MEDICATION ASSISTED TREATMENTS: NEW APPROACHES FOR ADDICTION

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Medication Assisted Treatment

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- Certified Diplomate of the American Board of Addiction Medicine.
Conflicts of Interest

- NONE TO DISCLOSE
1. Learn the brain chemistry behind addiction disorders
2. Understand how medications can provide assistance in obtaining remission from the disease
3. Understand the evidence behind the use of certain medications for addiction
4. Understand how these medications and new understanding of addiction can influence treatments of the future.
NICE PEOPLE TAKE DRUGS

ARRIVA

via Waterloo 59
**Dopamine Pathways**

- Frontal cortex
- Nucleus accumbens
- VTA

**Functions**
- Reward (motivation)
- Pleasure, euphoria
- Motor function (fine tuning)
- Compulsion
- Perseveration

**Serotonin Pathways**

- Striatum
- Substantia nigra
- VTA
- Hippocampus
- Raphe nucleus

**Functions**
- Mood
- Memory processing
- Sleep
- Cognition
Substance Dependence
A Multifactorial Brain Disease

Prescription Opioids are a Large, Increasing Problem

- Non-medical use of prescription psychotherapeutic drug (11.3 million users) was second to past-year use of marijuana (25.5 million users)
  - Ages 18-25 had highest rates for all pain relievers followed by 12 to 17 year olds
  - Of those addicted to heroin, the percent that had non-medical pain reliever use before addiction increased from 76.9% in 2002 to 86.1% in 2011

NSDUH, 2013
Opioid Treatment Admissions per 100,000

Source: SAMHSA
In 2013, opioid use increased globally, while the main increase is in the United States with an estimated cost of $55.7 billion\(^1\)

- Past year illicit drug use in the United States is the highest it has been in 10 years
- Treatment admissions for opiates other than heroin now surpasses treatment admissions for cocaine and methamphetamine

**Massive National Problem**

Breakdown of $55.7 Billion in Prescription Opioid Abuse Costs

- **Work Place Costs** (eg. lost productivity)
- **Healthcare Costs** (eg. abuse treatment)
- **Criminal Justice Costs**
Medication Assisted Treatment (MAT)

MAT is the use of medications, in combination with counseling and behavioral therapies, to provide a whole-patient approach to the treatment of substance use disorders.

http://www.dpt.samhsa.gov/patients/mat.aspx
• Research shows that when treating substance-use disorders, a combination of medication and behavioral therapies is most successful.

• MAT is clinically driven with a focus on individualized patient care.

http://www.dpt.samhsa.gov/patients/mat.aspx
MAT Evidence

When part of a comprehensive program, it is shown to:

- Improve outcomes
- Increase retention in treatment
- Decrease illicit opiate use
- Decrease hepatitis and HIV infections
- Decrease criminal activities
- Increase employment
- Improve birth outcomes for patients

http://www.dpt.samhsa.gov/patients/mat.aspx
# Effect of Common Opiates at mu receptor

<table>
<thead>
<tr>
<th>Opiates</th>
<th>Type</th>
</tr>
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<tbody>
<tr>
<td>Heroin, morphine, methadone, oxycodone, hydrocodone, codeine, etc</td>
<td>Agonist</td>
</tr>
<tr>
<td>Buprenorphine</td>
<td>Partial Agonist</td>
</tr>
<tr>
<td>Naltrexone (Revia, Vixo)</td>
<td>Antagonist</td>
</tr>
<tr>
<td>Nalmefene</td>
<td></td>
</tr>
<tr>
<td>Naloxone</td>
<td></td>
</tr>
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</table>
## Binding at mu receptor

<table>
<thead>
<tr>
<th>Category</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Agonist</strong></td>
<td>Opens Door</td>
</tr>
<tr>
<td></td>
<td>Morphine-like effect</td>
</tr>
<tr>
<td><strong>Partial Agonist</strong></td>
<td>Opens door with safety chain</td>
</tr>
<tr>
<td></td>
<td>Weak morphine-like effects with strong receptor affinity</td>
</tr>
<tr>
<td><strong>Antagonists</strong></td>
<td>Dummy Key</td>
</tr>
<tr>
<td></td>
<td>No effect in absence of an opiate or opiate dependence</td>
</tr>
</tbody>
</table>
Methadone Simulated 24 Hr. Dose/Response
At steady-state in tolerant patient

"loaded"
Hig

Normal Range
"Comfort Zone"

heroin
Subjective w/d

"Sick"
Objective w/d

0 hrs.
Time
24 hrs.

