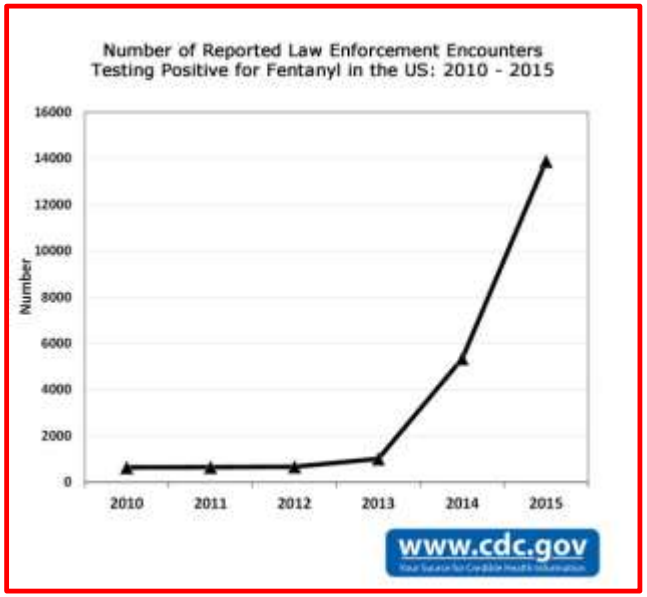
Fentanyl





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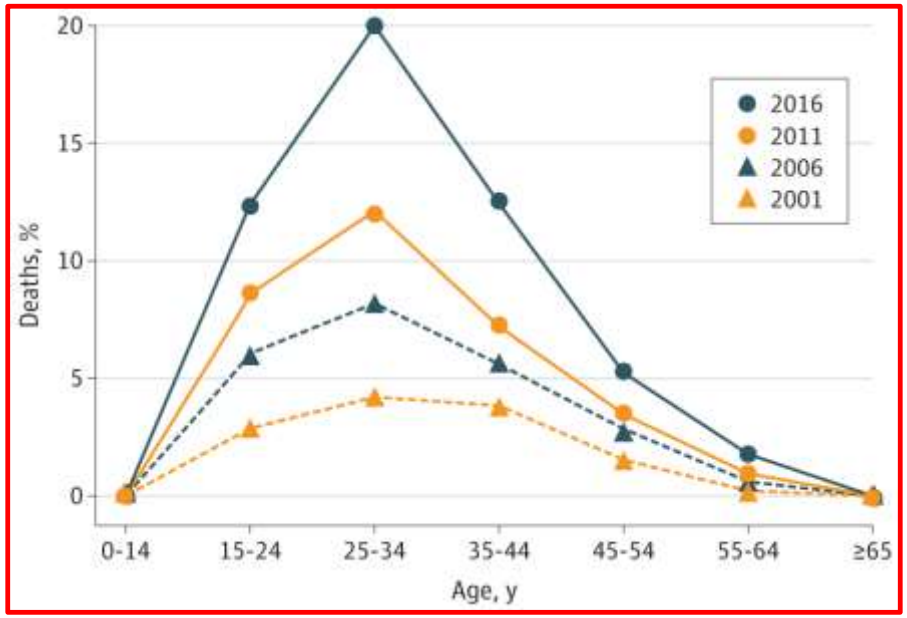
The Opioid Epidemic 2019

JAMA Network

From: **The Burden of Opioid-Related Mortality in the United States**

JAMA Netw Open. 2018;1(2):e180217. doi:10.1001/jamanetworkopen.2018.0217



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Opioid Overdoses


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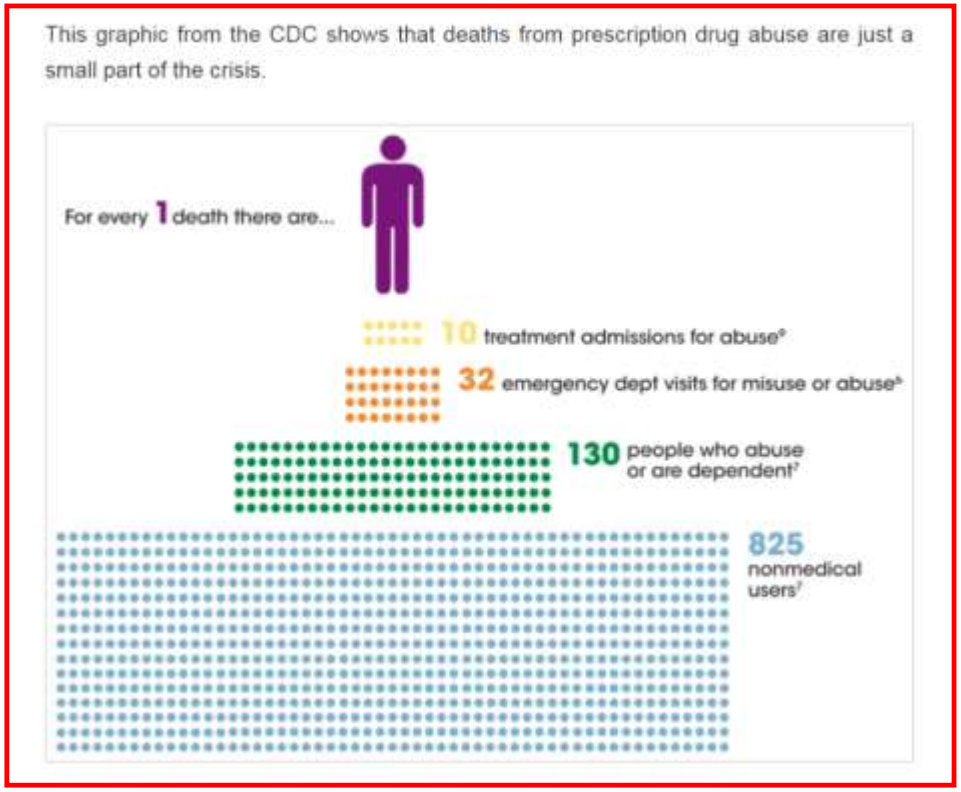
Drug Overdose Deaths in the United States, 1999–2017

Holly Hedegaard, M.D., Arialdi M. Miniño, M.P.H., and Margaret Warner, Ph.D.

- ✓ **In 2017, there were 70,237 drug overdose deaths in the United States.**
- ✓ **The age-adjusted rate of drug overdose deaths in 2017 (21.7 per 100,000) was 9.6% higher than the rate in 2016 (19.8)**
- ✓ **The age-adjusted rate of drug overdose deaths involving synthetic opioids other than methadone (drugs such as fentanyl, fentanyl analogs, and tramadol) increased by 45% between 2016 and 2017, from 6.2 to 9.0 per 100,000.**

Opioid Crisis in the U.S.

It's not just the overdoses creating a $$$ burden



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Opioid Overdoses

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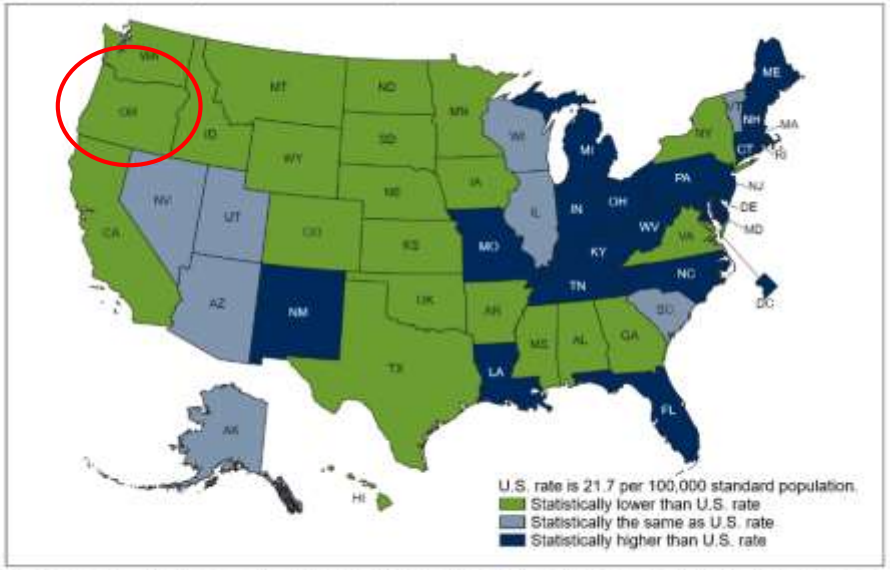
Figure 3. Age-adjusted drug overdose death rates, by state: United States, 2017



NOTES: Deaths are classified using the *International Classification of Diseases, 10th Revision*. Drug-poisoning (overdose) deaths are identified using underlying cause-of-death codes X40–X44, X60–X64, X85, and Y10–Y14. Access data table for Figure 3 at: https://www.cdc.gov/nchs/data/databriefs/db329_tables-508.pdf#3.
SOURCE: NCHS, National Vital Statistics System, Mortality.

U. S. Average

21.7 / 100,000

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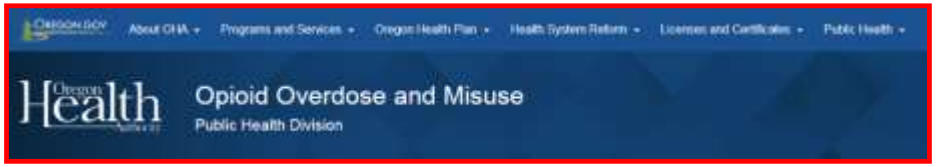
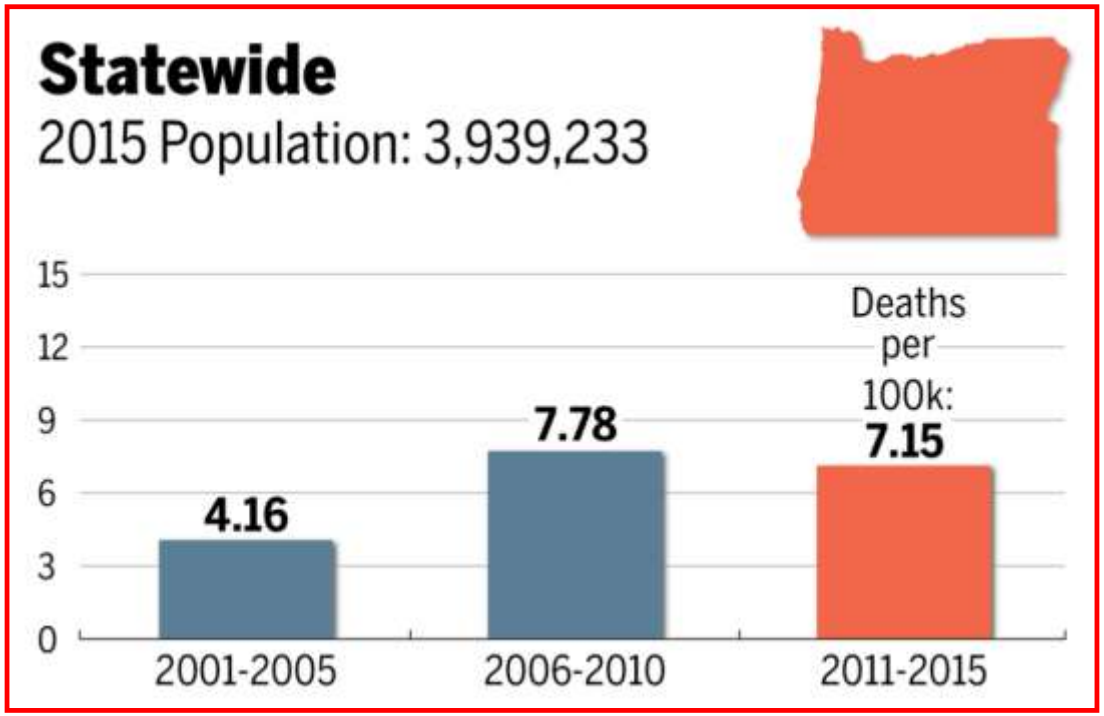
Opioid Crisis in the Oregon





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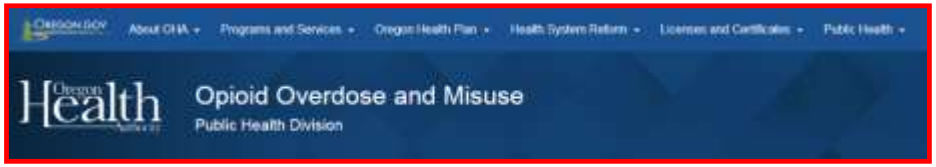

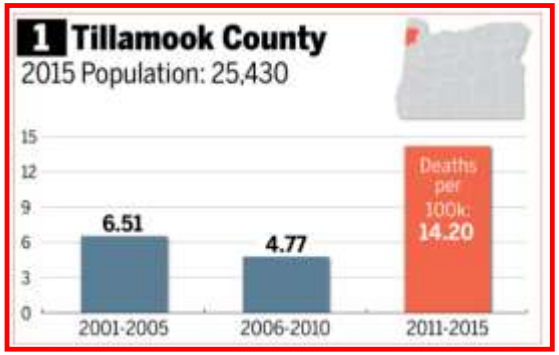

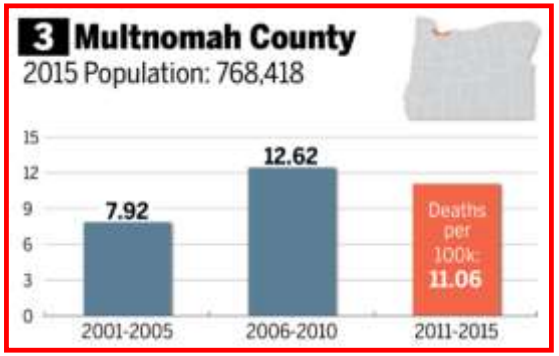

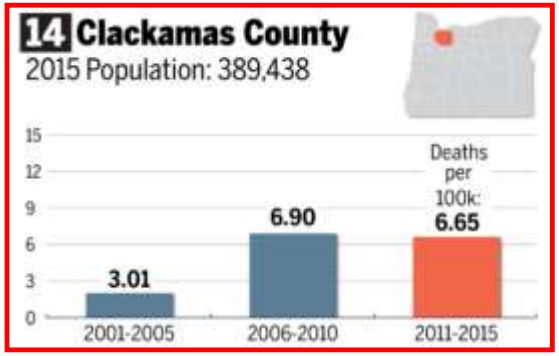

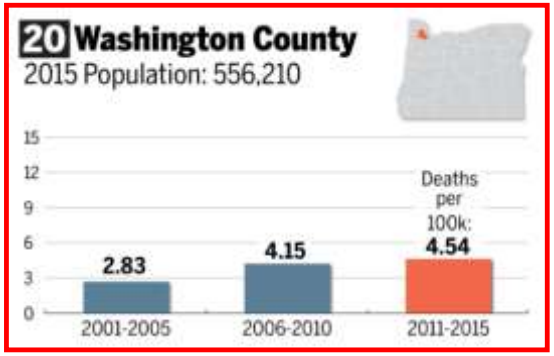

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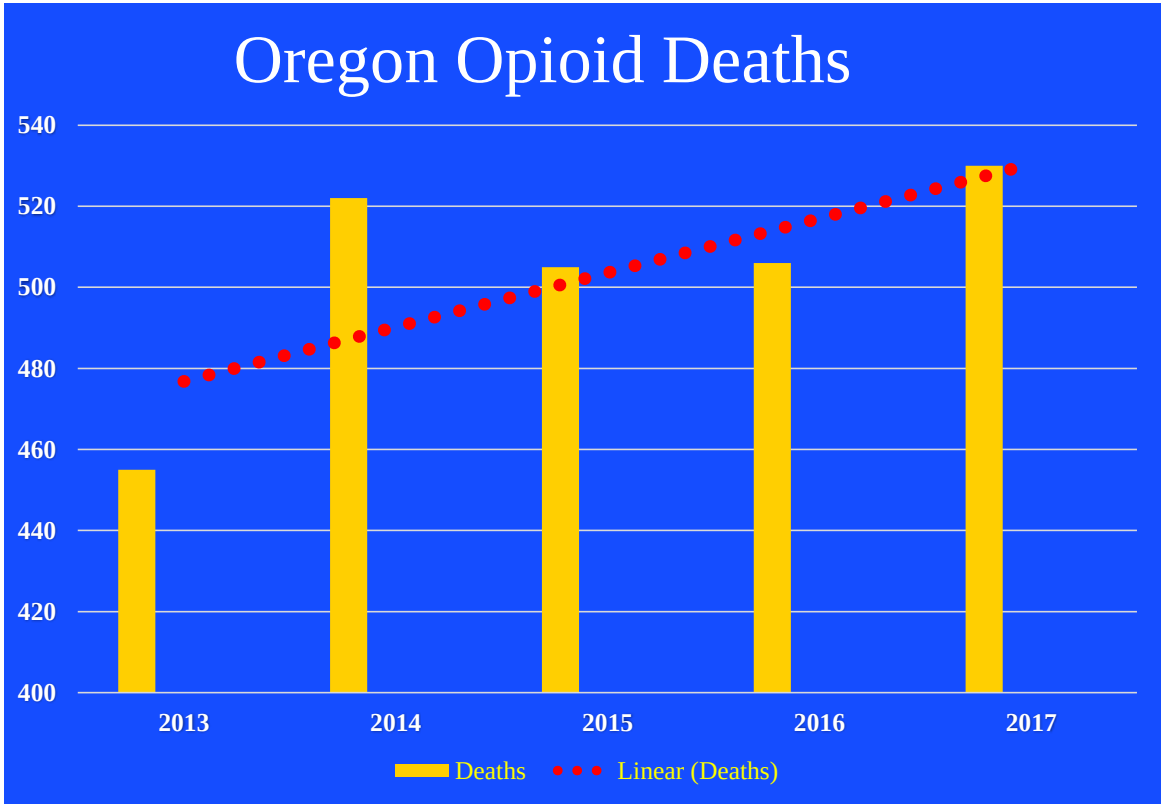
Oregon Opioid Deaths



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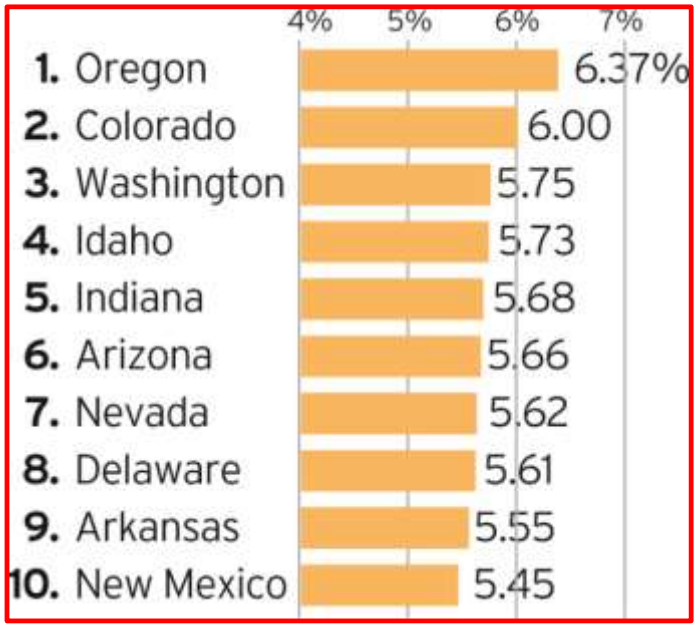
Oregon Led the Nation !

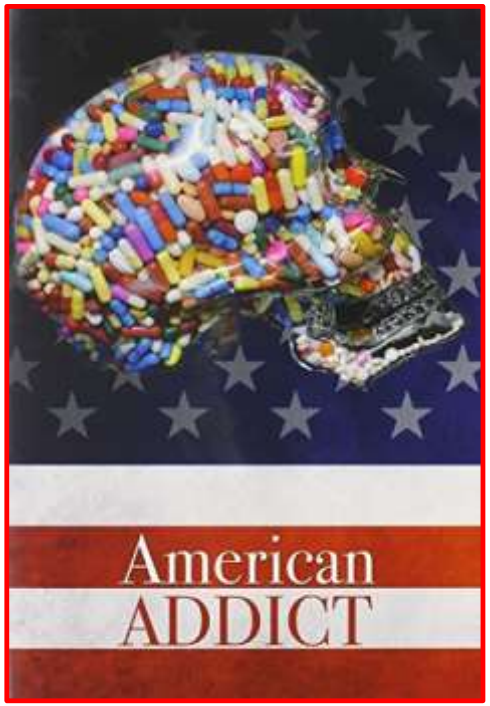
Top states for non-medical use of prescription drugs among ages 12 and older, 2010-2011.



Source: 2013 National Survey on Drug Use and Health

Facts about Opioid Crisis in the U.S.

1. **Opioids are now the leading cause of death for people under 50.**



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Facts about Opioid Crisis in the U.S.

1. Opioids are now the leading cause of death for people under 50.
2. The rate of overdoses for the teenage demographic surged 20% in 2015 alone, the vast majority of which were related to opioids.

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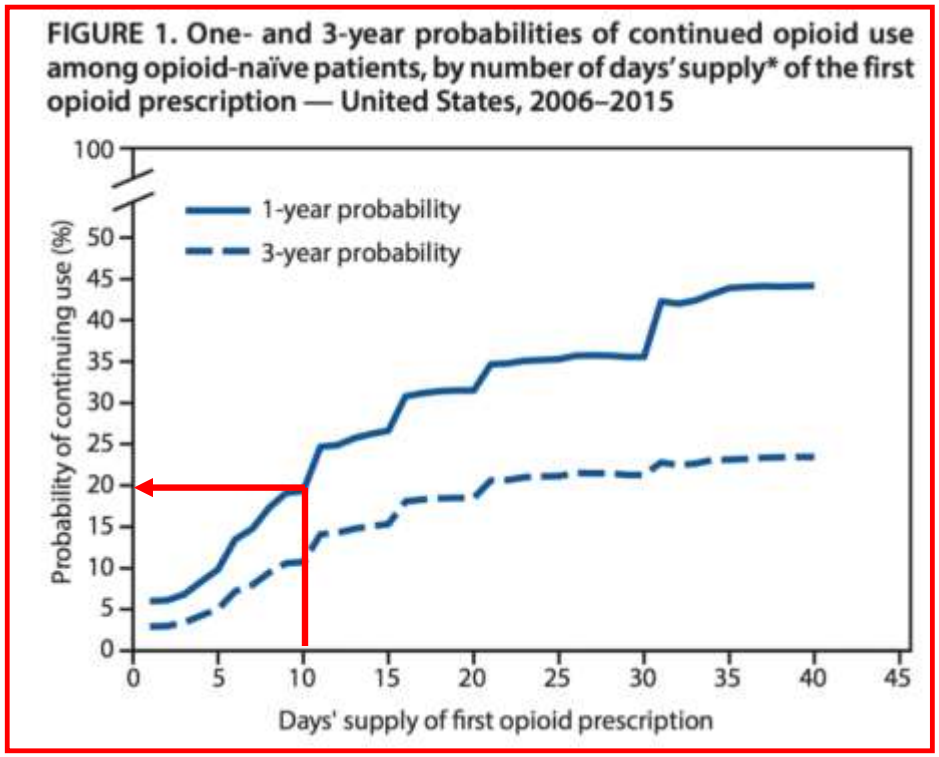
2. **The rate of overdoses for the teenage demographic surged 20% in 2015 alone, the vast majority of which were related to opioids.**
3. **With a 10 day supply of opioid painkillers, one in five people will become long term users. This is how addictive these pills are!**

Facts about Opioid Crisis in the U.S.

https://arstechnica.com/science/2017/03/with-a-10-day-supply-of-opioids-1-in-5-become-long-term-users

Facts about Opioid Crisis in the U.S.



https://www.cdc.gov/mmwr

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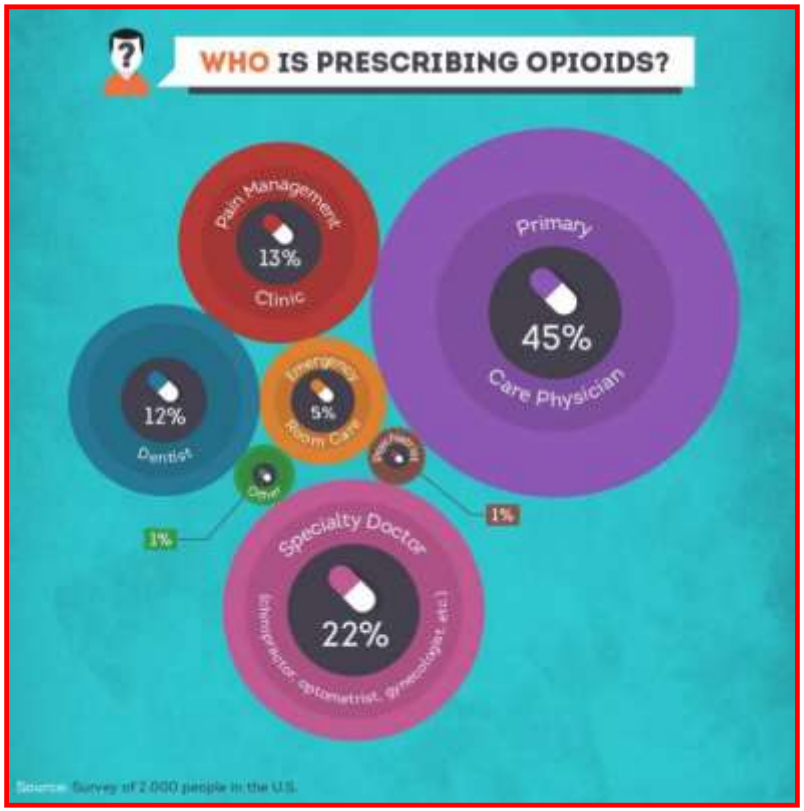
3. With a 10 day supply of opioid painkillers, one in five people will become long term uses. This is how addictive these pills are.
4. Dentists and oral surgeons are now major opioid prescribers

Facts about Opioid Crisis in the U.S.



