

Treatment Of Primary Writing Tremor

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A Review of Primary Writing Tremor

Abdul Qayyum Rana and Haris M. Vaid

Parkinson's Clinic of Eastern Toronto & Movement Disorders Centre, Toronto, Ontario, Canada

ABSTRACT

A task-specific tremor (TST) is a rare form of movement disorder that appears while performing or attempting to perform a particular task. Primary writing tremor (PWT) is the most common form of TST which only occurs during the act of writing and hinders it. (Bain PG, Findley LJ, Britton TC, Rothwell JC, Gresty MA, Thompson PD, Marsden CD. MRC Human Movement and Balance Unit, Institute of Neurology, London, UK. Primary writing tremor. *Brain*. 1995;118(6):1461–72.) Primary writing tremor type B is present not only during the act of writing but also when the hand assumes a writing posture. (Bain PG, Findley LJ, Britton TC, Rothwell JC, Gresty MA, Thompson PD, Marsden CD. MRC Human Movement and Balance Unit, Institute of Neurology, London, UK. Primary writing tremor. *Brain*. 1995;118(6):1461–72.) We first of all describe a remarkable case study of a 50-year old, right-handed male who started experiencing a primary writing tremor in his right hand about a year ago. This case was found to be of particular interest because the patient had it relatively difficult when attempting to write numbers as opposed to writing letters. This review further discusses the clinical manifestations of PWT. In addition, three main hypotheses have been proposed for the causation of PWT, although the exact pathophysiology of PWT still remains unknown. It has been suggested that PWT is a separate entity, a variant of essential tremor and not a separate entity, or a type of dystonia. The various treatment options for PWT are discussed including botulinum toxin and oral pharmacotherapy.

KEYWORDS: essential tremor, focal dystonia, primary writing tremor, task specific tremor, writer's cramp, writer's dystonia

INTRODUCTION

A task-specific tremor (TST) is a rare form of movement disorder that appears while performing or attempting to perform a particular task. Task-specific tremor is a specific type of action tremor that occurs only or largely when an individual is performing a specific and usually a skilled task. The tremor may arise on a variety of skilled task occupations such as a dentist developing tremor only while using a dental drill, musicians only while playing musical instruments or golfers while putting. It may affect different parts of the body, for example, a pathologist developing a head tremor while observing from a microscope or a musician's lip or tongue developing tremor while playing a wind instrument. There is no data on the prevalence or incidence of task-specific tremor. However, the most common type encountered in movement disorder clinics is primary writing tremor (PWT) [1]. By

definition, PWT is present when tremors occur only, or predominantly, during the act of writing but not during other tasks of the active hand [2].

PWT is also unaccompanied by any other neurological symptoms and does not manifest itself in other activities of daily life [3]. PWT is divided into two types. Primary writing tremor type A appears only during the act of writing, whereas primary writing tremor type B is present not only during the act of writing but also when the hand assumes a writing posture [4]. PWT may have some overlapping features with focal dystonia as well as essential tremor. Dystonic tremors are relatively variable and may resemble essential tremor upon onset. Focal dystonia is a neurological disorder causing muscle to contract or twist in an undesirable way [5]. Essential tremor is more common than dystonic tremor and may be inherited in many cases. An essential tremor is categorized by a kinetic or postural tremor, it becomes evident during an activity or holding the arms in a specific posture. It most commonly affects the arms; however, other body parts, including the head, face, voice, trunk, and legs may be affected individually or collectively [6]. A diagnostic test for essential tremor does not exist [7]. Primary writing tremor usually affects numbers and

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Address correspondence to Abdul Qayyum Rana, MD, FRCP(C), Neurologist, Parkinson's Clinic of Eastern Toronto & Movement Disorders Centre, 2867 Ellesmere Road Suite 404, Toronto, ON, M1E 5B9 Canada. E-mail: ranaa@ryerson.com

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Treatment of primary writing tremor is a critical topic for those affected by this condition, which can significantly impact daily life and the ability to perform tasks requiring fine motor skills. Primary writing tremor is a form of action tremor that predominantly affects the handwriting and is characterized by rhythmic oscillations of the hand and forearm when writing. Understanding the various treatment options available can empower individuals to manage their symptoms effectively and improve their quality of life.

Understanding Primary Writing Tremor

Primary writing tremor is often confused with other types of tremors, but it has its unique characteristics and implications for treatment. It primarily

manifests during writing but can also affect other tasks that require precise hand movements. The tremor can be mild to severe, leading to challenges in reading one's own handwriting, signing documents, or even typing.

Causes of Primary Writing Tremor

The exact cause of primary writing tremor remains largely unknown. However, several factors may contribute to its onset:

- Genetic predisposition: In some cases, a family history of tremor may increase the likelihood of developing this condition.
- Neurological factors: Abnormalities in brain function or structure may play a role in the manifestation of tremors.
- Environmental influences: Certain lifestyle factors or exposure to toxins may contribute to the development of tremor.

