



# Intrauterine Growth Charts for Twin Fetuses

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In addition to centile curves for birth weight and height of single infants, the authors offer similar biometric references for twins derived from a large French data base. The aim of the work is to assist in discovering small-for-date twins. In the actual prenatal environment, the curves show a decrease in the evolution of these growth parameters in comparison with the single pregnancy standards as early as the 30th week of pregnancy.

**Key words:** Intrauterine growth, Twins, Centile curves

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## INTRODUCTION

The relative lack of neonatal biometric references concerning twins stimulated us to study the evolution of their weight, height, cranial perimeter, and thoracic perimeter at the time of birth with respect to gestational age (between the 28th and the 42nd week) [4,7].

## MATERIALS AND METHODS

Our work concerned the data derived from 1,049 twin childbirths. This number *represents* a sampling of the Paris area and probably of France as well. The data were sufficient to construct centile curves for the four parameters. They are easy to read and allow a comparison with the norms that we have published in 1971 for single pregnancies [3].

## RESULTS

Figure 1 shows the evolution curves of weight in all kinds of pregnancies with both sexes merged, according to the gestational age, in centiles, calculated from the 3rd to the 97th centile. A regular increase takes place between the 28th and the 42nd weeks. The increment of this increase is obviously less during the last weeks of gestation.

Figure 2 enables us to compare these curves to those obtained for single-fetus pregnancies. The weight of twins clearly is smaller than that of single children. The deviation of the curve becomes apparent only at the 30th week, and these differences increase from the 35th week until delivery. For the 50th centile, this difference amounts to 150 g at the 31st week, 420 g at the 35th week, 610 g at the 40th week.

