PERSISTENT POSTURAL PERCEPTUAL DIZZINESS (PPPD)

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

1. **a vestibular or medical event** (e.g. rotational vertigo, labyrinthitis, vestibular migraine, postural hypotension, inner ear infection, reaction to medication) OR
2. **a period of severe anxiety** (may include panic attacks)

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 walking or a feeling of the ground being unstable
- A feeling of rocking 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
- Visual disturbances (sensitivity to motion stimuli; episodically out of focus)

Some people also report:
- Headaches, nausea, tiredness
- Nervous arousal, agitation or find it hard to relax
- Tightness in the muscles, throat or jaw.
- Numbness, tingling, twitches or 'electrical' sensations in hands, feet, face or scalp (often one-sided)
- Momentary dizziness or internal 'shift' sensations
- 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, our psychological response to the symptoms often plays a role in maintaining the condition.

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

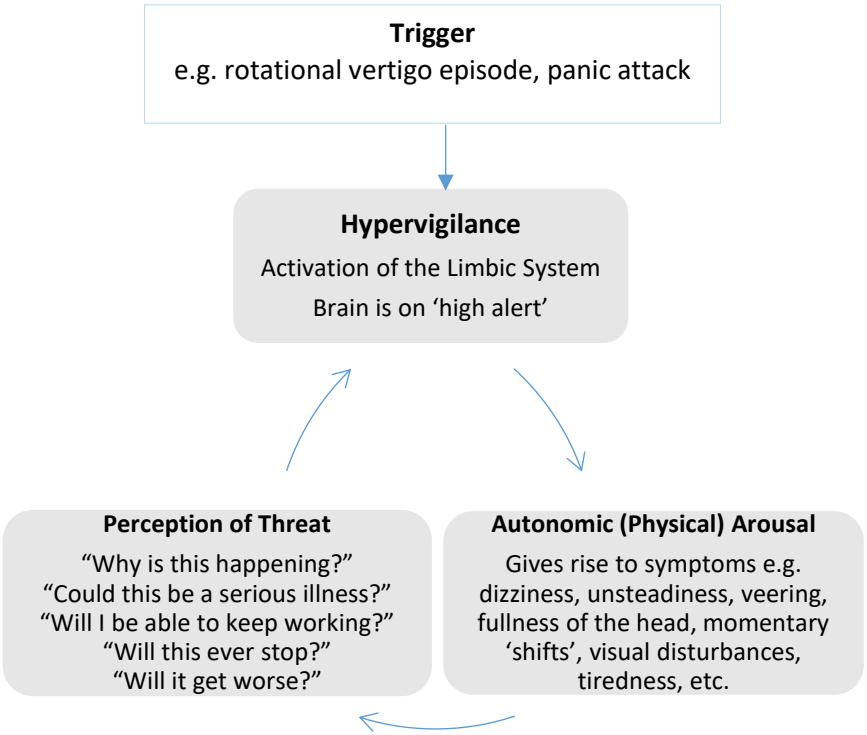
Psychological factors play a role in maintaining the symptoms.

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 often serves to perpetuate them. PPPD is maintained by a combination of **perception** ('something bad might happen'), **hypervigilance** (selective attention to perceived threat) and **autonomic arousal** (the body's biological response to perceived threat).

Very often the first episode is triggered by a physical event, such as rotational vertigo (caused by an inner ear condition), a medical event (e.g. postural hypotension) or response to medication. It may also be triggered by anxiety or a panic attack. When people perceive their symptoms as bad or dangerous, they become **hypervigilant** - the brain is on constant 'high alert', even when focusing on other things. This 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 are more likely to have worrying thoughts, such as "maybe doctors have missed something", "it could be serious" or "will it ever go away?"

Whilst the neural/biological pathways are not fully understood, hypervigilance and high autonomic arousal are 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 hypervigilance, which in turn maintains autonomic arousal, etc., causing the symptoms to keep occurring.



As the condition is maintained by a perception of threat, it is more likely to arise among people who are high on "trait anxiety" – that is, they have an inherent disposition towards anxiety, or rapid autonomic arousal (becoming quickly aroused in response to threat perceptions). However, some people may develop anxiety after the onset of dizziness symptoms, and then develop PPPD.

Situational Dizziness

People's experience with the symptoms varies. Some people experience more symptoms when they are out of their comfort zone – such as when standing up, walking in the street, in shopping centres, supermarkets, car parks etc. 'Busy' environments that provide stimulation often generate more symptoms. Social situations can generate dizziness because the symptoms are perceived as potentially disruptive, embarrassing or inconvenient, and so present a greater threat. Some people experience more symptoms when they are under

stress (e.g. running late) or just thinking about the 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 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 strongly suggests that psychological factors are playing a role. However many people with PPPD are unable to identify a clear relationship between their symptoms and the situation they are in.

Random Symptoms

Most people with PPPD have good days and bad days, for no obvious reason. While particular events may sometimes trigger symptoms, for some people symptoms seem to come 'out of the blue', even when they are relaxing. For instance, they may experience symptoms when they are 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 high levels of autonomic nervous system arousability.

Other factors

Most people with PPPD also experience more symptoms when they feel tired or unwell. The biological reasons for this are not clearly understood.

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.

The paradox of fighting against the symptoms

Trying to stop the symptoms, or wishing that they would go away does not reduce the symptoms. It usually reinforces the perception that they are a threat, and so maintains hypervigilance and arousal. It is more helpful to recognise that the symptoms are harmless, and not worthy of any special attention. Paradoxically, when people stop trying to fight, analyse, monitor or control the symptoms, they usually diminish in intensity, and cause much less distress.

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 it:

1. Let your body do what it needs to do, without resistance. Allow the unpleasantness to be there.
2. Then gradually switch your attention to task - whatever it is that you are doing at the time.

If you find it hard to switch attention away from your symptoms, mental exercises like remembering (what I ate for dinner or watched on TV yesterday? the day before?), 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 thinking/ 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, certain 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).

The same is true of **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, walking close to walls, relying on others to accompany you to certain places, etc).

If you are currently using avoidance or safety behaviours, try to let these go and 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. Get on with your life now, even while you are still experiencing symptoms. Doing so usually helps with recovery.