

## **Physician Assisted Dying in Washington State: A primer for participating physicians and pharmacists**

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### **Summary**

**Medical Aid in Dying (MAID), also known as Death with Dignity, is now legal in nine states and the District of Columbia. Though patients have been using the Death with Dignity laws since 1998, very little information is published for physicians, pharmacists, and patients who are trying to learn more about actual requirements, protocols, or patient instructions. Drug regimens and current practice recommendations are discussed.**

### **Background**

Medical Aid in Dying (MAID) was first approved by Oregon voters in 1997. Since that time, Death with Dignity (DWD) has become law in Washington, California, Colorado and Hawaii by popular vote; in Vermont, New Jersey and Maine by legislative vote; in Montana by State Supreme Court decision; and in Washington, D.C. by City Council vote. The idea that a dying person be allowed lethal medicines to expedite his or her own death is being embraced by more people throughout the United States and MAID is now available to 22 percent of US residents. Since mid-2016, MAID has been available to terminally ill persons in Canada, usually by injection.

In 2008 Washington State voters passed its Death with Dignity Act; the law was implemented in March 2009. By the end of 2018, prescriptions were dispensed to 1663 participants who had qualified under the act. There have been 1210 documented deaths from taking the MAID medications; the other 27 percent of the participants died without taking the prescribed medications, or their status is unknown.<sup>1</sup>

Physicians and pharmacists are not required to participate in DWD; they often decline for personal or religious convictions, or because of employer-imposed restrictions. Patients who pursue DWD are usually reasonably well informed and determined. They (or their families) ask doctors or hospice personnel, or search the internet, for information and help. Patients get discouraged and become anxious when their doctors refuse or delay granting them this option, which forces them to find new doctors.

Very little has been written on how medical aid in dying has actually been accomplished,<sup>2 3 4</sup> partly because of concern that technical information might arm opponents or be used by persons seeking to commit suicide. However, in the interest of providing safe, consistent, quality options to patients who qualify for DWD and choose to use that option, we are presenting this information to interested physicians and pharmacists.

### **The Process of Qualifying**

The MAID laws in Oregon, Washington, California, Vermont, Colorado, Hawaii, Maine, New Jersey and Washington DC are very similar. In all states, a patient who has a medical diagnosis that is expected to lead to death within six months is required to qualify in accord with the following criteria:

1. The patient must be a legal resident of the jurisdiction where MAID is available.
2. The patient must be of sound decision-making capacity. A psychiatric/ psychological consult is required for any patient who the attending or consulting physician questions being of sound mind.\*
3. Two independent, licensed, participating physicians must confirm that the patient is terminal; i.e., that life expectancy is six months or less. (Most jurisdictions require both doctors to complete a Physician Compliance form, which the prescribing physician sends to the jurisdiction's department of

\* New Jersey requires a psychological assessment completed on every MAID patient.



health, DOH.)<sup>†</sup> The patient must also be able to self-administer/ingest the lethal medicine orally or by feeding or other tube.

4. The patient must make two oral requests to a physician, at least 15 days apart<sup>‡</sup>, requesting the option to use MAID, and these requests must be documented in the patient's medical record. In Washington State, the second oral request must be made to the prescribing (attending) physician but can be made by phone.
5. After seeing both physicians, the patient must sign a Written Request for Medication, which is witnessed by two individuals, at least one of whom is not related or entitled to any portion of the patient's estate. In Washington, this form, together with the two compliance forms, is sent to the state DOH when life-ending prescriptions are written. California and Hawaii also require that those wishing to take the medication prescribed in accordance with the act must complete a Final Attestation Form 48 hours prior to taking the medication.
6. The patient must be counseled about all end of life options and told that the request for MAID can be canceled at any time.
7. In Hawaii, MAID prescriptions expire in 30 days of being written. In all other states, the prescription is valid for 6 months after it is written.

Once both oral requests have been made, and the written request has been signed (at least 48 hours earlier in Washington), the attending physician may write a prescription for life-ending medication and send it to a participating pharmacy.

