

constipation, skin breakdown, and psychosocial and behavioral problems. Atrophy of facial, oropharyngeal, and respiratory muscles does not occur until the advanced stage of the disease. Ultimately, the disease process involves the diaphragm and auxiliary muscles of respiration, and cardiomyopathy is seen in approximately 50% to 80% of patients with DMD ([Sarnat, 2016b](#)).

### **Box 30-9**

## **Clinical Manifestations of Duchenne Muscular Dystrophy**

Relentless progression of muscle weakness; possible death from respiratory or cardiac failure

Waddling gait

Lordosis

Frequent falls

Gower sign (child turns onto side or abdomen; flexes knees to assume a kneeling position; and then with knees extended, gradually pushes torso to an upright position by “walking” the hands up the legs)

Enlarged (hypertrophied) muscles (especially calves, thighs, and upper arms); feel unusually firm or woody on palpation

Later stages—profound muscular atrophy

Mental deficiency (common)

- Mild ( $\approx$ 20 IQ points below normal)
- Mental deficit present in 25% to 30% of patients

Complications: