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Tapering Off of Methadone Maintenance: Evidence-Based Guidelines

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TABLE OF CONTENTS

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Methadone has been administered to thousands of opiate dependent individuals, the majority of whom are chronic heroin addicts, since its acceptance as a standard treatment for opiate addiction in the 1960s. A vast body of research (Dole and Nyswander, 1965) has demonstrated the efficacy of methadone treatment (opioid replacement therapy) in reducing chronic illicit opiate use, as well as in stabilizing various domains of patients' lives, including their physical and mental health, their employment status, their family and living situation, their legal status, as well as high risk behavior for contracting and spreading infectious diseases, such as AIDS and Hepatitis.

The National Institute on Drug Abuse (NIDA) clearly supports opioid replacement therapy, utilizing either methadone or LAAM as the most effective treatment for chronic heroin addiction available. NIDA states that more and more evidence is supporting the contention that drug addiction, including opiate addiction, should be looked at as a "brain disease" and that a minimum amount of time is required on opioid replacement therapy in order to increase the probability of successful treatment outcomes. While, at this time, this exact "minimum" time frame for maintenance treatment has not been clearly identified, Dr. Alan I. Leshner, during one of his presentations as NIDA's Director (NIDA Blending Conference, 2000) pointed to imaging studies of brains comparing opiate addicts to normal controls and suggested at least two years on methadone treatment to be a critical time frame in which to allow the brain to 'heal' from the damage done by chronic opiate use. It must be understood, however, that opioid replacement therapy is a highly individualized treatment modality and, while many may be able to recover (to some extent) normal brain functioning in a 24-month period, many other individuals will require longer term maintenance treatment and some will require this treatment indefinitely. The appropriate length of narcotic replacement therapy is not solely determined by brain functioning but also includes a number of important psychosocial factors. Additionally, patients sometimes become reluctant to leave maintenance treatment due to insecurities related to losing the support of the treatment program as well as instability in various areas of their lives. Another common factor also contributing to length of time in maintenance treatment is patient anxiety.

The success of narcotic replacement therapy using methadone and, more recently, LAAM, has not been achieved without ongoing criticism. While many praise the benefits and success of this treatment modality, others object to treatment of narcotic addicted individuals, which includes being prescribed narcotic medications. Still others see methadone and LAAM as merely substituting one addiction for another. Often, patients are made to feel that they must discontinue their maintenance treatment by pressures put forth by external sources. One schema for why patients discontinue maintenance treatment may be described as follows. A percentage of patients are forced to discontinue maintenance treatment because of external pressures from family or the criminal justice system. A second group of patients is forced to discontinue treatment due to failure to follow treatment program policy, which includes cases of an inability to pay for treatment services. The third group of patients makes a conscious decision to terminate their maintenance treatment, usually in conjunction with the medical and counseling staff of their treatment program. These individuals are often referred to as therapeutic

detoxifications or therapeutic tapering. For purposes of this document, we will refer to this last group of individuals as patients undergoing Medically Supervised Tapering (MST) and distinguish those patients from those entering treatment for "detox" only.

Magura and Rosenblum, in their 2001 review of the literature (Magura and Rosenblum, 2001), concluded that, among patients who completed a therapeutically planned discharge, most relapsed to heroin use. However, various studies report differing statistics relating to successful tapering off of methadone.

Medically Supervised Taper

Two general questions must be addressed when considering a patient for medically supervised tapering. The first question relates to who is an appropriate candidate for medically supervised tapering, i.e., what criteria or conditions should the patient meet that will enhance or maximize his/her probability of a successful treatment outcome. This would include success in not only successfully discontinuing medication (taper) but in preventing relapse to illicit drug use for a deferred, defined period of time following completion of withdrawal. The second broad question relates to what is the best method of medically managing the titration (decrease) of medication to 0 milligrams. Both of these questions are extremely important in the management of a successful MST and this paper shall address each in order.

Who is Ready to Taper? / Criteria for Success

Medically supervised tapering must always be a decision that includes the patient as well as the patient's counselor and treating physician. While some patients may believe that they are ready to put maintenance treatment behind them, it is vitally important that there be concurrence with the patient's primary counselor. The counselor has been working very closely with the patient throughout their treatment program and should know the patient very well. Additionally, and of extreme importance, is that, while the patient may not be aware of variables shown in the literature to be related to successful treatment experiences in medically supervised tapering, the individual's counselor should be much more aware of these criteria and more able to assess the patient's status with these in mind. Many patients who voluntarily attempt to reduce their methadone dosage to 0 milligrams, i.e., "taper from methadone," do not complete the process. For those who do, relapse rates have been shown to be well above 50% in the first year. Success in tapering to 0 milligrams varied from 39.7% to 73.5%. Post detox abstinence rates also vary considerably. These statistics indicate the difficulty in successfully tapering and, even more, successfully preventing long-term relapse in a majority of the patients (Banys et al., 1994; Milby, 1988). Other studies, however, suggest varying percentages of chronic opiate addicts achieving stable abstinence from opiates (Cushman, 1981; Gold et al., 1988). Sorensen, et al. has reported that only 27% of a patient population who meet predictive criteria shown to correlate with success in tapering were able to successfully achieve 0 milligrams (Sorensen, .1992). The issue that must be dealt with is not whether patients can be guaranteed a successful MST and post maintenance abstinence. The issue, rather, is that **all patients have the right to discontinue their maintenance treatment at their discretion** and it is the ethical responsibility of their treating professionals to help ensure the most favorable outcomes from such decisions.

