Methadone practice directive
Acknowledgements

The NBCP Methadone Taskforce developed this practice directive by way of a collaborative and consultative process with input and feedback gathered from a volunteer group of dedicated professionals currently engaged, in varying capacities, in the delivery of methadone maintenance treatment services.

Additional feedback was also solicited from other practitioners and stakeholder groups such hospital pharmacists and representatives from Public Security and Corrections.

Development of this practice directive involved a review of best practice documents including: the New Brunswick Methadone Guidelines 2008, standards of practices from other provincial pharmacy regulatory authorities including British Columbia, Alberta, Saskatchewan, Manitoba, Ontario, Nova Scotia, Prince Edward Island and Newfoundland and Labrador; and as well as from the College of Physicians and Surgeons of Ontario, British Columbia and the Centre for Addiction and Mental Health’s publication, Methadone Maintenance: A Pharmacists Guide to Treatment- 2nd Edition.

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FORWARD
The NBCP Methadone Practice Directive is intended to reflect current best practice in New Brunswick and replace the previous guidelines issued in 2004 and amended in 2008. Pharmacists involved in the methadone treatment must be familiar with the contents of this practice directive. The holder of the certificate of accreditation is to ensure all pharmacy staff including pharmacist locums are familiar with and adhere to this practice directive.

If you have any comments regarding the content or format of these guidelines please contact:

Registrar
Telephone 1-800-463-4434
Fax 1-506-857-8838

REVISION NOTES

May, 2018

- **Prescriber Authorization** section was updated to conform with amendments to the Narcotic Control Regulations that remove the requirement for prescribers to obtain a Section 56 Exemption under the Controlled Drugs and Substances Act to prescribe or administer methadone for opioid use disorder or analgesia.

September, 2017

- **Transfer of Custody** section was updated to conform to the Narcotic Control Regulations and outcome of correspondence with Health Canada. In particular, the practice and documentation pertaining to methadone transport via intermediary delivery agents and provided to another healthcare practitioner not working within a hospital.
- **Continuity of Care - Hospitalized or Incarcerated** section amended to include a statement specifying provincial and federal incarceration facilities are considered hospitals in the context of the Narcotic Control Regulations.
- **Temporary Exemptions in Hospitals (i.e. not correctional facilities)** is amended to indicate the practitioner responsible for the client in hospital may prescribe methadone for an admitted client already stabilized on methadone without a Section 56 exemption if certain conditions are met.

March, 2015

- Updated to reflect the new requirement to dispense only the commercially-available methadone at 10mg/ml in place of the compounded methadone product for the treatment of opioid dependence. *(Revision to Dispensing Methadone section)*
- Removed: **APPENDIX H: METHADONE COMPOUNDING PROCEDURES; APPENDIX I: SAMPLE COMPOUNDING LOG**
**Introduction**

Methadone Maintenance Therapy (MMT) is based on a harm reduction philosophy and represents one component of a continuum of treatment approach for opioid-dependent individuals. MMT is a substitution therapy that allows a return-to-normal physiological, psychological and social functioning. It is one possible treatment for opioid dependence. For some people, MMT may continue for life, while others may be able to eventually discontinue MMT and remain abstinent while preserving the normal level of function they attained while on MMT. (CPSO, 2011)

Generally, the goals of a Methadone Maintenance Therapy Program are to:

- Reduce illicit opiate use and other intravenous drug use and ideally become drug free.
- Reduce use of other mood-altering substances.
- Reduce morbidity and mortality.
- Reduce criminal activity associated with addiction.
- Improve physical and psychological health.
- Maintain and improve quality of family life and personal productivity.
- Facilitate reintegration into the workplace and education systems.

A Methadone Maintenance Therapy Program typically involves the daily oral administration to opioid dependent individuals of methadone over extended periods of time as a substitute for heroin or other short acting opioids. Once an individual has been stabilized on a dose of methadone, subsequent daily doses should not cause sedation, analgesia, or euphoria. Methadone is long acting and therefore should prevent the occurrence of withdrawal symptoms or cravings. This enables individuals to function normally and to perform mental and physical tasks without impairment. In sufficient doses, cross tolerance to other opioids develops, i.e. methadone “blocks” the euphoric effect of self-administered illicit opioids. (NLPB, 2008)

This document is intended to provide information and direction to pharmacists involved in the dispensing of methadone for opioid dependence, and to promote consistency in the dispensing and administration of methadone for opioid dependence. This practice directive is not intended to apply to the dispensing of methadone, usually in tablet form for chronic pain.

It is recognized that there may be rare, exceptional situations, or extenuating circumstances, in which some of the provisions in this practice directive may not be appropriate. In such situations, where the practice directive is not followed, the pharmacist must document the rationale for the deviation. Such deviations from the practice directive will occur only in the interest of providing optimal client care.
BACKGROUND

Methadone was originally developed in Germany as a substitute analgesic for morphine. World War II brought the formula to the attention of North American researchers, who subsequently discovered that methadone could be used to treat heroin withdrawal symptoms. Although the work of American researchers, Dole and Nyswander, in the early 1960’s is perhaps best known for demonstrating that methadone was suitable as a maintenance treatment, a Canadian researcher, Dr Robert Haliday, set up what may have been the first methadone maintenance treatment program in the world in British Columbia in 1963. (Best Practices: Methadone Maintenance Treatment, 2002)

Methadone

Methadone, a long acting orally effective opioid, is an important therapeutic tool in the treatment of chronic pain and opioid dependence.

Dosing of methadone must be undertaken carefully, individually titrating to the optimal dose for each client. An effective dose for one client can be a lethal dose for another. For example:

- For non-tolerant adults, a single day’s maintenance dose of methadone (50-100 mg) can be lethal.
- For those beginning MMT, starting doses of as little as 40 mg have led to deaths after 3 days of treatment.
- The lethal dose is lower if it is taken together with other drugs such as opioids, alcohol, benzodiazepines or barbiturates.
- Children may overdose by mistaking the medication for a drink. A dose of 10 to 20 mg methadone can be fatal to a child. (CAMH, 2004)

Many factors impact an individual’s optimal vs. toxic dose including the individual’s opioid tolerance, physiologic and metabolic response, and concurrent drug therapy; and the pharmacokinetic activity. (NSCP, 2011)

Pharmacokinetics

Absorption

- When given orally, methadone is effectively absorbed from the gastrointestinal tract within 30 minutes
- Oral bioavailability is approximately 90 percent
- Peak plasma levels occur two to four hours after oral ingestion

Distribution

- Methadone is extensively bound to plasma proteins
- Volume of distribution for methadone is 4-5 L/kg body weight
- Elimination half-life (t½) of methadone is 35 ± 12 hours. This long half-life permits once-daily dosing. It also results in taking longer, that is, about five to seven days, for plasma levels to reach steady state than with most other opioids.
Methadone’s duration of action in suppressing opioid withdrawal is dose dependent, and withdrawal is typically suppressed for 24 to 36 hours with adequate therapeutic doses. There is wide variability in plasma methadone levels among people prescribed the same dose. There is no consensus regarding interpretation of blood levels in clinical practice. In pregnancy, methadone passes through the placenta to the fetus. Methadone is excreted into breast milk in small amounts.

**Metabolism**

- Methadone is metabolized in the liver through demethylation and glucuronidation.
- It is predominantly metabolized through the Cytochrome P450 system, mainly by CYP3A4.
- Active metabolites methadol and normethadol are produced in small amounts. The primary metabolite of methadone, EDDP (2-ethylidene-1, 5-dimethyl-3, 3-diphenylpyrrolidine), has no significant pharmacological activity.
- Metabolism by CYP3A4 is subject to the induction and inhibition effects of many other drugs.

**Excretion**

- Methadone is excreted in the urine and feces, as unchanged methadone and metabolites.
- Urinary excretion of methadone and metabolites is dose dependent. It becomes the major route of excretion when doses exceed 55 mg/day.
- Renal reabsorption of the parent compound increases as urine pH increases.

(CAMH, 2004)

**Pharmacist’s Role in Methadone Maintenance in New Brunswick**

The role of the pharmacist is to optimize the client’s drug therapy and establish a pharmacist-client relationship with all clients for whom he or she dispenses medications. All pharmacy staff shall employ the same respectful, professional approaches and attitudes towards MMT clients as they would toward any other client of the pharmacy.

A pharmacist’s role in methadone maintenance treatment includes but is not limited to:

- Methadone preparation and dispensing.
- Assistance with methadone dosing.
- Administration of daily doses which includes assessment of the client to determine if it is safe to administer and direct observation of the dose to ensure the dose swallowed.
- Education and counseling of the client on the use of methadone.
- Client monitoring and supportive assessment.
- Record keeping and reporting.
- Communication with the methadone prescribing practitioner in regards to progress of treatment, (i.e. missed/lost doses, client behaviour, etc).
- Communication with the authorized prescriber and if applicable, the methadone maintenance clinic to ensure the care team is kept up to date and the treatment plan is adapted in a timely fashion.
- Providing input on the treatment plan, on authorization of carries, etc.
• Providing assistance to the client, enabling them to obtain required supportive care.

Education
Pharmacists must be knowledgeable in all aspects of methadone use when involved in care with methadone. Pharmacists must be familiar with the principles and guidelines outlined in the CAMH publication, *Methadone Maintenance: A Pharmacist’s Guide to Treatment, 2nd edition*¹ and the College of Physician and Surgeons of Ontario: Methadone Maintenance Guidelines² and this document, New Brunswick College of Pharmacists: Methadone Practice Directive. All pharmacists providing methadone services are strongly encouraged to participate in additional educational training in MMT.

In addition, pharmacy managers must also ensure all non-pharmacist staff is trained to understand the scope of their role in the provision of community pharmacy services related to methadone maintenance treatment. A signed document acknowledging in-house training of staff personnel shall be retained on file.

Pharmacy Registration
There is no special authorization required for pharmacists to order or dispense methadone. Any licensed pharmacist may purchase methadone, provided they are not under a notice from the Office of Controlled Substances prohibiting them from buying or dispensing narcotics.

However, pharmacies providing MMT services must notify the New Brunswick College of Pharmacists (NBCP) by submitting a Registration of Pharmacy as providing MMT Treatment Services Form (See APPENDIX A: NBCP Methadone Registration Form)

Information from this form may be made public to identify pharmacies that could serve a client requiring MMT in certain situations. (e.g. MMT clients moving into province, etc)

Pharmacy Hours
It is expected that a pharmacy that dispenses methadone will be open 7 days per week and 365 days per year. However, the purpose of this practice directive is not to limit access to methadone treatment from clients in communities that do not have 7 day a week pharmacy services. For situations where seven day a week service is not possible, these pharmacies will have to adjust their practice for those clients for whom take-home methadone carry doses are not appropriate.

Options include:

• Opening for one or two hours so clients can pick up their daily dose.
• Coordinating “closed day” witnessed ingestion with another pharmacy. In this situation, a system of communication between the two locations must occur accordingly, to ensure continuity of dosing. Both

¹ CAMH Publication, Methadone Maintenance; A Pharmacist Guide to treatment visit http://www.camh.net/Publications/CAMH_Publications/methadone_maintenance_pharmacist.html

pharmacies are responsible to confirm if dose(s) (and the time of last dose) was ingested at their location. *(See APPENDIX B: Fax Communication- Pharmacy to Pharmacy)*

**Prescriber Authorization**

As defined in the *Controlled Drugs and Substance Act and the Narcotic Control Regulations*, methadone may only be supplied to certain health professionals or dispensed to a person from whom the pharmacist has received a written order or prescription, signed and dated by a practitioner. Effective May 19, 2018, prescribers no longer require a Section 56 exemption to prescribe methadone for MMT.

**Inter-professional Collaboration**

The pharmacist and authorized methadone prescriber play an important role in MMT. This can include joint development of policies and procedures to ensure continuity of client care and secure custody and storage of methadone. Collaboration and effective communication between the clients MMT prescriber and the pharmacist enables clinical decisions based on current and comprehensive client information. Pharmacists are encouraged to develop a solid working relationship with the authorized methadone prescriber/clinics who prescribe methadone for their clients, ensuring they are aware of the active role the pharmacist will undertake in the client’s care.

All communications with the authorized methadone prescriber must be documented either on the client’s profile or on a hard-copy of the prescription. *(See APPENDIX C: Authorized Methadone Prescriber - Pharmacist Communication Form)*

Pharmacists will contact the authorized methadone prescriber regarding concerns about the client’s progress, including if a client:

- Exhibits unusual behaviour.
- Exhibits unacceptable behaviour towards pharmacy staff.
- Does not pick up their daily dose.
- Refuses all or a portion of their daily dose.
- Appears to be impaired, intoxicated, or showing signs of withdrawal when they arrive at the pharmacy. *(See Signs and Symptoms of Opioid Intoxication and Overdose Page 34)*

In addition, the pharmacist will contact the authorized methadone prescriber with regards to:

- Any information or observed evidence of diversion of methadone. (e.g. failed carry bottle audits).
- Relevant medications that the physician may not be aware the client is taking or has been prescribed such as benzodiazepines.
- Any real or perceived errors in dosing.
- Questions about prescriptions.

Prescribers should communicate to the pharmacist:

- Cancellation of prescriptions.
- Any schedule changes regarding “carry” doses.
- Circumstances when a client’s treatment plan falls outside accepted practice directives or standards of practice.
- Results of urine toxicology testing if appropriate.
**Prescriber - Client - Pharmacist 3-Way Treatment Agreements**
In order to facilitate collaborative communication, 3 way agreements between the prescriber - client - pharmacist are encouraged (CPSO, 2011). These three-way agreements are similar to treatment agreements between the prescriber and the client but include the pharmacist as well. (See Appendix D: Prescriber/Pharmacist/Client Agreement Letter). **While it may be appropriate to restrict a client to one pharmacy for the dispensing of methadone, the client is entitled to decide on the pharmacy provider they prefer.** The College of Physicians and Surgeons of New Brunswick does not permit direction of prescriptions to avoid any potential inference of an improper financial arrangement between the physician and the pharmacy. Similarly, the NBCP would consider this practice an act of professional misconduct.

