# Persistent Postural-Perceptual Dizziness (PPPD or 3PD)

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# Provider Fact Sheet

### What is Persistent Postural-Perceptual Dizziness (PPPD or 3PD)?

Persistent Postural-Perceptual Dizziness (3PD) is a medical condition that can cause a constant feeling of dizziness or unsteadiness following a sudden triggering event. The triggering event could be any condition that causes sudden disruption in balance, fainting or near fainting and/or vertigo (distinct sense of spinning). Most commonly, 3PD is triggered by inner ear problems, migraines or concussions. Many people suffer from PPPD without being able to find out what is wrong despite multiple tests and medical evaluations.

# What are 3PD symptoms?

The primary symptom of 3PD is a persistent non-specific dizziness that is often difficult to describe. While triggering events often create sudden and strong symptoms, 3PD symptoms are less intense and can feel very disabling. 3PD dizziness is often described as a sense of non-spinning dizziness, heavy headedness, lightheadedness, cloudiness, rocking, swaying, unsteadiness, fogginess, fullness, bobbing, veering, or fuzziness. These symptoms are often accompanied with unsteadiness: a sense of swaying, rocking, or veering. 3PD symptoms are triggered by movement, either self or environmental. Commonly, symptoms are worse in busy stores, crowds, watching action TV, walking over patterned floors/carpets or when scrolling on computers, phones, or precision hand tasks like sewing. Symptoms often vary in intensity depending on the time of day or type of activity.

# Is 3PD a psychiatric problem?

3PD is not a psychiatric syndrome. However, 3PD is often associated with anxiety or depression. Studies show that 60% of patients with 3PD have significant anxiety; however, 25% of patients who develop 3PD have NO other related health problem.

# What causes 3PD?

3PD is believed to be a "complication to healing". Normally, our brains efficiently integrate and utilize all three of our balance senses (eyes, body position sense, and inner ear). When individuals experience a triggering crisis, their brains shift to rely on vision until the crisis resolves. The 3PD brain, however, gets "stuck" in this protective response of ONLY <u>attending to vision</u>. Visual cues, without proper integration of body position and inner ear information, become misleading, inaccurate and understandably threatening.

# How is 3PD diagnosed?

3PD is a medical condition that is identified by the details of specific symptoms. Symptoms need to be present at least 3 months and other causes need to be examined and managed. Because 3PD cannot be "seen" on standardized "structural" tests such as MRI or CT scans, most diagnostic tests and even neurologic examinations are often normal. What can make diagnosis more complicated is that 3PD can often co-exist with other medical problems, including migraines

# Can 3PD be treated? What can be done about it?

The good news is that 3PD can be treated. Research is showing that 4 out of 5 patients get better with proper treatment with overall 80% sustained reduction or resolve in 3PD symptoms and disability. Treatments include specialized balance rehabilitation called vestibular rehabilitation,

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certain medications, and a specific type of counseling called Cognitive Behavioral Therapy (CBT). Physical therapy helps to rewire the brain through balance retraining and habituation exercises prescribed to gradually desensitize motion sensitivities. Medications help to open pathways for healing. Cognitive Behavioral Therapy (CBT) helps lessen the 3PD brain's inappropriate over-attention that can interfere with optimal healing. Treatments can be used alone or together.

#### What can individuals with 3PD expect?

3PD treatment is highly individual. Once diagnosis is identified, understood and treatment started, some patients can make quite dramatic progress in even the first couple of months; however some will require gradual progressions over months to slowly "reclaim" their capacities especially if symptoms have been severe and present for a longer time. Most patients experience some initial lessening in dizziness within 4-6 weeks but require at least 8-12 weeks to get the best results and full benefit from exercise or medication. Some treatment plans may last for a year or more.

#### What can you tell your patient to help their recovery of 3PD?

- Ongoing medical conditions need to be addressed
- Encourage individuals to celebrate all efforts and stay active despite symptoms.
- Remind them not to worry over the future. "What if" questions can be the enemy and good energy is needed to focus on rehabilitation
- Help the patient to focus on realistic/simple agenda of activities instead of their dizziness
- They should not push too hard on good days or be too sedentary on more challenging days. Have them pace their activities and schedule time to recover after more stimulating tasks.

#### Where to find more information?

Look for information from leading authority Dr J.P. Staab from the Mayo Clinic in Rochester MN. He has written numerous articles, including patient oriented chapter in the <u>Consumer Handbook on</u> <u>Dizziness and Vertigo</u> edited by Dennis Poe MD, Auricle Ink Publishers) on "Mastering Dizziness and Maintaining Balance". Vestibular Disorders Association (VeDA) offers extensive educational resources and support information (<u>info@vestibular.org</u>, vestibular.org, 1.800.837.8428).

#### Additional commonly asked questions....

<u>What medications are used to treat 3PD?</u> Selective serotonin reuptake inhibitors (SSRIs) or Serotonin and norepinephrine reuptake inhibitors (SNRIs). These medications are often used to treat depression and anxiety but may help reduce dizziness even if your patient is not depressed or anxious. Medications may need to be continued for 1 year.

<u>Do medications have side effects?</u> Yes. Dizziness is often listed as a possible side effect; however that doesn't refer to the type of dizziness caused by 3PD.

Why is counseling (CBT) suggested when 3PD is not a psychiatric condition? CBT has been found helpful in facilitating behavioral changes that can speed recovery. Specifically, the capacity to return to activities, improve management of disruptive emotions, lessened fearful arousal/avoidance, and improved sense of control.

#### **References:**

- Cha YH. <u>Chronic Dizziness.</u> Continuum (Minneap Minn). 2021 Apr 1;27(2):420-446. doi: 10.1212/ CON.000000000000932.PMID: 34351113 Review.
- Holmberg, J.M. Pathophysiology, Differential Diagnosis, and Management of Persistent Postural-Perceptual Dizziness-A Review. Persp-19-00105. pubs.asha.org/doi/10.1044/2019 PERSP-19-00105
- Indovina I et al Brain Correlates of PPPD: A Review of Neuro Imaging Studies. Journal of Clinical Medicine. 10 (2021) 2474
- Popkirov S, Staab JP, Stone J. <u>Persistent postural-perceptual dizziness (PPPD): a common, characteristic and treatable cause of chronic dizziness.</u> Pract Neurol. 2018 Feb;18(1):5-13. doi: 10.1136/practneurol-2017-001809.
- Staab JP.Persistent Postural-Perceptual Dizziness. Semin Neurol. 2020 Feb;40(1):130-137. doi: 10.1055/s-0039-3402736. Epub 2020 Jan 14.PMID: 31935771
- Trinidade A, Goebel JA. Persistent Postural-Perceptual Dizziness-A Systematic Review of the Literature for the Balance Specialist. Otol Neurotol. 2018 Dec;39(10):1291-1303. doi: 10.1097/MA0.00000000002010.PMID: 30289841

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