

Correspondence

A Look at the Effectiveness of “Detoxification” Foot Patches

As an Orthomolecular Nutritionist and Hair Tissue Analyst, part of my practice involves counseling patients to detoxify body stores of heavy metals when they are detected by Hair Tissue Mineral Analysis testing. Recently, I was stimulated by claims made by a manufacturer of Detoxification Foot Patches. The manufacturer claims these foot patches draw heavy metals into the patches from your body while you sleep with them attached to the bottom of your feet. Because this is relatively easy to test scientifically, I decided to do an experiment. I used three foot patches for the experiment; an unused foot patch as a control, one that was used by Patient A who was not toxic with heavy metals, and another used by Patient B, who showed contamination with several heavy metals, and had toxic levels of cadmium (0.92 ppm) and Lead (28.2 ppm). The mineral status of patient A and patient B was determined by the use of hair tissue mineral analysis (HTMA) testing at Anamol Laboratories in Concord, Ontario. Anamol Labs also did the mineral analysis of the foot patches.

According to the manufacturer of the foot patches, they contain the following ingredients: Wood vinegar and bamboo vinegar extract; Houittuyia cordata extract; Loquat leaf extract; Chitosan; Tourmaline; Dextrin; Vegetable fibre; Vitamin C.

The manufacturer of these foot patches also claims that by applying the foot patch (FP) to your feet, far infrared is generated in one's body. They also claim in their literature that the foot patches work just as well or better than I.V. chelation therapy.

Before I summarize the data from the mineral analysis of the foot patches, I want to address the claim that foot patches generate far infrared in one's body.

Any object which has a temperature will emit infrared radiation. The wavelength of infrared radiation depends upon the temperature of the object. The wavelength for

far infrared radiation (FIR) is between 30 and 200 micrometers. Interestingly, objects emitting radiation in the far infrared spectrum have a temperature between 10 and 120 Kelvins. To give you an idea how cold this is, liquid nitrogen (which I certainly would not want to put on the soles of my feet!) has a temperature of ~170 K.

The manufacturer implies that irradiating the bottom of one's feet (the combination of ingredients somehow acquires this capability) would somehow impart a force on the heavy metals (and heavy metals only!) thus drawing them into the foot patch. It is difficult to conceive of what physical process could be at work under such circumstances!

Summary of Foot Patch Test

The unused “control” foot patch contained toxic levels of heavy metals. In this “control” FP, aluminum was ninth highest ppm out of 38 minerals with a level of 324 ppm! (see Figure 1, p. 284) Any exposure of Aluminum over 10 ppm is considered toxic and over acceptable limits. The level of 324 ppm is more than 10 times the acceptable limit! Barium measured in at 33.9 ppm—anything over 1.5 ppm is toxic. Four other heavy metals had levels over the acceptable limits; lead, arsenic, tungsten and zirconium. Cadmium was also found in the control FP, but within acceptable limits.

Out of seven toxic elements present in the control patch, six were over acceptable limits, with aluminum and barium being very toxic! Patient A's HTMA showed no heavy metal contamination, yet this patient's FP showed the almost exact same heavy metals as the control FP.

Patient B's HTMA showed elevated levels of these toxic elements: Antimony, Bismuth, Mercury, and Thallium, yet this patient's FP did not list these elements upon analysis. The same elements detected in the control FP mineral analysis were found in Patient A and B foot patches, with no deviations and no statistically significant

Figure 1. Summary of foot patch test (measurements in ppm).

MINERAL	Unused	Patient A	Patient B
Boron (B)	17.77	18.77	19.12
Calcium (Ca)	1535	1710	1747
Chromium (Cr)	3.3	3.14	4.432
Cobalt (Co)	0.1718	0.1514	0.2565
Copper (Cu)	1.502	2.537	1.943
Iron (Fe)	513	535	610
Lithium (Li)	0.4631	0.459	0.53
Magnesium (Mg)	587	606	630
Manganese (Mn)	86.8	92	95.3
Molybdenum (Mo)	0.196	0.0848	0.19
Nickel (Ni)	0.951	1.518	2.832
Phosphorus (P)	533	577	586
Potassium (K)	6536	6687	6668
Selenium (Se)	1.7	1.7	1.868
Silicon (Si)	486	476.8	515
Sodium (Na)	345	637	468.8
Strontium (Sr)	14.35	15.41	15.59
Sulfur (S)	357.6	394	363.7
Tin (Sn)	6.53	1.9	8.33
Vanadium (V)	0.22	0.22	0.3485
Zinc (Zn)	9.3	10.43	10.13
TOXIC METALS			
Aluminum (Al)	324	336.9	370
Arsenic (As)	1.5	1.396	1.7
Barium (Ba)	33.9	36.44	36.16
Cadmium (Cd)	0.1145	0.1317	0.1541
Lead (Pb)	1.776	1.8	2.269
Tungsten (W)	2.77	2.84	2.7
Zirconium (Zr)	1.005	1.1	1.51

differences. A good example to use is tin. The control FP had 6.53 ppm, Patient A's FP recorded 1.9 ppm, and Patient B's FP had 8.33 ppm. There was more than 3 times the amount of tin in the control FP than in Patient A's. Molybdenum was more than twice as high in the control FP than Patient A.

Conclusion

This experiment involved only a small sample of foot patches, yet mineral analysis of these determined there was no evidence of any detoxification of heavy metals. In fact, the foot patches contain significant toxic

levels of heavy metals, and it seems unlikely that such patches are going to assist patients with already elevated levels of such toxins. I surmise from this experiment that these foot patches should never be applied to feet or any other body part because of the great possibility of contamination with the heavy metals that are present in them.

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