Comorbidities Associated with the Opioid Epidemic

Sponsored by the Florida Alcohol and Drug Abuse Association and the Florida Department of Children and Families
Learning Objectives

As a result of participating in this webinar, participants will:

• Become familiar with the latest data and history regarding the opioid epidemic.

• Establish a knowledge-base as it pertains to substance use disorders and the complexities found with the inter-related, common mental health disorders.

• Have an improved understanding of the most important components of a comprehensive co-occurring evaluation.
Why Co-Occurring Diagnosis?

Because of an overlap, drugs of abuse can cause symptoms that mimic most forms of mental health disorders.
Which Develops First
Substance Abuse or Psychiatric Illness?

Source: rwcnews.com
"Gee, I wonder where he picked up this behavior?"
The Social Use of Drugs/Alcohol
Common Drugs of Abuse

- Alcohol
- Tobacco
- Marijuana
- Inhalants
- Cocaine/Stimulants
- K2, Spice
- Club Drugs i.e. ecstasy, GHB
- Hallucinogens
- Opioids and Kratom
- Sedative hypnotics
- Sports Drugs i.e. steroids
- Bath Salts and Flakka
OPIOIDS
(OPIATES?)
Historical Perspective

• Civil War: Introduction of the hypodermic needle and morphine analgesia.
• Harrison Act (1914): prohibition on prescription of narcotics (opioids) to addicts:
  ✓ Many physicians prosecuted/fears of opioid prescribing
  ✓ Increased drug trafficking and crime associated with opiate (heroin) and cocaine abuse
• 1974: 1st methadone maintenance program for opioid addiction.
• DATA 2000: office-based treatment of opioid dependence with buprenorphine.
Prequel to Abuse of Prescription Opioids

• In 1971 President Richard Nixon officially declared “a war on drugs” and in 1973 he created the DEA to coordinate the efforts of all other agencies.

• In 1984 Nancy Reagan launched her “Just Say No” campaign

• 1989 President George H. W. Bush presented a national drug control strategy that included the largest budget increase in U.S. history. Unfortunately, even though there were large seizures of drugs and many individuals imprisoned, we have continued to see an increase in drug use.
Prescription Opioid Epidemic and Beyond

• 1995 – Purdue Pharma develops Oxycontin
• 1999 – the pill opioid epidemic begins; oxycontin, oxycodone, methadone, back to oxycodone
• 2010 - FL becomes the pill mill capital of the US; FL had 900 unregulated pain clinics, 90 of the top 110 oxycodone prescribing docs were in FL, of the top 50 dispensing clinics in the US 49 were in FL
  The “Oxycontin Express”
• 2011 - 10 people dying per day; E-FORCSE begins operation; the Pain Rule goes into effect
• 2016 - only 23.7% utilizing E-FORCSE
• 2013 - Fentanyl arrives
• 2014 - The current opioid epidemic appears
• 2018 - July 1st, House Bill 21 (HB21)
A Bit of Data
Abuse of Prescription Opioids

People were dying:

• *In 1999 there were 4,030 opioid-related deaths and in 2010 there were 16,665 but the U.S. population only increased by less than 10%.*

• *During this time, an acetaminophen-free hydrocodone was being developed.*

• *The FDA approved Zohydro made by Pernix Therapeutics anyway! And, lo and behold, Purdue Pharma came back with its own version; Hysingla.*
Abuse of Prescription Opioids

According to the CDC:

- Since 1999: 300% increase in the sales of opioids in U.S.
- 2008: surge in deaths from overdoses (14,800); more than for heroin and cocaine combined.
- 2009: 475,000 emergency dept. visits for adverse events related to misuse of opioids (doubling in 5 years).
- Mixing of drugs was found in half of prescription opioid-related deaths.
- Past year heroin use increased from 373,000 (2007) to 669,000 (2012).
Nationwide

- During 2013 – 2014 the number of drug products obtained by law enforcement that tested positive for fentanyl increased by 426% and synthetic opioid-involved overdose deaths (excluding methadone) increase by 79%.

- In March and October 2015, the DEA and the CDC, respectively, issued nationwide alerts identifying illicitly manufactured fentanyl (IMF) as a threat to public health and safety. IMF’s are being mixed in unknown concentrations with heroin.

- The fourth quarter of 2016 the DEA laboratory system noted a decrease in fentanyl seized from approximately 65% to 50% due to a 300% increase in furanyl fentanyl.

Centers for Disease Control, 2016
National Drug Early Warning System, 2016
Nationwide

• Aside from fentanyl, there have been 9 other IMF’S identified aside from fentanyl (50-100 times more potent than morphine) and carfentanil (greater than 10,000 times more potent than morphine).

• Is this the current generation’s AIDS crisis? In 2015 52,000 people died of drug overdoses; the peak year for AIDS related deaths was 51,000 in 1995. With our present crisis, there is no end in sight!

• According to STAT, there are now nearly 100 deaths a day from opioids with a worst-case scenario that the toll could spike 250 deaths a day due to Fentanyl and its IMF’s.
Nationwide

According to the American Medical Association:
• The epidemic will continue to grow through 2025!
• The US could see a record number of deaths, up to 200,000 individuals per year!

