

FSA Workshop hosted by the Royal Society - Risk Assessment – Social Science Insights

Case Study: Advice on fish consumption – benefits and risks

1. SUMMARY

The FSA sought advice from the Scientific Advisory Committee on Nutrition (SACN) and the Committee on Toxicity of Chemicals in Food, Consumer Products and the Environment (COT) on the benefits and risks of fish consumption, with particular reference to oily fish.

The Agency agreed the need for a review to bring together the advice on the benefits and risks of fish consumption, particularly of oily fish. The Fish Inter-Committee Subgroup (FICS) was convened to consider the combined evidence in order to allow the FSA to provide clear and helpful advice to consumers on fish consumption, in particular oily fish.

2. BACKGROUND

2.1 General nutritional advice on eating fish (1994)

The Agency's general advice on fish consumption, to consume at least two portions of fish per week, of which one should be oily, is based on the 1994 Committee on Medical Aspects of Food Policy (COMA) report¹. COMA's advice was based on a review of scientific evidence that relates fish consumption (especially oily fish and fish oils) inversely to coronary heart disease (CHD). As most people in the UK do not consume one portion of oily fish per week, COMA concluded that CHD reductions would be gained by increasing levels of consumption.

2.2 Precautionary advice (2002)

Balanced against the beneficial effect, however, are the possible detrimental effects associated with environmental contaminants found in fish such as dioxins and heavy metals. Dioxins tend to accumulate in fatty tissues so high levels can occur in oily fish. Some heavy metals, such as mercury, tend to accumulate in larger, older fish.

In May 2002, the FSA published results of a survey of imported fish and shellfish, and UK farmed fish and their products, which revealed relatively high levels of mercury in shark, swordfish and marlin. As a precautionary measure, the FSA issued immediate interim advice to the public on limiting shark, swordfish and marlin consumption. This was the first time the FSA had advised consumers to limit their intake of particular fish.

¹ Department of Health. Nutritional Aspects of Cardiovascular Disease. Report on Health and Social Subjects No 46. S.3.7.3 p:17 London: HMSO 1994.

The advice was only regarding shark, swordfish and marlin, and did not conflict with or replace the general nutritional advice on fish consumption. This general advice was re-issued alongside the specific advice.

In light of the findings, the COT was asked to assess the risks posed by consumption of fish, especially those fish with high levels of mercury, from the available information on mercury.

The presence of contaminants in the food chain, including in oily fish, is not a recent issue. The risks associated with a number of contaminants present in fish, such as dioxins and PCBs, have been assessed several times over the last 20 years by the government's independent expert advisory committees including the COT.

2.3 Further advice on the nutritional benefits of oily fish (June 2002)

In June 2002, the SACN published its advice on nutritional benefits of oily fish and fish oil consumption, concluding that the evidence to support nutritional benefits of fish consumption had strengthened since 1994 when COMA issued its dietary recommendation. In the same month, the COT considered the fish survey results and whether there were any implications for consumer safety. Advice on the nutritional benefits from SACN was provided as background for the COT's risk assessment.

2.4 Risk assessment (February 2003)

In February 2003, the COT published its risk assessment (*COT statement on methylmercury in imported fish and shellfish and UK farmed fish and their products*) and in line with this, the Agency updated the interim advice published in May 2002. A copy of the published advice is in Annex 1.

2.5 Context

Investigations into the food safety and environmental issues of fish consumption, brought to public attention through high profile media coverage, have fuelled individual and societal perceptions of risk and uncertainty further. The broader context to the FSA's review is provided in Annex 2.

3. COMMITTEES PARTICIPATING IN THE REVIEW

3.1 COT, SACN and the Fish Inter-Committee Sub Group

The Agency agreed the need for the benefits and risks of fish consumption, particularly of oily fish, to be brought together in one paper, and that this might best be done through a joint SACN and COT expert group.

The Fish Inter-Committee Subgroup (FICS) was convened to consider the combined evidence in order to allow the FSA to provide clear and helpful advice to consumers.

The aims of the FICS were to:

- bring together the nutritional considerations from SACN on fish consumption and the toxicological considerations from the COT on the contaminants in fish; and
- weigh the nutritional benefits against possible risks, and develop coherent dietary advice for the public on consumption of fish, with particular reference to oily fish.

The FICS's membership was selected from the existing COT and SACN membership, in consultation with the respective Chairs. Information on the committees and their members is set out in Annex 3.

