

PRESCRIPTION DRUG TREATMENTS FOR CHOREA IN HUNTINGTON DISEASE

This information sheet may help you understand which prescription drugs help treat chorea in people with Huntington disease (HD).

Neurologists from the AAN are doctors who identify and treat diseases of the brain and nervous system. The following evidence-based information* is provided by doctors who carefully reviewed all available scientific studies on use of prescription drugs for treating chorea in HD.

Several therapies are available for treating chorea in people with HD. However, HD is a complex disease with a range of symptoms. Be sure to discuss with your doctor if treating chorea is the best choice for you.

DRUG WARNINGS

The following treatments have associated US Food and Drug Administration (FDA) warnings:

Nabilone (Cesamet): www.accessdata.fda.gov/drugsatfda_docs/label/2006/018677s011lbl.pdf

Riluzole (Rilutek): www.accessdata.fda.gov/drugsatfda_docs/label/2009/020599s013lbl.pdf

Tetrabenazine (Xenazine): www.accessdata.fda.gov/drugsatfda_docs/label/2011/021894s004lbl.pdf

WHAT IS HD? WHAT IS CHOREA, AND HOW IS IT RELATED TO HD?

HD is a disease that involves loss of function in certain areas of the brain. This happens when nerve cells in those areas break down. Over time, this can lead to problems with movement, thinking, and behavior.

HD is inherited. This means it is passed from parent to child through genes. The child of a parent with HD has a 50/50 chance of developing the disease. Changes in genes may lead to health problems. In HD, changes occur in the brain.

Three main types of symptoms occur in HD. These are changes in thinking ability, behavior changes, and movement problems. In HD, symptoms vary from person to person. Some people will have symptoms of all three types. Others will have only one or two types of symptoms. For some people, certain symptoms can be very difficult to manage. For others, symptoms may be milder.

HD symptoms related to behavior include:

- Hallucinations (hearing or seeing things that are not there)
- Irritability, moodiness
- Psychosis
- Impulsiveness
- Paranoia
- Changes in behavior (from mild to very troubling)

Thinking problems, which tend to worsen over time, include:

- Confusion about time and place
- Loss of memory
- Personality changes
- Loss of judgment

A person with HD also can develop movement problems. Movements that are involuntary, such as fidgeting, are called chorea. Chorea can occur with HD or other medical conditions. Often, after many years of having HD, the person can develop movements that are very slow. When movement problems occur in HD, symptoms may include:

- Restlessness, fidgeting
- Jerking of the arms, legs, parts of the face, and other body parts
- Speech problems
- Facial movements
- Slow, uncontrolled movements
- Swallowing problems
- Head turning to shift eye position
- Unsteady gait (walking pattern)

HD is a serious disease. It typically is diagnosed between the ages of 30 and 50. In rare cases, it develops in young children or older people. Males and females are affected in equal numbers. Most people with HD will die within 10 to 20 years after the first symptoms occur.

There is no cure for HD, and researchers continue to look for one. At this time, treatments are available for HD symptoms, including chorea. These treatments can make daily life easier and more comfortable.

The treatment needs for symptoms can vary greatly among people with HD. Also, symptoms change over the course of the disease. Thus, people with HD may need different treatments at different times. It is important to discuss with a doctor if chorea or other symptoms should be treated.

WHAT TREATMENTS ARE AVAILABLE FOR CHOREA IN HD?

Several drugs have been studied for treating chorea in HD. These drugs are listed in table 1 with the doses shown to be effective.

Dopamine-modifying Drugs

Dopamine is an important chemical in the brain. It is needed for nerve cells to communicate with areas of the body. Drugs that affect dopamine levels in the brain have been studied for treating chorea in HD. There is moderate evidence that the drug tetrabenazine (TBZ) can be helpful. TBZ appears to have a powerful effect on chorea. However, be aware that TBZ can have the following serious side effects:

- Parkinsonism (slowness in movement)
- Depression; thoughts or plans of suicide
- Extreme restlessness
- Falls
- Neuroleptic malignant syndrome (a serious nervous system disorder)

Before deciding to use TBZ, talk with your doctor about your HD symptoms and the drug's potential side effects.

At this time, TBZ is the only drug approved by the FDA for treating HD chorea.

Neuroleptics are drugs used for psychosis, a mental disorder. In psychosis, a person's thinking becomes confused and may lose touch with reality. Neuroleptics commonly are used to treat chorea in HD. There are two different groups of neuroleptics. Typical neuroleptics that are commonly prescribed are haloperidol and fluphenazine. Newer drugs in this family are called atypical neuroleptics. These include:

- Clozapine
- Olanzapine
- Quetiapine
- Risperidone

There is not enough high-quality evidence to know if neuroleptics are helpful for chorea. Some of the available studies were not designed well enough to give good information. Others included too few people to make meaningful conclusions. This often happens with older drugs. When this happens, experts are not able to make recommendations for such drugs. However, HD specialists often choose to prescribe these drugs for HD symptoms. Experts believe these drugs help with behavior and movement problems. Many have had good treatment results in their patients. However, because evidence is lacking, the AAN makes no recommendations for or against use of these drugs to treat chorea.

Glutamatergic-modifying Drugs

Glutamate is another important brain chemical. Like dopamine, glutamate helps nerve cells communicate with parts of the body. Drugs that affect glutamate levels in the brain have been studied for treating HD chorea.

