

# Use Any Olive Oil You Like, “As Long as it’s Green and Bitter”

By Julie Butler

*Olive Oil Times Contributor* | Reporting from Barcelona

The [European Food Safety Authority](#) (EFSA) last month approved the claim that “[consumption of olive oil polyphenols contributes to the protection of blood lipids from oxidative damage.](#)”

Here we speak to the leader of the research team whose investigation of EVOO’s health benefits was pivotal to the approval.

Dr. María-Isabel Covas is head of the Cardiovascular Risk and Nutrition Research Group at the [IMIM-Research Institute](#), Hospital del Mar in Barcelona, Spain. She is also head investigator of the [CIBER of Obesity and Nutrition](#) (CIBEROBN) a Network of Research Groups of Excellence in Spain. Last week she won an inaugural [Catalan olive oil DOPs prize](#) in recognition of her outstanding research.

Dr. Covas explains why lipid oxidation matters and that the key to benefiting from EVOO is not to take it as a medicine. “You must enjoy it.”

## **Please tell us about the research that led to the EFSA approval.**

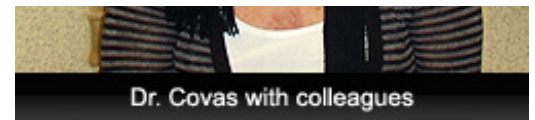
Our research started about twelve years ago and focuses on the health benefits of olive oil, in particular the effects of its polyphenols on the heart. Until 2004, it had been known that olive oil was good for you but there was a controversy over the in vivo antioxidant power (in humans) of the polyphenols.

We started several studies with Catalan olive oil and our hypotheses were successful but we needed full proof, because in this area of science, for a health professional to be able to say, “take this, it is good for you,” you need evidence from randomized and controlled studies with humans. You also need to be very accurate when you determine the average daily dose necessary to get sufficient quantities of polyphenols, because the effect will be not a pharmacological one but physiological.

We therefore held an initial trial with Catalan olive oil involving about 30 healthy individuals here in Catalonia.



We also did another study here with 38 people with stable coronary heart disease. Then, in order to have definitive clinical proof, we organized a European study, the [EUROLIVE](#) Study, encompassing 200 healthy individuals from five European Countries. They consumed 25ml/day of three types of olive oil that were similar but different in polyphenol content.



### **What were the results of these studies?**

We were able to prove that there was an increase in levels of high density lipoprotein (HDL), the good cholesterol, and that this was directly proportional to the olive oil polyphenol content. There was also a proven decrease in lipid oxidation, one of the main risk factors for cardiovascular disease, and this risk was shown to be inversely related to the polyphenol content of the olive oil.

All this work paid off on April 8 when [EFSA concluded that a cause and effect relationship had been established](#) between the consumption of olive oil polyphenols and protection of low density lipoprotein (LDL- the “bad” cholesterol) particles from oxidative damage, and that this was a beneficial physiological effect. This was mainly based on our study and we were really happy about it.

### **How much EVOO must we consume each day to benefit from this antioxidant effect?**

EFSA says that 5mg of hydroxytyrosol and its derivatives (e.g. oleuropein complex and tyrosol) in olive oil should be consumed daily.

That means taking 25ml/day of a virgin olive oil that contains 300mg/kg of polyphenols, or 30ml/day of a virgin olive oil containing 200mg/kg of polyphenols. (Virgin olive oils have an average concentration of around 250mg/kg of phenolic compounds.)

These amounts, if provided by moderate amounts of olive oil, can easily be consumed in the context of a balanced diet. However, the concentrations in some olive oils may be too low to provide a sufficient amount of polyphenols while still maintaining a balanced diet.

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## Why is it important to reduce oxidative damage to blood lipids?

We know that high cholesterol is dangerous, but the greatest danger is when this cholesterol is oxidized, because it can then readily promote atherosclerosis (build-up of fatty deposits on artery walls). Of course, if you have high cholesterol you have more probability of a large amount of it being oxidized.

## What are you researching now?

There are two main areas in which we are continuing our work on olive oil. One is to assess if besides promoting an increase in HDL cholesterol, the polyphenols in olive oil also increase the functionality of this lipoprotein. That’s because the important thing is not only to increase the lipoprotein (HDL) but that this protein be functional. So one thing is measuring the quantity and another is measuring the functionality.

## Why it is beneficial to increase the functionality of HDL?

The inverse relationship between HDL cholesterol levels and coronary heart disease has stimulated interest in pharmacological agents that elevate plasma HDL. However, recently there has been an unexpected association of a drug that increases plasma HDL-C with increased cardiovascular mortality. One of the consequences of this is consideration of whether the functional quality of HDL is perhaps more important than how much of it is circulating in the blood.

## What is the other area of your current research?

We are working to increase our knowledge of the mechanism by which the polyphenols in olive oil exert their beneficial effects. Besides the classic role of scavenging free radicals, we think – and have some supporting data – that EVOO has a nutrigenomic effect. In other words, we are investigating the protective factor that EVOO’s high polyphenol content provides in terms of the expression of genes related to atherosclerosis.

## Is it okay to fry with olive oil?

Yes, because although lipid peroxides – which increase the risk of atherosclerosis, cancer and other chronic degenerative diseases – are formed when olive oil is heated, the polyphenols in it protect against this lipid peroxidation.

However, frying once with EVOO reduces the polyphenols by half and the second time they are reduced to about 18-20% of the original. So it is not advisable to cook with EVOO more than once, or twice at maximum.

### **How should we use EVOO in order to maximize its health benefits?**

You need to use EVOO as your main fat, for cooking and other purposes. It's not advisable to have huge quantities, because it is a fat, but simply to use EVOO as both your raw fat and for cooking. And to combine it with a healthy diet, that means with a lot of vegetables.

Another thing many people don't know is that olive oil must be kept in a cool, dark place, and ideally it should be used within a year of the production date. Some bottles are clear and that's wrong. But most EVOO now comes in dark bottles.

Also, people in Mediterranean countries tend to know that EVOO is greener and more bitter but sometimes people in other countries don't like it to be so bitter. So I say that everyone must find an olive oil that they like. You need to taste several types and get the one you like the most, as long as it is green and bitter. You want it to be bitter because it's the concentration of polyphenols that contribute to that taste.

You don't need to take olive oil as a medicine, you must enjoy it. I think it is a very important part for the health benefits, to enjoy it.

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