4. THE PROCESS

FSA seeks independent scientific advice on the risks and benefits of fish consumption

First FICS meeting (June 2003)

SACN and COT undertake assessments

Final meeting of FICS (April 2004): advice agreed

FICS Report published (June 2004)

FSA Communication (June 2004)

Agendas, working papers of the FICS group and minutes of meetings were published on the SACN website as work progressed enabling anyone to submit comments if they wished.

4.1 First FICS meeting (June 2003)

FICS met to consider current advice on fish consumption, both the risks and benefits, and current dietary recommendations.

The SACN and COT secretariats prepared a joint paper which focussed on the nutritional benefits of oily fish and fish oil consumption, with particular reference to the beneficial effects on CHD risk mediated by long chain n-3 PUFA (the basis of the FSA's general dietary advice). It also discussed the potential contaminants found in fish and their toxicological considerations (dioxins and dioxin-like PCBs, methylmercury, brominated flame retardants, arsenic, lead, cadmium, and other organic and inorganic contaminants).

FICS agreed that:

- SACN members on FICS would review the COMA advice on fish and n-3 PUFA, given that the evidence supporting a nutritional benefit had strengthened since 1994.
- SACN would also consider the evidence for an effect of n-3 PUFA with regard to the early stages of life and neurodevelopment, since some studies suggested there is a beneficial effect.
- It was essential to review nutritional benefits in fetal development as it is the most sensitive life stage for the critical contaminants.

FICS welcomed the fact that:

- COT was reconsidering methylmercury in light of a 2003 evaluation by the Joint FAO/WHO Expert Committee on Food Additives and Contaminants (JECFA).

4.2 SACN and COT undertake assessments

The SACN assessment (November 2003 and March 2004)

The SACN members of the FICS reviewed the evidence on:

- fish oil and fish consumption in relation to cardiovascular disease
- the effect of fish oil and fish consumption on early human growth and cognitive function

They considered their advice in line with SACN's risk assessment framework.

It concluded that the recommendation to consume at least two portions of fish, one of which should be oily, a week, represented a minimal and achievable average population goal, it does not correspond to the level of fish consumption required for maximum nutritional benefit. SACN found that the evidence base was insufficient to conduct a quantitative risk-benefit analysis to provide advice on maximum nutritional benefits.

This was critical for determining the toxicological approach taken by the COT.

The COT assessment

The toxicology of each contaminant in fish had been reviewed by the COT as part of its normal on-going work programme. The key concerns noted for the FICS review were the contaminants dioxins and dioxin-like PCBs, methylmercury, and the brominated flame retardants.

The COT statements (including its updated advice on methylmercury), evaluations by other countries and international bodies, where available, were incorporated.

The assessment focussed on whether separate intake guidelines could be developed for different population groups. The approach supported dietary

advice to consumers, allowing individuals at a lower risk from the toxic effects of contaminants to safely consume higher quantities of oily fish, which may provide increased nutritional benefit.

4.3 Final meeting of FICS (April 2004) advice agreed

In April 2004 FICS reconvened and considered papers with detailed information on nutritional² and toxicological³ considerations and a paper which provided an overview of the issues and uncertainties for agreement⁴.

FICS weighed the nutritional benefits against the possible risks to develop coherent dietary advice on the consumption of fish, with particular reference to oily fish. It developed its advice by focussing on the benefits and risks of consumption not just for the general population as a whole, but for particular population subgroups. This enabled it to reaffirm the general advice that everybody would benefit from eating oily fish and to conclude that any issues around high consumption were most important for women of reproductive age and girls because of the possible risks to the unborn baby. Guideline intake ranges were developed for all population groups, along with advice if the designated ranges were exceeded.

4.4 FICS Report (June 2004)

A joint SACN/COT report was published in June 2004. The conclusions are attached in Annex 3.

4.5 FSA Communication (June 2004)

The FSA needed to explain complex issues in a manner that would be easily understood by members of the public. Based on the expert group's findings, the FSA provided new advice to the public, recommending for the first time.

“maximum levels at which the health benefits clearly outweigh the possible risks from dioxins”.

Advice on maximum levels was issued to different population groups. (See Annex 4). The advice was additional to the existing FSA advice (2002) on consumption of shark, swordfish and marlin, and tuna.