A number of variables have been shown to be related to more successful treatment outcomes in withdrawal from maintenance treatment. It is not the purpose of this document to argue or debate the findings in the literature. Rather, we have taken the opportunity to review and synthesize some of the major studies and to extract variables on which there seems to be some concurrence as to their importance in outcomes of MST. We will leave it to others to debate scientific merits of differential findings in the literature.

Evaluating Readiness to Taper

A patient who expresses a genuine desire to get off methadone maintenance should taken seriously and be evaluated for readiness. By this, we refer to the patient having achieved certain treatment goals having met certain criteria which correlate with more favorable outcomes. Some patients may make a request to taper off of methadone, but their counselor may not concur. Timing is a very important element in the successful tapering of patients from maintenance treatment. Therefore, a thorough understanding of the patient's request is supremely important. There may be many reasons why patients request tapering and these reasons should be explored thoroughly by the primary counselor.

Length of time in Maintenance Treatment

While there may be disagreement among professionals relating to the maximum amount of time a patient may be required to participate in narcotic replacement therapy, there appears to be growing consensus that a minimum of time and/or criteria are necessary before a patient considers and begins a MST. As stated earlier, Dr. Alan Leshner, speaking at the (NIDA Blending Conference, 2000) has suggested a minimum of two years as a critical minimum time for maintenance treatment. In other studies (Oppenheimer et al., 1979) suggested that length of methadone treatment was a major factor associated with successful abstinence, with longer treatment, i.e., three years or more showing much better outcome results than patients who had been in maintenance treatment for less than three years. The results of Stimmel, et al., lend support for the notion that the longer patients are on methadone maintenance treatment, the more chance they have of successful tapering and subsequent abstinence (Stimmel et al, 1977).

Optimal time on methadone is most likely related to two specific processes which interact. The first is the neuropsychological response which results in recapturing premorbid functionality of the brain to some degree. The second process involves time for the patient to stabilize various "significant" domains of his/her life and achieve biopsychosocial gains in areas correlated with favorable treatment outcomes. Given the degree of disruption and dysfunctionality in the lives of most chronic heroin users when entering treatment, it is unlikely that stability, in the various domains to be discussed next, could be achieved in short-term maintenance treatment, i.e., less than two years. Additionally, the time frame suggested as necessary to allow the brain to recapture to some degree premorbid functioning following chronic heroin addiction would support the contention that several years of maintenance treatment would be optimal. Again, it must be emphasized that length of time in treatment is irrelevant without significant gains in various psychosocial domains of the patient's life. Patients who have remained in treatment for long periods of time and have yet to achieve the criteria suggested to be related to successful

outcomes would not be suitable candidates for MST. Again, it cannot be overstated that maintenance treatment is a highly individualized experience. When actually implementing MST, each patient should be managed according to their needs. Physicians are strongly cautioned against setting predetermined treatment intervals triggering MST.

The Importance of Counselors

The importance of a close and trusting relationship with a patient's counselor is critical to the overall success of the patient's treatment for opiate addiction as well as the MST. Many patients/counselors fear tapering off of methadone, since many patients who attempt to do so are unsuccessful. It is important that counselors understand the variables that are related to successful outcomes as well as the ways that methadone may be titrated to ensure the best results. Patients need support, trust and advice when they are considering tapering as well as throughout the MST process. Even in the best of cases, most tapering experiences will not be totally discomfort free. Therefore, being able to discuss and plan the timing and implementation of the MST with one's counselor is critical. Counselors see their patient more frequently than any other single person in the treatment program and should know the patient and their treatment course intimately.

During the planned MST, more intensive counseling sessions may be required for supportive purposes. Kleber and Riordan (Kleber and Riordan, 1982)recommend that whatever technique is used during tapering, adequate support must be provided during and after the withdrawal process. As the patient's dose begins to decrease and the patient begins to experience the anxiety usually associated with withdrawal from maintenance as well as other possible withdrawal systems, increasing the frequency and/or length of counseling sessions to help support the patient and work through these particularly difficult times is strongly suggested.

Brummet, Wermuth and others (Brummet et al.,1986; Wermuth et al., 1987) have identified further variables related to successful treatment outcome. Brummet developed the *Tapering Readiness Inventory* which identifies a number of variables important to the success of tapering efforts. (See Attachment A).

