

IMPORTANT:

THIS DOCUMENT IS A GUIDE AND IS NOT INTENDED TO REPLACE THE APPROVED CONSUMER PRODUCT INFORMATION SHEET.

IT SHOULD BE READ IN CONJUNCTION WITH THE CONSUMER PRODUCT INFORMATION SHEET FOR NARDIL AND PARNATE.

FOR MORE DETAILED INFORMATION WE RECOMMEND CONSULTING WITH YOUR DOCTOR AND A QUALIFIED DIETICIAN.

Nardil[®] (phenelzine) and Parnate[®] (tranylcypromine) tablets: Interaction with foods

Nardil and Parnate are the brand names for the drugs phenelzine and tranylcypromine respectively. They belong to a class of drugs called the monoamine oxidase inhibitors (MAOIs for short). They are used to treat certain types of depression. They work by blocking the action of the enzyme called monoamine oxidase (MAO) in the brain. This enzyme is responsible for the breakdown of certain chemicals that are associated with mood and feelings of well-being. As a result of this enzyme being blocked, the levels of the mood enhancing chemicals increases and a feeling of well-being results.

The MAO enzyme is also responsible for the break down of a protein called tyramine that is present in some foods. When MAO is blocked the body is not able to break down tyramine by this route. As a result its level in the body may increase causing a serious rise in blood pressure that is potentially very dangerous. The body can get rid of tyramine in other ways and therefore a very low intake of this protein will not normally be a problem. Careful attention to diet, avoiding foods with a high tyramine content will ensure that this side effect of taking Nardil or Parnate does not occur.

Any food or drink that contains large amounts of tyramine should be avoided and those with small to moderate amounts should be consumed with great caution. It should also be borne in mind that the quantity of the tyramine can vary considerably even in the same type of food. Additionally, foods normally low in tyramine may become a risk if unusually large quantities are consumed or if they are allowed to spoil. Inherent differences in individuals means that they may also respond very differently to similar quantities of tyramine. Although general advice about avoidance of problem foods can be offered, users of MAOIs should be wary of the symptoms of a reaction and take steps to avoid the offending food in the future.

The possible signs of a reaction to tyramine include; a headache (especially at the back of the head), pounding of the heart (palpitations), tingling of the fingers or toes, sweating, a stiff neck, flushing of the skin (especially the face), nausea and vomiting and severe chest pain. If any of these symptoms are experienced, medical attention should be sought immediately. It is also worth noting that lying down may increase the blood pressure further.

When MAOI tablets are stopped, the blockage of the MAO enzyme may continue for a further 4 weeks. It is therefore important to continue to avoid foods high in tyramine for several more weeks after stopping the tablets.

In general it is possible to classify foods into various degrees of risk. Certain foods are classified and discussed below.

VERY DANGEROUS

- **Cheese** – In general, all cheese and food products containing cheese such as pizza should be avoided. The tyramine content of cheese varies considerably from product to product and even between samples of the same cheese. Although the tyramine content generally increases with the ageing process, a cheese which appears aged and very mature may contain less tyramine than a pale, mild flavoured cheese. Cottage cheese, cream cheese and yoghurt are associated with a minimum risk if they are reasonably fresh and are eaten in moderate quantities. Sour cream should be avoided.
- **Alcoholic drinks** – Red wines should be avoided. Clear spirits and white wines are less likely to cause problems than red wine, although vermouth should be avoided. Beer and ale should be consumed with great caution and in small amounts because volume of consumption is usually large and there is considerable variation in tyramine between brands. Whisky and liqueurs have caused reactions and non-alcoholic beers and wines should be avoided.
- **Fish and meats** – Smoked, fermented, pickled or otherwise aged fish or other meats may contain high levels of tyramine and should be avoided eg. pickled herring. Dry sausages such as pepperoni and salami should also be avoided. Vacuum-packed pickled fish or caviar are of lower risk if consumed promptly. Fresh meat is generally fine, but risk is increased in spoilt or unfresh meats. Although fresh pate and liver are probably of moderate risk, the recommendation is that they should be avoided. Caution should be exercised when eating in restaurants, since the freshness of the ingredients will be unknown. Cooking does not destroy the tyramine content of spoilt food.
- **Broad (fava) bean pods** – The beans themselves are of no risk, only the pods.
- **Yeast and protein extracts** – Brewers Yeast or similar health products should be avoided as should yeast extracts such as Marmite or Bovril. Gravy products such as Oxo are prepared with degraded protein and pose a significant risk. This also applies to dry soup products. The manufacturer of Bisto has stated that there is less possibility of finding tyramine in their product, but it should only be consumed in moderation. Gravy made from the juices of roast or fresh meat should be safe. Yeast used in baking is safe, so eating bread should not be a problem. Slimming products such as Slim-Fast contain hydrolysed proteins which may constitute a significant risk and should therefore be avoided.
- **Sauerkraut** – Should be avoided.
- **Banana peels** – The soft pulp portion is probably of low risk; only the peel should be avoided.
- **Soy sauce** – There is a wide variation in the tyramine content of different brands. Additionally the amount of tyramine present is seen to increase on storage. It is therefore advisable to avoid all makes of soy sauce.
- **Tofu (soybean curd)** – As with soy sauces there is a wide variation in the amount of tyramine present, with the amount increasing with storage. It is therefore advisable to avoid these products.

