

Green Mediterranean Diet



Green-Mediterranean Diet

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Effect of green-Mediterranean diet on intrahepatic fat: the DIRECT PLUS randomised controlled trial

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Abstract

Objective: To examine the effectiveness of green-Mediterranean (MED) diet, further restricted in

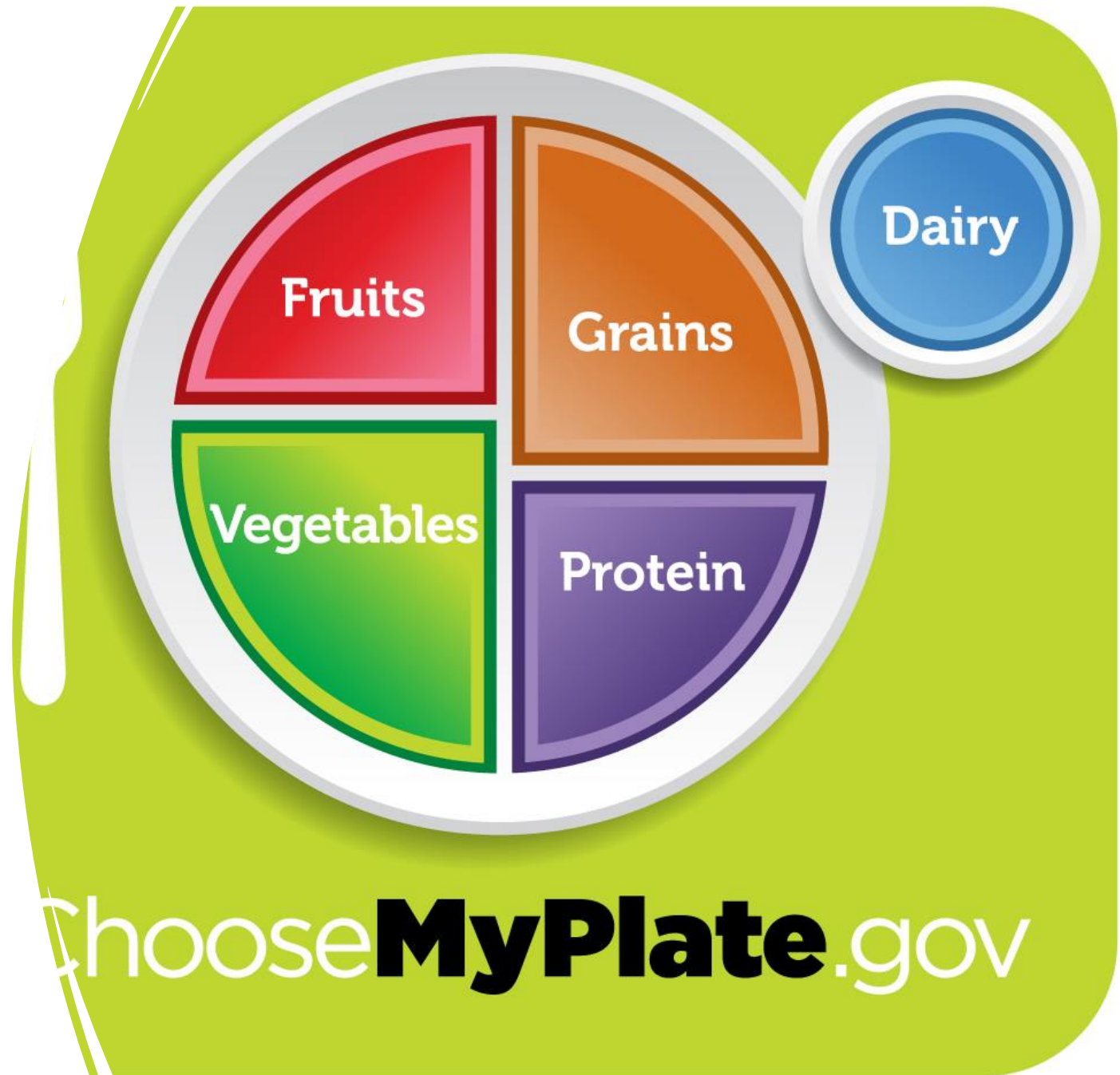
Overview

- What is the Mediterranean Diet?
- What makes the green-Mediterranean Diet different?
- Discuss the studies and commentaries
- Observations
- How to eat green-Mediterranean at home



What is the Mediterranean Diet?