Not Using Illicit Drugs

A number of studies have correlated the abstinence from the use of illicit drugs with success in tapering efforts (Wermuth, 1987). If a patient is continuing to use illegal drugs while in maintenance treatment, this would logically suggest that the patient would not be a good candidate for MST. One of the primary purposes of maintenance treatment is to assist the patient in discontinuing the use of all illegal substances. Various studies suggested a minimum period of at least one year of illicit opiate-free urines prior to any attempt at MST. The odds are greatly stacked against an individual who continues to use illicit drugs, either opioids or secondary drugs, from successfully completing a MST.

Employment

An important variable related to successful termination of methadone maintenance treatment is employment (Lowinson et al., 1974). Patients who are employed seem to have a better chance of completing their tapering and remaining abstinent. The longer the term of employment, the better chance of success the patient has. This would suggest that one of the critical variables in assessing a patient's readiness for tapering is whether or not that patient is employed. Additionally, the employment factor would, to some extent, relate to financial stability. It is unclear as to the exact mechanism which employment plays in the success of patients withdrawing from maintenance treatment. However, financial stability and interaction with non-drug using peers are likely candidates.

Methadone Dosage and Tapering

There appears to be no consensus in the literature relating to outcomes of MST and methadone dosage level at the start of dosage titration. Some studies (Strain et al., 1994) have reported in their *Methadone to Abstinence Tapering* study, methadone dosage was not related to treatment outcome. Inasmuch as the literature on MST and detoxification indicates that as many as 82.1 percent of patients who detoxify from methadone maintenance relapse to heroin use within twelve months (Ball, 1988), it would appear that there is little, if any, relationship to successful treatment outcomes. When defining treatment outcome success as reaching 0 milligrams, of more interest than absolute methadone dosage at the time of starting the MST, is the issue of the intervals at which dosages are lowered. While the simple rule of thumb that the slower the detoxification the better generally holds true, an argument can be made that longer intervals between dosage titrations offer more opportunities for the tapering to be aborted. Shorter intervals, between dosage titrations, rather than based on therapeutic pharmacological effects, may be one reason that completion rates for rapid detoxification procedures seem superior when measuring only achievement of 0 milligrams. When factoring in the second and, equally important variable of maintaining a period of abstinence following achievement of 0 milligrams, it would appear that rapid detoxification is not associated with as favorable of treatment outcomes as is longer term, slower dosage titration. It appears that a variable more critical than the absolute dosage at which patients start their MST, is the "individual's tolerance for dosage adjustments." The literature strongly suggests that patients maintained on lower dosages (less than 50 mg) have as much or more difficulty in completing MST and maintaining abstinence than patients at higher more stable dosages.

In summary, it would appear that methadone dosage level at the start of a MSW, in and of itself, is a poor predictor of success and must always be considered together with other criteria which have been shown to be more strongly associated with successful treatment outcomes.

Summary, The Ideal Patient

While it has been emphasized that MST from maintenance replacement therapy is a highly individualized and personal experience requiring ongoing assessment and adjustments

throughout the experience, there appear to be variables and criteria which have been shown to be significantly related to successful outcomes of treatment. To summarize these criteria, one can envision the ideal candidate suitable for a MST from maintenance treatment.

The ideal candidate would be a male or female who had been maintained on narcotic replacement therapy for a minimum of two years but who may have been on replacement therapy much longer. This individual would have established a very close and open relationship with their counselor and have been seen in counseling on a regular basis. The individual would have maintained a period of abstinence from all of illicit substances for a minimum of six months, however, a longer period of abstinence would seem to ensure a more likely positive result from the tapering. Therefore, one would hope that abstinence from all illicit substances would have occurred for a significant time prior to beginning a MST. The ideal candidate would be employed and would have demonstrated some longevity on their job.

It appears that, along with employment would come some degree of financial stability which would predict a better outcome in treatment than individuals who are unemployed and financially unstable. The successful patient will integrate well into a non-drug using peer group and demonstrate family stability and support of significant others. The primary counselor will support and concur with the patient's decision to undergo a MST and this will have been discussed with the clinic physician whose concurrence will also be important. The issue of what dosage to begin a MST is still under debate in the literature. However, it seems clear from the studies thus far cited and from a large body of available clinical knowledge, that individuals who have been stabilized at somewhat of a lower dosage (i.e., 100 mgs or less) would appear to have a better chance of successful treatment outcomes involving tapering off of narcotic replacement therapy and maintaining abstinence than would individuals whose starting dose at tapering was significantly higher.

In summary, variables that have been shown to correlate with better outcomes in medically supervised tapering and post-tapering abstinence include: a) discontinuation of illicit drugs for a minimum of three to six month prior to tapering: b) discontinuing of drugs; c) being employed; d) integration into a non-drug using peer group; e) family stability; f) counselor support and concurrence; and, g) lower doses of methadone or LAAM.