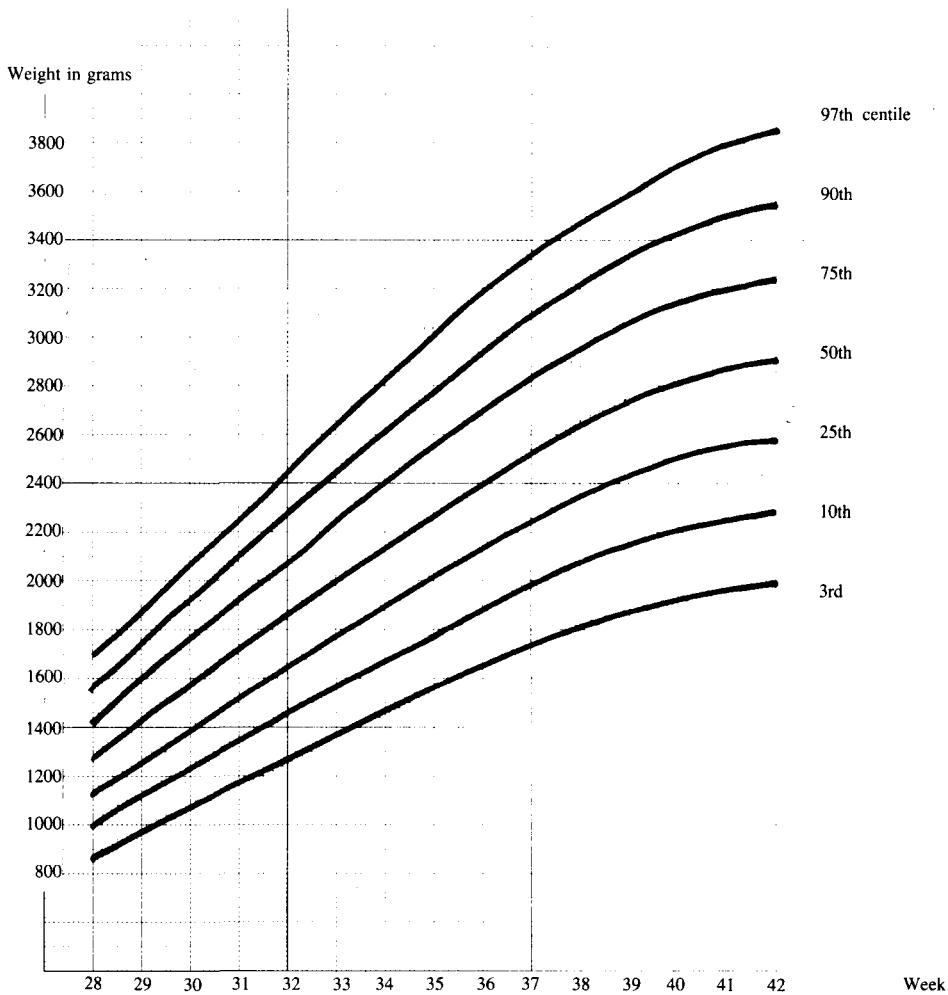


Fig. 1. Weight curves of twins at birth according to gestational age.

These results confirm the observations of McKeown and Record [5], Naeye et al [6], Bazso et al [1], and Kloosterman [2], although the values that we have found for the 50th centile before the 38th week are greater than the figures stated by the other authors.

The average weight of twins born from dichorial pregnancies is somewhat greater than that of twins born from monochoorial pregnancies. The average weight of boys constantly is greater than that of girls, although the difference is significant between the 36th and the 38th week only. The birth rank is without any influence on the birth weight.