Opioid Agonist Treatment of Addiction  Payte - 1998
FDA Approved Medications for Opiate Dependence

- **Agonists:**
  - Methadone® (Dolophine)
  - LAAM, no longer available
- **Partial Agonists:**
  - Buprenorphine: generic only
  - Buprenorphine/naloxone:
    - Suboxone® film, Zubsolv®, Bunavail®, generic
- **Antagonists:**
  - Oral Naltrexone, ReVia®, Depade®
  - Long acting depot Naltrexone, VIVITROL®
Full Agonist (Methadone)

Partial Agonist (Ru[prenorphine])

Antagonist (Naloxone)

Opioid Effect vs. Log Dose
Full Agonists for Opiate Dependence

• Methadone® (Dolophine)
  – Mechanism of Action: full opioid agonist
  – Combats withdrawal and craving
  – must be dosed in NTPs, daily dosing mandatory until patient stable ➔ MONTHS
  – Outpatient treatment after patient considered very low risk ➔ YEARS
  – Cost: “pennies per day”

• LAAM: longer acting (dose 3 X a week)
  – No longer available: poor cost/profit ratio, and potential for increased QT intervals

Epocrates Online Premium: https://online.epocrates.com
Methadone Effectiveness
Gunne & Gronbladh, 1984

Baseline

Methadone

Regular Outpatient

H H H H
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Methadone Effectiveness

After 2 Years

Methadone

No Methadone

1- Sepsis & endocarditis
2- Leg amputation
3- Sepsis

1
2
3

1
2
3

1

Gunne & Gronbladh 1984
After 5 Years

Methadone

No Methadone

Gunne & Gronbladh, 1984

Methadone Effectiveness
Oral Naltrexone, ReVia®, Depade®

• Mechanism of Action
  – Opioid Antagonist
    • antagonizes various opioid receptors
• Cost
  – ReVia® 50 mg (1 bottle, 30 ea): $259.70
  – Naltrexone 50 mg (30 ea): $103.99
Long acting depot Naltrexone

- Mechanism of Action
  - antagonizes various opioid receptors which blocks opiate mediated euphoria

- Cost
  - 380 mg (1 vial): $1,099.96
  - Covered by many insurances

Epocrates Online Premium: https://online.epocrates.com
Buprenorphine
After 10 years of attempting to synthesize an opioid compound "with structures substantially more complex than morphine [that] could retain the desirable actions whilst shedding the undesirable side effects (addiction)."

1969: RX6029 is born

Trials with humans began in 1971

Partial Agonist
- High safety profile/ceiling effect
  - Low level of physical dependence
  - Partial substitution for highly addicted patients
- “Less bounce to the ounce”

Tight Receptor Binding
- Half life 20–70 hours, mean 37 hours → long duration of action
- Slow onset mild abstinence
- Precipitates withdrawal in highly dependent patients
Graph showing the relationship between effect and log dose for different types of agonists:

- **Agonist**: Peak effect is achieved at a lower dose.
- **Partial Agonist**: Peak effect is reduced at the same dose as an agonist.

The graph indicates a decrease in maximal effect with partial agonists compared to agonists.
Buprenorphine for Opiate Dependence

• Suppresses withdrawal
• Substitutes for street opiates
• Blocks subsequently administered opiates
• Safety in long term use
Comparison of Severity of Withdrawal

Days Since Last Opiate Dose

Severity of Withdrawal

- Heroin
- Methadone
- Buprenorphine
buprenorphine alone

• Approved: October 8, 2002
  – Subutex brand discontinued 2011 because marketing protection expired
  – Generic mono product remains available

• Dosing: Tablet, Sublingual 2mg and 8mg

• COST: apx $4.50 per pill
  » Generic pill

• Originally only prep indicated for induction
Buprenorphine/Naloxone combo

**SUBOXONE**

4 parts buprenorphine: 1 part naloxone

**Sublingual:** Opiate agonist effect from buprenorphine

**Intravenous:** Opiate antagonist effect from naloxone
Addition of Naloxone Reduces Abuse Potential

• Naloxone blocks buprenorphine’s effects if injected but not if taken sublingually
  – If injected, BUP/NX will precipitate withdrawal in a moderately to severely dependent addict

• Sublingual absorption of buprenorphine 70%; naloxone 10%
Suboxone ®Tablet
(buprenorphine/naloxone)

