

## **Medical Journal says Lavender and Tea Tree Pose Risks: Are They Right? Or Wrong?**

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A recent issue of the New England Journal of Medicine (NEJM), contains an article linking certain dangers to lavender and tea tree oils. The article has four authors, two PhD scientists and two MDs, whose research was under the auspices of the National Institutes of Health (NIH). Their negative claims were carried in major newspapers nationwide and were widely broadcast by TV news networks. Among other places, they are reported and archived on [www.CBSNEWS.com](http://www.CBSNEWS.com) under their Healthwatch column. The article is entitled, "Prepubertal Gynecomastia Linked to Lavender and Tea Tree Oils." (NEJM, Vol. 356, No. 5, pp. 479-485, Feb 1, 2007)

Gynecomastia is an abnormal enlargement of one or both breasts in men or boys. It is rare, usually temporary, and benign. It tends to subside spontaneously. Doctors call it an "idiopathic condition," which is their way of saying, "We don't know what causes it." The condition is related to a hormonal imbalance that could be from a variety of causes, including estrogenic or steroidal medicines or other products. The article postulates that the estrogenic properties of lavender and/or tea tree oils may have been the causative factor for three boys who developed prepubertal gynecomastia. I have a complete copy of the article which I obtained directly from NEJM and which review here.

The first thing you need to know is that the NEJM is supported financially by drug company advertisements. Instead of a place where only objective science on the cutting edge of research is reported, on the contrary, only articles that coincide with pharmaceutical agendas are accepted for publication. The purpose of a peer review journal is not so much for the preservation of scientific integrity as it is for the preservation of a prevailing paradigm. Since the prevalent paradigm in medicine is pharmaceuticals, any article that serves to discredit any alternative to drugs is readily accepted by medical journals and widely publicized. Thus, the motives of the NEJM in accepting this article are suspect.

Secondly, this research was reported as under the sponsorship of the NIH, a supposedly objective government agency. Reading the fine print at the end of the article we find that it was actually financed by at least six drug companies: Eli Lilly, Genentech, Novo Nordisk, Pfizer, Tercica, and Serono. Why would drug companies put money into essential oil research unless they were sure it would be reported as negative? You figure it out. If the drug and medical industry, who are in competition with aromatherapy, actually found benefit in essential

oils through their research, do you think they would publish that? You know the answer. On the other hand, if they can find anything of a negative nature to discredit competitive modalities, such as the practice of aromatic science, do you think they would publish that? Of course they would. And they did.

The fact that the television networks picked up on this obscure article and publicized their alleged findings nationwide is explained by the fact that television, itself, is largely supported by drug advertising. Hence, one cannot expect unbiased reporting from TV news programs when it comes to drugs and alternatives to drugs. Their financial existence depends on catering to the pharmaceutical companies.

The third thing to note about this study is that involves only three boys, ages 4, 7 and 10 years of age. In the four-year-old boy's case, his gynecomastia manifested after his mother had applied a "healing balm" containing lavender. The composition and brand name of the "balm" were not identified so it was not verified whether or not other ingredients in the balm could have contributed to the condition. The condition disappeared within four months with no special treatment other than discontinuance of the balm.

In the 7-year-old boy's case, he was using a lavender-scented soap and body lotion following which he developed gynecomastia. His twin brother also used the soap and lotion, but did not manifest any such symptoms. Here, again, the composition and brand of the scented products were not noted in the article. The condition disappeared completely a few months after discontinued use of the soap and lotion.

In the 10-year-old boy's case, his gynecomastia was reported as having been present for about five months when his mother brought him to the doctor for an opinion. He was regularly applying a styling gel to his hair and scalp and also used a shampoo, both containing lavender and tea tree oils. As in the other two reports, the researchers failed to identify the brands and composition of the products containing the oils. Within nine months after discontinuing use of the gel and shampoo, the condition was no longer present.

In none of these cases was the grade or quality of the essential oil checked or made known. Apparently, it was perfume grade oil, which is quite different from pure therapeutic grade oils. Furthermore, in order to establish a causative relationship, there needs to be a control group of young boys using these products. Since these are commercially available products, it can be assumed that thousands of consumers have used and are using these products so that a

potential control group already exists and only needed discovery and polling to obtain statistical numbers for the study. However, this was not done by the researchers.

This research report is based on such a small number of people and products, it has no statistical significance or scientific validity. It consists of descriptions of three boys each using different, undescribed, products: a balm, a soap, a lotion, a gel, and a shampoo. No two of the boys were even using the same products. Hence, this was an account of only one case per product. This article is actually not a legitimate study of the prevalence of gynecomastia related to essential oils, as was implied and as was reported in the media. It is a set of three anecdotes based on one sample each of five commercial products whose chemistry and composition were not given.

Rather than studying the chemistry, composition, and effects of the alleged guilty products with all of their ingredients, these researchers focused their article on the estrogenic properties of lavender and tea tree where, again, they did not identify the grade of oils from which they obtained their data. Neither did they determine the concentration of essential oils contained in the products, which would be a crucial bit of information for drawing valid conclusions.

They did no studies on the products, themselves - only on the general properties of lavender and tea tree oils. Studying the properties of a single ingredient in a mixture is not a valid way to ascertain the properties of the mixture. By studying the individual properties of cocoa, flour, salt, baking powder, sugar, and eggs, without regard to their amounts in a recipe, can one ascertain the properties of a brownie?

While it is true that lavender and many other essential oils can affect both male and female hormones, we know that for pure therapeutic grade oils these effects are toward balance, not toward imbalance as would be indicated by gynecomastia. Therefore, if the oils in the balm, soap, lotion, gel, and shampoo, were actually the culprit, such a result would speak to the quality of the oil, not the species.

Lavender and tea tree oils are two of the most popular essential oils in the world, having been used for centuries and applied by millions. If they were problematic in upsetting the hormonal balance of prepuberty boys, why was this not noticed before, decades or even centuries ago? How can trace amounts of essential oils in chemical products such as shampoo and body lotion be the cause of observable side effects such as gynecomastia when using

concentrated, undiluted therapeutic grade oils have never been associated with such effects? Gynecomastia is not a symptom that would escape unnoticed.

To summarize, let's just say that this report is from a source that is suspect, that its research modality is seriously flawed, and that it was publicized by a news media biased in favor of drug therapies and financed by the drug industry. I count it as just another attempt on the part of the pharmaceutical/medical cartel to cast dispersions on an effective modality that has a higher success rate than theirs.

If benign gynecomastia is the worst side effect that scientists working for drug companies can find as evidence against the practice of aromatic science, then that speaks well for what we do as advocates for oils. Let's put this NEJM article in perspective. Compare temporarily enlarged breasts to the negative side effects of prescription drugs, which include chronic sickness, disability, and death. No one has ever died or gotten seriously sick from commonsense applications of essential oils. But as for gynecomastia, there are plenty of drugs that do that.