**Pharmacist- Client Relationship**
The client must receive an orientation to the pharmacy, including information about methadone, and given the opportunity to ask questions about methadone or any other medications they may be taking. Relevant written information is to be made available about the pharmacy such as hours of operation. A treatment agreement is to be provided and signed by both parties. (NLPB, 2008) (NSCP, 2011)

In order to respect the clients’ right to privacy and confidentiality, this orientation is to be provided in a private area in the pharmacy where the conversation cannot be overheard by others.

If the client is new to the program they may be in severe physical discomfort or crisis, and may not be able to fully participate in a detailed discussion. It is important to be sensitive to these issues when reviewing the program expectations with a new client and therefore, it may be reasonable to review the program details again at a later date. (PEIPB, 2005)

The following information should be provided:

- Methadone is an opioid the client will become physically dependent upon and if the client abruptly discontinues methadone, withdrawal symptoms will develop.
- During the stabilization period, sedation and/or withdrawal symptoms may be present. **Driving automobiles or operating machinery during the stabilization period of methadone maintenance may be dangerous.** Such dangers also arise again during dose adjustments or periods of instability.
- Illicit drug or alcohol use with methadone can be dangerous. The use of other substances, including prescribed or non-prescribed medications while taking methadone, should be discussed with the client’s methadone practitioner and pharmacist as drug interactions may occur.
- For reasons of safety the methadone dose will be withheld if the client appears to be sedated or intoxicated.
- All missed doses of methadone will be reported to the prescriber. During the early stabilization phase (0-2 weeks), if two consecutive days are missed the client should be reassessed by the methadone practitioner before methadone may be given again. If three consecutive days are missed during late stabilization/maintenance phase the client will be reassessed by the prescriber. The reason for reassessment by the prescriber is to ensure the client’s dose is still safe.
- It must be stressed by the pharmacist that the average daily dose of methadone may result in death if taken by a person not dependent on an opioid.
- Side effects from methadone maintenance can include constipation, sweating, fatigue, decreased libido and weight gain.
• Fertility frequently improves with stabilization on methadone, so clients should consider this factor during family planning.
• The law of Canada places a duty on clients to inform any authorized prescriber if they have received a narcotic from another prescriber within the preceding thirty day period; otherwise the client will have committed the offence of “double doctoring”.
• It is preferable that the client receives methadone from only one pharmacy. There is a risk to the client if methadone is split between pharmacies
• Making arrangements for guest dosing at another pharmacy when travelling will be the clients’ responsibility. (NLPB, 2008) (NSCP, 2011)

**Pharmacist - Client Agreement**

A treatment agreement can help the pharmacist explain the goals of the program, their responsibility as the pharmacist and the responsibilities of the client. *(See APPENDIX E: Pharmacist-Client Agreement)*

Clients must understand the details of these agreements. A follow up conversation at a later date with the client may help to reinforce understanding of the agreement.

**Prescription Requirements**

Methadone is a straight narcotic. All federal and provincial laws and regulations that apply to straight narcotics apply to methadone. Verbal prescriptions or refills are not permitted. The written prescription must be in the pharmacist’s possession before the methadone is given to the client. A new prescription is required for any changes in dosage, except when the dosage is being tapered up or down by the physician. A tapered dosage regimen may be written on one prescription.(i.e. clients will be started on 30 mg for three days, 35 mg for three days, and 40 mg for three days on the first prescription). *(See APPENDIX F: Examples of acceptable written prescriptions and APPENDIX G: Sample Prescription Form)*

**Writing the Prescription**

Prescriptions must be written as part fills. Prescriptions for methadone must be clear and complete, leaving no room for misinterpretation. The prescription must include:

- The total amount of methadone to be provided
- The required daily dose
- The dispensing schedule which will include:
  - The dosage frequency
  - Which doses must be administered as supervised ingestions
  - Whether “carries” (take home doses) are permitted, and if so, the carry schedule.

Ideally, the prescription should include:

- The indication for methadone - maintenance or analgesia
Dispensing Methadone

Preparing and Storing Methadone Solutions

Only commercially available 10 mg/ml oral preparations are permitted for use as stock solutions. All containers and graduates used in the preparation and storage of methadone solutions are to be used for methadone only and labeled accordingly. While a commercially prepared product which is both colored and flavored is available, pharmacists are recommended to use the unflavored, clear product, as this liquid, diluted in juice, will not alter the color of the final product, and will minimize changes in taste. The lot number found on the bottle of stock solution is to be recorded on the methadone client log sheet (Appendix J).

Preparation of Final Dosage Form

Prior to dispensing for onsite consumption or take home doses, the pharmacist must always further dilute the stock solutions of methadone to approximately 100 ml with a vehicle such as Tang®. A consistent volume enables patients to more easily identify unanticipated changes in taste of their solution. (i.e., in the event of an error)

Accurate measuring devices, such as a syringe or measuring pump, are to be used to draw up doses of stock solution for further dilution.

Examples of vehicles that have been used to further dilute methadone stock solution include orange-flavored Tang® or other brands of crystals, orange drink, apple drink, grape- or cherry-flavored Crystal Lite® or other brands of artificially sweetened crystals. Products with artificial sweeteners may be used for diabetic patients.

See the stability table below for methadone mixed with various drinks options.

Table 1: Aug. 1994 Dispensing of Methadone for the Treatment of Opioid Dependence, Health Canada

<table>
<thead>
<tr>
<th>Diluents</th>
<th>Period of Stability</th>
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<tbody>
<tr>
<td></td>
<td>Room Temperature (20-25°C)</td>
<td>Refrigerated (5°C)</td>
</tr>
<tr>
<td>Grape Flavored Kool Aid®</td>
<td>17 days*</td>
<td>55 days</td>
</tr>
<tr>
<td>Orange Flavored Tang®</td>
<td>11 days*</td>
<td>49 days</td>
</tr>
<tr>
<td>Allen's Apple Juice®</td>
<td>9 days*</td>
<td>47 days</td>
</tr>
<tr>
<td>Grape Flavored Crystal Light®</td>
<td>8 days*</td>
<td>34 days</td>
</tr>
<tr>
<td>Grape Flavored Crystal Light®</td>
<td>29 days</td>
<td></td>
</tr>
<tr>
<td>with 0.1% sodium benzoate</td>
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*Visible microbial growth was noted beyond the specified time period. It should also be noted that the confirmation of methadone stability and the lack of visible microbial growth in any of the solutions does not confer guaranteed safety of the solutions from biological contamination

Helpful Hint: evaluate the end date of the prescription to ensure the end date does not fall on a weekend when a client will not be able to see their prescriber for a new prescription

Syringes have an error rate of 10%. Having the same person measuring the dose may minimize margin of error. Ensure that equipment or devices used for dispensing and dilution meet standards for accuracy of measuring devices. Measuring devices used in the dispensing of methadone must be accurately measured using a calibrated device that will minimize the error rate to no greater than 0.1 ml (typically oral syringes or manual/electronic pumps meet this accuracy requirement). Graduated cylinders are not recommended.
Under no circumstances is pharmacy staff, or other clients, or their children to consume the fruit drink used to dilute methadone doses as a beverage. Similarly, staff shall not to use cups for dispensing observed doses for any other purposes.

If individual client doses are prepared in advance of being processed for dispensing, there must be a system that clearly identifies:

1. The client’s name
2. Strength and quantity of methadone
3. Information to identify the concentrated liquid used; for example, the lot and expiry date of the product.
4. Expiry date and
5. Initials of preparing pharmacist

These doses must be stored securely until dispensed.

Dispensing and Administration

Methadone Dispensing Area
Pharmacies that care for numerous MMT clients are advised to set aside an area for dispensing and/or administration of methadone. Providing these clients additional privacy to ensure not having their ingestion of methadone witnessed by other, possibly disapproving customers may help to protect them from further stigmatization. (CAMH, 2004)

Client Identification
The pharmacist must take reasonable steps to positively identify the client prior to dispensing methadone to the client. It is recommended that the client be informed when MMT is initiated that they may be requested to provide government issued photo identification. If the client cannot provide the required identification, the prescriber may be contacted to assist in verifying the client’s identify. Pharmacies that have multiple staff pharmacists and/or use relief pharmacists may keep a photo of the client on file so that the client does not have to provide photo identification each time they come in. When dispensing the dose, it is good practice to use the client’s name as it further ensures the correct person is being medicated. (MPhA, 2010)

Supervised Ingestion
Prior to dispensing, the pharmacist must ensure it is safe to for the client to ingest methadone, that is, the client is not intoxicated, or has other health issues which may be impacted if methadone is administered. Clients must be asked to remove sunglasses to enable to viewing of pupils for signs of intoxication.

Signs of intoxication include:

- Slurred speech
- Ataxia
- Drowsiness
- The smell of alcohol
- Unusual behavior
If the client is intoxicated, the dose must be deferred until the client can be reassessed and found to no longer be impaired. If pharmacy hours allow, invite the client to return later, at which time it might be possible to dispense methadone. Warn the client against driving a car. Inform the prescriber that the client appeared intoxicated in the pharmacy, and document the incident and actions taken. (CAMH, 2004)

The pharmacist must observe the client for changes in appearance and behavior, and note positive changes to the client and prescriber. Negative changes such as neglect of hygiene, grooming, or increased anxiety or agitation, may indicate a variety of problems and are to be communicated to the prescriber. (CAMH, 2004)

The client ingesting methadone must be directly observed by the pharmacist to ensure the entire dose is swallowed.\(^5\) Have the client speak to the pharmacist after the dose is swallowed. This ensures compliance and minimizes diversion.

The prescriber must be informed if the client does not drink the entire contents of the dose and this is to be documented on the client’s log sheet and noted on the computer profile. (CPBC, 2010)

Some pharmacies provide water for the client to rinse the dispensing cup after ingesting the dose. The dispensing cups are to be discarded inside the dispensary. A garbage container should be located in such a position that the client can easily dispose of the cup but cannot remove any of its contents.

**Counselling**

Pharmacists are required to have a brief conversation with the client at the time of ingesting methadone. This provides an opportunity to emphasize the benefits of methadone treatment and provide support for the client. At the same time a discussion about the client’s treatment goals, compliance, adverse effects, and lifestyle choices can occur. Initiating such a dialogue with the client can have a positive impact on their treatment. Sufficient time and a private counselling area enable the pharmacist to maximize the benefits of client counseling. (PEIPB, 2005)

Pharmacists counselling the client at the time of witnessing ingestion may periodically take the opportunity to discuss the following: (NSCP, 2011)

- Have a general conversation about how the client is feeling, how their life is going, etc. This opens up communication in which they may disclose information relevant to their methadone treatment (i.e. loss of job, family breakdown, etc.).
- Ask about how they are sleeping at night, and counsel accordingly (i.e. suggest sleep hygiene info).
- Ask about drowsiness during the day (timing of drowsiness could indicate a need for dosage adjustment).
- Remind the client about signs of toxicity (e.g. sleepiness, nodding off several times during the day, forgetfulness, difficulty in waking up from sleep, slurred speech, stumbling walk, “drunk” appearance).
- Ask about constipation and counsel accordingly. ([See Adverse Effects Pg 33](#))
- Ask if they are taking any new medications (OTC or otherwise) that you may not have in their client profile.
- Ask if they have any questions.

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\(^5\) For extra safety precautions, prior to the client ingesting their dose the pharmacist should speak to the client using the client’s name (to assure identity) and have the client verify the dose they are about to ingest.
• Remind the client that if they are taking carries home, they need to use a locked box ideally stored in the fridge and reiterate the risk to others of inadvertent methadone ingestion, especially children.

Note: Any comments by the client about the taste or appearance of the dose should be promptly investigated to ensure compounding error has not occurred.

Documentation
Documentation of methadone dispensing is guided by the same legal requirements as those for other narcotics. Additionally, the New Brunswick College of Pharmacists requires that pharmacists maintain a log for signing out observed and take home doses. The information recorded on this log is important for both pharmacists and prescribers in assessing clients. The log is to include the time of dosing of witnessed ingestions. If a client vomits a dose, having the exact time of witnessed dosing is helpful in deciding if a replacement dose is appropriate. As well, doses should also be at least 16 hours apart. To monitor for this it is important to have times recorded. A separate log sheet should be maintained for each client to ensure confidentiality of client information. The log is also used to keep track of missed doses and provides a place where the pharmacist can note pertinent client issues or share relevant information regarding the client. A record of this log sheet is to be retained for a minimum of 15 years (See APPENDIX J: Methadone Client Log Sheet) Any medication errors, adverse drug reactions, or significant side effects should be reported to the pharmacists for follow up and documentation in the client’s profile.

Requests to dispense to a person other than the patient
Methadone may only be given directly to the person for whom it is prescribed to ensure compliance and safety and to minimize diversion. Doses must not be given to anyone else, including family members or friends.

In extraordinary situations, when a client cannot attend the pharmacy, the client’s agent may pick up and sign for their one authorized take home dose if confirmed in writing by the prescriber. The authorization must be date specific, and the agent and circumstances must be clearly defined. The written and signed authorization from the prescriber (fax acceptable) becomes a part of the client’s file and must be attached to the original prescription. (CPBC, 2010)

Delivery Requests
Home delivery of methadone should be reserved for emergency situations in which a client is incapable of coming to the pharmacy, the prescriber agrees to home delivery, and the pharmacist is willing to deliver methadone and to supervise ingestion in the client’s home (CAMH, 2004)

Guest Dosing
There may be occasions such as vacation or business travel when a methadone client may request to receive methadone on a temporary basis at another pharmacy. These circumstances may include the client’s duration of travel exceeds the number of carry doses they may have or they are not stable enough to have carries for the entire duration of travel. Arrangements for guest dosing at another pharmacy is the responsibility of the client. The client or pharmacist informs the methadone prescriber of the name and address of the temporary location. If the prescription at the usual pharmacy is still valid during the time the client will be away, the prescriber must cancel the remainder of that prescription and write a new one for the temporary location.

The pharmacists at both pharmacies must communicate clearly with one another at the beginning and end of the guest dosing period, so that everyone understands where (and when) the client is receiving the methadone. (See Appendix B: Sample Communication Fax Pharmacy-Pharmacy)
**Transfer of Custody**

There may be circumstances where the pharmacist is required to transfer custody of individually-labeled doses of methadone. These doses are dispensed pursuant to a prescription in a secure manner to a location outside the pharmacy in order to allow patients to access care. To effect delivery, two transfers of care may be necessary.

