

Fearful of vaccines, some parents find cause for celebration

Amid a resurgence of public concerns regarding the safety of vaccines, a handful of parents have started organizing 'natural immunity' parties to expose their children to contagious diseases—such as measles and chicken pox—and thus minimize the need for shots. These types of get-togethers have, of course, been organized for many years. The difference now is that the parties are organized around illnesses for which vaccines exist.

Andrea of Portland, Oregon, who declined to give her last name, hosted a chicken pox play date last summer when her five-year-old son came down with the illness after being exposed at school. Right away she emailed two friends, each with two boys, who wanted to expose their children in order to build natural immunity. The boys shared popsicles, kazooes and bubble blowers, and shortly thereafter they all came down with the disease.

For some parents, the fear that vaccines contribute to the risk of autism motivates them to organize these natural-immunity parties for their children, despite the fact that medical analyses have repeatedly refuted the vaccine links (*Lancet* 364, 963–969; 2004; *N. Engl. J. Med.* 357, 1281–1292; 2007). Others distrust the pharmaceutical industry or, like Andrea, take a holistic approach to childrearing, where

less is more. “We chose to do only select and few vaccinations,” she says, “so that our son could build his own immune responses.” Even though her son attends a private school, she had to sign a waiver attributing her vaccine choices to ‘religious reasons’.

Common childhood diseases like chicken pox and measles are highly contagious and can bear some dangerous consequences. Complications may include high fever, respiratory tract and ear infections and, in rare cases, brain inflammation and seizures.

Because of this risk, the American Academy of Pediatrics urges parents to vaccinate. Henry Bernstein, who serves on the association's Committee on Infectious Diseases and as chief of general pediatrics at the Dartmouth-Hitchcock Medical Center in Lebanon, New Hampshire, says that parents who don't vaccinate are “taking a chance in exposing their children to a vaccine-preventable disease that has known complications.”

In 2008 the US Centers for Disease Control and Prevention (CDC) has reported 64 confirmed measles cases through April, the most reported in this four-month period since 2001. Approximately 92% of children in the US receive vaccination for measles, but that figure may be dropping as more parents opt out.



Party favors: Children swap germs

With relatively few cases in the US, parents have to be resourceful to find a child with chicken pox or measles. Some rely on word of mouth through friends and family while others use online forums.

Still, a trend is emerging. According to one study, there has been a steady increase since the early 1990s in the number of school children who are not vaccinated because of personal belief exemptions, which must be filed with individual states before a child can attend school (*J. Am. Med. Assoc.* 296, 1757–1763; 2006).

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Brazilian court decision eases scientists' stem cell worries

Among Latin American countries, Brazil was an early adopter of embryonic stem cell research: in 2005 the nation's legislators approved a biosecurity law that included a section supporting the scientific use of such cells.

However, this early legal acceptance of stem cell research was quickly thrown into doubt. Soon after the approval of the biosecurity law, Brazil's attorney general at the time, Claudio Fonteles, decided to challenge the section allowing experiments with ESCs. Fonteles argued that the use of such cells went against an article in the country's constitution that guarantees the right to live.

Brazil now looks set to regain its reputation as a place where scientists can comfortably investigate embryonic stem cells. On 29 May the country's supreme court voted 6-5 in favor of upholding a 2005 law allowing this type of research. The ruling means that scientists there can continue using stem cells derived from donated embryos that have been frozen for more than three years or are unviable.

During the past three years, as the legal battle

continued, few scientists decided to continue working with embryonic stem cells. In a country full of choices and short of money, many felt it was simply too risky to bet on a Supreme Court decision in support of ESC research.

For those that went ahead despite the legal uncertainties and pursued experiments involving embryonic stem cells, the final court decision has brought relief. “It was a great step,” says Lygia Pereira, a scientist from University of São Paulo who continued to develop embryonic stem cell lines during the dispute. Labs such as Pereira's are now expecting more applications from students and are seeking to establish partnerships with institutions overseas.

The Supreme Court's decision echoes the broad public support for stem cell research in Brazil. According to a survey released by Ibope, the nation's largest polling agency, 75% of Brazilians fully support the scientific use of embryonic stem cells.

In the same month that the recent Supreme Court decision became known, the government announced the creation of the Rede Nacional

de Terapia Celular (the National Network of Cell Therapy), which will, among other things, help train new scientists in this field. As part of the new network, the government also granted 21 million Brazilian reais (\$13 million) for two years of research with stem cells. “It is a new field of research with great scientific potential and it is affordable for the country, so it makes sense to Brazil to invest in it,” says Reinaldo Guimarães, the head of science, technology and strategic resources at Brazil's Health Ministry.

But there are still some obstacles in the way for scientists pursuing embryonic stem cell research in Brazil. The original biosecurity law approved three years ago stated that experiments could be done only with embryos frozen before March 2005, limiting scientists from using more recently derived cells. Researchers say they hope to see this restriction reconsidered soon. In the meantime, Brazil's National Health Surveillance Agency has announced that intends to eventually publish rules on the handling of embryos donated for research.

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