



## Multiple birth and cerebral palsy in Europe: A multicentre.

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### Background

The number of multiple births, (twins, triplets or more), has been increasing in recent years. Both the increased use of fertility treatments and also the fact that mothers having their first child are now older than previously help to explain this trend. It is also known that the rates of Cerebral Palsy (CP) are higher in twins and triplets than in singletons. This is thought to be due to multiples often being born earlier and at lower weights.

### What was the aim?

This paper set out to answer questions about:

1. The rates (CP) in twins/triplets etc and whether these have changed over time.
2. Differences in rates and clinical types of CP between multiples and singletons.
3. Whether birth order has an effect on the risk of CP.

### How was the work carried out?

The SCPE database was used to obtain information from 12 CP registers across Europe. This gave information on a total of 6613 children born between 1975 and 1990. This included details of their birth such as birthweight and whether it was a single or multiple birth as well as the type and level of their impairment.

### What were the findings?

The data confirmed that the rate of multiple births in the populations included in the study did increase. In 1980 1.9% of the births were multiples. By 1990 this had risen to 2.4%. The increase in multiple births was more marked among CP infants going from 4.6% in 1976 to 10% in 1990.. For singletons the rate of CP was 1.8 per 1000 live births: for twins/triplets the rate is 7.4 per 1000 live births. In other words multiples have a four times higher rate of CP than singletons

However multiples are generally born preterm and with lower birthweights and both of these factors are associated with a higher risk of CP. Once this is taken into account the rate of CP in multiple births is no different to the rate in singletons for those born preterm or with low birthweights.

There is evidence of an increased risk of CP for multiples compared to singletons born at term with birthweights greater than 2500grams.

The percentage of multiples with spastic CP was 91% compared to 87% for singletons. Multiples with spastic CP were more likely to have bilateral CP than singletons [73% vs. 65%]. These differences can largely be explained by multiples being more likely to be born preterm.

Looking at cases of twin CP infants, the affected child was more often the second born than first born (56% vs. 44%)

### **What does this tell us?**

From this work we know that multiple born infants have a four times higher risk of developing cerebral palsy than singletons. Most of this risk may be due to multiples often being born preterm and at lower weights. This knowledge can help clinicians working within antenatal care.

Because the number of multiple births has increased there has also been an increase in the number of twins/triplets etc. with Cerebral Palsy. This finding has implications for fertility treatments.

### **Further work**

The number of pregnancies resulting in multiple births is increasing and it is important to study the effect of this on the number of children with CP.

We need to know more about the risks of CP in multiple births. There are a number of questions which this study has not been able to answer, such as:

1. Is CP in twin births different to CP in triplet births?
2. Is there a difference between CP in identical twins and non identical twins?
3. What happens to the risk of CP if one twin dies or other complications occur?

**Paper** The full results of this study can be found in *Acta obstetrica et gynecologica Scandinavica*. 2004 Jun;83(6):548-53. <http://onlinelibrary.wiley.com/doi/10.1111/j.0001-6349.2004.00545.x/pdf>

**Pubmed abstract** The summary of this study can be found in Pubmed, a database of citations from biomedical journals. <http://www.ncbi.nlm.nih.gov/pubmed/15144336>

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