The first potential transfer is to an intermediary (courier, driver, etc.) delivery agent. The pharmacy must retain knowledge (track who has custody at any given time) and control\(^6\) (tamper-proof lock boxes, keys and/or combinations) over the methadone in order to protect against loss and theft. Individual practices are obliged to establish a secure chain of custody and document the use of an intermediary. Unless directly handed by the pharmacist to the physician or his/her delegated health care professional the pharmacist must use a method of transportation that ensures they are aware of and can track who has custody of the drug at any given time to ensure safekeeping of the methadone while in transit, (chain of signatures, tamper proof locked boxes, control of access of keys/combinations). The pharmacist shall maintain a list of all doses provided to the treatment center which is recorded prior to the doses being transported; one copy is sent with the doses and one copy is kept at the pharmacy. Doses not administered shall be reported and returned to the pharmacy on a timely basis.

The second transfer is to an individual enumerated in section 31(3) of the Narcotic Control Regulations [LINK]. The pharmacy shall maintain a list of all doses provided to this individual. One copy is sent with the doses and one copy is kept at the pharmacy. The individual receiving the methadone documents (signs) that the doses were received. The individual receiving the methadone appropriately documents witnessed ingestion of the doses of methadone. Doses not administered shall be documented and returned to the pharmacy on a timely basis.

Note: Health Canada has granted Section 56 Class Exemptions for certain scenarios where there is limited access to care and where the safe provision of methadone can be assured. In particular, Section 56 Class Exemption for Registered Nurses Delivering Primary Health Care at a Health Facility in a Remote and/or Isolated Community allows a pharmacist to transfer methadone to a registered nurse (RN) practicing in a community with relatively limited transportation links (due to distance or weather) to a hospital and where a practitioner is generally not present for the delivery of primary health care services. Some First Nations communities in New Brunswick may meet the criteria for this exemption.

The Pharmacist shall:

1. Document in each client record, administration of the dose has been transferred to the appropriate health professional for observation. Each client record will be kept in such a way as to indicate clearly what has happened to the methadone so that it can be determined quickly for client care purposes and later for audit purposes.
2. Obtain a new prescription for any new doses or changes of dose of methadone. The new doses/changes must be dispensed by the pharmacist. Doses intended for one client must NOT be given to another client under any circumstances by the pharmacist, physician and/or his/her delegate.
3. Ensure no alteration of the individually labeled doses of methadone dispensed by the pharmacist is performed.
4. Verify that all unused, individually labeled doses of methadone are returned by the receiving professional to the pharmacy on a regular routine basis\(^7\), signed for upon receipt, entered into the appropriate record, and destroyed in the pharmacy in accordance with applicable laws, standards, guidelines, and local environmental policies.

\(^6\) Retention of knowledge and control of methadone in the possession of an intermediary may be best assessed in conjunction with an individual practice’s legal counsel.

\(^7\) Regular basis is defined as a regular routine, daily is ideal, weekly acceptable. Consideration must be taken for the amount of doses and pharmacy workload to ensure records are updated on a timely basis.
5. Ensure empty methadone dose bottles are returned to the pharmacy for tracking and disposal. 
(SCP, 2009)

**Administration Errors**

In the event of a medication dosing error, confirmed or suspected, the pharmacist must take appropriate and necessary action to minimize harm to the client, ensuring transparency throughout the entire process. This includes prompt consultation with the client’s other health care provider(s) for determination of appropriate action. ([See APPENDIX K: Appropriate Action for Administration Errors](#))

In addition to the following standards specific to methadone, it is expected that pharmacists will manage the error in accordance with the NAPRA Model Standards of Practice for Canadian Pharmacists and the individual pharmacy’s medication error management policy. (NSCP, 2011)

**Methadone overdose**

As soon as the error is identified:

- Tell the client. If the client has left the pharmacy, contact him or her by telephone. If the client has no phone, you may need to contact the client’s prescriber or MMT clinic to obtain a contact number or send police to the home.
- Advise the client to seek medical attention immediately. If the client refuses medical attention document the time and details. (Depending on the degree of over dose and client’s state of attention you may need to send emergency personal to the client) Ask the client to remain in the care of a friend or relative for the day.
- Advise the client of the symptoms of overdose, including the possibility of euphoria and respiratory depression ([See: Signs and Symptoms of Opioid Intoxication and Overdose pg 34](#))
- Make follow-up contact with the client throughout the day.
- Notify the client’s prescriber or MMT clinic.
- Reassess the client’s health condition before administrating the next daily dose.

**Methadone Under dose**

- Notify the client’s prescriber or MMT clinic and the client as you would with an overdose.
- Once the client is contacted, offer the “difference’ of methadone between the amount administered and the amount prescribed.
- Should the client refuse to return for the methadone, advise them of possibility of withdrawal, and review the symptoms related to opioid withdrawal.
- If the client cannot be reached during business hours, advise them of the error at their next administration. (AHS, 2010)

**Important Methadone Overdose Information for the Client**

- Methadone overdose ( receiving a larger dose of methadone than intended) is a serious medical emergency
- Methadone is a long acting medication and can stay in your body for many hours

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8 It is important to confirm client’s contact information periodically to ensure the most up to date information is available.
Even if you have been on methadone for a long time, taking more methadone than your body is used to can be dangerous. Even what may seem like a small dose increase can be dangerous.

If you are new on methadone or have not been taking your regular dose, even for a few days, you are at increased risk of overdose.

Taking too much methadone can result in difficulty breathing (slow or shallow breathing), drowsiness, small pupils, and, in some cases, coma and death.

For this reason, it is essential that you go to the emergency department to be observed.

There is a treatment available at the emergency department that can reverse the effects that you may get from taking too much methadone. (CPSO, 2011)

**Take-Home Doses (Carries)**

Take home medication or “carries” are given to stable clients to reduce disruption in and improve the quality of the client’s daily life. Carries are considered privileges and are given as a progression of therapy to stable clients.

As a member of the methadone care team, the pharmacist should be contacted by the prescriber (or delegate) requesting your assessment of the client’s progress in treatment and their compliance with the use of carry medications. It is therefore important that the pharmacist understand the general criteria for take-home doses.

**Criteria for Providing Take-Home Doses**

The following criterion is to be assessed before initiating carries, and to be reassessed regularly for continuing carries and/or increasing or decreasing the number of carries. If the pharmacist is aware of any circumstances conflicting with a prescriber’s assessment of these criteria, they need to discuss these with the prescriber.

1. **Clinical Stability**

   - The client’s methadone dose has reached the optimal level.
   - The client demonstrates the social, cognitive and emotional skills necessary to care for the medication and to use it as prescribed. Social stability can be demonstrated by the client:
     - securing housing and a support system
     - regularly attending counselling, doctor appointments and pharmacy visits
     - complying with the treatment agreement
     - demonstrating no evidence of problematic use of any drug or alcohol

2. **The length of time in methadone treatment**

   - Carries are not recommended during the first three months of treatment.
     - Some pharmacies may not be open on Sunday and the client may need to use an alternate pharmacy on Sundays. It may be appropriate or necessary for the client to receive a Sunday carry; however, the prescriber

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9 The client may need to be observed for a minimum of 10 hours or longer depending on symptoms

10 Problematic drug use is defined as ongoing drug use with negative emotional, social, or financial consequences for the client. This usually is evident if the client has unstable moods and relationships; is involved in unsafe or illegal activities (CPSO, 2011)
must assess the status of the client to be satisfied that the provision of carry in this situation will not compromise the safety of the client or other persons.

3. Ability to safely store medication

- Clients with unstable living arrangements such as those living on the street or in hostels without storage facilities may not be appropriate to receive take-home doses
- The client shows the physician the locked box that they have agreed to keep carries secured in.
  (New Brunswick Addiction Services, 2009)

### Initiating Take-Home Dose Schedule

The decision to give carries must take into account both individual and societal safety. It is recommended that the prescriber involve the regular dispensing pharmacy when making decisions to change client’s carries.

In general, clients who are clinically stable and meet the above criteria can receive one additional carry per week each month to a maximum of six carries per week (one dose that is witnessed in the pharmacy and six take-home doses) after the first three months.

<table>
<thead>
<tr>
<th>Number of Take-home doses</th>
<th>Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>In treatment for 3 months and functionally stable for the last month</td>
</tr>
</tbody>
</table>
| 3                         | In treatment for 3 months; no unauthorized drug use for the last month; functionally stable for four weeks  
                           OR  
                           In treatment for 6 months, occasional non-problematic drug use, otherwise stable |
| 5                         | Treatment for 6 months; no unauthorized drug use; otherwise stable  
                           OR  
                           Treatment for 12 + months; occasional non-problematic drug use, otherwise stable |
| 6                         | Drug free for 12 + months; Functionally stable |

### Exemption to the carry schedule

All exemptions to the carry schedule must have clear documentation of their necessity and be discussed with the pharmacist. In the event that an exemption to the carry policy is granted that exemption must be documented using Carry Policy Exemption Form. ([See APPENDIX L: Carry Policy Exemption Form](#))

Carry exceptions should most commonly be seen as a trial and as such, require frequent reassessment. An exemption to the carry policy may be given for the following reasons:

1. **Medical Disability**

Clients showing sustained use of medications with abuse potential may receive more than one carry per week if the following conditions are satisfied:

A specific medical diagnosis has been made that has evidence-based substantiation for the use of that medication to treat the symptoms of the condition.

- The client is clinically stable and meets other criteria.
• The methadone treatment team may decide to initiate or increase carries of a client who otherwise does not qualify if they suffer from a medical condition that significantly interferes with their ability to attend the pharmacy.
• Every effort should be made to have some supervision of the methadone consumption in these cases.
• For medical conditions of a temporary nature, the requirements for carries should be re-assessed once the client’s ability to attend the pharmacy is established.
• It should be recognized that the medical condition that necessitates carries might involve pain and clinical situations that trigger increased substance abuse. The team must carefully decide whether the benefits of carries for the client outweigh the risk of further destabilizing the client.

2. Compassionate Basis
   • Clients who have not satisfied all of the other criteria may be provided short term carries on a compassionate basis in cases of personal or family crisis or bereavement.
   • Prescribers should verify the extenuating circumstances and be satisfied that there is no other way to have the client’s dosing observed.
   • The prescriber should assess the mental status of the client to be satisfied that the provision of carries through the crisis will not compromise the safety of the client or other persons.

3. Job or vacation
   • Clients who have been deemed appropriate for a high level of carries (i.e. attends the pharmacy once or twice weekly) may be granted a higher number of carries for reasons such as travel and employment opportunities. In certain circumstances, temporary arrangements for pharmacy dispensing can be made. The client must provide the physician with verification of the travel plans (e.g. plane ticket, letter from work).

A pharmacist must refuse to fill a prescription for carries if there is concern for the safety of the client or others. This decision must be communicated to the prescriber and, when available, their addictions counselor. (See APPENDIX M: Incident Report Form)

Reassessment and/or reduction of carry privileges
A reassessment and possible reduction of a client’s carry privileges is to be undertaken when the client engages in risky behaviour that is not consistent with the goals of the MMT. Reasons for reassessment or reduction of carry privileges include the following:

• Client has failed to maintain clinical stability as previously outlined.
• Client who exhibits continued problematic drug or alcohol use.
• Clients who are experiencing withdrawal, cravings or continued drug use or who are requesting an increased methadone dose.
• Client is not meeting agreed upon goals and objectives.
• Client has failed repeatedly to leave a urine sample for drug screening in the required manner as agreed upon in the treatment plan.
• Client has tampered with their urine sample.
• Client has either diverted their methadone or there is strong suspicion that methadone has been diverted or used in a way not as prescribed.
• Client has consumed carries early, reported lost or stolen carries, or vomited carries.
Managing relapse

Opioid Dependence is a chronic disorder and some clients will experience relapse. It is important that the pharmacist pass on information to the prescriber on a continuous and regular basis. The prescriber will then be in a better position to decide when it is safe for the client to have take-home doses.

A lapse is defined as a return to unhealthy behaviour regarding drugs that may include use of the drug not lasting more than 24 hours. A relapse is defined as a return to drug use along with a corresponding loss of social support.

A prescriber may consider not reducing the level of carries following a single episode of substance use, if the episode appears to be over and the client does not demonstrate other signs of instability. Following a lapse, the prescriber should:

- Re-evaluate frequency of counselling, focus of counselling
- Increase the frequency of medical appointments
- Increase the frequency of urine screening
- Consider referral to in-client detox unit.

Proposed schedule for carries during a sustained relapse;

- Reduce one carry per week for each positive urine sample (typically tested once per week), if the client remains clinically stable
- Clients who demonstrate continued risky behaviours should have all carries discontinued
- Return carries to previous level at a rate no greater than an increase of one carry per week for each negative urine sample (typically tested once per week), if the patient is otherwise stable and meets the criteria (CAMH, 2004)

Dispensing Take-Home Doses

The client must drink the first dose at the pharmacy under observation and then take home the carry medication.

Take-home doses must be diluted with juice to approximately 100 ml total volume, and each daily dose shall be dispensed with childproof safety caps in individual unit-dose bottles.

Take-home doses must be dispensed with a tamper-evident cap or seal to prevent possible misuse and serve as a check when performing carry audits.