In Oregon, the median time between a patient's first request and death was noted to be 46 days.<sup>5</sup> If time is of the essence, the process of qualifying and obtaining prescriptions can be completed in 15 days minimum in most jurisdictions except Hawaii. Oregon has recently made it possible for the 15 day and 48 hour waiting periods to be shortened in certain circumstances.

***Non-Washington physicians should review their appropriate jurisdiction's laws.***

### **Hospice participation**

Most hospices have policies defining whether their physicians are permitted to participate as either Attending or Consulting Physicians for MAID. When hospice allows physician participation, it is usually as Consulting Physician, though an occasional hospice physician will serve as Attending Physician for DWD patients. Though many hospice employees (e.g., social workers, nurses, and chaplains) are personally supportive of DWD, hospice organizations can request that their employees do not attend DWD deaths.

### **Life-Ending Medications**

Existing Death with Dignity laws do not specify what medicine(s) physicians must prescribe for patient self-ingestion to peacefully end life, assuming physicians know best. Patients ask for the magic pill that has always been shown in old spy movies, but the FDA has worked diligently to make prescription drugs as non-toxic as possible. When the first Death with Dignity law was passed in 1998, doctors in Oregon searched to find FDA-approved drugs that would work.

For the first decade or two the clear drug choices for DWD prescriptions were the short-acting barbiturates, since these drugs were rapidly absorbed, promptly resulted in sleep, and overdoses uniformly caused death. Secobarbital and pentobarbital 10 grams became the drugs of choice, until the cost became prohibitive or they were no longer available to US patients. A combination of chloral hydrate, phenobarbital and morphine

<sup>†</sup> "Attending Physician" (AP) is the physician who agrees to write the prescriptions for DWDA. The AP also takes primary responsibility for counseling the patient, ensuring compliance with the law, and submitting physician documents to the DOH. The "Consulting Physician" (CP) examines the patient and makes a written confirmation of the patient's diagnosis, prognosis, ability to make an informed decision, and voluntary decision-making.

<sup>‡</sup> Hawaii requires that the two oral requests be 20 or more days apart.



sulfate was also tried for a short time before it was deemed unacceptable by patients and families; all of these choices depended on respiratory depression to cause death.

In 2016, the first attempt was made to design a drug regimen that included both respiratory- and cardiac-depressive components, which ushered in a new era in medical aid in dying. A group of Washington State physicians sought to find a combination of drugs which would produce quick sedation and coma, followed by a quick cessation of breathing and/or effective heart function. The drugs also needed to be affordable, available, predictable, comfortable, safe to helpers (as health care professionals are usually not present) and composed of FDA approved compounds. We consulted pharmacists and a toxicologist. The first widely used regimen was called DDMP2 (digoxin 50 mg, diazepam 1 gram, morphine sulfate 15 grams, propranolol 2 grams). **68% of patients** using this regimen died in less than 2 hours but, unfortunately, 5% of deaths took longer than 12 hours, with the maximum of 39 hours. All patients slept peacefully throughout. A DDMP regimen is still occasionally prescribed, though the **recommended dose is now D<sub>100</sub>DMP (digoxin 100 mg, diazepam 1 gram, morphine sulfate 15 grams, propranolol 2 grams).**

The science of medical aid in dying took another leap as MAID became legal in California in 2016 and a physician, Dr. Lonny Shavelson, set up a practice where he attended every patient death, and monitored each patient throughout the death process. Monitoring showed that faster (less than 1.5 hours) MAID deaths were primarily respiratory in origin, and those occurring later resulted from cardiac arrest (caused by digoxin/amitriptyline or digoxin/propranolol toxicity).

Dr. Shavelson introduced changes in drug choice, dose and timing, resulting in **D-DMA (digoxin 100 mg which is given 30 minutes before diazepam 1 gram, morphine sulfate 15 grams, amitriptyline 8 grams).** Combined data from patients in Oregon and California show that 88% of D-DMA patients die in less than 2 hours (n=104) with the longest death at 6 hours.<sup>§</sup> This drug regimen makes the ingestion a 2-part process, requiring more family participation when there is no trained support person at bedside to prepare the medications.

In Washington State, **D<sub>100</sub>DMA (digoxin 100 mg, diazepam 1 gram, morphine sulfate 15 grams, amitriptyline 8 grams), is now being recommended as the preferred drug regimen.** The drugs and doses are the same as used in D-DMA, but all the component powders are mixed together and ingested at the same time. Combined data from patients from Washington, Oregon and Colorado show that 81% D(100)DMA of patients die in less than 2 hours (n=101), with the longest death at 12 hours.\*\* It is also notable that there have been 3 patients in Washington with deaths longer than six hours who had seizures in the hours just before death<sup>††</sup> while sleeping throughout, though no seizures have been reported in any patients from any other state where MAID is legal.

**There are currently 2 life-ending medication regimens recommended for use in Washington State:**

- **D(100)DMA OR**
- **D(100)DMP (Kaiser uses D50DMP2 at this time)**

**IMPORTANT: For both of these drugs regimens, prophylactic antiemetics are recommended an hour prior to the life-ending medication** (unless life-ending meds will be administered by feeding tube or rectal catheter). In Washington, we recommend that all patients who are prescribed any life-ending

§ Patients with gastroparesis or other significant risk factors may have been offered other modes of self-ingestion.

\*\* The 12-hr patient had severe gastroparesis, nausea and vomiting and cachexia.

†† Patients with a history of strokes previous seizures, or brain tumors should be counseled that they may be at higher risk of seizure if death is prolonged and the DDMA regimen is used.



medication receive metoclopramide 20 mg and haloperidol<sup>##</sup> 2 mg for anti-emesis, as haloperidol is an excellent antiemetic and promotes additional relaxation.<sup>6,7</sup> Ondansetron 8 mg may be used as an alternative to the haloperidol, especially in a very weak or somnolent patient.

**The times to death depend on the agent ingested, as can be seen in Table 1**

Table 1: Washington patient Time-to-Death by Life-Ending Medications (2009-2020)\*

as of 8/3/20	# cases	Cost	Minutes to Sleep				Minutes to Death			
			Med	Avg	Min	Max	Med	Avg	Min	Max
Pentobarbital (up to 2017)	180	\$500	5	5	1	20	20	66	2	2490
Seconal (up to 2019)	380	\$3,000	5	6	1	130	25	76	4	2400
DDMP2	315	\$700-850	7	9	2	123	59	201	5	3710
D100DMP	2	\$750-900								
D50DMA	84	\$700	5	6	2	28	48	101	10	956
D100DMA	70	\$750-900	6	6	1	16	36	99	6	745
D100aheadDMA	3	\$750-900								

Notes on unexpected occurrences: Over the years there have been rare patients who have not died for 10 or more hours (39 hours is the max), sleeping comfortably the entire time. In the over 1200 patients who have taken legal life-ending medications in Washington State over the past 10 years, we know of a handful who have regurgitated the medicine; all of these patients died within 9 hours post regurgitation. One patient who took DDMP2 stayed semi-conscious for nearly an hour, but finally became comatose and died. Another patient took DDMP2 rectally about a year after most of his rectum had been removed for colon cancer and tumor recurrence obstructed his upper intestine. He did not fall asleep for more than 30 minutes, and then awoke about 17 hours later, confused but comfortable. At that point, he was admitted to in-patient hospice and died suddenly 3 days later (perhaps when toxic digoxin serum levels were achieved).

**The Challenging Patient: red flags**

The table above illustrates that a small minority of patients take a significantly longer to die than expected, for every life-ending drug regimen used.

