

Clinical Presentation and Management of Post-COVID Conditions (PCC) in Children and Adolescents



Clinical Presentations

Pediatric patients with PCC may present with

- Fatigue
- Headaches
- Dizziness
- Dysautonomia
- Abdominal/GI issues
- Sleep disturbances
- Temperature intolerance
- Brain fog/cognitive/memory issues
- Shortness of breath
- Pain

It is important to note that not every patient will exhibit all of these symptoms.

Risk Factors

Factors that may increase the risk of developing PCC include:

- Older age (5-9)
- Female sex
- Pre-existing poor physical or mental health
- Hospitalization during acute COVID-19 infection (more than 48 hours)
- Higher number of symptoms during acute COVID-19 infection

Approach to Workup

A detailed history is essential to understand the patient's symptoms and their impact on daily life. Key areas to explore include:

- **COVID-19 infection:** Timing of infection, severity and any complications
- **Symptom onset:** When new or worsening symptoms first appeared
- **Functional impact:** How symptoms affect daily activities and energy levels
- **Diet and weight:** Changes in appetite, weight or dietary patterns
- **Sleep:** Sleep quality, duration and need for daytime naps
- **Mood:** Changes in mood or emotional state
- **Cognitive function:** Changes in memory, concentration or other cognitive abilities

Potential differential diagnoses to consider include:

- **Brain fog:** Previously undiagnosed neurodivergence, learning difficulties, poor sleep, anxiety, depression, unrecognized head injury, endocrinopathy or severe anemia
- **Fatigue:** Depression, anxiety, poor sleep, severe anemia, poor diet, malignancy, tachycardia, viral myocarditis, hyperthyroidism or other cardiac issues

Non-Pharmacological Management



Sleep hygiene: Establishing a consistent sleep routine



Pacing: A well-established strategy in chronic fatigue syndromes that involves careful planning of activities and rest periods to avoid overexertion



Dietary Modifications: Anti-inflammatory diets like Mediterranean or plant-based may be beneficial for some patients, but it is important to consider individual needs and preferences.



Psychological Support: Therapy can help address anxiety, depression and cognitive difficulties.



Specific Therapies: Smell training for anosmia, autonomic rehabilitation for dysautonomia and cognitive rehabilitation for brain fog.

Pharmacological Management

There are no FDA-approved treatments for PCC, but there are some treatments used to manage specific symptoms.

Dysautonomia:

Beta-blockers, fludrocortisone or midodrine

Headache/ Back Pain/ Neck Pain:

Toradol or LDN

Abdominal Pain/Chronic Nausea:

Zofran, Ibgard or scopolamine

The cornerstone of managing pediatric PCC is validating the patient's experience and improving their ability to participate in daily activities.