INTRODUCTION: Children with quadriplegic cerebral palsy (CP) have growth rates that differ from those of healthy children, and a separate growth chart has been developed for clinical evaluation of growth in patients diagnosed with CP. It is unknown whether the growth patterns of children with hemiplegic or diplegic CP differ from patients with quadriplegic CP or from normal. The purpose of this study was to compare the growth rate of children with quadriplegic, hemiplegic, and diplegic cerebral palsy. If differences in growth rate are observed, additional research will be conducted to assess the need for new growth curves for hemiplegic and diplegic diagnostic categories.

METHODS: Retrospective data on age, weight, and height were collected for each of the CP diagnostic categories from electronic medical records of 478 patients treated at the CP clinic in the Department of Physical Medicine and Rehabilitation. The data was reviewed to eliminate patients with confounding co-morbidities and to eliminate data errors. Sufficient data was available for estimation of growth rate for ages of 3-12 years. Linear mixed models were used to examine how growth varied by diagnosis.

RESULTS: The height and weight of children with quadriplegic CP for both genders were consistently lower than children with hemiplegic or diplegic CP. There were statistically significant differences in weight gain curves among the 3 diagnoses.

CONCLUSIONS: Additional research is needed to determine if growth rates for patients with hemiplegic and diplegic CP differ from normal, and whether separate growth curves for these diagnostic categories are needed.