According to the CDC:
• 2016 there were 63,632 deaths
• 2017 there were 70,237 deaths
LOCAL: FLORIDA

According to the March 1, 2019 Attorney General’s Opioid Working Group report:

- In 2016 the opioid prescription rate was 75 per 100 persons in FL
- There were 5,725 opioid-related deaths in FL in 2016, an increase of 35% from the prior year and in 2017 it increased another 8%: 17 people died per day!
- Of those deaths in 2017, heroin increased by 1%, fentanyl increased by 25% and fentanyl analogues increased by 65%
How Common is Opioid Dependence?

Approximately 2.5 million Americans were dependent on prescription opioid prescription pain killers or heroin in 2012. We don’t know the real numbers now!

- Emergency Department (ED) data not accurate
- Hospital data not accurate
- Morgue data not accurate

It is worse than we know!
Present Day

According to the CDC:
130 Deaths Per Day in the U.S.

According to JFRD:
2 Deaths Per Day in Duval County
Actions of Opioid Analgesics

• Opioid analgesics interacts with four major receptors in the Central Nervous System (CNS)
  – Mu receptors
  – Kappa Receptors
  – Sigma receptors and
  – Delta receptors
Mu Receptor Drugs

Morphine
Methadone
Hydromorphone
Codeine
Fentanyl

Heroin
LAAM (l-alpha acetyl methadol)
Buprenorphine
Oxycodone
Hydrocodone
Function of a Full Mu Agonist

• Activates the mu receptor
• Highly reinforcing
• Most abused
• Includes heroin, methadone, oxycodone, others
Function of a Partial Mu Agonist

- Activates the receptor at lower levels
- Is relatively less reinforcing
- Is less abused
- Buprenorphine
Function of a Mu Antagonist

- Occupies without activating
- Is not reinforcing
- Blocks and will displace agonist opioid types
- Includes naloxone and naltrexone (Vivitrol)
Intrinsic Activity: Full Agonist, Partial Agonist and Antagonist

- Full Agonist (Methadone)
- Partial Agonist (Buprenorphine)
- Antagonist (Naloxone)
The Centerpiece of Addiction

Dopamine
Neurophysiology

The Action of Opioids
<table>
<thead>
<tr>
<th>Immediate Release Opioid</th>
<th>Onset of Analgesia</th>
<th>Duration of Effect</th>
<th>Advantages (A)/Disadvantages (D)</th>
</tr>
</thead>
</table>
| Morphine (oral)          | 30-40 min         | 4 h               | A – available in multiple dosage forms, liquid concentrate  
D – slow onset of analgesia for idiopathic BTP |
| Oxycodone (oral)         | 30 min            | 4 h               | Same as morphine |
| Hydromorphone (oral)     | 30 min            | 4 h               | D – no liquid concentrate, slow onset of analgesia for idiopathic BTP |
| Methadone (oral)         | ~10-15 min        | 4-6 h             | A – faster onset of analgesia in one small study  
D – complex pharmacology, pharmacokinetics |
| Fentanyl (Transmucosal)  | ~5-10 min         | 1-2 h             | A – fastest onset of analgesia  
D – requires ongoing patient cooperation in use |
<table>
<thead>
<tr>
<th>Kinetic Parameters (Chart)</th>
<th>oral bio-availability (avg)</th>
<th>onset of effect</th>
<th>average half life (hr.)</th>
<th>plasma protein binding</th>
<th>typical duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>codeine</td>
<td>70-90%</td>
<td>45-60m</td>
<td>prodrug</td>
<td>7-25%</td>
<td>4-6h</td>
</tr>
<tr>
<td>pethidine</td>
<td>40-60%</td>
<td>20-40m</td>
<td>3-5h</td>
<td>60-80%</td>
<td>2-4h</td>
</tr>
<tr>
<td>morphine</td>
<td>30-40%</td>
<td>30-45m</td>
<td>2-4h</td>
<td>35%</td>
<td>3-4h</td>
</tr>
<tr>
<td>oxycodone</td>
<td>60-80%</td>
<td>45-60m</td>
<td>3.5h</td>
<td>45%</td>
<td>4-6h</td>
</tr>
<tr>
<td>hydrocodone</td>
<td>60-80%</td>
<td>45-60m</td>
<td>3.5h</td>
<td>unknown</td>
<td>4-6h</td>
</tr>
<tr>
<td>hydromorphone</td>
<td>24%</td>
<td>30m</td>
<td>2.6h</td>
<td>8-19%</td>
<td>2-3h</td>
</tr>
<tr>
<td>oxymorphone</td>
<td>10%</td>
<td>20-40m</td>
<td>1.3h</td>
<td>10-12%</td>
<td>3-4h</td>
</tr>
<tr>
<td>levorphanol</td>
<td>~50%</td>
<td>20-40m</td>
<td>11-16h</td>
<td>40%</td>
<td>4-8h</td>
</tr>
<tr>
<td>methadone</td>
<td>80%</td>
<td>60-90m</td>
<td>22h</td>
<td>80-90%</td>
<td>6-12h</td>
</tr>
<tr>
<td>fentanyl</td>
<td>-10-15%</td>
<td>10-20m</td>
<td>3.5h</td>
<td>85%</td>
<td>1-2h</td>
</tr>
<tr>
<td>buprenorphine</td>
<td>~10-15%</td>
<td>60m</td>
<td>36h</td>
<td>96%</td>
<td>4-12h</td>
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<tr>
<td>tramadol</td>
<td>70%</td>
<td>60-90m</td>
<td>6-7h</td>
<td>20%</td>
<td>4-6h</td>
</tr>
<tr>
<td>tapentadol</td>
<td>30-40%</td>
<td>30-45m</td>
<td>4.5h</td>
<td>20%</td>
<td>2-4h</td>
</tr>
</tbody>
</table>
Simplified Schematic of Metabolic Pathways for Opioids

