Science of and clinical practice with depot naltrexone (Vivitrol ®)

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Objectives

• Review pharmacology and efficacy of long-acting naltrexone (Vivitrol ®)
• Know about MA 2014 response to Opioid Epidemic
• Understand key elements of MA DOC MATRI program
• Know MA DOC MATRI program results
• Look at research interest in use of naltrexone for pain control
Naltrexone

• Opiate antagonist. No opiate agonist properties
  – Displaces opiates from receptors (competitively)
  – Blocks access to opiates receptor sites

• Blocks the euphoric effects of alcohol and opiates.
  – Interrupts the brain reward system
    • Blocks endogenous opioid release associated with alcohol use
  – Reduces dopamine release in pleasure center of brain mesolimbic dopamine pathway)
  – μ-receptor availability associated with alcohol cravings

Naltrexone

• **Revia (naltrexone HCl)**
  – Opiate abuse-FDA approved 1984
  – EtOH abuse-FDA approved 1994

• **Vivitrol (naltrexone for extended-release suspension)**
  – Opiate abuse-FDA approved 2010
  – EtOH abuse-FDA approved 2006

Revia® (naltrexone hydrochloride tablets) [package insert]. Pomona, NY Duramed; 2013
Naltrexone

Opiate Sensitization

• Opiate receptor blockade for 28-days/dose
  – Patient tolerance decreased
    • “Normal” doses now cause higher intoxication, overdose or death.

– Competitive binding
  • Can be overcome with high doses
  • Fatal overdose

Naltrexone

• DOC Site Administration
  – Naloxone challenge
  – Naltrexone challenge 25 mg week injection
  – Naltrexone administered days prior to d/c

• Injection site reactions
  – Pain, tenderness, induration, swelling, erythema, bruising, or pruritus
  – Severe cases can develop significant tissue necrosis due to SC injection instead of IM
    • Reduced with the proper needle selection for body type
Naltrexone

• Oral
  Dose-50 mg once daily
  – Alternative dosing:
    • 100mg on Sat
    • 150 mg TIW
  – Opioid-free for a minimum of 7 to 10 days and not actively drinking

• Pros:
  – Cost
  – Ease of administration

• Cons:
  – Dose frequency-Daily
  – Duration of action
    • Opiate blockade
      – 50mg=24 hours
      – 100mg=48 hours
      – 150mg=72 hours
  – Patient adherence
Naltrexone

• Injection
  – Dose-380 mg IM gluteal injection every 4 weeks
    • opioid-free for a minimum of 7 to 10 days and not actively drinking

• Pros:
  – Duration of action
  – Dose Frequency

• Cons:
  – Cost
  – Injection Site Reactions
  – Vulnerability to Overdose
    • Deceased tolerance or attempts to overcome blockade
Findings of the Opioid Task Force and Department of Public Health Recommendations on Priorities for Investments in Prevention, Intervention, Treatment and Recovery

June 10, 2014
These Task Force recommendations include, but are not limited to:

the expansion of treatment beds; the formation of a centralized navigation system for patients, families, and first responders to locate treatment services; a public-facing dashboard that would help facilitate consumer choice of services; additional opioid prevention coalitions for support and education; more stringent safeguards for those opioids which are most frequently abused and misused; a meeting of New England governors to develop a regional response to the opioid epidemic; and the expansion of the use of injectable naltrexone for persons re-entering the community from correctional facilities.
Efficacy of Naltrexone (long-acting)

“Long-acting injectable naltrexone — Long-acting naltrexone has been found to be more effective than placebo for DSM-IV opioid dependence in randomized trials, although trials were limited by high dropout rates [1,2]. One trial found the drug to be efficacious in patients dependent on more than one drug, a common presentation [3].”

From: Pharmacotherapy for opioid use disorder, Eric Strain, MD, et al, Oct 13, 2015, Up To Date
Purpose

The purpose of the Medication Assisted Treatment Re-Entry Initiative is to provide pre-release treatment and post release referral for opioid-addicted and alcohol-addicted inmates at participating sites in the Department of Correction (DOC). This program involves prison-based residential substance abuse treatment and collaboration with community based clinics to provide aftercare treatment. The goal is to facilitate transition into an outpatient substance abuse treatment program which employs a multi-faceted approach to treatment including the use of the medication Vivitrol®/Naltrexone, counseling, and aftercare referral to community based providers.

Goal

The goal of this initiative is to increase and improve substance abuse treatment post release, and decrease recidivism rates.

The goal is also to conduct a program evaluation that examines the criminal justice and treatment outcomes related to Medication-Assisted Treatment (i.e., Vivitrol), administered to inmates prior to release from Massachusetts state correctional facilities.
Medication Assisted Treatment Re-Entry Initiative (MATRI): Essential Elements

- The treatment of medically appropriate adults, ages 18 and older, with a diagnosis of opioid dependence and/or alcohol dependence.

- The medication is provided as a voluntary component of the re-entry program and, in all instances, in combination with psychosocial support, such as counseling.

- Education is provided with respect to the risks and benefits of the medication.

- A continuity of care plan is developed for post-release services to promote lasting recovery.

- Inmates/clients participate in pre-and post-release programming.

- Program assessments are conducted in order to evaluate the program’s overall effectiveness.

From: MA Department of Correction, Medication Assisted Treatment Re-Entry Initiative (MATRI), Clinical Guidelines, 1/13/15
Target Population
Eligibility is determined by those inmates who have completed or are enrolled in residential or non-residential substance abuse treatment who meet the inclusion criteria and have a documented opioid or alcohol dependence.

Assessment and Process
The COMPAS Risk Assessment is administered on all new admissions at the DOC’s reception centers. Inmates who score moderate/high in either the general or violence recidivism scales are administered the COMPAS Needs Assessment. Inmates who score moderate/high in the Substance Abuse Scale are referred to the CRA. CRA staff administers the Texas Christian University Drug Scale (TCUDS) as part of the intake process to assess the offender’s level of dependence, addiction, withdrawal occurrences and drugs) of choice.

Participant Screening
Inmates who are identified as being eligible and who are interested in participating in medication-assisted recovery shall submit an Inmate Request Form/Questionnaire (Attachment B) to Substance Abuse Treatment staff or Reentry Planner. The disposition of “ineligible” shall be utilized for inmates without a substance abuse history. The disposition of “accepted” shall be utilized for inmates with a history of substance abuse. Substance Abuse Treatment Staff shall refer eligible inmates to the medical vendor’s Statewide Medical Director and Chief Nursing Officer via e-mail to facilitate the clinical screening process for potential contraindications and appropriateness for medication-assisted treatment within one hundred and eighty (180) days of a defined release date. No inmate will be coerced or pressured into receiving treatment in the MATRI.
**Mental Health Screening**
A designated qualified mental health professional shall conduct a formal evaluation of the inmate to determine whether there are acute mental health contraindications to proceeding to the medical screening.

**Medical Screening**
The health services unit medical director, physician, nurse practitioner or physician’s assistant shall meet with the inmate approximately ninety (90) days prior to a defined release date.

**Urine Drug Screening**
Prior to the initiation of medication administration, a urine drug screen shall be conducted pursuant to 103 DOC 525. Inmates will agree to consent to a urinalysis screen to ensure they have not consumed opiates or alcohol 10 days prior to release which is the same day as the first dose of naltrexone being administered.

**Naltrexone Tolerance Trial**
In order to evaluate for possible adverse side effects, it is recommended that inmates participating in the Vivitrol® Pre-Release Program be prescribed naltrexone 50 mg daily for 1-3 days prior to beginning Vivitrol® therapy.

**Initiation of Vivitrol® Treatment**
Inmates participating in the Vivitrol® Pre-Release Program shall receive the first injection of Vivitrol® approximately seven (7) days prior to their release.

**Discharge Planning Completion**
At the time of the injection (usually 7 days prior to release), nursing staff will prepare a discharge planning packet.

1240 initially eligible to participate

665 (54%) withdrew prior to oral trial
415 (33%) ineligible due to non-clinical/ procedural issues
21 (2%) withdrew after first oral dose
75 (6%) in queue/ awaiting first oral dose
64 (5%) received first dose of Vivitrol®

64 patients released after receiving first shot Vivitrol®

46 (72%) engaged with follow-up post-release
18 (28%) did not engage with follow-up

4 (6%) have been reincarcerated
Medication Assisted Treatment Re-Entry Initiative (MATRI)

Lessons Learned

• Start early
• Include all stakeholders
• Develop protocol
• Educate staff
• Track graduates

Future Enhancements

• Data collection
• Increase scope
Naltrexone for pain management

Neuron Glia Biol. Author manuscript; available in PMC 2008 May 23. Published in final edited form as: Neuron Glia Biol. 2007 Aug; 3(3): 255–268. doi: 10.1017/S1740925X08000100 PMCID: PMC2394739 NIHMSID: NIHMS49881 Marc R Suter, 1 Yeong-Ray Wen, 2 Isabelle Decosterd, 3,4 Ru-Rong Ji

Do glial cells control pain?


Jarred Younger, Luke Parkitny, and David McLain
Any questions?