To maximise the impact of delivery of this new advice the press briefing of the FSA advice was simultaneously broadcast live on its website. The press briefing included a presentation by the FICS Chair and a presentation from the British Heart Foundation. Briefing on contaminants in fish, a series of Questions and Answers, a guide to differentiate between different oily and non-oily fish types and information about safe maximum consumption levels based on different groups of consumers were also published on the website.

² Paper (FICS/04/02)

³ Papers (FICS/P4/03 & FICS(SACN)/03/01)

⁴ Paper (FICS/04/04).

Agency updates advice to pregnant and breastfeeding women on eating certain fish

Monday, 17 February 2003

Ref: 2003/0330

http://www.food.gov.uk/news/pressreleases/2003/feb/tuna_mercury

The Food Standards Agency (FSA) is advising pregnant and breastfeeding women, and women who intend to become pregnant, to limit their consumption of tuna to no more than two medium-size cans or one fresh tuna steak per week. These women are also advised to avoid eating shark, swordfish and marlin.

This precautionary advice is to protect against the small risk to the unborn child, and breast-fed babies, from mercury in certain fish. This is because mercury can harm an unborn child's developing nervous system.

Dr Andrew Wadge, Acting Director of Food Safety at the Food Standards Agency said: 'It is unlikely that many pregnant or breastfeeding women eat more than the recommended amounts of these fish every week. But for any that currently do, it would be a sensible precaution to change their diets slightly. This will help protect the unborn child and the developing breastfed baby. When planning to have a baby and whilst pregnant or breastfeeding, women do need to take particular care of their health and that of their baby.'

This new advice on tuna does not apply to children or any other adults.

However, infants and children under 16 are still advised to avoid eating shark, swordfish and marlin. Shark, swordfish and marlin have levels of mercury approximately 5-7 times higher than that of canned tuna and 2-4 times higher than that of fresh tuna. The Agency previously published advice on this issue on 10 May 2002.

Fish remains an important part of a balanced diet. It is a good source of high quality protein and other nutrients; it is low in fat and oily fish can help prevent death from heart attack. Because of these benefits, fish is also an important part of a balanced diet for pregnant women.

A survey of fish carried out by the FSA in 2002 revealed relatively high levels of mercury in some types of large predatory fish. This current advice is being issued following an extensive review by the independent Committee on Toxicity (COT) on the possible risks.

During this review, the COT compared levels of mercury found in fish against World Health Organization safety guidelines for weekly intake of mercury. While the COT felt this limit was adequate to protect the general population, it was concerned that it may not be sufficiently protective for the developing fetus and breast-feeding baby because of the possible effects on the central nervous system. The COT concluded that, for these groups only, a more precautionary approach was required.

The new safety guideline for pregnant and breastfeeding women and women intending to become pregnant is almost five times lower than that for the general population.

The Food Standards Agency's general advice on fish consumption is to eat two portions of fish a week, one of which should be oily, as part of a balanced and varied diet. This advice is based on findings that this level of fish consumption resulted in a significant reduction in the risk of heart attacks. On average, people in the UK eat only three-quarters of a portion of white fish and one quarter of a portion of oily fish a week.

THE CONTEXT

Media coverage

On 7 January 2001, BBC 2 broadcast "*Warnings From The Wild: The Price of Salmon*", which set out to investigate the effects of salmon farming, both from the point of view of environmental impact and of food safety issues. In relation to the latter, the FSA was criticised for not giving advice on possible harmful effects of consuming more than the recommended intake of one portion of oily fish per week.

The Agency's advice throughout this and subsequent media stories was that the health benefits of eating fish (at least two portions a week, of which one should be oily) would outweigh the possible risk from contaminants such as dioxins and PCBs.

The majority of the UK population does not consume fish, particularly oily fish, in the recommended amounts. On average, population levels of oily fish consumption are about a third of a portion a week. Of those consumers that do eat fish, an average adult fish consumer eats about one portion of oily fish per week (130g/week).

An important consideration was therefore the level of fish consumption, both for beneficial effects as well as risks. The Agency wanted the expert groups to examine whether advice could be given on the maximum level of fish consumption where nutritional benefits would outweigh the risks from contaminants.

