Background: In recent years treatment admissions for opioid abuse has surpassed admissions for cocaine. Both quantity and quality of heroin is improving on the street and heroin is becoming more accessible to younger populations. Because of this, it is important to evaluate the efficacy of treatment programs for heroin abuse, the most common of which is methadone maintenance. Methadone has been shown to improve life functioning, decrease illicit drug use, decrease criminal behavior, and reduce needling sharing activities that result in HIV infection, hepatitis C and other infectious diseases. One of the controversies existing with methadone maintenance is whether patients should gradually be withdrawn from methadone to assume abstinence from other drugs or be maintained on methadone for prolonged periods of time, which may mean life-long use.

Objective: To compare outcomes of patients with opioid dependence treated with MMT vs an alternative treatment psychosocial in which 180-day methadone assisted detoxification.
**Design:** Randomized Controlled Trial

**Setting:** Research Methadone Maintenance Clinic at the San Francisco Veterans Affairs Medical Center, San Francisco, California

**Interventions:** Patients were randomized to methadone maintenance 91, requiring two hours of psychosocial therapy per week during the first 6 months or detoxification = 88, which required 3 hours of psychosocial therapy per week, 14 education sessions and 1 hour of cocaine group therapy appropriate for 6 months and 6 months of nonmethadone after-care services.

**Outcome Measured:** Treatment retention, heroin and cocaine abstinence as of report a monthly urinalysis, HIV risk behaviors and functioning, and 5 problem areas assessed by the addiction severity index, employment, family psychiatric, legal and alcohol use.

**Main Results:**
1) Methadone maintenance therapy resulted in greater treatment retention and lower heroin use rates than detoxification.
2) Cocaine use was more closely related to study dropout than detoxification and in methadone maintenance.
3) Methadone maintenance resulted in lower rates of drug related, but not sex related HIV risk behaviors and fewer legal problems at 12 months.
4) There were no difference between groups and employment or family functioning or alcohol use.
5) Both groups had monthly heroin use rates of 50% or greater, but this was a decrease from baseline.
Conclusions: Methadone maintenance reduces heroin use and HIV risk behaviors more than 180-day detoxification. Illicit opioid use continued in both groups, but frequency was reduced over baseline. Methadone maintenance appears to be superior to long-term detoxification for heroin dependent individuals.

Commentary and Impact on Internal Medicine: This study along with other studies in the past that demonstrated the efficacy of methadone maintenance over both short term and long term detoxification. Although methadone maintenance therapy remains controversial in many areas of the United States, its efficacy in the treatment of opioid dependent individuals has been clearly demonstrated. As methadone and other opioid maintenance therapies have become more available to the private practitioner with reduced regulations for the treatment of opioid addicts, it will be important for those physicians who elect to provide this treatment understand the benefits of long term methadone maintenance in the treatment of opioid dependence.
Background: Unrelieved pain, both acute and chronic, is a major public health concern. Although there are many nonpharmacologic treatments to relieve pain, opioid medications remain the gold standard of pain management. These drugs are highly regulated by national, international, and state laws. These laws try to insure availability of these drugs for the treatment of pain while reducing their diversion and abuse. Although there is significant concern regarding the abuse of prescribed opioids, there are few studies that directly address this problem.

Objective: To evaluate the proportion of drug abuse related to opioid analgesics and the trends in medical use and abuse of five opioid analgesics used to treat severe pain: fentanyl, hydromorphone, meperidine, morphine, and oxycodone.

Type of Article: Review

Data Sources: Drug Abuse Warning Network and automation of reports and consolidation quarter systems from 1990 to 1996.

Outcome Measure: Medical use in grams per 100,000 population and mentions of drug abuse by number and percentage of the population.
**Main Results:**

1) From 1990 to 1996, there was a 59% increase in morphine, 1,168% increase in fentanyl, 23% increase in oxycodone and 19% increase in hydromorphone use. There was a 35% decrease in meperidine use.

2) During the same period, the total number of drug abuse mentions per year of opioid analgesics increased by 6.6%. Although the proportion of mentions for opioid abuse relative to total drug abuse mentions decreased from 5.1% to 3.8%.

3) Reports of abuse decreased for meperidine 39%, oxycodone 29%, fentanyl 59%, and hydromorphone 15%. Reports of abuse increased for morphine 3%.

**Conclusions:** The trend of increase in medical use of opioid analgesics to treat pain does not appear to contribute to increases in the health consequences of opioid analgesic abuse.

**Commentary and Impact on Internal Medicine:** Although there is increased willingness on the part of physicians to treat both acute and chronic pain with opioid medications, there does not seem to be a concomitant increase of abuse of these medications as determined by the Drug Abuse Warning Network. The major problems with this article is that the Drug Abuse Warning Network does not really measure abuse, but consequences of drug use. The patients included in DAWN were those admitted to an Emergency Departments with adverse effects, over-doses, suicide attempt, etc. Although this article supports the notion that increased use of opioids does not lead to further abuse, it does not really measure abuse and diversion and, therefore, it is hard to determine if the conclusions are correct.
Background: Methadone is the primary drug used in treatment of opioid dependence. Methadone has been available for over 30 years and currently, more than 110,000 patients receive methadone on a regular basis. Expansion of methadone treatment has been identified as an important means of decreasing drug use, as well as the risk of spread of HIV and hepatitis C. Despite the demonstrated efficacy, methadone remains a controversial treatment. Clinical trials of methadone have produced conflicting results regarding effective dose. Some clinics use relatively low doses, 30 mg or less, while others use 60 mg or more on a daily basis. Although some studies have demonstrated that doses in the 50 to 80 mg rates are more effective, clinical studies of doses higher than 80 mg a day have not been conducted.