Diagnosis of Primary Writing Tremor

Diagnosing primary writing tremor typically involves a comprehensive assessment by a neurologist or a specialist in movement disorders. The diagnostic process may include:

1. Medical history review: Discussing symptoms, duration, and family history of tremor.
2. Physical examination: Observing the tremor during various tasks, such as writing and holding objects.
3. Neurological examinations: Evaluating coordination, reflexes, and muscle strength.
4. Additional tests: In some cases, imaging studies like MRI may be conducted to rule out other conditions.

Treatment Options for Primary Writing Tremor

There is no one-size-fits-all solution for treating primary writing tremor. Treatment approaches can vary based on the severity of the tremor and the individual's specific needs. Below are some common treatment options:

1. Pharmacological Treatments

Medications can often help reduce the severity of tremors. Some common medications used include:

- Beta-blockers: These drugs, commonly used for hypertension, can help reduce

tremors in some patients.

- Anticonvulsants: Medications like primidone may help control tremors.
- Benzodiazepines: Drugs such as clonazepam can reduce tremor severity, especially in cases of anxiety-related tremors.

It's essential for patients to consult with a healthcare provider to find the most suitable medication, as effectiveness can vary and side effects may occur.

2. Occupational Therapy

Occupational therapy can provide valuable strategies for individuals dealing with primary writing tremor. An occupational therapist may work with patients to:

- Develop coping strategies: Techniques such as using larger pens or grips can help with control.
- Modify writing techniques: Learning to write with different postures or positions may alleviate symptoms.
- Utilize assistive devices: Tools such as weighted pens or writing aids can improve stability and control.

3. Physical Therapy

Physical therapy can be beneficial in improving overall strength and coordination. A physical therapist may help with exercises focused on:

- Hand and wrist strength: Strengthening the muscles involved in writing can enhance control.
- Fine motor skills: Practicing tasks that involve precision can improve performance in daily activities.

4. Lifestyle Modifications

Making certain lifestyle changes can also help manage the symptoms of primary writing tremor:

- Stress management: Practices such as yoga, meditation, and deep-breathing exercises can help reduce anxiety, which may exacerbate tremors.
- Healthy diet: A balanced diet can support overall well-being and potentially reduce tremor severity.
- Regular exercise: Engaging in physical activity can enhance coordination and reduce overall tension in the body.

5. Advanced Treatment Options

For individuals with severe tremors that do not respond to medication or therapy, advanced treatment options may be considered:

- Botulinum toxin injections: In some cases, injecting botulinum toxin into the muscles of the hand can help reduce tremors.
- Deep brain stimulation (DBS): This surgical option involves implanting a device that sends electrical impulses to specific areas of the brain, helping to reduce tremors.

Living with Primary Writing Tremor

Managing primary writing tremor involves a multifaceted approach that includes medical treatment, therapy, and lifestyle adjustments. Here are some tips for coping with the condition:

- **Stay informed:** Understanding the condition can help individuals advocate for themselves and make informed choices about treatment.
- **Connect with support groups:** Engaging with others who have similar experiences can provide emotional support and practical advice.
- **Practice patience:** Learning to cope with tremors takes time, and individuals should be kind to themselves as they navigate the challenges.

Conclusion

In summary, the **treatment of primary writing tremor** encompasses a variety of approaches, from medication to therapy and lifestyle changes. While living with a tremor can be challenging, many options are available to help individuals manage their symptoms effectively. Consultation with healthcare professionals is crucial to developing a personalized treatment plan that addresses the unique needs of each individual. With the right strategies in place, it is possible to improve writing capabilities and enhance overall quality of life.

Frequently Asked Questions

What is primary writing tremor?

Primary writing tremor is a neurological disorder characterized by involuntary shaking or trembling of the hand or fingers during writing or fine motor tasks, primarily affecting the ability to write legibly.

What are the common causes of primary writing tremor?

The exact cause of primary writing tremor is not well understood, but it is believed to involve a combination of genetic and environmental factors that affect the brain's motor control pathways.

What are the symptoms of primary writing tremor?

Symptoms typically include rhythmic trembling of the hand while writing, difficulty maintaining a steady grip on writing instruments, and potentially worsening of tremors during stressful situations.

How is primary writing tremor diagnosed?

Diagnosis is usually based on a clinical evaluation by a neurologist, who assesses the patient's symptoms, medical history, and may conduct neurological examinations to rule out other conditions.

What treatment options are available for primary writing tremor?

Treatment options may include occupational therapy, the use of adaptive writing tools, medications such as beta-blockers or anticonvulsants, and in some cases, deep brain stimulation.

Can lifestyle changes help manage primary writing tremor?

Yes, lifestyle changes such as stress reduction techniques, regular exercise, and practicing fine motor skills can help manage symptoms and improve overall motor control.

Are there any specific medications effective for primary writing tremor?

While there is no cure, some patients may benefit from medications like propranolol or primidone, which can help reduce the severity of tremors in some individuals.

Is primary writing tremor hereditary?

There may be a genetic component to primary writing tremor, as some studies suggest a higher prevalence among family members, but more research is needed

to understand the inheritance patterns.

What role does occupational therapy play in treating primary writing tremor?

Occupational therapy can help patients develop coping strategies, improve fine motor skills, and learn to use assistive devices to make writing easier and more manageable.

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