Salmon study in Science magazine

In January 2004 before the FICS had finished its deliberations, further media interest and concern over the safety of consuming fish (particularly farmed salmon) arose, when the media reported on the published research findings of dioxins and PCBs in salmon in the magazine 'Science'. The American researchers who carried out the study had advised against eating farmed salmon, except on a very occasional basis. The COT did not pay particular attention to this work as the levels of dioxins reported were similar to those found in FSA surveys of salmon and lower than those in some other widely consumed oily fish such as herring.

At the time of the publication, the FSA issued a press release referring to the findings and advising consumers that the study results provided no new safety concerns. The Agency noted that the levels of dioxins and PCBs found were in line with those that had previously been found by the FSA in its surveys and were within up-to-date safety levels set by the World Health Organisation and the European Commission. This applies to all the salmon: farmed as well as wild, Scottish as well as imported.

The Agency repeated its general advice that the known benefits of eating one portion of oily fish per week outweigh the possible risks and provided Q&A material on the issues arising from the study report. A link to the FICS website, containing meeting agendas, minutes and papers, was also provided.

Sustainability

DEFRA is the lead government department on the sustainability of fish stocks, together with its devolved equivalents. The Agency was in informal contact with DEFRA about its advice and the sustainability of fish stocks.

The Agency's advice is based on nutritional and safety considerations. Other considerations such as the sustainability of fish stocks were not taken into account at the time that the Agency's advice was formulated. However, since then the Agency's Board has agreed (October 2004) that the Agency will take sustainability into account when formulating policy and advice. The Agency is working towards implementing this policy, which it expects to start to roll out from December 2005.

DEFRA notes that the likelihood of sustainability risk associated with the Agency's advice resulting in significant fish consumption would be offset and mitigated by the effective enforcement of fishing quotas and the growth of imports from sustainable sources and the development of fish farming technologies. Furthermore, the Agency aims to encourage the consumption of oily fish. Oily fish are generally not subject to quotas, e.g. salmon, trout, mackerel, sardines, pilchards and herring.

It is DEFRA policy that fisheries are used sustainably.

Fish Inter-Committee Sub-Group (FICS)

The FSA sought advice from SACN and the COT on the benefits and risks of fish consumption to particular reference to oily fish. The FICS was convened to consider the matter.

Papers

Papers relating to FICS available at

http://www.sacn.gov.uk/meetings/subgroups/fish/2004_04_14.html

including minutes of meetings, agendas etc.

FICS Chair

Professor Alan Jackson (SACN Chair)
Professor of Human Nutrition, School of Medicine
University of Southampton

Members

Professor Ieuan Hughes (COT Chair)
Professor and Head of Department of Paediatrics
University of Cambridge

Professor J. Kevin Chipman (COT)
Professor of Cell Toxicology
University of Birmingham

Professor Ian Rowland (COT)
Professor of Human Nutrition and
Director of Northern Ireland Centre for Diet and Health (NICHE)
University of Ulster

Professor Christine Williams (SACN)
Professor of Human Nutrition
University of Reading

Professor Timothy Key (SACN)
University of Oxford
Cancer Research UK Epidemiology
Radcliffe Infirmary

Secretariat

Food Standards Agency
Dr. Alison Tedstone (SACN – Scientific)
Dr. Diane Benford (COT – Scientific)
Dr. Peter Sanderson (SACN – Scientific)
Mr. Jeff Alder (SACN – Administrative)

Department of Health
Dr. Sheela Reddy (SACN - Scientific)

Scientific Advisory Committee on Nutrition

The Scientific Advisory Committee on Nutrition (SACN) is an advisory committee of independent experts that provides advice to the Food Standards Agency and Department of Health as well as other Government Agencies and Departments. Its remit includes matters concerning nutrient content of individual foods, advice on diet and the nutritional status of people.

Members are appointed as independent scientific experts on the basis of their specific skills and knowledge, there are also two members to represent consumers

The SACN is supported in its work by a joint secretariat provided by the Department of Health and Food Standards Agency. The secretariat has scientific expertise that enables them to provide members with comprehensive background information and briefing papers to inform the decision-making processes of the Committee.

SACN has a dedicated website at <http://www.sacn.gov.uk>.

Agenda and papers are made available on this site 2 weeks prior to meetings and holds one open meeting each summer to give the public an opportunity to see how the committee works.