Moderate evidence shows the drugs amantadine and riluzole can be helpful. Experts do not know how effective amantadine may be. In addition, amantadine may have the following serious side effects:

- Blood problems
- Fluid buildup in the lungs
- Heart problems
- Hypersensitivity reactions
- Lung failure
- Neuroleptic malignant syndrome
- Thoughts or plans of suicide

Studies suggest that a 200-mg dose of riluzole can be effective but a 100-mg dose may not be. See table 1 for more details about dose levels. The studies examined here looked at a 200-mg dose for short-term use. Thus, there is not enough information to know if this dose is helpful in the long-term. In addition, riluzole may have the following serious side effects:

- Liver problems (hepatitis, jaundice, liver damage)
- Heart attack
- Low white blood cell count
- Lung problems, including pneumonia
- Thoughts or plans of suicide

Energy Metabolites

Metabolism is the way in which the body breaks down certain chemicals for energy. These are known as energy metabolites. Some occur naturally in the body. Others come from foods or supplements such as vitamins. There is moderate evidence that ethyl-EPA may not have a strong effect on treating chorea. Weak evidence shows creatine may not have a strong effect.

Other Drugs

Several other drugs have been studied for use in HD chorea. One such drug, nabilone, typically is used to treat nausea (upset stomach) and vomiting from chemotherapy in some cancers. Nabilone also has been used to treat pain. Weak evidence shows nabilone may have a slight effect in treating HD chorea. There is not enough evidence to know if nabilone should be used long-term. This drug may be habit forming and may cause psychosis.

Donepezil is another drug studied for treating HD chorea. This drug was developed to treat thinking problems in dementia. There is not enough evidence to know if donepezil helps treat HD chorea.

Two additional drugs have been studied in treating HD chorea. One, the antibiotic minocycline, is used to treat infections. Moderate evidence shows minocycline does not have a strong effect in treating HD chorea. The drug coenzyme Q10 is a supplement used to treat a number of conditions. There is evidence that coenzyme Q10 does not have a moderate effect in treating HD chorea.

MY DOCTOR SAYS NEUROLEPTICS ARE THE BEST OPTION FOR TREATING MY CHOREA SYMPTOMS. ARE THESE DRUGS HELPFUL?

At this time, there is not enough evidence to know if neuroleptics help treat chorea in HD. Doctors often prescribe these for people with HD who have chorea symptoms. Experts report that many people have found relief of behavior and movement problems from use of these drugs. Thus, some doctors may choose to treat HD symptoms with these drugs. However, the studies examined here were not designed well enough to give good information. Studies of better quality are needed to confirm that these drugs are effective.

HOW CAN I KNOW IF I SHOULD TREAT MY CHOREA?

For someone with HD chorea, deciding whether to treat chorea can be challenging. Some people may find chorea to be less difficult to manage than other HD problems such as thinking or behavior problems. In such cases, treating these other symptoms may be a higher priority. Moreover, several of the drugs discussed here may have serious side effects.

In addition, the research on the decision to treat is not clear. Some studies show that treating chorea may decrease disability or improve quality of life. Other studies show no connection between chorea and loss of function. Finally, there are no studies that show if people with HD and chorea would prefer to treat chorea symptoms. For these reasons, it is very important to work with your doctor when deciding whether to treat chorea.

WHAT OTHER RESEARCH IS NEEDED?

More research is needed to know how safe and effective the available treatments for chorea are. In particular, it would help to study which drug doses and treatment durations are safest and most helpful. In addition, studies of better quality would help to show how effective neuroleptics are. Finally, more research is needed on clinical tests of chorea symptoms. Scores may change when a person with HD is retested for chorea after treatment or after time has passed. Studies of how to interpret these score changes would be helpful.

TABLE 1. DRUGS STUDIED IN HD CHOREA

DOPAMINE-MODIFYING DRUGS

Drug Class, Name	Primary Use	Dose, Effect†	Evidence Level
Neuroleptics	Psychosis	-	Not enough evidence
Tetrabenazine	Movement problems	Up to 100 mg/day supported for strong effect	Moderate

GLUTAMATERGIC-MODIFYING DRUGS

Drug Class, Name	Primary Use	Dose, Effect†	Evidence Level
Amantadine	Movement problems	300–400 mg/day supported for unknown level of effect	Moderate
Riluzole	ALS	200 mg/day supported for moderate effect; 100 mg/day <i>not</i> supported for moderate effect (slight effect possible)	Moderate

ENERGY METABOLITES

Drug Class, Name	Primary Use	Dose, Effect†	Evidence Level
Ethyl-EPA	Various	<i>Not</i> supported for strong effect (moderate effect possible)	Moderate
Creatine	Muscle building	<i>Not</i> supported for strong effect (moderate effect possible)	Weak

OTHER DRUGS

Drug Class, Name	Primary Use	Dose, Effect†	Evidence Level
Nabilone	Nausea/vomiting in cancer treatment; pain	Supported for slight effect short-term (not enough evidence for long-term use)	Weak
Donepezil	Dementia	-	Not enough evidence
Minocycline	Infection	<i>Not</i> supported for strong effect (moderate effect possible)	Moderate
Coenzyme Q10	Various	<i>Not</i> supported for moderate effect (slight effect possible)	Moderate

†Based on evidence from studies

This statement is provided as an educational service of the American Academy of Neurology. It is based on an assessment of current scientific and clinical information. It is not intended to include all possible proper methods of care for a particular neurologic problem or all legitimate criteria for choosing to use a specific procedure. Neither is it intended to exclude any reasonable alternative methodologies. The AAN recognizes that specific patient care decisions are the prerogative of the patient and the physician caring for the patient, based on all of the circumstances involved.

* After the experts review all of the published research studies, they describe the strength of the evidence supporting each recommendation:

- Strong evidence** = more than one high-quality scientific study
- Moderate evidence** = at least one high-quality scientific study or two or more studies of a lesser quality
- Weak evidence** = the studies, while supportive, are weak in design or strength of the findings
- Not enough evidence** = either different studies have come to conflicting results or there are no studies of reasonable quality