The Take-home bottles must be labeled according to the date of ingestion. The label shall include a warning about the potential harm to children and non-tolerant adults. It is also recommended that an auxiliary label, “Keep Refrigerated” be affixed. (CAMH, 2004)

Clients must bring the lock box with them each time to the pharmacy to collect and store their take-home doses. The lock box should be discreet so as not to draw attention to the client. (i.e. large tool boxes should not be used)
All empty carry bottles must be returned to the pharmacy by the client at the time of the next visit. Clients with carries must be informed that they may be asked at any time to appear in the pharmacy and bring with them the remainder of their carry medication and empty bottles. This procedure, referred to as a “carry audit”, may be used to deter clients from diverting their methadone carry doses. (PEIPB, 2005)

Figure 1 Sample Take-Home Dose Medication Label

<table>
<thead>
<tr>
<th>Pharmacy</th>
<th>RX#</th>
</tr>
</thead>
<tbody>
<tr>
<td>Address</td>
<td>Date:</td>
</tr>
<tr>
<td>Jane Doe</td>
<td></td>
</tr>
</tbody>
</table>

Drink all at once on Saturday April 30, 2010

Methadone 50 mg in orange drink

Dr S Smith

Caution: The contents of this bottle may cause harm or death if taken by someone other than the person whose name appears on the prescription label

Discussing Take-Home Doses with the Client

The first time take-home doses are dispensed, the pharmacist must discuss the appropriate use and storage of the medication with the client and the client must sign a written agreement to ensure understanding of the precautionary measures and expectations. (See APPENDIX N: Sample Take-Home Agreement)

The pharmacist reviews the following points with the client:

- Take-home doses are for client consumption only; methadone can kill a child or non-tolerant adult. A dose as little as 10 mg can be fatal to a child; a single day’s dose of methadone (50-70mg) can be fatal to a non-tolerant adult.
- Ingestion by anyone other than the client is to be considered a medical emergency, and assistance (911) should be called immediately.
- Take-home doses must be kept secure and are the responsibility of the client.
Take-home doses are best stored in a locked box in the refrigerator, especially in households where children are present. When refrigeration is not available, an ice pack may be added to the locked box to keep the dose cool.

Take-home doses are to be consumed on the day specified on the label.

All empty take home bottles must be returned to the pharmacy at the next visit. (CAMH, 2004)

If take-home doses are lost or stolen, police are to be notified immediately to prevent possible harm to others. When the client reports the incident they should obtain an occurrence reference number from the police so that it can be documented by the pharmacist. (ACP, 2007)

Misplaced, lost or stolen take-home doses are generally not replaced. As with any other narcotic, if any doses are replaced, a new prescription is required. (CAMH, 2004)

The client may be asked at any time to appear in the pharmacy and bring with them the remainder of their take home methadone doses. This procedure may be used to deter clients from diverting their methadone carry doses.

The pharmacist must refuse to fill a prescription for a carry if there is a concern for the safety of the client or others. This decision must be communicated to the prescriber and addictions counselor.

Lost or Stolen Take-Home Doses
There is a significant risk of accidental overdose if lost or stolen take-home doses are consumed by individuals for whom it is not intended. The client must report the incident to the police and obtain an occurrence reference number that can be documented by the pharmacist. If the client does not report, then someone from the methadone treatment team should make a report. Disclosing the client’s name is not required.

Decisions on replacing lost or stolen take-home doses are made on a case by case basis. A new prescription is required for replacement doses. (CAMH, 2004)

Vacation supply
A practitioner may prescribe a larger than normal carry supply for a client going on vacation. This supply can be for a maximum of 2 weeks (1 observed drink and 13 carries). The prescriber writes on the prescription that it is a vacation supply. This extended supply is only given to clients who are stable and are already on the maximum of 6 carries per week. For clients who do not meet this criteria their prescriber may organize for them to “guest drink” at another pharmacy in the location they will be visiting. (MPhA, 2010) [See APPENDIX L: Carry Policy Exemption Form]

Methadone Dosing Issues
Methadone Maintenance treatment can be divided into 3 phases.

Initial Stabilization (0-2 Weeks)
“Start low and go slow”

This phase encompasses the first 2 weeks of the program. It has been reported that the most common reason for methadone overdose has been overly-aggressive prescribing during this initial stabilization phase. (CAMH, 2004). The goal is to achieve an optimal maintenance dose as quickly and safely as possible. However, it is important to balance the goal of quickly stabilizing the client against the risk of overdose.

The purpose of the initial dose is to reduce opioid withdrawal symptoms. It is administered after medical assessment has been completed and a diagnosis of opioid dependence established. For clients who are at higher risk for experiencing
methadone toxicity, especially those who use benzodiazepines and/or alcohol as well as opioids, the starting dose is no more than 20 mg. For other clients the starting dose is equal to or less than 30 mg. (CPSO, 2011)

Based on pharmacokinetic principles, steady state levels of methadone are achieved in five to ten days. However, with careful clinical monitoring, doses in the first week of treatment can be increased every three to four days, but not more frequently.

Clients need to be assessed frequently to review safety and effectiveness of the methadone dose until they are stable. Dosing is usually adjusted by 5 - 15 mg.

The client is to be monitored for signs of methadone toxicity such as sedation. Every single missed dose during the period of dose escalation is to be communicated to the prescriber because it may necessitate a delay in further dose increases.

After stability has been achieved the most common reason for overdose is additive toxicity with other drugs, especially benzodiazepines.

**Late Stabilization (2- 6 Weeks)**

This phase is usually 2 to 6 weeks in length and most clients will be taking 50 to 80 mg of methadone. During this phase most clients are experiencing only partial relief of withdrawal symptoms, and may continue to use opioids sporadically.

Dose increases during this phase shall be the same as during early stabilization phase until a dose of 80 mg is reached (See Table 2: Dosing during Early and Late Stabilization Phase). It is recommended that clients be assessed at least weekly during this phase.

<table>
<thead>
<tr>
<th>Table 2: Dosing During Early and Late Stabilization Phase. (CPSO 2011)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Patient Factors</strong></td>
</tr>
<tr>
<td>-----------------------------------</td>
</tr>
<tr>
<td>Higher risk for methadone toxicity</td>
</tr>
<tr>
<td>Recent abstinence from opioids</td>
</tr>
<tr>
<td>No risk factors or recent abstinence</td>
</tr>
</tbody>
</table>

**Maintenance Phase: The Optimal Methadone Dose (6+ Weeks)**

The optimal maintenance dose of methadone will relieve withdrawal symptoms, block opioid-induced euphoria and reduce opioid cravings for 24 hours, without causing sedation or other significant side effects. The optimal dose for most patients is 60-120 mg. (CAMH, 2004)

During the maintenance phase (when the dose is 80 mg or more) the MMT prescriber shall increase the dose by no more than 5-10 mg every 5-7 days. It is recommended that the MMT prescriber assess clients once weekly when ongoing dose adjustments are occurring and less frequently thereafter. (CPSO, 2011)

**Timing of Doses**

It is recommended that methadone doses be administered at least 16 hours apart and preferably in the morning so the client can monitor for methadone toxicity throughout the day. Because a single dose of methadone is effective for 24
hours, clients should receive their dose at the same time every day. This will result in more consistent blood levels and fewer adverse effects. (CPSO, 2011)

**Divided Doses - (Split doses)**

A very small number of people metabolize methadone rapidly. These clients experience symptoms of opioid withdrawal from 4 to 6 hours before the next dose of methadone is administered in a 24 hour dosing schedule. Split dosing is commonly used during pregnancy or for chronic pain, or in clients on medications that induce rapid metabolism of methadone. (CPSO, 2011)

A split-dose protocol involves the administration of half of the daily methadone requirement every 12 hours. The second daily dose is not to be released as a carry unless the client meets the criteria for take-home doses. (See **Criteria for providing Take-Home dose, pg 21**)

Split doses are only to be used in clients who have clinically demonstrated rapid metabolism. Because of the difficulty in ensuring witnessed ingestion twice daily, they should not be used simply when requested by a client, particularly if stability has not been attained.

It is possible to confirm rapid metabolism by testing for peak (4 hours post ingestion) and trough (prior to ingestion) serum methadone levels. If the calculated ratio of peak: trough is greater than 2:1, this indicates that the client is a rapid metabolizer. (CPSBC, 2009)

**Missed Doses**

Missed doses may indicate a variety of problems, including relapse to alcohol or other drug use. Reporting all missed dose pickups will help the prescriber assess the client’s progress and stability. Considering the variability and unpredictable loss of tolerance, the prescriber may manage future doses based on the following guidelines.

**Table 3: Management of Missed Doses, CPSO 2011**

<table>
<thead>
<tr>
<th>Phase of Treatment</th>
<th>Missed Doses</th>
<th>Action</th>
<th>Dose Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Early Stabilization</td>
<td>1 day missed</td>
<td>• No dose increase</td>
<td>• Resume same dose</td>
</tr>
<tr>
<td>(0-2 weeks)</td>
<td></td>
<td></td>
<td>• Do not increase dose until 3 consecutive days</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>at the same dose</td>
</tr>
<tr>
<td></td>
<td>2 consecutive</td>
<td>• Reassess client in person</td>
<td>• Restart at initial dose (10-30 mg) for at least 3 days</td>
</tr>
<tr>
<td></td>
<td>days missed</td>
<td>• Cancel remainder of prescription</td>
<td>• Reassess after 3rd consecutive dose</td>
</tr>
<tr>
<td>Late Stabilization/Maintenance</td>
<td>1-2 days missed</td>
<td>• Provide usual prescribed dose if client is not intoxicated.</td>
<td>• No change</td>
</tr>
</tbody>
</table>
### Late Stabilization/Maintenance

<table>
<thead>
<tr>
<th>Days Missed</th>
<th>Assess Actions</th>
<th>Reduce Dose Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 consecutive days missed</td>
<td>• Assess client in person&lt;br&gt;• Cancel remainder of prescription&lt;br&gt;• Reassess every 3-4 days if dose is increased daily</td>
<td>• Restarted at 50% of regular dose or decrease to 30 mg&lt;br&gt;• Then increase dose to no more than 10 mg daily for a maximum of 3 days, then reassess by day 3-4&lt;br&gt;• Thereafter, dose increase of 10-15 mg every 3-5 days until 80 mg&lt;br&gt;• Then 10 mg every 5-7 days for dose increases above 80 mg</td>
</tr>
<tr>
<td>4 or more consecutive days missed</td>
<td>• Re-assess client in person&lt;br&gt;• Cancel remainder of prescription</td>
<td>• Restart at 30 mg or less&lt;br&gt;• Then increase dose no more than 10-15 mg every 3-4 days until 80 mg&lt;br&gt;• Then increase 10 mg every 5-7 days for dose increases above 80 mg</td>
</tr>
</tbody>
</table>

### Risk Associated with Missed Take Home Doses

Clients who are receiving high dose methadone and are not ingesting as prescribed are at risk for overdose and death if placed in a situation of having all their doses observed such as when incarcerated or in hospital. The pharmacist should carefully monitor for signs of toxicity if a client has a significant drop in carry status (e.g. to daily dispensing) in case the client is no longer tolerant to the full dose of methadone due to the fact they have been diverting a substantial portion of their prescribed methadone. (CAMH, 2004)

### Vomited Doses

If a client complains of feeling nauseated prior to being medicated, consider delaying medication or pre-medicating with an anti-nauseant. Methadone should be sipped slowly and the client should remain in the pharmacy for 15 minutes after being medicated.

Methadone is rapidly absorbed from the gastrointestinal tract. Absorption of a methadone dose is considered complete within 30 minutes after dosing. Only 40% of stomach contents can be emptied even with severe vomiting. (CAMH, 2004)

If the emesis was witnessed by the pharmacist or staff, considered legitimate and has occurred within 15 minutes after consumption, the dose may be replaced at no more than 50% of regular dose. If emesis is not observed or occurs 15 minutes or more after dosing, it is recommended that the dose not be replaced (CPSO, 2011). **NOTE: A physician must order all replacement doses.**
Urine Drug Screening (UDS)
UDS is one tool to verify clients self reported substance use, assess response to MMT and determine suitability for take-home doses. The use of urine testing to screen for illicit drug use has long been standard practice in methadone programs.

When and why to order a Urine Drug Screen

1. **At initial assessment:**
UDS obtained at the initial assessment provide information about current drug use that is essential in the treatment planning process.

2. **When a client is receiving methadone as daily witnessed ingestion (DWI)**
Monitor clients who take their methadone under supervision periodically using urine drug screens. The results will indicate the following:
   - Whether the prescribed methadone is being ingested
   - Whether other mood-altering drugs are being used
   - Whether other opioids are being used

   The continued presence of opioids in urine drug screens may indicate the methadone dose is too low

Recommended frequency of testing according to the NB Addictions, Methadone Maintenance Policies and Procedures, 2009 are:

   - 0-6 months - weekly
   - If stable, 6-12 months - every 2 weeks
   - If stable, greater than 12 months - monthly

3. **When a client is receiving carry privileges**
Urine drug screens can confirm that clients with carries are ingesting their methadone and not using other drugs. (CPSBC, 2009)

Occasionally, certain circumstances, clients, including those who have take-home doses, may provide UDS less often than once monthly if they are known to the MMT prescriber over a number of years, they have long established clinical stability and drug use abstinence and are considered by the MMT prescriber to be reliable historians. Less than monthly urine testing may also occur for clients who have ongoing drug use or who are chronically homeless and will not be seeking take-home doses. (CPSO, 2011)
Methadone Discontinuation

Client-Initiated or Voluntary Taper

Optimum benefits from MMT are not realized for at least a year. Generally, clients who have been on the Methadone Maintenance Program for two or three years will have better outcomes when tapered off methadone than those who start the tapering process before two years of treatment. (CPSBC, 2009) Although the efficacy of long term methadone maintenance is well recognized, there may be time when a client wants to start tapering and eventually discontinue MMT.

Withdrawal from MMT is most likely to be successful if the client has been abstinent from illicit substances for a substantial period of time, does not have current or untreated psychiatric co-morbidity, and has strong social supports and counseling. (CPSO, 2011)

Advise the client of the risk of relapse to drug use.

The rate of taper should be negotiated with the client and should be stopped or reversed at the client’s request if the client experiences severe cravings, dysphoria, withdrawal symptoms, or relapse to substance use. Generally, slow tapers are more successful than rapid tapers. The daily dose should be decreased by no more than 5-10 mg every 1-2 weeks. The rate of taper is reduced once the dose is below 20 mg to reduce risk of an organic mood syndrome\(^\text{11}\). A gradual decrease of 1-2 mg every few weeks is suggested. (CPSO, 2011) During this period, the client may request a blind taper, such that they are not to be informed of the dose they are consuming. However for added safety, clients should always confirm their dose prior to consumption as an additional check for accuracy. Therefore blind tapers are discouraged.

Abrupt Self-Discontinuation

- Strongly discourage clients on MMT from abrupt discontinuation of treatment because of the high risk of relapse to heroin or other opioid use.
- Clients on high doses are particularly at risk of experiencing severe withdrawal symptoms if the medication is abruptly discontinued
- With abrupt discontinuation, symptoms of withdrawal emerge gradually and are usually observed 36 to 48 hours after the last dose.
- Withdrawal symptoms peak at about 72 hours after the last methadone doses and may continue at this level for about two weeks. The withdrawal syndrome then declines very gradually, typically ending at the sixth or seventh week. In some clients, symptoms such as insomnia, depression, anxiety or craving may be protracted, lasting for weeks or months

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\(^{11}\) Organic mood syndrome: denoting an organic mental syndrome marked by manic or depressive mood disturbance caused by a specific organic factor and not associated with delirium.
Involuntary Discontinuation of MMT

Clients who are being discharged involuntarily are usually maintained at their regular dose until they are transferred to another prescriber or program.

Reasons to terminate methadone treatment include the following:

- Threats: the client has made a threat to the safety or well-being of a staff member, another client or relative.
- Disruptive behaviour: the client had engaged in disruptive behaviour on the methadone program premises or in the pharmacy.
- Violent behaviour: the client has engaged in violent behaviour toward a staff member, a client or another person.

If it is decided to discontinue methadone, the dose should be tapered at a rate of no more than 5 mg every three to four days. During the last two weeks of the taper, additional medications may be offered to decrease withdrawal symptoms, such as clonidine, loperamide, NSAIDs, dimenhydrinate. (CAMH, 2004)
Methadone Maintenance Treatment: Cautions

Adverse Effects
Many myths about adverse effects of methadone exist amongst clients. In fact, methadone is well tolerated. It is important for pharmacists to assist clients accurately identify and manage adverse effects.

Table 4: Common Adverse Effects (NSCP 2011)

<table>
<thead>
<tr>
<th>Adverse Effect</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sedation</td>
<td>• May occur at the start of treatment and when doses are increased</td>
</tr>
<tr>
<td></td>
<td>• Clients generally become tolerant to this effect</td>
</tr>
<tr>
<td></td>
<td>• Caution should be exercised when performing activities that require alertness</td>
</tr>
<tr>
<td></td>
<td>• Avoid other substances that may contribute to sedation</td>
</tr>
<tr>
<td>Sweating</td>
<td>• Commonly reported (up to 50% of high doses)</td>
</tr>
<tr>
<td></td>
<td>• May be related to inappropriate dose (too high or too low)</td>
</tr>
<tr>
<td></td>
<td>• Reassure the client that it causes no medical problems</td>
</tr>
<tr>
<td></td>
<td>• Balance reduction of dose to address sweating with risk of relapse</td>
</tr>
<tr>
<td>Constipation</td>
<td>• Common to all opioids</td>
</tr>
<tr>
<td></td>
<td>• Reported to be less with methadone</td>
</tr>
<tr>
<td></td>
<td>• Results from interference with bowel motility</td>
</tr>
<tr>
<td></td>
<td>• Recommend regular exercise and increased fluid intake</td>
</tr>
<tr>
<td></td>
<td>• Occasional osmotic laxative use may be recommended</td>
</tr>
<tr>
<td></td>
<td>• Regular use of stimulant laxative should be discouraged</td>
</tr>
<tr>
<td>Weight Gain</td>
<td>• May be due to a decrease in drug use and better nutrition as a result of methadone treatment</td>
</tr>
<tr>
<td>Sexual Problems</td>
<td>• May increase or decrease</td>
</tr>
<tr>
<td>(libido)</td>
<td>• Clients may complain of withdrawal when this effect wears off</td>
</tr>
<tr>
<td>Psychoactive Effects</td>
<td>• Mild euphoria can occur in those given a dose slightly higher than their tolerance level</td>
</tr>
<tr>
<td>Insomnia</td>
<td>• Tends to improve as clients are stabilized</td>
</tr>
<tr>
<td></td>
<td>• Educate client with regard to good sleep hygiene techniques</td>
</tr>
</tbody>
</table>

Less common adverse effects include muscle and bone ache, peripheral edema, and change in menstruation, flushing and itching. (CAMH, 2004)

Dental Problems
Poor dental hygiene and/or poor dental care during problematic opioid use causes poor dental health amongst many clients involved in methadone maintenance. While opioids may inhibit saliva production and cause dry mouth, there is
no evidence that methadone induces dental caries. However, MMT clients should be encouraged to practice good oral hygiene practices and be referred to a dentist if necessary. (CAMH, 2004)

**QT Interval Prolongation**

Both oral and intravenous administration of methadone is associated with QTc interval prolongation and torsades de pointes. The rate of this occurrence is not clear. (NSCP, 2011)

While it seems to be dose-dependent, it is important to note that sudden cardiac death associated with methadone has been seen at dosages as low as 29mg/day. This means that arrhythmia can occur in dosages commonly used in both chronic pain and addiction treatment, and that dosage is just one consideration with regard to limiting arrhythmia risk (NSCP, 2011)

Table 5: Risk factors for QTc Prolongation in Patients on Methadone, CSPSO 2011 Pg 43

<table>
<thead>
<tr>
<th>Risk Factor</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Older Age</td>
<td></td>
</tr>
<tr>
<td>Structural heart disease</td>
<td>Myocardial infarction, congestive heart failure, valvular disease, cardiomyopathy</td>
</tr>
<tr>
<td>HIV infection</td>
<td></td>
</tr>
<tr>
<td>Low potassium level</td>
<td>On drugs that lower potassium. E.g. Diuretics</td>
</tr>
<tr>
<td>Low prothrombin level</td>
<td></td>
</tr>
<tr>
<td>On medication that inhibit cytochrome p450 3A4</td>
<td>HIV antivirals  e.g. Indinavir</td>
</tr>
<tr>
<td></td>
<td>Antifungals  e.g. Fluconazole, ketoconazole</td>
</tr>
<tr>
<td></td>
<td>Calcium channel blockers e.g. Diltiazem, Verapamil</td>
</tr>
<tr>
<td></td>
<td>Antimicrobials  e.g. Norfloxacin</td>
</tr>
<tr>
<td></td>
<td>Antidepressants  e.g. Fluvoxamine</td>
</tr>
<tr>
<td></td>
<td>Contraceptives  e.g. Mifepristone</td>
</tr>
<tr>
<td></td>
<td>Foods: e.g. Grapefruit juice</td>
</tr>
<tr>
<td>Alcohol use</td>
<td></td>
</tr>
<tr>
<td>Cocaine use</td>
<td></td>
</tr>
<tr>
<td>Family or history of long QT syndrome</td>
<td>History of syncope or sudden cardiac death in family</td>
</tr>
<tr>
<td>On medication that prolongs QTc</td>
<td>Cardiac medications e.g. amiodarone, sotalol</td>
</tr>
<tr>
<td></td>
<td>Antipsychotics e.g. chlorpromazine, haloperidol, pimozide, thioridazine</td>
</tr>
<tr>
<td></td>
<td>Antibiotics e.g. clarithromycin, erythromycin</td>
</tr>
<tr>
<td></td>
<td>Anti-nausea drugs e.g. domperidone</td>
</tr>
</tbody>
</table>

Adapted from: Methadone - associated QTc prolongation: A case report and review of the literature. (Abramson DW, Quinn DK, Stern TA. Prim Care Companion J Clinic Psychiatric 2008; 10(6); 470-476)

More information about QT prolongation including drugs known to cause QT prolongation can be found at www.azceert.org

For recommendations to limit the risk of arrhythmias: (See Appendix O: Recommendations to limit the Risk of Arrhythmias)

**Methadone Intoxication and Overdose**

Intoxication or overdose can result from:
• Too high a dose being prescribed, especially at the beginning of treatment when the client is not fully tolerant.
• Increasing the dose too quickly.
• Drug interactions.
• Impaired metabolism due to hepatic/renal insufficiency.
• Double dosing when a client moves from hospital or from prison to their usual pharmacy.
• Prescribing or dispensing errors.
• Clients using take-home doses in ways that were not intended.
• Clients giving away or selling part of their take-home doses to non-tolerant people.
• Accidental ingestion in a non-tolerant person.
• Concurrent use of other sedating medications such as benzodiazepines.

Signs and Symptoms of Opioid Intoxication and Overdose

Intoxication or overdose from long-acting opioids, particularly methadone, can have a gradual, insidious onset of symptoms. Definite signs of methadone toxicity may not become apparent for 5-9 hours after the overdose. (CPSO, 2011)

Intoxicated clients may exhibit some of the following:

• Euphoria
• Dysphoria
• Motor retardation
• Sedation
• Pinpoint pupils
• Slowed speech

In addition to the above, overdose is characterized by:

• Respiratory depression
• Circulatory collapse
• Bradycardia
• Cardiac arrest
• Death

Assessment of the MMT client who may have taken a toxic dose

The practitioner should engage the client in conversation for at least five minutes, as an overdosed client will have trouble maintaining alertness for more than a few minutes. During the conversation, observe for sweating, emotional liability, slurred speech or drawling speech, and “nodding off”. If possible, the client should also be observed when not engaged in conversation. Falling asleep, “dozing” or “napping” could indicate toxicity even if the client is easily aroused.

If the client is at home, ask family members to describe the client’s sleep. Loud snoring and apneic episodes during sleep could indicate a life-threatening overdose. (CPSO, 2011)
Management
It can be extremely dangerous to medicate intoxicated clients. Untreated overdose can result in death due to respiratory depression.

Depending on the severity of intoxication the pharmacist must use their clinical judgment either to:

- Delay medicating
- Refer intoxicated client to their physician for medical assessment, or
- Refer client to the nearest hospital emergency department.

For information to communicate to the client if it is suspected that the client may have consumed an overdose of methadone (See APPENDIX K: Appropriate Action for Administration Errors)

Withdrawal from Methadone

Table 6: SIGNS AND SYMPTOMS OF OPIOID WITHDRAWAL

<table>
<thead>
<tr>
<th>Objective</th>
<th>Subjective</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nausea, vomiting</td>
<td>Anxiety</td>
</tr>
<tr>
<td>Diarrhea</td>
<td>Restlessness</td>
</tr>
<tr>
<td>Runny nose, sneezing</td>
<td>Abdominal pains and cramps</td>
</tr>
<tr>
<td>Lacrimation</td>
<td>Muscle aches</td>
</tr>
<tr>
<td>Dilated pupils</td>
<td>Bone pain</td>
</tr>
<tr>
<td>Gooseflesh</td>
<td>Anorexia</td>
</tr>
<tr>
<td>Tremor</td>
<td>Craving</td>
</tr>
<tr>
<td>Sweating</td>
<td>Insomnia</td>
</tr>
<tr>
<td>Yawning</td>
<td>Irritability</td>
</tr>
<tr>
<td>Tachycardia</td>
<td></td>
</tr>
<tr>
<td>Blood pressure elevation</td>
<td></td>
</tr>
</tbody>
</table>

Symptoms of Inadequate Methadone Dosing

Compared to withdrawal from short-acting opioids, the signs and symptoms associated with too low a dose of methadone are less dramatic and more subtle in nature. Clients may feel that the dose is not “holding” them. The client on inadequate doses of methadone will describe a characteristic set of symptoms including:

- Muscle aches
- Hot flashes
- An electric, restless or uncomfortable feeling
- Nausea
- Yawning

Good communication amongst the prescriber, pharmacist and client can help the prescriber adjust the dose.

With abrupt discontinuation of methadone, signs and symptoms of withdrawal are not usually observed until 36-48 hours after the last dose. They appear gradually and peak at about 72 hours after the last dose. They may continue at this peak level for about two weeks. The withdrawal syndrome then declines very gradually. Symptoms may be
experienced for months. Therefore, clients who are doing well and want to discontinue methadone treatment are generally encouraged to taper slowly. The rate of the taper is usually guided by the client.

**Drug Interactions with Methadone**

While methadone clients may be prescribed other medications, in most cases this does not interfere with their methadone treatment. However, clinicians must be aware of common methadone drug interactions and monitor clients when starting or discontinuing a medication that may interact with methadone. Except for medications that are contra-indicated, most interactions can be managed by monitoring for symptoms and making dose adjustments when necessary.

**Pharmacodynamic Interactions**

Additive effects occur with:

- Other central nervous system depressants, e.g. alcohol, benzodiazepines and other sedating medications. When these are added to methadone, clients are at:
  - high risk for toxicity on initiation and also;
  - risk of CNS depression during treatment.
- Medications causing similar effects e.g. constipation or urinary retention by anticholinergics such as dimenhydrinate
- Medications causing prolongation of QTc interval e.g. tricyclic antidepressants, cocaine. (for further information on drugs that prolong QT interval and/or induce Torsades de Pointes see [http://www.azcert.org/medical-pros/drug-lists/printable-drug-list.cfm](http://www.azcert.org/medical-pros/drug-lists/printable-drug-list.cfm))

**Pharmacokinetic Interactions**

Methadone is metabolized by N-demethylation in the liver predominantly by the Cytochrome P450 3A4 enzyme system to EDDP (2-ethylene-1, 5-dimethyl-3, 3-diphenylpyrrolidine), the main inactive metabolite of methadone. Many of the interactions with methadone occur through involvement of microsomal P450 system. Therefore, medications affecting this system, or those that are also metabolized by CYP3A, can be expected to interact with methadone.

Methadone may also be metabolized to a lesser extent by the CYP1A2, 2B6, 2C8, 2C9, 2C19 and 2D6 enzymes. Methadone is also a weak inhibitor of CYP2D6.

The effects of induction of methadone metabolism occur slowly as new enzymes are synthesized. Maximal effects generally occur at one to two weeks and can result in methadone withdrawal symptoms. In contrast, inhibition of methadone metabolism occurs rapidly and effects of toxicity such as sedation or respiratory distress can be present in as little as one to two days - although clients need to be monitored for a longer period. (CAMH, 2004)

The sequence of administration of the drugs is the key to the interaction. When a client is stabilized on a drug that affects liver metabolism and methadone is introduced, the interaction may not be observed unless the first drug is discontinued. It is only if the client is stabilized on methadone and an interacting drug is initiated or discontinued that an interaction may occur. (CPBC, 2010)
The following table contains examples of drug interactions affecting/affected by methadone. It is not intended to be an inclusive list of drug interactions. Pharmacists must refer to a current reputable drug interaction reference for a comprehensive list.

<table>
<thead>
<tr>
<th>Drugs that may decrease methadone plasma levels (induce metabolism)</th>
<th>Drugs that may increase methadone plasma levels (inhibit metabolism)</th>
<th>Drugs whose levels may be affected by methadone</th>
<th>Interactions with food</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barbiturates</td>
<td>Ciprofloxin</td>
<td>Desipramine</td>
<td>Grapefruit juice may inhibit metabolism</td>
</tr>
<tr>
<td>Carbamazepine</td>
<td>Fluconazole/Ketoconazole</td>
<td>Zidovudine</td>
<td></td>
</tr>
<tr>
<td>Various antiretroviral medications</td>
<td>Various antiretroviral medications</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chronic alcohol use</td>
<td>Cimetidine</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phenytoin</td>
<td>Diazepam</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Primidone</td>
<td>Acute Alcohol use</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Urinary acidifiers</td>
<td>Fluvoxamine</td>
<td></td>
<td></td>
</tr>
<tr>
<td>St. John’s Wort</td>
<td>Urinary alkalizers</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Medications contraindicated because they can precipitate withdrawal include:

**Opioid Antagonists**
- Nalmefene
- Naltrexone

**Partial Agonist/Mixed Agonist-Antagonists**
- Buprenorphine
- Butorphanol
- Nalbuphine
- Pentazocine


**Methadone Maintenance: Special Populations**
There are a number of populations and care settings within the general community and in specific communities that present unique prescribing issues for consideration in the methadone maintenance treatment.
The principles regarding assessment and monitoring in these populations remain the same.

**Adolescent Clients**
Young clients should only be maintained on methadone maintenance if the benefits of treatment can be clearly documented.

**Women of Child-Bearing Potential**
There is a high incidence of menstrual irregularity and amenorrhea in heroin-dependent women. For many women, this will be regulated and ovulation will start once they are stabilized on methadone. Information about birth control should be discussed to all women upon initiation of methadone. (CPSBC, 2009)

**Pregnant Women**
Pregnancy in a woman addicted to heroin and/or opioids is frequently an indication for methadone maintenance treatment. Expectant mothers should be accepted into treatment immediately. (ACP, 2007)

Methadone readily crosses the placenta, but the benefits associated with MMT far outweigh risks to the baby.

Continued heroin use is associated with:

- Cycles of intoxication and withdrawal detrimental to both mother and baby.
- Increased risk of spontaneous abortion, miscarriage and premature labour.
- Risk of transmitting viral hepatitis or HIV to the baby.

Compared to the risks associated with continued opioid use, the use of methadone during pregnancy is preferred for both the mother and the fetus. Studies have shown that MMT improves both maternal and neonatal outcomes in pregnant opioid-dependent women. (CPSO, 2011)

The benefits of MMT include:

- Improved gestational age
- Increased birth weight
- Decreased infant mortality.

MMT provides the opportunity for the provision of improved prenatal care, including:

- Medical care
- Nutritional counseling
- Provision of parenting skills
- Psychosocial counseling

**Dosing in Pregnancy**

**Initial Treatment**

If possible, initial treatment should occur in hospital where the client can be more easily and quickly stabilized and monitored for withdrawal and fetal distress. Generally, the client is assessed for withdrawal every four to six hours. Usually, at the first sign of withdrawal 10 mg of methadone is given, followed by 5 mg every 4 to 6 hours if withdrawal
symptoms continue. The next day, the previous day’s total dose is given followed by supplemental doses of 5 mg if needed.

The dose is considered stable if no “prn” medications are required over a 24 hour period.

Methadone dosing should be adequate to prevent withdrawal and to minimize carving for the use of other opioids. Some clinicians recommend keeping the daily dose below 80 mg, if possible.

If hospitalization is not feasible, the client can be stabilized on an outpatient basis. (CAMH, 2004)

**Second and Third Trimester**

Studies in pregnant methadone clients show the plasma levels of methadone decrease during pregnancy (especially in the third trimester) This decrease is caused by the increased fluid space, a large tissue reservoir for storing methadone, and drug metabolism by both the placenta and fetus. Therefore, some methadone maintained pregnant women might develop signs and symptoms of withdrawal in the third trimester. (CAMH, 2004)

In the last trimester, physicians may consider split doses in pregnant women who experience early withdrawal due to changes in methadone metabolism, to keep the total amount of the dose down and to even out blood levels over a 24 hour period. (CPSBC, 2009)

After delivery, the dose requirements should be reviewed, with doses frequently reduced, and clients returned to once daily dosing. (CAMH, 2004)

**Pregnant women should not miss a dose of methadone, as the withdrawal symptoms associated with missing a dose may cause fetal distress.** (NLBP, 2008)

**Withdrawal from MMT during pregnancy**

Withdrawal from methadone during pregnancy is generally discouraged. If the client desires to be withdrawn from methadone, or a dose decrease is desired, it should only be attempted in the second trimester and not be started during the first 14 weeks gestation or after the 32nd week because of risks to the fetus. The dose should not be decreased by more than 5 mg every 2 weeks to prevent fetal distress and the onset of preterm labor. (CAMH, 2004)

**Breastfeeding**

The American Academy of Paediatrics’ Committee of Drugs considers breastfeeding and methadone to be compatible, with no reports of adverse effects in the nursing infant where the mother was consuming up to 20 mg of methadone every 24 hours.

Infant exposure can be minimized by nursing just before taking methadone, and by avoiding nursing during the period of peak methadone levels, two to four hours after ingestion. Some clinicians recommend that breastfeeding be discontinued after three to six months, by which time the baby is consuming larger quantities of breast milk. Breastfeeding is contraindicated if the client is HIV positive. (CAMH, 2004)
Clients with Co-morbid Conditions

Hepatic Impairment
Hepatic dysfunction does not seem to significantly disrupt methadone metabolism. The maintenance dose of methadone may not need adjustment in those with stable chronic liver disease, but abrupt changes in liver status may necessitate dose adjustment. (CAMH, 2004)

Renal Impairment
Although urinary excretion decreases in renal failure, plasma concentration remains in the normal range. Peritoneal or hemodialysis appears to remove very little methadone. (CAMH, 2004)

Respiratory Disease
Methadone clients who develop an acute, serious respiratory illness (e.g. pneumonia, COPD exacerbation) should be closely monitored for both worsening respiratory function and methadone toxicity. Abrupt cessation of methadone should be avoided, as withdrawal may cause cardio-respiratory complications due to anxiety and agitation. (CPSO, 2011)

Cardiac disease
Clients who have cardio-myopathy due to ischemia or other causes are often at higher risk for arrhythmias, therefore their QT interval should be closely monitored and their dose adjusted if necessary. Rapid methadone tapering should be avoided in clients with coronary artery disease as it can trigger cardio-respiratory instability. (CPSO, 2011)

HIV/AIDS
High priority is given to clients with HIV/AIDS in order to help decrease the risk of transmission of HIV infection in the community. The frequent contact with health care providers associated with methadone maintenance treatment may also increase the benefit of HIV/AIDS treatments. (ACP, 2007)

Many medications used for the treatment of HIV/AIDS interact with methadone, but these interactions can generally be managed by monitoring side effect and adjusting the dose accordingly. (CAMH, 2004)

Treatment of MMT Clients with Acute Pain
Methadone clients’ need for analgesia should be met with adequate treatment, as for any client in pain.

Clients on long-term methadone therapy have a lower pain threshold and are tolerant to the analgesic effects of other opioids, so if they experience severe acute pain they may require opioids in higher or more frequent doses than non-tolerant clients. (CPSO, 2011) The usual methadone maintenance doses should be continued and this dose is considered a baseline for preventing the emergence of withdrawal and craving. It will not provide significant pain relief. (CAMH, 2004)

Table 7: Overview of Pain Management, adapted from CPSO, 2011

<table>
<thead>
<tr>
<th>Pain Condition</th>
<th>Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mild to moderate</td>
<td>Non-opioid treatments</td>
</tr>
<tr>
<td>Common conditions such as fibromyalgia, low back pain</td>
<td>✤ Acetaminophen</td>
</tr>
<tr>
<td></td>
<td>✤ NSAIDS</td>
</tr>
<tr>
<td></td>
<td>✤ Non-pharmacological treatments</td>
</tr>
<tr>
<td>Severe nocioceptive or neuropathic pain</td>
<td><strong>First Line: Non-opioid treatments</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Second Line: Split methadone dose</strong></td>
</tr>
</tbody>
</table>
Practitioners may consider instructing pain medications to be dispensed daily at the same time as the daily methadone dose. Alternatively, clients may be asked to return their pain medication for a “pill count” to audit for appropriate use.

In MMT clients who are eligible for take-home doses and have severe pain unresponsive to non-opioid treatments, temporarily adding an afternoon or evening methadone daily dose (e.g. 10-15 mg) may be helpful. If this is ineffective or not advisable, then the prescriber might consider short term\textsuperscript{14} treatment with a short acting opioid prescription. If possible, the MMT prescriber should avoid the MMT client’s previous opioid of abuse or an opioid commonly abused in the community. (CPSO, 2011)

**Partial opioid agonists or agonist/antagonists, such as pentazocine, butorphanol, buprenorphine and nalbuphine, should never be used.** Such drugs can precipitate withdrawal symptoms.

If clients in MMT are prescribed another opioid analgesic, they must tell the healthcare prescriber that they are receiving methadone. Failure to disclose this information under these circumstances is considered to be a legal offence (commonly called “double-doctoring”).

**Mental Health Issues**

Clients admitted to MMT programs frequently also have mental health problems - in particular, anxiety disorders such as post-traumatic disorder, mood disorders or personality disorders. (CPSBC, 2009)

**Sedative - Hypnotics including Benzodiazepines**

Concurrent sedative - hypnotic use poses another set of unique challenges. Like alcohol, these drugs have a synergistic respiratory depressant effect when used with methadone and may increase the risk of fatal overdose. The issue of multi-doctoring, where clients may be receiving sedative—hypnotics from other prescribers, may need to be addressed. Sedative -hypnotics need to be used cautiously, if at all, in clients with addiction disorders. There are few indications for their use in this population. (CPSBC, 2009)

Benzodiazepine use in MMT clients is associated with increased psychological distress, risk for overdose, higher risk of suicidal behaviour, violence, impaired attention and memory, impaired driving and risk for continuing poly-drug use. Furthermore, inconsistent results regarding the impact of benzodiazepine use on treatment retention have been reported, with negative impact or no impact on treatment retention. As well, an observational study documented reduced symptoms of depression in MMT clients who were tapered off benzodiazepines and started on antidepressant therapy. World Health Organization Guidelines (2009) suggest that gradual withdrawal from benzodiazepines may be necessary for benzodiazepine users in MMT programs. (CPSO, 2011)

Should a client present a prescription for a mood altering drug or if the pharmacist discovers that a mood altering drug is also being prescribed to the client, the pharmacist must contact both the prescriber of methadone and, if different, the prescriber of the mood altering drug, prior to dispensing the medication. The purpose of the consultation is to ensure the prescriber(s) are aware that the client is currently on the methadone maintenance program. The pharmacist must document the outcome of the consultation(s) with the prescribers (CPBC, 2010)

\textsuperscript{14} In general opioids should not be given for more than 2 weeks for acute pain, and a re-evaluation of the clients pain should be made with the appropriate referral (New Brunswick Addiction Services, 2009)
Continuity of Care - Hospitalized or Incarcerated

When a client in methadone maintenance treatment is admitted to hospital, visits an emergency/outpatient department or is incarcerated, pharmacists and other health care providers on staff at the institution must work closely with the client’s usual pharmacist to provide uninterrupted care that is optimal, safe and effective for the client. (CAMH, 2004). Provincial and Federal incarceration facilities are considered hospitals\(^\text{15}\) for the purposes of providing methadone.

To ensure continuity of treatment and to minimize the risk of error, the institutional pharmacist or health care provider receiving the MMT client must gather certain information before dispensing methadone.\(^\text{16}\)

- What is the current methadone dose?
- When was the last observed dose given? Were any doses missed? If doses were missed, the usual dose may be too high because of loss of tolerance in the interim
- What is the pattern of pick-up? (compliance)
- Does the client receive take-home doses? If so,
  - How many take-home doses were last dispensed?
  - When was the last take-home dose actually ingested?
  - Were there any take-home doses brought in by the client?
  - Are any take-home doses left at home?
- Does the client have an active prescription? If yes, the prescription is to be discontinued if the client is admitted.
- What other medications or drugs is the client currently taking? For example, high doses of benzodiazepines, if stopped abruptly, could result in life-threatening withdrawal.

Gather any relevant clinical information. For instance:

- Is the client intoxicated?
- Is the client in withdrawal?
- Is the client pregnant?
- Does the client have any other medical conditions? Any psychiatric conditions?
- Is there a need to treat pain?
- Are there medical reasons for delaying treatment with methadone?

Exemption for Practitioners Practicing in Hospitals

The practitioner responsible for the client in hospital may prescribe methadone for an admitted client \textbf{already} stabilized on methadone without a Section 56 exemption if the following conditions are met:

- The patient must be taking methadone prior to their hospitalization
- The practitioner must be licensed as a nurse practitioner or to practice medicine, dentistry or veterinary medicine
- The patient must be under the practitioner’s professional treatment at a hospital
- The provision of the methadone must be necessary to ensure the continuation of the patient’s methadone treatment

\(^{15}\) According to the definition of hospital in the Narcotic Control Regulations (NCR) 2016.
\(^{16}\) Note: these institutions will have their own additional operational policies regarding the care of methadone clients.
The practitioner must not be named in an active notice of restriction from Health Canada regarding narcotics

Provincial/Territorial guidelines or conditions must be followed

Methadone must be dispensed or prepared by the hospital pharmacy or by the hospital affiliated pharmacy

Provision of Methadone in Hospitals and Prisons
(CAMH, 2004)

This section comes directly from the guidelines provided by the CAMH Methadone Maintenance Guidelines. Policies and procedures in hospitals and prisons will be based on these principles. However, due to the variety of settings, each institution should prepare specific, detailed policies and procedures unique to their situations.