oxycodone → oxymorphine

poppy seeds→
codeine
hydrocodone

morphine

heroin→
6-monoacetyl morphine (6-AM)

hydromorphine

* Not specifically detected by the assay

Monacoglobal.com
SUBSTANCE-RELATED and ADDICTIVE DISORDERS
Criteria for Substance Abuse

A. A maladaptive pattern of substance use leading to clinically significant impairment or distress, as manifested by one (or more) of the following, occurring within a 12-month period:

(1) recurrent substance use resulting in a failure to fulfill major role obligations

(2) recurrent substance use in situations in which it is physically hazardous

(3) recurrent substance-related legal issues

(4) continued substance use despite having persistent or recurrent social or interpersonal problems caused or exacerbated by the effects of the substance

Diagnostic and Statistical Manual – 5 (DSM-5)
A Shorter Definition of Substance Abuse:

When an individual gets into trouble due to substance use on, at least, 2 different occasions within a 12-month period of time.
your bottle or your life...

Well?

I'm thinking about it

thanks to Jack Benny

Source. PRN
According to DSM-5, a substance-use disorder may be an appropriate diagnosis when at least two of the following characteristics occur within a 12-month period and cause significant impairment or distress:

- the quantity of the substance used or the amount of time spent using is often greater than intended;
- efforts to control use of the substance are unsuccessful due to a persistent desire for the substance;
- considerable time is spent using the substance, recovering from its effects, or attempting to obtain the substance;
- a strong desire, craving, or urge to use the substance is present;
- substance use interferes with major role obligations at work, school, or home;
- use of the substance continues despite harmful social or interpersonal effects caused or made worse by substance use;
- participation in social, work, or leisure activities is avoided or reduced due to substance use;
- substance use occurs in situations where substance use may be physically hazardous;
- continued substance use occurs even when the substance is causing physical or psychological problems or making these problems worse;
- tolerance for the substance develops, including a need for increasing quantities of the substance to achieve intoxication or desired effects or a noticeable decrease in effects when using the same amount of the substance;
- after heavy or sustained use of a substance, reduction in or abstinence from the substance results in withdrawal symptoms or precipitates resumption of use of the substance or similar substances to relieve or avoid withdrawal symptoms.

Adapted from APA (2013).
DSM-5

• Combines many of the Abuse and Dependence criteria under the heading “Substance-Related and Addictive Disorders”
• Specifier difference: early remission is 3 – 12 months; sustained remission is 12 mos. or longer
• Severity: mild (2-3 symptoms); moderate (4-5 symptoms); severe (6 or more symptoms)
• Must list the name of each specific drug
Example

_______ Use Disorder, in early/sustained remission, on maintenance therapy and/or in a controlled environment, mild/moderate/severe
**Dopamine Pathways**

- **Functions**
  - reward (motivation)
  - pleasure, euphoria
  - motor function (fine tuning)
  - compulsion
  - perserveration

**Serotonin Pathways**

- **Functions**
  - mood
  - memory processing
  - sleep
  - cognition

Source. National Institute on Drug Abuse (NIDA)
Activation of the reward pathway by addictive drugs

Dopamine Pathways

Source: NIDA
Summary

Dopamine – all drugs of abuse; pleasure

Endorphins – all drugs of abuse; reward, pleasure

Norepinephrine – stimulants

Serotonin - hallucinogens

GABA – sedatives, alcohol

Glutamate, NMDA – withdrawal & stimulation
The Most Common Psychiatric Conditions That Can be Confused With or be Present With Substance Use
Schizophrenia Spectrum and Other Psychotic Disorders
Diagnostic Criteria for Schizophrenia

A. Characteristic symptoms: Two (or more) of the following, each present for a significant portion of time during a 1-month period (or less if successfully treated):

(1) delusions
(2) hallucinations
(3) disorganized speech (e.g., frequent derailment or incoherence)
(4) grossly disorganized or catatonic behavior
(5) negative symptoms, i.e., affective flattening, alogia, or avolition

Source. DSM-5
B. Social/occupational dysfunction

C. Duration: Continuous signs of the disturbance persist for at least 6 months. This 6-month period must include at least 1 month of symptoms (or less if successfully treated) that meet Criterion A.
Diagnostic Criteria for 298.8
Brief Psychotic Disorder

A. Presence of one (or more) of the following symptoms:
   (1) delusions
   (2) hallucinations
   (3) disorganized speech (e.g., frequent derailment or incoherence)
   (4) grossly disorganized or catatonic behavior

B. Duration of an episode of the disturbance is at least 1 day but less than 1 month, with eventual full return to premorbid level of functioning.

