

# Post-Exertional Malaise

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## What is PEM?

PEM stands for **post-exertional malaise** (pronounced ma-LEH-eez). It is defined as an increase in symptoms (for example, fatigue, brain fog, breathlessness, headaches, body aches) after what doesn't seem like a lot of activity.

The activity can be:

- physical (like taking a walk)
- cognitive (like doing paperwork)
- social/emotional (like attending a dinner party)

It might seem like you feel a lot more fatigue and overall symptoms than you think you should, based on the level of effort or time you spend doing an activity.



## What you will notice

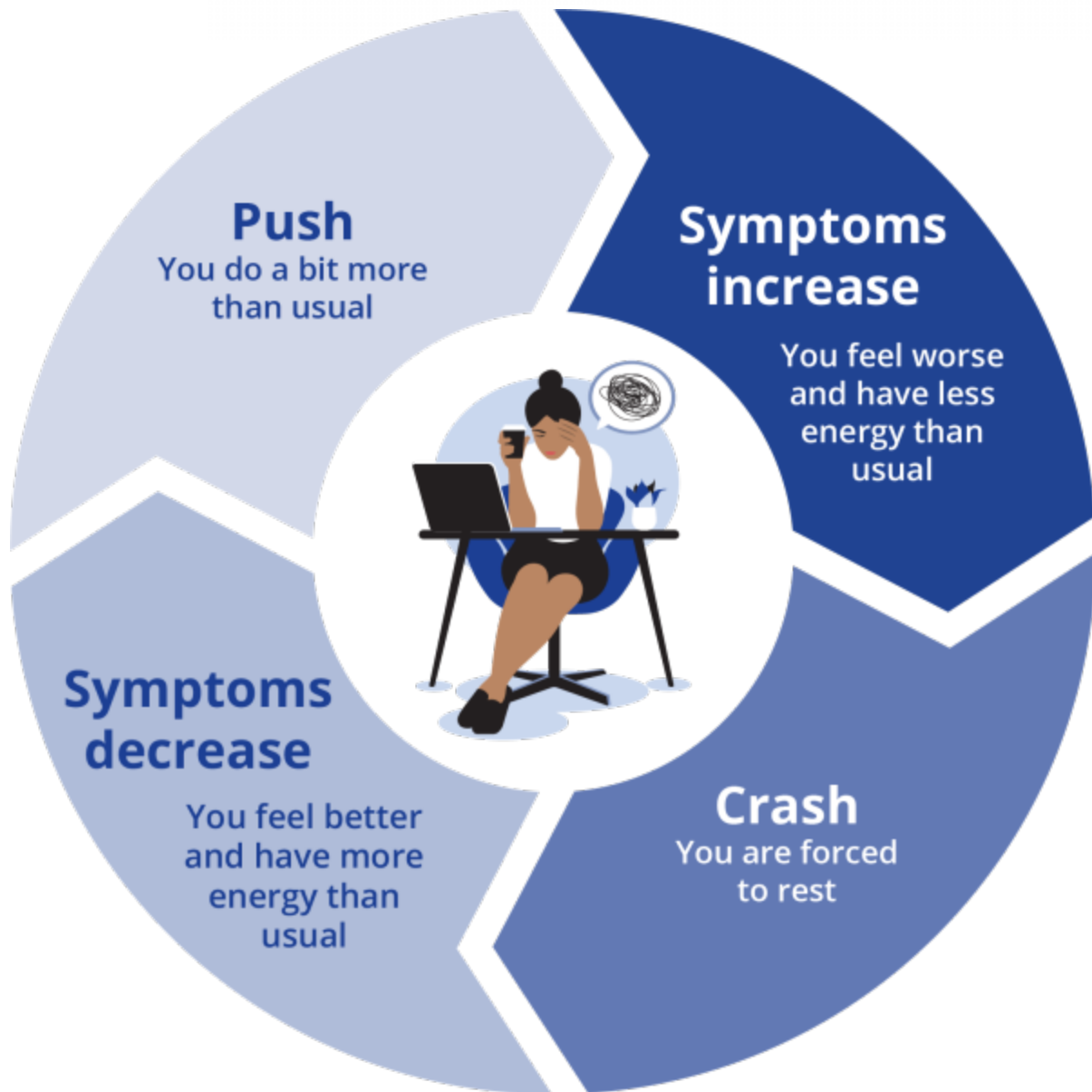
Some days, you may feel drained and unable to do some or any of your normal activities. You will likely notice that some or all of your usual symptoms are worse than normal.

You may be able to trace this “flare” or “crash” back to a specific activity or day(s) where you did more than normal.