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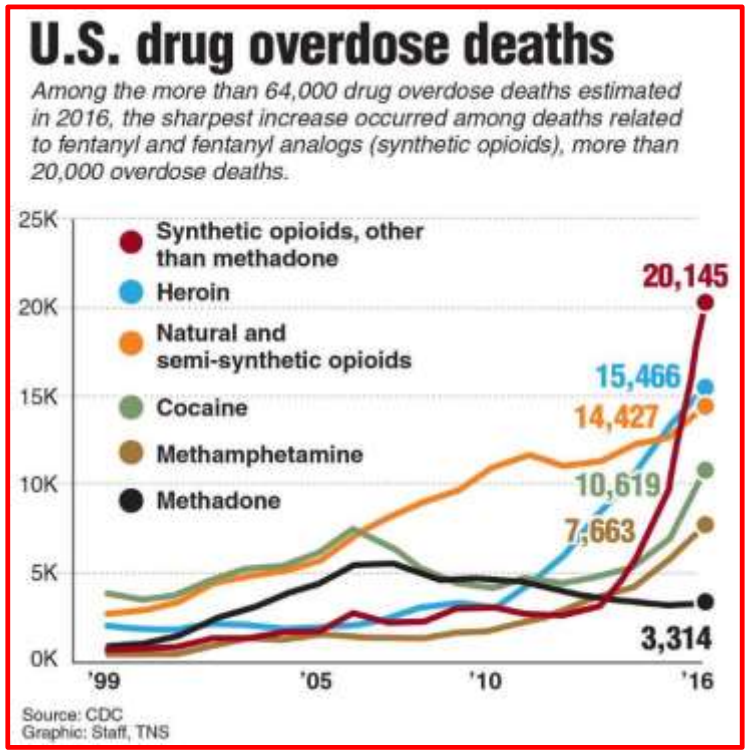
Opioid Crisis in the U.S.



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Opioid Crisis in the U.S.

How did we get here ?

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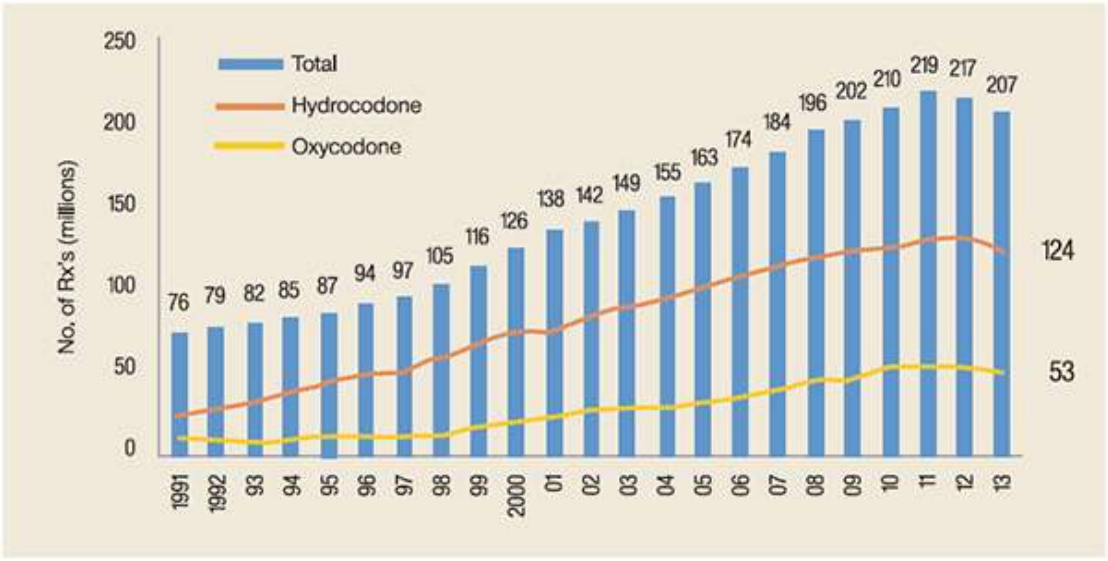
Decade of Pain Control

- Mid-1990's => Opioid abuse on FDA radar, ignored

Opioid Prescriptions Dispensed by US Retail Pharmacies



Opioid Prescriptions Dispensed by US Retail Pharmacies IMS Health, Vector One: National, years 1991-1996, Data Extracted 2011. IMS Health, National Prescription Audit, years 1997-2013, Data Extracted 2014.

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Decade of Pain Control

- Mid-1990's => Opioid abuse on FDA radar, ignored
- 2000 => American Pain Society + others
  - Pain is a "patient right" issue
  - Vital signs: BP, P, T, RR
    - Petitioned to get PAIN added as 5th "vital sign"

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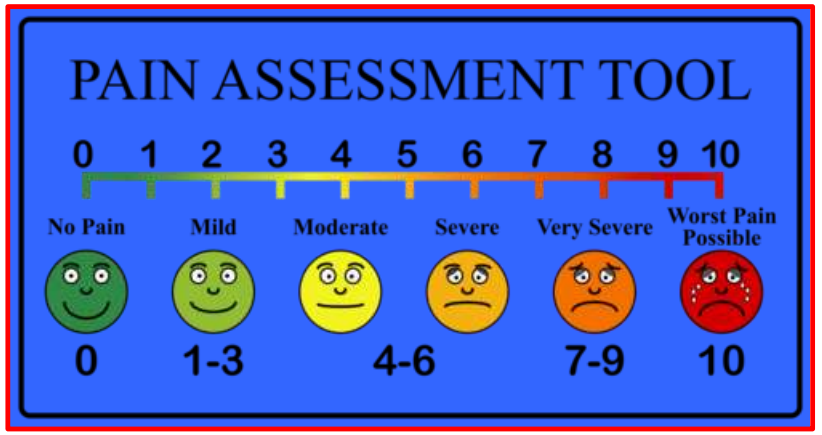

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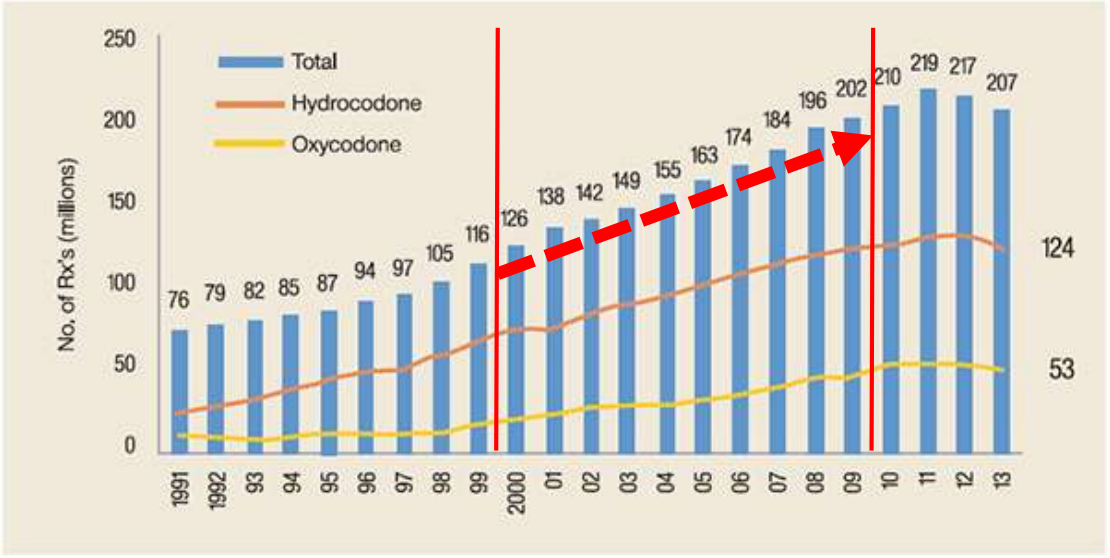
- 1/1/2001=> Congress declared 2000's as the decade of pain control

United States Congress declared:
2001-2010: The Decade of Pain Control and Research

Decade of Pain Control

PAIN is a four-letter word !



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Decade of Pain Control

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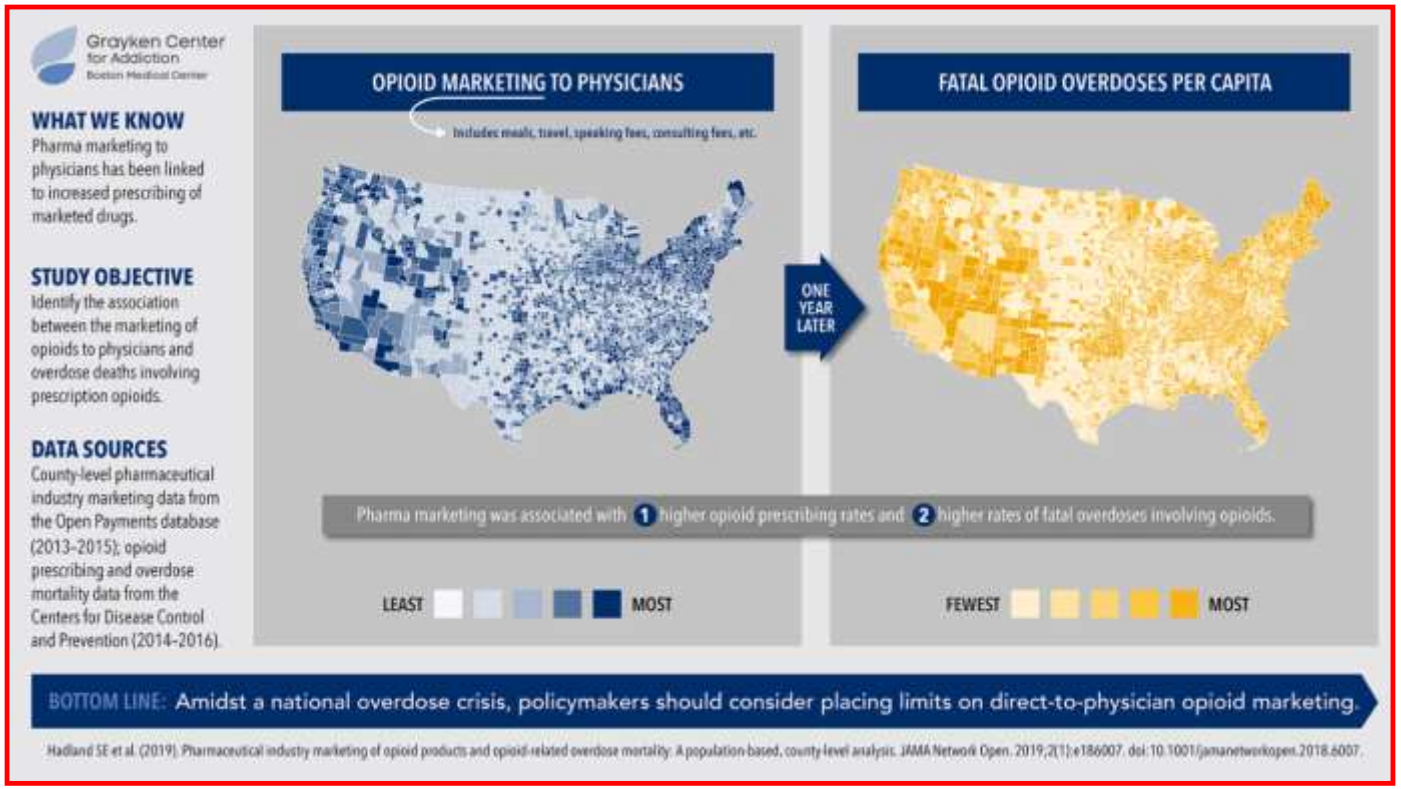

National Health Emergency

- Mid-1990's => Opioid abuse on FDA radar, ignored
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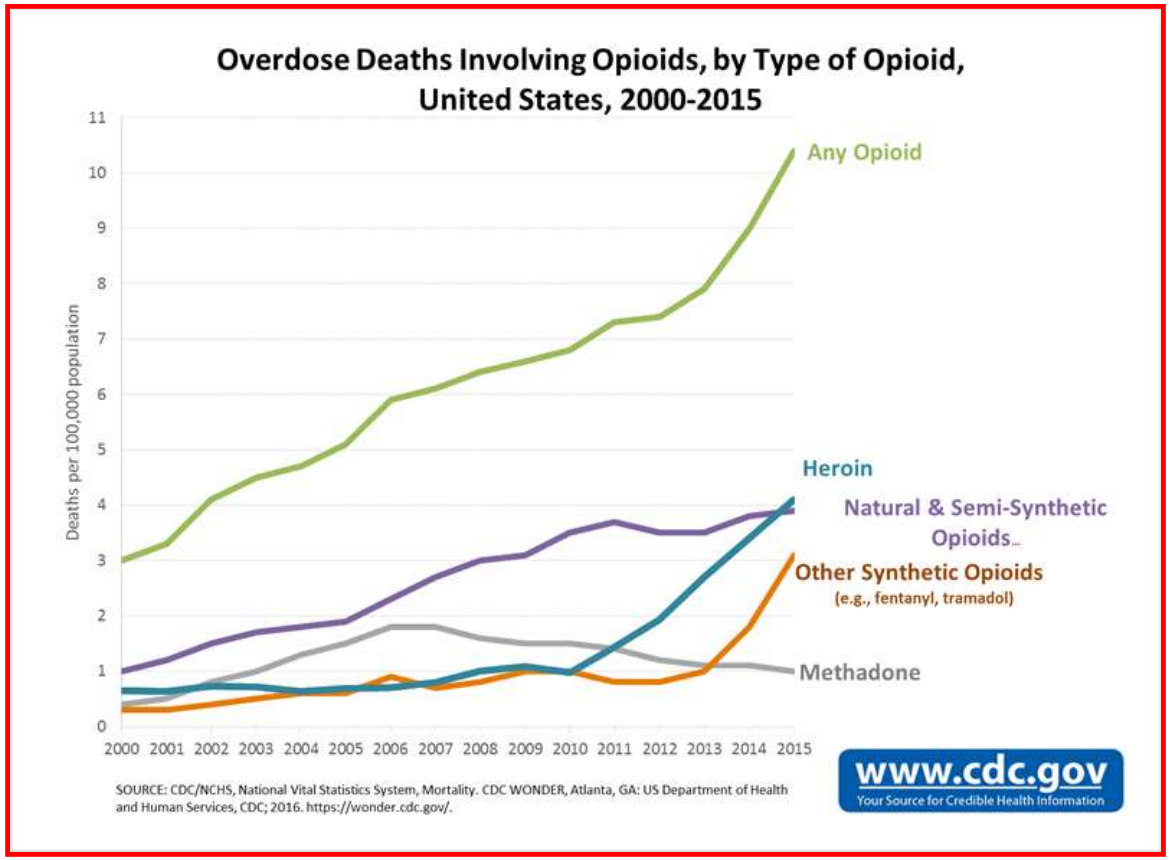
    - Petitioned to get PAIN added as 5th "vital sign"
- 1/1/2001=> Congress declared 2000's as the decade of pain control
- 2010+'s => Increasing alarm at increasing opioid abuse and deaths

HCP = Hydrocodone Containing prescriptions

Opioid Crisis in the U.S.



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- 1/1/2001=> Congress declared 2000's as the decade of pain control
- 2001+'s => Increasing alarm at increasing opioid abuse and deaths
- 10/2014 => DEA reclassifies Hydrocodone CIII to CII in effort to decrease availability of HCPs

HCP = Hydrocodone Containing prescriptions

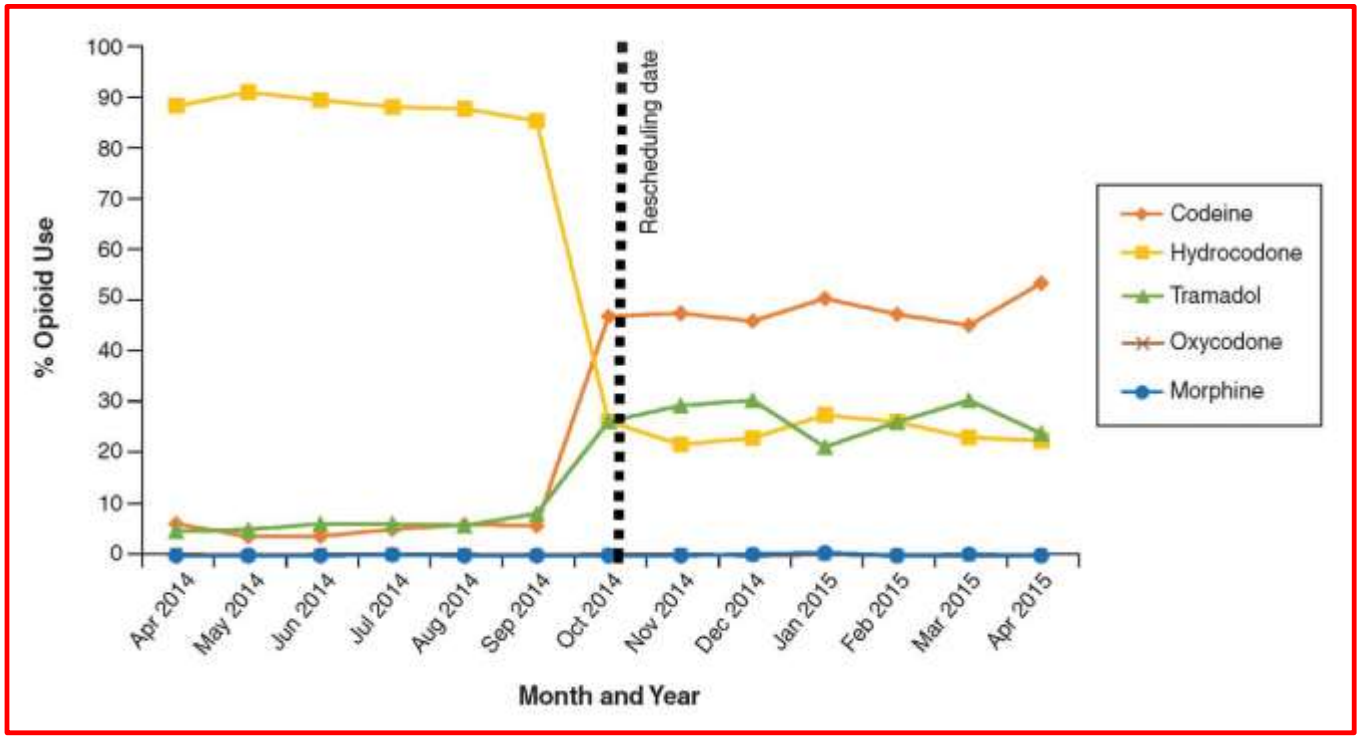
The Opioid Epidemic 2019

AJHP American Journal of Health-System Pharmacy™

Evaluation of opioid prescribing after rescheduling of hydrocodone-containing products

M. Brooke Bernhardt, Ruston S. Taylor, Joseph L. Hagan, Nihar Patel, Corrie E. Chumpitazi, Karin A. Fox and Chris Glover

American Journal of Health-System Pharmacy December 2017, 74 (24) 2046-2053; DOI: https://doi.org/10.2146/ajhp160648



Conclusion: **The rescheduling of HCPs resulted in a reduction in HCP prescriptions but was accompanied by increases in the use of codeine-containing products and tramadol in all settings**

41

National Health Emergency

Now the problem has become "HUGE", but at least we are paying attention

Steven W. Beadnell, DMD
Sunset Oral & Maxillofacial Surgery

The Opioid Epidemic And Dentist's Role

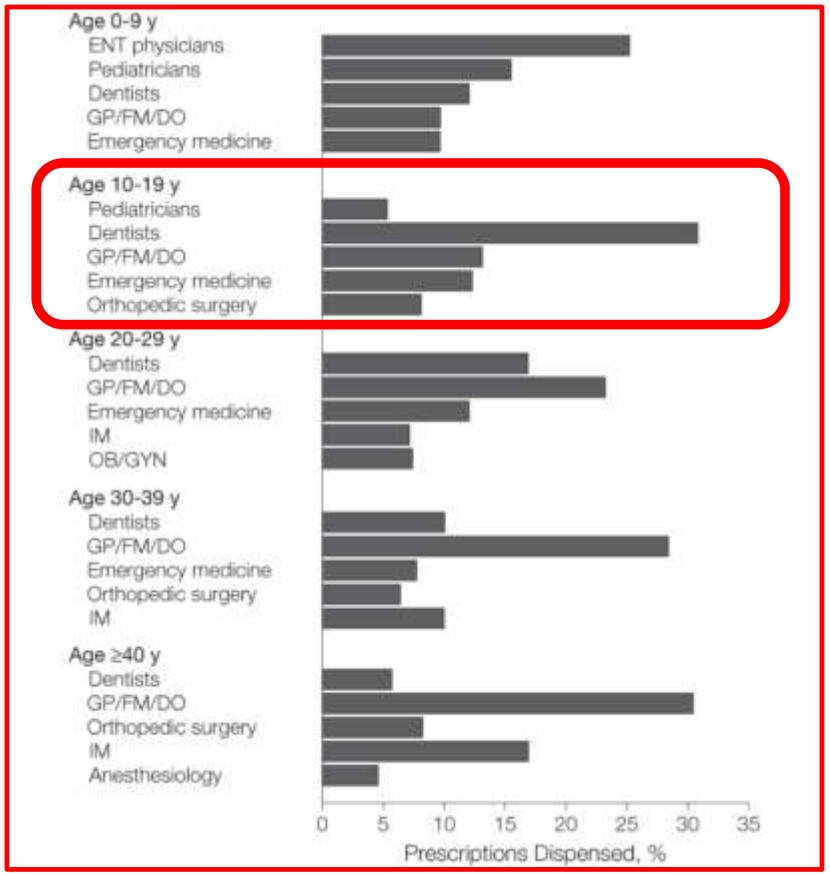
Steven W. Beadnell, DMD
Sunset Oral & Maxillofacial Surgery

The Opioid Epidemic 2019

From: **Characteristics of Opioid Prescriptions in 2009**

JAMA. 2011;305(13):1299-1301. doi:10.1001/jama.2011.401

The JAMA Network



Vector One: National (VONA) database from SDI Health

- **SDI receives 1.4B Rx per year**
- **79.5 M Rx for opioid analgesics**
- **Dentists overall was 8.0% of Rx**

Vector One: National (VONA) database from SDI Health

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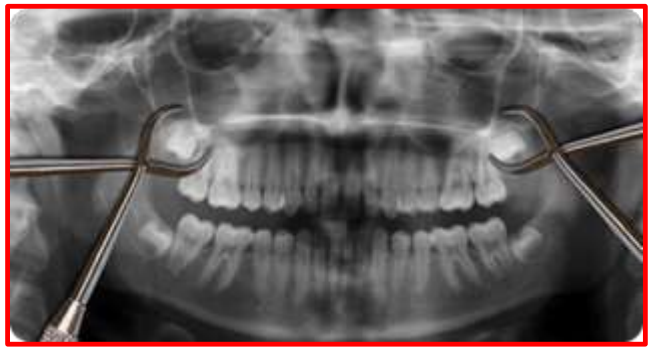
Dentist's role in opioid crisis



- 1000 pt & 251 parents
- Rx(# of pills):
  - 1-15 (40-64%)
  - 16-30 (27-49%)
  - >30 (4-6%)
- Pills left over
  - 76 -77% after pain abated
  - 44 - 55% still had pills
  - 24 - 41% discarded pills
  - 5 - 14% took for future pain
  - 1 - 4% someone else took pills

Dentist's role in opioid crisis

AAOMS Annual Meeting - Oral Abstracts, October 2017

ORAL ABSTRACT TRACK FOUR: MEDICINE, PATHOLOGY, TRAUMA

Oct. 13, 2017, 10:30 a.m. — 12:30 p.m.

