Help! My Child Can’t Walk!
Approach to the Non-Ambulatory Child in the Emergency Department
CPT Janina Gregorski, MD and LTC T.G. Nessler, MD
Darnall Army Medical Center, Ft Hood, TX

Introduction
- Pediatric patients presenting to the emergency department (ED) with acute onset of difficulty ambulating can prove alarming and is a high stress situation for the patient, families, and providers.
- Emergency physicians must elucidate serious underlying neurodegenerative disorders and life-threatening conditions when presented with this clinical scenario.
- Further, a balance is necessary in the clinical approach to prevent unnecessary testing in what may be a benign, self-limited illness.
- Benign acute childhood myositis (BACM) is a syndrome predominately in school age children following a viral-like illness. The patient (Pt) experiences difficulty walking, calf tenderness, and elevated creatine kinase (CK).
- We will discuss a case of BACM and the generalized approach to the non-ambulatory child as this condition is rare and frequently misdiagnosed.

ED Course
- Mother notes recent URI-like symptoms preceding onset. Pt had a similar episode following streptococcal pharyngitis one year ago where he developed severe calf pain. No back or hip pain.
- No significant family history to include muscular dystrophy, neurodegenerative disease, and autoimmune disease.
- Physical exam was remarkable for tenderness to calves bilaterally. Pt ambulated with a wide-based, stiff legged gait with intermittent toe walking. Normal motor and sensation.
- Labs (CBC, CMP, CK) remarkable only for AST 95, CK 2303.

Inpatient Course
- Hospital course was uncomplicated with down-trending CK mirroring spontaneous resolution of symptoms. Pt completed outpatient follow up with the diagnosis of BACM.

Discussion
- BACM was first reported in 1957 in 74 Swedish children under the name of myalgia cruris epidemica.
- The most commonly associated viruses are influenza A/B and enteroviruses.1,4
- Etiology is unknown with the hypothesis of direct invasion of the virus, damage by myotoxic cytokines, versus an abnormal immunological response.
- Differential includes trauma, Guillain-Barre syndrome, rhabdomyolysis, osteomyelitis, juvenile rheumatoid arthritis, malignancy, dermomyositis, polymyositis, muscular dystrophy, or intracranial pathology. See figure 1 to distinguish between possible differentials.6

Pearls/Pitfalls
- BACM is a rare, transient condition that is often difficult to diagnose with a disturbing initial presentation.
- Clinician awareness of BACM can prevent unnecessary invasive and often costly workup in the pediatric population.
- Though alarming in presentation, BACM can be treated safely as an outpatient with excellent prognosis.3

References

Case Presentation
ED Initial Presentation
- 4yoM, otherwise healthy, vaccinations up-to-date, presented to the ED with difficulty ambulating. Pt was afebrile with normal vitals.
- Pt PO tolerant with no decrease in UOP.

Figure 1
- BACM does not cause motor weakness, sensory deficits, abnormal tendon or plantar reflexes. Rarely, progression can lead to rhabdomyolysis; initial workup must rule this out.2,4,6

Figure 2
- Gowers’ sign reflects weakness of the pelvic girdle (figure 2), which is observed in muscular dystrophy.5
- Toe walking (figure 3) is common in children under two and is different than Gowers’ sign. Rarely, this can indicate underlying pathology.7

Figure 3
- Differentiation includes trauma, Guillain-Barre syndrome, rhabdomyolysis, osteomyelitis, juvenile rheumatoid arthritis, malignancy, dermomyositis, polymyositis, muscular dystrophy, or intracranial pathology. See figure 1 to distinguish between possible differentials.6

Figure 4
- Though alarming in presentation, BACM can be treated safely as an outpatient with excellent prognosis.3