Communication
On admission, the client’s or inmate’s usual pharmacist and prescriber should be made aware of the admission or incarceration.

Orders
An authorized methadone prescriber must write and sign orders. They must be clear and specific with regard to date and dose of methadone, and adhere to institutional policies.

Preparation, Storage and Dispensing
If a client or inmate has brought in their own take-home doses it is strongly recommended to use the institution’s own methadone. It may be possible that the client or someone else may have tampered with the take-home doses. Take-home doses brought in by a client should be destroyed and their destruction clearly documented as per other narcotics. Notify the client’s regular pharmacy of the destruction.

- Methadone is to be dispensed to the nursing unit in individual daily doses
- Methadone doses must be diluted with juice.
- Similar to other narcotics, methadone is to be kept at the nursing unit in a locked location, (refrigerator if possible), until it is to be administrated

Administration
While not recommended, if methadone is sent to the nursing unit undiluted, juice must be added to each dose before administration.

Methadone doses must never be left at the patient’s bedside. Nurses must supervise ingestion and verify that the dose has been swallowed. Like other narcotics, doses must be signed off on administration records.

When fluids are restricted for a medical/surgical procedure
Methadone is long-acting, therefore the dose can be held until after the procedure, provided the procedure is brief and ends not long after the client’s regular time of methadone ingestion.

To prevent withdrawal for longer or complicated procedures, methadone can be prepared in a small volume and/or diluted with a very small volume of juice and given prior to procedure, with the agreement of the anesthetist or other physicians involved.
**Weekend Pass**
If the client did not have take-home privileges prior to admission, the client should not be provided with methadone as part of a weekend pass medication. Alternatives to take-home doses might be:

- Daily dosing at the usual community pharmacy
- Daily dosing at another pharmacy close to where the client will be staying during the pass *(see Guest dosing pg 19)*

If the client usually receives take-home doses, it is best to consult with the usual prescriber regarding the suitability of take-home dose at the time of arranging the weekend pass.

**Treatment of Pain**
*(See Treatment of MMT Clients with Acute Pain, pg 40)*

**Discharge and release to the Community or another Institution**
Before the client is treated in the community, the community pharmacist and the client’s usual methadone prescriber and/or program staff need to know the following;

- The client is now discharged.
- Whether a prescription for methadone was given to client when discharged.
- What the current methadone dose is, and whether or not any changes of dose occurred during the stay in the institution.
- When the last dose was given in the institution, and whether any take home doses were dispensed.

Even if there is a valid prescription at the community pharmacy, this prescription may no longer be appropriate. It is helpful if the institutional pharmacist/nurse communicates pertinent information ahead of time, but the ultimate responsibility rests with the community pharmacist to obtain what is needed.

**Disruptive Behaviour by Clients**

**Prevention**
Pharmacy staff needs to create a respectful and professional environment for all their clients, including clients on methadone. Judgmental or other negative attitudes only reinforce the stigmatization of methadone and MMT clients and may hamper the client’s progress. *(CAMH, 2004)*

At the start of treatment, the pharmacist discusses expectations with each new client. Problems can often be avoided by having a written agreement which includes statements that the client can expect professional, fair and courteous treatment by all pharmacy staff. Similarly the staff can expect the same respect from the client. *(See Appendix E: Pharmacist- Client Agreement)*

**Termination of Methadone Dispensing**
As you accepted responsibility for providing pharmaceutical care to the client, your relationship with the client should not end without good reason, proper notice and an opportunity to obtain another pharmacist’s (pharmacy) services.

Reasons for ending professional relationship may vary and include:
- Threats to staff members or others.
- Disruptive behaviour at the Pharmacy.
- Violent behaviour towards staff members or others.
- Non-compliance with client treatment agreement and program expectations.
- Diversion of methadone.
- High risk for methadone overdose and attempts to reduce the risk level has failed.
  (CPSO, 2011)

Recommendations to effectively end the pharmacy-patient relationship

- Communicate the decision in writing and send a copy to the methadone prescriber (See Appendix P: Sample Pharmacist-Client relationship letter of termination).
- Attempt to arrange a transfer to another pharmacy or help the client identify another pharmacy that dispenses methadone.
- Give the client a reasonable amount of time to make alternative arrangements.
  (CAMH, 2004)  (See Appendix P: Sample Pharmacist-Client Relationship Letter of Termination)

APPENDIX A: NBCP METHADONE PHARMACY REGISTRATION FORM

Registration of Pharmacy as Providing Methadone Maintenance Treatment Services

Pharmacies providing Methadone Maintenance Treatment (MMT) services must notify the NBCP by completing and submitting this form. Information from this registry may be released to the public to facilitate identifying pharmacies that could service a patient, as required in certain situations (i.e. MMT patients moving into the province, etc.)

DATE OF NOTIFICATION ______________________ PHARMACY TRADE NAME: ______________________

TELEPHONE NO: ______________________ FAX NUMBER: ______________________

ADDRESS: ___________________________________________________________________

EMAIL: ______________________ WEBSITE: ______________________

APPENDIX A: NBCP METHADONE PHARMACY REGISTRATION FORM

17 Adapted from the Nova Scotia College of Pharmacists: Methadone Maintenance treatment Services, June 2011
### Pharmacy Manager:

**Please answer the following questions:**

1. **Is your pharmacy prepared to accept new clients:**  
   - [ ] Yes  
   - [ ] No

2. **Will you accept clients travelling on vacation or business?**  
   - [ ] Yes  
   - [ ] No

3. **(A) Is your pharmacy open 7 days per week?**  
   - [ ] Yes  
   - [ ] No

   **(B) If “No”, please indicate which days the pharmacy is closed:**

**Note:** Pharmacies open only five to six days a week will have to adjust their practices for patients who are not permitted to take methadone home with them (see Methadone Guidelines document for further details)

Pharmacy managers are responsible to ensure that the provision of MMT services by the pharmacy complies with the NBCP Methadone Practice Directive including:

- Staff pharmacists have taken necessary steps to satisfy the competency requirements for the provision of MMT services as identified in the Practice Directive
- The pharmacy undertakes the expected activities associated with providing MMT services, as identified in the Practice Directive
- The pharmacy library includes the required references “Methadone Maintenance Treatment: A Pharmacists Guide” (CAMH) and the NBCP Methadone Practice Directive

☐ I hereby certify that I, the Pharmacy Manager, have read the Methadone Practice Directive document, watched the webinar and understand the responsibilities as defined, and highlighted above with respect to all staff, whether permanent, temporary or casual.

☐ I hereby certify that the statements set out in this document are true and correct.

Dated at _______________________________ this ______________ day of ___________________ 20_____

**Pharmacy Manager (Print)______________________________**

**Pharmacy Manager (Signature)______________________________**
APPENDIX B: COMMUNICATION FAX PHARMACY TO PHARMACY

Fax to: Pharmacy name

Address

Tel: (506) ###-####

Fax: (506) ###-####

Date: ____________________

To: ________________________

This is to confirm that (INSERT CLIENTS NAME) received his/her last drink at our pharmacy on (INSERT DATE).

Other Comments: (insert any other pertinent information such as if any doses have been missed recently)

Rph: (insert pharmacist name/signature)

(Insert Pharmacy name, Address, Phone and Fax)

Confidential Notice: This facsimile contains confidential, legally privileged information, belonging to the sender. The information is intended only for the use of the individual or entity mentioned above. If you are not the intended recipient, you are hereby notified that any disclosure, copying, distribution or the taking of any action in reliance on the content of this facsimile information is strictly prohibited. If you have received this fax in error, please notify us by telephone immediately to arrange for return of the original documents.
APPENDIX C : PHARMACIST-PRESCRIBER COMMUNICATION

TO: (Prescriber) _______________________ Prescriber Fax: ____________________ Date: ________________

From: (Pharmacy) _____________________ Pharmacy Fax: ____________________

Pharmacist: _________________________ Pharmacy Phone: ________________

Re: Patient: _________________________ Patient HIN: ________________________

For Prescriber’s Information and Client Records

☐ This client missed their methadone dose: Date(s) _______________________

☐ This client did not take their full daily dose ______ (date) and consumed only _____ (mg) of the ______ mg prescriber dose.

For Prescriber’s Signature and Return of form to Pharmacy

☐ We require clarity regarding the ‘prescribing date’ and/or ‘Start Day’ for the attached prescription. Please indicate the actual ‘prescribing’ date (actual date the prescription was written) and dispensing ‘start date” or range.

Prescribing Date: __________________________

Dispensing Start Date or range: ____________

☐ We require clarification and/or change to the

Attached prescription:

Affix Prescription Form here

Prescribers Name: __________________________

Prescriber Signature: ______________________ Date: ____________________________

18 Form adapted from: Policy Guide: Methadone Maintenance Treatment, College of Pharmacists of British Columbia
APPENDIX D: SAMPLE PRESCRIBER / PHARMACIST / CLIENT AGREEMENT LETTER

DR. XXXXXXXXXXX
XXXXXXX Clinic
Address
Tel: # Fax#

Dear Pharmacist,

Our client, ________________ has requested to attend your pharmacy for Methadone Maintenance Treatment. We encourage an active communication between pharmacist and prescriber. The following safety measures, methadone dispensing practices and clinic policies have been discussed with the client. Please feel free to contact me to discuss any of these matters or any further suggestions that your team may have for this client’s clinical care.

You may call/page me at ___________________________.

PLEASE DO NOT GIVE THIS PAGER/PHONE NUMBER TO THE CLIENT/PATIENT.

1. Clients are required to drink methadone dispensed in approximately 100 cc orange juice or orange juice substitute in front of the pharmacist. The ingestion of methadone must be observed. Ask the client to speak after their drink to ensure that it is being swallowed.

2. The pharmacy team shall inform the methadone prescriber of any information or observed evidence of diversion of methadone.

3. The pharmacist shall inform the methadone prescriber of missed methadone doses by the client. In the first two weeks of treatment, if the client misses 2 or more doses, the methadone dose must be withheld to prevent overdose. The client must be reassessed by the methadone prescriber before methadone is restarted.

4. After the first two weeks of treatment, if three or more doses are missed in a row, the methadone dose must be withheld from the client to prevent an overdose. The client must be reassessed by the methadone prescriber before methadone is restarted. The pharmacy team shall inform the methadone provider of missed doses.

5. If there is any evidence of intoxication or sedation (slurred speech, stumbling gait, disorientation) the methadone dose must be withheld from the client to prevent a possible overdose. The client must be re-assessed by the methadone prescriber before methadone is restarted. If the pharmacist observes evidence of an overdose, the client will be advised that urgent medical care is required. The pharmacist may call 911 for transport to hospital. The pharmacist will contact the prescriber directly to inform them of the overdose and treatment directives.

6. Take-home doses are to be dispensed in childproof bottles. Clients are advised to transport any take-home doses in a locked metal box to ensure community safety. The pharmacist may request that the locked box be presented prior to issuing take-home doses.

7. Any doses of methadone vomited can only be replaced if the pharmacist or a member of the pharmacy team has witnessed the vomiting within 15 minutes of ingestion and informs the methadone provider of such.

8. Take-home dose bottles are to be returned to the pharmacy.

Thank you, _________________________________________

_______________________________


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APPENDIX E: PHARMACIST - CLIENT AGREEMENT

Sample One

Pharmacist-Client Agreement

Name: _______________________ Address: _____________________
Tel #:________________________ Postal Code: ___________________
Date of Birth: _________________ Prescriber: _____________________

OUR COMMITMENT TO YOU:

As your pharmacists, we believe in the principles of the methadone maintenance treatment program, and the valuable role it can play in improving people’s lives and their health. To help you succeed in the program we make the following promises:

We will treat you professionally and respectfully at all times.
We are part of your health care team and will communicate with your other health care providers when necessary. The kinds of issues we will discuss with your methadone prescriber include:

- missing one or more doses,
- refusal to drink the full prescribed dose of methadone,
- being intoxicated or sedated when you arrive at the pharmacy,
- doses for replacement of lost, stolen or vomited methadone, and;
- seeing another prescriber and being prescribed mood-altering medications by another prescriber.

We will provide methadone to you exactly as your prescriber has ordered it. We are not able to give you extra doses, early doses, or methadone to take home unless prescribed.

We are required to watch you drink your dose of methadone and have a conversation with you afterward, unless your prescriber specifically directs otherwise on your prescription. You may also be required to drink water after swallowing your dose.

We welcome any comments or suggestions you may have in regards to our services.

As our client, we have a number of expectations of you, too—

YOUR COMMITMENT TO US:

I will not arrive at the pharmacy before the pharmacy is open. I will arrive for my daily dose between the hours of ____ and ____ daily (preferably in the morning and should be a consistent time each day).

I will respect the pharmacy’s neighbourhood. I will ensure that all pharmacy packaging materials and litter are disposed of in the garbage containers provided.

I will be respectful of others, including staff, other clients, and neighbours of the pharmacy.

If I am prescribed take-home doses of methadone (carries), I will store them safely and securely in my home.

I realize that I may be asked to present identification before receiving my first dose of methadone from the pharmacy and when receiving methadone from any new pharmacist on staff.

20 Adapted from the Nova Scotia College of Pharmacists: Methadone Maintenance treatment Services, June 2011
I realize I may not be given a methadone prescription if I am under the influence of other substances.

I will not participate in any illegal activity at the clinic/office/pharmacy etc.

I will not abuse any staff person verbally or otherwise.

I realize that my doctor, pharmacist, nurse and other health professionals directly involved in my care may openly communicate with each other concerning any aspect of the methadone program.

I realize any drug abuse will be reported to the methadone prescriber.

If I see a prescriber other than the methadone prescriber, I will inform them that I am in the methadone program.

I agree to undergo supervised urine samples on a periodic basis, as may be required of my program.

I will not stock-pile my methadone doses.

I will be observed swallowing my methadone dose and this will be confirmed by speaking to the pharmacist after swallowing the dose and/or drinking water.