- ½ grains are whole grains or sourdough.
- Protein is lean meats, seafood, beans, legumes & seeds.
- Dairy is often in form of sheep/goat milk, or fermented like yogurts/kefirs & cheeses.
- ½ the plate is fresh fruits & veg
- Olive oil for cooking/dressings



Mediterranean

- The Mediterranean diet is based on the traditional foods that people used to eat in countries bordering the Mediterranean Sea, including France, Spain, Greece, and Italy.
- Researchers noted that these people were exceptionally healthy and had a low risk of many chronic conditions.
- Although there are no strict rules or regulations for the diet, it typically encourages fruits, vegetables, whole grains, legumes, nuts, seeds, and heart-healthy fats. Processed foods, added sugar, and refined grains should be restricted.
- Numerous [studies](#) have now shown that the Mediterranean diet can promote weight loss and help prevent heart attacks, strokes, type 2 diabetes, and premature death.



Promotes Heart Health

- The Mediterranean diet has been studied extensively for its ability to promote heart health.
- Linked to a lower risk of heart disease and stroke.
- One study compared the effects of the Mediterranean diet and a low-fat diet and reported that the Mediterranean diet was more effective at slowing the progression of plaque buildup in the arteries, which is a major risk factor for heart disease.
- Other research shows that the Mediterranean diet could also help lower levels of diastolic and systolic blood pressure to support heart health.



Supports healthy blood glucose levels

- The Mediterranean diet encourages a variety of nutrient-dense foods, including fruits, vegetables, nuts, seeds, whole grains, and heart-healthy fats.
- As such, following this eating pattern may help stabilize blood sugar levels and protect against type 2 diabetes.
- Interestingly, multiple studies have found that the Mediterranean diet can reduce fasting blood sugar levels and improve levels of hemoglobin A1C, a marker used to measure long-term blood sugar control.
- The Mediterranean diet has also been shown to decrease insulin resistance, a condition that impairs the body's ability to use insulin to regulate blood sugar levels effectively.



Protects Brain Function

- Several studies show that the Mediterranean diet could be beneficial for brain health and may even protect against cognitive decline as you get older.
- For example, one study including 512 people found that greater adherence to the Mediterranean diet was associated with improved memory and reductions in several risk factors for Alzheimer's disease.
- Other research has found that the Mediterranean diet may be tied to a lower risk of dementia, cognitive impairment, and Alzheimer's disease.
- What's more, one large review also showed that following the Mediterranean diet was linked to improvements in cognitive function, memory, attention, and processing speed in healthy older adults.



How to follow it:

- **Eat:** vegetables, fruits, nuts, seeds, legumes, potatoes, whole grains, herbs, spices, fish, seafood, and extra virgin olive oil
- **Eat in moderation:** poultry, eggs, cheese, and yogurt
- **Eat rarely:** red meat, sugar-sweetened beverages, added sugars, processed meat, refined grains, refined oils, and other highly processed foods



Foods to eat

- **Vegetables:** tomatoes, broccoli, [kale](#), spinach, onions, cauliflower, carrots, Brussels sprouts, cucumbers, potatoes, sweet potatoes, turnips
- **Fruits:** apples, bananas, oranges, pears, strawberries, grapes, [dates](#), figs, melons, peaches
- **Nuts, seeds, and nut butters:** almonds, [walnuts](#), macadamia nuts, hazelnuts, cashews, sunflower seeds, pumpkin seeds, almond butter, peanut butter
- **Legumes:** beans, peas, lentils, pulses, peanuts, chickpeas
- **Whole grains:** oats, brown rice, rye, barley, corn, buckwheat, whole wheat bread and pasta
- **Fish and seafood:** [salmon](#), sardines, trout, tuna, mackerel, shrimp, oysters, clams, crab, mussels
- **Poultry:** chicken, duck, turkey
- **Eggs:** chicken, quail, and duck eggs
- **Dairy:** cheese, yogurt, milk
- **Herbs and spices:** [garlic](#), basil, mint, rosemary, sage, nutmeg, cinnamon, pepper
- **Healthy fats:** extra virgin olive oil, olives, [avocados](#), and [avocado oil](#)

Foods to avoid

- Processed meats (lunch meats, sausages, chicken nuggets etc.)
- Red meats (sparingly)
- Processed sugars and flours (processed food in general)— look for whole grains.
- Deep fried foods.





Green- Mediterranean Diet

- Further limited meats.
- Replaced them with walnuts and veggie protein smoothies.
- Added green tea.
- All groups performed physical activity.

Consider Black Beans vs chicken breast vs tofu

Chicken Breast (boneless skinless)

Nutrition Facts

Serving Size 4oz (112g)
Servings Per Container About 4

Amount Per Serving

Calories 130 Calories from Fat 25

% Daily Value*

Total Fat 3g **5%**

Saturated Fat 0.5g **3%**

Trans Fat 0g

Cholesterol 80mg **27%**

Sodium 50mg **2%**

Total Carbohydrate 0g **0%**

Protein 25g

Iron 2%

Not a significant source of dietary fiber, sugars, vitamin A, vitamin C and calcium.

*Percent Daily Values are based on a 2,000 calorie diet.

Black Beans

Nutrition Facts

ABOUT 4 servings per container
Serving size **1/2 CUP (130g)**

Amount per serving

Calories **100**

% Daily Value*

Total Fat 0g **0%**

Saturated Fat 0g **0%**

Trans Fat 0g

Cholesterol 0mg **0%**

Sodium 140mg **6%**

Total Carbohydrate 18g **7%**

Dietary Fiber 5g **18%**

Total Sugars 1g

Includes 0g Added Sugars **0%**

Protein 6g

Vitamin D 0mcg **0%**

Calcium 40mg **4%**

Iron 1mg **6%**

Potassium 440mg **10%**

*The % Daily Value tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.

Calories per gram:

Tofu

Amount Per 0.5 cup (124 g) ▾

Calories 94

% Daily Value*

Total Fat 6 g **9%**

Saturated fat 0.9 g **4%**

Cholesterol 0 mg **0%**

Sodium 9 mg **0%**

Potassium 150 mg **4%**

Total Carbohydrate 2.3 g **0%**

Dietary fiber 0.4 g **1%**

Protein 10 g **20%**

Vitamin C **0%** Calcium **43%**

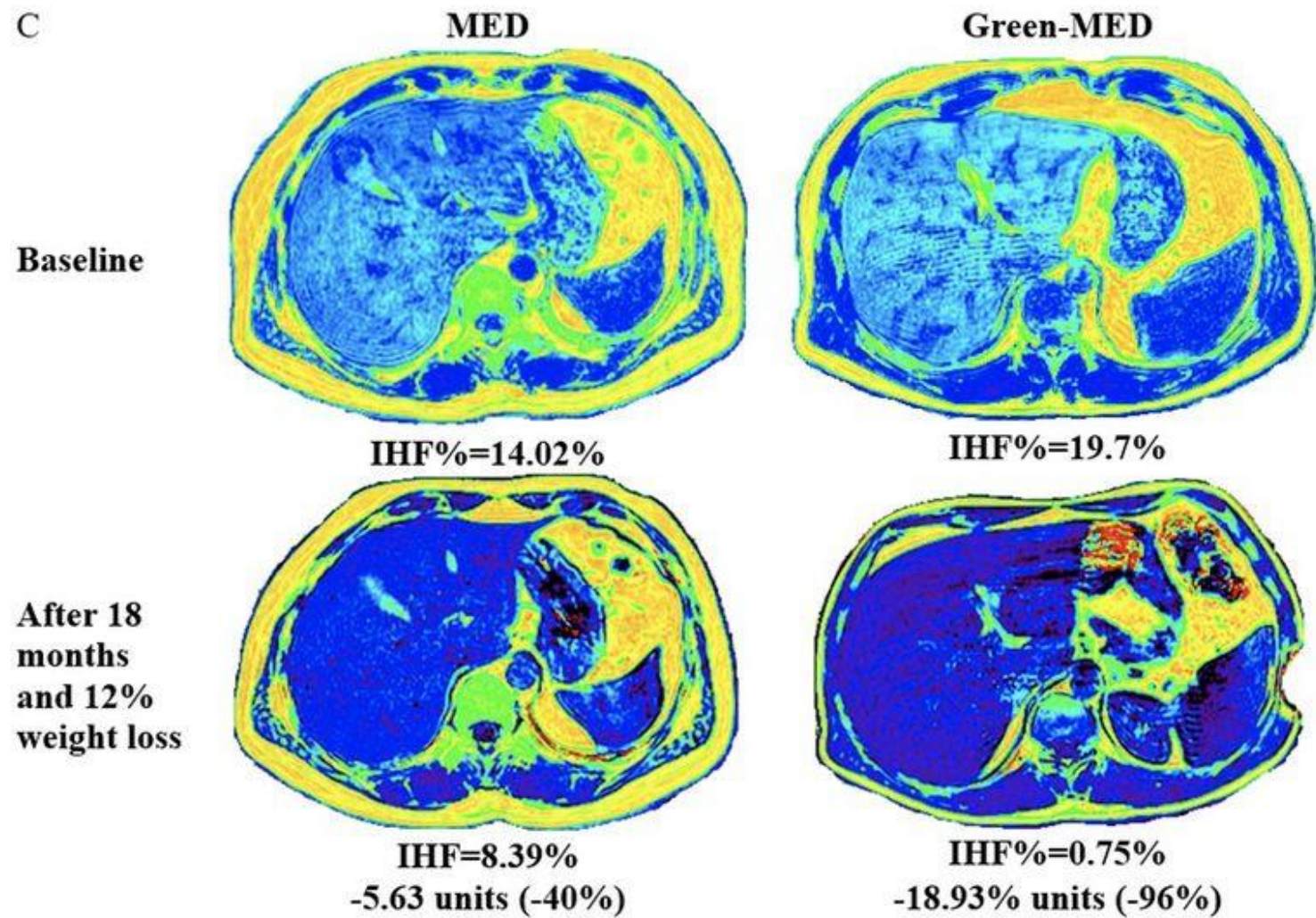
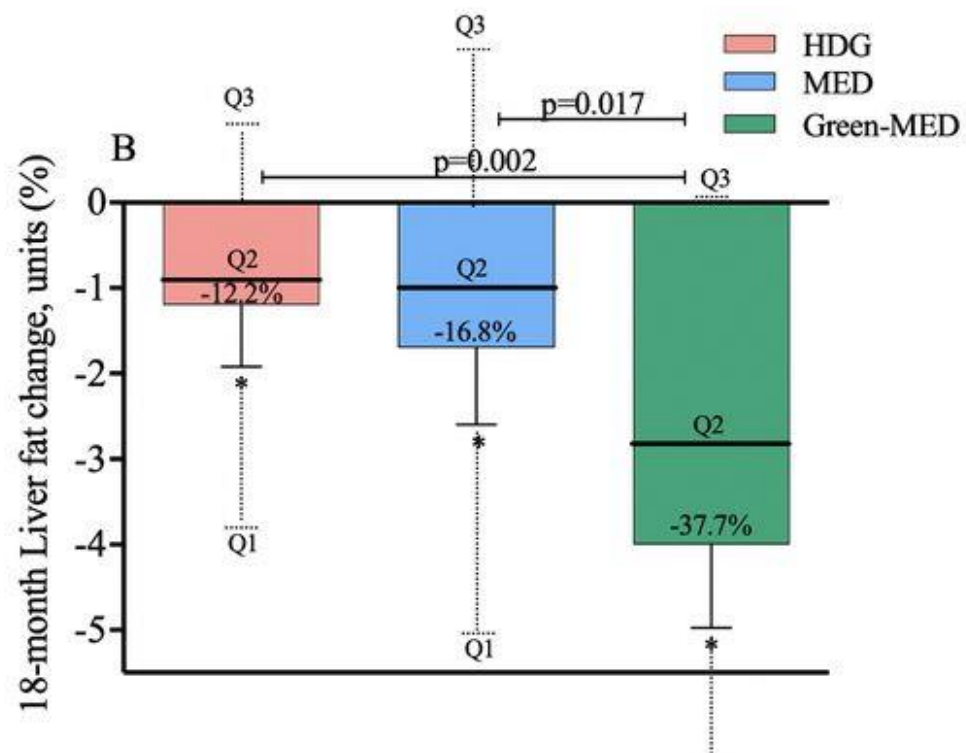
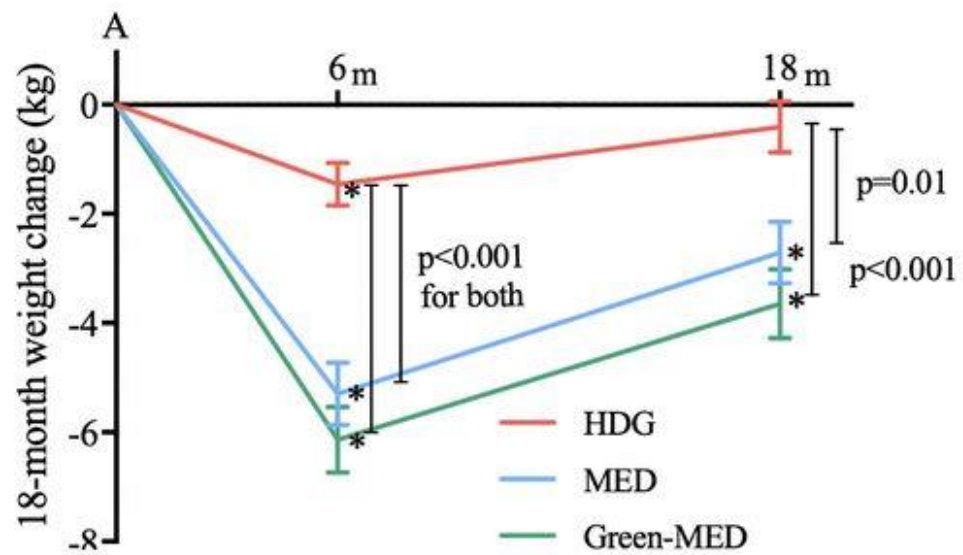
Iron **36%** Vitamin D **0%**

Vitamin B6 **5%** Cobalamin **0%**

Magnesium **9%**

The Study:

- Standard healthy diet group: participants received standard nutritional counselling to promote a healthy diet.
- Mediterranean diet group: The MED diet assigned was rich in vegetables, with poultry and fish replacing beef and lamb. The diet also included 28 g/day of walnuts.
- Green-Mediterranean group: the provision of 28 g/day walnuts, the green-MED diet was restricted in processed and red meat and was richer in plants and polyphenols. The participants were guided to further consume the following provided items: 3–4 cups/day of green tea and 100 g/day of frozen *Wolffia globosa* -plant frozen cubes, as a green shake replacing dinner. (This plant is high in protein.)



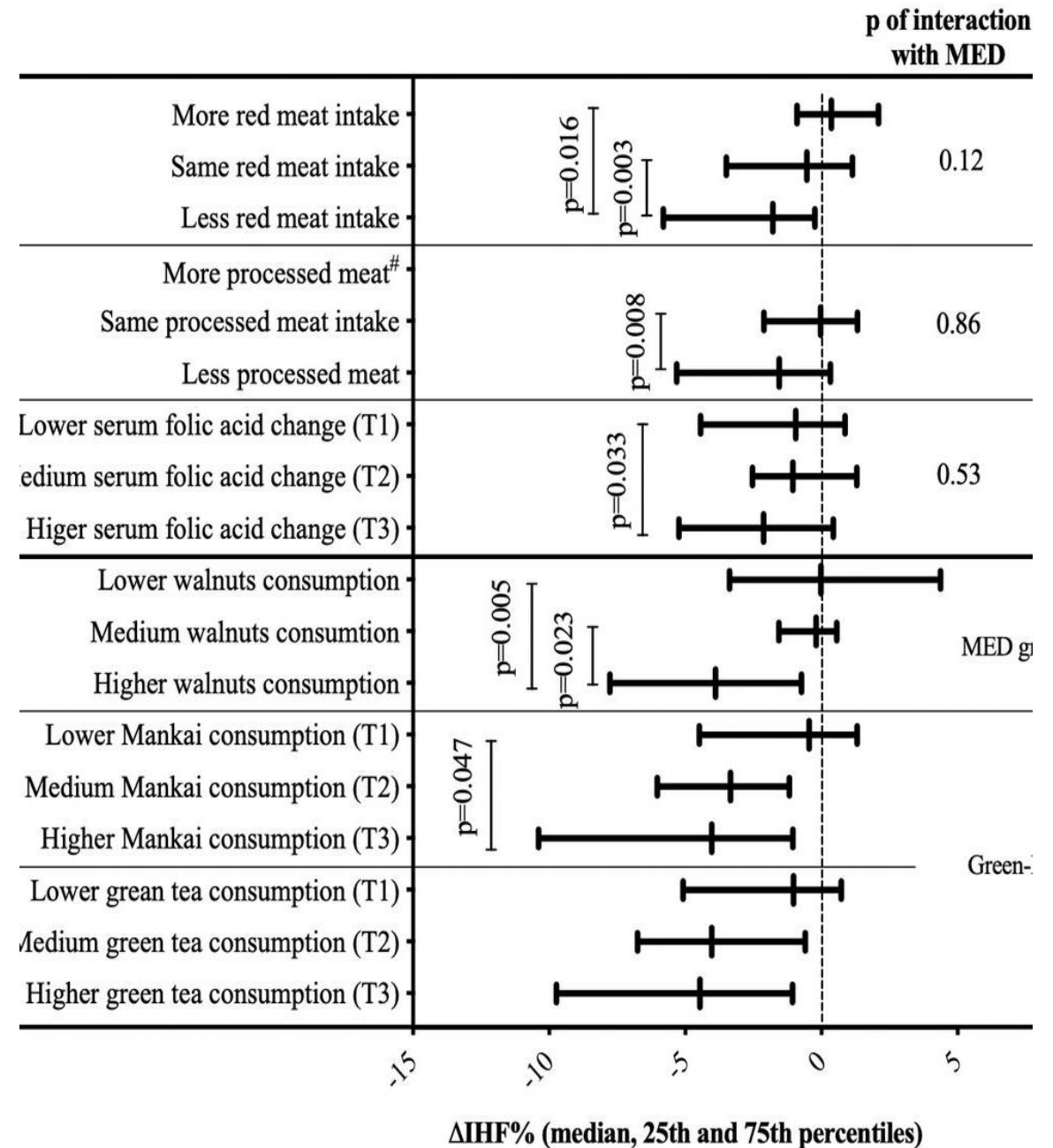
What is Intra-hepatic fat?

- Sometimes we call it visceral fat, it's the fat in and around your organs, not the fat under your skin.
- The more of this fat that we have, the more metabolic disorders, and unwell a person is. It leads to things like:
 - Diabetes,
 - Hormonal disruption
 - Liver failure
 - Kidney disorders
 - Heart disease

