

# Advice on Foot Care

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## [Research on Tea Tree Oil & Fungus](#)

[admin](#) on *Aug 05 2008 at 11:52 am* | Filed under: [Fungus](#)

An essential oil is extracted directly from a plant or a part of a plant and contains the concentrated properties of a plant extract. The oil will carry a distinctive scent, or essence, of the plant from which it is extracted. Essential oils are concentrated substances that may be composed of alcohols, hydrocarbons, aldehydes, ketones, phenols, esters or acids. Essential oils have been used for centuries across many cultures for medicinal purposes. Today they remain very popular worldwide.



### TEA TREE OIL



Tea tree oil (*Melaleuca alternifolia*) is the most researched essential oil for foot conditions. This is likely due to the anti-microbial activity of it's main chemical component, terpinen-4-ol. Tea tree oil is steam distilled from a small tree of the melaleuca family originally from Australia. Tea trees have needle-like leaves and yellow or purple flowers. There are many claims for the use of tea tree oil, including that it is anti-infectious, anti-inflammatory, anti-septic, antiviral, bactericidal, fungicidal and that it can act as an immunostimulant and a parasiticide. The literature is full of anecdotal reports of all of the these functions, but most of the clinical research associated with foot and skin conditions is centered around it's anti-fungal activity.

There are many laboratory studies showing the effectiveness of tea tree oil and it's main chemical components, especially terpinen-4-ol, against fungus (1, 2, 3). More importantly are the clinical trials using tea tree oil on tinea pedis (athlete's foot) and onychomycosis (toenail fungus). One study compared the use of a popular topical anti-fungal medication, 1% clotrimazole solution, versus tea tree oil on toenail fungus for a period of 6 months. Although there was not a difference between the two groups at the end of the study, both groups reported a decrease in symptoms and improvement in appearance of the nails (4). Researchers from University of California at San Francisco studied 2% butenafine hydrochloride and 5% *Melaleuca alternifolia* oil incorporated in a cream. Sixty patients were randomized into the treatment group and placebo group. After 16 weeks, 80% of the group using the medicated cream reported a cure, but 10% reported some mild inflammation (5).



In another study, 104 patients were divided into three groups to compare the efficacy of 10% tea tree oil cream, 1% tolnaftate cream and a placebo cream for the treatment of tinea pedis. At the end of the therapy, significantly more patients using the tolnaftate cream had a negative culture than the tea tree oil cream or the placebo cream. There was no difference between the placebo group and the tea tree oil group in conversion to a negative fungal culture. But, both the tolnaftate group and tea tree oil cream group showed a significant decrease in symptoms (burning, itching and inflammation) as compared to the placebo group (6). The idea that tea tree oil can act as an anti-inflammatory is not new, but most of the

reports have been anecdotal. A study from Australia evaluated tea tree oil application in histamine induced skin inflammation and found that 100% topically applied tea tree oil reduced inflammation 10 minutes after application, in comparison to the placebo (7). Another study from Australia evaluated the daily use of 25% and 50% tea tree oil solutions versus a placebo in the treatment of interdigital tinea pedis (fungus between the toes). After 4 weeks, there was a significant clinical improvement in both tea tree oil groups, compared with the placebo and a mycological cure rate in the tea tree oil group of 64% (8). In this study about 4% of the tea tree oil group developed moderate to severe dermatitis. This brings up the importance of understanding that even so called “natural” medications can have side effects. In a review of 2320 patients who were patch tested over 4 years, 41 (1.8%) had positive reactions to oxidized tea tree oil (9).



**SUMMARY:** There is enough clinical evidence to show that tea tree oil is effective in the treatment of both toenail fungus and athlete's foot. But, it does not appear to be superior to prescription medications and is not without side effects (mainly dermatitis). It's important to note that there is no standard for use regarding concentration and application. The research varies from 25% to 100% concentrations of tea tree oil and varies from creams to solutions. Hopefully more research in the future will help standardize its use. At this point, tea tree preparations are most likely best used as adjuncts for therapy and helpful for decreasing symptoms associated with fungus infections.

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## REFERENCES

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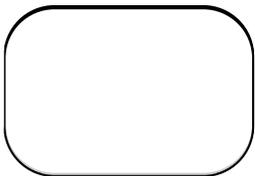
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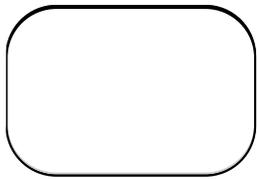
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