In Short

The Future of Frying











By Zachary A. Knecht, PhD

Crispy French fries, fried chicken, churros, fritters and fish fillets...we all know fried food is not the healthiest, but we can't deny that there really is something about it that makes the mouths of even the most calorie-conscious among us water. When we fry food, all that hot flavorful oil penetrates the food and replaces part of its water content; tenderizing, moistening, and giving it an enhanced savory flavor and adding that unique sensorial quality that comes with the crisp-outside against soft-inside textural balance (source). Of course, as we'd prefer to forget, fried food is high in calories and can contain saturated fats, cholesterol, and potentially dangerous compounds such as acrylamide, which form during high-temperature frying (source). That's not to mention that fried food consumption is associated with an increased risk of type 2 diabetes and coronary artery disease (source).



Air fryer oven on kitchen countertop. This offers fast and easy crispy food with little or no fat by circulating hot air inside the basket.

Air frying, and the preponderance of kitchen gadgets that make it possible, have recently emerged as an alternative to traditional deep fat frying. Air fryers are essentially miniaturized convection ovens that circulate very hot air to quickly cook and crisp food. Since only a small amount of oil is needed to coat the food before cooking, air fryers claim to offer the same flavor and desirable sensory experience of deep fat frying without the nutritional detriment. Several studies have made direct comparisons between these cooking techniques so we can get a better idea of whether this is true, and the good news seems to be that, yes! Air-fried foods are at least nominally better nutritionally than deep-fried. One study found that air-fried potatoes contained an average of 70% less fat than deep fried (source), while another found about 50% higher levels of slowly digestible starches, which help reduce rapid rises in blood sugar after eating (source). A comparison of air versus oil-fried fish also found a higher content of essential amino acids in the air-fried version (source).

In addition to these benefits, air fryers are also compact, cook food quickly, and produce less mess (or potentially danger) than the large vat of hot oil needed for traditional deep fat frying. Air-fryers thus offer convenience in addition to producing lower-calorie, more nutrient rich fried foods. However it should hopefully be obvious that air fried food still contains calories from the oil, and small amounts of acrylamides. Thus, 'healthier' is not necessarily synonymous with 'healthy.' You shouldn't feel licensed to eat French fries and fried chicken 3

meals-a-day just because they were cooked in an air-fryer. Air-fried foods, just like deep-fried foods, should be consumed in moderation as part of a diet that is plentiful in fresh fruits, vegetables, and whole grains.



BBQ chicken legs in oven air fryer. Healthy cooking without oil.

Of course the question that lingers as you decide whether or not to ditch the deep fryer completely: 'does it taste as good?' The bad news here is that less fat means less flavor, so you'll probably be able to distinguish your greasy KFC takeout chicken from its air-fried cousin. User experiences with air fryers seem to support this (source, source). However, for someone looking to cut calories, or just wanting to be a bit more health-conscious while still enjoying some crispy fries every once and a while, an air fryer may make a great addition to your kitchen gadget repertoire.