Harvard Medical School Department of Continuing Education and the Cardiovascular Division of the Department of Medicine, Brigham and Women's Hospital

Cardiology Rounds
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Fish Intake, Contaminants, and Human Health: Evaluating the Risks and the Benefits
Part 1 – Health Benefits

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Objectives:

- Review the current knowledge regarding major health benefits of fish consumption.
- Understand the potential mechanisms for cardiovascular benefits of fish consumption.
- Discuss the optimal levels of fish intake for primary prevention of coronary heart disease death.
- Describe which common fish species are higher in omega-3 fatty acid content.

Questions: (Choose the single best answer):

1. The evidence for cardiovascular benefits of fish intake is strongest for:
    a. Ischemic stroke
    b. Coronary heart disease death
    c. Nonfatal myocardial infarction
    d. Congestive heart failure
    e. Atrial fibrillation

2. At typical dietary levels of fish intake (1-2 servings per week), which of the following mechanisms is likely most relevant for cardiovascular benefits?
    a. Triglyceride lowering
    b. Anti-thrombotic effects
    c. Anti-arrhythmic effects (direct or indirect)
    d. All of the above

3. For primary prevention of coronary heart disease death, the dose-response relationship between consumption of n-3 fatty acids (EPA + DHA) from fish and risk can best be described as:
    a. A linear relationship, with progressively increasing benefit up to intakes of 2000 mg/d EPA+DHA.
    b. A threshold relationship, with little benefit up to intakes of 250 mg/d EPA+DHA, and lowering of risk thereafter.
    c. A threshold relationship, with lowering of risk up to intakes of 250 mg/d EPA+DHA, and little additional benefit thereafter.
    d. A threshold relationship, with little benefit up to intakes of 1000 mg/d EPA+DHA, and lowering of risk thereafter.

4. There is evidence from randomized clinical trials that fish or fish oil intake lowers total mortality.
    a. True b. False

5. Which of the following is most true regarding maternal consumption of omega-3 fatty acids during gestation and nursing for neurologic development in infants?
    a. Such consumption has been shown to improve neurologic outcomes in randomized clinical trials.
    b. Such consumption has been shown to worsen neurologic outcomes in randomized clinical trials.
    c. Such consumption has been associated with better neurologic outcomes only in observational studies, not in randomized clinical trials.

6. Consumption of fish oil supplements at doses high enough to produce significant triglyceride lowering is needed to produce clinical cardiovascular benefits.
    a. True b. False

7. Which of the following fish species contains high levels of EPA+DHA (>1000 mg per typical serving)?
    a. Herring
    b. Wild salmon
    c. Farmed salmon
    d. Anchovies
    e. (a), (b), and (d)
    f. All of the above

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