



# Seafood Health Facts: Making Smart choices

## Balancing the Benefits and Risks of Seafood Consumption

### *Resources for Healthcare Providers and Consumers*

## [Seafood Handling and Storage \[1\]](#)

**[NACMCF. 2008. Response to the questions posed by the Food and Drug Administration and the National Marine Fisheries Service Regarding Determination of Cooking Parameters for Safe Seafood for Consumers. Journal of Food Protection, 2008, 71\(6\):1287-1308 \[2\].](#)**

While consumers are advised to cook seafood to an internal temperature of 145°F for 15 seconds or until flaky, opaque and no longer translucent, there are questions regarding this recommendation. The National Advisory Committee on Microbiological Criteria for Foods (NACMCF) was asked to address many questions related to the safe handling of seafood including cooking requirements and internal temperatures, impact of different preparation methods, and pathogens of concern. While the committee found that seafood safety was enhanced with current recommendations for handling, cooking, serving and storing, the conclusions regarding many of the cooking parameters that have been recommended over the years were determined to have little scientific basis.

Some conclusions in the NACMCF report were:

- Cooking methods for seafood products differ and often not based on scientific data.
- There are no easy, practical measurements or indicators for consumers to objectively determine sufficient cooking to ensure safety
- Cookbook recommendations regarding cooking times per side do not take into account species differences or size/thickness of fillets
- Microwave heating is frequently found to be non uniform and instructions have been based on time and not internal temperatures
- There is a lack of thermal inactivation data for relevant pathogens due to the variety of seafood and methods of cooking.
- Cooking processes may reduce microbial risks, but the extent of the risk reduction may differ with type of seafood, cooking method and level of pathogens
- Some cooking methods do not provide protection. For example, lightly cooking or steaming does not destroy human enteric viruses
- There is no single temperature that will ensure the safety of all cooked fishery products and result in an acceptable product.

Some key recommendations in the NACMCF report are:

- Review of epidemiological data to determine the role of seafood in foodborne illness.
- Thermal inactivation kinetics must be determined on pertinent pathogens of interest for specific seafood types and cooking methods
- In absence of information, current cooking guidance, as provided by the FDA Food Code, should be followed—even with its uncertainties. These include different cooking temperatures for comminuted, stuffed and raw fish. These recommendations are all predicated on seafood that has been properly handled prior to cooking and consumed shortly after preparation.
- At-risk populations should avoid raw and undercooked seafood products
- Consumer education is critical for updated cooking times and temperatures, and the importance of sanitary practices, temperature control and proper handling.

[The full article can be found here \[2\].](#)

**[NACMCF. 2005. Considerations for establishing safety-based consume-by date labels for refrigerated, ready to eat foods. Journal of Food Protection, 68\(8\):1761-1775. \[3\]](#)**

Listeria monocytogenes has been the pathogenic organism of most concern in refrigerated, ready-to-eat products found in all commodities (See Listeria risk assessment links below). Ready-to-eat seafood is no exception and consumers purchase of variety of these seafood products. This could include salads, spreads and hot/cold smoked products. NACMCF provided expertise regarding establishing scientific parameters for safety-based use-by dates for refrigerated ready-to-eat (RTE) foods to help reduce the risk of foodborne illness. However, with the diversity and number and complexity of food products, practical implementation of safety-based date labels will be difficult. Educational efforts to consumers regarding the importance of temperature control (adequate refrigeration) would lead to a reduction in foodborne illness.

[To view this article click here](#) [3].

**[Listeria Risk Assessment - U.S. Food and Drug Administration and USDA/Food Safety and Inspection Service - Quantitative Assessment of Relative Risk to Public Health from Food borne Listeria monocytogenes Among Selected Categories of Ready-to-Eat Foods, September 2003. \[4\]](#)**

The United States Department of Health and Human Services, Food and Drug Administration's Center for Food Safety and Applied Nutrition (DHHS/FDA/CFSAN) conducted this risk assessment in collaboration with the U.S. Department of Agriculture's Food Safety and Inspection Service (USDA/FSIS) and in consultation with the DHHS Centers for Disease Control and Prevention (CDC). The purpose of the assessment is to examine systematically the available scientific data and information and to estimate the relative risks of serious illness and death associated with consumption of different types of ready-to-eat (RTE) foods that may be contaminated with *Listeria monocytogenes*.

[To view this report click here.](#) [4]



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