



UNIVERSITY OF OTTAWA
HEART INSTITUTE
INSTITUT DE CARDIOLOGIE
DE L'UNIVERSITÉ D'OTTAWA



University of Ottawa Heart Institute Ketogenic diet (high fat, high protein, low carbohydrate) preparation for FDG PET Imaging of cardiac inflammation

The Ketogenic diet is a high fat, high protein, and low carbohydrate diet that you need to follow for one day before your scan. Following this diet will help improve the imaging pictures obtained from your scan. The Ketogenic diet is safe to follow and is approved for use for one day as preparation for the scan.

Why do I need to change my diet the day before the scan?

The purpose of the scan is to find abnormal areas in your heart. The muscle cells of the heart absorb and use glucose (sugar) for energy. The PET imaging scan uses Fluorodeoxyglucose (FDG), a sugar based tracer. When we inject FDG, normal healthy heart muscle cells will absorb FDG because it is a sugar. FDG PET imaging allows the doctors to see areas of the heart that are normal or abnormal.

In certain conditions, such as sarcoidosis or other inflammatory conditions, we do not want the normal heart muscle cells to absorb the FDG because it interferes with the imaging pictures. The ketogenic diet helps ensure high quality images because the high fat content of the diet forces the body to choose fats for fuel and energy rather than carbohydrates (sugars). Therefore, the normal cells are 'tricked' into using fat as energy and the FDG is not absorbed. As a result, only the abnormal areas of the heart are seen.

To follow the ketogenic diet, you must choose high fat and protein foods and avoid carbohydrate foods for the entire day before your scan. High fat and protein foods include meat, fatty fish such as salmon and tuna, eggs, vegetable oil, margarine, and butter. Carbohydrate (sugar) is found in all grains, starchy vegetables, all fruit and dairy products. We have provided a sample menu and food choices below to help you with your food choices.

If you have diabetes, please contact your diabetes doctor or nurse. Your diabetes medications and/or insulin will need to be adjusted so you do not get low blood sugars while following this diet. This diet is only for one day and your diabetes can be managed while you follow the diet.

In addition to following the ketogenic diet, you must also avoid strenuous exercise the day before your scan. You must not eat or drink anything (except water) before the scan. It is important that you drink two to three -12 ounce (355 ml) glasses of water through the day to stay adequately hydrated.



Diet preparation for FDG PET Imaging of cardiac inflammation

FOR 1 DAY BEFORE YOUR SCAN: Follow a high fat, high protein, low carbohydrate diet as described below.

FOR 12 HOURS BEFORE YOUR SCAN: Do not eat or drink anything (except water).

SAMPLE MENU FOR THE DAY BEFORE YOUR SCAN

BREAKFAST	LUNCH	DINNER
<ul style="list-style-type: none"> ✓ 2 scrambled eggs with green peppers, mushrooms, onions ✓ 3 slices of bacon <u>or</u> 2 ounces of ham ✓ Coffee or tea ✗ No milk or sugar 	<ul style="list-style-type: none"> ✓ Hamburger patty (no bun) <u>or</u> 3 ounces of roast beef or turkey ✓ 1 cup of salad ✓ Low carbohydrate vegetables – see list below 	<ul style="list-style-type: none"> ✓ 4 to 6 ounces of steak <u>or</u> salmon <u>or</u> chicken (skin on) ✗ No breading or batter ✓ 1 cup of salad ✓ Low carbohydrate vegetables – see list below

✓ YOU CAN EAT/DRINK THE FOLLOWING:

✓ Beverages without sugar:	✓ water, mineral water, seltzer, coffee or tea or herbal tea (no milk or sugar*) * you can use Equal, NutraSweet, Splenda, Stevia, Sweet'N Low
✓ Meat and alternatives:	✓ eggs, bacon, ham, fatty red meat, chicken or turkey (skin on), salmon, tuna, sardines, anchovies (Fry or broil your meat. Do not grill. Do not bread or batter.)
✓ Fats/Oils and seasonings:	✓ butter, margarine, canola oil, olive oil, salt, pepper
✓ Nuts:	✓ ¼ cup of almonds or walnuts or pistachios
✓ Low carb vegetables in moderation:	✓ ½ to 1 cup of any of the following: arugula, asparagus, broccoli, Brussels sprouts, cabbage, cauliflower, celery, cucumber, green beans, green peppers, kale, lettuce, onions, radishes, spinach, white mushrooms, zucchini

✗ DO NOT EAT/DRINK THE FOLLOWING:

<ul style="list-style-type: none"> ✗ NO fruits ✗ NO sugar or any food containing sugar: <i>Be careful – many processed products contain hidden sugars.</i> 	<ul style="list-style-type: none"> ✗ honey ✗ syrup ✗ jam/preserves ✗ mayonnaise/Miracle Whip ✗ commercial salad dressings (e.g. Ranch, Thousand Islands) 	<ul style="list-style-type: none"> ✗ ketchup ✗ mustard ✗ relish ✗ Nutella 	<ul style="list-style-type: none"> ✗ molasses ✗ peanut butter ✗ nut butter ✗ Nutella 	<ul style="list-style-type: none"> ✗ BBQ sauce ✗ beer nuts ✗ candy/mints ✗ chewing gum ✗ cough drops
<ul style="list-style-type: none"> ✗ NO beverages containing sugar or Aspartame or alcohol: 	<ul style="list-style-type: none"> ✗ soft drinks ✗ flavoured water ✗ juices 	<ul style="list-style-type: none"> ✗ fruit drinks (e.g. Kool-Aid, Tang) ✗ sports drinks (e.g. Gatorade) ✗ non-alcoholic beer 	<ul style="list-style-type: none"> ✗ beer ✗ wine ✗ spirits 	
<ul style="list-style-type: none"> ✗ NO dairy products: 	<ul style="list-style-type: none"> ✗ milk ✗ cheese 	<ul style="list-style-type: none"> ✗ yogurt ✗ yogurt drinks 	<ul style="list-style-type: none"> ✗ frozen yogurt ✗ ice cream 	<ul style="list-style-type: none"> ✗ pudding
<ul style="list-style-type: none"> ✗ NO processed meats: 	<ul style="list-style-type: none"> ✗ deli meat 	<ul style="list-style-type: none"> ✗ hot dog 	<ul style="list-style-type: none"> ✗ breaded or battered meat/poultry/fish 	
<ul style="list-style-type: none"> ✗ NO grains or starches: 	<ul style="list-style-type: none"> ✗ wheat ✗ rye ✗ oats ✗ barley 	<ul style="list-style-type: none"> ✗ rice ✗ pasta ✗ quinoa ✗ buckwheat 	<ul style="list-style-type: none"> ✗ bread ✗ bagels ✗ buns ✗ cereals 	<ul style="list-style-type: none"> ✗ granola bars ✗ cakes ✗ cookies ✗ muffins
<ul style="list-style-type: none"> ✗ NO root or starchy vegetables: 	<ul style="list-style-type: none"> ✗ carrots ✗ turnips ✗ parsnips 	<ul style="list-style-type: none"> ✗ potatoes ✗ sweet potatoes ✗ yams 	<ul style="list-style-type: none"> ✗ beets ✗ acorn squash ✗ butternut squash 	<ul style="list-style-type: none"> ✗ corn ✗ green peas
<ul style="list-style-type: none"> ✗ NO beans or legumes: 	<ul style="list-style-type: none"> ✗ black beans ✗ kidney beans 	<ul style="list-style-type: none"> ✗ chick peas ✗ split peas 	<ul style="list-style-type: none"> ✗ baked beans ✗ lentils 	<ul style="list-style-type: none"> ✗ peanuts