**The most important factor in prolonged time-to-death is impaired gut motility and/or absorptive capacity.**

Life-ending medications are absorbed in the small intestine, not the stomach.<sup>§§ 8 9 10 11</sup> In addition, the rate of drug absorption is influenced by the solution or suspension in which the drugs are administered, how far the drugs actually travel within stomach and numerous small intestine absorptive compartments, available surface area, blood flow, and the patient's specific disease processes.<sup>12</sup>

*Any patient who has **gastroparesis (from pancreatic or other upper GI cancers, diabetes, etc.) or significant obstruction of the upper GI tract will be at risk for a longer time to death.*** DDMA medications cannot be absorbed until they get to the villi. The villi must be functioning well, with good blood supply, for the medications to be absorbed; patients who are status-post small bowel resection or who have malabsorptive syndromes will have a longer time to death. Patients with gastroparesis, bowel obstruction or malabsorption might be good candidates for rectal self-administration of life-ending medication (unless the rectum has epithelialized from disuse or surgical isolation.)

<sup>##</sup> Haloperidol is often used in hospice patients as an antiemetic for nausea and vomiting refractory to ondansetron.

<sup>§§</sup> Barbiturates and aspirin are some of the few drugs absorbed in the acidic pH of the stomach.



Other groups of patients are now recognized as likely to exhibit longer times to sleep and death. Patients who are very tolerant or addicted to opiates/sedative drugs/alcohol should be considered to have a cross-tolerance to the morphine-diazepam components of the DDMA and DDMP drug regimens. Additional characteristics have emerged that predispose to longer times to death include: young and healthy patients (especially athletes), large patients (over 300 lb.), patients with intractable pain or who require IV pain pumps, or IV drug addicts (yes, some request MAID).

***These patients should be identified and counseled that their time-to-death might be longer than most other MAID patients. The addition of phenobarbital (5-10 grams powder) to the recommended drug regimen may be helpful in shortening the times to sleep and death in these more challenging patients.***

## Writing the prescription

The most recent updates on recommendations for life-ending medications are available on:

End of Life Washington's Website: <https://endoflifewa.org>

End of Life WA Providers' Network: <https://endoflifewa.ning.com/?xgi=wHU1wwSPRBVWg1>

In addition, Attending and Consulting Physicians information packets, participating pharmacy information<sup>\*\*\*</sup> and family information documents are available for download. Instructions for feeding tube and rectal catheter self-administration are also available for families.<sup>†††</sup>

A **compounding pharmacist** must prepare DDMA and DDMP mixtures. **Concentrated powder forms** of these component drugs should be used, instead of grinding tablets.<sup>‡‡‡</sup> The compounded mixture is best dispensed in powdered form, in an amber colored glass bottle.<sup>§§§</sup> Immediately before ingesting, the powdered mixture can easily be mixed with 2-4 oz. water or clear juice, or a favorite clear drinking alcohol.<sup>\*\*\*\*</sup> Shelf-life of the undiluted powdered life-ending medication is considered to be 6 months; once the powders have been mixed with a liquid of choice, the medications must be used within 2 weeks. Cost to the patient is \$700-\$850, as these are rarely covered by insurance.

Though not required, it is helpful for the attending physician to call the pharmacist to introduce him or herself and to let the pharmacist know that the prescription is coming. Pharmacists often have specific questions or suggestions. Because the quantities of medications dispensed are not always in stock in sufficient quantity, one or two days of lead time is recommended when requesting that prescriptions be filled. Prescriptions are good for six months; if patients survive longer than six months, prescribing physicians can simply reissue the expired prescription without having to restart the qualifying process.

When writing the prescription, the name of the person(s) who will be picking up the medication should be included on the prescription. Including this information allows the pharmacist to dispense the medications to family members or a designee, since it is rare that a dying patient is able to pick up his own medications.

<sup>\*\*\*</sup> Some pharmacies or compounding pharmacists will refuse to participate in MAID when they realize that life-ending medicines are being prescribed.

<sup>†††</sup> EOLWA has also specifically developed instructions during periods when volunteers cannot be present with terminal patients for education, hand-holding, or even preparing the final cocktail, during the time of the COVID 19 restrictions.