Factors Unrelated to Success in Tapering

Several factors do not appear to be related to success in MST. A patient's race, sex and educational level does not appear predictive of whether a particular patient can become "clean" or not. Additionally, age of patients seems to be unrelated to successful tapering. The patient's motivation for tapering and remaining abstinent is sometimes difficult to ascertain as the motivation that patients state for their reason to withdraw from maintenance may not always be the factor motivating them to initiate a tapering effort. However, clinical sense seems to suggest that a more self-motivated patient would have a better chance at completing tapering and maintaining abstinence than a patient who prematurely is externally motivated to do so.

How to Prepare the Patient for MST and What to Expect

The MST should not be viewed as a discrete event. Rather, it is an ongoing process which, when properly implemented, will begin in the early phases of treatment planning and will continue to evolve throughout the patient's treatment episode. That is, discharge planning should begin early in the treatment process. Such discharge planning would involve setting treatment goals as well as target dates for those goals, action plans to achieve those goals and outcomes to measure the success in achievement of specific treatment objectives. Therefore, when seen as part of the total treatment regimen, the MST becomes a natural and comfortably integrated event which will lesson the patient's feelings of shock and trauma.

The primary counselor should continually evaluate the patient's progress in treatment. As the patient begins to stabilize his/her life in positive ways, which include the salient variables related to successful treatment outcome noted above, the primary counselor and patient may decide to begin to explore the possibility of MST from replacement therapy. It should be very strongly emphasized that this is not a unilateral decision to be made by the counselor who may or may not feel that the patient has been in treatment long enough or is ready for detoxification. This can be highly traumatic and dangerous to the patient and must never occur. Rather, the decisions regarding MST should be made by the patient with the support and consensus of the primary counselor and treating physician. This ensures that the patient maintains a sense of control and responsibility over their own treatment and life throughout the MST and allows the patient the control necessary to determine the speed at which titration of dosage will occur.

It is strongly recommended that all counselors familiarize themselves with the variables related to successful treatment outcomes in MST or tapering. Counselors should read the *Counselors' Guide: The Tapering Readiness Inventory Worksheet* and become familiar with all aspects of this assessment instrument. It is recommended that the *Tapering Readiness Inventory* (Attachment A) be administered to the patient at various points throughout their treatment course, including admission as the patient is able to observe his/her progress. This will assist the patient to understand those key issues which will help to ensure their success in medically supervised tapering as well as to underline their progress in treatment. Counselors should use this inventory when assessing a patient's readiness to begin MST.

During the MST, continued individual counseling is very important, however, group counseling should not be neglected in favor of individual. If, and where possible, the patient attempting a MST should participate in groups that focus on the issues related to MST (i.e., withdrawal symptoms, craving, anxiety over leaving the program, etc.) with other patients experiencing similar procedures. Just prior to completion of the titration of the medication, the patient should be integrated, wherever possible, into a drug-free treatment setting in order to participate in continued group counseling and assist in the adjustment to no longer being maintained on narcotic replacement therapy and all that that means.

MST and Titration of Dosage

Once a patient has demonstrated the desire to undertake a MST and has been assessed as being a good candidate for this attempt, the next question involves the appropriate scheduling of medication titration (decreases). This is most commonly referred to as the detox or tapering phase of the MST and is critically important to the overall success of the attempt. The treating physician, in conjunction with the patient and his/her counselor, should discuss schedule of "drops" or lowering of dosages prior to initiation of titration. In some cases, it has been suggested, and some patients prefer, to undergo what is commonly called a "blind detox." In this particular scheduling method, the patient's dosage is unknown to them as well as the days on which the dosage will be decreased by any particular amount. The blind dosing of the patient is of questionable value in the overall MST, however, if a particular patient insists on knowing neither when dosage is lowered nor what their dosage level is, then all attempts should be made to respect the patient's wishes and proceed with the blind detox.

Whether blind or open titrating of dosage is decided upon, there is a common rule of thumb that seems to be agreed upon by most knowledgeable clinicians. The rule of thumb in this case is "THE SLOWER, THE BETTER." This refers to the scheduling of dosage decreases at a slow enough rate that the patient will experience a minimum discomfort and withdrawal symptoms. In reviewing the literature, no exact titration schedule is agreed upon. However, what is clear is that rapid detoxification, i.e., a 21-day schedule of detoxification or increasing the titration of the dosage beyond that which a patient can comfortably tolerate, is often times associated with return to illicit opiate use and failure of the MST. Dr. J. Thomas Payte, a highly experienced clinician and researcher, has suggested that a 7-10 day period between dose decreases should be adequate time to adjust before the next drop.