Source: DSM-5
Diagnostic Criteria for 295.70
Schizoaffective Disorder

A. An uninterrupted period of illness during which, at some time, there is either a Major Depressive Episode, a Manic Episode, or a Mixed Episode concurrent with symptoms that meet Criterion A for Schizophrenia.

B. Delusions or hallucinations for 2 or more weeks in the absence of a major mood episode during the duration of the illness.

C. Symptoms that meet criteria for a major mood episode are present for the majority of the total duration of the active and residual portions of the illness’

Bipolar type; Depressive type; specify if with catatonia

*Source. DSM-5*
DSM-5

Heading is broken out into two types:

1. Depressive Disorders
2. Bipolar and Related Disorders
Depressive Disorders
Major Depressive Disorder (MDD)

At least five for a two week period

1. Depressed mood
2. Anhedonia
3. Weight loss/gain (anorexia/hyperphagia)
4. Insomnia/hypersomnia
5. Psychomotor disturbance
6. Diminished energy
7. Diminished self-esteem/guilt
8. Impaired concentration
9. Recurrent thoughts of suicide
MDD Specifiers cont’d

• Partial/full remission
• Mild: few, if any symptoms, in excess of required. Minor impairment. Distressing but manageable
• Moderate: number and intensity of sxs between mild and severe
• Severe: number of symptoms is substantially in excess of those required. Marked impairment. Seriously distressing and unmanageable
MDD Specifiers

• With:
  - anxious distress
  - mixed features
  - melancholic features
  - atypical features
  - mood congruent psychotic features
  - mood incongruent psychotic features
  - Catatonia
  - peripartum onset
  - seasonal pattern (recurrent only)
Persistent Depressive Disorder (Dysthymia)

This disorder represents a consolidation of Diagnostic and Statistical Manual (DSM)-IV-defined chronic major depressive disorder and dysthymic disorder.
Persistent Depressive Disorder (PDD) (Dysthymia)

A. Depressed mood for most of the day, for more days than not, as indicated either by subjective account or observation by others, for at least 2 years.

B. Presence, while depressed, of two (or more) of the following:
   (1) poor appetite or overeating
   (2) insomnia or hypersomnia
   (3) low energy or fatigue
   (4) low self-esteem
   (5) poor concentration or difficulty making decisions
   (6) feeling of hopelessness
Persistent Depressive Disorder (Dysthymia) cont’d

C. During the two-year period of the disturbance, the individual has never been without the symptoms in Criteria A and B for more than 2 months at a time.

D. Criteria for Major Depressive Disorder may be continuously present for 2 years
PDD Specifiers

- Partial/full remission
- Early onset (before 21), Late onset (at or after 21)
- With pure dysthymic syndrome
- With persistent major depressive episode
- With intermittent major depressive episodes, with current episode
- With intermittent major depressive episodes, without current episode
PDD Specifiers cont’d

• Mild: few, if any sxss, in excess of required. Minor impairment. Distressing but manageable

• Moderate: number and intensity of sxss between mild and severe

• Severe: number of sxss is substantially in excess of those required. Marked impairment. Seriously distressing and unmanageable
Peripartum Mood Disorder

- Occurs during pregnancy or in the 4 weeks following delivery
- 3% to 6% will experience this disorder.
- 50% of postpartum begin prior to delivery
- Anxiety is common, especially Obsessive Compulsive Disorder (OCD) or, just obsessions
Other Specified Depressive Disorder

- Recurrent brief depression: 2-13 days at least one per month for at least 12 consecutive months
- Short-duration depressive episodes: 4-13 days
- Depressive episode with insufficient symptoms: depressed affect and at least one of the other 8 symptoms
Unspecified Depressive Disorder

Used to be called Depressive Disorder
Not Otherwise Specified (NOS)
Bipolar and Related Disorders
Manic Episode

A. Distinct period of abnormally and persistently elevated, expansive, or irritable mood, lasting at least 1 week (or any duration if hospitalization is necessary).

B. During the period of mood disturbance, three (or more) of the following symptoms have persisted (four if the mood is only irritable) and have been present to a significant degree:

(1) inflated self-esteem or grandiosity.

(2) decreased need for sleep (e.g., feels rested after only 3 hours of sleep).
(3) more talkative than usual or pressure to keep talking.

(4) flight of ideas or subjective experience that thoughts are racing.

(5) distractibility (e.g., attention too easily drawn to unimportant or irrelevant external stimuli).

(6) increase in goal-directed activity (either socially, at work or school, or sexually) or psychomotor agitation.

(7) excessive involvement in pleasurable activities that have a high potential for painful consequences (e.g., engaging in unrestrained buying sprees, sexual indiscretions, or foolish business investments).
Hypomanic Episode

A. Distinct period of persistently elevated, expansive, or irritable mood and abnormally and persistently increased activity or energy, lasting throughout at least 4 consecutive days and present most of the day, nearly every day.

B. During the period of mood disturbance, three (or more) of the following symptoms have persisted (four if the mood is only irritable) and have been present to a significant degree:

(1) inflated self-esteem or grandiosity.