- Approved: October 8, 2002
- Dosing: 2MG/0.5mg, 8MG/2mg; Tablet, Sublingual
- Discontinued: 2012
Buprenorphine/Naloxone Tablet

- Generic appeared: 2012
- Numerous manufacturers
- Dosing: 2MG/0.5mg, 8MG/2mg; Tablet, Sublingual
- COST: apx $4.50 per 8mg pill
• Approved: August 30, 2010
• Child resistant packaging
• Unique identifier on each film package
• Equivalent to Suboxone® pill

Doses:
– 2mg/0.5mg
– 4mg/1mg
– 8mg/2mg
– 12mg/3mg

Cost:
– about $7.33 per film depending on dose
– Discount/copay cards available
Zubsolv®
Buprenorphine Hydrochloride/Naloxone Hydrochloride

• Approved: July 3, 2013
• Dosing:
  – 5.7mg BUP / 1.4 MG nlx = 8mg Suboxone pill®
  – 1.4 MG BUP / .36 MG nlx = 2mg Suboxone pill®
• Methanol “minty” flavor
• Technology lowers oral pH to facilitate Bioavailability
• COST:
  – about $7.33 per film depending on dose
  – Discount/copay cards available
Buprenorphine Hydrochloride/Naloxone Hydrochloride

• Efficient delivery system & potential for fewer side effects due to less swallowed buprenorphine
• COST:
  – about $7.33 per film depending on dose
  – Discount/copay cards available
• Approved June 6, 2014
• BioErodible MucoAdhesive (BEMA®)
  – 2.1MG BUP/.3 MG nlx = 4mg Suboxone pill®
  – 4.2MG BUP/.7MG nlx = 8mg Suboxone pill®
  – 6.3 MG BUP/1 MG nlx =12 mg Suboxone pill®
Buprenorphine: Retention and Mortality

All Patients received group CBT
Relapse Prevention, Weekly
Individual Counseling, 3x Weekly
Urine Screens. n=20 per group

Kakko J, Lancet 2003
Figure 1. Average Number of Cases of Abuse of Buprenorphine Products, Methadone, Tramadol, and Oxycodone per Drug-Abuse Expert.

The arrow indicates the launch date of buprenorphine for use in office-based treatment of opioid dependence. Q denotes quarter.
Buprenorphine: Potent Analgesic

- 20-50 times potency of morphine
- Available worldwide for pain treatment
- Injectable formulation available in U.S.
- Usual analgesic dose: .2-.4 mg sl
- Higher dose for opiate dependence
Buprenorphine and Pain

- Animal data does not predict human data
- Good potent analgesic
- Mild CVS effect, mild G-I effect
- Ceiling effect on respiratory depression
- Analgesia not compromised by ceiling.
- Effective for long term use mos. to yrs.
Buprenorphine: Analgesic Profile

- Rapid onset of action
- Long duration of peak effect (60-120 min)
- Long half life (3.5 hrs)
- Analgesic action up to 8 hrs.
- No apparent analgesic ceiling effect at doses below 300 mg Ms equivalent; no inverted U
- Ceiling effect on respiratory depression
- Low physical dependence profile
Buprenorphine: Analgesic Use

- Surgical pain
  - Intra-operative, peri-operative, post-operative
- Labor pain
- Back pain
- Phantom pain
- Post-herpetic neuralgia
- Cancer pain
Chronic Pain and Addiction: Common Features

- Chronic pain
  - Early trauma
  - Loss of mastery
  - Loss of control
  - Loss of sense of self
  - Cognitive error
  - “personalization”
  - Over interpretation
  - “catastrophe”

- Addiction
  - Early trauma
  - Loss of mastery
  - Loss of control
  - Loss of self efficacy
  - Cognitive error
  - “nirvana”
  - Denial
Effective Drug Addiction and Chronic Pain Treatment

- Provide structure/information
- Cognitive-behavioral strategies (coaching)
- Motivational interviewing
- Involvement of family
- Treating co-occurring disorders
- Promoting healthier life style
- Group support
- Matching treatment to patient needs
Keeley League Meeting, Dwight, Illinois, 1891
STUDY DATA AT OU

Peer reviewed and preliminary data
METHODS

• Cohort study of 100 consecutive patients treated for opioid dependence with Suboxone from June 2008 through July 2012.
• Patients were identified and selected from a single providers Internal Medicine practice and from the 12&12 Inc. treatment center.
• Patients initiated therapy with Suboxone under direct observation for adverse advents and then titrated to relief of withdrawal symptoms.
• Follow-up was individualized but most patients were seen weekly x 4, monthly x 6, then every 2 months.
• Patient follow-ups included interval History & Physical exam, counseling, random UDS and Prescription Monitoring Program inquiry.
Counseling