The common sense approach to reducing the patient's dosage would be for the clinic physician to work in conjunction with the patient and allow him/her to have maximum control of how fast his dose is decreased. This, of course, presumes that the patient is not under any particular duress to complete detoxification or MST within a limited period of time due to legal or other external issues. With a virtually unlimited amount of time, the clinic physician has the luxury of allowing the patient to determine how fast his/her dosage will be decreased. At times, when the patient experiences discomfort or withdrawal symptoms it is recommended and, may be necessary, to halt the patient's decreasing dosage level and even return to the next highest dosage level where the patient was comfortable and not experiencing withdrawal. Again, it is worth repeating that the rule of thumb in all voluntary MST is that decrease in dosage should be as slow as possible.

Withdrawal Symptoms

Despite the best attempts of the supervising clinicians and the patient to maintain a slow and comfortable titration schedule during the MST, there will, most likely, be times during which the patient will experience mild to moderate discomfort associated with emerging withdrawal symptoms. Such symptoms might span the array of commonly experienced opiate withdrawal symptoms and might include, but not be limited to: anxiety, depression, insomnia, decreased appetite, aching in the bones and joints, chills, runny nose, gastrointestinal discomfort and diarrhea, and a craving for opiates. Cohen, et al. (Cohen et al., 1983), in a study exploring

patient perspectives of withdrawal, found that patients rated psychological symptoms more severe than predicted by experienced clinicians. Physical withdrawal symptoms are usually minimal if tapering is gradual. Emergence of withdrawal symptoms may not necessarily be an automatic signal to halt the medication titration or to return to an earlier higher dosage where the patient was comfortable. In preparing the patient for a MST, the counselor and physician should have already alerted the patient to the fact that no withdrawal is completely without some discomfort. The need to halt the medication titration and/or to raise the dosage level should be determined by the patient's tolerance for the discomfort as well as consultation with the counselor and the physician to see if ancillary medication might be prescribed for a short period of time allowing the patient to more comfortably proceed with his/her MST. An example of the above might, for illustrative purposes, be a patient who had been reducing their dosage from 100 mg by five mg every two weeks. Upon reaching seventy mgs, the patient begins to experience some gastrointestinal discomfort and insomnia. Prior to raising the dosage back to 75 mgs, a dosage at which the patient was not experiencing these symptoms, the clinic physician and primary counselor would want to discuss with the patient the severity of the discomfort as well as alternatives to raising the dose, in this case, the prescribing of some symptomatic medication for the gastrointestinal problem as well as a mild sleeping aid to assist the patient in resting more comfortably.

Prescription of ancillary medications is strictly dependent upon the symptomotology that the patient presents during the MST as well as the patient's wishes and the clinician's comfort with prescribing ancillary medications. Often times, with some reassurance on the part of the counselor and the clinic physician as well as a day or two for the patient to adjust to the new, lower dosage level, the emergent withdrawal symptoms may abate and the patient may, once again, feel very comfortable in proceeding with the dosage titration. Patients may also find that ancillary medications allow them to continue to reduce their dosage of opiate replacement medication while minimizing some of their symptomatic complaints. Certainly, after discussion with the patient, if it is determined that the patient wishes to increase their dosage to a prior level at which they were feeling more comfortable, then this should be completed at the earliest possible opportunity. Allowing the patient to raise the dosage, particularly in the early stages of the MST, has a secondary psychological benefit in that the patient feels in control of their MST and knows that, if they become too uncomfortable, there is a quick remedy for their discomfort.

In addition to symptomatic ancillary medications for emergent withdrawal symptoms, many clinicians have found the use of dietary supplements and amino acids to be helpful in tapering patients off of narcotic replacement medication. The use of dietary supplements and amino acids should be accomplished only within the boundaries and experience of the clinician as well as the tolerance of the individual patient. It is rare that there are negative consequences and side effects to the use of amino acids and dietary supplements in enhancing the MST. However, clinicians should be alerted to the potential contraindications for dietary supplements where there may be concurrent medical conditions which the patient experiences that could potentially prohibit prescription or use of dietary supplements and amino acids.

Clinical experience reminds us of an important rule in tapering, "THE SLOWER, THE BETTER," particularly in cases where the clinician and patient have a relatively unlimited amount of time to complete the MST. There are often occasions when a more structured titration

schedule is required. There may often be external forces impacting the time in which the clinician and patient have to complete a MST. As stated earlier, these may involve legal pressures, pressures from significant others or financial constraints preventing continued treatment. When such constraints present themselves and influence the duration of the MST, often a more structured schedule of dosage titration can be helpful. It should be noted that, even with more fixed dosage titration schedules, the clinician should still rely on continuing and ongoing evaluation of the patient's condition to determine if the speed of detoxification or tapering needs to be adjusted. When the above-noted need arises for a more structured titration, the following schedule designed by J. Thomas Payte, M.D., can serve as one example of a possible structural framework for quickly tapering dosages. [See Attachment B]

Dr. Payte, although offering an example of a more structured tapering schedule, strongly emphasizes the need to utilize constant feedback from the patient to the treating physician when titrating a dosage of maintenance medication. Dr. Payte's admonition that the slower the detox, the better and the more control that the patient has over the tapering, the more successful the tapering is likely to be, reiterates the previous stressed importance of such factors in tapering.

One other example of a dosage reduction schedule is borrowed from Dr. Judith Martin of the 14th Street Clinic, in Oakland, California. Dr. Martin's schedule is based upon a ninety-day dosage titration schedule. The number of dosage reductions is shown in the chart below. The formula for converting a patient's dose to the number of dosage reductions and the actual percentage of milligrams for the patient to be decreased is explained below. This dosage reduction schedule, utilized in a ninety-day window, would be applicable not only for narcotic replacement patients who have been on methadone maintenance treatment for a period of time, but also can be utilized in cases where an extended, long-term detoxification of up to 180 days is the treatment course of choice. [See Attachment C]

Summary of Significant Points in Medically Supervised Tapering (MST)

Description:

To summarize some of the important points that should be taken into consideration when assessing a patient for attempting a MST, the clinician should consider the following variables which have been shown in the literature to be related to more positive and successful treatment outcomes:

- The patient should be carefully prepared by the counselor and treating physician.
- In preparing the patient for the MST, a thorough discussion of what the patient may expect throughout the tapering process should be described and discussed with the patient.
- The patient should be employed and tenure at employment is desirable.
- The patient should have the support of family and significant others and have a stable home life.
- The patient should have refrained from using any and all illicit drugs for a period of a minimum of six months.
- Patience who are stabilized and start a M SW from lower dosages have better success than patients who start MST from higher dosages.
- The patient should have a close and open relationship with their primary counselor.
- The patient should have maximum control over the speed with which narcotic replacement medications are titrated.
- The rule of thumb for decreasing dosages is "THE SLOWER, THE BETTER."
- During MST, it may be recommended that the patient's individual counseling sessions be increased to help with support and to deal with emergent issues.
- The patient should participate in individual counseling as well as group counseling.
- Group counseling, where possible, should address issues related to the process of MST and include other peers participating in similar experiences.
- The patient should be prepared to be integrated into an outpatient drug-free treatment setting upon termination of narcotic replacement medication. If, and where possible, the patient may begin outpatient drug-free treatment groups while still in the process of dosage titration.
- Patient feedback to the treating physician as well as the primary counselor is of maximum importance in determining the speed at which dosage titration should occur.
- The *Tapering Readiness Inventory* should be used as one assessment tool and measure of the patient's readiness to proceed with a MST.

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Attachments

A. Tapering Readiness Inventory (Brummett, et al.)
B. Withdrawal Schedule, “30 Day” to LTD-x (J. Thomas Payte, M.D.)
C. 180 Day Methadone Detoxification - Draft (Judith Martin, M.D.)

Attachment A: Tapering Readiness Inventory and Explanation (Brummett, et al.)

Tapering Readiness Inventory

(From S. Brummett, R. Dumontet, L. Wermuth, M. Gold, J.L., Sorensen, S. Batki, R. Dennis & R. Heaphy (1986), *Methadone Maintenance to Abstinence: The Tapering Network Project Manual*, University of California, San Francisco, by permission.)

The purpose of this inventory is to help you decide if you are ready to taper from methadone maintenance at this time. Each item represents an important part of the process of being ready to detoxify from methadone. The inventory can help to confirm whether or not you are ready.

The more questions you can honestly answer by checking "yes," the greater the likelihood that you are ready to taper from methadone. Consider that each "no" response represents an area that you probably need to work on to increase the odds of a successful taper and recovery. Circle the appropriate response.

1.	Have you been abstaining from illegal drugs, such as heroin, cocaine, and speed?	Yes ____	No ____
2.	Do you think you are able to cope with difficult situations without using drugs?	Yes ____	No ____
3.	Are you employed or in school?	Yes ____	No ____
4.	Are you staying away from contact with users and illegal activities?	Yes ____	No ____
5.	Have you gotten rid of your "works" / "outfit?"	Yes ____	No ____
6.	Are you living in a neighborhood that doesn't have a lot of drug use, and are you comfortable there?	Yes ____	No ____
7.	Are you living in a stable family relationship?	Yes ____	No ____
8.	Do you have straight (nonuser) friends that you spend time with?	Yes ____	No ____
9.	Do you have friends or family who would be helpful to you during a taper?	Yes ____	No ____
10.	Have you been participating in counseling that has been helpful?	Yes ____	No ____
11.	Does your counselor think you are ready to taper?	Yes ____	No ____
12.	Do you think you would ask for help when you were feeling bad during a taper?	Yes ____	No ____
13.	Have you stabilized on a relatively low dose of methadone?	Yes ____	No ____
14.	Have you been on methadone for a long time?	Yes ____	No ____
15.	Are you in good mental and physical health?	Yes ____	No ____
16.	Do you want to get off methadone?	Yes ____	No ____