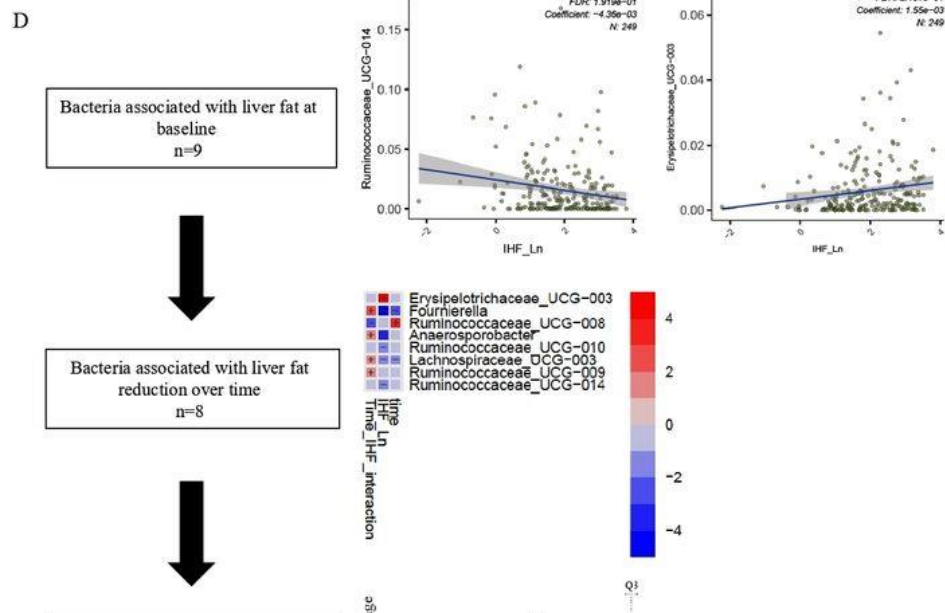
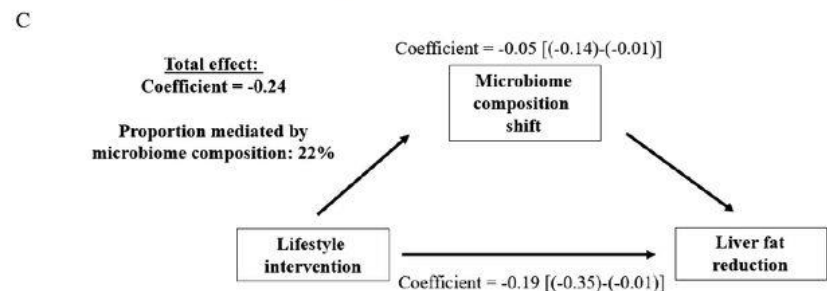
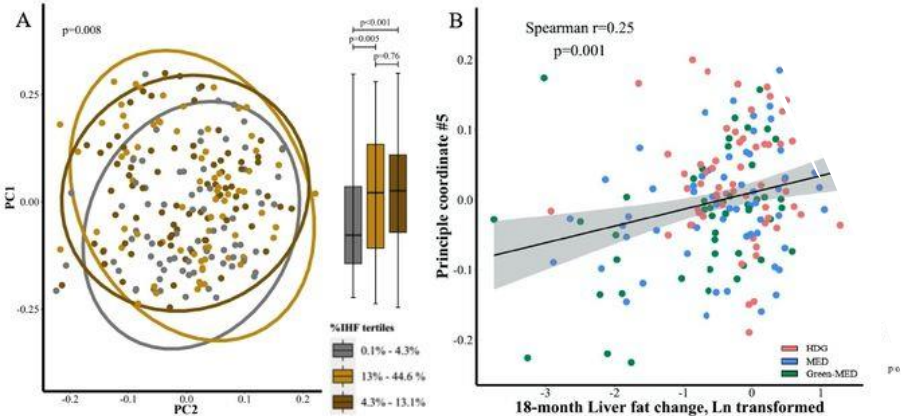
Green component' and IHF loss

To clarify why the green-MED diet was more successful than the MED diet in IHF reduction, they further examined specific food components.

Note: Liver fat his higher with more red & processed meat, as well as less walnuts, plant protein and green tea..



