

Lifestyle interventions for atrial fibrillation

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Outline

- What are modifiable risk factors?
- How do they affect atrial fibrillation?
- What can our patients do to reduce the risk of atrial fibrillation?
- The role of obesity in atrial fibrillation
- Weight loss strategies

Pillars of AF Management



AGGRESSIVE RISK FACTOR MANAGEMENT

WEIGHT TARGET

- Target: $\geq 10\%$ weight loss
- BMI $< 27 \text{ kg/m}^2$
- Avoid fluctuation

EVALUATE

- Diet plan
- Current activity levels
- Educate – permanent change

EXERCISE TARGET

- 30mins, 3-4 x per week
- Activity increase to 200mins/week

EVALUATE

- Diet
- Glucose tolerance test

DM TARGET

- Dietary changes
- Start Metformin: if HbA1c $> 6.5\%$ @ 3mths
- Endocrinologist if required

GLYCEMIC CONTROL



WEIGHT LOSS & EXERCISE



BLOOD PRESSURE



EVALUATE

- BP diary
- Exercise stress test for intolerance
- Record 2-3 x daily

BP TARGET

- $< 130/80 \text{ mmHg}$ (rest)
- $< 200/100 \text{ mmHg}$ (exercise)
- ACEI or ARB if required
- Sodium reduction

EVALUATE

- Overnight sleep study

OSA TARGET

- CPAP if AHI ≥ 30
- or $\geq 20/\text{hr}$ with resistant HT or daytime sleepiness
- CPAP adherence checks



OSA

Comprehensive Risk Factor Management



HYPERLIPIDEMIA



EVALUATE

- Cholesterol levels
- Diet

LIPID TARGET

- Dietary changes
- @3mths: Start statins if LDL $> 2.6 \text{ mmol/L}$
- Add fibrates if TG $> 2.3 \text{ mmol/L}$
- Start fibrates if TG $> 5.6 \text{ mmol/L}$

EVALUATE

- Assess smoking status

SMOKING TARGET

- Cease all forms of tobacco

SMOKING



ALCOHOL



EVALUATE

- Assess intake

ALCOHOL TARGET

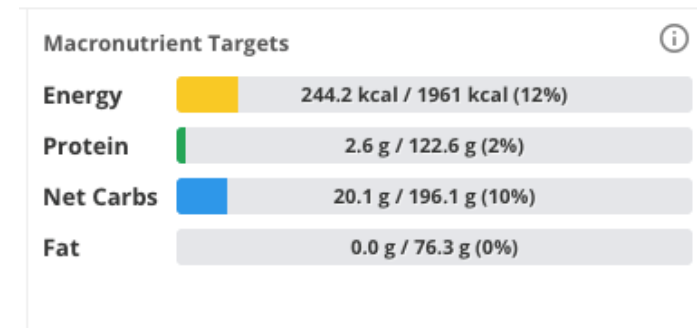
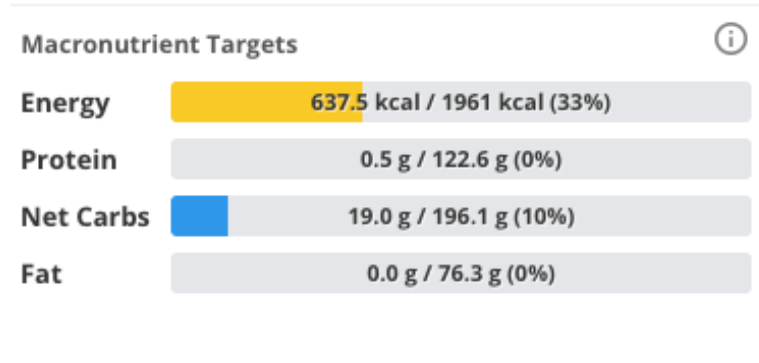
- Reduction to $\leq 30\text{g/week}$ 3-4 units
- Complete abstinence if required

What can I do?

- Quit Smoking
- Stop drinking alcohol
- Regular physical activity
- Exercise

Alcohol

- Government guidance: 14 units / week

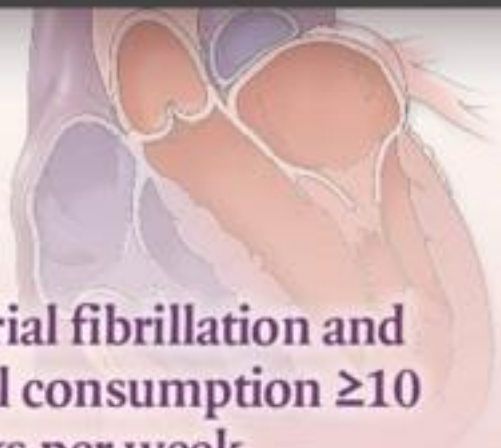


Alcohol Abstinence for Atrial Fibrillation

OPEN-LABEL, MULTICENTER, RANDOMIZED, CONTROLLED TRIAL

140

Adults with atrial fibrillation and regular alcohol consumption ≥ 10 standard drinks per week



Abstinence
(no alcohol for 6 mo)



(N=70)

Control



(N=70)

Atrial fibrillation recurrence

53%

73%

HR, 0.55; 95% CI, 0.36–0.84; P=0.005

Median percentage of time in atrial fibrillation during 6 mo follow-up

0.5%

1.2%

Weight loss

- The LEGACY clinical trial
- >10% weight loss over 4 years -> 6 times less likely to have AF return
 - Food replacement packs if <3% weight loss in first 3 months
- Target BMI -> ≤ 25

Known and follow your numbers



BMI calculator

Adult **Child**

Height [Switch to cm](#)

Feet Inches

Weight [Switch to kg](#)

Stone Pounds

Age

Sex

▶ [Why are we asking?](#)

Male

Female

How?

Weight loss = Calorific deficit

Calories consumed

- Simple changes and consistency works
- Diets don't work
- All calories are not equal
- Where do your calories come from?
- When do you consume your calories?
- Allow yourself a cheat meal (but not every day...)

Calories used

- Simple changes and consistency works
- Any exercise matters
- An active lifestyle is a mindset
- Grasp every opportunity
- What are you doing in the 23.5 hours when you are not doing your "prescribed" exercise?



Food and Agriculture
Organization of the
United Nations

Google -> Carlos Augusto Monteiro

Ultra-processed foods, diet quality, and health using the NOVA classification system

Prepared by

Carlos Augusto Monteiro
Geoffrey Cannon
Mark Lawrence
Maria Laura da Costa Louzada
and
Priscila Pereira Machado

Ultra processed foods

Ultra processed foods

- High energy density
- High sugar
- High salt
- Easily broken down by the body and converted to energy
- "Hyperpalatable"
- Not necessarily what you think

Definitions

“**Formulations of ingredients, mostly of exclusive industrial use**, typically created by series of industrial techniques and processes”

“**Ingredients** characteristic of ultra-processed foods are either food substances of **no or rare culinary use**, or else classes of additives whose function is to make the final product **sellable**, palatable and often hyper-**palatable**.”

“Processes and ingredients used for the manufacture of ultra-processed foods are designed to create **highly profitable products** (low-cost ingredients, long shelf-life, powerfully branded).”

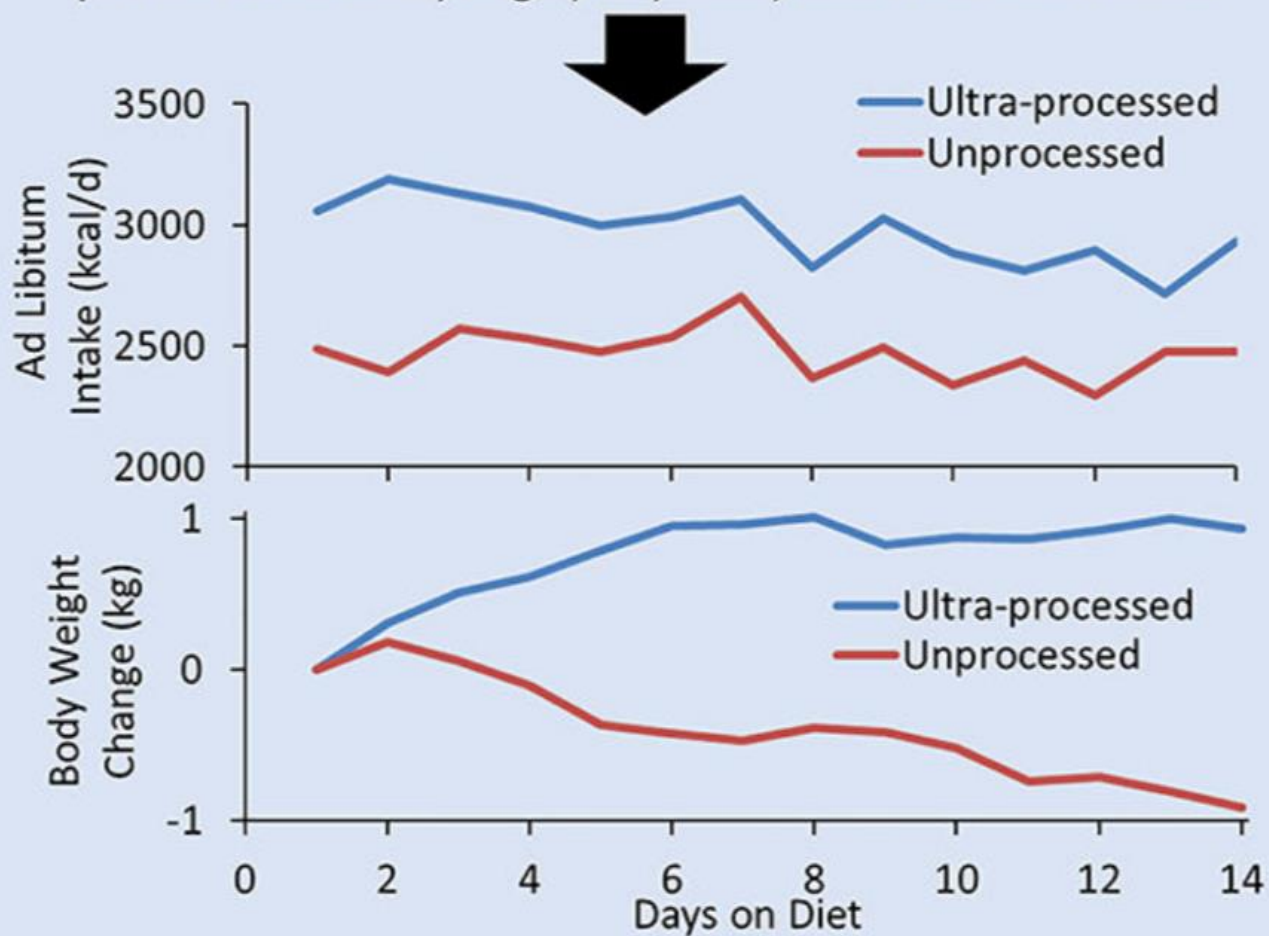
Ultra-processed Diet



Unprocessed Diet



Diets were presented in random order and matched for provided calories, sugar, fat, fiber, and macronutrients



Common ultra processed foods in practice - Breakfast



100% Organic Wholegrain Rolled **Oats**



Wholegrain Rolled **Oats** (60%), Wholegrain **Oat** Flour (38%), Calcium, Niacin, Iron, Riboflavin (B2), Vitamin B6, Thiamin (B1), Folic Acid, Vitamin D, Vitamin B12