How Many Opioid Pills Do Patients Require Following Third Molar Extraction with Intravenous Sedation?

E. T. Lahey III, Y. D. Ji: Harvard School of Dental Medicine, K. Charest, D. A. Keith, M. Troulis

The purpose of this study is to determine the amount of prescription opioids used by patients after third molar (M3) extractions with intravenous sedation (IVS). The secondary aim is to determine if provider prescribing practices are aligned with opioid need.

This is a retrospective cohort study of patients who underwent third molar extractions with IVS from February 2016 to August 2016. Subjects were included if they had third molars extracted, IVS, a follow-up encounter, and complete records (including documentation of number opioids. Primary analysis with linear regression revealed that subjects who were prescribed antibiotics consumed 1.66 fewer opioid units compared to those that did not (p=0.0335). Females consumed 1.18 less units compared to males (p=0.0459). With a trend towards significance, subjects who were prescribed ibuprofen used 1.32 units less on average than those who did not (p=0.0795). Secondary analysis revealed the only predictor variable for amount prescribed was surgeon prescribing preference.

A total of 38.4% of all prescribed opioids were consumed throughout this study period. Six to seven tablets of oxycodone (5mg), oxycodone/acetaminophen (5mg/325mg), or hydrocodone/acetaminophen (5mg/325mg) may be sufficient to manage pain after third molar extractions under IV sedation.

Table 1
Opioid Use

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Dentists role in opioid crisis

AAOMS Annual Meeting - Oral Abstracts, October 2017

Table 1
Opioid Use

Variable	Oxycodone	Oxycodone + Acetaminophen	Hydrocodone + Acetaminophen
Total amount prescribed (Tablets)	906	541	326
Total amount used (Tablets)	412 (45.7%)	150 (27.8%)	120 (36.8%)
Mean Amount Prescribed (Tablets)	16.18± 5.78	18.65 ± 4.17	16.28 ± 1.19
Mean Amount Used (Tablets)	7.36 ± 6.79	5.17± 6.56	6.0 ± 6.41

A total of 38.4% of all prescribed opioids were consumed throughout this study period. Six to seven tablets of oxycodone (5mg), oxycodone/acetaminophen (5mg/325mg), or hydrocodone/acetaminophen (5mg/325mg) may be sufficient to manage pain after third molar extractions under IV sedation.

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Dentist's role in opioid crisis

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Sunset Oral & Maxillofacial Surgery

Dentist's role in opioid crisis

COMMENTARY

Why do we prescribe Vicodin?

Paul A. Moore, DMD, PhD, MPH;
Raymond A. Dionne, DDS, PhD;
Stephen A. Cooper, DMD, PhD;
Elliot V. Hersh, DMD, MS, PhD

Vicodin, a fixed-dose combination analgesic containing acetaminophen, or *N*-acetyl-*p*-aminophenol, (APAP) and hydrocodone, is the most frequently recommended opioid pain reliever prescribed by US oral surgeons after the extraction of third molars.[1] It was first introduced to the US market in 1978, and today, APAP-hydrocodone combinations (for example, Vicodin, Norco, Lortab, and Zydone) have the dubious reputation of being our nation's most frequently prescribed analgesics, as well as our nation's most frequently abused prescription drugs.[2,3] Surprisingly, we could find no references in the literature in which investigators found APAP-hydrocodone combinations, as currently prescribed and formulated, to be more effective than nonsteroidal anti-inflammatory drugs (NSAIDs).

> If nonsteroidal anti-inflammatory analgesics are at least as effective as acetaminophen-opioid pain relievers and have lower incidences of adverse effects, why do we prescribe acetaminophen-opioid pain relievers for patients?

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Dentist's role in opioid crisis

COVER STORY

Dental opioid prescribing and multiple opioid prescriptions among dental patients

Administrative data from the South Carolina prescription drug monitoring program

Jenna L. McCauley, PhD; J. Madison Hyer, MS; V. Ramesh Ramakrishnan, PhD; Renata Leite, DDS, MS; Cathy L. Melvin, PhD, MPH; Roger B. Fillingim, PhD; Christie Frick, RPh; Kathleen T. Brady, MD, PhD

ABSTRACT

Background. Despite increased attention to dentists' roles in curbing opioid misuse, abuse, and diversion, information regarding prescribing practices and the frequency of multiple concurrent opioid prescriptions among dental patients is limited.

JADA, Volume 147, Issue 7, Pages 537-544 (July 2016)

Dentists role in opioid crisis

TABLE 1

Top 5 dentist-prescribed opioid analgesic prescriptions filled most frequently in South Carolina from January 1, 2012, through December 31, 2013.

OPIOID TYPE*	TOTAL NO. OF PRESCRIPTIONS	PERCENTAGE OF OPIOIDS PRESCRIBED†
Hydrocodone and Acetaminophen	497,547	76.1
Oxycodone and Acetaminophen	79,682	12.2
Codeine and Acetaminophen	44,333	6.8
Hydrocodone and Ibuprofen	19,795	3.0
Meperidine	7,772	1.2

* Immediate-release formulation.
† Percentages do not sum to 100% because opioids listed represent only the top 5 opioid types most frequently prescribed by dentists in South Carolina.

JADA, Volume 147, Issue 7, Pages 537-544 (July 2016)

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Dentists role in opioid crisis

TABLE 2

Frequencies of preexisting multiple concurrent opioid prescription volumes at the time of dental opioid prescribing incidents.

NO. OF PRIOR OPIOID PRESCRIPTIONS	NO. OF INCIDENTS			PERCENTAGE OF INCIDENTS INVOLVING FEMALE PATIENTS*			PERCENTAGE OF INCIDENTS INVOLVING CHILDREN†			NO. OF PATIENTS REPRESENTED		
	30 d	90 d	180 d	30 d	90 d	180 d	30 d	90 d	180 d	30 d	90 d	180 d
0	491,636	439,922	401,519	54.5	53.9	53.5	12.5	13.3	14.0	424,203	401,142	380,131
1	94,414	105,634	113,934	56.9	56.5	56.1	7.6	8.1	8.6	81,410	96,360	106,763
2	25,875	36,067	42,918	59.4	58.8	58.2	4.9	5.5	6.0	20,906	31,996	39,483
3	8,861	17,793	20,477	61.7	60.1	59.5	3.5	3.5	4.0	6,800	15,335	18,578
4	3,636	9,873	12,209	62.5	61.9	61.4	2.9	2.9	3.3	2,588	8,263	10,943
5	1,565	5,746	8,343	67.2	64.9	61.7	3.5	2.5	2.7	1,096	4,722	7,384
6	784	4,134	6,620	69.5	64.0	62.3	2.2	1.9	2.2	487	3,361	5,819
7	373	2,594	4,740	69.0	64.6	62.9	2.7	2.1	1.9	236	2,036	4,126
8	183	1,681	3,556	67.7	65.5	64.1	2.2	2.1	1.7	119	1,289	2,994
9	126	1,179	2,567	67.9	67.8	63.8	0.8	1.6	1.8	70	900	2,172
10	112	770	2,045	60.4	65.7	64.7	0	1.7	1.7	48	579	1,721
11	51	551	1,578	47.6	67.5	64.5	0	1.8	1.5	23	386	1,313
12	34	418	1,443	33.3	68.5	64.9	0	2.6	1.3	16	302	1,204
13	19	307	1,118	29.4	64.7	64.5	0	1.6	1.2	6	207	915
14	16	221	907	50.0	64.8	67.6	0	0.9	1.1	4	151	729
15	10	170	685	50.0	74.5	67.3	0	0.6	1.6	4	103	553
Greater Than 15	82	717	3,118	66.2	60.7	66.8	0	0	0.8	5	134	879
Total Greater Than 0	136,141	187,855	226,258	NA‡	NA	NA	NA	NA	NA	113,818	166,124	205,576

* Female patients accounted for 55.1% of total patients with known sex in the full sample.
† Children were defined as people younger than 21 years, and they accounted for 12.5% of total patients in the full sample.
‡ NA: Not applicable.

JADA, Volume 147, Issue 7, Pages 537-544 (July 2016)

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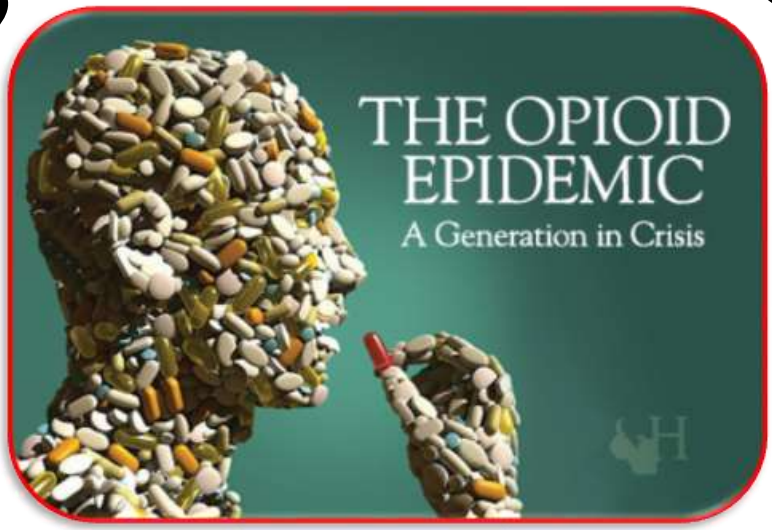
Dentist's Role



What can we do about it ?

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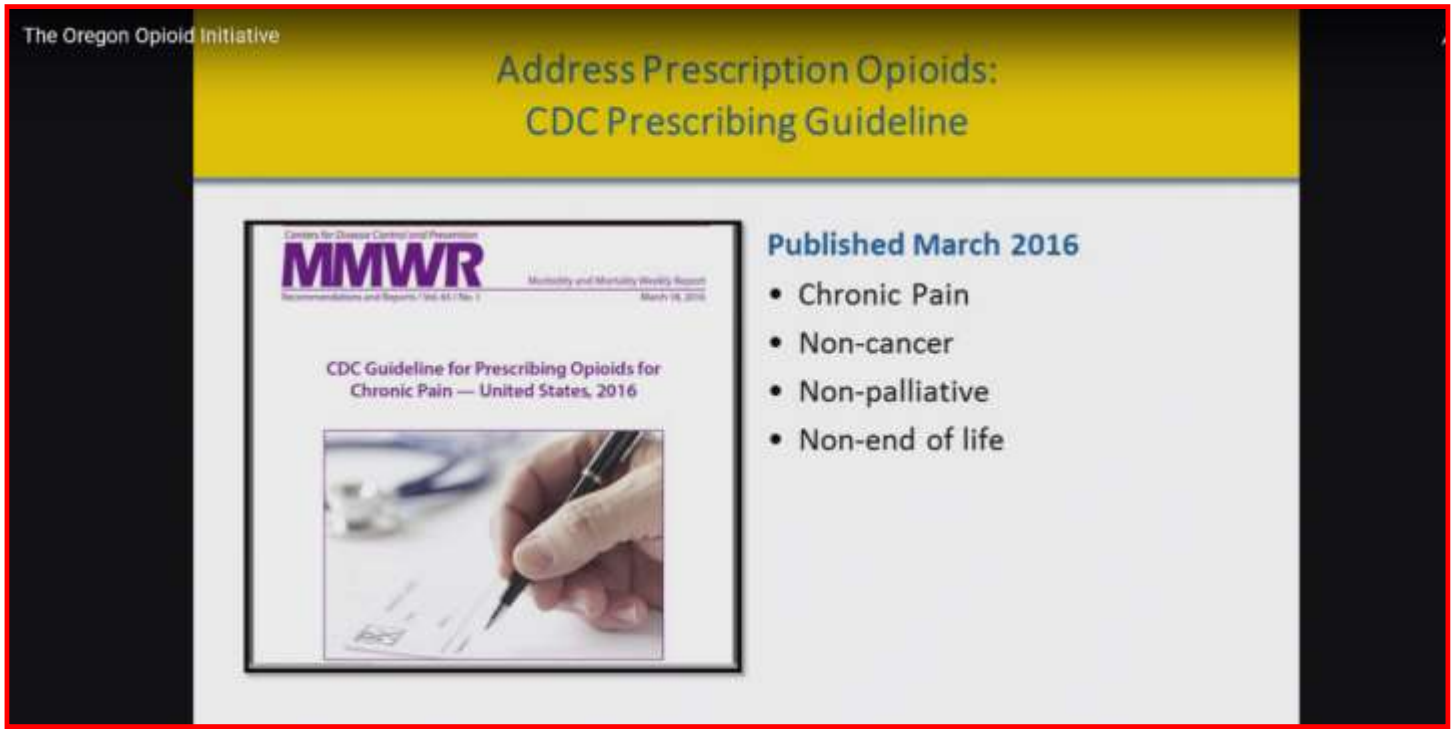
Opioid Crisis in the Oregon



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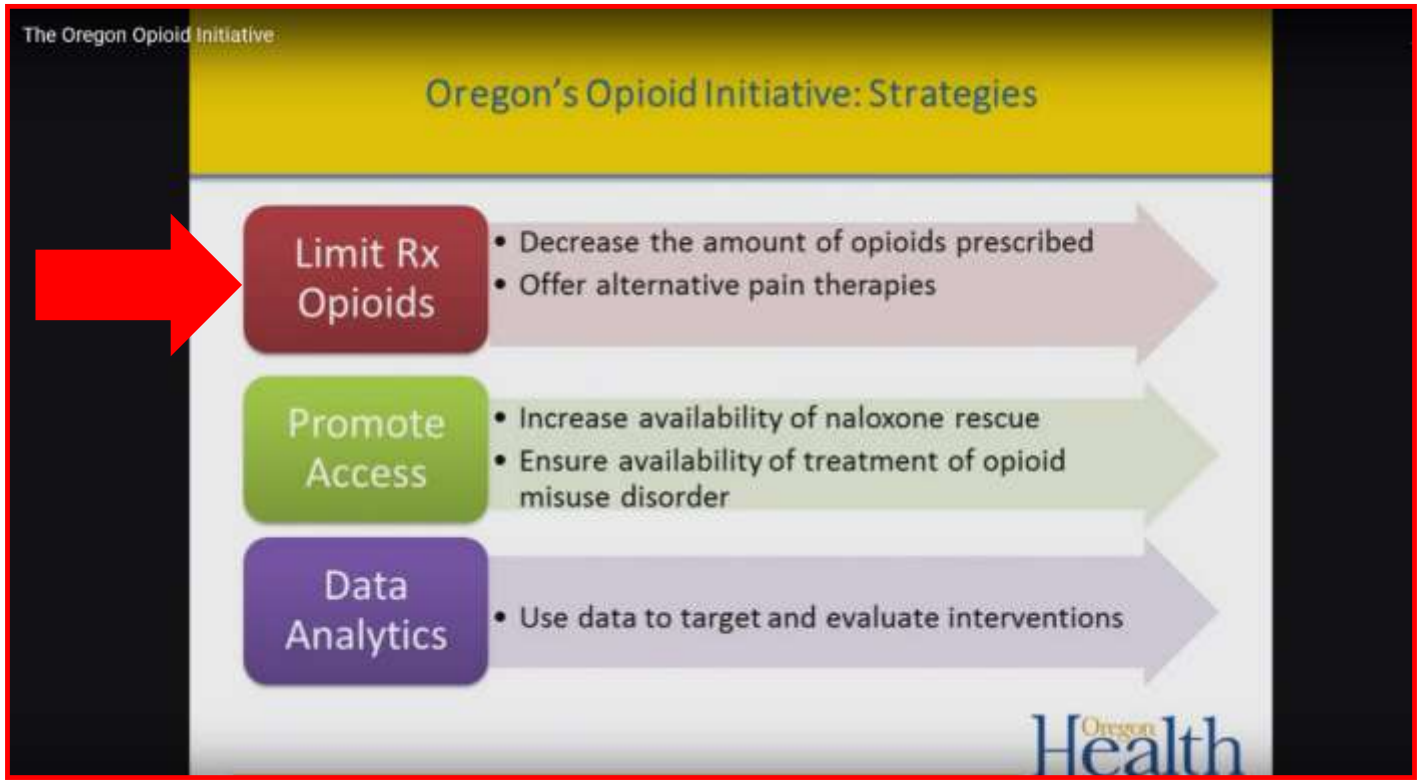
Opioid Crisis in the Oregon

The Oregon Opioid Initiative



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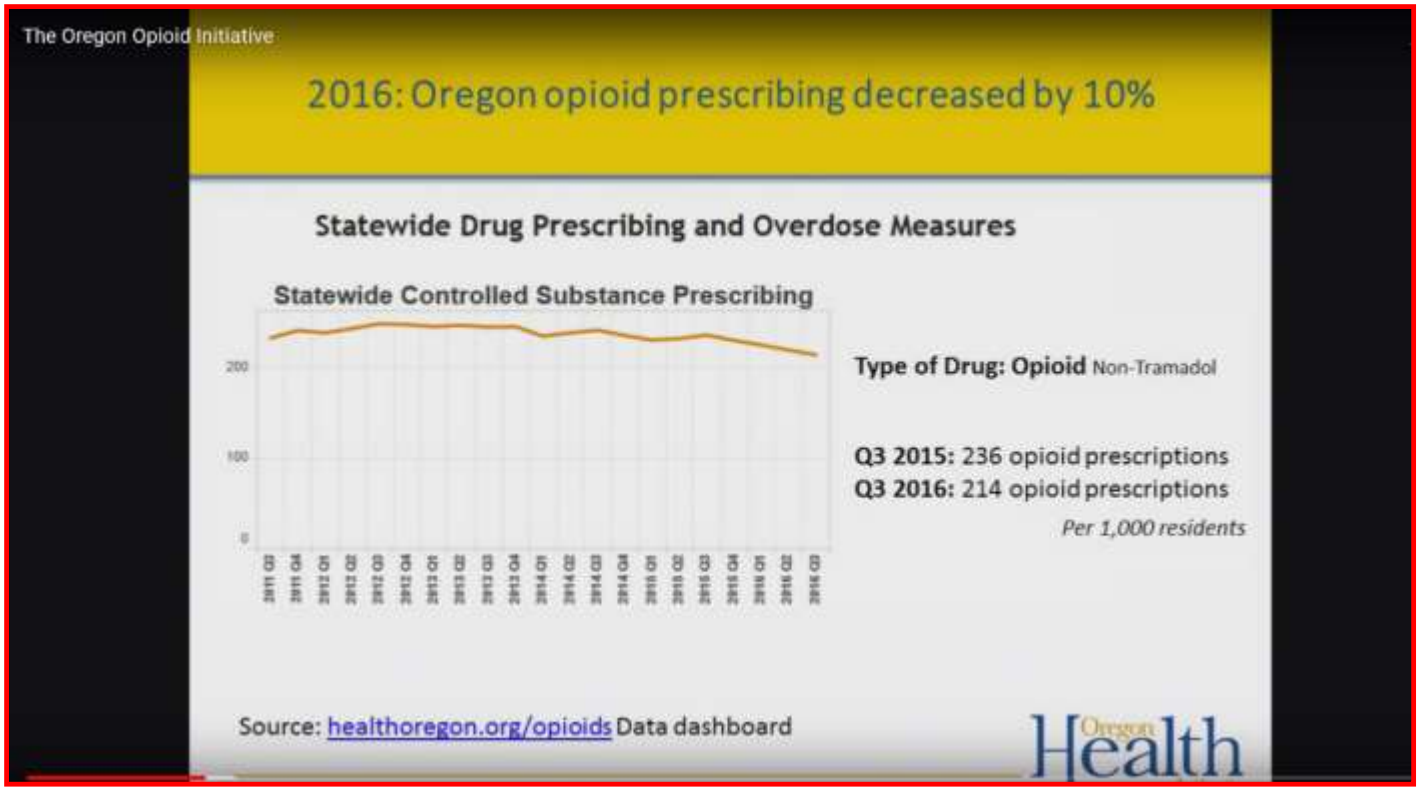
Opioid Crisis in the Oregon



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ADA Dental Pain Recommendations

Statement on the Use of Opioids in the Treatment of Dental Pain

- When considering prescribing opioids, dentists should conduct a medical and dental history to determine current medications, potential drug interactions and history of substance abuse.
- Dentists should follow and continually review Centers for Disease Control and State Licensing Boards recommendations for safe opioid prescribing.
- Dentists should register with and utilize prescription drug monitoring programs (PDMP) to promote the appropriate use of controlled substances for legitimate medical purposes, while deterring the misuse, abuse and diversion of these substances.
- Dentists should have a discussion with patients regarding their responsibilities for preventing misuse, abuse, storage and disposal of prescription opioids.
- Dentists should consider treatment options that utilize best practices to prevent exacerbation of or relapse of opioid misuse.
- Dentists should consider nonsteroidal anti-inflammatory analgesics as the first-line therapy for acute pain management.
- Dentists should recognize multimodal pain strategies for management for acute postoperative pain as a means for sparing the need for opioid analgesics.
- Dentists should consider coordination with other treating doctors, including pain specialists when prescribing opioids for management of chronic orofacial pain.
- Dentists who are practicing in good faith and who use professional judgment regarding the prescription of opioids for the treatment of pain should not be held responsible for the willful and deceptive behavior of patients who successfully obtain opioids for non-dental purposes.
- Dental students, residents and practicing dentists are encouraged to seek continuing education in addictive disease and pain management as related to opioid prescribing.

