

## **When Vaccine Supporters Say There Is No "Scientific" Evidence That Vaccines Are Dangerous, What Do They Mean?**

The word "science" is derived from the Latin word "scientia" which means "knowledge acquired by study." In order for information to be considered "scientific", that information must be acquired through a process known as the scientific method. Information obtained by any other method is considered pseudoscience or "false science." Oftentimes, people use personal accounts of themselves or personal accounts of others as a basis for their convictions and then label these convictions as "scientific." Knowledge obtained in this manner is termed "anecdotal", and while anecdotal information can be very convincing and compelling, it is not a part of science because it was not based on facts or research. Scientific research involves a thorough study of something in order to present it in a detailed, accurate manner. Going on the Internet and reading Mrs. Smith's (fictitious name) account of a tragic event that happened to her daughter may give rise to an outpouring of emotions and sympathy toward the family of the young lady, but it must be kept in mind that the information read about on the internet regarding a personal account is "anecdotal", not "scientific."

The scientific method involves a process which has several steps. First, an event in the natural world must be observed or postulated and a reasonable explanation for that event must be derived. The statement explaining the event is termed the "hypothesis." Next, an experiment must be designed that will test the accuracy of the hypothesis. The experiment must then be performed and information (data) based on the results of the experiment collected. The data is then analyzed in order to arrive at a conclusion that will either support or contradict the original hypothesis. The results of the experiment, along with the conclusion of the experiment, must then be published in a reputable scientific journal in order that others may read them and, if they wish, repeat the experiment to see if they arrive at the same or a differing conclusion. This is the scientific

method. Information obtained by this process is considered scientific, not pseudoscientific or anecdotal.

To date (as of August 1, 2013) there is NO scientific evidence that vaccines, combination vaccines, multiple vaccines given at the same doctor's visit, or vaccines containing the preservative [thimerosal](#) cause autism. Yet, there are volumes of scientific evidence that vaccines are safe and effective in the prevention of deadly diseases. The policies of Pediatrics Plus regarding vaccines are based on science. We would hope that you would want it no other way. Please don't fall victim to pseudoscience or anecdotal evidence when making your decision on whether or not to vaccinate your children. Their health and the health of those around them depend on you.