

Salmon: Health food or pink poison?

By Stephen Smith, *The Boston Globe*, January 20, 2004

So now it's salmon.

Long revered for its virtues in reducing heart disease and amplifying brain wattage, the hot-selling fish recently became the latest food villain of the month.

A study published in early January in the journal *Science* concluded that farm-raised salmon—especially those from Europe—had far higher levels of such cancer-causing agents as PCBs and dioxin than their brethren hauled in from the open sea. The authors concluded that eating farmed salmon more than once a month could place adults at a higher risk of developing cancer.

Like alcohol and chocolate before it, salmon is now the subject of contradictory science. So what is the bewildered, bemused consumer to do, pelted with so many admonitions about what to eat, what not to eat, and how to eat it?

"It's rare that you actually find good and bad, black and white," said Alice Lichtenstein, a professor at the Friedman School of Nutrition at Tufts University. "It's almost always more complicated than that."

Instead, Lichtenstein and other nutrition specialists said consumers must take the full measure of their own health when deciding what to eat, rather than relying solely on the latest study or hottest new expert.

"We're all bombarded with so much information every day," Lichtenstein said. "So we have to customize it and take our own individual situation into consideration." And, in that sense, farmed salmon serves as the quintessential example of the risk-benefit analysis all diners must invoke when deciding what to eat.

On the benefit side of the ledger: Long-standing research has demonstrated unequivocally that salmon, rich in omega-3 fatty acids, guards against heart disease; and more recent studies suggest it can also help keep the mind agile and protect against Alzheimer's disease. The American Heart Association suggests that fish with omega-3s should appear on the dinner table at least twice a week and even more often if there's a history of heart disease in the family.

On the risk side: There's the prospect of ingesting PCBs and dioxin, although even the authors of the *Science* study acknowledge the precise danger posed to humans by those chemicals remains unclear. Nutritionists said the risk remains largely theoretical, based primarily on animal studies.

Then there's the issue of magnitude. While the risk of PCBs isn't fully known, the peril presented by heart disease is well established. Each year, 950,000 people in the United

States die from cardiovascular disease, and 61 million Americans suffer from some variation of the condition.

"So we think people should bear in mind that fish, particularly fatty fish like salmon, are a very healthy food to eat and can have a dramatic effect on the risk of dying from a sudden heart attack," said David Schardt, senior nutritionist at the Center for Science in the Public Interest, a Washington, D.C., nonprofit organization devoted to nutrition issues. "We think that outweighs what may be a much smaller risk—certainly a less clear risk—that PCBs, dioxins, and pesticides may cause cancer."

But even then, the analysis is not complete.

It used to be that nutritionists thought a plate of pasta, a chunk of chicken, or a sliver of salmon had the same consequences for anybody eating them. Today, that notion has been trumped by an emerging field of dietary research that increasingly concludes that eating is indeed a very personal pursuit.

"If you're worried about family histories of arrhythmia and Alzheimer's, I would say you probably want to err on that side and eat the fish," said Katherine Tucker, director of the Epidemiology and Dietary Assessment Program at Tufts. But for other people, especially those who have endured cancer or who have a family history of the disease, the equation might work out differently.

"Still," said Dr. Brian P. O'Sullivan, chairman of the panel that reviews scientific studies at the University of Massachusetts Medical School, "we have a whole body of literature that says fish is good for you, and we have this article saying this particular kind of fish raised this way may be bad for you. I think I'd wait before I stopped eating fish."

When reviewing nutrition research, consumers should use some of the same filters that would apply to any kind of scientific study, O'Sullivan said.

For instance, they should gauge the size of the study. (In the case of the salmon report, the consortium of scientists hunted for contaminants in about 700 farmed and wild salmon bought on three continents.)

And consumers should ask about what standards were used to determine whether a food is good or bad. The salmon research shows how that can be a tricky proposition.

The findings reported in *Science* are based on levels of risk defined by the US Environmental Protection Agency. But the US Food and Drug Administration sets a vastly different threshold to declare that contaminants in a slab of salmon could prove harmful to human health. If the researchers had stuck to the FDA guidelines, then the fish they sampled

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would have been found perfectly safe for consumption.

Even as the debate roils over the safety of farmed salmon, nutrition specialists fret that there are more urgent issues that should be on the front burner. One of the nation's nutrition luminaries likes to talk about healthy food as a force for change—and a longer life.

“We have an epidemic of bad eating habits and bad food selections and that's the forest that's causing us so much

heart disease, so much cancer, so much obesity, so much diabetes,” said Dr. George Blackburn, director of the Center for the Study of Nutrition and Medicine at Beth Israel Deaconess Medical Center. “This study on salmon is not even a branch on a tree in the forest relative to this force of healthy food that is so important to our longevity, to the quality of our life, and to preventing us from having chronic disease.”