(2) decreased need for sleep (e.g., feels rested after only 3 hours of sleep).
(3) more talkative than usual or pressure to keep talking.

(4) flight of ideas or subjective experience that thoughts are racing.

(5) distractibility (e.g., attention to easily drawn to unimportant or irrelevant external stimuli).

(6) increase in goal-directed activity (either socially, at work or school, or sexually) or psychomotor agitation.

(7) excessive involvement in pleasurable activities that have a high potential for painful consequences (e.g., the person engages in unrestrained buying sprees, sexual indiscretions, or foolish business investments).
Bipolar I

• What is it?
At least one manic episode. Major depression is not required, though the vast majority experience these episodes.
Bipolar I specifiers

- Current or most recent episode:
  - Manic, hypomaniac, depressed or unspecified
  - Mild, moderate or severe
  - Partial or full remission
Bipolar I specifiers cont’d

- With:
  - anxious distress
  - mixed features
  - rapid cycling
  - melancholic features
  - atypical features
  - mood congruent psychotic features
  - mood incongruent psychotic features
  - Catatonia
  - peripartum onset
  - seasonal pattern (recurrent only)
Bipolar II

• What is it?
Must meet the criteria for a current or past hypomanic episode and the criteria for a current or past major depressive episode. There must never have been a manic episode.
Bipolar II specifiers

• Specify if current episode is:
  – Hypomanic or Depressed
  – Mild, moderate or severe
  – Partial or full remission
Bipolar II specifiers cont’d

- With:
  - anxious distress
  - mixed features
  - rapid cycling (4 mood episodes in the last 12 months)
  - melancholic features
  - atypical features
  - mood congruent psychotic features
  - mood incongruent psychotic features
  - Catatonia
  - peripartum onset (during pregnancy or in the 4 weeks following delivery)
  - seasonal pattern (recurrent only)
Other Specified Bipolar and Related Disorder

• Short duration hypomanic episodes (2-3 days) and major depressive episodes
• Hypomanic episodes with insufficient symptoms and major depressive episodes
• Hypomanic episodes without prior major depressive episode
• Short duration cyclothymia
Unspecified Bipolar and Related Disorder
Anxiety Disorders
Generalized Anxiety Disorder

A. Excessive anxiety or worry
B. Difficult to control the worry
C. 3 or more for 6 months:
   1/ Restlessness/keyed up; 2/ Easily fatigued; 3/ Decreased concentration.; 4/ Irritability; 5/Muscle tension; 6/ Sleep disturbance

Source. DSM-5
Panic Attacks
Four or more develop abruptly and reach a peak within 10 minutes

Head:
• Lightheaded
• Sweatingparethesias
• Hot flashes

Mental:
• Fear of dying
• Fear of going crazy
• Derealization

Neck:
• Choking

Trunk:
• Short of breath
• Chest pain
• Palpitations
• Nausea
• Trembling

Source: DSM-5
Panic Disorder (no longer attached to Agoraphobia)

- Recurrent unexpected panic attacks
- Concern or worry about additional panic attacks or their consequences (e.g., losing control, “going crazy” or having a heart attack) or
- A significant change in behavior related to the attacks designed to avoid having panic attacks

Source. DSM-5
PTSD

DSM-5 – under the category of Trauma – and Stress-Related Disorders

Often a significant part of an individual’s history when suffering with a Substance Use Disorder (SUD)!

Source. DSM-5
PERSONALITY DISORDERS
The only difference in behavior between an individual suffering with a substance use disorder and a personality disorder is ___________?
General Diagnostic Criteria for a Personality Disorder

A. An **enduring pattern** of inner experience and behavior that deviates markedly from the expectations of the individual’s culture. This pattern is manifested in two (or more) of the following areas:

1. **cognition** (i.e., ways of perceiving and interpreting self, other people, and event)
2. **affectivity** (i.e., the range, intensity, lability, and appropriateness or emotional response)
3. **interpersonal functioning**
4. **impulse control**

*Source: DSM-5*
B. The **enduring pattern** is inflexible and pervasive across a broad range of personal and social situations.

C. The **enduring pattern** leads to clinically significant distress or impairment in social, occupational, or other important areas of functioning.

D. The **pattern is stable and of long duration** and its onset can be traced back at least to adolescence or early childhood.
General Diagnostic Criteria for a Personality Disorder  (continued)

E. The **enduring pattern** is not better accounted for as a manifestation or consequence of another mental disorder.

F. The **enduring pattern** is not due to the direct physiological effects of a substance (e.g., a drug of abuse, a medication), or a general medical condition (e.g., head trauma).

Source. DSM-5
Borderline Personality Disorder Vs. Behavior
NARCISSISTIC

Personality Disorder

Vs.

Behavior
Peanuts

It says here that the world revolves around the sun once a year...
THE WORLD REVOLVES AROUND THE SUN?
ARE YOU SURE?
I THOUGHT IT REVOLVED AROUND ME!
Antisocial Personality Disorder Vs. Behavior
THE DOCTOR ACTUALLY DOESN'T SEE PATIENTS ANYMORE, SIR....
HE FOUND OUT HE CAN MAKE A LOT MORE MONEY JUST WRITING PRESCRIPTIONS.
Don’t Be So Quick to Diagnose
BACK TO SUBSTANCE USE DISORDERS
We Have a New and Complicated Problem!!!