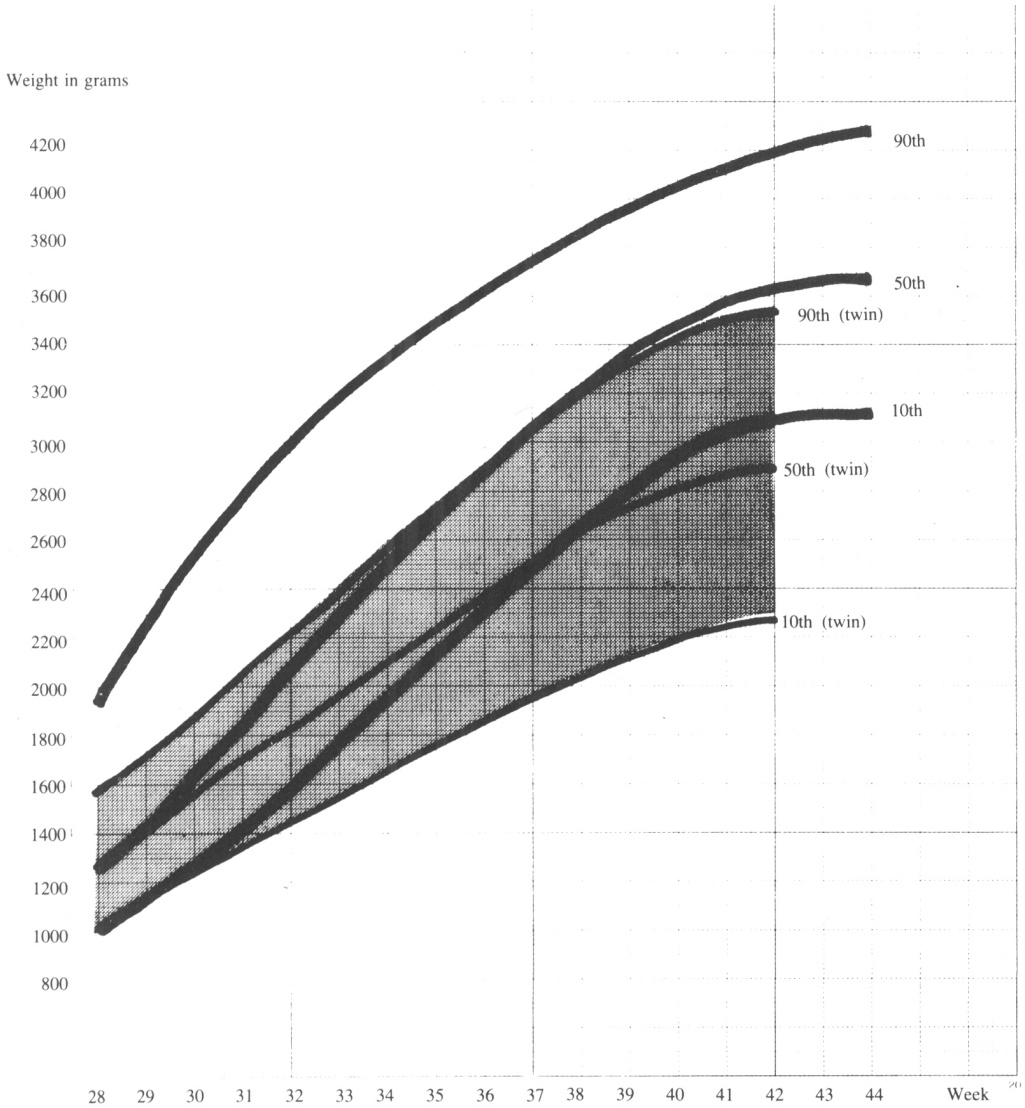


Fig. 2. Comparison of birth weights of twins and of single infants.

Figure 3 presents the curves for statural growth from the 3rd to the 97th centile, calculated according to gestational age.

Figure 4 makes a comparison between the 10th, the 50th, and the 90th centiles for twins with the standards for single children. These differences increase with the prolongation of the pregnancy.