ADA Dental Pain Recommendations

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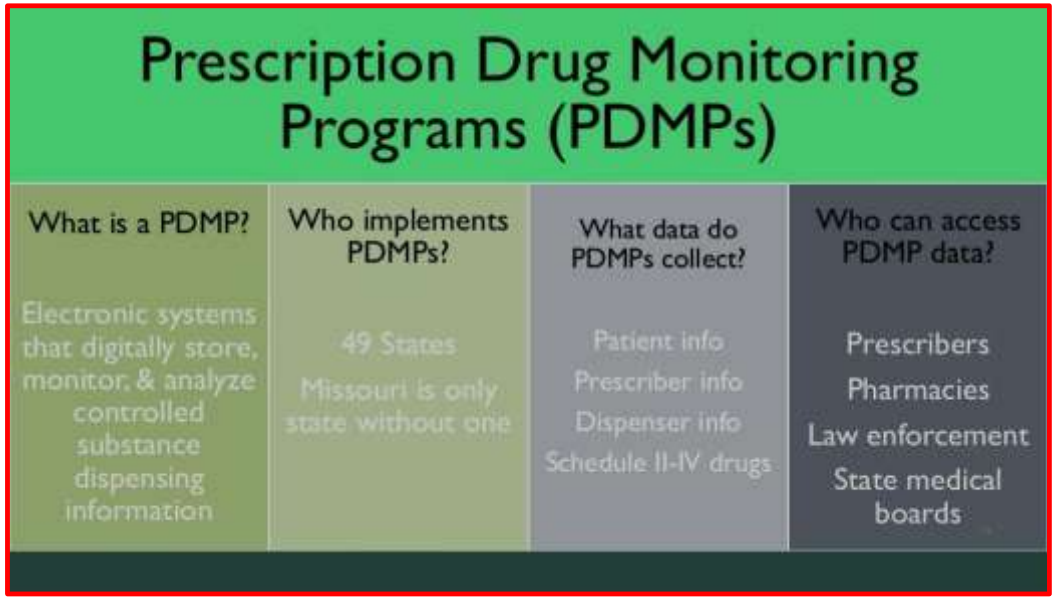
PDMP

A prescription drug monitoring program (PDMP) is an electronic database that tracks controlled substance prescriptions in a state. PDMPs can provide health authorities timely information about prescribing and patient behaviors that contribute to the epidemic.



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PDMP

Prescription Drug Monitoring Programs (PDMPs)

HOW DRUGS ARE CLASSIFIED IN THE US

SCHEDULE	DESCRIPTION	EXAMPLES
Schedule 1	Drugs with no currently accepted medical use and a high potential for abuse. They are the most dangerous drugs of all the drug schedules with potentially severe psychological or physical dependence	- Heroin - Lysergic acid diethylamide (LSD) - Marijuana (Cannabis) - Methylenedioxymethamphetamine (Ecstasy) - Methaqualone - Peyote
Schedule 2	Drugs with a high potential for abuse, with use potentially leading to severe psychological or physical dependence. These drugs are also considered dangerous.	- Combination products with less than 15mg of hydrocodone per dosage unit (Vicodin) - Cocaine - methamphetamine - Methadone - Hydromorphone (Dilaudid) - Meperidine (Demerol) - Oxycodone (OxyContin) - Fentanyl - Dexedrine - Adderall - Ritalin
Schedule 3	Drugs with a moderate to low potential for physical and psychological dependence. Schedule 3 drugs abuse potential is less than Schedule 1 and Schedule 2 drugs but more than Schedule 4.	- Products containing less than 90mg of codeine per dosage unit (Tylenol and codeine) - Ketamine - Anabolic steroids - Testosterone
Schedule 4	Drugs with a low potential for abuse and low risk of dependence.	- Xanax - Soma - Darvon - Darvocet - Valium - Ativan - Talwin - Ambien - Tramadol
Schedule 5	Drugs with lower potential for abuse than Schedule 4 and consist of preparations containing limited quantities of certain narcotics. Schedule 5 drugs are generally used for antidiarrheal, antitussive, and analgesic purposes.	- Cough preparations with less than 200mg of codeine per 100ml (Robitussin AC) - Lomotil - Motofen - Lyrica - Parepectolin

SOURCE: Drug Enforcement Administration

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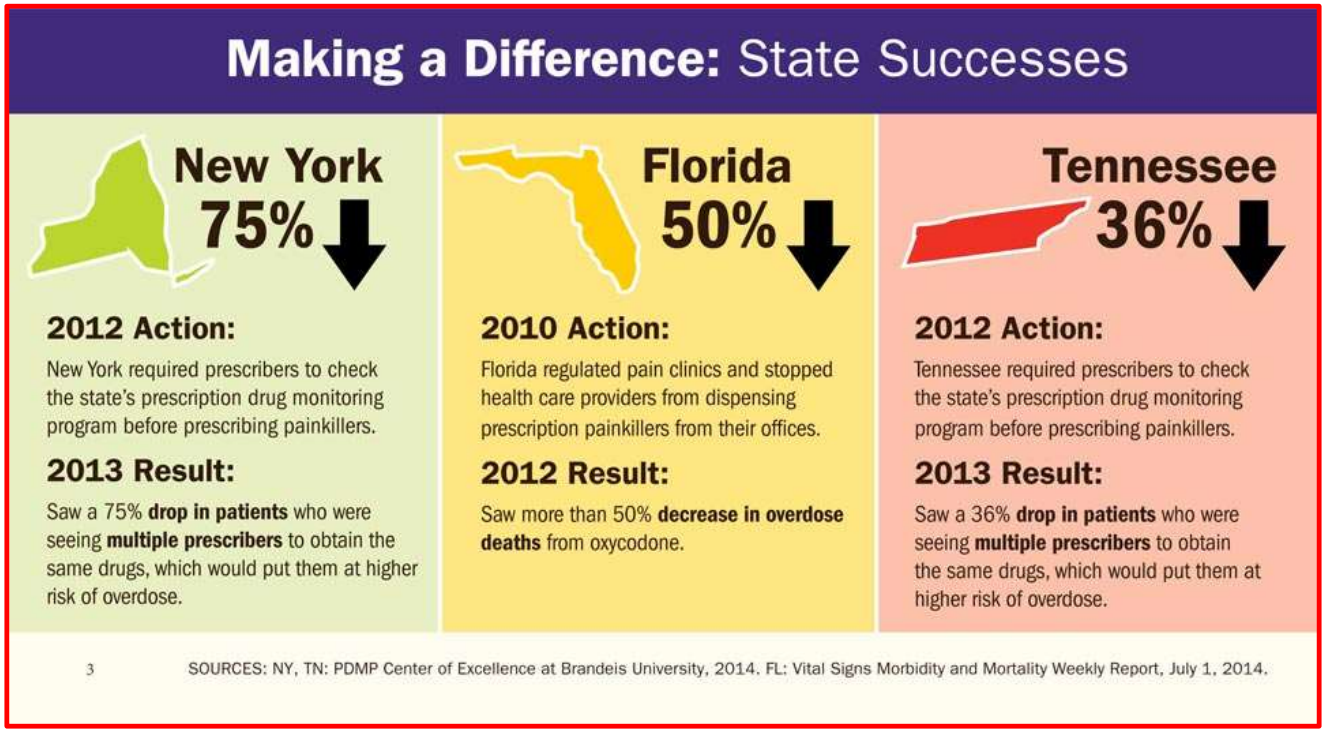
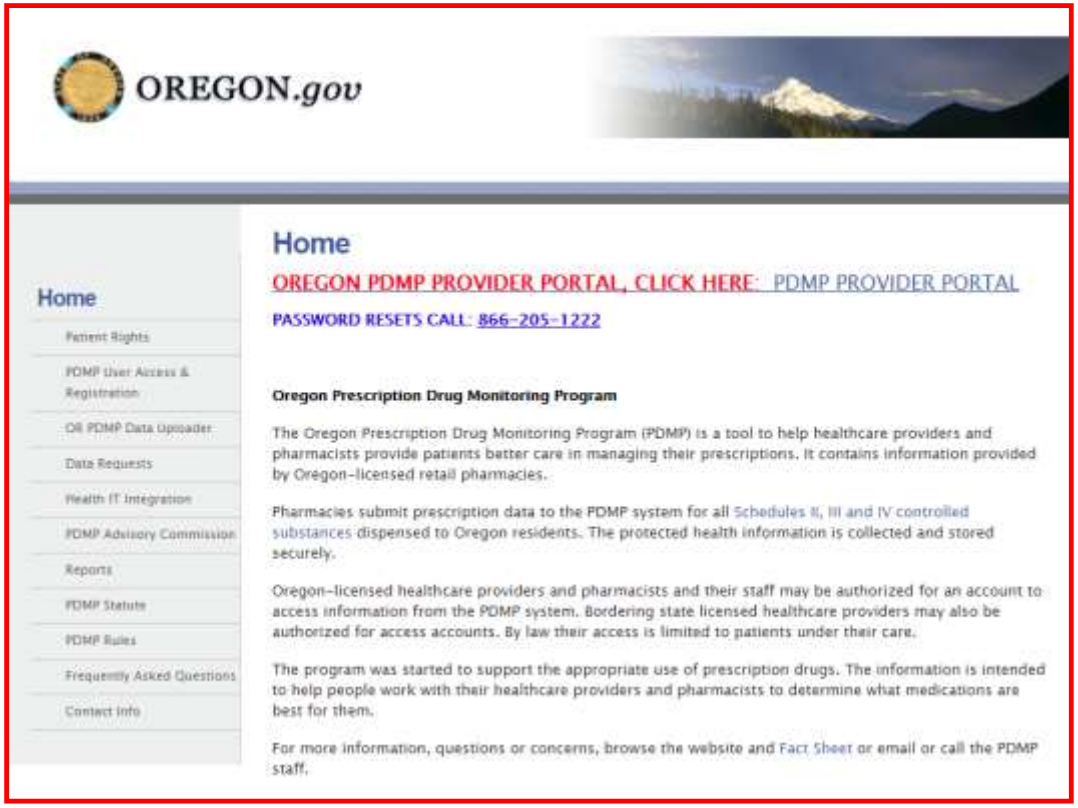
PDMP

Benefits of PDMP ?



Oregon PDMP



http://www.orpdmp.com

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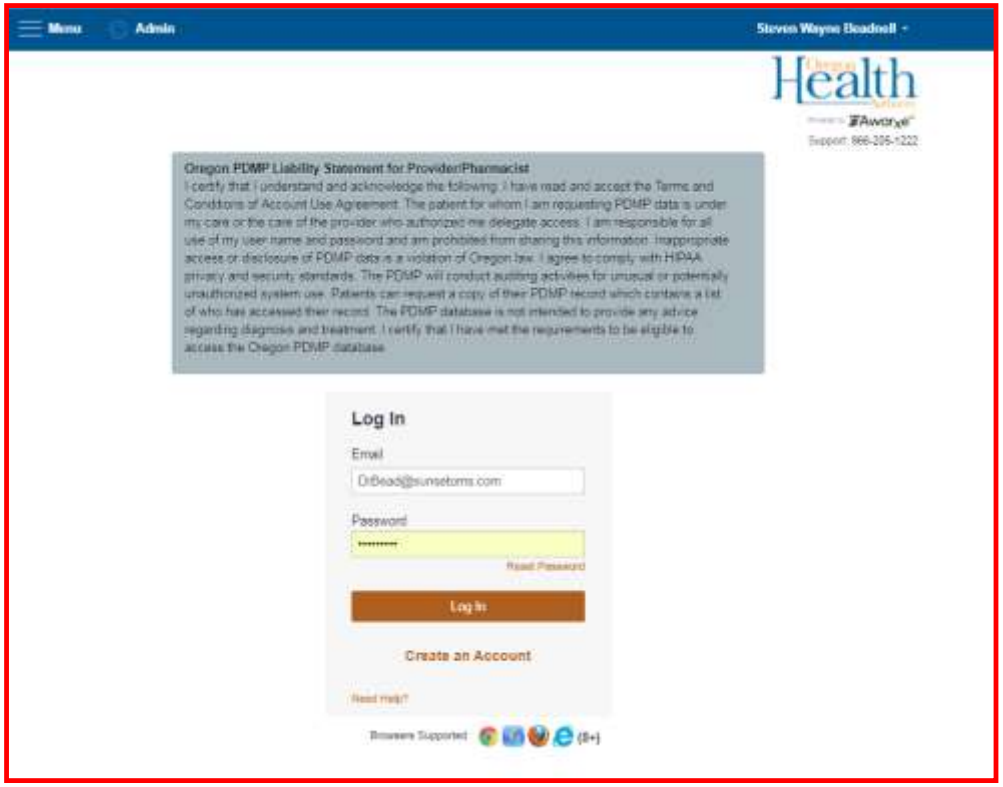
Oregon PDMP



https://oregon.pmpaware.net/login

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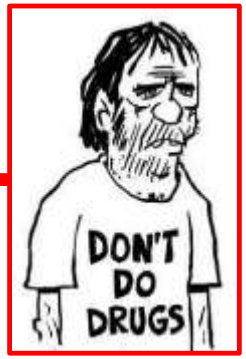
Oregon PDMP Sample

Donald H – I&D Perimandibular Abscess
44y/0 WM 2days S/P PO Ext #24-26

ARE YOU NOW TAKING:	YES	NO	NOTES
71. Any kind of medication, drug, pills?	X		
72. Blood thinners (Coumadin, Plavix, Aspirin, Vitamin E, Ginko biloba, Aggrenox, Pradaxa, Fish oil)?	X		
73. Have you ever taken diet pills?		X	
74. Any natural product, herbal supplement or homeopathic remedy?		X	
75. Are you taking, or have you ever taken, bone density meds, or bisphosphonates such as Fosamax, Boniva, Actonel, IV– Zometa, Aredia, Xgeva, Prolia, or Reclast in the past 12 years?		X	
76. Tranquilizers, sleeping pills, anti-depressants, and/or narcotics on a regular basis? If so, please list:	NO		

77. Please list any medications you are currently taking:

Medication	Dosage	Frequency	Medication	Dosage	Frequency
Ibuprofen, Lortab	800 5/40	6 hours 1 day			



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Oregon PDMP Sample

Donald H – I&D Perimandibular Abscess
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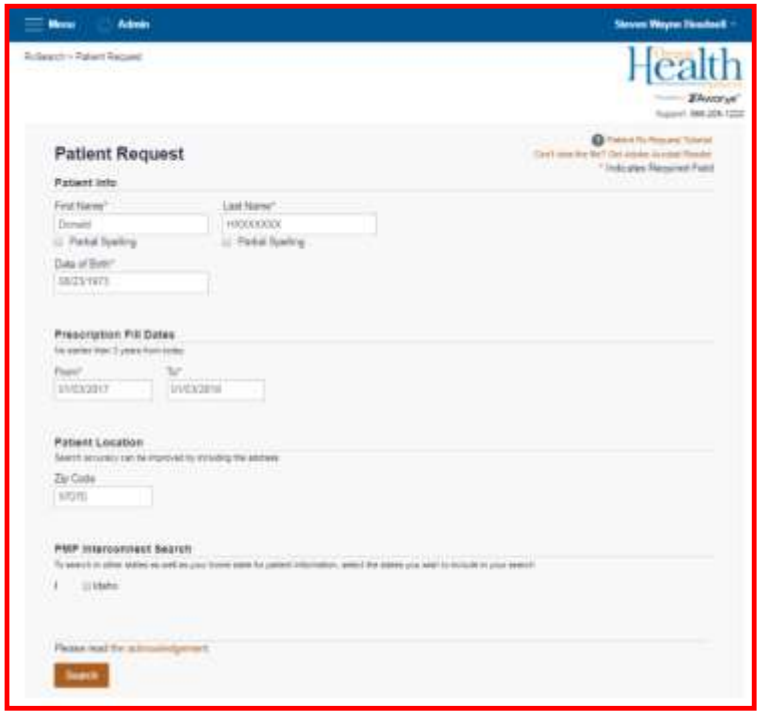

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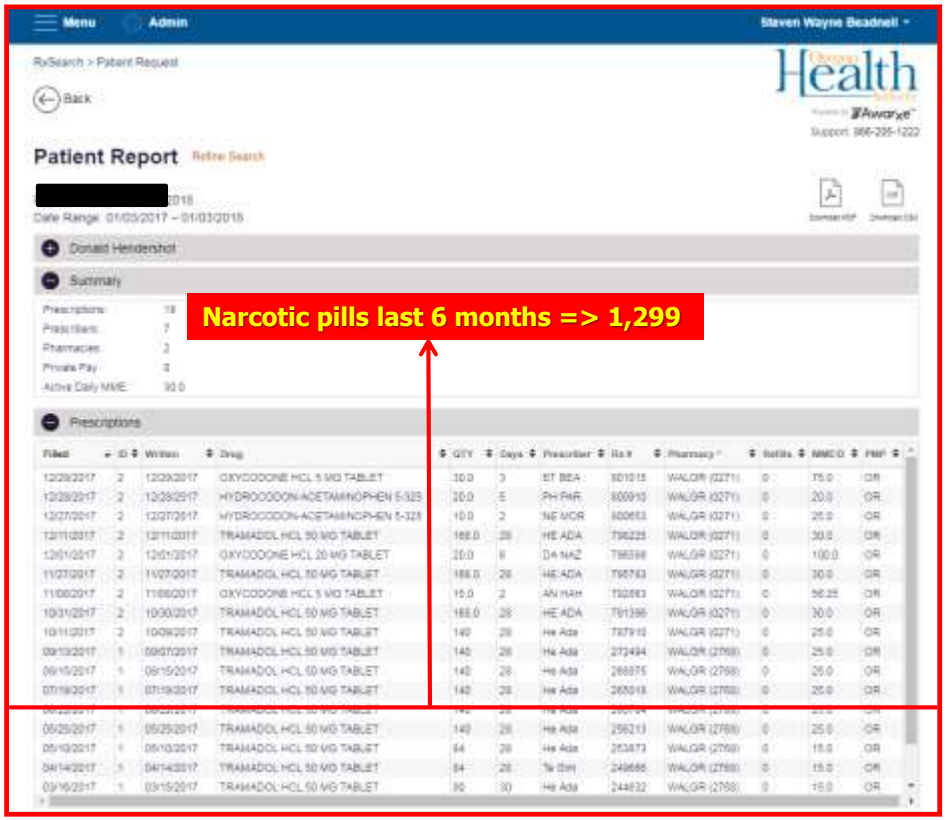
Oregon PDMP Sample



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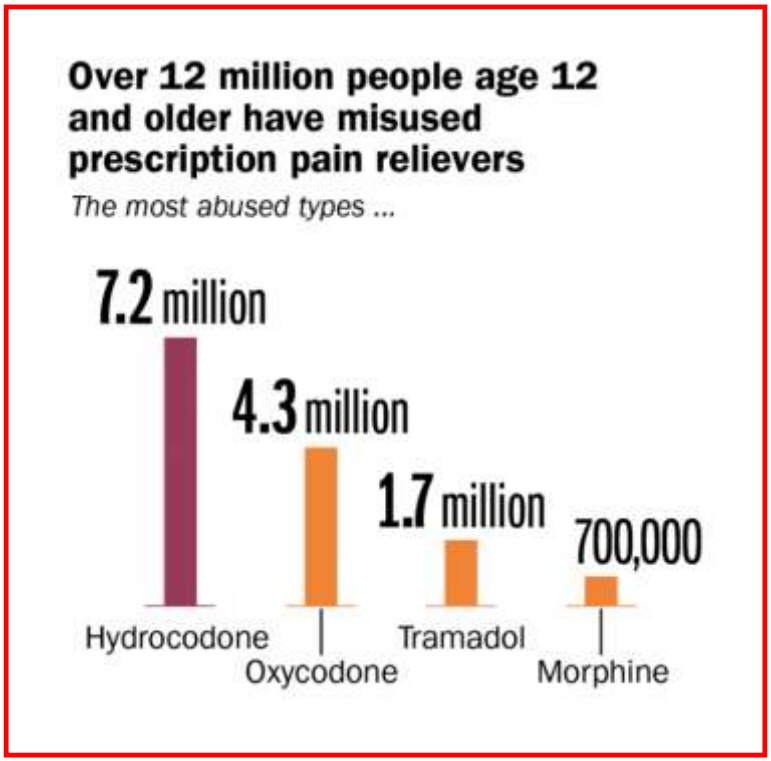
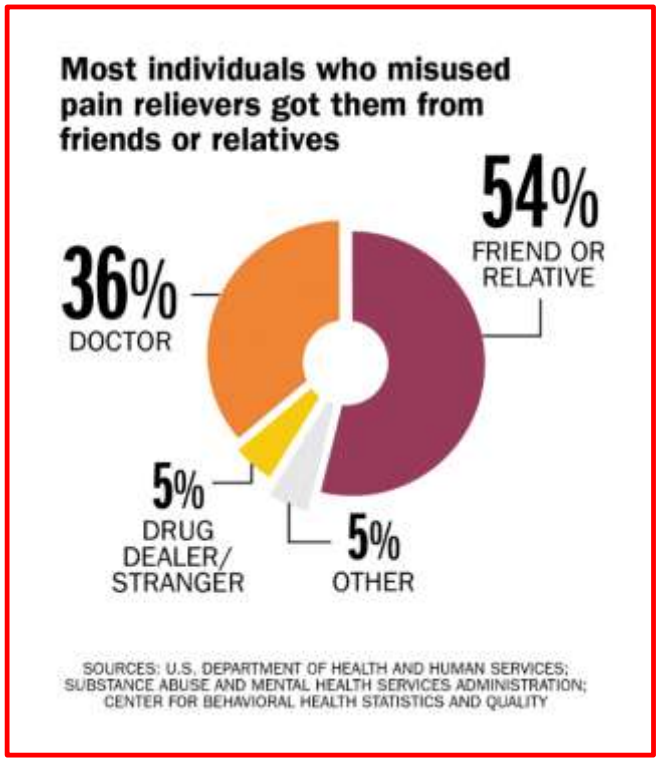
ADA Dental Pain Recommendations

Statement on the Use of Opioids in the Treatment of Dental Pain

Dentists should have a discussion with patients regarding their responsibilities for preventing misuse, abuse, storage and disposal of prescription opioids.

Misuse of Rx Drugs





Unused Drug Disposal

DISPOSAL OF MEDICINE, VITAMINS AND OTHER SUPPLEMENTS PROPERLY CAN HELP:

- Prevent unintentional poisoning of children and pets
- Prevent misuse by teenagers and adults, even people you know
- Prevent health problems from accidentally taking the wrong medicine, too much of the same medicine, or a medicine that is too old to work well
- Prevent medicines and supplements from entering streams and rivers when poured down the drain or flushed down the toilet

Disposal of Left Over Rx

HOW TO PROPERLY DISPOSE OF YOUR UNUSED MEDICINES

Unused or expired prescription medications are a public safety issue, leading to potential accidental poisoning, misuse, and overdose. Proper disposal of unused drugs saves lives and protects the environment.

Drug Disposal Guidelines

If no disposal instructions are given on the prescription drug labeling and no prescription drug take-back program is available in your area, then follow these simple steps to throw the drugs in the household trash:

1. Remove the medicine from its original container and mix it with an undesirable substance, such as used coffee grounds or kitty litter.
2. Place the mixture in a sealable bag, empty bag, or other container to prevent medicine from leaking or breaking out of a garbage bag.