• Many years ago we came to a point where we were asking......Where is the simple person with a alcohol use disorder?!!

• Now we are at a point where we are sadly asking......Where is the simple person with a heroin use disorder?!!
Fentanyl/Fake Xanax
Oxycodone Fentanyl Pills

Source: News.wbofo.org
And, More Complications!

• It is not uncommon to find individuals to be Urine Drug Screen (UDS)+ for cocaine, methamphetamine, benzodiazepines, fentanyl and marijuana.
• Many of these individuals say they DO NOT use fentanyl or heroin!

Cocaine, methamphetamine, benzodiazepines and marijuana are being laced with fentanyl!!!
Project Save Lives Data

Positive Percentages (90 Samples)

<table>
<thead>
<tr>
<th>Substance</th>
<th>Positive Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fentanyl + Analogs</td>
<td>92%</td>
</tr>
<tr>
<td>Cocaine</td>
<td>78%</td>
</tr>
<tr>
<td>Opiates</td>
<td>70%</td>
</tr>
<tr>
<td>Amphetamine</td>
<td>36%</td>
</tr>
<tr>
<td>6am</td>
<td>30%</td>
</tr>
<tr>
<td>Benzodiazepines</td>
<td>26%</td>
</tr>
<tr>
<td>Gabapentin</td>
<td>22%</td>
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<tr>
<td>Oxycodone</td>
<td>16%</td>
</tr>
<tr>
<td>Buproprion</td>
<td>13%</td>
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<tr>
<td>Tramadol</td>
<td>12%</td>
</tr>
<tr>
<td>Buprenorphine</td>
<td>11%</td>
</tr>
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<td>Dextromethorphan</td>
<td>2%</td>
</tr>
<tr>
<td>Methadone</td>
<td>2%</td>
</tr>
</tbody>
</table>

Source: Premier Biotech Labs
Project Save Lives Data

Fentanyl Breakdown (83 Positive Fentanyl)

- Furanyl Fentanyl: 3
- Acetyl Fentanyl: 37
- Acetyl Norfentanyl: 48
- Fentanyl: 83
- Norfentanyl: 83

Source: Premier Biotech Labs
Project Save Lives Data

Opiate Breakdown (90 Total Opiates)

- Morphine: 59
- Hydromorphone: 40
- Codeine: 38
- Heroin: 27
- Norhydrocodone: 17
- Hydrocodone: 11
- Norcodeine: 9
- Dihydrocodeine: 8

Source: Premier Biotech Labs
Regional Data

Percentage of Drugs in Presence of Fentanyl

Source: Premier Biotech Labs
SEDATIVE, HYPNOTIC or ANXIOLYTIC USE DISORDER
Sedative, Hypnotic or Anxiolytic Intoxication

One (or more) of the following signs, developing during, or shortly after, alcohol use:

(1) slurred speech  
(2) incoordination  
(3) unsteady gait  
(4) nystagmus  
(5) impairment in attention or memory  
(6) stupor or coma

Source. DSM-5
Sedative, Hypnotic or Anxiolytic Withdrawal

A. Cessation or reduction of use

B. 2 or more of the following: autonomic hyperactivity (e.g., sweating or pulse rate greater than 100), hand tremor, insomnia, nausea/vomiting, transient hallucinations (visual, tactile, auditory or illusions), psychomotor agitation, anxiety, grand mal seizures

Specify if with perceptual disturbances – hallucinations occurring with intact reality testing or in the absence of delirium

Source: DSM-5
Protracted Withdrawal or PAWS
STIMULANT USE DISORDER
Stimulant-Related Disorder

Attached to severity add:

- Amphetamine-type substance
- Cocaine
- Other or unspecified stimulant

Source. DSM-5
Stimulant Intoxication

A. Recent use

B. Clinically significant behavioral or psychological changes

C. 2 or more of the following: tachycardia or bradycardia- pupillary dilation- increased or decreased blood pressure, perspiration or chills- N/V- weight loss, psychomotor agitation/retardation-muscular weakness, respiratory depression, chest pain or cardiac arrhythmia-confusion, seizures, dyskinesias, dystonias or coma

Specify the specific intoxicant

Specify if with perceptual disturbances

Source. DSM-5
Mental Status Findings for ACUTE COCAINE/STIMULANT INTOXICATION

“Abnormal” overall behavior and appearance
Disoriented to person, place, date or situation
Dysfunctional immediate, recent, remote memory
Inappropriate degree and direction of affect
Altered mood: depressed

Source. DSM-5
Acute Stimulant Withdrawal

Dysphoric mood + 2 or more of the following:
1. Fatigue
2. Vivid/unpleasant dreams
3. Insomnia/hypersomnia
4. Increased appetite
5. Psychomotor retardation/agitation