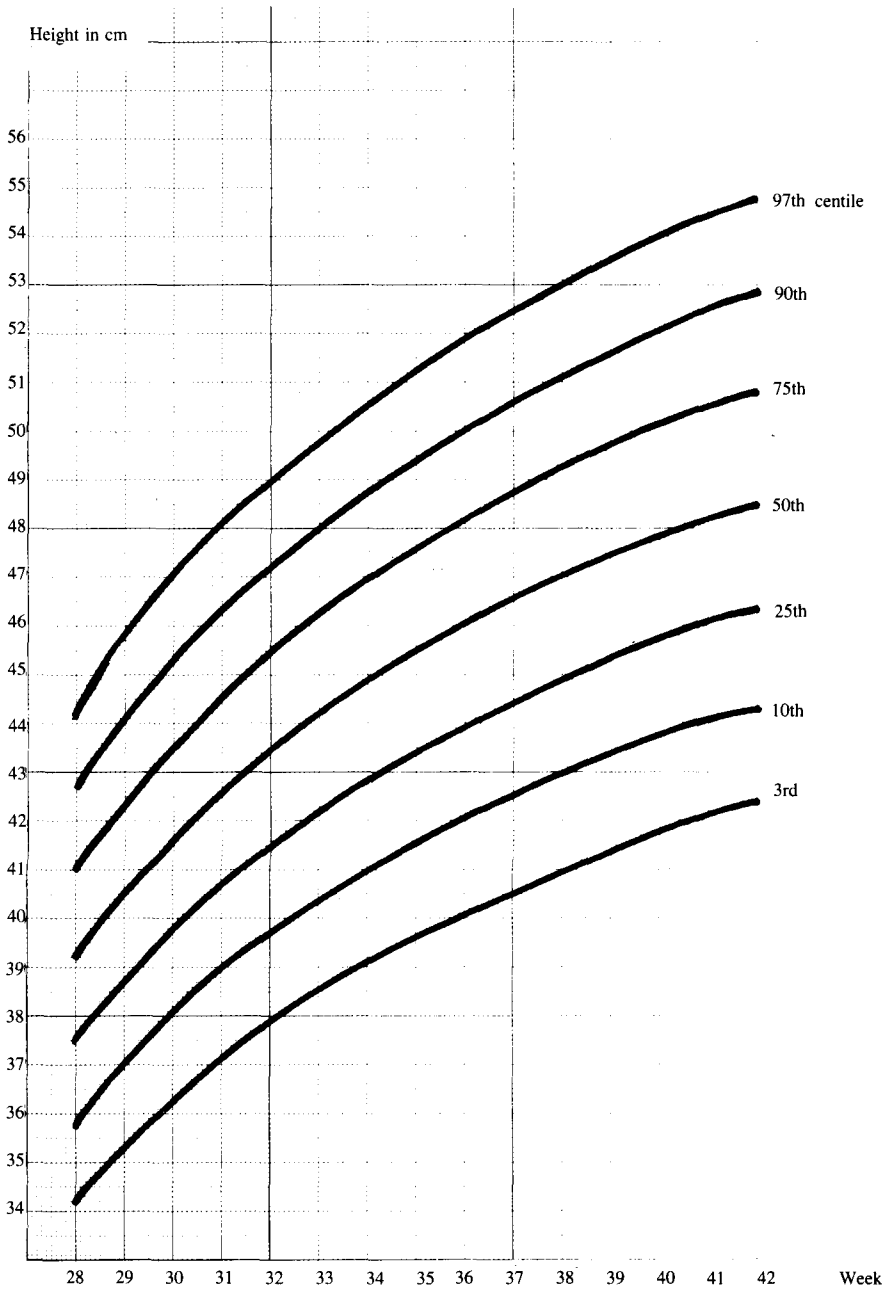


Fig. 3. Statural curves of twins at birth according to gestational age.