- Recent drug or alcohol use
- Self-help group attendance
- Assessment of addiction-related employment, legal, family/social, medical or psychiatric problems or progress
- Review of UDS results and PMP inquiry
- Advice for maintaining abstinence and compliance
Demographics and clinical characteristics of opioid dependent patients prior to Suboxone

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>N=100</th>
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<tr>
<td>Age [years; mean]</td>
<td>33.78</td>
</tr>
<tr>
<td>Male</td>
<td>50</td>
</tr>
<tr>
<td>Female</td>
<td>50</td>
</tr>
<tr>
<td>Race - White</td>
<td>83</td>
</tr>
<tr>
<td>Race - American Indian</td>
<td>13</td>
</tr>
<tr>
<td>Race - Black</td>
<td>2</td>
</tr>
<tr>
<td>Race - Hispanic / Latino</td>
<td>2</td>
</tr>
<tr>
<td>High School or Greater</td>
<td>51</td>
</tr>
<tr>
<td>Full-Time Employment</td>
<td>58</td>
</tr>
<tr>
<td>Homemaker</td>
<td>13</td>
</tr>
<tr>
<td>Full-Time Student</td>
<td>10</td>
</tr>
<tr>
<td>Unemployed Less than 1 Year</td>
<td>12</td>
</tr>
<tr>
<td>Unemployed More than 1 Year</td>
<td>6</td>
</tr>
<tr>
<td>SSI Disability</td>
<td>4</td>
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<tr>
<td>Unemployed and No SSI</td>
<td>5</td>
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Current Dose of Suboxone

<table>
<thead>
<tr>
<th>Dose of Suboxone</th>
<th>Number of Patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-4 mg</td>
<td>10</td>
</tr>
<tr>
<td>4-8 mg</td>
<td>18</td>
</tr>
<tr>
<td>8-16 mg</td>
<td>50</td>
</tr>
<tr>
<td>&gt; 16 mg</td>
<td>22</td>
</tr>
</tbody>
</table>
Duration of Time on Therapy

Figure 1

Length of Time on Buprenorphine-Naloxone

Current Length of Time Taking Buprenorphine-Naloxone
Relapse Rate Based on Self-Report and Urine Drug Screen Results

**Figure 3**

- Patients Experiencing Relapse while on Buprenorphine-Naloxone (%)
  - RELAPSED (RETURNED TO PREVIOUS BEHAVIOR) WHILE ON SUBOXONE
  - NO: 84.00%
  - YES: 16.00%
Retention in Treatment

Buprenorphine-Naloaxone Therapy

- Dropout Rate: 12%
- Retention Rate: 88%
Retention in Treatment

• 88 of 100 patients remain on therapy and are current with follow-up appointments.
• 2 patients were successfully tapered off Suboxone after 36 and 42 months of therapy.
• 1 patient transferred her care to a provider in another State.
• 9 patients were discharged from the practice:
  – 6 for obtaining narcotics from other physicians
  – 3 for repeated failure to comply with follow-up appointments
Multi-dimensional Evaluation of Wellness

- Side effects from therapy
- Physical functioning
- Sleep
- Family relationships
- Social relationships
- Mood and positive emotion
- Sense of accomplishment
Multi-dimensional Evaluation of Wellness

Figure 2

Overall Patient Wellness

Buprenorphine-Naloxone effect on overall functioning
Preliminary DATA
AOPDTP

- 50 patients with OUD admitted to detox unit from March through December 2014 @ the 12&12 Treatment Center.
- All were (indigent) Medicaid assistance only.
- 36 Male (age range 19-47) and 14 Female (age range 21-42).
- 20/50 (40%) homeless, 16/50 (32%) unsafe living environment, 14/50 (28%) had a safe place to live.
- 39/50 (78%) had undergone previous abstinence based specialty treatment (OP, IOP, IRT) for opioid use disorder.
AOPDTP

• 27/50 (54%) were using primarily by IV route:
  – 23 were using IV heroin with 6 also using methamphetamine IV.
  – 4 were using IV oxycodone and/or IV hydromorphone.
• 15/50 (30%) were using only by oral route: oxycodone, hydrocodone, morphine, hydromorphone, and methadone.
• 5/50 (10%) were using only nasal insufflation: oxycodone.
• 4/50 (8%) were using oral and nasal route: hydrocodone, oxycodone po and oxycodone INH.
AOPDTP

• Incidence of secondary co-occurring substance use disorder:
  – 45/50 (90%) Nicotine Use Disorder
  – 13/50 (26%) Amphetamine Use Disorder
  – 12/50 (24%) Benzodiazepine Use Disorder
  – 8/50 (16%) Alcohol Use Disorder
  – 6/50 (12%) Cannabis Use Disorder
AOPDTP

• 30/50 (60%) had one or more Co-occurring psychiatric diagnoses (excluding personality disorders):
  – 17 Generalized Anxiety disorder
  – 15 Major Depressive disorder
  – 10 Post Traumatic Stress disorder
  – 6 Bipolar disorder
  – 6 Attention Deficit Hyperactivity disorder
  – 5 Panic disorder
  – 4 Social phobia
AOPDTP

- All patients were evaluated and screened by the physician on admit to the detox unit for entry into the AOPDTP.
- Phase 1 (induction-week 1): medical detoxification phase.
- Phase 2 (stabilization-weeks 2 through 6): weekly physician visits, UDS weekly (illicit drug screen and confirmation of buprenorphine), group education, group drug counseling, 12 Step recovery support, individual counseling, and case management.
- Phase 3 (maintenance-weeks 7 through 24): physician visits every 2 to 4 weeks with UDS, medication review, group education/drug counseling, relapse prevention group, contingency planning, and aftercare.
AOPDTP

- Physician determined the initial level of care: Ambulatory OP, IRT (intensive residential treatment), or Dual IRT.
- 26/50 (52%) placed into initial Ambulatory OP program:
  - 19 (73%) remained in the OP program with no change in level of care.
  - 5 (19%) required change to higher level of care IRT.
  - 1 required change to higher level of care Dual IRT.
  - 1 refused change to higher level of care IRT and discontinued.
- 15/50 (30%) placed into Dual IRT level of care.
- 9/50 (18%) placed into IRT level of care.
OUTCOME DATA

• 32/50 (64%) completed 6 months of AOPDTP and transitioned to ongoing private care at OU Schusterman Center Clinic.
• 1 therapeutic discharge to a long term residential treatment facility after 5 days.
• 4 patients elected to taper off therapy (range 26-45 days) against physician advice.
• 6 patients administratively discharged (range 8 days to 101 days).
• 7 patients left AMA (range 11 days to 150 days).
32/50 (64%) of patients transitioned to OU Schusterman Center Clinic are employed and self supporting.

- 26 patients remain active on opioid agonist therapy with buprenorphine.
- 6 patients elected to taper off therapy after transition (range 7 to 12 months) with no relapse to opioid use at last contact.
- All 4 patients who elected to stop therapy early (26 to 45 days) relapsed to opioid use.
- All of the 13 patient who left the program AMA or were Administratively discharged relapsed to opioid use and 4 of the patients are deceased.
NEW MODELS OF TREATMENT AND COLLABORATION
1. Psychosocial therapy as we know it is by medical terms at best, low efficacy, and possibly a failed model.

2. Very limited outcome data, except in special circumstances, such as healthcare professionals and airline pilots.
3. Current models developed in 1948, and have not really varied much.

4. Model develop, primarily to treat “mature” alcoholics, with complete abstinence, being the only real goal.

5. Is essentially an acute care treatment for a chronic disease. Like treating diabetic ketoacidosis without follow up for further control of sugars.
6. Did not anticipate the issues with drugs such as cocaine, meth, and opiates, to name a few.

7. Has not translated well to the younger age groups

8. Not very successful at combating the current opioid crisis.

9. OUTCOMES APPROACH PLACEBO NUMBERS
Treatment facilities tend to adhere to a rigidly held treatment philosophy, which tends to do a bit of a disservice to many of our patients.

Harm reduction should be what our goals are. The all or nothing stance we have taken in addiction treatment has been a negative in my mind, leading to many things like drug courts, that give patient a “one chance” option.

Harm reduction can incorporate the goals of safety, moderation, and abstinence.
HARM REDUCTION

- Harm reduction provides us with a public health model, that can begin to make real progress in our current addiction issues.