Visit the Drug Enforcement Administration's (DEA) website (www.deatakeback.com) or call (800) 882-9539 for more information and to find an authorized collection in your community. The site also provides valuable information about DEA's National Take-Back Initiative.

Resources

For more information on preventing prescription drug misuse, go to the following websites:

- www.dea.gov
- www.getsmartaboutdrugs.com
- www.justthinktwice.com
- www.campusdrugprevention.gov

For more information on the safe disposal of pharmaceuticals, go to the following websites:

Environmental Protection Agency

- How to Dispose of Medicines Properly
  go.usa.gov/xNwXc

Food and Drug Administration

- Disposal of Unused Medicines: What You Should Know
  go.usa.gov/xNwXz
- How to Dispose of Unused Medicines
  go.usa.gov/xNwX6

DEA NATIONAL Rx TAKE-BACK

Additional Tips

- Scratch out all identifying information on the prescription drug to make it unreadable. This will help to protect your identity and the privacy of your personal health information.
- You must not share your prescription drugs – they were prescribed to you.

Can I Flush Medicine Down the Sink or Toilet?

If the abovementioned disposal options are not readily available, one option is to flush the medicines down the sink or toilet as soon as they are no longer needed. Some communities may prohibit this practice out of concern over the trace levels of drug residues found in rivers, lakes, and community drinking water supplies.

Do not flush medicines down the sink or toilet unless the prescription drug labeling or patient information that accompanied the medicine specifically instructs you to do so. Please also ensure you are compliant with your community's laws and regulations prior to taking such action.

Sources: Environmental Protection Agency, *How to Dispose of Medicines Properly*, 2011; Food and Drug Administration, *Disposal of Unused Medicines: What You Should Know*, 2017.

https://www.dea.gov/sites/default/files/2018-10/Proper%20Disposal%20Flier%20%28October%202018%29.pdf

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Disposal of Left Over Rx

DEA National Rx Take Back Day

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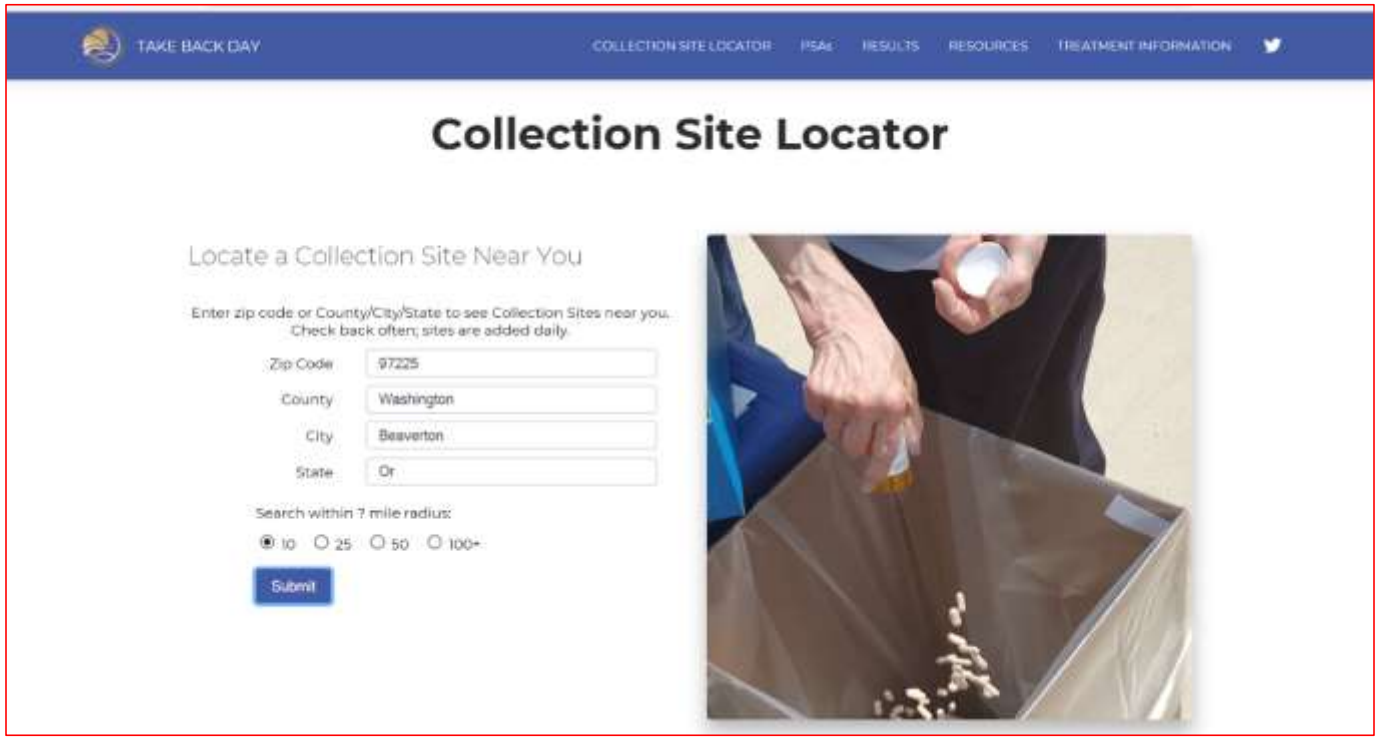
National Rx Take Back Day



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National Rx Take Back Day

Take Back Day: Saturday, April 27, 2019 10:00 am - 2:00 pm

COLLECTION SITE	~DISTANCE	
If you do not find a collection site near you, please check back frequently, sites are added every day.		
BEAVERTON POLICE DEPARTMENT BEAVERTON POLICE DEPARTMENT	1 miles.	Map
WASHINGTON COUNTY SHERIFF'S OFFICE BALES CEDAR MILL MARKET PLACE	2 miles.	Map
WASHINGTON COUNTY SHERIFF'S OFFICE ALOHA VILLA SHOPPINT VILLA	4 miles.	Map
TIGARD POLICE DEPT TIGARD CITY HALL	6 miles.	Map
LAKE OSWEGO POLICE DEPARTMENT LAKE OSWEGO ADULT COMMUNITY CENTER	8 miles.	Map
TUALATIN POLICE DEPARTMENT TUALATIN POLICE DEPARTMENT	9 miles.	Map
PORTLAND POLICE BUREAU PORTLAND POLICE - SOUTHEAST PRECINCT	9 miles.	Map
MILWAUKIE PD PUBLIC SAFETY BUILDING	9 miles.	Map
HILLSBORO POLICE DEPARTMENT HILLSBORO POLICE DEPARTMENT	10 miles.	Map
SHERWOOD POLICE DEPARTMENT SHERWOOD POLICE DEPT	11 miles.	Map
CLACKAMAS COUNTY SHERIFF'S OFFICE PUBLIC SAFETY TRAINING CENTER PARKING LOT	12 miles.	Map
OREGON CITY POLICE DEPARTMENT END OF THE OREGON TRAIL INTERPRETIVE CENTER	14 miles.	Map
If you do not find a collection site near you, please check back frequently, new sites are added every day.		

National Rx Take Back Day

DEA National Prescription Drug Take Back Day

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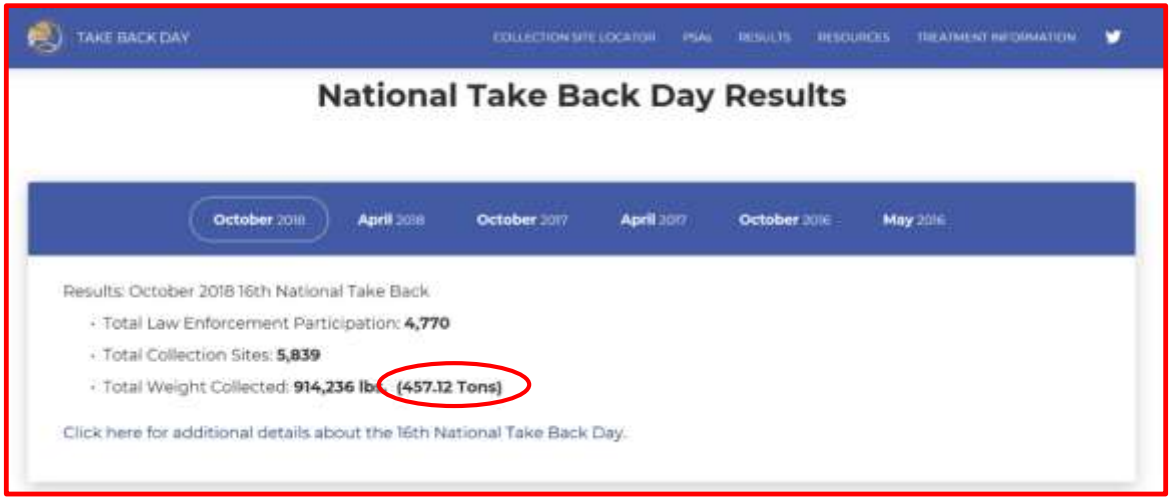
National Rx Take Back Day



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Disposal of Left Over Rx

EPA United States Environmental Protection Agency

How to Dispose of Medicines Properly

DON'T: Flush expired or unwanted prescription and over-the-counter drugs down the toilet or drain unless the label or accompanying patient information specifically instructs you to do so.

DO: Return unwanted or expired prescription and over-the-counter drugs to a drug take-back program or follow the steps for household disposal below.

1ST CHOICE: DRUG TAKE-BACK EVENTS

To dispose of prescription and over-the-counter drugs, call your city or county government's household trash and recycling service and ask if a drug take-back program is available in your community. Some counties hold household hazardous waste collection days, where prescription and over-the-counter drugs are accepted at a central location for proper disposal.

Courtesy: Upper Watauga Riverkeeper and Appalachian Voices

Drug Take-Back Event

https://archive.epa.gov/region02/capp/web/pdf/ppcpflyer.pdf

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Disposal of Left Over Rx

2ND CHOICE: HOUSEHOLD DISPOSAL STEPS*

1. Take your prescription drugs out of their original containers.

2. Mix drugs with an undesirable substance, such as cat litter or used coffee grounds.

3. Put the mixture into a disposable container with a lid, such as an empty margarine tub, or into a sealable bag.

4. Conceal or remove any personal information, including Rx number, on the empty containers by covering it with permanent marker or duct tape, or by scratching it off.

5. The sealed container with the drug mixture, and the empty drug containers, can now be placed in the trash.

https://archive.epa.gov/region02/capp/web/pdf/ppcpflyer.pdf

https://archive.epa.gov/region02/capp/web/pdf/ppcpflyer.pdf

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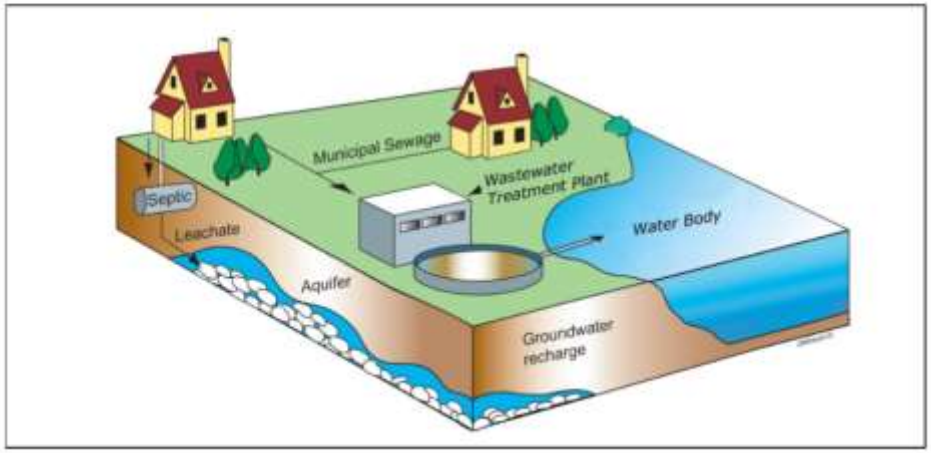
Disposal of Left Over Rx

How Improper Disposal of Medicines May End Up in Our Drinking Water Sources

In homes that use septic tanks, prescription and over-the-counter drugs flushed down the toilet can leach into the ground and seep into ground water.

In cities and towns where residences are connected to wastewater treatment plants, prescription and over-the-counter drugs poured down the sink or flushed down the toilet can pass through the treatment system and enter rivers and lakes. They may flow downstream to serve as sources for community drinking water supplies. Water treatment plants are generally not equipped to routinely remove medicines.



https://archive.epa.gov/region02/capp/web/pdf/ppcpflyer.pdf

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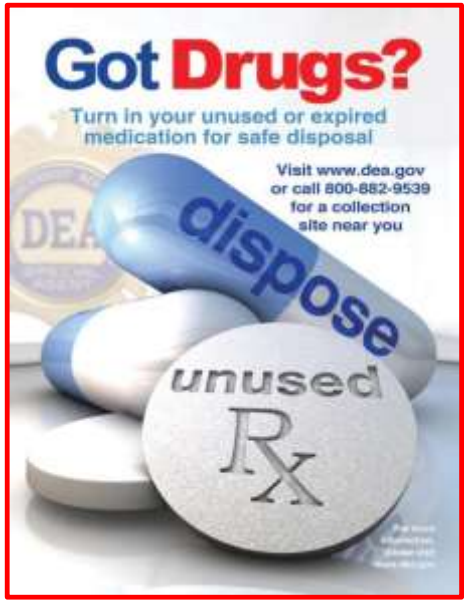
Unused Drug Disposal

DEA Authorized Drug Dropoff Locations

https://apps.deadiversion.usdoj.gov/pubdispsearch/spring/main?execution=e1s2



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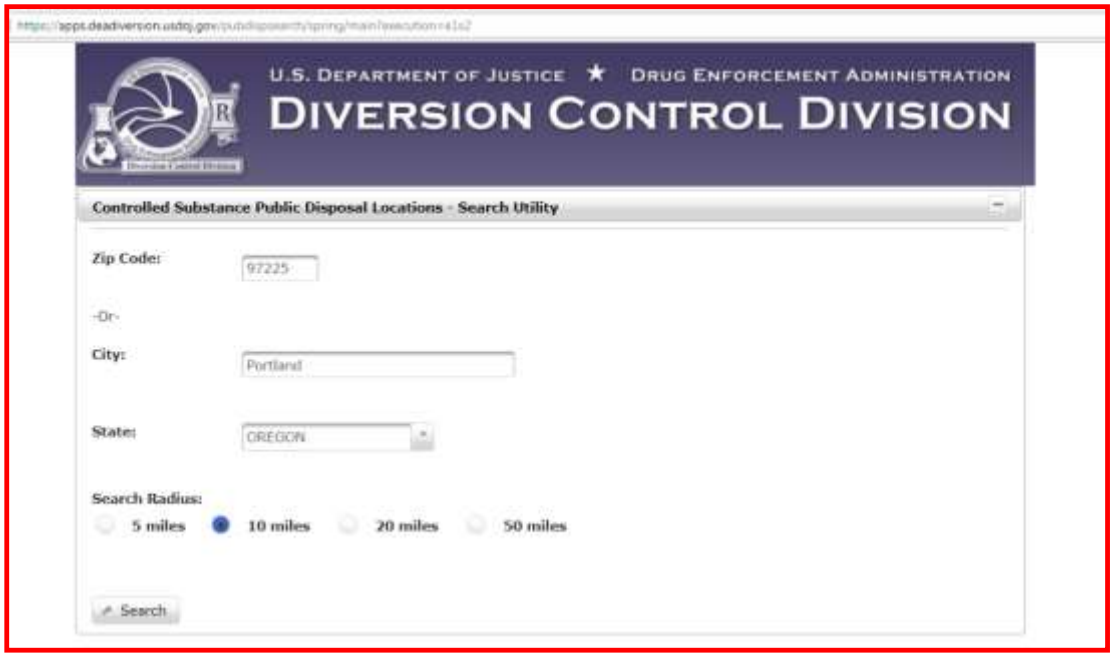
Unused Drug Disposal

DEA authorized drug drop off locations



https://apps.deadiversion.usdoj.gov/pubdispsearch/spring/main?execution=e1s2

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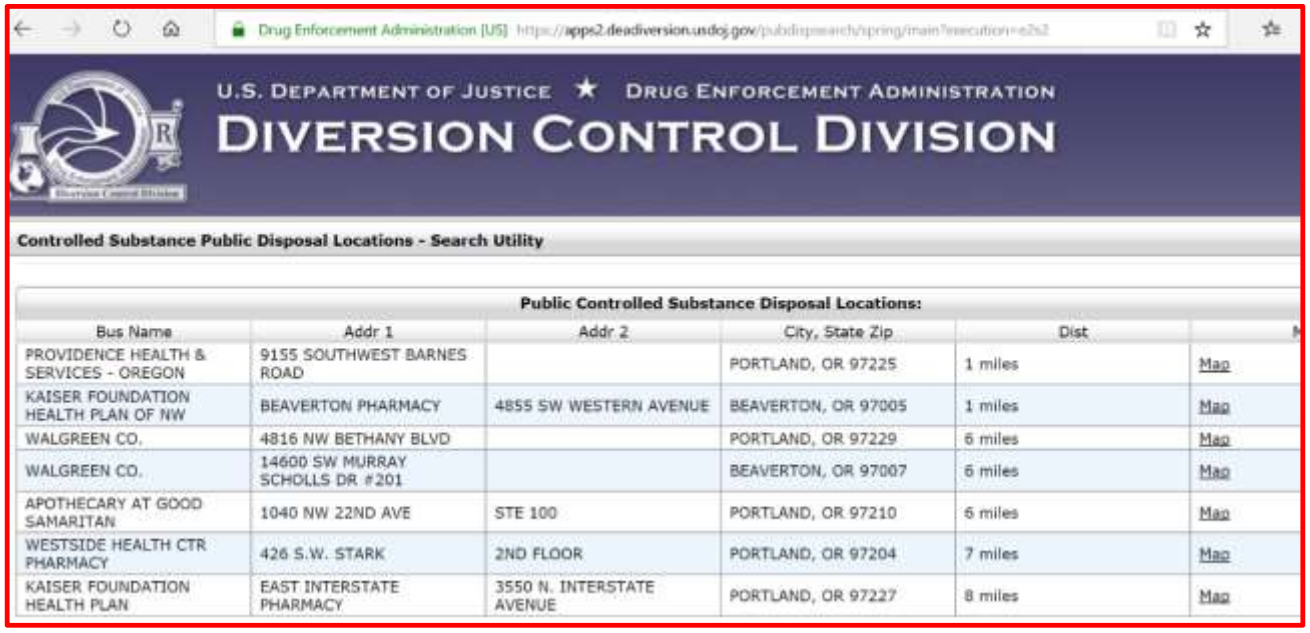
Disposal of Left Over Rx

Controlled Substance Public Disposal Locations



Drug Enforcement Administration [US] https://apps2.deadiversion.usdoj.gov/pubdispsearch/spring/main?execution=e2s2

U.S. DEPARTMENT OF JUSTICE ★ DRUG ENFORCEMENT ADMINISTRATION

DIVERSION CONTROL DIVISION

Controlled Substance Public Disposal Locations - Search Utility

Public Controlled Substance Disposal Locations:

Bus Name	Addr 1	Addr 2	City, State Zip	Dist	
PROVIDENCE HEALTH & SERVICES - OREGON	9155 SOUTHWEST BARNES ROAD		PORTLAND, OR 97225	1 miles	Map
KAISER FOUNDATION HEALTH PLAN OF NW	BEAVERTON PHARMACY	4855 SW WESTERN AVENUE	BEAVERTON, OR 97005	1 miles	Map
WALGREEN CO.	4816 NW BETHANY BLVD		PORTLAND, OR 97229	6 miles	Map
WALGREEN CO.	14600 SW MURRAY SCHOLLS DR #201		BEAVERTON, OR 97007	6 miles	Map
APOTHECARY AT GOOD SAMARITAN	1040 NW 22ND AVE	STE 100	PORTLAND, OR 97210	6 miles	Map
WESTSIDE HEALTH CTR PHARMACY	426 S.W. STARK	2ND FLOOR	PORTLAND, OR 97204	7 miles	Map
KAISER FOUNDATION HEALTH PLAN	EAST INTERSTATE PHARMACY	3550 N. INTERSTATE AVENUE	PORTLAND, OR 97227	8 miles	Map

https://www.dea.gov/sites/default/files/2018-10/Proper%20Disposal%20Flier%20%28October%202018%29.pdf

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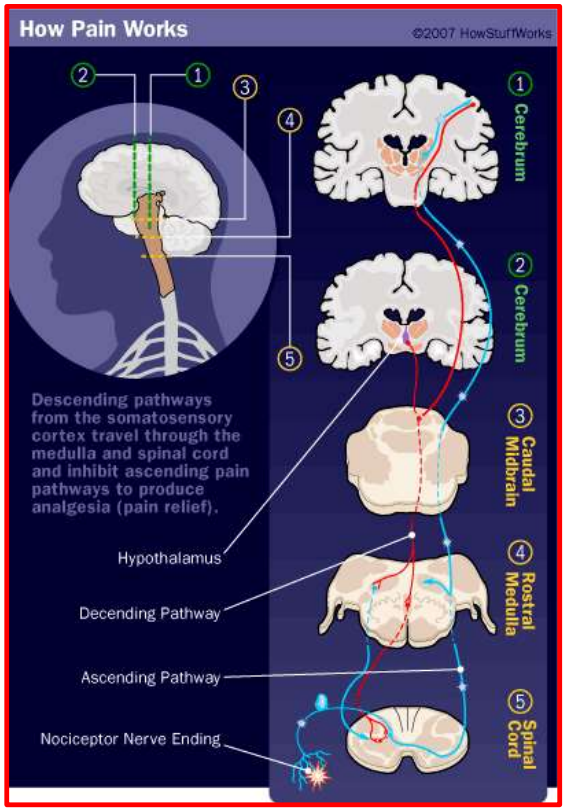
Primer on Pain



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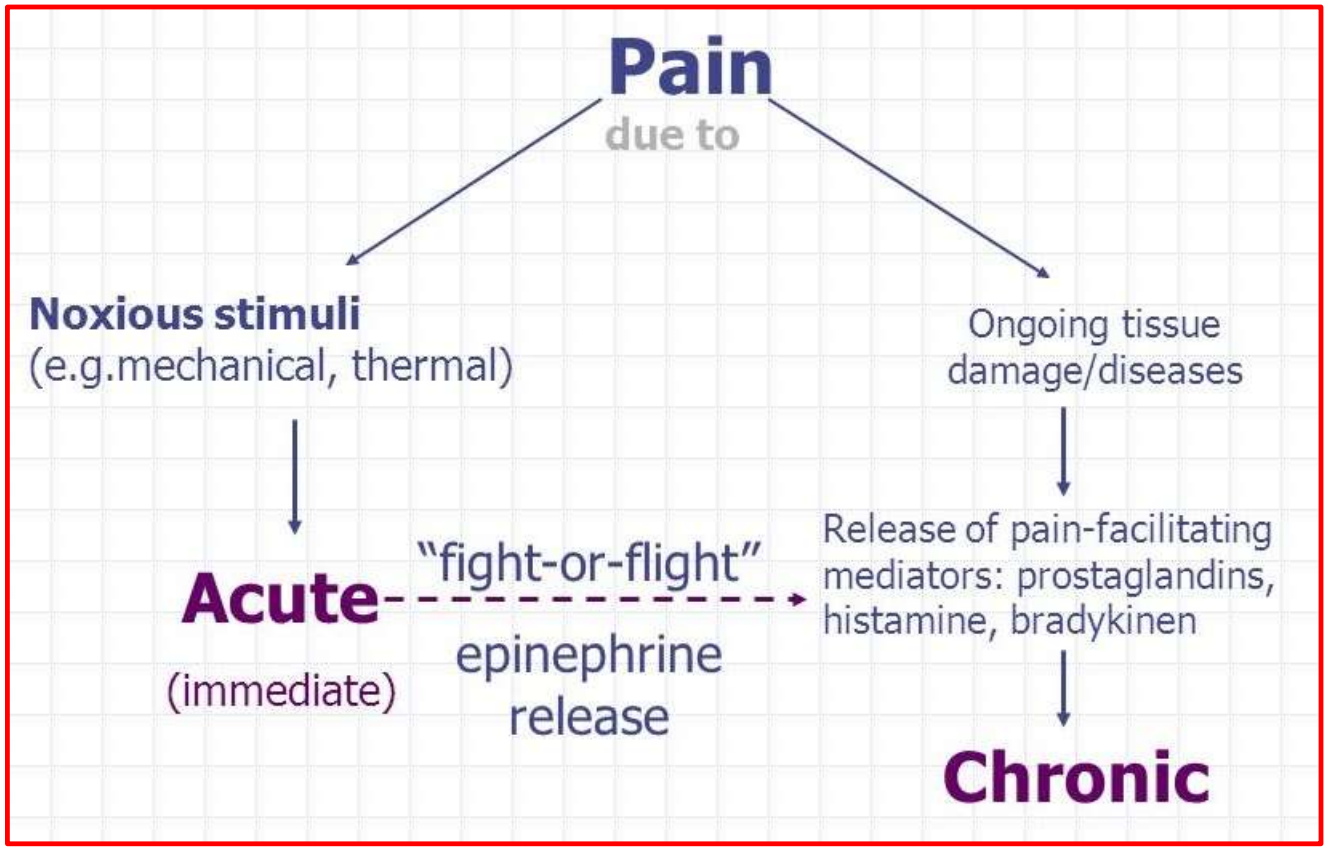
Primer on Pain



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ADA Dental Pain Recommendations

Statement on the Use of Opioids in the Treatment of Dental Pain

- Dentists should consider nonsteroidal anti-inflammatory analgesics as the first-line therapy for acute pain management.
- Dentists should recognize multimodal pain strategies for management for acute postoperative pain as a means for sparing the need for opioid analgesics.

