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Consulting Allergy and Clinical Immunology

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Nickel Free Diet

What is a nickel allergy?

Nickel allergy is the most common metal allergy among the average population. It affects women more commonly than men, and onset can occur at any age. Once a patient has acquired a nickel allergy, it may persist for life. Common symptoms of a nickel allergy may include: rashes or bumps on the skin, redness or changes in skin colour, dry patches of skin, and blisters and draining of fluids.

The most common sources of nickel allergy are earring, other jewelry and belt buckles, but other items such as: coins, zippers, eyeglass frames and joint replacement parts may also contain nickel.

For patients with an identified nickel allergy, avoiding nickel within their diet is believed to contribute to an improvement in their symptoms. This diet involves avoiding nickel-rich foods for a period of 1-3 months and closely monitoring the impact on the dermatitis.

Our goal with this diet is to improve your dermatitis, in addition to the other treatment options that we have provided.

Tips for starting a nickel-free diet

1. Review the nickel-rich food list below. If you are consuming many of them currently in your diet, try reducing the amount you consume.
2. Try to maintain this diet for 1-3 months in order to notice a significant change in your dermatitis.
3. If you notice an improvement, continue to follow the diet strictly as you can while at home.
4. It is recommended that adults consume **less than 150 mcg/day of nickel**. Children (12 years and younger) should consume **less than 100 mcg/day**.
5. Main foods to avoid: oatmeal, chocolate, legumes and granola.
6. Avoid cooking with acidic foods in stainless steel appliances, as this can cause the release of tightly-bound nickel from the appliance itself.

Nickel-rich foods and their alternatives

Food Group	Nickel-Rich Foods - AVOID	Low-Nickel Alternatives - INGEST
Meat/Fish	Fish and shellfish - canned or otherwise	Egg Beef

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		Chicken Turkey
Grains	Oatmeal Rye bran Sesame/sunflower seeds Bran Buckwheat Millet Muesli Multigrain bread	Wheat flour Rice (polished) Cornflakes Cornmeal Cornstarch Whole grain rye and wheat bread (in moderation) Pasta (spaghetti, macaroni, etc)
Dairy	Chocolate Milk Raspberry/citrus yogurt	Plain milk, yogurt and cheese Butter and cream
Fruits	Dates Figs Pineapple Prunes Raspberries	Banana (moderation is key) Berries (except raspberries) Peaches Pears Apple Grapes Oranges
Vegetables	Leafy green vegetables (spinach, kale, lettuce) Legumes (dried beans and lentils) Bean sprouts	Bell peppers Cucumber Eggplant Cruciferous greens (cabbage, cauliflower, bok choy)
Dessert	Chocolate	
Miscellaneous	Beans - White, Red, Pinto Almonds and other tree nuts	

The following link will provide you with the exact nickel content of each food:

<https://nickelfoodallergy.com/wp-content/uploads/2015/05/Nickel-Food-eSource-and-Meal-Plan-Weekly.pdf>

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Other tips to keep in mind while following the nickel-free diet:

1. Avoid all foods that are routinely high in nickel content such as cocoa, chocolate, soya beans, oatmeal, nuts, almonds and fresh and dried legumes.
2. Avoid all drinks and vitamin supplements with nickel and canned food. Nickel dissociates from the alloy of the can and thus increases the total nickel content of the canned food.
3. Animal tissues generally contain less nickel in comparison to plant tissues. Meat, poultry and eggs are suitable for a low nickel diet. Except for a few varieties of fishes that show high concentrations of nickel such as tuna, herring, shellfish, salmon and mackerel, other fishes can be used for a low nickel diet.
4. Nickel content of milk is low; therefore, milk and its products such as butter, cheese, curd and cottage cheese (paneer) can be consumed.
5. Nickel content of cereals is low. Foods prepared from rice (polished), refined wheat or corn (corn flakes, macaroni, etc.,) are allowed.
6. Vegetables such as potatoes, cabbage and cucumber can be used. However, vegetables such as onion and garlic, which are very popular in our country, should be used in moderation.
7. Green leafy vegetables are an inseparable part of Indian food; if desired, they may be taken sparingly due to the possibility of high concentration of nickel. Young leaves are preferred than older leaves as they contain relatively lower concentrations of nickel. Mushrooms can be used.
8. Among the fruits, one may partake in bananas (in moderation), apples (up to 3-4 times a week) and citrus fruits (up to 3-4 times a week).
9. Tea and coffee are very popular; in weaker concentration, these beverages can be taken in moderation (up to 2 cups a day).
10. While cooking, nickel-plated utensils should not be used and should be replaced. Acidic food should not be cooked in stainless steel utensils as the acids may lead to the dissociation nickel from the utensils and it may increase the nickel content of the food.
11. The initial water flow from the tap in the morning should not be drunk or used for cooking as nickel may be released from the tap during night.

You are also welcome to visit the following website: <https://nonickel.com/>. It will provide a source of nickel-free products, as well as further education!

References

- Sharma, A. D. (2013). Low nickel diet in dermatology. *Indian Journal of Dermatology*, 58(3), 240. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3667300/>
- Pizzutelli, S. (2011). Systemic nickel hypersensitivity and diet: myth or reality?. *European annals of allergy and clinical immunology*, 43(1), 5.