Maybe you had more energy one day and you wanted to “take advantage” of feeling well to get caught up on your usual activities or to exercise.

Often, the point where you over-exerted yourself would have happened 1 to 3 days before you felt the fatigue/symptoms get worse.

This pattern is called a **push/crash cycle**.

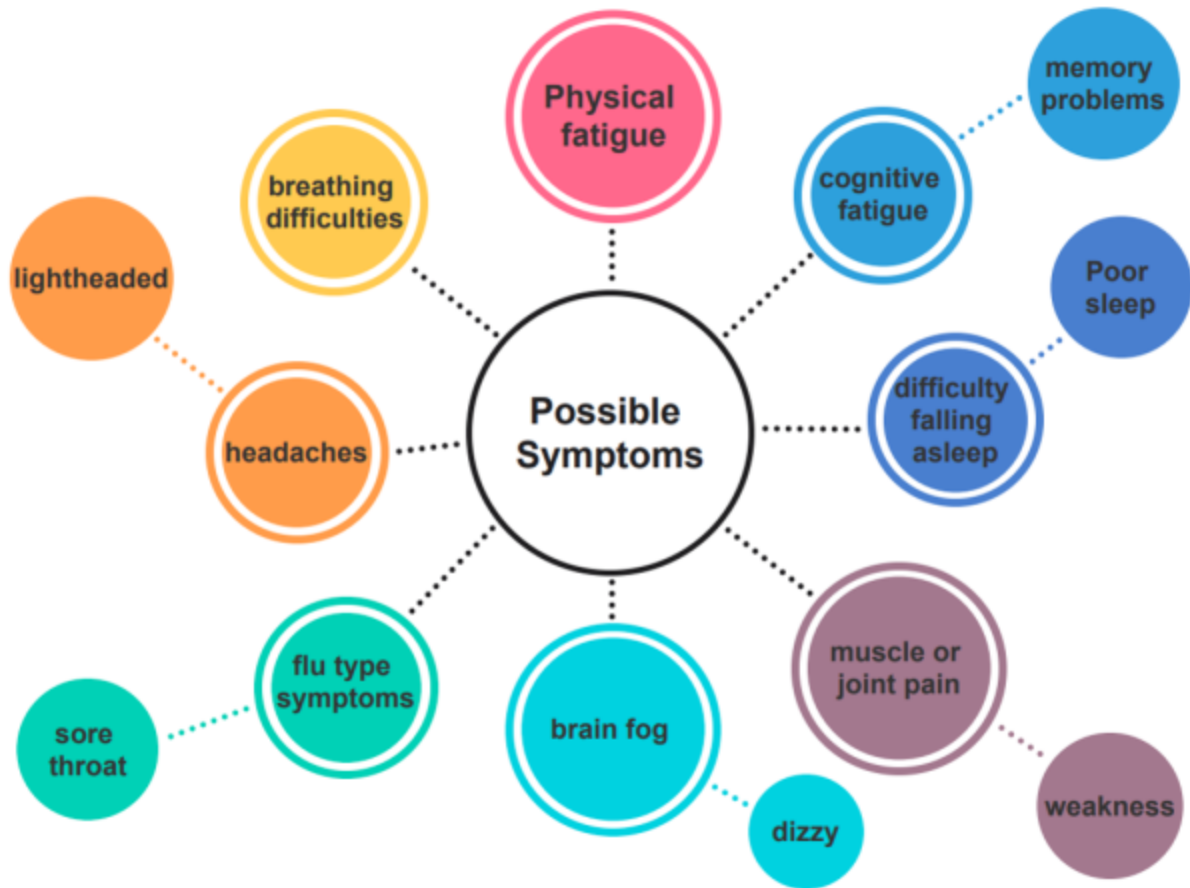


Stopping the push/crash cycle is crucial to recovery from long COVID. Evidence has shown that people dealing with PEM who continue this pattern tend to get worse over time, potentially resulting in long term disability.