Multimodal Analgesia

Philosophy of Multimodal Analgesia

Not only just giving 2 or more drugs which have different mechanism, but:

- ✓ One drug should be effective at peripheral sensitization and other at central sensitization.
- ✓ Combine drugs must be synergistic or additive.
- ✓ Must be proven by laboratory or clinical data.
- ✓ Some drugs may act at several points in nociceptive pathway.

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Multimodal Analgesia

Administration of two or more analgesics that act at different mechanisms:

- **Produce additive or synergistic analgesia**

  (2+2 = 4) (2+2>4)

- **Should be given around the clock (ATC)**

Main goal of Multimodal Analgesia is to reduce the amount of Opioids needed

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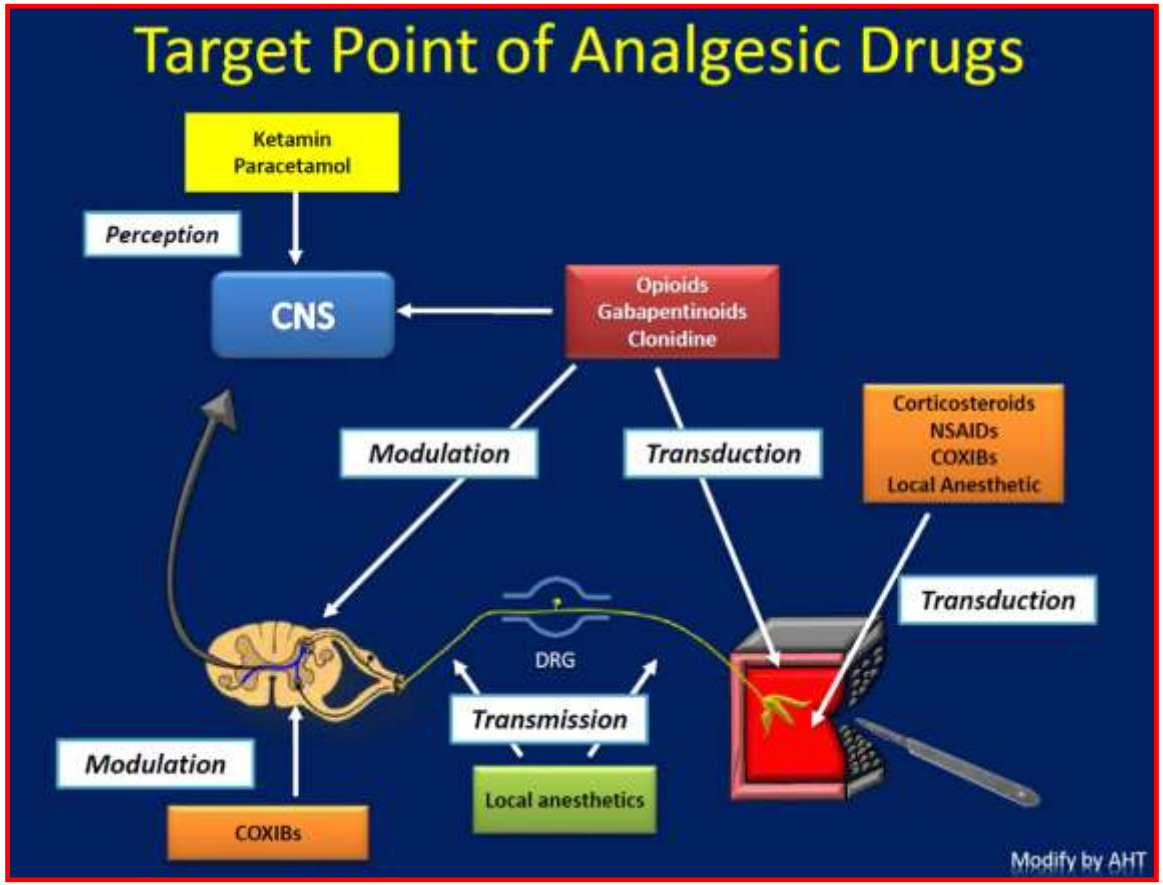
Multimodal Analgesia



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Multimodal Analgesia

WHAT IS THE MOST REGIMENTS

There are many regiments for multimodal analgesia, but the most popular are:

- Paracetamol
  NSAIDs and Coxibs
- Opioid
- Local Anesthetic

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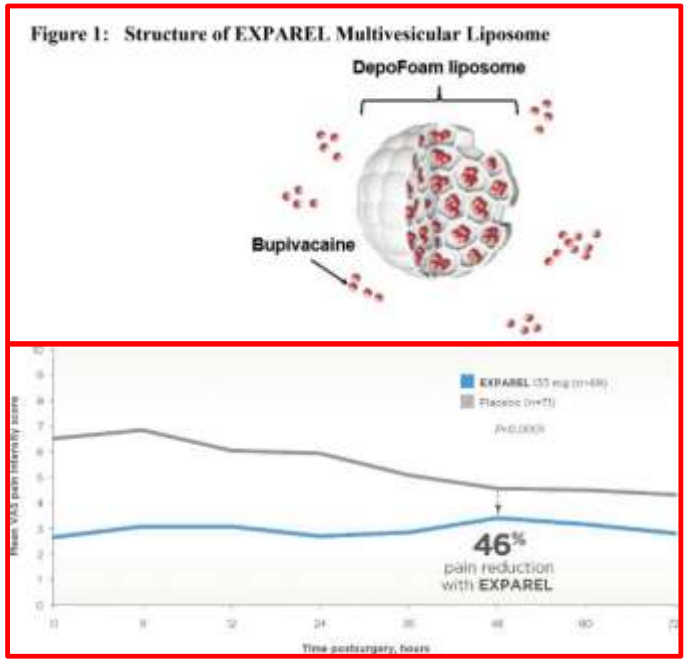
Long Acting Local Anesthetics



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Long Acting Local Anesthetics

EXPAREL

EXPAREL STARTS CONTROLLING PAIN DURING YOUR SURGERY. SO YOU ARE READY TO BEGIN RECOVERY. WHAT MAKES EXPAREL DIFFERENT?

EXPAREL
(bupivacaine liposome injectable suspension)
PATIENT-FOCUSED PAIN CONTROL

- It works directly at the surgical site—unlike opioids, which affect the whole body.
- It provides pain control for the first few days after surgery, when you need it most.
- It is proven to help reduce the need for opioids (narcotics).
- It is only one dose and administered by your doctor, so you have one less thing to manage.

TALK TO YOUR DOCTOR ABOUT EXPAREL, AN OPTION TO RELIEVE PAIN WITH FEWER OPIOIDS.*

In clinical trials, patients who received EXPAREL were compared with those who didn't. The results:

- Patients who received EXPAREL did not have to take as many opioids.
- Patients who received EXPAREL went a longer time before opioids were needed.

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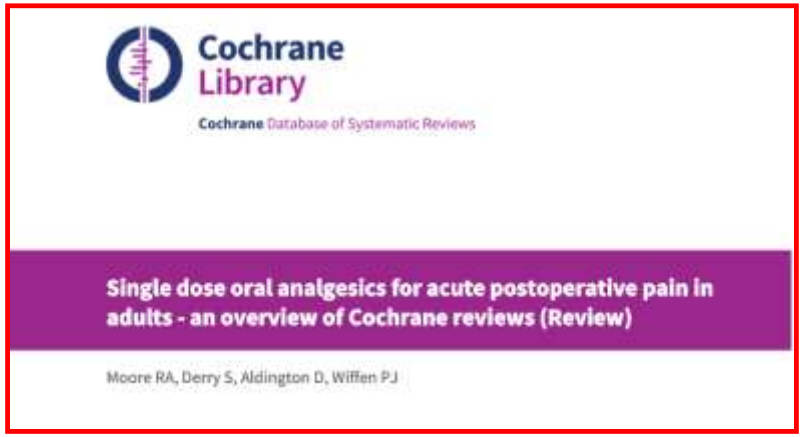
Management of Acute Pain



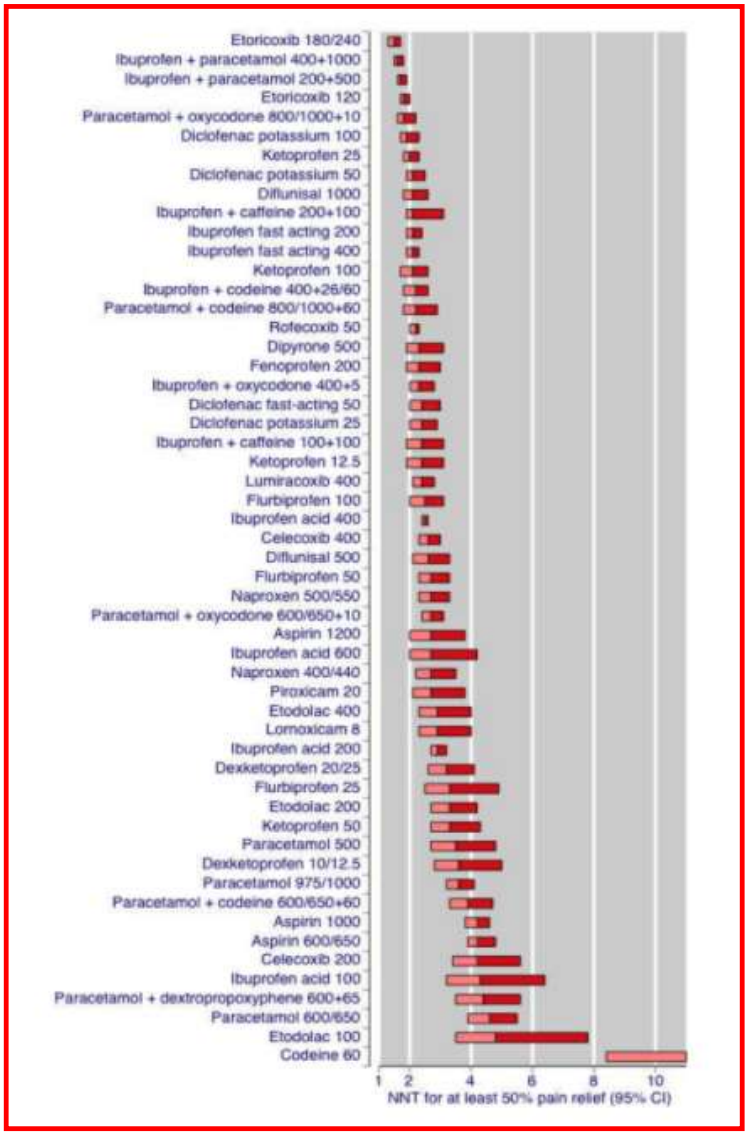
- Management of acute pain after WT removal or abdominal or pelvic surgery
- Approximately 50,000 patients
- NNT = Number Needed to Treat
  - For at least 50% maximum pain relief over 4-6hrs compared with placebo

Acute Pain

NNT for at least 50% maximum pain relief over 4-6hrs compared with placebo

Single dose oral analgesics for acute postoperative pain in adults - an overview of Cochrane reviews (Review)

Moore RA, Derry S, Aldington D, Wiffen PJ



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The Opioid Epidemic 2019

Ibuprofen 400mg + Tylenol 1000mg

Ibuprofen 200mg + Tylenol 500mg

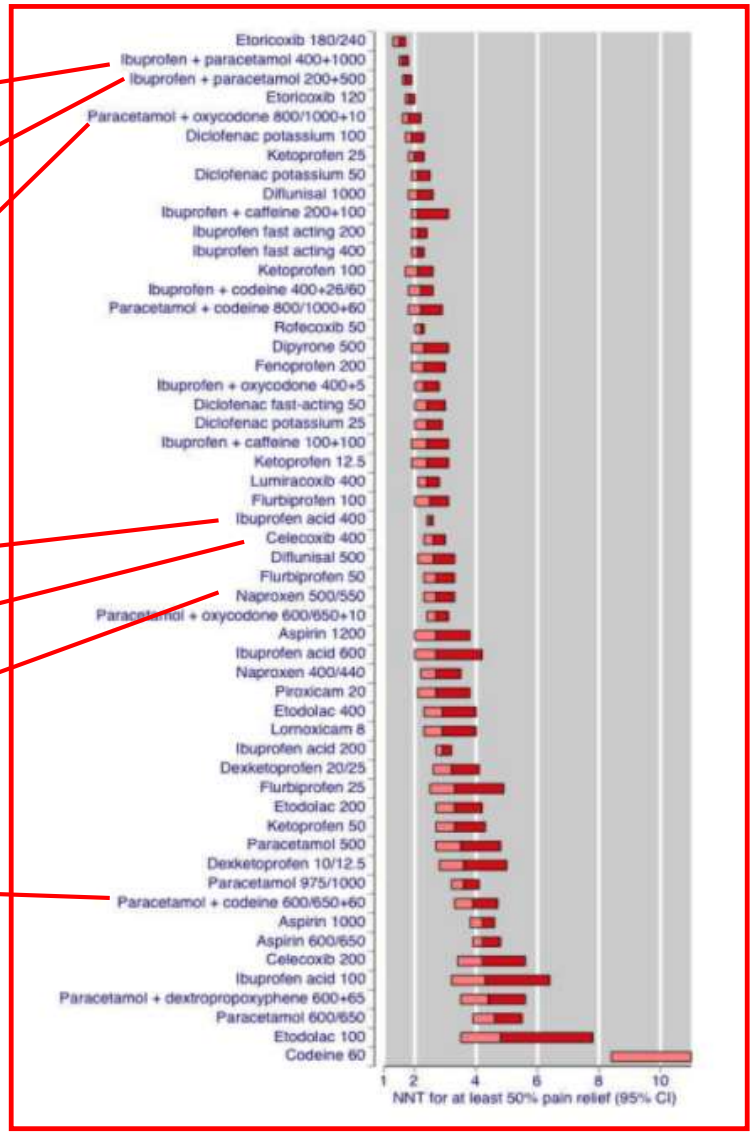
Oxycodone 10mg + Tylenol 1000mg

Ibuprofen 400mg

Celecoxib 400mg

Naproxen 500mg

Codeine 60mg + Tylenol 650mg



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The Opioid Epidemic 2019

Naproxen 500mg

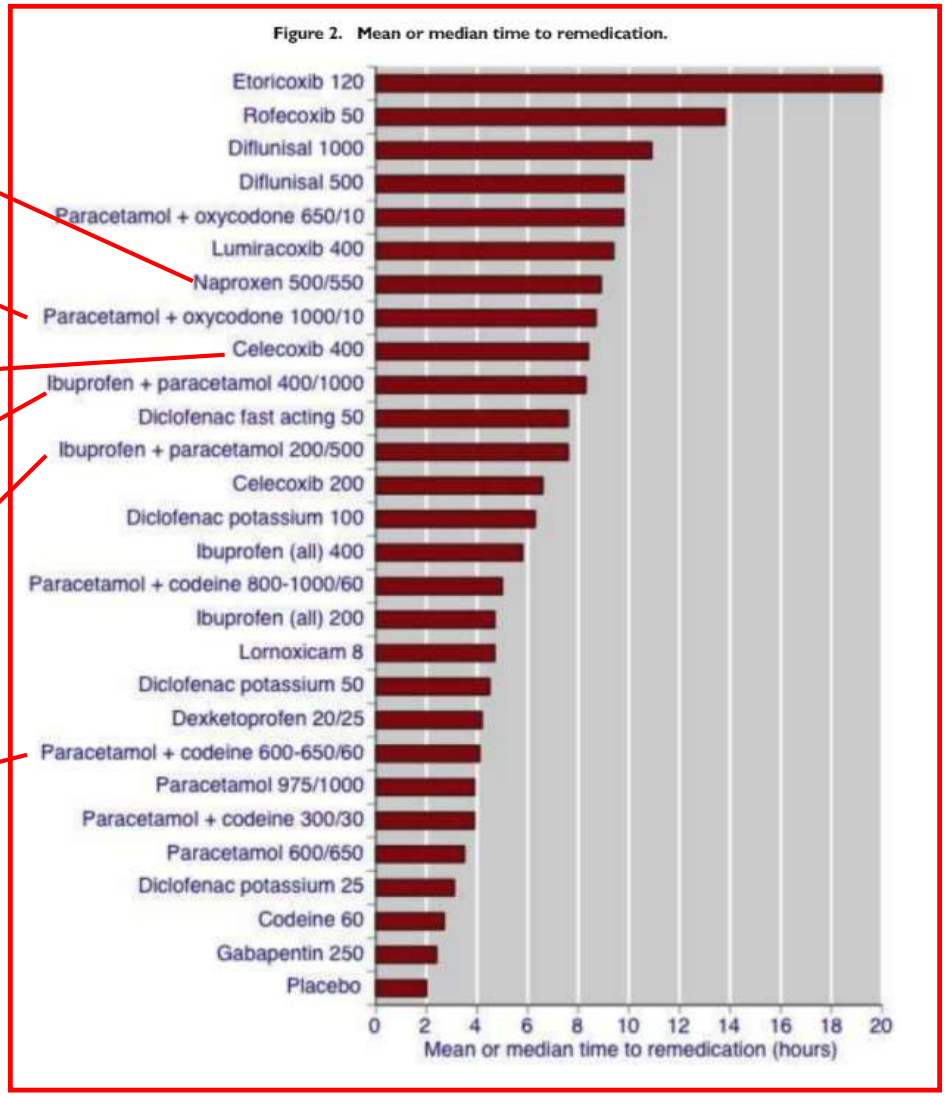
Oxycodone 10mg + Tylenol 1000mg

Celecoxib 400mg

Ibuprofen 400mg + Tylenol 1000mg

Ibuprofen 200mg + Tylenol 500mg

Codeine 60mg + Tylenol 600mg



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Management of Acute Pain

Three clinical trials: Ext Wisdom Teeth 1,647pt

Ibuprofen/Tylenol

- **200/500mg or 400/1000mg**

Combination better analgesia than either drug alone (at same dose)

Effective pain relief for 69-70% of patients

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Management of Acute Pain

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

TABLE 1

Relative analgesic efficacy of oral analgesics.*

DRUG (DOSE, MILLIGRAMS)	NO. OF TRIALS	NO. OF PARTICIPANTS	NUMBER NEEDED TO TREAT (95% CONFIDENCE INTERVAL)†
Aspirin (600 or 650)	45	3,581	4.5 (4.0-5.2)
Aspirin (1,000)	4	436	4.2 (3.2-6.0)
APAP‡ (1,000)	19	2,157	3.2 (2.9-3.6)
Ibuprofen (200)	18	2,470	2.7 (2.5-3.0)
Celecoxib (400)	4	620	2.5 (2.2-2.9)
Ibuprofen (400)	49	5,428	2.3 (2.2-2.4)
Oxycodone (10) With APAP (650)	6	673	2.3 (2.0-6.4)
Codeine (60) With APAP (1,000)	26	2,295	2.2 (1.8-2.9)
Naproxen (500 or 550)	5	402	1.8 (1.6-2.1)
Ibuprofen (200) With APAP (500)	2	280	1.6 (1.4-1.8)

* All values were calculated from studies using a single dose of an oral analgesic after third-molar extraction.
† Data for number needed to treat were derived from several sources: Gaskell and colleagues,[19] Moore and colleagues[34,44] and Derry and colleagues.[18,20]
‡ APAP: Acetaminophen, or *N*-acetyl-*p*-aminophenol.

JADA 2013;144(8):898-908.

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Management of Acute Pain

Combining ibuprofen and acetaminophen for acute pain management after third-molar extractions

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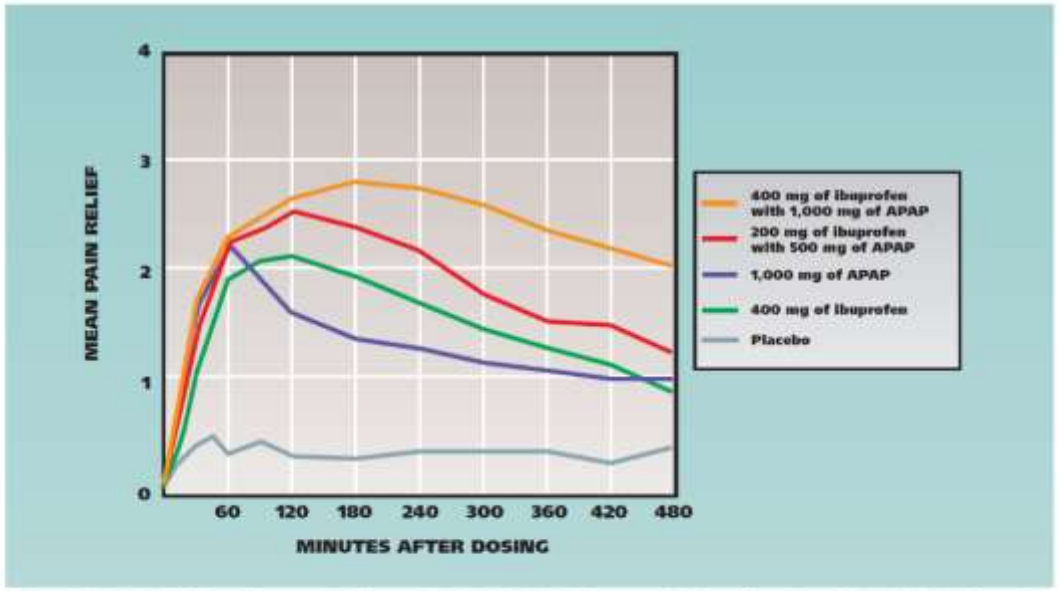

Figure 1. Pain relief of ibuprofen-acetaminophen combinations. Pain relief was recorded on a five-point scale, in which 0 indicated "none," 1 indicated "a little," 2 indicated "some," 3 indicated "a lot" and 4 indicated "complete." APAP: Acetaminophen, or *N*-acetyl-*p*-aminophenol, mg: Milligrams. Adapted with permission of Elsevier from Mehlisch and colleagues.[57]

JADA 2013;144(8):898-908.

