

## Hamburger Fat and Cooking Methods

A typical hamburger contains about 24 grams of fat (Knox, 1994). The average adult should not consume more than 700 grams of fat each day. Hamburgers are composed mainly of saturated fat which is known to cause heart problems by raising cholesterol levels in the blood by increasing the body's Low Density Lipoproteins (LDL) levels. It is this cholesterol that binds to the walls of the arteries and blocks the passage of blood, leading to heart disease, heart attacks, and strokes. Fat is also our body's main source of energy. If we take in more fat than our body burns, we gain weight. This added weight makes it difficult for our body to function normally in our everyday lives. One gram of fat contains 9 times more calories than the equivalent amount of protein or carbohydrate (Hammer, 1998).

Americans today consume over 125 pounds of fat a year (Hammer, 1998). "Fat makes up over 42 percent of our total energy intake compared to 12 percent from proteins and 46 percent from carbohydrates" (Pearl, 1999). It is estimated that 10 to 20 percent of American children and 35 to 50 percent of middle-aged Americans are overweight. Obesity not only contributes to heart disease, it can also cause circulatory ailments, hernia, gallbladder, hypertension, and diabetes. Fat is also believed to increase one's risk of breast and other cancers (Pearl, 1999).

Saturated fats are solid at room temperature. Therefore, to remove them from meat requires heat to liquefy the fat, then allow it to drip from the beef. It stands to reason that cooking methods that create the hottest temperatures within a hamburger would also be the best methods for removing fat in the meat. Temperature is not the only factor in the removal process. Equally important is the ability of the liquefied fat to actually drain from the hamburger.

Baking raises the temperature of a typical hamburger to approximately 350<sup>0</sup> F, sufficiently hot to liquefy all of the meat's saturated fat. Unfortunately, baking is almost always done in a walled container in which the beef is allowed to stand in its own juices. This process makes for a moist meat, but one that retains most of its original fat content (Hammer, 1998). The same is true of pan frying. Methods that allow the meat to drip; roasting, broiling, and grilling, should result in the least amount of fat retention. A typical hamburger loses 5 percent of its fat during broiling (Applebee, 2001). It would stand to reason that grilling would remove the most fat due to its high cooking temperatures, and the fact that fat can easily run out of the hamburger or be burned off from the burger's surface.

Of course, it is not just fat that the meat is giving off. A typical "extra-lean" hamburger, one with a low fat to protein ratio, will lose 5 to 10 percent of its body weight in water during the cooking process, and 2 to 3 percent in fat (Hammer, 1998). By contrast, a "regular" hamburger (one with approximately 24 grams of fat), will lose approximately 5 to 10 percent of its body weight in water, and another 5 to 10 percent in fat. In fact, after broiling where the liquefied fat is allowed to run off, an "extra-lean" hamburger and a "normal" hamburger have fat contents that vary by only 5 percent (Hammer, 1998).

Given that microwaving uses microwaves to "boil" the water contained within food at low temperatures, and that a hamburger in a microwave stands in its own juices, and therefore fat, microwaving is most likely the least favored cooking method for removing fat from a hamburger.

### **Bibliography**

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