

# Locomotor development in infants with developmental dysplasia of the hip or idiopathic clubfoot undergoing orthopedic treatment. Prospective comparative study

## Abstract

**Objectives:** Several disorders of early childhood, such as developmental dysplasia of the hip (DDH) and clubfoot, requires orthopedic treatment that limits active mobility of the lower extremities for a period of time. The aim of our study was to evaluate the impact on locomotor development of the orthopedic treatment in infants less than one year-old.

**Patients and methods:** The study included a prospective cohort of consecutive patients diagnosed with developmental dysplasia of the hip (Group A, 24 patients), and clubfoot (Group B, 32 patients) treated from January 2007 to June 2009. A third group (Group C) of 50 healthy children was used as control. The variables evaluated were: months with a brace, age to sit without support, age at the start of crawling, and age at the beginning of walking. The results obtained were analyzed. Comparisons between the three groups were performed using the Kruskal-Wallis test and Mann-Whitney test. We chose a value of  $P < .05$  as level of statistical significance.

**Results:** The analysis of independent samples showed that the mean age at which the patients began to sit were similar: 6.12, 6.42 and 6.19 months, respectively ( $P = .249$ ). The mean age for crawling was similar, although with a slight trend toward statistical significance: 8.84, 9.38 and 9.17 months, respectively ( $P = .08$ ). The age at which they started walking was different between the three groups: 12.14, 13.21 and 12.41 months, respectively ( $P < .001$ ).

**Conclusion:** Orthopedic treatment of DDH and clubfoot in children less than one year-old slightly slows down the course of normal locomotor development.

**Keywords:** Age; Clubfoot; Developmental dysplasia of the hip; Displasia del desarrollo de la cadera; Edad; Marcha; Pie zambo; Tratamiento; Treatment; Walking.

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