This is a fact in the treatment of alcohol and drug abuse: “Patients who do well in treatment do well in any treatment and patients who do badly in treatment do badly in any treatment”.

One example: Chapman and Huygens, 1988, British Journal of Addiction

# The Practical Considerations of Medication Assisted Treatment in Substance Abuse Treatment

Suboxone : 20-25.00$ a strip

Oxycodone : about 1.00$ a mg

Heroin : from 35.00 a bundle in Wilmington to 70-80.00$ a bundle in Sussex County

# A few notes about Withdrawal:

-Addicts who have been abstinent for months will experience piloerection, rhinorrhea and lacrimation if allowed to watch another addict inject drugs.

-In the original studies with methadone addicts who were on methadone and who had reported no effect from a dose of heroin, reported withdrawal in the presence of psychological stress.

# Withdrawal continued:

The withdrawal symptoms of monkeys can be relieved with an injection of saline if given in a setting in which morphine was given in the past. Similarly, monkeys that are addicted to morphine will have withdrawal if given nalorphine, but they will also have withdrawal if given saline in the same setting.

Human subjects respond exactly the same way

The three opiate agonists used to treat Opioid dependence:

1. methadone – most common
2. LAAM – with cardiac conduction concerns [Q.T.c interval]
3. Buprenorphine – agonist - antagonist

The three opiate agonists used to treat Opioid dependence:

1. methadone – most common
2. LAAM – with cardiac conduction concerns [Q.T.c interval]
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Buprenorphine is a high affinity, weak activity agonist at the mu receptor and an antagonist at the kappa receptor.

# Length of Action:

Sublingual buprenorphine exhibits a serum ½ life of 3-4 hours but it has a slow dissociation from the mu receptor and can be dosed on less than a daily basis for the treatment of addiction.

# Length of Action:

The analgesic effects of buprenorphine last from 4-6 hours. However, it is interesting that a single dose of buprenorphine given to a person with a history of opiate addiction but not currently dependent will produce pupillary constriction that lasts for 3 days [Walsh 1994].

# Buprenorphine Dosing:

The amount of buprenorphine required for complete blockade varies from individual to individual but daily doses of 8mg have been shown to sufficiently attenuate opiates to suppress self administration.

I would at least speak to the belief that some patients “require” more than 8mg per day. I have seen no controlled or blinded study indicating improvement in Urine Drug Screens at a higher dose compared to a daily dose of 8mg.

# Buprenorphine

The 1st paper that I have found exploring the use of Buprenorphine in addiction treatment was published in 1978.

A short time later (at least on a federal time scale) Data 2000 was passed as part of the Children's Health Act of 2000, allowing physicians to obtain a wavier to use schedule III, IV or V that have approved for the treatment of opioid addiction.

# The buprenorphine/naloxone combination:

As buprenorphine has been abused in some countries, naloxone was added in the belief that this would deter IV use. However, buprenorphine has a higher binding affinity than naloxone and a longer receptor ½ life [Kosten 1990]. Over 16mg of naloxone is estimated to be necessary to precipitate any withdrawal with buprenorphine [Dum et al. 1981; Jasinski et al. 1978; Kallos and Smith 1968; Quigley et al. 1984; Kosten et al. 1988, Lewis 1985, Dum et al. 1981; Jasinski et al. 1978; Kallos and Smith 1968; Quigley et al. 1984; Kosten et al. 1988, Lewis 1985]

Prescription buprenorphine treatment has, in my opinion, been a failure.

1)It is very difficult if not impossible to limit diversion.

2)Far more patients use the prescription buprenorphine to manage their addiction rather than treat it.

# For Example:

We looked at 3 years of patient outcomes from an MAOTP in Dover with a tightly structured prescription 90 day program. In this program, patients were required to complete a certain number of groups each week, 12 step meeting, UDS's to receive a weekly prescription of 7 tabs of 8mg suboxone. In approximately 600 patients, only 23% completed the full 90 days

Dispensed Buprenorphine can be very effective and in some ways is less problematic than methadone.

# Methadone – Pharmacology

The ½ life of methadone is 2-3 hours acutely and 4-6 hours if given chronically. It binds to plasma proteins extensively and to proteins in the liver. This leads to an accumulation in the liver which is a factor in the initial stabilization of dose for a patient on methadone

# Methadone Maintenance Outcomes:

1. decrease in criminal activity
2. decrease in illicit drug use and
3. high retention in treatment – This is the only clinical advantage over Buprenorphine.

# Methadone Maintenance and Detoxification

Methadone treatment in a federally licensed MAOTP is either methadone maintenance or methadone detoxification. Federal standards for admission to an maintenance program require a year of documented physical addiction to an opiate (which has generally meant a year of documented treatment for opiates)or failure at 2 methadone detoxifications.

# Inpatient Detoxification Units:

1)Little long term effect even if done well.

2)At least in Delaware very uneven treatment from patient to patient and from one facility to another.

3)Buprenorphine is effective for opiates but requires 7 days and a sufficient dose.

4)Almost any patient can be detoxified equally well in an ambulatory detox protocol.

A short term outpatient methadone detoxification might begin at 10-20mg of methadone and be increased to 40mg per day and then tapered over either 10 days or as much as 6 months. The standard length is 21-30 days.

Relapse rates following such short term methadone detoxification are high and studies exploring the extension of such programs to 6 months do not appear indicate any improvement of outcome measures.

# Maintenance Dosing

Studies show that doses of Methadone in the range of 70-110mg per day are more effective in preventing illicit drug use than lower doses; i.e. those in the range of 30-40mg per day. Studies show that doses over about 110mg per day do not further reduce illicit drug use. Doses above about 110mg per day do seem to improve retention in treatment

# Methadone – Dosing

Initial dosing from 10-30mg on 1st day and increasing over about 2-3 weeks to a maintenance dose of 80-100mg per day.
Faster ramp up – possible sedation
Slower ramp up – possible continued use and failure to stabilize

# Pregnancy and methadone

Pregnant addicts have an almost automatic admission to any methadone program. The actual wording of the SAMHSA regulation is that they move to the top of any waiting list should there be a waiting list. It is useful to remember that in treating the pregnant opiate addict the most important patient is the fetus.

# Pregnancy - continued

In contrast to the many reasons/excuses for which methadone patients may ask for an increase; an otherwise stable pregnant patient will often experience a decrease in methadone serum levels in the second trimester. It is appropriate in this case to increase the dose until the patient is again stable. This is due to the increased renal clearance which occurs at that time. I have sometimes seen a complaint of drowsiness after delivery (which would be reasonable) but not often.

# Methadone and Surgery

There is essentially no analgesic effect by methadone [or any other opiate for that matter] for a patient on a stable dose of an opiate; i.e., the same daily dose for 4 weeks or more. The methadone patient who is hospitalized for surgery or childbirth or trauma SHOULD BE MEDICATED WITH NARCOTIC ANALGESICS AS IF THEY WERE NOT ON METHADONE for the purpose of analgesia.

# Naltrexone for Opiates

Great theoretical concept with oral medication but not useful in practice outside of a few select populations due to compliance. With the depot injectable naltrexone its usefulness has been significantly greater. Liver toxicity was thought to an issue but studies have shown not to be a significant concern.

# Naltrexone for Opiates, Continued

The issue has been how to transition the patient onto naltrexone after detoxification. 10 days is recommended by the manufacturer but most inpatient detoxes are now 4-5 days long and patients return to opiate use after about 2 days post-detox due to inadequate dosing in most detox units.Some papers have described better results with the use of buprenorphine to bridge the gap between opiates and naltrexone [Umbricht 1999 and others]. We have had some initial success at KSCS with such a protocol

# Naltrexone for Alcohol:

1)In a meta-analysis of several studies it was found that naltrexone was superior to placebo by 12% in promoting abstinence, by 16% in preventing relapse and by 19% in reducing drinking days(Kranzler and van Kirk 2001).

2)In one study injectable naltrexone over 6 months showed a difference from placebo in men of 48% of heavy drinking but none in women.

# Disulfiram for Alcohol

The medication is of particular use in MAOTP because it can be crushed and mixed with the daily methadone dose. In the structure provided by MAOTP it can be a useful treatment for the patient with opiate and alcohol problems.