<sup>‡‡‡</sup> When pills are pulverized, the filler from the tablets adds a large volume of inert powder, which has been shown to result in longer deaths.

<sup>§§§</sup> Diazepam is absorbed into plastic and degraded in light; thus, it should only be dispensed in amber glass bottles.

<sup>\*\*\*\*</sup> Clear liquids are recommended as mixing the medication in soft food, particulate juices or dairy products **will prolong the time to death**, due to delayed gastric emptying.



In Washington State, prescriptions may be faxed to the compounding pharmacy for HOSPICE PATIENTS<sup>+++</sup> and those in long-term care facilities only. For all other patients, the original MAID prescription must be hand delivered to the pharmacist by the prescribing doctor or courier, or received by mail before it can be filled.

### **Additional considerations for providing the best patient care:**

If not already enrolled, patients should be encouraged to **enroll in hospice**, as soon as they bring up the option of physician assisted dying. Hospices will be able to provide additional medical, physical, emotional, and spiritual support to the patient and his family, in the last days, weeks, and months of the patient's life. Enrollment in hospice also facilitates disposition of the body after death, as it indicates to local coroners and medical examiners that the death was expected.

If a patient has a functioning ICD (implantable cardioverter defibrillator), his or her cardiologist must contact the manufacturer prior to the chosen day of death, and request that they send a technician to turn off the defibrillator.

### **Counseling the patient and family**

**Written instructions are invaluable** to the patients and families. Family members often become anxious as the day of death approaches, and really appreciate something in writing to refer to. Written instructions should confirm the information that they hear during the counseling session with the attending physician, concerning mixing the medication, positioning the patient, and what to expect. **Instruction documents are available through End of Life Washington.**

There is a limited 'window' of opportunity for terminally ill patients to use the DWD laws. Because of the decline of dying persons, they may gradually or suddenly (e.g., those with brain tumors) lose competence and become ineligible to use the law. The 'window' concept should be reviewed in advance with the patient and family, as it may influence the timing of the patient's decision to use or not use life-ending medicine.

***Physicians should advise patients to leave the prescription on file at the pharmacy until they decide that the time has come to use the medication. That saves money in case they are not either ready or able to take it before the medications expire, and eliminates the need for disposal. The medications are dispensed as powder, to be mixed with a juice or water immediately before ingestion.***

### **Family information: Oral self-ingestion**

- The life-ending medications should be taken on a fairly empty stomach.
- Routine medications should be discontinued 12 hours prior to taking the medication, with the exception of pain medications, which should be continued as needed (and potentially even be increased just before the life-ending medicine).
- **The patient should not eat solid or liquified food for 5 hours ahead.** patient may have a light meal the night before, or up to five or six hours before the chosen time, and then just some clear juice or water. Carbonated beverages and stomach coating medicines (e.g., Pepto-Bismol, Sucralfate) are not recommended. It is usually easiest for everyone if the patient plans to take the medications in mid-to-late morning, as the dying process may take a number of hours.

On the day chosen to take the medications, a patient may choose to be surrounded by friends and family, or to be alone with just one person in attendance. It is recommended that at least one person be present to mix the medications, to help position the patient, to reassure the family, and to gather the information required by the attending physician for the state compliance forms.

<sup>+++</sup> "HOSPICE PATIENT" must be clearly noted on the faxed prescriptions.



**The patient must have the ability to drink 2-4 ounces of volume within a minute or two**, so that they ingest the entire amount of drug before becoming unconscious. An additional cup of clear juice, water, liquor, a popsicle, or spoonfuls of sorbet (which contains no dairy) should be provided after ingesting the medication. These options may clear the palate and, more importantly, stimulating gastric emptying<sup>13</sup> and hasten movement of the medication into the small intestine where it is absorbed. Most patients fall asleep in about 5-10 minutes, and sleep very comfortably thereafter, peacefully and without pain, until they die.