Specify the specific substance

Source. DSM-5
Cocaine/Amphetamine

Altered mood: Overly elated

Confused, disorganized

Hallucinations

Delusions

Bizarre behavior

Suicidal or danger to self

Homicidal or danger to others

Poor judgment
Protracted Withdrawal or PAWS
# COCAINE/STIMULANT WITHDRAWAL

<table>
<thead>
<tr>
<th>Phase</th>
<th>Time Course</th>
<th>Symptoms</th>
<th>Treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crash</td>
<td>Initial crash starts right after binge</td>
<td>intense dysphoria depression, anxiety, agitation</td>
<td>Examine neurological and physical status</td>
</tr>
<tr>
<td></td>
<td></td>
<td>craving for stimulants</td>
<td>Take blood/urine samples</td>
</tr>
<tr>
<td></td>
<td></td>
<td>decreased appetite</td>
<td></td>
</tr>
<tr>
<td>Phase</td>
<td>Time Course</td>
<td>Symptoms</td>
<td>Treatment</td>
</tr>
<tr>
<td>-------------</td>
<td>---------------------</td>
<td>-----------------------------------------------</td>
<td>--------------------------------------------</td>
</tr>
<tr>
<td>Middle crash</td>
<td>starts 1-4 hours</td>
<td>craving replaced by desire for sleep despite</td>
<td>Obtain history of other drug use and prior</td>
</tr>
<tr>
<td></td>
<td>after binge</td>
<td>insomnia</td>
<td>psychiatric disorders</td>
</tr>
<tr>
<td>Late crash</td>
<td>lasts 3-4 days</td>
<td>Hypersomnia</td>
<td>Delay clinical evaluation until after</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>hypersomnia/crash increased appetite</td>
</tr>
<tr>
<td>Phase</td>
<td>Time Course</td>
<td>Symptoms</td>
<td>Treatment</td>
</tr>
<tr>
<td>--------------</td>
<td>-------------------</td>
<td>-----------------------------------------------</td>
<td>------------------------------------------------</td>
</tr>
<tr>
<td>Withdrawal</td>
<td>temporary</td>
<td>normalization of sleep</td>
<td>Evaluate for other drug use and other dx</td>
</tr>
<tr>
<td></td>
<td>normalization</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>lasts 12 hours to</td>
<td>normalization of sleep</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4 days</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>fairly normal mood (only mild dysphoria)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>reduced craving</td>
<td></td>
</tr>
<tr>
<td><strong>Phase</strong></td>
<td><strong>Time Course</strong></td>
<td><strong>Symptoms</strong></td>
<td><strong>Treatment</strong></td>
</tr>
<tr>
<td>---------------</td>
<td>----------------</td>
<td>------------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>dysphoria</td>
<td>lasts 6-18 weeks</td>
<td>withdrawal symptoms, depression, lethargy, anhedonia, anxiety</td>
<td>I Program (e.g., group support mtg, individual psychotherapy, education, urine monitoring, steps to avoid drug-taking situations, behavioral</td>
</tr>
<tr>
<td>craving</td>
<td></td>
<td></td>
<td>reemergence craving</td>
</tr>
<tr>
<td>Phase</td>
<td>Time Course</td>
<td>Symptoms</td>
<td>Treatment</td>
</tr>
<tr>
<td>------------</td>
<td>------------------------------</td>
<td>-----------------------------------------------</td>
<td>------------------------------------------------------------------</td>
</tr>
<tr>
<td>Extinction</td>
<td>lasts months to years</td>
<td>gradual return of mood, interest in environment, and ability to experience pleasure</td>
<td>Maintain abstinence with relapse prevention techniques and long-term self-help groups</td>
</tr>
<tr>
<td></td>
<td></td>
<td>gradual extinction of periodic craving episodes</td>
<td></td>
</tr>
</tbody>
</table>
Psychiatric Morbidities

- Psychosis: usually transient with symptoms of delusion and hallucinations (commonly visual and auditory). Sensitization possible.

- Less common symptoms include disorganized speech and behavior, emotionally labile state and irrational hostile behavior.

- Can be associated with social withdrawal and repetitive stereotyped behaviors.

- Mood disorders: rates of depression and anxiety disorders substantially higher.
Cocaine and Pregnancy/Fetal Development

- Irregular placental blood flow
- Placental Abruption
- Premature rupture of membrane
- Premature labor and delivery
- Possible fetal effects: prematurity, low birth weight, decreased head circumference, lower developmental test scores and delayed language skills

There is no strong evidence of its toxic effect on the developing fetus!
Opioid-Related Disorders
What happens when you mix heroin and fentanyl?
Fentanyl and its analogues

Source. Premier Biotech
Addiction Hijacks the BRAIN

FENTANYL HIJACKS the MIND, BODY and SOUL!
Opioid Intoxication

A. Recent use

B. Clinically significant problematic behavioral or psychological changes

C. Pupillary constriction or dilation (anoxia) and 1 or more of the following: drowsiness or coma, slurred speech and or impairment in attention or memory

Specify if with perceptual disturbances
Locus Coeruleus

Also known as the LC-NA system that is the major source of NE to the entire brain. It modulates arousal, attention and memory function. It is responsible for the stress and panic associated with withdrawal.
Opioid Withdrawal

A. Cessation/reduction in used or administration of an antagonist

B. 3 or more of the following: dysphoric mood - N/V - muscle aches - lacrimation or rhinorrhea - pupillary dilation, piloerection, or sweating - diarrhea - yawning - fever - insomnia