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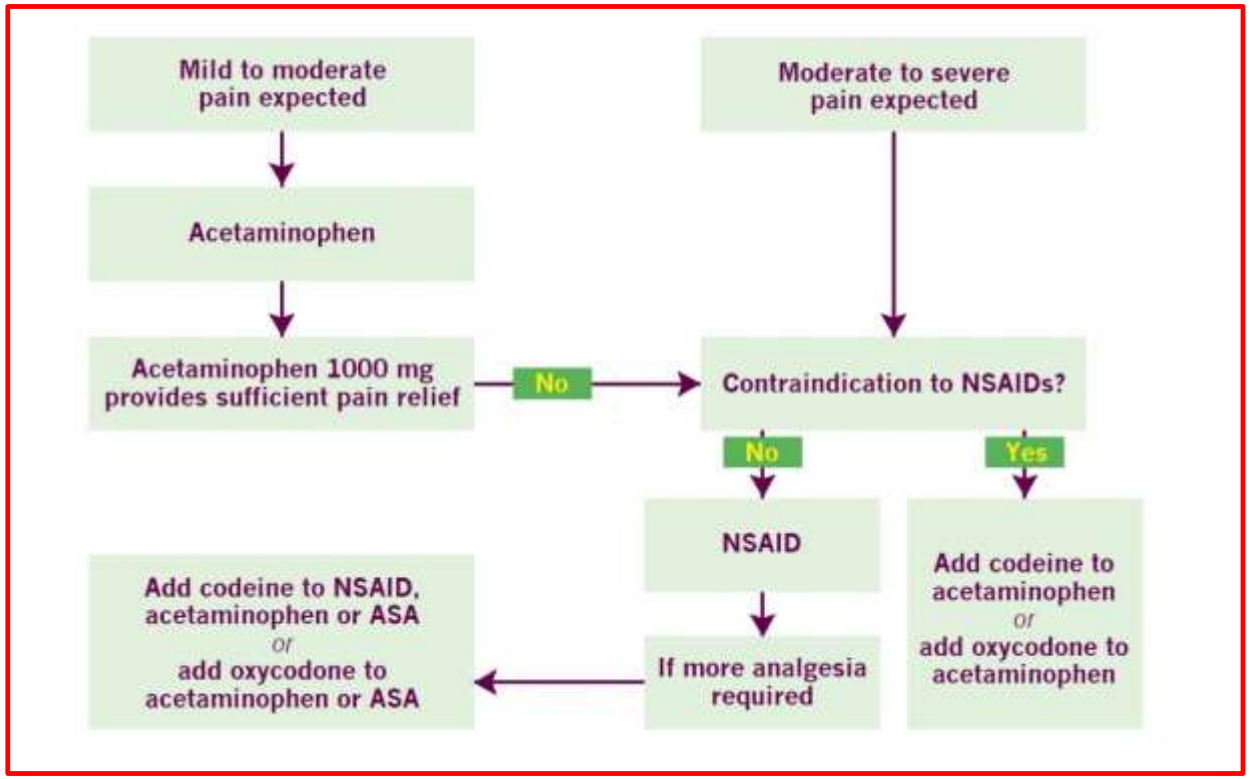
Management of Acute Pain

A reasonable approach to acute dental pain



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OHA - Opioid Prescribing

Your role in reducing addiction and deaths from opioids

Dentists are the leading prescribers of narcotics to young people (10-19 year-olds, in 2011).

Opioid addiction commonly begins with wisdom teeth extractions.

Less than half of opioids prescribed after surgical extractions are used.

Some dentists are part of the opioid problem. You can be part of the solution!

Dental patients should be encouraged to seek emergency dental care in dental offices. They should not seek it in emergency departments.

Many dental narcotic prescriptions come from patient expectations and traditions.

Nonsteroidal anti-inflammatory drugs (NSAIDs) can be at least as effective as opioid combinations, with fewer side effects.*

To find medication disposal locations call 1-800-882-9539 or visit https://apps.deadiversion.usdoj.gov/pubdispsearch/spring/main?execution=e1s1.

* Moore, P., & Hersh, E. (2013). Combining ibuprofen and acetaminophen for acute pain management after third-molar extractions. *The Journal of the American Dental Association, 144*(8), 898-908. doi:10.14219/jada.archive.2013.0207

How to register and access the Oregon PDMP

- The Oregon PDMP is a web-based data system that contains information on Schedule II– IV controlled prescriptions dispensed by Oregon-licensed retail pharmacies.

- Register online: http://www.orpdmp.com
- All system users must apply individually. This includes dental providers and their staff applying as delegates. Only individuals can get access. Dental clinics cannot.
- If you need help registering, please contact the PDMP help desk at 1-866-205-1222 or orpdmp-info@apprisshealth.com.

You can get this document in other languages, large print, braille, or a format you prefer. Contact the Oral Health Unit at 971-673-0348, or email oral.health@state.or.us. We accept all relay calls or you can dial 711.

OHA 9402 (8/17)

Prescribing Opioids Safely as a Dentist

Responsible and compassionate opioid prescribing guidelines and the Prescription Drug Monitoring Program

Oregon Health Authority
PUBLIC HEALTH DIVISION
Oral Health Unit

https://apps.state.or.us/Forms/Served/le9402.pdf

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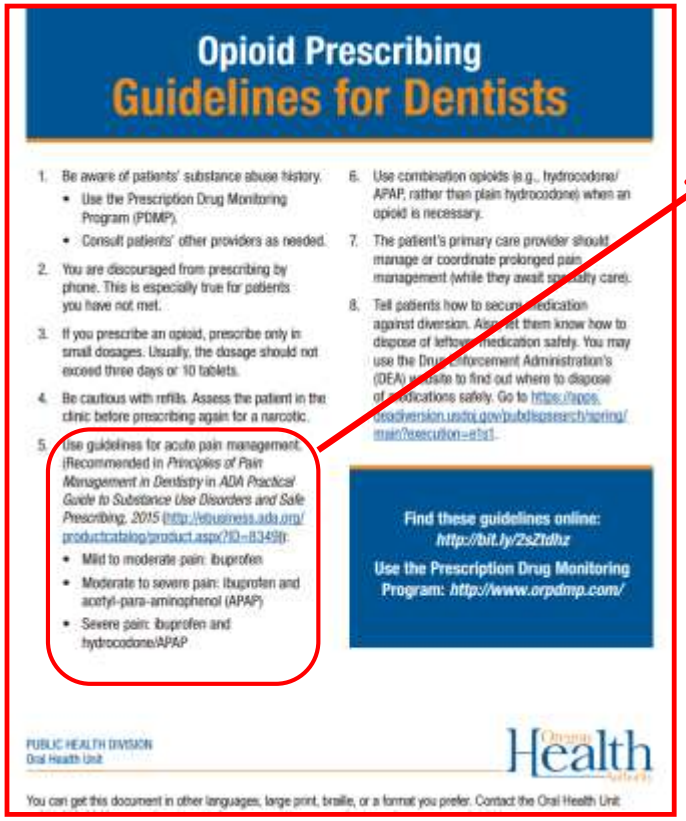
OHA - Opioid Prescribing



Opioid Prescribing
Guidelines for Dentists

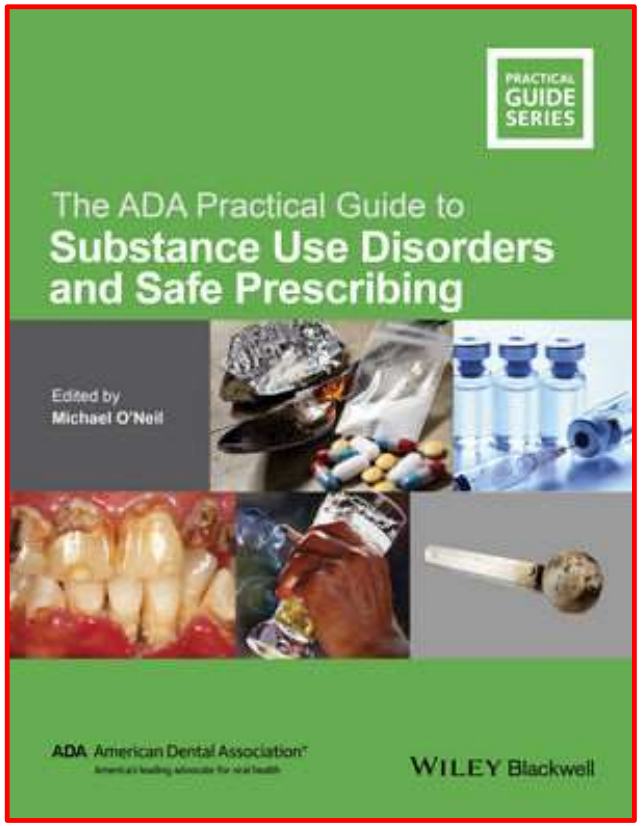
1. Be aware of patients' substance abuse history.
   - Use the Prescription Drug Monitoring Program (PDMP).
   - Consult patients' other providers as needed.
2. You are discouraged from prescribing by phone. This is especially true for patients you have not met.
3. If you prescribe an opioid, prescribe only in small dosages. Usually, the dosage should not exceed three days or 10 tablets.
4. Be cautious with refills. Assess the patient in the clinic before prescribing again for a narcotic.
5. Use guidelines for acute pain management. (Recommended in *Principles of Pain Management in Dentistry* in *ADA Practical Guide to Substance Use Disorders and Safe Prescribing, 2015* (http://ebusiness.ada.org/productcatalog/product.aspx?ID=8349)):
   - Mild to moderate pain: ibuprofen
   - Moderate to severe pain: ibuprofen and acetyl-para-aminophenol (APAP)
   - Severe pain: ibuprofen and hydrocodone/APAP
6. Use combination opioids (e.g., hydrocodone/APAP, rather than plain hydrocodone) when an opioid is necessary.
7. The patient's primary care provider should manage or coordinate prolonged pain management (while they await specialty care).
8. Tell patients how to secure medication against diversion. Also, let them know how to dispose of leftover medication safely. You may use the Drug Enforcement Administration's (DEA) website to find out where to dispose of medications safely. Go to https://apps.deadiversion.usdoj.gov/pubdispsearch/spring/main?execution=e1s1.

Find these guidelines online:
http://bit.ly/2sZtdhz
Use the Prescription Drug Monitoring Program: *http://www.orpdmp.com/*

PUBLIC HEALTH DIVISION
Oral Health Unit

Oregon Health Authority

You can get this document in other languages, large print, braille, or a format you prefer. Contact the Oral Health Unit.



http://www.oregon.gov/oha/PH/PREVENTIONWELLNESS/SUBSTANCEUSE/OPIOIDS/Documents/oregon-recommended-opioid-guidelines-dentists.pdf

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ADA Dental Pain Recommendations

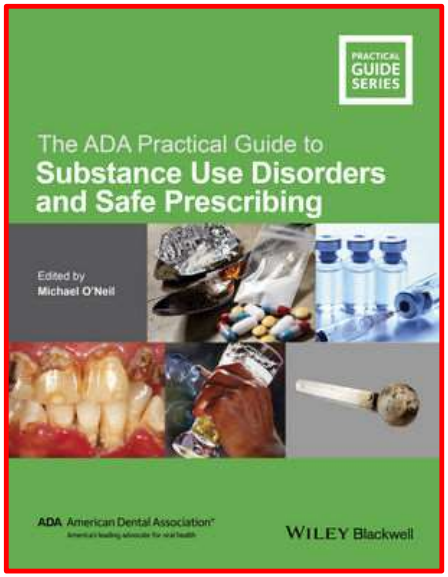

Table 3.6 Stepwise Guidelines for Acute Pain Management

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 24 h. Then ibuprofen 400 mg plus APAP 500 mg every 6 h p.r.n. pain
Severe pain
Ibuprofen 400–600 mg plus APAP 650 mg–hydrocodone 10 mg q 6 h: fixed interval for 24–48 h. Then ibuprofen 400–600 mg plus APAP 500 mg q 6 h p.r.n. pain
Additional considerations
Patients should be cautioned to avoid APAP in other medications. Maximum dose for APAP (Tylenol®) is 3000 mg/day. To avoid potential APAP toxicity, dentists should consider prescribing a rescue medication containing ibuprofen (Vicoprofen®) if patients experience breakthrough pain.
Maximum dose of ibuprofen is 2400 mg/day. Higher maximal daily doses have been reported for osteoarthritis when prescribed under the direction of a physician

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Preoperative Analgesic Strategy

Prescribe NSAIDs/Acetaminophen one hour before the procedure

- **Lower postoperative pain/swelling**
- **Decrease opiate consumption**
- **No consensus on benefit**
- **Makes sense to do it in most cases**

Prescribing PRN vs BTC

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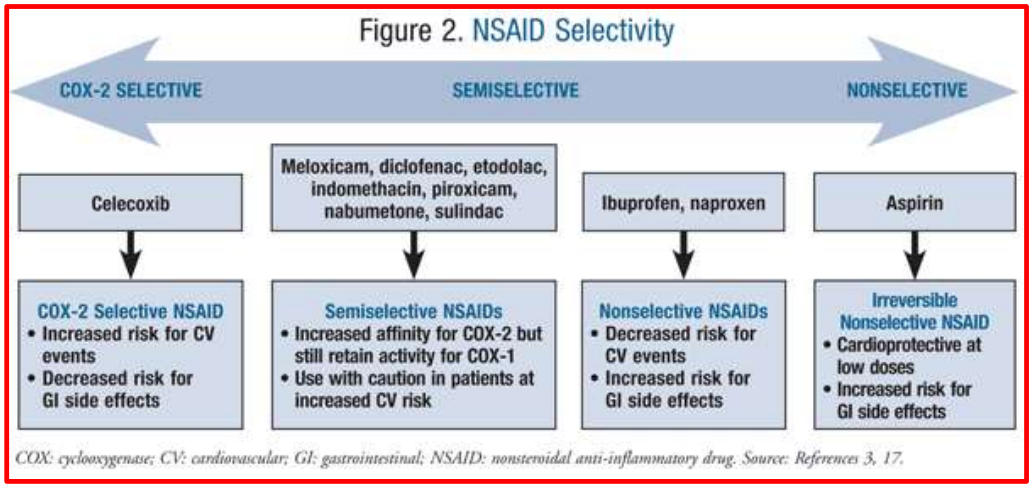
NSAIDS

Figure 2. NSAID Selectivity



COX: cyclooxygenase; CV: cardiovascular; GI: gastrointestinal; NSAID: nonsteroidal anti-inflammatory drug. Source: References 3, 17.

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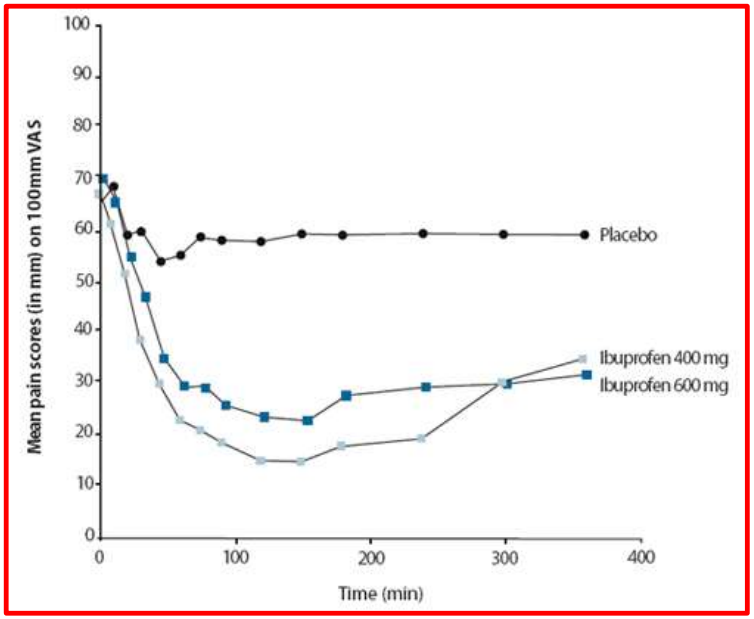
NSAIDS

Ibuprofen

- The analgesic ceiling effect of nonsteroidal anti-inflammatory drugs (NSAIDs) is well studied. Although ibuprofen is commonly used in dosages as high as 800 mg for acute pain, the analgesic ceiling is only 400 mg/dose, to about 1200 mg/day. However, 2400 mg daily can relieve inflammation without providing additional pain relief.

NSAIDS

Comparison of 400 mg vs 600 mg of ibuprofen vs placebo in patients with postoperative dental pain



Seymour RA, Ward-Booth P, Kelly PJ. Evaluation of different doses of soluble ibuprofen and ibuprofen tablets in postoperative dental pain. Br J Oral Maxillofac Surg. 1996;34:110-114.

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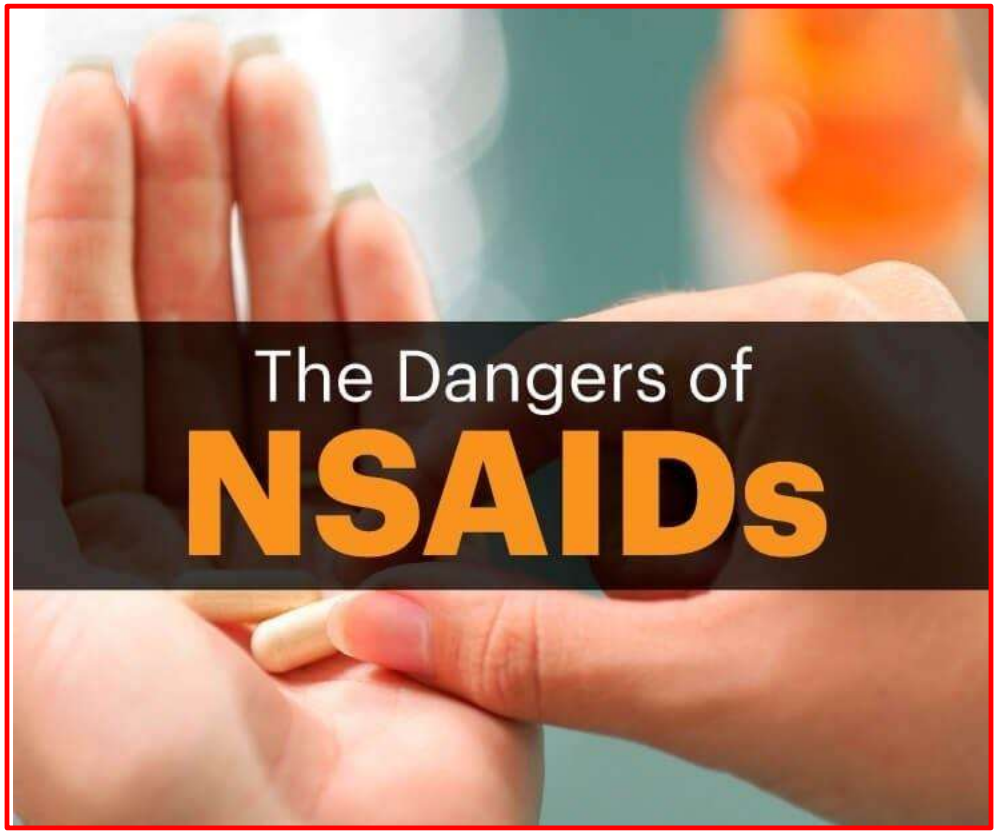
NSAIDS

Ibuprofen

- The literature clearly demonstrates that for pain relief the commonly prescribed doses of 600 mg or 800 mg of ibuprofen every 6 to 8 hours should be replaced with a maximum dose of 400 mg every 8 hours.
- Dosages over 1200 mg daily offer no additional pain relief and are known to cause cardiac and gastrointestinal toxicities.

NSAIDS Complications



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NSAIDS Complications

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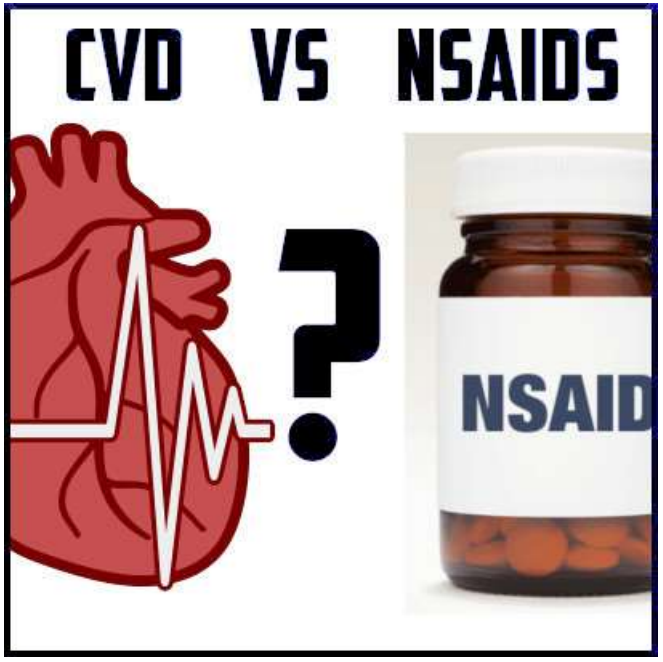
NSAIDS Complications

Black Box Warning by FDA in 2005



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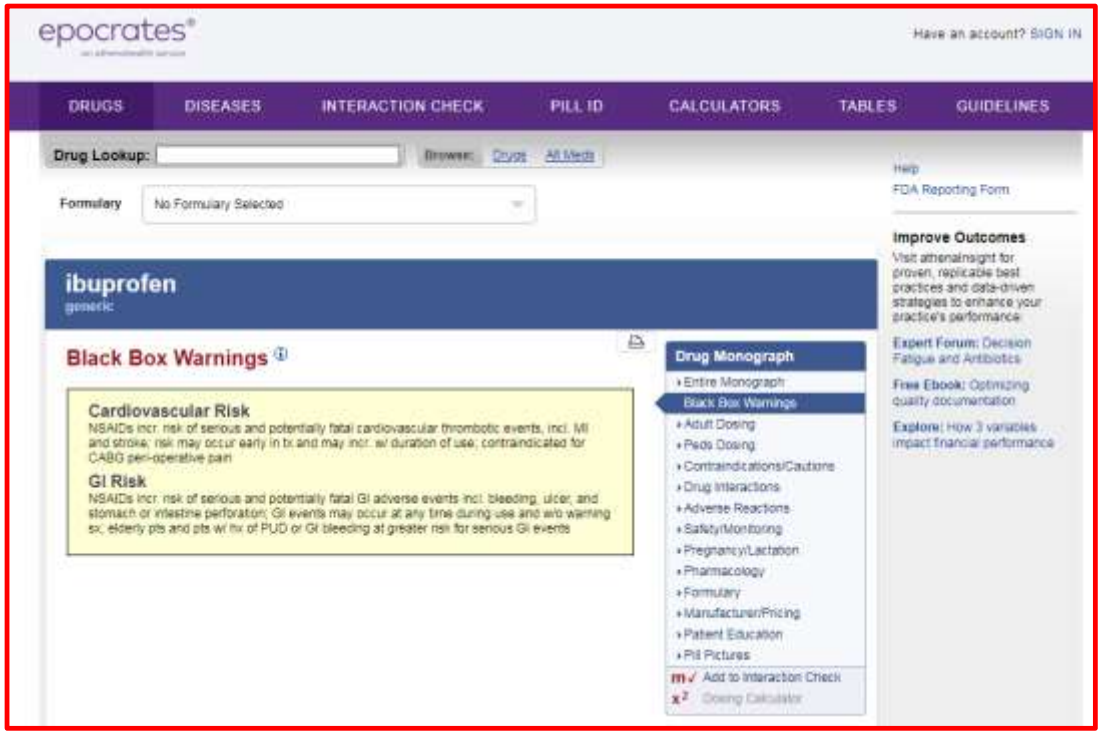
NSAIDS Complications

Black Box Warning by FDA in 2005



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NSAIDS Complications

Coexisting medical conditions to consider before recommending NSIADs

CARDIOVASCULAR RISKS

Patients with cardiovascular (CV) disease are at increased risk for cardiovascular events (myocardial infarction, stroke) when taking a non-aspirin NSAID such as ibuprofen or naproxen sodium.