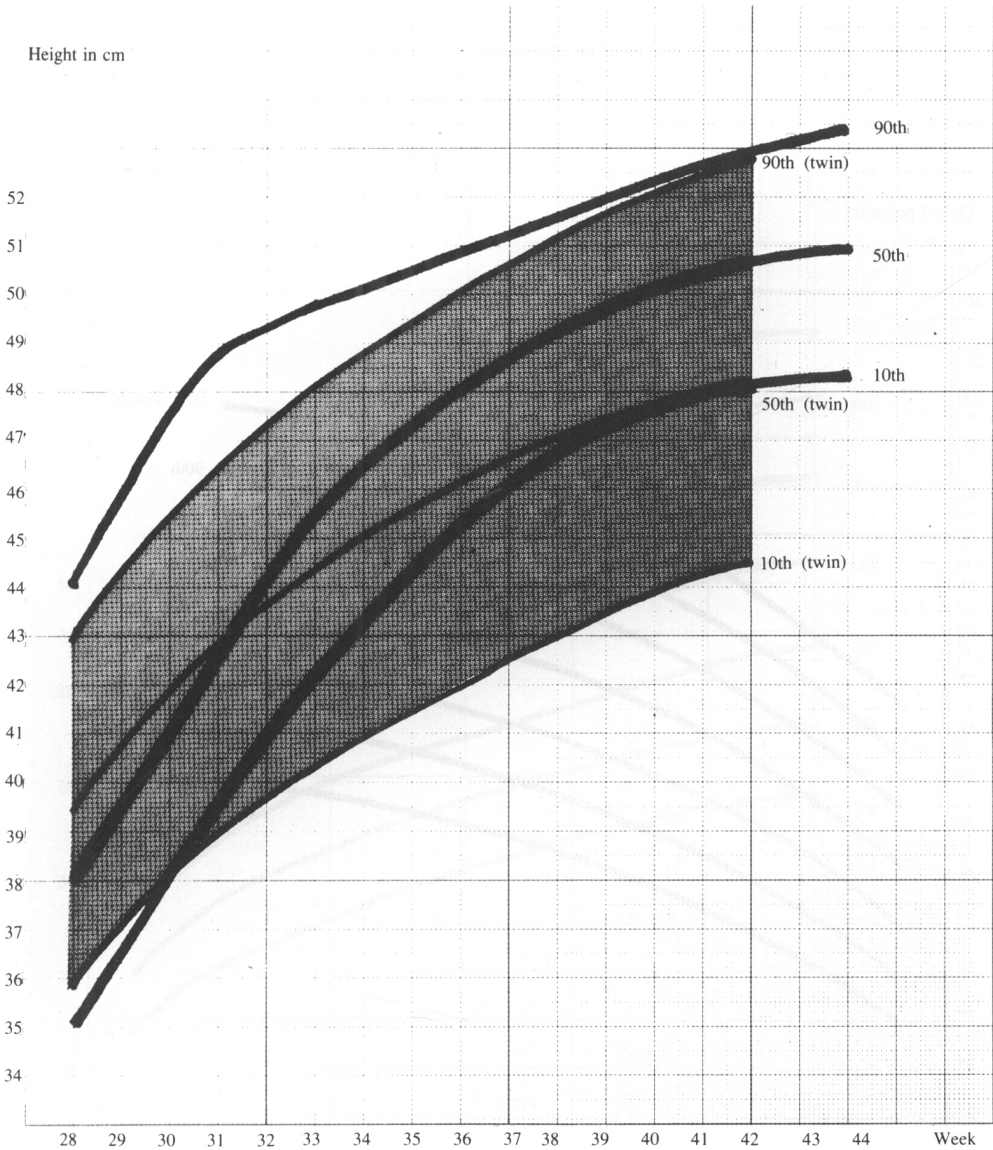


Fig. 4. Comparison of heights of twins and single infants at birth.

For the 50th centile, the difference in height amounts to 0.3 cm at the 31st week, 2 cm at the 35th week, 2.3 cm at the 40th week.

Since other authors have not published on this point, we are unable to make any comparison with the literature. The type of twin pregnancy, the sex, and the birth rank do not induce any significant variation.

Figure 5 shows the centile curves of the cranial perimeter.

Figure 6 shows the evolution of the thoracic perimeter at various gestational ages.

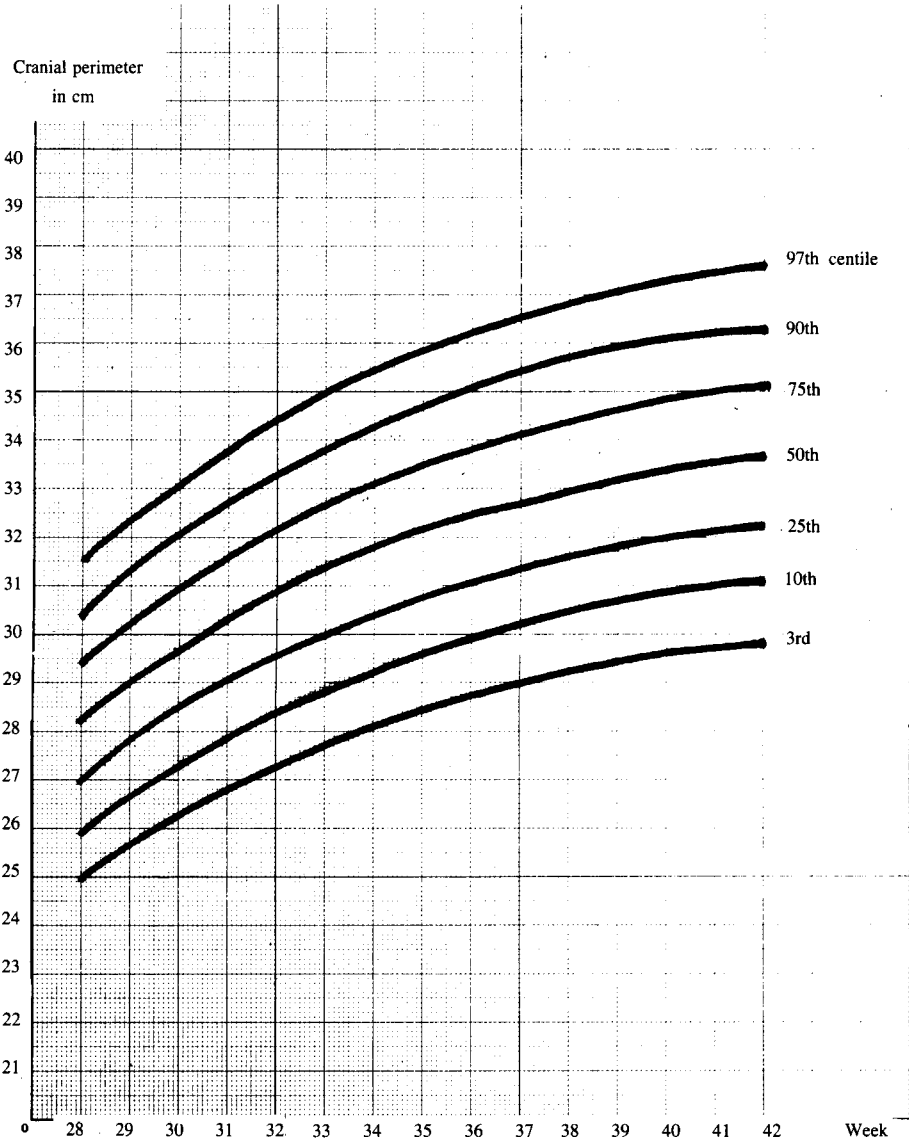


Fig. 5. Cranial perimeter curves of twins at birth according to gestational age.

