

HEALTH BENEFITS OF OLIVE OIL

- Extra Virgin Olive Oil (EVOO) is a totally natural product from a tree of historical significance.
- EVOO's health benefits are legendary but only in the last 20 years has medical science begun to present authoritative data to support these traditional claims.
- The evidence for health benefits of EVOO is most confidently documented in epidemiological studies of the Mediterranean peoples whose olive oil consumption is generally 10 fold that of their European northern neighbours and New World migrants.
- Controlled prospective trials now demonstrate the protective benefits of EVOO in cardiovascular disease, diabetes mellitus and related diseases. Other potential benefits, particularly in relation to cancer prevention, remain to be fully evaluated although some evidence is available.
- It should be noted that processed olive oil such as 'pure olive oil', 'light olive oil' and 'pomace oil' is excluded from these claims as the chemical solvent extraction of olive oil from the dregs of olive processing removes almost all chemicals other than the oil itself. **These include the very substances that are considered to confer many of the health benefits claimed. They predominantly include phenols (polyphenols) and tocopherols (including Vitamin E).**

CARDIOVASCULAR DISEASE

- LDL cholesterol ('bad cholesterol') is a strong risk factor for cardiovascular disease, particularly Coronary Artery Disease (CAD). Other risk factors including smoking, hypertension, diabetes and genetic factors are of equal importance.
- Diet and genetic factors are the major determinants of LDL cholesterol levels. A 1% cholesterol reduction reduces heart attack rates by 2-3%.
- Substitution of saturated dietary fats (SFAs) with Mono Unsaturated Fatty Acids (MUFAs) and Poly Unsaturated Fatty Acids (PUFAs) reduces the 'bad cholesterol' in the blood without lowering the HDL cholesterol ('good cholesterol').
- Oxidation of LDL in the arterial wall may accelerate the process of artery blockage in CAD (see Oxidation and Olive Oil below). Phenols and tocopherols exert a significant antioxidant role.
- The Eurosciences Community study recommends the following balance of energy sources for cardiovascular protection.

Total fats to make up to no more than 30% of energy source, made up as follows:

MUFAs 15% (olive oil)

PUFAs < 8% (omega 3 PUFA-containing foods are particularly valuable esp. herring, mackerel, sardines & Canadian salmon)

SFAs <10% (animal fats, dairy fats, palm oil, coconut oil)

The remaining energy supply should come from complex carbohydrates and the diet should be balanced with adequate proteins, minerals and fibre (grains, fruit and vegetable derived).

This diet is typical of that consumed for millennia by the Mediterranean peoples, who exhibit the lowest risk of cardiovascular diseases of the Caucasian populations, even when other risk factors such as hypertension, diabetes, obesity and cigarette smoking are controlled for.

DIABETES

- Dietary manipulation and weight reduction are vital for the prevention and treatment of late onset diabetes mellitus (NIDDM), now showing epidemic proportions in the developed world and some emerging population groups.
- Typical medical advice has concentrated on reducing total fat intake (particularly SFAs) and simple sugars in favour of complex carbohydrates. This diet may, however, increase triglyceride levels, introducing a new risk factor for Coronary Artery Disease (CAD).
- Recent research has found that a MUFA enriched diet (olive oil); with low SFAs, and carbohydrate moderation provides better glycaemic (sugar) control while improving the blood lipid (fat) profile.

The typical Mediterranean diet, with fibre-rich complex carbohydrates, high MUFA intake and low SFA intake, meets these requirements exactly.

OBESITY

- Obesity is a risk factor for cardiovascular disease because of its association with hypertension (high blood pressure), diabetes and high blood lipid levels.
- Epidemiological studies show that Mediterranean countries have a lower risk of obesity, diabetes and CAD.
- This finding relates to the high complex carbohydrate/fibre diet and olive oil consumption, despite the calorie content of the oil.

OLIVE OIL AND OXIDATION

- There is accumulating evidence that oxidation of streaks of LDL in cells in the walls of arteries accelerates the process of arterial narrowing and blockage by a complex mechanism.
- The susceptibility of the LDL in the artery wall to oxidation can be reduced by altering its chemical composition in favour of a higher oleic acid (C18:1 MUFA) level and achieving protection with antioxidants. **The MUFA, polyphenols and Vitamin E in EVOO provide all these factors in a naturally occurring product.**
- The same benefit **cannot** be claimed from diets high in Poly Unsaturated Fatty Acids (PUFAs) derived from seed oils where the arterial wall LDL is altered to a high linoleic acid (C18:2) content, which increased susceptibility to oxidative processes.

Thus seed oils that are predominantly PUFA based (e.g. sunflower oil) do not protect against CAD, indeed may promote it by increasing the oxidative susceptibility of LDL in the arterial wall.

In contrast, olive oil is predominantly a MUFA and also contains the antioxidants polyphenols and Vitamin E.

Chemically processed olive oil (see introduction) contains MUFA but the antioxidants have been removed, thus reducing its health value, not to mention the loss of organoleptic (taste & smell) characteristics, which promote its palatability.

Other MUFAs such as rapeseed & canola oil suffer from the same health and organoleptic deficiencies.

CONCLUSION

The monounsaturated fatty acid-dominant constitution of extra virgin olive oil, together with its naturally occurring antioxidants and aromatic compounds, truly renders it a miracle of nature. It provides significant health benefits which pharmaceutical laboratories are attempting to reproduce in tasteless preparations, in contrast to the fascinating organoleptic qualities of EVOO.

Award-winning Zephyr Olive Oil captures all of these qualities with the added bonus of meticulous exclusion of contaminants and chemicals in its growing and processing. This has rewarded the grove with Full Organic Status with the National Association for Sustainable Agriculture Australia (NASAA) in 2003, 1 year before its first commercial oil release.

Brian Bramston (FRACP)

Consultant Physician in Digestive Diseases September 2004