For patients on an aspirin heart therapy regimen, ibuprofen may interfere with the cardioprotective benefit of aspirin.

NSAIDS Complications

Coexisting medical conditions to consider before recommending NSIADs

CARDIOVASCULAR RISKS

Recent FDA NSAID label updates with respect to CV risks:

For any patients taking a non-aspirin NSAID—including ibuprofen or naproxen sodium—the risk of heart attack, heart failure, and stroke increases.

Patients are now urged to ask their healthcare professional before using OTC NSAIDs if they have had a stroke in the past.

Patients are also encouraged to stop use and ask a healthcare professional if they have symptoms of heart problems or stroke, including chest pain, trouble breathing, weakness in one part or side of the body, slurred speech, or leg swelling.

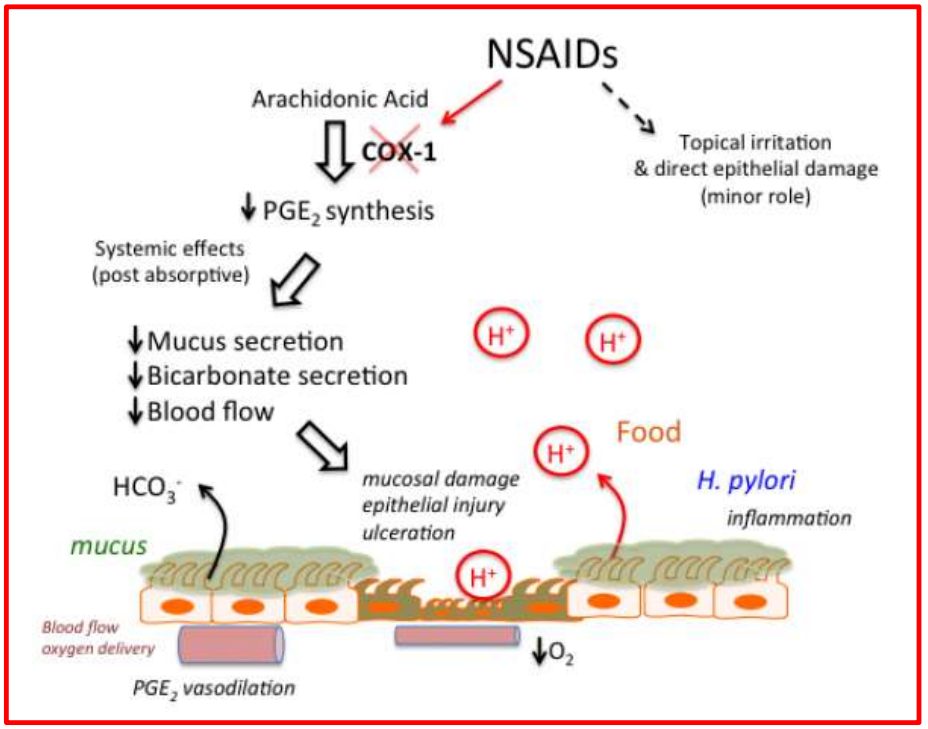
NSAIDS Complications

Coexisting medical conditions to consider before recommending NSIADs

GASTRITIS OR ULCERS

Patients over age 60 and patients with existing GI risks who take ibuprofen or any other NSAID are at higher risk of developing serious GI toxicities such as an ulcer or bleeding.

NSAIDS Complications



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OTC Analgesics - Medical history

Do your health conditions affect your OTC pain reliever choice?

If you have certain health conditions, such as heart disease, liver disease, or asthma, some over-the-counter (OTC) pain relievers may be more appropriate for you than others.

Health Conditions	Acetaminophen for example Tylenol®	NSAIDs (Nonsteroidal anti-inflammatory drugs) Ibuprofen for example Motrin® IB, Advil®	Naproxen Sodium for example Aleve®	Aspirin for example Bayer® Extra Strength
High blood pressure, heart disease, or have had a stroke	**The American Heart Association identifies acetaminophen** as a pain relief option to try first for patients with, or at high risk for, heart disease*	**Ask your healthcare professional before use.** If you have high blood pressure, heart disease, or have had a stroke, ibuprofen and naproxen sodium may further increase these risks. If you take aspirin to help protect against heart attack or stroke, taking ibuprofen may decrease that heart health benefit		
History of stomach bleeding, stomach ulcers, or heartburn	**Acetaminophen may be a more appropriate choice** of pain reliever, as it does not irritate the stomach the way naproxen sodium or even ibuprofen can	**Ask your healthcare professional before use.** If you have had stomach ulcers or bleeding problems, or consume 3 or more alcoholic drinks per day, the chance of stomach bleeding is higher if you take an NSAID such as ibuprofen, naproxen sodium, or aspirin		
Asthma	**Acetaminophen may be a more appropriate choice** of pain reliever for many people with asthma	**Ask your healthcare professional before use.** If you have asthma that is sensitive to NSAIDs, taking an NSAID such as ibuprofen, naproxen sodium, or aspirin could make your asthma worse		
Kidney disease	**If you have kidney disease,** the National Kidney Foundation identifies acetaminophen as an OTC pain reliever of choice for occasional use	**Ask your healthcare professional before use.** If you have kidney disease, taking an NSAID may lead to reduced kidney function		
Liver disease or liver cirrhosis	**Ask your healthcare professional before use** if you have liver disease. Severe liver damage may occur if you take more than 4,000 mg of acetaminophen in 24 hours, take with other drugs that contain acetaminophen, or have 3 or more alcoholic drinks every day while using acetaminophen	**Ask your healthcare professional before use** if you have liver cirrhosis. Taking an NSAID such as ibuprofen, naproxen sodium, or aspirin can increase your risk of further liver damage, reduced kidney function, and stomach bleeding		
60+ Age 60 or older	**If you are age 60 or older,** acetaminophen may be a more appropriate pain reliever choice, depending on your health history and other medications	**Ask your healthcare professional before use.** If you are age 60 or older, taking an NSAID such as ibuprofen, naproxen sodium, or aspirin could increase the chance of stomach bleeding		

Talk to your healthcare professional about any OTC and prescription medicines you are taking, as well as vitamins and herbal supplements, to make sure they don't interact with each other.

*When symptoms are not controlled without medicine

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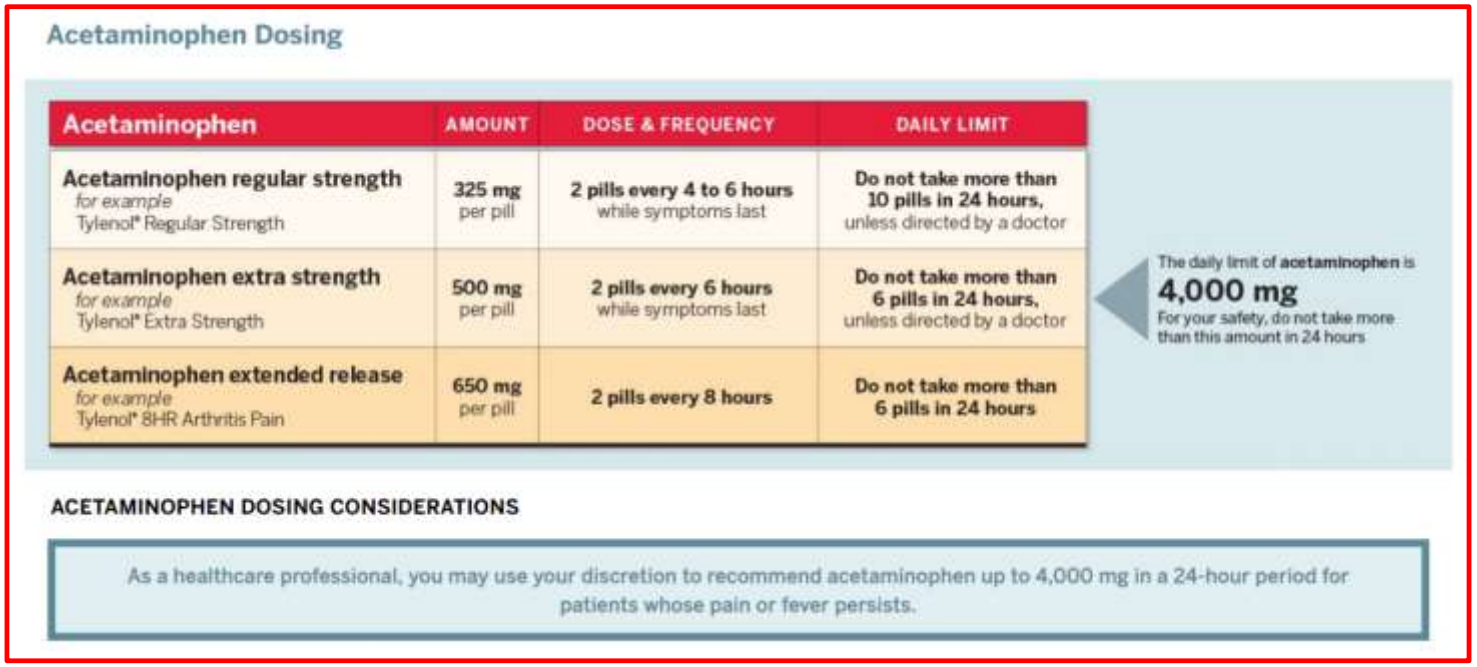
OTC Analgesics Dosage Chart



Acetaminophen Dosing

Acetaminophen	AMOUNT	DOSE & FREQUENCY	DAILY LIMIT
Acetaminophen regular strength *for example* Tylenol® Regular Strength	325 mg per pill	2 pills every 4 to 6 hours while symptoms last	Do not take more than 10 pills in 24 hours, unless directed by a doctor
Acetaminophen extra strength *for example* Tylenol® Extra Strength	500 mg per pill	2 pills every 6 hours while symptoms last	Do not take more than 6 pills in 24 hours, unless directed by a doctor
Acetaminophen extended release *for example* Tylenol® 8HR Arthritis Pain	650 mg per pill	2 pills every 8 hours	Do not take more than 6 pills in 24 hours

The daily limit of **acetaminophen** is **4,000 mg**
For your safety, do not take more than this amount in 24 hours

ACETAMINOPHEN DOSING CONSIDERATIONS

As a healthcare professional, you may use your discretion to recommend acetaminophen up to 4,000 mg in a 24-hour period for patients whose pain or fever persists.

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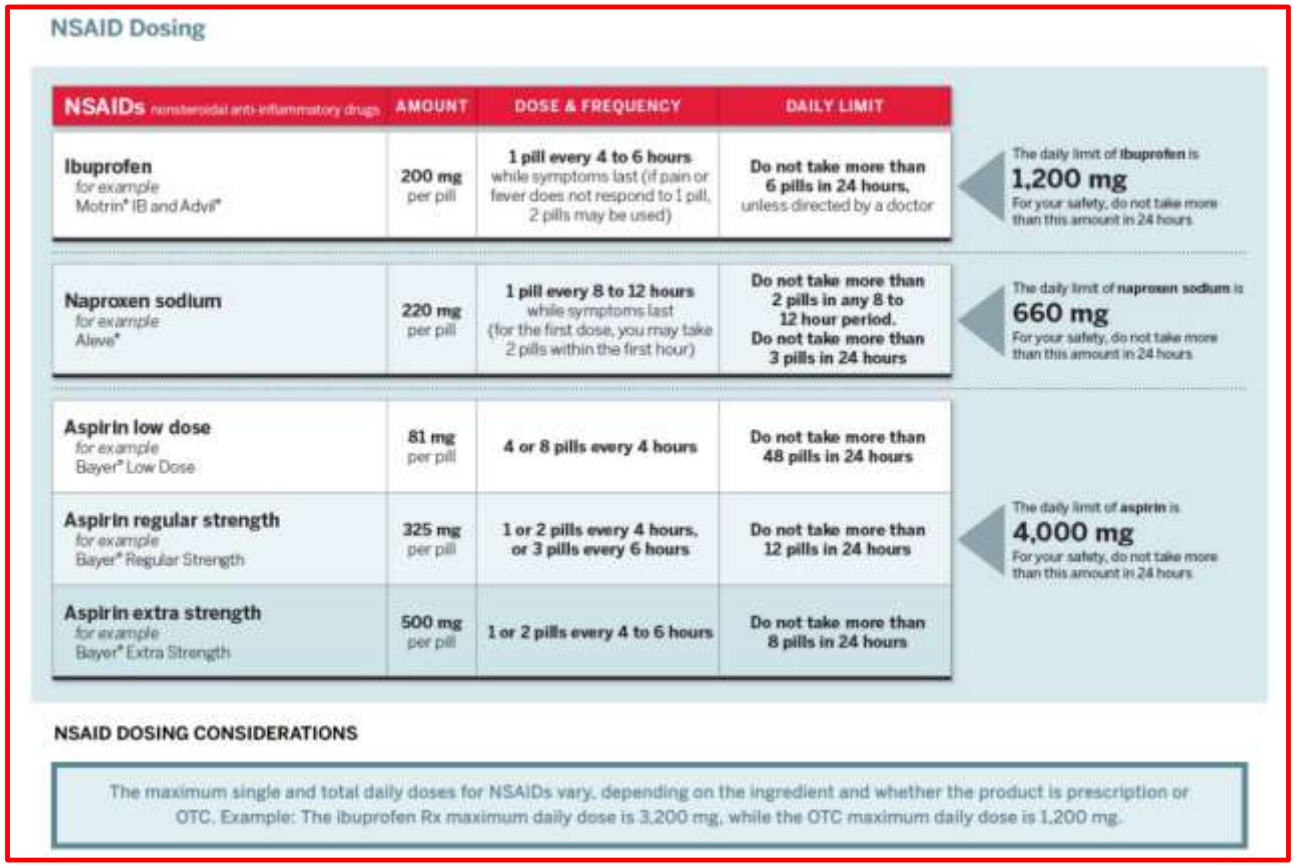
OTC Analgesics Dosage Chart



NSAID Dosing

NSAIDs nonsteroidal anti-inflammatory drugs	AMOUNT	DOSE & FREQUENCY	DAILY LIMIT
Ibuprofen *for example* Motrin® IB and Advil®	200 mg per pill	**1 pill every 4 to 6 hours** while symptoms last (if pain or fever does not respond to 1 pill, 2 pills may be used)	**Do not take more than 6 pills in 24 hours,** unless directed by a doctor
Naproxen sodium *for example* Aleve®	220 mg per pill	**1 pill every 8 to 12 hours** while symptoms last (for the first dose, you may take 2 pills within the first hour)	**Do not take more than 2 pills in any 8 to 12 hour period. Do not take more than 3 pills in 24 hours**
Aspirin low dose *for example* Bayer® Low Dose	81 mg per pill	**4 or 8 pills every 4 hours**	**Do not take more than 48 pills in 24 hours**
Aspirin regular strength *for example* Bayer® Regular Strength	325 mg per pill	**1 or 2 pills every 4 hours, or 3 pills every 6 hours**	**Do not take more than 12 pills in 24 hours**
Aspirin extra strength *for example* Bayer® Extra Strength	500 mg per pill	**1 or 2 pills every 4 to 6 hours**	**Do not take more than 8 pills in 24 hours**

The daily limit of **ibuprofen** is **1,200 mg**. For your safety, do not take more than this amount in 24 hours.

The daily limit of **naproxen sodium** is **660 mg**. For your safety, do not take more than this amount in 24 hours.

The daily limit of **aspirin** is **4,000 mg**. For your safety, do not take more than this amount in 24 hours.

NSAID DOSING CONSIDERATIONS

The maximum single and total daily doses for NSAIDs vary, depending on the ingredient and whether the product is prescription or OTC. Example: The ibuprofen Rx maximum daily dose is 3,200 mg, while the OTC maximum daily dose is 1,200 mg.

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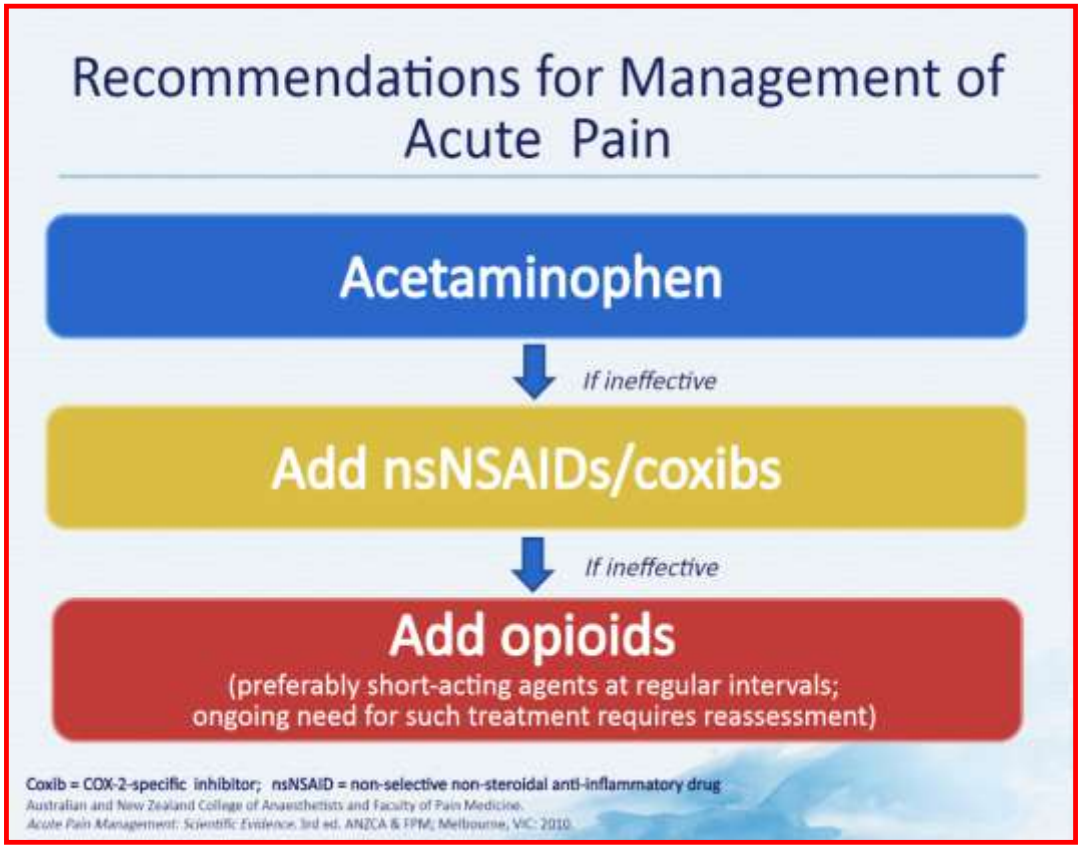
When to Use Opioids



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Opioid Analgesics

WARNING:

USE OPIOIDS WITH CAUTION AND ONLY IF NECESSARY.

IF APPROPRIATE: OPIOID MEDICATION STRENGTH FOR ACUTE PAIN IN ADOLESCENTS AND ADULTS. IN MOST CASES, <3 DAYS' SUPPLY (<8 PILLS) WILL BE SUFFICIENT; FOR MORE SEVERE PAIN, <7 DAYS MAY BE NEEDED.

Codeine (e.g., Tylenol 3)	Oxycodone (e.g., Percocet)	Hydrocodone e.g., Vicodin)	Hydromorphone (e.g., Dilaudid)	Morphine sulfate	Tramadol (e.g., Ultram)
30 mg	5 mg	5 mg	2 mg	15 mg	50 mg

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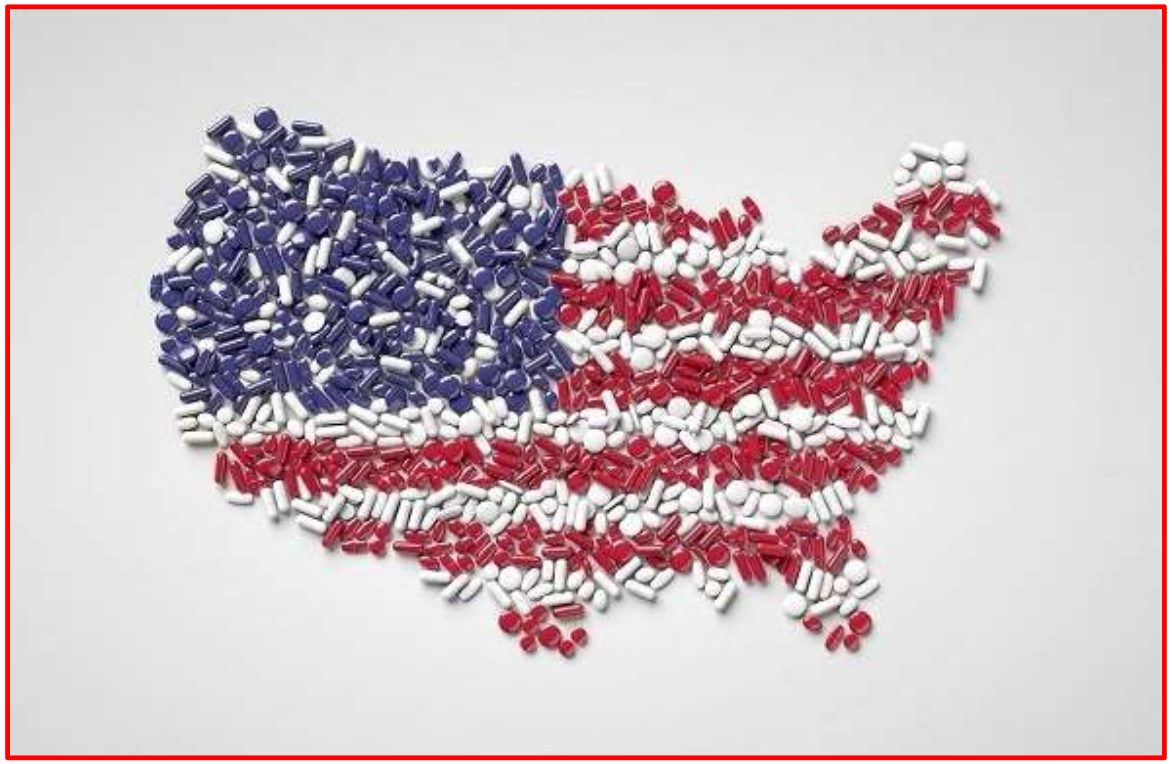
Opioid Crisis in the U.S.

Be part of the solution !



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