# Why PEM happens

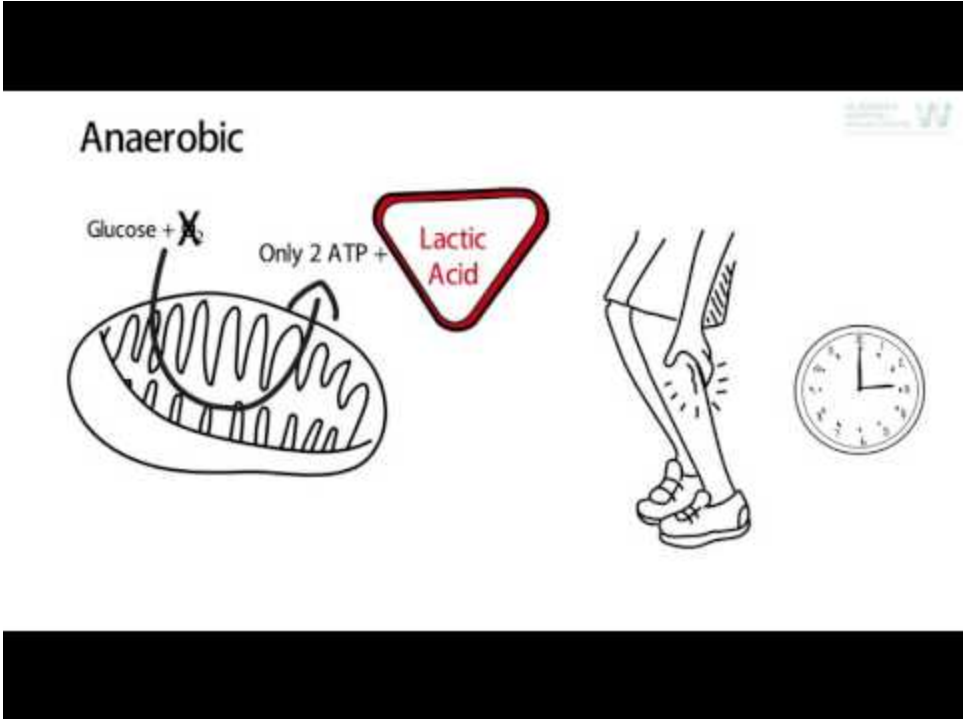
There is ongoing research and we certainly don't have all the answers yet. A lot of what we know comes from research on Myalgic Encephalomyelitis/Chronic Fatigue Syndrome (ME/CFS), which is also known to sometimes be triggered by a viral infection.

PEM is thought to be at least in part due to mitochondrial dysfunction. The mitochondria are the “powerhouses” or “engines” inside our cells (in muscles, brains, organs, nerves) that produce the energy our bodies need to function. When mitochondria produce less energy, our ability to recover from activities decreases. This is typically experienced by people with long COVID as symptoms such as fatigue, muscle aches/pain, brain fog, headaches, and more.



It is important to realize that the fatigue and other troubling symptoms you may experience with long COVID are truly pathologic (meaning, they are a result of a physical dysfunction) – not something that is “in your head.”

## Watch this video on “Mitochondria NOT Hypochondria”



<https://www.youtube.com/watch?v=fqCM4LkKGEE>

Created by the Complex Chronic Disease Program at the BC Women's Hospital.

## Coping with PEM

A **Stop-Rest-Pace** approach to returning to activities can be helpful for getting yourself out of the push/crash cycle.

You may need to talk to a primary health care provider and consider modifying your work schedule. You will also need to learn your own triggers, apply some [self-management skills](#), and find your "energy envelope" (please see the [Pacing](#) topic in *MyGuide* to learn more about your energy envelope).



**STOP** trying to push your limits. Overexertion may be detrimental to your recovery.



**REST** is your most important management strategy. Do not wait until you feel symptoms to rest.



**PACE** your daily physical and cognitive activities. This is a safe approach to navigate triggers of symptoms.

## Seeking support through your journey



Recovering from long COVID can be a long road with multiple setbacks because of PEM.

It can be difficult to continue to apply [energy conservation strategies](#) when you start to feel you are doing better or when you feel forced to deal with situations or stressors that you know can cause a symptom to flare.

Many people find it helpful to connect with others who have experienced PEM.

Connecting with others with similar experiences can help you keep motivated to continue with energy conservation as you improve and face all the challenges in your life.

## What you can do to prevent PEM

There are several strategies you can use to conserve your energy. Click to see for more information about each in *MyGuide*.

- [Pacing](#)
- [Heart Rate Monitoring](#)
- [Breath Work](#)

## Where to next?

- Watch this video on “[Mitochondria NOT Hypochondria](#)” by the Complex Chronic Disease Program at the BC Women’s Hospital.
- Apply some [self-management skills](#), and find your “energy envelope.”
  - Check the [Pacing](#) section in *MyGuide* to learn more about your energy envelope.
- It can be difficult to continue to apply [energy conservation strategies](#) when you start to feel you are doing better or when you feel forced to deal with situations or stressors that you know can cause a symptom to flare.
  - Check these topics to learn more about other energy conservation strategies: [Pacing](#), [Heart Rate Monitoring](#), and [Breath Work](#)

