

## PERSISTENT POSTURAL PERCEPTUAL DIZZINESS (PPPD)

PPPD is a cluster of symptoms that arises for some people in the period following:

1. Episode of vertigo (e.g. caused by BPPV, migrainous vertigo, Meniere's disease, labyrinthitis)
2. Acute medical event e.g. adverse drug reaction, arrhythmia, postural hypotension, whiplash, etc.
3. A period of high anxiety

The condition is characterised by episodic **dizziness or light-headedness** (not spinning), in addition to other symptoms. These vary between individuals, but often include:

- Unsteadiness when standing or walking
- A feeling of rocking, swaying or veering to the side when walking
- A feeling of 'fullness', 'cloudiness', or 'heaviness' of the head
- Dizziness in response to particular movements, such as turning to the side, getting up from a chair, looking up or down, bending over
- Sensitivity to motion stimuli or complex patterns

Some people with this condition also report other symptoms such as:

- Headaches, nausea, tiredness
- Nervous arousal, agitation, find it hard to relax
- Tightness in the muscles, throat or jaw.
- Numbness, tingling, twitches or 'electrical' sensations in hands, feet, face or scalp
- Momentary dizziness or internal 'shift' sensations ('Whoops' moments)
- Feeling hot or flushed
- Wobbly legs

### Typical Experiences

Most people who develop PPPD have undergone numerous medical tests and seen lots of medical specialists, only to be told that there is nothing physically wrong with them. This can be frustrating because the symptoms are real, and may be debilitating. Some people worry that they have a serious illness that no one has been able to diagnose. This is a normal response, as it is very hard to make sense of why the symptoms keep occurring. It is important to recognise that while the symptoms associated with the syndrome are unpleasant, they are harmless and do not indicate a serious medical illness. In addition, one's psychological response to the symptoms can play a role in maintaining the condition.

**The symptoms are initially triggered by a medical event or panic attack.**

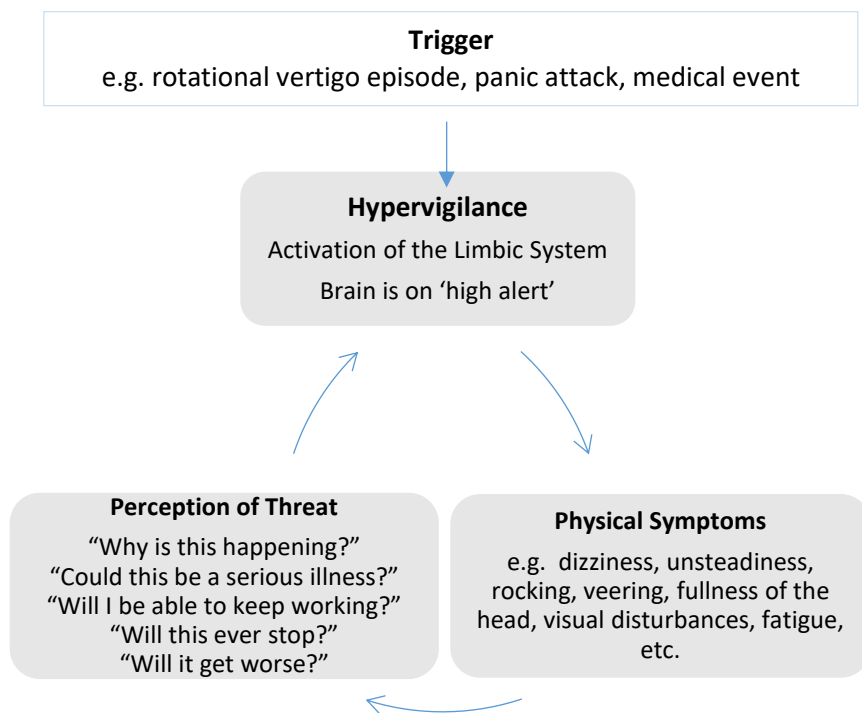
**Psychological factors play a role in maintaining the symptoms.**

### How mind and body interact – the effects of ANXIETY

Our brain is designed to focus on threat – in evolutionary terms this provided survival advantage. However, in the case of PPPD, the perceived threat is inside our own body - the symptoms themselves become a source of threat. Paradoxically, the attention that we pay to the symptoms may serve to perpetuate them. PPPD is maintained by a combination of **threat perception** ('something bad may happen'), **hypervigilance** (selective attention to perceived threat) and other internal **neurophysiological changes**.

The first episode is usually triggered by a physical event, such as rotational vertigo, wooziness or anxiety or a panic attack. When people perceive their symptoms as bad or dangerous, they become **hypervigilant** - the brain remains on 'high alert' focusing on internal sensations, even when we try to think about other things. Hypervigilance has physical consequences, including an increase in autonomic nervous system activity (which increases adrenaline and cortisol release, breathing, blood pressure and oxygen consumption). People who are more prone to anxiety are more likely to perceive their symptoms in a high threat way. They might constantly monitor their symptoms and try too hard to control them. They are more likely to have worrying thoughts, such as "this could be serious" or "will it ever go away?"

Whilst the neural/biological pathways between anxiety and dizziness are not fully understood, hypervigilance is clearly associated with increased physical symptoms (e.g. dizziness, unsteadiness, etc). The cycle is self-perpetuating, because the physical symptoms are perceived as a threat, which in turn, maintains anxiety and hypervigilance, which in turn causes the symptoms to keep occurring.



As the condition is reinforced by a perception of threat, it is much more likely to arise among people who have an inherent disposition towards anxiety. Whilst most people who develop this condition agree that they are anxious by nature, some believe they only became anxious after the onset of dizziness symptoms.

