

What is tyramine?

- Tyramine is a naturally occurring substance that is present in certain foods.
- Some foods contain greater amounts of tyramine than others. For instance, foods that have been aged, matured, fermented, pickled, smoked or that are past the “best before” or “use by” date.
- For most people, the body is able to process tyramine and there is no harm in eating tyramine containing foods.

Why do I need a low tyramine diet?

- A low tyramine diet is needed if you are taking certain types of Monoamine Oxidase Inhibitor (MAOI) medications. For example:
 - Nardil (Phenelzine);
 - Parnate (Tranlycypromine)
 - Amira/Auroix/Clobemix (Moclobemide)
 - Linezolid
 - Selgene/Eldepryl (Selegiline hydrochloride)
 - Natulan (Procarbazine)

These medications may be prescribed for depression, infections, movement disorders or as a chemotherapy treatment for Hodgkin’s disease or lymphoma or some brain tumours.

- When taking these medications your body cannot process tyramine very well. This puts you at risk of increased blood pressure.

What are the effects of high tyramine levels?

High levels of tyramine in the body can lead to an increase in your blood pressure. This is an immediate effect of consuming tyramine in large quantities and can cause unpleasant symptoms lasting a couple of hours. As this can be a serious health problem, you may need to seek urgent medical advice.

Signs and symptoms

- Severe headache
- Increasing chest pain
- Increasing shortness of breath

The degree of symptoms is related to the amount of tyramine you have. Higher levels will lead to more symptoms. Avoiding foods and fluids that have very high tyramine levels will stop these effects whilst taking these medications.

Important points

- Start on the low tyramine diet on the same day as starting your medication.
- Continue this diet while taking this medication and for 14 days after the medication is stopped (unless advised by your Doctor or Pharmacist).
- Watch for signs and symptoms of a reaction. If you have any symptoms seek urgent medical help.
- As MAOI medications may interact with other medications, always tell all of your Doctors that you are taking this medicine.

How to follow a low tyramine diet

- Avoid overripe, leftover/spoiled foods and foods past their “best before” or “use by” date.
- Ensure proper handling, storage and refrigeration of protein rich foods (e.g. meat, poultry, fish, eggs, and dairy products).
- Eat frozen and canned food immediately after opening or cooking.
- Eat leftovers within 48 hours or freeze them.
- Levels of tyramine in food vary. It depends on the way the food was made, stored and aged. Avoid foods that have been aged, matured, fermented, pickled or smoked or that are past their shelf life or ‘off’.
- Use the table provided on the next page as a guide to which foods are **usually low in tyramine**.
- If you have an unpleasant reaction after taking any food or drink, stop taking that food or drink and speak with your Doctor.
- Limit your intake of caffeine (e.g. coffee, tea, cola, energy drinks and chocolate/chocolate drinks). This may cause a migraine-like headache.

Alcohol

- When alcohol is consumed on an empty stomach, tyramine is absorbed quickly and may cause unpleasant symptoms. If you do consume alcohol, ensure that you have had something to eat first.
- Limit intake to no more than 2 standard drinks per day, or as advised by your Doctor. One standard alcoholic drink is equal to:
 - 375ml can/bottle mid strength beer
 - 100-120ml or 1 small glass wine
 - 60ml or ½ small glass fortified wine
 - 30ml or 1 nip of spirits
- Use the table provided as a guide to which alcoholic beverages are **usually low in tyramine**.

The **table below** outlines which foods you should choose or avoid when following a Low Tyramine diet. This list is non-exhaustive. Each person may have a different reaction to tyramine when taking these medications. Foods marked with an asterisk (*) might be tolerated in small amounts. Please see your Dietitian or Doctor if you have any questions or for individual advice.

FOOD GROUP	INCLUDE	AVOID
Meat & Meat Alternatives	<ul style="list-style-type: none">• All fresh meat, fish or poultry• Processed meat (e.g. cooked ham) that has been stored and handled correctly• Freshly cooked eggs• Cooked beans, peas and lentils• Canned poultry and fish (eat these directly after opening)• Non-fermented tofu• Ensure all meat and alternatives are properly stored and refrigerated – see NEMO Food Safety resource for more information	<ul style="list-style-type: none">• Aged, dried or pickled meats (e.g. mortadella, hard salami, pepperoni, jerky)• Pickled or smoked fish• Spoiled or improperly stored meat, poultry, seafood (e.g. foods that have undergone changes in colour, odour or have become mouldy)• Tempeh or fermented tofu products

FOOD GROUP	INCLUDE	AVOID
Milk & Dairy	<ul style="list-style-type: none"> • Non-matured cheeses (e.g. cottage, ricotta and cream cheese) • Milk • Yoghurt • Custard, ice cream • Non-fermented soy products e.g. soy milk, soy yoghurt and soy cheese* 	<ul style="list-style-type: none"> • Some matured cheeses: (e.g. cheddar, camembert, gouda, gruyere, parmesan, provolone, Roquefort, stilton, aged fetta and goats cheese) * • Buttermilk • Probiotics (e.g. Yakult) • Unpasteurised milk
Breads & Cereals	<ul style="list-style-type: none"> • All others 	<ul style="list-style-type: none"> • Sourdough bread* • Bread made with aged cheese, aged meat or some artisan breads*
Fruits & Vegetables	<ul style="list-style-type: none"> • All other fresh, frozen or canned fruit, vegetables and legumes 	<ul style="list-style-type: none"> • Fermented or pickled vegetables e.g. sauerkraut/ Kim chi • Overripe fruits
Fats & Oils	<ul style="list-style-type: none"> • All 	<ul style="list-style-type: none"> • None
Spreads & Sauces	<ul style="list-style-type: none"> • Jam, honey • Peanut butter • Sweet chilli sauce, satay sauce • Mustards • Tartare sauce, BBQ sauce • Fresh gravies • Salad dressings • Limit Vegemite, Pro-mite, Marmite • Soy sauce and any other soy based condiments/sauces, including teriyaki sauce, hoi sin to 1 teaspoon/10mL 	<ul style="list-style-type: none"> • Fish sauce • Shrimp paste • Protein supplements (as may contain yeast extract)
Soups	<ul style="list-style-type: none"> • All other soups 	<ul style="list-style-type: none"> • Miso
Alcohol[#] (consume in moderation – limit to no more than 2 standard drinks/day)	<ul style="list-style-type: none"> • Domestic bottled or canned beer • Red or white wine • Fortified wines • Spirits (e.g. rum, vodka, gin) 	<ul style="list-style-type: none"> • Unpasteurised beer (e.g. boutique and artisan beers, beers with visible sediment)[#] • Belgian, Korean, European and African beers[#] • Home-made beer and wine

[#] When alcohol is consumed on an empty stomach, tyramine is absorbed quickly and may cause unpleasant symptoms. The amount of tyramine in **beer** can vary. Almost all modern bottle and draught beer is safe. However, some beers produced using non-standard fermentation processes can contain high amounts of tyramine.

References

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3. [Avoid Food and Drug Interactions](#). A guide from the national consumers league and U.S. food and drug administration. <https://www.fda.gov/downloads/Drugs/.../.../UCM229033.pdf>
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6. EviQ, Patient and carer information on procarbazine available online: <https://www.eviq.org.au/search?searchtext=procarbazine>