- **Textured Vegetable Protein** (eg. Quorn, flavoured soya “meat”) – Should be avoided.

MODERATE RISK

- **Avocados** – Probably only a risk if overripe.
- **Caffeine** – Large amounts may cause a reaction.
- **Chocolate** – Safe in most cases, consumption of large amounts may cause a reaction.
- **Nuts** – Peanuts, coconuts and Brazil nuts may present a risk.
- **Raspberries** – Large amounts may present a risk.
- **Spinach** – There is a possible risk if large amounts are consumed.
- **Artificial Sweeteners** – There have been reports of reactions to these products and therefore caution should be exercised.
- **Ginseng** – There have been two case reports of a reaction between this supplement and Nardil.

LOW RISK

- Anchovies, beetroot, chips with vinegar, Coca Cola, cockles, sweetcorn, cucumbers, boiled egg, mushrooms, fresh pineapple, raisins, salad dressing, snails, tomato juice, wild game (not hung), Worcestershire sauce, curry powder, cookies.

Much of the information discussed here is summarised in the table at the end of the letter. However it must be reiterated that the advice supplied is intended only as a guide and users of MAOIs should avoid substances which they have taken previously and may have caused a reaction. They should be vigilant for any potential adverse effects which were associated with consuming certain foods.

As well as the above advice concerning foods and beverages, MAOI users should be aware that they must avoid certain medicines. Whenever an over-the-counter medicine is purchased, the pharmacist should be consulted to check that there is nothing in the product that is likely to cause an adverse reaction. In general, cold and flu tablets or liquids, nasal decongestants (tablets, drops or sprays), hay-fever medications, sinus medications, asthma medications, anti-appetite tablets, weight reducing preparations, and “pep” pills should be used with extreme caution unless a pharmacist or doctor has recommended their use.

NARDIL OR PARNATE AND FOOD – OVERVIEW OF RISK

FOOD OR BEVERAGE	ESTIMATED LEVEL OF RISK	FOOD OR BEVERAGE	ESTIMATED LEVEL OF RISK
Fish and Meats		Dairy Products	
Bologna sausage	Very high	Boursault	Very high
Pepperoni sausage	Very high	Camembert	Very high
Salami sausage	Very high	Cheddar	Very high
Summer sausage	Very high	Emmenthal	Very high
Herring, pickled	Very high	Stilton	Very high
Caviar	High	Brie	Moderate to high
Hung wild game	Moderate to high	Danish Blue	Moderate to high
Herring (dried and salted)	Moderate to high	Gruyere	Moderate to high
Meat extracts (gravy)	Moderate to high	Mozzarella	Moderate to high
Other unrefrigerated, fermented meats	Moderate	Parmesan	Moderate to high
Beef liver unrefrigerated, fermented	Moderate	Romano	Moderate to high
Chicken liver unrefrigerated, fermented	Moderate	Roquefort	Moderate to high
Fish unrefrigerated, fermented	Moderate	Sour cream	Moderate to high
Fish (dried)	Moderate	Processed cheese	Low to moderate
Liver pate	Moderate	Cottage cheese	Little or none
Fruit and Vegetables		Cream cheese	Little or none
Sauerkraut	Moderate to high	Yoghurt (fresh)	Low
Broad bean pods	Moderate	Miscellaneous	
Banana <u>skins</u>	Moderate	Yeast extracts (including marmite)	Very high
Nuts	Moderate	Dried soups	Moderate to high
Avocado (overripe)	Low to moderate	Slimming products eg. Slim Fast	Moderate to high
Raspberries	Low to moderate	Soy sauce	Moderate
Figs	Low to moderate	Tofu (Soybean Curd)	Moderate
Raisins	Low	Artificial sweeteners	Moderate
Drinks		Ginseng	Moderate
Beer and ale	Moderate	Textured vegetable protein	Moderate
Red wine	Moderate	Chocolate (very large amounts)	Low to moderate
Non-Alcoholic Beer and Wine	Low to moderate		
White wine	Low to moderate		
Sherry	Low to moderate		
Spirits	Low to moderate		
Coffee and tea	Low		

Please note: the tyramine content of most foods is not entirely predictable. The amount of tyramine in food and beverages can vary with different conditions, different samples and different manufacturers.