Post-exertional Malaise (PEM) Timecourse for ME/CFS

What is Post-exertional Malaise Following Physical Activity?
Post-exertional malaise (PEM) is considered the hallmark clinical feature of myalgic encephalomyelitis/chronic fatigue syndrome (ME/CFS). PEM is the worsening of symptoms and decreased function following physical, cognitive, or emotional effort. The onset may occur immediately after activity or be delayed. Immediate, short-term and long-term PEM symptoms following physical activity can be explained in terms of the damaged energy systems found in ME/CFS. Overload in other areas (cognitive, emotional, sensory, upright posture, etc) can also cause immediate and long-term symptoms, but responses to these stressors are less well documented in the literature.

PEM Timecourse

Immediate
Symptoms after physical activity are the direct result of exceeding the anaerobic threshold. Examples include fatigue, out of breath, dizziness and nausea. For healthy individuals, immediate symptoms from exercise stress resolve quickly but for people with ME/CFS they begin to worsen.

Short-term
Lasts 2-4 days and reflects “overdoing activities” that exceed the anaerobic threshold for an extended period or multiple times per day exhausting the ability of the body to supply daily energy needs. Symptoms of short-term PEM include muscle/joint pain, brain fog, headache and sleep disturbance. These symptoms reflect dysfunctional neurological and cardiopulmonary responses.

Long-term
Lasts 7 days or more and reflects a sustained immune response consistent with a damaged aerobic energy system. Signs may include weakness, a decrease in function, flu-like and cardiopulmonary symptoms.

Identifying PEM After Activity
1. Do you experience severe fatigue with at least 3 symptoms in the categories below?
   a. feel unwell b. feel weak c. don’t sleep well d. have pain
2. Does it take a day or more to recover from exertion?

Preventing PEM
1. What is your first symptom of PEM?
2. How long does your PEM last?
3. Do your symptoms progress or change over the immediate/short-term/long-term?
References:


