



# Breastfeeding and Medication



## Breastfeeding and Podiatry Ingrowing Toe Nail Surgery

### **Ingrowing toenail removal using phenol to kill the nail bed in breastfeeding women**

There appears to be no information in the literature on the use of liquified phenol to ingrowing toenails of a lactating woman. The following is reproduced from Martindale

Ingrowing toenails. Liquefied phenol (88%) ablation has been performed as an alternative to surgical avulsion in the treatment of ingrowing toenails.<sup>1,2</sup> A systematic review<sup>3</sup> concluded that simple nail avulsion combined with treating the nail-bed with phenol was more effective at preventing symptomatic recurrence of ingrowing toenails than cutting out the nail-bed. However, there was a significant increase in postoperative infections when phenol was used.

1. Bostanci S, et al. Chemical matricectomy with phenol for the treatment of ingrowing toenail: a review of the literature and follow-up of 172 treated patients. *Acta Derm Venereol* 2001; 81: 181–3.
2. Andreassi A, et al. Segmental phenolization for the treatment of ingrowing toenails: a review of 6 years experience. *J Dermatol Treat* 2004; 15: 179–81.
3. Rounding C, Bloomfield S. Surgical treatments for ingrowing toenails. Available in The Cochrane Database of Systematic Reviews; Issue 1. Chichester: John Wiley; 2003 (accessed 15/03/06).

Solutions containing phenol should not be applied to large areas of skin or large wounds since sufficient phenol may be absorbed to give rise to toxic symptoms. Phenol should not be used as a throat spray in patients with epiglottitis, or in children aged under 6 years.

Phenol is absorbed from the gastrointestinal tract and through skin and mucous membranes. It is metabolised to phenylglucuronide and phenyl sulfate, and small amounts are oxidised to catechol and quinol which are mainly conjugated. The metabolites are excreted in the urine; on oxidation to quinones they may tint the urine dark brown or green.

**Adverse Effects:** When ingested, phenol causes extensive local corrosion, with pain, nausea, vomiting, sweating, and diarrhoea. Excitation may occur initially but it is quickly followed by unconsciousness. There is depression of the CNS, with cardiac arrhythmias, and circulatory and respiratory failure, which may lead to death. Acidosis may develop and occasionally there is haemolysis and methaemoglobinaemia with cyanosis. The urine may become dark brown or green. Pulmonary oedema and myocardial damage may develop, and damage to the liver and kidneys may lead to organ failure. Severe or fatal poisoning may occur from the absorption of phenol from unbroken skin or wounds and suitable precautions should be taken to prevent absorption. Applied to skin, phenol causes blanching and corrosion, sometimes with little pain. Aqueous solutions as

dilute as 10% may be corrosive. Toxic symptoms may also arise through absorption of phenol vapour by the skin or lungs. Phenol throat spray may cause local oedema.

However there is no reference to systemic effects or adverse effects following the application of the small amount of phenol applied to the nail bed in the short time scale necessary.

Further in a Public Health Statement issued by the Environmental Protection Agency in Canada ([www.atsdr.cdc.gov/ToxProfiles/tp115-c1.pdf](http://www.atsdr.cdc.gov/ToxProfiles/tp115-c1.pdf)) it is reported that "Vomiting and lethargy were the main symptoms observed in children following accidental ingestion of a disinfectant containing phenol. We do not know whether children would be more sensitive than adults to the effects of phenol. Two studies of women exposed to phenol and other chemicals during pregnancy did not provide evidence of birth defects. Some birth defects have been observed in animals born to females exposed to phenol during pregnancy. This generally occurred at exposure levels that were also toxic to the mothers. There is no information on levels of phenol in human breast milk.

### **Safety of phenol in drinking water**

The EPA has determined that exposure to phenol in drinking water at a concentration of 6 milligrams per liter (mg/L) for up to 10 days is not expected to cause any adverse effects in a child. The EPA has determined that lifetime exposure to 2 mg/L phenol in drinking water is not expected to cause any adverse effects.

### **Conclusion**

Absorption of topical products into breastmilk is restricted (Stoukides C Topical Medications and Breastfeeding. J Hum Lact 1993; 9(3) :185-7) so the limited quantity of liquid phenol applied to the nailbed during the procedure is unlikely to penetrate into breastmilk in any significant quantities. Considering the different biological membranes/systems which would have to be traversed before absorption from breastmilk, the application is unlikely to affect the breastfed baby in my professional opinion.

Local anaesthetics are poorly bio available and have a short half life and should not preclude normal breastfeeding after the procedure.

Anecdotally I am aware of many women who have undertaken the procedure and breastfed as normal without adverse effects on their breastfed infants.

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*The information on this sheet is based upon my professional experience as a pharmacist with a specialised interest in the safety of drugs in breastmilk, supported by evidence from expert sources. However, I cannot take responsibility for the prescription of medication which remains with the healthcare professionals involved. I am happy to discuss the evidence by email [wendy@breastfeeding-and-medication.co.uk](mailto:wendy@breastfeeding-and-medication.co.uk)*