When it is time to take the medications, a family member, friend, or Volunteer Client Advisor from EOLWA thoroughly mixes the powder into clear juice, water, or liquor. The patient should position themselves sitting comfortably in a bed or recliner, propped up with pillows. The medication may be sipped through a straw or swallowed from right the bottle or a small glass.

*No matter which drug regimen the patient has been prescribed, or what juice or alcohol it is mixed in, the life-ending medication which the patient ingests has a **distinctly BITTER taste** (unless administered by feeding or rectal tube).* The DDMA mixtures may cause a slightly burning immediately upon ingestion, but this is eliminated by drinking water afterward. It is a good idea to discuss these possibilities beforehand, and even suggest that a weakened patient practice drinking quickly, as a prepared patient does a much better job of getting the medication ingested in the suggested time frame.

*If a patient has been on oxygen for comfort, it should be discontinued after the patient falls asleep.*

#### **Family information: Rectal or feeding tube self-ingestion/administration**

In US jurisdictions that permit MAID, patients must self-administer the life-ending medication, but not all terminally ill persons in the process of dying retain the ability to ingest in the usual way. Some patients develop progressive weakness (e.g., those with neuromuscular diseases) or obstruction (e.g., from esophageal cancer) making them unable to swallow a half-cup of medicine. NOTE: Attorneys have advised physicians that 'ingestion' may include administration by feeding tubes. For patients who have been eating through a feeding tube, the medication must be self-administered into the feeding tube **by the patient**. When no feeding tube is present, patients with significant gastroparesis or obstructions of the upper GI tract may rectally self-administer any of the available agents by means of a rectal tube. <sup>\*\*\*</sup>

#### **Patient positioning after sleep ensues**

Patient positioning has been a long-discussed issue. The patient should be sitting to take the medication and remain in that position for at least the next twenty minutes to reduce the risk of regurgitation as he falls asleep. After 20-30 minutes, patients who often fall asleep sitting in a chair may be left that way or lowered to a semi-recumbent position. Some physicians believe that the patient should then be placed in right lateral decubitus position to enhance gastric emptying. However, unless the patient is very small or the family or friends present are bodybuilders, positioning the sleeping patient in the RLD position can cause injury to the positioner. Basically, any position will result in death, and all these factors must be considered before moving sleeping patients to the most optimal position.

Reviewing the literature which examines the influence of different body positions (sitting, supine, right lateral decubitus, and left lateral decubitus) on gastric emptying in healthy volunteers, two studies have shown no statistically significant difference between positions;<sup>14 15</sup> others have found gastric emptying to occur faster in sitting position than supine.<sup>16 17</sup> Sanka et al. found that 100 ml of plain water flowed passively (without peristalsis) into the small bowel faster when the patient was positioned in RLD,<sup>18</sup> but no thicker liquids were studied. In their excellent review of the effect of postural influence on the physiology and pharmacokinetics of drug absorption, Quackenbarg and Fuhr summarize "... because for most of the drug's total [exposure in the patient] is not affected by posture, the clinical impact for mobile patients would seem to be quite limited. In bedridden patients, particularly those with severe illness and/or those taking drugs with a narrow

<sup>\*\*\*</sup> The patient must either push the plunger on 1-2 syringe(s) containing the suspended medicine or turn a switch or valve to allow the medicine to flow from a gravity bag into the feeding tube or rectal catheter.



therapeutic range, the situation may be different: to position a patient in right lateral posture may accelerate the onset of therapeutic effects.”<sup>19</sup> A study in children found that delayed gastric emptying shows significant improvement with change of position.<sup>20</sup> Interestingly, it is not uncommon for us to get reports from friends or family witnessing a Death with Dignity that the patient died within a short time after position change.

### As death ensues...

After the patient has ceased breathing and no longer has a pulse, hospice should be called. NOTE: For patients not enrolled in hospice, the medical examiner or the funeral parlor should be called. The prescribing physician should also be notified and may need to intercede with the local medical examiner to avoid emergency response protocols.

In Washington State the attending physician must submit the After-Death Form to the Department of Health within 30 days after the death.

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