I will dispose of the container used to drink my methadone dose in the pharmacy.

I realize it is best to spread the time between methadone doses by at least 16 hours.

I realize that all doses must be made up in Tang, unless another comparable liquid is specified by the prescriber on each prescription. Further dilution with water only is not allowed.

I will ensure that all caps on carries are tightly secured and that the doses are kept in a secure place away from others, especially children.

I will confirm I have received the appropriate number of supervised and carry doses (if applicable) and sign for same.

I may periodically be expected to present remaining carry bottles to the pharmacy.

I realize I require a valid prescription and no methadone will be dispensed without one. It is my responsibility to make sure the prescription does not expire before a new prescription is presented to the pharmacy.

I realize that any doses vomited or any carries lost will not be replaced without a written prescription from my authorized methadone prescriber.

I realize that a missed day means a missed dose which will not be made up.

If I am required to pay for my methadone, I will pay at the time I receive the dose. Failure to pay for my doses may result in discharge from the program.

The pharmacist may obtain information about my medication use from other pharmacies.

I understand that failure to honour this agreement may result in my no longer being serviced at this pharmacy.

**I have read the above agreement and understand and agree with its content**

Client Name: ________________________  Client Signature: _________________________

Pharmacist Name: ___________________  Pharmacist Signature: ________________________
Sample Two
Methadone Program General Agreement

Date: ____________________________
Name: _____________________________

1. I will be observed swallowing my methadone and this will be confirmed by speaking to the Pharmacist after swallowing the dose.
2. I will confirm I have received the appropriate number of supervised and carry doses (if applicable) and sign for same.
3. I will dispose of the container used to drink my methadone in the pharmacy department.
4. I will pick up the methadone daily between the hours of ___ AM to ____ PM
5. I realize it is best to spread the time between methadone doses by 16 hours.
6. I realize I will not be given my methadone if under the influence of other substances. (Please remove sunglasses while in the store)
7. I will not participate in any illegal activity in the pharmacy (e.g. shoplifting etc)
8. I will not abuse any pharmacy staff verbally, or otherwise.
9. I will not take part in conversations in or on the pharmacy property about methadone dosing, drug use or use foul language. I understand as well that certain topics are not acceptable conversations, such as who fought who last night, etc...
10. I realize all carries must be made up in tang, unless another comparable liquid is specified by the prescriber on each prescription. I will ensure all caps on all carries are tightly secured, and I receive the appropriate number of carries. I will ensure all carries are kept in a secure place away from children.
11. I understand that I may be asked to bring back my outstanding carries for a “carry audit “in a timely fashion. For this audit the carry bottles must be full, sealed and label intact.
12. I realize I cannot have somebody else pick up my carries for me.
13. I will return my empty carry bottles to the pharmacy, labels attached, before any further carries will be released.
14. I realize that I require a valid prescription and no methadone will be dispensed without it. It is my responsibility to make sure the prescription does not expire before a new prescription is presented to the pharmacy.
15. If I am required to pay for methadone, I will pay before I receive my dose. I understand I am not allowed to “charge on account” for methadone. I realize failure to pay for my doses may result in discharge from the program.
16. I realize my pharmacist, doctor, nurse and other health professional directly involved in my care may openly communicate concerning any aspect of the methadone program.
17. I realize my pharmacist may review my medication profile with my methadone prescriber(s), other pharmacies or agencies.
18. I realize any drug abuse will be reported to the methadone prescriber and/or methadone clinic personnel.
19. If I see a doctor or dentist other than the methadone-prescriber, I will inform him/her that I am on a methadone program.
20. I realize that any doses vomited or any carries lost will not be replaced without written prescription from the prescriber.
21. I agree to undergo supervised urine samples, ordered by the physician, pharmacist or other methadone treatment care-worker. I understand I may be asked to give a urine sample at the pharmacy.
22. I realize a missed day means a missed dose. This dose cannot be used at a later date
23. I agree that I will not stock pile my methadone carries.

I understand and agree to comply with these guidelines. I understand failure to honor this agreement may result in discharge from the program at this store.

__________________________________                  ______________________           _______________________
Signature                                        Date                        Witness
APPENDIX F: EXAMPLES OF ACCEPTABLE WRITTEN PRESCRIPTIONS

Sample A

Mr. John Doe
Address
June 10, 2012
Methadone Solution
Qty 2100 mg
Dispense in lots of 70 mg daily for 30 days

Sample B

Mr. John Doe
Address
June 10, 2012
Methadone Solution 360 mg
Dispense: 30 mg X 3 days, 40 mg x 3 days and 50 mg X 3 days
### Methadone Prescription Form

<table>
<thead>
<tr>
<th>Name</th>
<th>Date</th>
<th>File #</th>
</tr>
</thead>
</table>

**Rx**  
Methadone __________ mg  
p.o. dispensed daily mixed in orange drink  
Dose in words

Start Date: __________  |  |  |  | End Date: __________  
Inclusive

Drink observed in the pharmacy on days circled:
- Mon  
- Tue  
- Wed  
- Thur  
- Fri  
- Sat  
- Sun

The following doses are to be dispensed as take-home doses:
- Mon  
- Tue  
- Wed  
- Thur  
- Fri  
- Sat  
- Sun

Special Instructions:

Contact prescriber before filling this prescription if dose is increased by more than 15 mg, unless noted above.  
Hold prescription if more than three consecutive doses are missed, and contact prescriber. Notify the prescriber if a dose is missed. Fax a copy of this prescription to the prescriber if there are any concerns about this prescription.

Signature  |  | Print Name  

Prepared by  |  | Date  |  | Dispensed by

---

\(^{21}\) From 2011 Methadone Maintenance Treatment Program Standards and Clinical Guidelines - The College of Physicians & Surgeons of Ontario
APPENDIX H: METHADONE COMPOUNDING PROCEDURES

Removed

APPENDIX I: SAMPLE COMPOUNDING LOG

Removed
### APPENDIX J: METHADONE CLIENT LOG SHEET

Client Name: ____________________________ Month: ______ Notes: _________________

<table>
<thead>
<tr>
<th>Date</th>
<th>Day</th>
<th>Dose</th>
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APPENDIX K: APPROPRIATE ACTION FOR ADMINISTRATION ERRORS

If you become aware of a medication dosing error, you must take appropriate and necessary action to minimize harm to the client, ensuring transparency throughout the entire process. This includes prompt consultation with the client’s other health care provider(s) for determination of appropriate action.

In addition to the following standards specific to methadone, it is expected that pharmacists will manage the error in accordance with the NAPRA Model Standards of Practice for Canadian Pharmacists and the individual pharmacy’s medication error management policy.

**Methadone overdose**

As soon as you realize the error:

- Tell the client. If the client has left the pharmacy, contact him or her by telephone. If the client has no phone, you may need to contact the client’s physician or MMT clinic to obtain a contact number or send police to the home.
- Advise the client to seek medical attention immediately. If the client refuses medical attention, document the time and details. Ask the client to remain in the care of a friend or relative for the day;
- Advise the client of the symptoms of overdose; including the possibility of euphoria and respiratory depression (see Signs and symptoms of Opioid Intoxication and Overdose, pg 35).
- Make follow-up contact with the client throughout the day;
- Advise the client’s physician or MMT clinic;
- Reassess the client’s health condition before administering the next daily dose.

**Methadone Under dose**

- Advise the client’s physician or MMT clinic and the client as you would with an overdose.
- Once the client is contacted, offer the client the "difference" of methadone between the amount administered and the amount prescribed.
- Should the client refuse to return for the methadone, advise them of the possibility of withdrawal and the symptoms related to opioid withdrawal.
- If the client cannot be reached during business hours, advise them of the error at their next administration. (AADAC, 2007)

**Important Methadone Overdose Information for the Client**

- Methadone overdose (receiving a larger dose of methadone than intended) is a serious medical emergency.
- Methadone is a long-acting medication and can stay in your body for many hours.
- Even if you have been on methadone for a long time, taking more methadone than your body is used to can be dangerous. Even what may seem like a small dose increase can be dangerous.
- If you are new to methadone or have not been taking your regular dose, even for a few days, you are at increased risk of overdose.
- Taking too much methadone can result in difficulty breathing (slow or shallow breathing), drowsiness, small pupils, and, in some cases, coma and death.
- For this reason IT IS ESSENTIAL THAT YOU GO TO THE EMERGENCY DEPARTMENT to be observed for a minimum of 10 hours, and maybe longer, depending on your symptoms.
- There is treatment available in the emergency department that can reverse the effects that you may get from taking too much methadone. (CPSO, 2005)

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22 Adopted from Standards of Practice for the Provision of Methadone Maintenance Treatment Nova Scotia College of Pharmacists 2011
APPENDIX L: CARRY POLICY EXEMPTION FORM

The form is to be used to document exceptions to the Carry Policy criteria.

Client name: _____________________________________________________

Effective Dates:
Start date: _______________________________________________________
End date: _______________________________________________________

Reason for exemption:
The client is going on a vacation to an area where Methadone is not readily available
                                                                                     
                                                                                     
Compassionate reasons
                                                                                     
                                                                                     
The client travels to an area for employment where Methadone is not readily available.
                                                                                     
                                                                                     
The client has been in the program for a reasonable length of time, has been well controlled and is progressing well in the program.
                                                                                     
                                                                                     
Client signature: _____________________________      Date: ___________________

Prescriber signature: _____________________________ Date: ___________________
ABC Pharmacy

102 - 111 Dependency Street, Our Town, New Brunswick S0S 0S0
Phone: 506-555-2111 Fax: 506-555-2112

INCIDENT REPORT

To: ________________________________  Fax # _____________________________
Client: _______________________________________________
Today’s Date: _______________________________
Date of Occurrence: _____________________________
Pharmacist Report:

______________________________________________________________________
______________________________________________________________________
______________________________________________________________________
______________________________________________________________________
______________________________________________________________________
______________________________________________________________________

Pharmacist’s Name: ___________________________________
Signature: ___________________________________________
APPENDIX N: TAKE- HOME DOSE AGREEMENT

Methadone is a potent medication. A single dose taken be a person not used to taking Methadone or by someone using or abusing other medications or drugs can be fatal, especially if taken by a child.

For this reason, I agree to the following:

1. I will store my take-home doses in a locked box, in a location where it is unlikely to be stolen or accidentally taken by another person. I will show this locked box to my prescriber and/or Pharmacist when requested.
2. I will consume my dose(s) on the day(s) they are prescribed only. I will consume my methadone dose in the appropriate manner (a full dose taken once every 24 hours orally).
3. I agree not to give, lend or sell my take-home doses to anyone. I understand that selling methadone is a criminal offence as well as a danger to the community.
4. Take-home doses are a privilege and not a right. These are granted by my prescriber in accordance with the clinic policies, and at the discretion of my methadone prescriber.
5. Take-home doses are continued and increased once every 4 weeks so long as I continue to remain clinically stable and able to be responsible for the care of my take-home doses. This is again at the discretion of my methadone prescriber.
6. Take-home doses may be cancelled or decreased if I do not remain clinically stable and able to be responsible for the care of my take-home doses.
7. Lost, spilled, vomited or stolen take-home doses may not necessarily be replaced. Lost or stolen take-home doses must be reported to the local police department.
8. I am aware that I can be called in for a random check of my take-home doses and on this occasion will bring my used and unused methadone bottles to the pharmacy or clinic when asked to do so by my methadone prescriber, pharmacist or clinic staff.
9. I will advise the clinic and Pharmacy of any change in my contact information (phone number or address).

My signature below indicates that I agree to follow the obligations and responsibilities outlined in this agreement. Should I fail to meet the terms of this agreement, I understand that this will affect my ability to be able to partake in take-home dose program.

I have had an opportunity to discuss and review this agreement with my methadone prescriber and/or pharmacist and my questions have been answered to my satisfaction.

_________________________ ___________________________ ___________
Client’s Name Client’s Signature Date

_________________________ ___________________________ ___________
Witness’s Name Witness’s Signature Date

23 Adapted from The College of Physicians and Surgeons of Ontario 2011 Methadone Maintenance Treatment Program Standards and Clinical Guidelines 4th edition
APPENDIX O: RECOMMENDATIONS TO LIMIT THE RISK OF ARRHYTHMIA

**Recommendation 1 (Disclosure):** Clinicians should inform patients of arrhythmia risk when they prescribe methadone.

**Recommendation 2 (Clinical History):** Clinicians should ask patients about any history of structural heart disease, arrhythmia, and syncope. *(See Table 2: Risk Factors for QTc Prolongation in Patients on Methadone, pg 34)*

**Recommendation 3 (Screening):** Obtain a pre-treatment electrocardiogram for all patients to measure the QTc interval and a follow-up electrocardiogram within 30 days and annually. Additional electrocardiography is recommended if the methadone dosage exceeds 100 mg/d or if patients have unexplained syncope or seizures.

**Recommendation 4 (Risk Stratification):** If the QTc interval is greater than 450 ms but less than 500 ms, discuss the potential risks and benefits with the patient and monitor them more frequently. If the QTc interval exceeds 500 ms, consider discontinuing or reducing the methadone dose, eliminating contributing factors, such as drugs that promote hypokalemia, or using an alternative therapy.

**Recommendation 5 (Drug Interactions):** Clinicians should be aware of interactions between methadone and other drugs that possess QT interval-prolonging properties or slow the elimination of methadone.

(NSCP, 2011)
May 18, 2012

Dear:

As we discussed, I do not believe that it is in your best interest for [name] to continue as your pharmaceutical care provider. I regret to inform you that the pharmacists at [Pharmacy Name and Address] will no longer be in a position to provide you with professional services, after [date you have chosen as the last day of care].

Please obtain the services of another pharmacy, satisfactory to you, at your earliest convenience. Please also advise your physician/prescriber that prescriptions, will no longer be filled for you at our pharmacy after [date of last day of care]. We feel that this information should be communicated to your physician’s office by you directly.

Once you have chosen a new pharmacy, please have them contact us at [your pharmacy’s phone number]. We will transfer all of your prescription records to your new pharmacy. I have enclosed a copy of your client profile that documents your medication history for [length of time client profile covers].

Sincerely,

**Bibliography**


