

# The influence of earthquake-induced stress on human facial clefting and its simulation in mice

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A large earthquake (8-9 on the Richter scale) and a series of aftershocks took place on 2 March 1985 in Santiago, Chile. The characteristics of over 22,000 births registered in three public hospitals in the same year were reviewed. A significant increase in the rate of facial clefts was found; 2.01 per 1000 births in contrast to 1.6 per 1000 births in previous years. The increase was greater in those born in September: 3.8 per 1000 births. This increase in clefting could be related to the effects of stress in mothers induced by the earthquake, and to test this hypothesis 13.5-day-old embryos from two inbred mouse strains, A/Sn and C57BL/10, were subjected to a similar stress using a vibrator cage to imitate the main shock and the first five replicas of the earthquake. The same intensity and duration of shock as in the original earthquake were applied. The results were 19.8% cleft palates in stressed A/Sn mice and no clefting in C57BL/10. This was highly significant in A/Sn mice ( $\chi^2 = 1$