- Buprenorphine and methadone are examples of harm reduction through medication assisted treatments, ie patient using IV heroin, now using one of these drugs, taking care of their children and working. They are still on “drugs”, but much improved. Further counseling under this scenario can improve life, and coping mechanisms.
HARM REDUCTION

- Harm reduction for a chronic pain patient with severe rheumatoid arthritis, may not be able to achieve abstinence, but might be controlled with certain other opioid medications, that patient could control, or a method that controlled it for the patient.

- Coping skills and vocational training could provide patient with skills to better deal with life.

- Psychiatric treatment for co-occurring disorders can be harm reduction.
For some harm reduction over time can lead to abstinence

Similar to diabetes management. Patient with hgba1c of 14.0, managed to level of 9, over 6 months, with long term goal less than 7. The reduction of this number, though far from perfect, reduces the likelihood of some consequences of diabetes.

12 steppers, abstinence proponents, and harm reduction folks should all work together to get the appropriate treatment, at a moment in time, for a given patient.
NEW CONCEPTS

1. Addiction is a chronic brain disorder, primarily of the midbrain, which has medical, psychiatric, spiritual, and moral symptoms.

2. It is a chronic disease, suggesting that if treated like a chronic disease, better outcomes occur.
NEW CONCEPTS

- 3. Treatment should be individualized, based on patients overall condition and needs, and not a one size fits all concept.
- 4. Treatment should be accomplished by a team, addressing all of the patient needs, and using medications as needed.
5. Relapse of disease, is generally to be expected and should be managed, like any setback of a chronic disease.

6. Physicians should be included in the treatment and evaluation of addiction at all levels.
CONCERNS ABOUT MEDICATIONS

1. In the treatment environment, not everyone will get meds, creating issues.
2. Meds can be shared, stolen, or traded.
3. Concept that patients might be “high”
4. Patient not really sober.
CONCERNS ABOUT MEDICINES

1. All are valid concerns, but are often exacerbated by our biases and design of treatment.
2. Remission and harm reduction, should be our goal, in most.
3. Long term abstinence is desirable, but not very likely, particularly in younger addicts.
The most common thing we are seeing now is an influx of opioid addiction, mostly divided into 2 groups. The older chronic pain patient that became addicted, and the younger, even teenage addict, that is abusing opioid drugs. Our current model treats these folks the same.
Chronic pain patient

1. Patient needs to be detoxed slowly and then reassess, their pain. Options such as buprenorphine or methadone for pain can be considered, if it appears patient’s pain worsens after detox. Many patients will not worsen, or even get better.
2. The patient needs education about opioids and addiction, and perhaps a mental health evaluation, as far as how that might effect their pain and use.

3. An ongoing plan and follow up, that includes alternative pain management treatments, and medications as needed by an experienced physician.
4. Some cognitive behavioral type therapy around coping with pain (not trying to talk them out of their pain), along with group support therapy, likely would be useful.

5. Most importantly will be follow up with a physician skilled in dealing with pain/addiction issues.
1. Many of the younger patients will have used opioids from a very young age, in adolescence. Other than being addicted to the drugs, they have very poor coping skills in all arenas of life, and have not developed normal relationships with others.
2. Many of these patients have experienced horrific life situations, such as violence, criminality, and sexual abuse and assault, and have underlying symptoms, often interpreted as anxiety, but sometimes due to PTSD like illness.
3. Many of these patients will need medications, such as buprenorphine to get them off the ledge and headed back the right way. Positioning this as a bridge to abstinence is a good approach, knowing that the bridge may be long for many.
4. They need a “safe haven” for a period of time, often up to a year, allowing some brain healing to occur.

5. They need good education about what is wrong with them, and how it is a chronic disease, that will not go away.
6. They need strong assistance with the development of coping skills
7. They need something along the line of a “life coach”, that has some level of training in approaching this disorder
8. Patients will need good medical care, and psychiatric care as needed by those familiar with the disease.

9. They need close follow up.
The current concepts in medicine of the patient centered medical home, may fit well here.

There needs to be readily available detox and assessment centers, that in a team approach, make treatment decisions, based on individual patient need.
Care needs to be coordinated through counselors and physicians and needs to be ongoing. There is a great need for more trained physicians in this area, that can monitor all aspects of care.
Addiction is a brain disorder that affects the mind, body, and soul. Treatment focused on only one of these areas is not likely to be effective. Medications exist that can greatly improve outcomes when used appropriately.
New models of treatment needs to be explored, to complement the medications that are being used.

Multi modal therapy should be employed to reduce harm and long term effects of addiction.