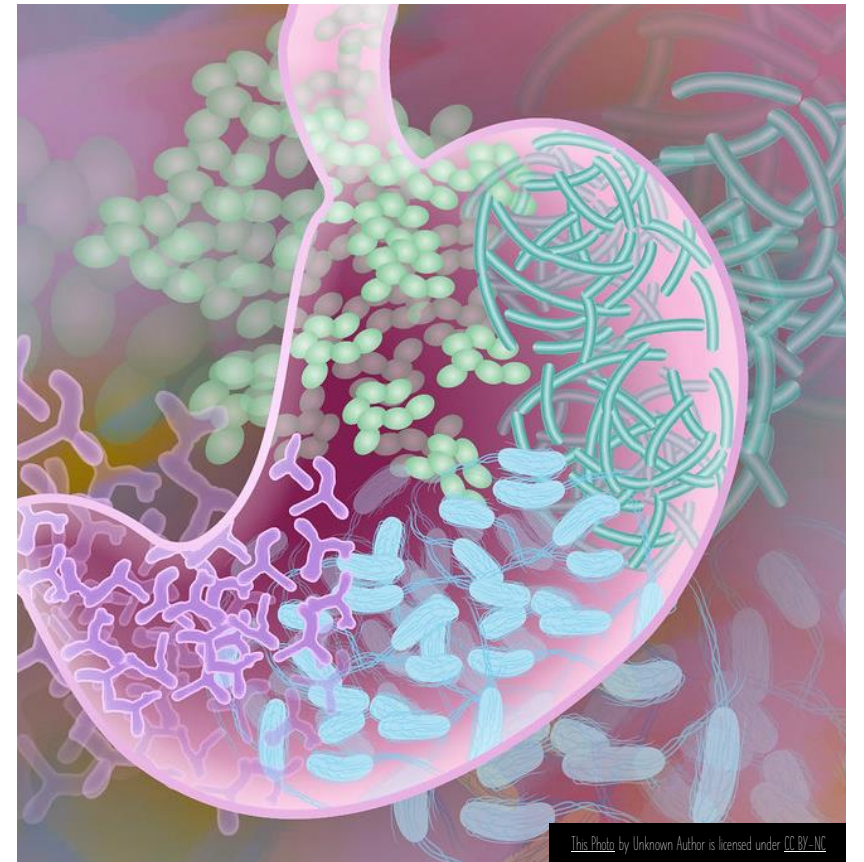
Gut-microbiome observations



- Identified 9 bacteria that were significantly associated with IHF at baseline.
- Among them, 8 bacteria were also found to be associated with IHF 18-month change.
- This just means that gut bacteria changed & became healthier during the 18 month intervention & scientists are looking at which ones may be most helpful.

A Note on Gut Bacteria

- In Fiber Fuelled, author Dr. Will Bulsiewicz says that healthy gut bacteria & microbiome extends to all aspects of health in humans.
- The best way to maintain a healthy gut microbiome? Eat a wide variety of plants, and limit animal proteins as they have a more negative effect down there.



Conclusions of this study

In conclusion, a green-MED diet, enriched with specific polyphenols and decreased red and processed meat consumption, amplifies the beneficial effect of the MED diet on hepatic fat reduction, beyond weight loss.

The results of this study may suggest an improved dietary protocol to treat NAFLD, (non-alcoholic fatty liver disease).

How to get more green- Mediterranean

Go nuts! Add a few ounces of nuts to your day. Look for dry-roasted and unsalted or lightly salted.

Try some green tea! The polyphenols in green tea are still being studied, their antioxidant effects on the body have been widely touted for years. In addition, catechins also help fatty acids to be mobilized into cells to be burned, and theanine content has been shown to boost moods!

Veggie protein. Maybe you can't find duckweed, which was used in the shakes in this study, that's ok. When you break down the antioxidant content of plants compared to animal proteins, the gains are in the 100 fold. Meats have no polyphenols or antioxidants, they also contain unhealthy saturated fats.

Plant Proteins

- For shakes:
- Naked Pea Protein
- Hemp seeds
- Chia Seeds
- More whole sources will have more fiber!



Recap

- Mediterranean diet has been the #1 healthy choice for over 15 years.
- The green version resulted in 2x the abdominal fat loss, as well as in healthier gut bacteria.
- To be more green, swap meat for veggie protein, drink some green tea and eat a serving of nuts each day!