155

Tapering Readiness Inventory: Explanation

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If every person on methadone maintenance started to taper, only ten or twenty percent would make it to 0 milligrams "clean." Who can make it off methadone and who can't? The inventory highlights factors that indicate a readiness to get off methadone. Having many factors working in your favor means that you have a better chance of getting off methadone "clean," i.e., without abusing drugs. That doesn't mean that you are ready to get off methadone, but it shows that you have some of the readiness factors on your side. Having very few of the factors on your side, though, shows that you are not very likely to be able to get off methadone and stay "clean." If you have checked very few of the items, the odds are stacked against you. The inventory lists the factors that have been shown to predict success in tapering and later abstinence from drug abuse, for people who are already enrolled in methadone maintenance.

COMMENTS ABOUT READINESS FACTORS

NOT USING ILLEGAL DRUGS (numbers 1 and 2). If you are using, the odds are stacked against you getting off methadone without continued or increased drug abuse.

EMPLOYED (Number 3). People with jobs have a better chance of making it. People with a long history of employment have an even better chance.

ASSIMILATED INTO NONDRUG WORLD (numbers 4-7). People who cut ties with the drug world have a better chance of making it; people who also build meaningful ties with straight people have an even better chance.

FAMILY SITUATION STABLE (numbers 8,9). People living with family members have a better chance. If the family is supportive of you and supportive of your detox attempt, then the odds improve. If family members living with you are "using," however, that decreases the odds that you will make it.

COUNSELORS AND COUNSELING (Numbers 10, 11, 12). Recommendation of counselor is one of the better predictors of success in tapering. We emphasize that counselors know a lot about how to help you to taper, and having their endorsement is an excellent sign.

ON A LOW DOSE OF METHADONE (Number 13). People who are stabilized at a low dose of methadone have a better chance of getting off it.

ON METHADONE FOR A LONG TIME (Number 14). People on methadone for a longer time have a better chance of making it off clean than people new to methadone. This is contrary to some people's expectations, but the research is clear. The only caution is that many of the research studies were done in the mid-1970's, before people had been on methadone for over a decade. If you have been on methadone for over 7-9 years, this principle might not fit very well for you.

SOME FACTORS ARE QUESTIONABLE. AGE, for example. Nineteen research studies have looked at this factor: One found that younger people were better able to get off of

methadone, nine found that older people were better able, and nine didn't find any difference. Basically, your age doesn't seem to matter, as long as you are physically fit enough to take the stress that goes with detoxification.

MOTIVATION is another tricky factor. It's hard to be sure about deep motivations that people have. Some motivations to taper can be really strong, but really destructive, too—for example, being forced to taper because of financial pressures might be a strong motivation, but it loads the dice against you making it off methadone "clean."

On the other hand, we know that motivation is the reason that clients most frequently cite as most important in getting off methadone without abusing drugs.

SOME FACTORS CLEARLY DON'T MATTER. The research is clear that your **RACE, SEX**, or **EDUCATIONAL LEVEL** do not predict whether or not you can get off methadone "clean."

Attachment B: Withdrawal Schedule, "30 Day" to LTD-x
(J. Thomas Payte, M.D., Drug Dependence Associates)

Withdrawal Schedule, "30 Day" to LTD-x

Examples:

A patient on 100 mg has 32 levels to reach 0. Using the standard levels, we adjust the number of days at each level. If I wanted to do a 180-day w/d on a patient on 100 mg, I would divide 180 by 32 to find that I would say 5 days at each level. 6 days at each level would be 6x32 = 192 days.

If a patient on a particular dose asks how long it would take to withdraw, I refer to the schedule and come up with multiple answers, depending on the rate of w/d or the number of days spent at each level. If options are exercised, such as to hold an extra week or so, the timetable is off. This is why we do not think in terms of 21, 30 or 180 withdrawals.

My experience suggests that 7-10 days per level allows adequate time to adjust to the last cut before the next.

If we find it necessary to go over 180 days in a patient who is not maintenance eligible, we do what we have to do to continue treatment and call our State Methadone Authority who have never denied a request to extend the time in treatment or even to change to maintenance when appropriate.