Source. DSM-5
Protracted Withdrawal or PAWS
Overview:
The Co-Occurring Picture
Cannabis

- **Intoxication:** frank psychosis (rare), acute psychosis more common when eaten, paranoid ideation, GAD, panic attacks (rare)
- **Chronic use:** Memory impairment, learning skills impairment, 8 point IQ drop, amotivational syndrome

Source: DSM-5
Sedatives

Intoxication (use): depressant, amnesia, ataxia and falling (old), rarely paradoxical agitation (young/old),

Withdrawal:

✓ Acute: mild (anxiety, insomnia); severe (agitation, mania, delirium, psychosis)

✓ Sub-chronic & Chronic: depression, anxiety

Source. DSM-5
Stimulants

- **Intoxication**: anxiety, panic attacks, mania, psychosis
- **Withdrawal**: prolonged depression, insomnia, psychosis

Source: DSM-5
Opioids

• **Intoxication (use):** depressant effect, many reports of stimulant effects at lower doses

• **Withdrawal:**
  - Acute: previous slide, remember half-life determines length of time
  - Chronic: depression, irritability, anxiety, insomnia

*Source. DSM-5*
Evaluation of Co-Occurring Disorders
Urine Drug Screening
<table>
<thead>
<tr>
<th>Drug or drug class</th>
<th>Detection times in urine</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benzodiazepines (e.g. alprazolam, diazepam, temazepam)</td>
<td>1-7 days or longer depending on half-life of drug*</td>
</tr>
<tr>
<td>Cannabinoids</td>
<td>3-28 days depending on frequency of use</td>
</tr>
<tr>
<td>Cocaine</td>
<td>1-3 days</td>
</tr>
<tr>
<td>Methamphetamine/amphetamine</td>
<td>2-5 days</td>
</tr>
<tr>
<td>Methylenedioxymethamphetamine</td>
<td>2-5 days</td>
</tr>
<tr>
<td>Opioids (e.g. morphine, codeine)</td>
<td>1-2 days</td>
</tr>
<tr>
<td>Steroids (e.g. testosterone, stanozolol)</td>
<td>Days to months depending on the half-life of the steroid</td>
</tr>
</tbody>
</table>

* may be longer in chronic users
There is a Difference and it is VERY IMPORTANT

- Screening can yield up to a 50% false negative rate.
- Screening can yield up to a 41% false positive rate for oxycodone, 22% for opiates, 21% for marijuana and 11% for benzodiazepines.

Data from Millennium Labs
The Difference cont’d

Reasons for false negatives:
• Higher cutoff levels
• Unable to effectively identify some substances (e.g. Lorazepam)

Reasons for false positives:
• Cross-reactivity
Confirmation Testing

- Either gas chromatography-mass spectrometry (GC-MS) or liquid chromatography-tandem mass spectrometry (LC-MS/MS) are the only reliable testing methods upon which one can be assured of the right decision.
- There are no false negatives or false positives for drugs tested.
<table>
<thead>
<tr>
<th>PRESCRIBED OPIOID</th>
<th>OPIATE IMMUNOASSAY</th>
<th>GC/MS OR LC/MS-MS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Morphine</td>
<td>Positive</td>
<td>Morphine</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Codeine</td>
</tr>
<tr>
<td>Codeine</td>
<td>Positive</td>
<td>Codeine</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Morphine</td>
</tr>
<tr>
<td>Hydrocodone</td>
<td>Positive</td>
<td>Hydrocodone</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Hydromorphone (minor metabolite)</td>
</tr>
<tr>
<td>Hydromorphone</td>
<td>Positive</td>
<td>Hydromorphone</td>
</tr>
<tr>
<td>Oxycodone</td>
<td>Positive/negative(^a)</td>
<td>Oxycodone</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Oxymorphone (minor metabolite)</td>
</tr>
<tr>
<td>Oxymorphone</td>
<td>Negative</td>
<td>Oxymorphone</td>
</tr>
<tr>
<td>Methadone</td>
<td>Negative</td>
<td>Methadone</td>
</tr>
<tr>
<td>Fentanyl</td>
<td>Negative</td>
<td>Fentanyl</td>
</tr>
</tbody>
</table>
"You're fired, Jack. The lab results just came back, and you tested positive for Coke."
Key Factors in Evaluating Dual Disorders

1. Comprehensive history
2. Phase specific symptoms during:
   a) Intoxication
   b) Use
   c) Withdrawal
   d) Post acute withdrawal

Focus on duration/symptoms of each phase and timing as it relates to potential psych symptoms.
Very Important:
What are the symptoms during times of abstinence and how long has the individual been abstinent?
Remember acute versus post acute withdrawal symptoms and duration.
Key Factors in Evaluating Dual Disorders, cont’d

• Don’t give definitive diagnosis while intoxicated or withdrawing. How long should one wait?
• History is critical: 1) family history; 2) look for “windows” of clean time; 3) beware of “white knuckles”.
• Psychological testing only at appropriate time.

REMEMBER - A DIAGNOSIS CAN HAVE PERMANENT RAMIFICATIONS!
Questions?