### Situational Dizziness

People's experience with the symptoms varies. Many people experience more symptoms when they are out of their comfort zone (outside of home). 'Busy' environments that provide stimulation (such as in shopping centres, supermarkets, car parks etc.) often give rise to more symptoms. Social situations may generate dizziness because the symptoms are perceived as interfering, embarrassing or inconvenient, and so present a greater threat. Some people experience more symptoms when they are under stress (e.g. at a work meeting) or even just thinking about their symptoms.

Many people report that they experience fewer symptoms when they are absorbed in some engaging activity, (e.g. driving) because their attention is focused on something else. Some report less symptoms when they are in a completely different, more relaxed environment (e.g. on a holiday), or at home (as opposed to at work); or on certain days of the week (e.g. weekends). Having symptoms that vary depending on environment or day of the week demonstrates that psychological factors are clearly playing a role. (However some people with PPPD are unable to identify a clear relationship between their symptoms and environmental cues.)

### **Random Symptoms**

Most people with PPPD have good days and bad days, for no obvious reason. While particular events may be frequent triggers, the symptoms often come ‘out of the blue’, even when relaxing. For instance, you may experience symptoms when resting, watching TV or reading. (This also happens for people who suffer from panic attacks – panic sometimes comes out of the blue).

There has been lots of speculation regarding what is going on. When we are hypervigilant our brain is on constant ‘high alert’, even when resting or sleeping, so it is possible that even small biological changes in body processes trigger an alarm response. This is more likely to be the case for people experiencing high levels of ‘nervous energy’ or who are prone to rapid autonomic nervous system arousability.

### **Other factors**

Most people with PPPD also experience more symptoms when they feel tired. Standing up (as opposed to sitting down) also frequently causes an increase in symptoms. This may be due to increased perception of threat, especially for people who are concerned about imbalance. (When we stand we could fall). Our brain is also working harder to maintain our position in space, and anxious individuals tend to use more unnecessary postural control strategies to protect themselves from feelings of imbalance.

### **The paradox of fighting against the symptoms**

Trying to stop the symptoms, or wishing that they would go away does not reduce them. It often reinforces the perception that they are a threat, and so maintains hypervigilance. It is far more helpful to recognise that the symptoms are **unpleasant but harmless**, and **they will come and go** regardless of our efforts to control them. Paradoxically, when we give up attempts to analyse, monitor or control the symptoms, they usually diminish over time. So, the most helpful goal is to learn to ignore the symptoms, and return your focus to other aspects of your life.

### **Exposure to feared situations**

It is a well-established principal in psychology that the best way to overcome our fears is to face them, rather than trying to run away from them. This is also true when dealing with feared physical sensations.

Many people feel like they have been trying to control their symptoms for months, without success. The role of exposure is to do the opposite – rather than trying to stop the symptoms, we learn to face them with calm detachment – to get on with life, in spite of the symptoms. When we don’t give our symptoms special attention, they generate less threat associations. This helps to interrupt the self-perpetuating cycle.

Consider doing regular exposure to situations that you normally avoid. **Your goal is NOT to try to stop the symptoms, but to experience the symptoms without fear or panic.** That is, to change the emotional response that they usually evoke, therefore breaking the connection between symptoms and fear.

Note that the symptoms will not immediately disappear, but they will be less distressing when there is no fear, frustration or despair attached to them.

### **During Exposure: SURF the symptoms**

Allow your body to experience the sensations without trying to prevent or control them. It's a bit like "surfing with the wave" instead of desperately swimming against the tide:

1. Let your body do what it needs to do, without resistance. Allow the unpleasantness to be there.
2. Then switch your attention to task - whatever it is that you are doing, or what needs doing. Or, use distraction to move your attention to another more salient topic.

If you find it hard to switch attention away from your symptoms, mental exercises like remembering (what I ate for dinner, what I bought in the supermarket, who I texted or emailed, or what I watched on TV yesterday? What about the day before?, and the day before that?), or planning (what events I have planned in my diary? What I will do this afternoon, tomorrow, next week?) can be helpful.

### **When symptoms arise in daily life situations:**

Whenever you experience the symptoms in your daily life situations, just **let them be** without giving them any special attention, and return your focus to whatever you are doing at the time (e.g. reading, talking, working, driving, watching TV, etc.) There is no benefit to overthinking, analysing or comparing your symptoms. Trying to control them by analysing / focusing on them is counterproductive.

### **Avoid avoidance and safety behaviours**

If you have been **avoiding** any situations or activities because of the unpleasant symptoms (e.g. physical exercise, driving outside of a limited 'safe' area, social activities, going to shopping centres, public places, using elevators or escalators, etc.), start facing these situations again. This can be done in small steps if you prefer. As you do this, you may experience more symptoms – surf the symptoms, and use distraction (e.g. listen to podcast) if this helps.

The same is true of other **safety behaviours** – any behaviour aimed at trying to protect yourself from experiencing symptoms (e.g. keeping your head rigid, lying down or resting immediately when you experience symptoms, holding on to things to keep yourself stable, sitting a lot, relying on others to accompany you to certain places, etc.)

If you are currently using avoidance or safety behaviours, aim to return to the lifestyle that you had prior to developing dizziness, regardless of symptoms.

### **Get on with your life**

Most importantly, **don't wait for your symptoms to disappear before you can get on with your life**. Set meaningful life goals (think about how you want your life to be) and start working towards them. Get on with your life now, regardless of your symptoms. Engaging in activity that is meaningful is the best thing you can do!

If you have been neglecting other areas of your life, here are some areas to think about:

parenting (or grand-parenting), build more friendships, partner relationship, develop leisure activities or hobbies, focus on your career, do courses or more education, spirituality, get involved in a cause you believe in, work on a more healthy lifestyle (e.g. join a gym, cooking classes, yoga, meditate). Aim to live a richer and more interesting life!