Level	Dose							
40	180	Start dose over 100: Cut 10 mg every 'x' days to 100 Then: Start 95 – cut 5 mg to 40 Start 37 – cut 3 mg – to 22 Start 20 – cut 2 mg – to 6 mg Start 5 mg – cut 1 mg to 1 mg						
39	170							
38	160							
37	150							
36	140							
35	130							
34	120							
33	110							
32	100							
31	95							
30	90							
29	85							
28	80							
27	75							
26	70							
25	65							
24	60							
23	55							
22	50							
21	45							
20	40							
19	37							
18	34							
17	31							
16	28		**Jail/Administrative Withdrawal**					
15	25		**Days to 0**	**Dose**				
14	22		14	100				
13	20		13	90				
12	18		12	80	Cut 10 mg daily to 20, then;			
11	16		11	70	Cut 5 mg day to 5, then;			
10	14		10	60	Cut 2 mg per day to 1 mg			
9	12		9	50				
8	10		8	40				
7	8		7	30				
6	6		6	20				
5	5		5	15				
4	4		4	10				
3	3		3	5				
2	2		2	3				
1	1		1	1				
0	0		0	0				

Long-Term Withdrawal (LTW/D)

LTW/D is a programmed withdrawal that is based on predetermined dose levels. The dose levels are based on the amount of the dose change (increase or decrease).

The dose levels are based on:

10 mg changes for doses above 100 in even multiples of 10.
140-130-120, etc.

5 mg dose changes starting at 100 and continuing to 40.
80-75-70-65, etc.

3 mg dose changes starting at 40 and continuing to 22.
40-37-34-31, etc.

2 mg dose changes starting at 22 and continuing to 6.
22-20-18-16, etc.

1 mg dose changes from 6 to 1 mg.
5-4-3-2-1, etc.

The VARIABLE is in the number of days you remain at each level which is indicated by a number following the abbreviation as in; LTW/D-7, meaning 7 days at each dose level, then an automatic reduction to the next level. LTW/D can vary from 1 day to 28 days or more.

There are 4 options available to LTW/D patients unless otherwise specified, they are:

1. To "Hold," on request you may remain at a certain level until further notice from you.
2. To "Resume" scheduled dose reductions on patient request. (If you do not ask to resume dose cuts you will hold at the same dose forever!)
3. To "Increase" dose up to 10 mg, rounded Up to nearest dose level, repeated daily if needed, up to 100 or maximum established dose. Example: patient on 28 mg wants a maximum or 10 mg increase could increase to 40 (38 rounded up to nearest "level," OR could increase 3 levels to 37.
4. To request "Early" dose change, to speed up w/d, temporarily. Example, a patient on LTW/D-10 may request an early reduction on the 5th day.

BE SURE NURSES UNDERSTAND AND ACT ON YOUR REQUESTS.

Attachment C: 180 Day Methadone Detoxification – Draft

(Judith Martin, M.D.)

180-Day Methadone Detoxification – Draft

Plan by Month of Detoxification

Month #1 Establishing best dose for patient
#2 & 3 - Maintaining best dose and intensive counseling - structured
#4, 5, & 6 - Dose taper by formula
- Continued counseling

Dose Reductions

Dose reduction		10	mg increments starting at		180 to 100 mg (nearest rounded #)	
"	"	5	"	"	"	" 100 to 40 mg.
"	"	3	"	"	"	" 40 to22 mg.
"	"	2	"	"	"	" 22 to 6 mg.
"	"	1	"	"	"	" 6 to 1 mg.

Number of interval reductions needed determined by dose at beginning of detoxification (taper) and the above dose reduction formula:

Dose/	#Reductions	Dose/	#Reductions	Dose/	#Reductions	Dose/	#Reductions
180	40	90	30	40	20	14	10
170	39	85	29	37	19	12	9
160	38	80	28	34	18	10	8
150	37	75	27	31	17	8	7
140	36	70	26	28	16	6	6
130	35	65	25	25	15	5	5
120	34	60	24	22	14	4	4
110	33	55	23	20	13	3	3
100	32	50	22	18	12	2	2
95	31	45	21	16	11	1	1

Determining interval between reductions

Divide 90 days by number of dose reductions needed from above chart gives us the number of days between dose changes.

Example - Dosage on first day of taper is 120 mg.

- Number of dose change increments needed for dose of 120 is 34.
- 90 days divided by 34 equals 2.65 days between dose changes. The nearest whole number would be 3. 34 multiplied by 3 would be 102 days which is more than we are allowed. The next lowest whole number would be 2. 34 multiplied by 2 would be 68 days which leaves us with 22 extra days. What do we do? If we alternate intervals between 2 days and 3 days between changes, what do we have? We would have 17 2-day intervals and 17 3-day intervals.
  17x2 = 34
  17x3 = 51 total 81 days - 9 less than the 90 days allowed
  for the detoxification. Therefore, turn 9 of the 2-day intervals into 3-day intervals – roughly speaking every other 2-day interval. Bottom line – some degree of playing with the numbers will frequently be required.

Conditions of treatment

1. Those dictated by state and federal rules and regulations

2. It should be held out to all patients that at any time in the dose taper they feel in danger of using due to withdrawal, the taper can be held at current dose or raised to a higher level. Should this be needed, the patient will be converted to methadone maintenance.

3. Violations of program rules will be dealt with as they would be on a 21-day detoxification. (or in the alternative, it could read "on a methadone maintenance program")

4. Supplements