Rolled **Oats** (70%), Sugar, **Milk** Protein Concentrate, Skimmed **Milk** Powder, Natural Flavouring

Common ultra processed foods in practice - Breakfast



Yogurt (**Milk**), Contains live Cultures: Lactobacillus Johnsonii, Streptococcus Thermophilus and Bifidobacterium Lactis



Live Yoghurt** (**Milk**), Gelling Agent (Pectin), **Contains Cultures: S. Thermophilus, L. Acidophilus, Bifidobacterium, L. Bulgaricus, L. Casei



Yogurt (**Milk**), Sugar, Mango (3.9%), Papaya (3%), Passion Fruit Juice (1.6%), Modified Tapioca Starch, Mango Puree (0.5%), Modified Corn Starch, Thickeners (Pectins, Guar Gum), Flavouring, Turmeric Extract



Yogurt (**Milk**), Sugar, Banana Purée (4%), Maize Flour, **Milk** Powder, Cocoa Butter, Cocoa Mass, Modified Starch, Flavourings, Glucose Syrup, Glazing Agent: Acacia Gum, Lactose (**Milk**), Coconut Oil, Emulsifier: **Soya** Lecithin, Whey Powder (**Milk**), **Barley** Malt (Gluten), Stabiliser: Pectins, Salt, Acidity Regulator: Citric Acid, Colour: Carotenes

Common ultra processed foods in practice - Bread



Wheat Flour (with Calcium, Iron, Niacin, Thiamine), Water, Wholemeal **Wheat** Flour, Salt



Fortified **Wheat** Flour (with Calcium Carbonate, Iron, Niacin, Thiamin), Water, Salt, Maize Starch, Rapeseed Oil, Yeast, Emulsifiers: E472e, E471, **Wheat Gluten**, Flour Treatment Agent: Ascorbic Acid



Wheat Flour [with Calcium, Iron, Niacin (B3) and Thiamin (B1)], Water, Dried Skimmed **Milk** Powder (2%), Sweet Cream Salted Butter (from **Milk**) (1%), Yeast, Salt, Vegetable Oil (Rapeseed, Sustainable Palm), **Soya** Flour, Preservative: Calcium Propionate, Flour Treatment Agent: Ascorbic Acid (Vitamin C)



Wheat Flour (with added Calcium, Iron, Niacin, Thiamin), Water, Yeast, **Soya** Flour, Salt, Preservative: E282, Emulsifiers: E472e, E471, E481, Flour Treatment Agent: Ascorbic Acid

Common ultra processed foods in practice - Bread



Wheat Flour (with Calcium, Iron, Niacin, Thiamine), Water, Wholemeal **Wheat** Flour, Salt



Fortified **Wheat** Flour (with Calcium Carbonate, Iron, Niacin, Thiamin), Water, Salt, Maize Starch, Rapeseed Oil, Yeast, Emulsifiers: Mono- And Diacetyltartaric Acid Esters Of Mono- And Diglycerides Of Fatty Acids, glycerol mono- and distearate, **Wheat Gluten**, Flour Treatment Agent: Ascorbic Acid



Wheat Flour [with Calcium, Iron, Niacin (B3) and Thiamin (B1)], Water, Dried Skimmed **Milk** Powder (2%), Sweet Cream Salted Butter (from **Milk**) (1%), Yeast, Salt, Vegetable Oil (Rapeseed, Sustainable Palm), **Soya** Flour, Preservative: Calcium Propionate, Flour Treatment Agent: Ascorbic Acid (Vitamin C)



Wheat Flour (with added Calcium, Iron, Niacin, Thiamin), Water, Yeast, **Soya** Flour, Salt, Preservative: Calcium propionate, Emulsifiers: Mono- And Diacetyltartaric Acid Esters Of Mono- And Diglycerides Of Fatty Acids, glycerol mono- and distearate, Sodium stearoyl lactylate, Flour Treatment Agent: Ascorbic Acid

Common ultra processed foods in practice – Lunch-Dinner



Chicken, celery, potatoes, carrots, broccoli, gravy (You decide)



Béchamel sauce: (45%) milk, fortified wheat flour (calcium carbonate*, iron*, thiamin*, niacin*), unsalted butter (milk), salt*, peppercorns, bay leaf powder, nutmeg (0.01%).