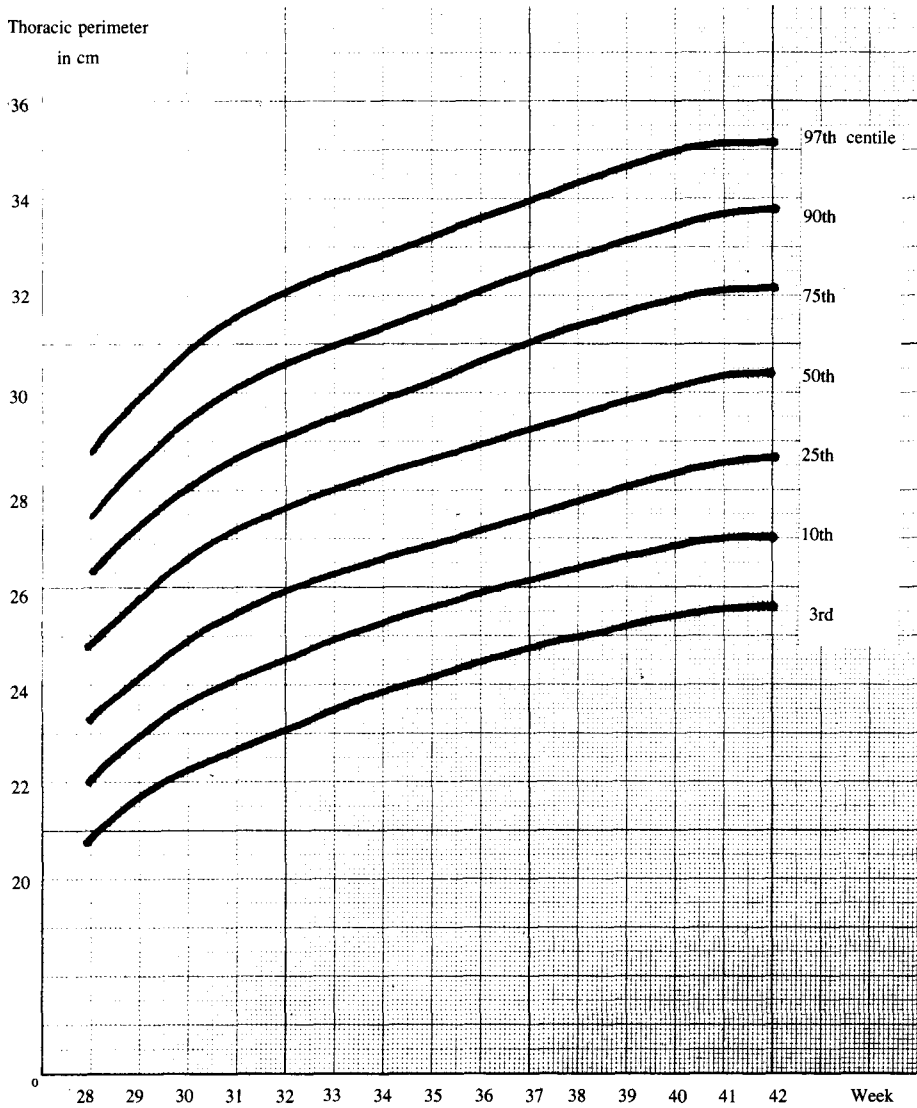


Fig. 6. Thoracic perimeter of twins at birth according to gestational age.

## COMMENT

The neonatal biometric references which we are proposing can help recognize an intrauterine delay in growth with twins at the time of birth, and to appreciate the importance of it. However, they are not meant as standards.

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