Objective: To compare the relative clinical efficacy of moderate vs high dose methadone in the treatment of opioid dependence.

Type of Article: Study

Design: A 40-week randomized double-blind clinical trial
Setting: Outpatient substance abuse treatment clinic at Johns Hopkins University Bayview Campus

Patients: 192 outpatients seeking treatment in a methadone maintenance program.

Intervention: Daily oral methadone in a dose range of 30-50 mg (n=97) moderate dose, 80-100 mg of methadone (n=95) high dose. All subjects received concurrent substance abuse counseling.

Outcome Measured: Number of opioid positive urine and retention in treatment.

Main Results: An intent-to-treat analysis was used for the study.
1) In the first 30 weeks, the patients in the high dose group had significantly lower rates of opioid positive urine samples compared to the moderate dose group.
2) These differences persisted during withdrawal from methadone.
3) There is no significant difference between dose groups and treatment retention or there is no difference in the number of patients that completed detoxification in the two groups.

Conclusions: Both moderate and high dose methadone treatment resulted in decreased illicit opioid use during methadone maintenance and detoxification. The high dose group had significantly greater decreases in illicit opioid use.

Commentary and Impact on Internal Medicine: As the purity and quantity of heroin on the street increases, more and more patients are seeking treatment in methadone maintenance program. Despite repeated studies showing efficacy of methadone maintenance over abstinence and the superiority of high dose vs low dose in reducing illicit opioid use, controversy still exist regarding 1) the use of methadone 2) the doses to be utilized in treatment. This study once again
clearly demonstrates the benefit of high dose methadone in reducing illicit opioid use. The study is important because of potential change in regulations providing ability for private practitioners to dispense methadone in an office based setting. Physicians who elect to do this need to be aware of the most effective means of utilizing methadone to reduce illicit drug use and other problematic behaviors.
Background: The patients who are dependent on opioids suffer from a withdrawal syndrome while opioids are acutely discontinued or antagonists are administered to the patient. For those seeking abstinence based therapies from opioids, withdrawal is the first step by initiating those therapies. Withdrawal traditionally has been managed by graduated tapering of a long acting opioid such as methadone or use of nonopioid approaches such as use of Clonidine. In recent years, rapid opioid detoxification techniques have been developed, designed to shorten the withdrawal period by precipitating withdrawal with the use of narcotic antagonist. This approach gets the patient through the withdrawal more rapidly, thereby hopefully decreasing the risk of drop up and allowing the patient to get on to narcotic antagonist therapy. Ultra rapid withdrawal is a technique that utilizes antagonist-precipitated withdrawal while the patient is under general anesthesia. This technique is extremely controversial and costly. However, there have been few controlled studies of this procedure to determine both short term and long-term efficacy.

Objective: To review the scientific literature on the effectiveness of rapid opioid detoxification and ultra rapid opioid detoxification techniques.

Type of Article: Review
Data Sources: Medline search from 1996 through 1997. Citation search type is identified on Medline and bibliographies and textbooks on substance abuse. Studies of rapid detox and ultra rapid detox for pharmacologic protocols were specified and clinical outcomes specified and reported. Unpublished data in nonpeer review journals and abstracts and review articles were excluded. The methodologic characteristics of studies were extracted and summarized according to key components of research design concerning subject characteristics, therapy allocations and outcomes assessed.

**Design:** A 40-week randomized double-blind clinical trial

**Setting:** Outpatient substance abuse treatment clinic at Johns Hopkins University Bayview Campus

**Patients:** 192 outpatients seeking treatment in a methadone maintenance program.

**Intervention:** Daily oral methadone in a dose range of 30-50 mg (n=97) moderate dose, 80-100 mg of methadone (n=95) high dose All subjects received concurrent substance abuse counseling.

**Outcome Measured:** Number of opioid positive urine and retention in treatment.

**Main Results:**
1) 12 studies have rapid detox and 9 studies of ultrarapid detox were identified.
2) The rapid detox studies enrolled 641 subjects, 7 were inpatient studies and the protocols varied widely as did the outcomes assessed. Only 3 studies contained the controlled group, 2 used randomized design and 3 reported outcomes beyond 12 days.
3) Ultra rapid detox studies enrolled 424 subjects, all were inpatient studies. The detoxification and anesthesia protocols varied, 3 included a controlled group, 2 used a randomized design and 2 reported outcomes beyond 7 days.

**Conclusions:** The existing literature on both RD and URD is limited in terms of number of subjects evaluated, variation in protocol studies, lack of randomized design, and use of controlled groups. Only short-term outcomes are reported. Further research is needed using more rigorous research, methods with longer follow up for outcomes and comparisons with other methods of treatment for opioid dependence.

**Commentary and Impact on Internal Medicine:** With the increase in availability of heroin and increased purity of heroin on the street, there has been a concomitant increase in the number of patients seeking treatment for opioid dependence. Many are looking for a rapid solution to their problem and the ability to go through a rapid detoxification protocol that claims to have them clean from drugs in a few days is very enticing. Although withdrawal is often the most uncomfortable part of treatment, it is only the first step and long term treatment of the addiction process is necessary. Unfortunately, there are few data supporting the efficacy of rapid detox procedures behind the immediate post detox period and no data on long term outcomes comparison with other approaches. There is wide variation on the scales of practitioners applying these procedures in the community and although general anesthesia is considered to be very safe with one death per 250,000 general anesthetic procedures, the mortality rates in the hands of some practitioners practicing ultra rapid detox is much higher. More research is needed to determine the effectiveness of these procedures and their safety. Clinicians should be very wary about referring patients for these procedures without carefully checking out the qualifications and success rate of the clinicians performing the procedure.