Meat sauce: (45%) (tomato sauce (tomatoes (73%), passata, red wine (4%) (sulphites), onion, tomato puree, sugar, sunflower oil, garlic, salt*, peppercorns, basil, thyme, bay leaf powder, oregano (0.05%)), beef mince (21%), onion, celery, carrots, red wine (4%) (sulphites), tomato puree, fortified wheat flour (calcium carbonate*, iron*, thiamin*, niacin*), garlic, sunflower oil, salt*, oregano, peppercorns). Pasta (9%) (durum wheat, may contain traces of egg & soy).

Cheddar cheese (1%) (milk) (with added salt*).



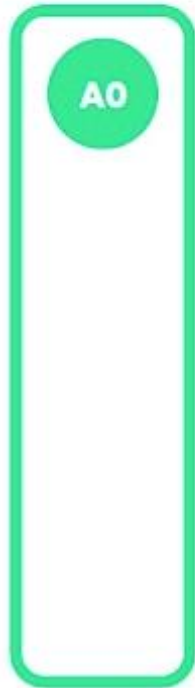
Minced Beef (30%), Semi-Skimmed Milk, Cooked Free Range Egg Pasta (12%) (Durum **Wheat Semolina** (contains **Gluten**), Water, Pasteurised **Egg**), Chianti Wine (6%), Water, Tomatoes (4%), Extra Mature Cheddar Cheese (**Milk**) (3%), Tomato Paste, Onions, Smoked Pancetta (2.5%) (Pork (96%), **Curing Salt (Salt, Preservative: Sodium Nitrite, Potassium Nitrate)**), Ground Spices (Black Pepper, Cassia, Cloves, Coriander, Dill, Ginger, Nutmeg), **Antioxidant: E301**), Grana Padano Cheese (2%) (Grana Padano Cheese (**Milk**), **Preservative: Lysozyme (Egg)**), Carrots, Cornflour, **Celery**, Dark Balsamic Vinegar, Single Cream (**Milk**), Broad Bean Flour, Unsalted Butter (**Milk**), Salt, Garlic Purée, **Wheatflour** (contains **Gluten**), Thyme, Parsley, **Mustard** Flour, Ground White Pepper, Ground Nutmeg, Turmeric, Ground Pimentoes



Beef (25%), Whole **Milk**, Cooked Egg Pasta (17%) (Durum **Wheat Semolina** (contains **Gluten**), Water, Pasteurised **Egg**), Tomatoes (16%), Water, Onions, Regato Cheese (**Milk**), Carrots, **Celery**, Cornflour, Rapeseed Oil, Tomato Paste, Mature Cheddar Cheese (**Milk**), Broad Bean Flour, Red Wine Vinegar, Salt, Garlic Purée, Oregano, Coarse Ground Black Pepper, Rosemary, Ground White Pepper, Ground Bay Leaves, Ground Nutmeg



Apple



Mashed Apple



Apple Compote



Concentrate-based apple juice



Flavoured mashed apple



Apple candy



Apple sticks



Apple soda



Apple paste



Summary

- Lifestyle changes work very well for prevention and treatment of AF
- Consistent and concentrated effort is needed to change habits
- An initial period of research into processed foods goes a long way

- Know your approximate calorie intake / energy usage
- You don't need to measure your food but you need to have a understanding
- Services than promise easy fixes don't work.
- It's not easy but it pays off
 - Life with fewer aches and pains
 - An active life where you choose what you want to do