

Pediatric Onset Multiple Sclerosis

Authors:

Lori Hochman, PT, PhD

Gina Vaul, PT

Mary Squillace, DOT, OTR/L, PhD

Maria Milazzo, PhD, CPNP-PC, RN

Fact Sheet

What is Pediatric Onset Multiple Sclerosis (POMS)?

Multiple Sclerosis is an autoimmune central nervous system disorder that affects the brain and spinal cord. When an individual is less than 18 years of age, it is typically referred to as Pediatric Onset Multiple Sclerosis (POMS). Between 3% and 5% of all POMS cases have an onset before 16 years of age.¹⁻³

The symptoms of POMS are similar to those experienced by adults with MS and may include deficits in vision, sensation, balance, bowel and bladder function, muscle strength, muscle tone, and coordination. They also may experience fatigue, cognitive challenges, and psychological issues.⁴⁻⁷ The pediatric presentation appears to be more variable in terms of gender, ethnicity, and symptoms compared to the adult population.¹ The first attack may involve one or multiple symptoms, but pediatric cases tend to recover quicker than adults.¹ Children younger than 10 years of age may experience multiple symptoms during an attack.¹ Approximately 95% of people with POMS have a relapsing-remitting pattern of disease.¹

Differences between POMS and Adult-onset MS.

Research suggests that children with POMS experience:^{1,4-7}

- Greater annual relapse rate early in the disease
- Slower disease progression in early years
- Ambulatory difficulties at an earlier age due to early disease onset
- Challenges particularly with attention, problem solving, and language skills

Unique issues for children with POMS are:

- Lack of awareness in the medical, educational, and general public about POMS
- Greater struggles dealing with the “invisible symptoms” such as fatigue, depression, and memory issues
- Feeling of isolation, not only for the child, but also the family
- Unique challenges due to the need to work with the school district in constructing an education plan specific to their child’s needs due to the unpredictable nature of the disease

Medical Treatment

Treatment of POMS is divided into three categories:

- Disease modifying therapies (drugs used to slow the progression of the disease)
- Treatment of relapses or “attacks”
- Symptom management

Produced by



A Special Interest Group of



Contact us:

ANPT

Phone: 952.646.2038

info@neuropt.org

www.neuropt.org

a component of



Pediatric Onset Multiple Sclerosis

How can physical therapy (PT) help in POMS?

Due to the complexity of the disease, POMS is best managed using a multidisciplinary approach that is centered on the child and family. It is also important to seek out a PT who is familiar with MS and is aware of the challenges faced by those with POMS. A PT will evaluate how the child or adolescent moves during typical daily activities and ask questions related to the challenges they may face in their school, home, and community environment. Treatment will focus on age-related challenges that are relevant to their everyday challenges and goals will be child and family centered.

A PT will recommend specific activities and/or exercises to address deficits in:

- Strength
- Balance
- Walking
- Endurance
- Flexibility
- Coordination
- Fatigue

What other healthcare providers may be consulted to help with POMS?

You may consult with neurologists, occupational therapists, speech language pathologists, social workers, neuro-ophthalmologists, and psychologists.

Additional Resources

<https://www.nationalmssociety.org/For-Professionals/Clinical-Care/Managing-MS/Pediatric-MS><http://>

References

1. Waldman A, Ness J, Pohl D, et al. Pediatric multiple sclerosis: Clinical features and outcome. *Neurology*. 2016 Aug 30;87(9 Suppl 2):S74-81.
2. Gorman MP, Healy BC, Polgar-Turcsanyi M, Chitnis T. Increased relapse rate in pediatric-onset compared with adult-onset multiple sclerosis. *Arch Neurol*. 2009 Jan;66(1):54-9.
3. Squillace M, Ray S, Milazzo M. Changes in gross grasp strength and fine motor skills in adolescents with pediatric multiple sclerosis. *Occup Ther Health Care*. 2015 Jan;29(1):77-85.
4. Ghezzi A, Banwell B, Boyko A, et al. The management of multiple sclerosis in children: a European view. *Mult Scler*. 2010 Oct;16(10):1258-67.
5. Chitnis T, Aaen G, Belman A, Benson L. Improved relapse recovery in pediatric compared to adult multiple sclerosis. *Brain*. 2020 Sep 1;143(9):2733-2741.
6. MacAllister WS, Boyd JR, Holland NJ, Milazzo MC, Krupp LB. The psychosocial consequences of pediatric multiple sclerosis. *Neurology*. 2007 Apr 17;68(16 Suppl 2):S66-9.
7. Huppke B, Ellenberger D, Rosewich H, Friede T, Gärtner J, Huppke P. Clinical presentation of pediatric multiple sclerosis before puberty. *Eur J Neurol*. 2014 Mar;21(3):441-6.
8. Julian L, Serafin D, Charvet L, et al. Cognitive impairment occurs in children and adolescents with multiple sclerosis: results from a United States network. *J Child Neurol*. 2013 Jan;28(1):102-7.
9. Weisbrot D, Charvet L, Serafin D, et al. Psychiatric diagnoses and cognitive impairment in pediatric multiple sclerosis. *Mult Scler*. 2014 Apr;20(5):588-93.

Produced by



a Special Interest Group of



a component of



This is for informational and educational purposes only. It does not constitute and should not be used as a substitute for medical advice, diagnosis, rehabilitation, or treatment. Patients and other members of the general public should always seek the advice of a qualified healthcare professional regarding personal health and medical conditions. The Academy of Neurologic Physical Therapy and its collaborators disclaim any liability to any party for any loss or damage by errors or omissions in this publication.

Published in 2022