Terms of reference

To advise the CMOs or the Food Standards Agency, Government, on scientific aspects of nutrition and health with specific reference to:

- Nutrient content of individual foods and advice on diet as a whole including the definition of a balanced diet, and the nutritional status of people;
- Monitoring and surveillance of the above;
- Nutritional issues which affect wider public health policy issues including conditions where nutritional status is one of a number of risk factors (e.g. cardiovascular disease, cancer, osteoporosis and/or obesity);
- Nutrition of vulnerable groups (e.g. infants and the elderly) and inequality issues;
- Research requirements for the above.

Membership

Chair

Prof Alan Jackson
Professor of Human Nutrition
University of Southampton

Members

Professor Peter Aggett
Head of School, Lancashire School of
Health and Medicine,
Professor Child Health
University of Central Lancashire

Professor Annie Anderson
Professor of Food Choice
Centre for Public Health Nutrition Research
University of Dundee

Professor Sheila Bingham
Deputy Director
Medical Research Council's Dunn Human Nutrition Unit
Cambridge

Professor John Cummings
Professor of Experimental Gastroenterology
Department of Pathology and Neuroscience
University of Dundee

Miss Gill Fine
Head of Food and Health
Sainsburys

Mrs. Christine Gratus
Retired Director and International Vice-President of
J Walter Thompson, Advertising Agency (lay member)

Dr. Timothy Key
Reader in Epidemiology, University
Epidemiology Unit
Radcliffe Infirmary
Oxford

Professor Peter Kopelman
Professor of Clinical Medicine,
Vice-Principal/Deputy Warden (Education)
Barts and the London
Queen Mary's School of Medicine and Dentistry
University of London

Dr. Ann Prentice
Director of Medical Research Council
Human Nutrition Research
Cambridge

Professor of Emeritus Andrew Rugg-Gunn
University Clinical Professor
Newcastle University Dental School

Dr. Anita Thomas
Associate Medical Director
Consultant Physician in General (Internal) and Geriatric
Medicine, Derriford Hospital, Plymouth Hospitals
NHS Trust Clinical Sub Dean, Peninsula Medical School
Universities of Exeter and Plymouth

Mrs. Stella Walsh
Senior Lecturer
Leeds Metropolitan University

Dr. Anthony Williams
Senior Lecturer and Consultant in Neonatal Paediatrics
St George's Hospital
London

Professor Christine Williams
Professor of Human Nutrition,

University of Reading

Observers

Mr. Tom Murray	Food Standards Agency
Ms. Imogen Sharp	Department of Health
Dr. Lesley Wilkie	Scottish Executive, Health Executive
Mrs. Maureen Howell	The Welsh Assembly, Health Promotion Division
Dr. Naresh Chada	Department of Health, Social Services and Public Safety, Northern Ireland

Secretariat

The SACN is supported in its work by a joint secretariat provided by the Department of Health and Food Standards Agency.

The Committee on Toxicity (COT)

The COT is an advisory committee of independent experts that provides advice to the Food Standards Agency, the Department of Health and other Government Departments and Agencies on matters concerning the toxicity of chemicals in food, consumer products and the environment.

Most of its members are appointed as independent scientific and medical experts on the basis of their special skills and knowledge. The one exception is that there are two public interest members of the committee who are appointed for their knowledge of consumer and other matters.

The COT is supported in its work by a secretariat provided by the Food Standards Agency. The secretariat has scientific expertise that enables them to provide members with comprehensive background information and briefing papers that inform the decision-making processes of the Committee.

Information on COT meetings, including agendas, minutes and papers are found on the FSA website at <http://www.food.gov.uk/science/ouradvisors/toxicity/>

Terms of reference

To advise at the request of:

- Food Standards Agency
- Department of Health
- Department of the Environment, Food and Rural Affairs
- Department of Transport
- Department of Trade and Industry
- Health and Safety Executive
- Medicines and Healthcare products Regulatory Agency
- Home Office
- Scottish Executive
- Welsh Assembly Government
- Northern Ireland Executive
- Other Government Departments
- Pesticides Safety Directorate
- Veterinary Medicines Directorate

To assess and advise on the toxic risk to man of substances which are:
used or proposed to be used as food additives, or used in such a way that they might contaminate food through their use or natural occurrence in agriculture, including horticulture and veterinary practice or in the distribution, storage, preparation, processing or packaging of food; used or proposed to be used or manufactured or produced in industry, agriculture, food storage or any other workplace;

- a. used or proposed to be used as household goods or toilet goods and preparations;
- b. used or proposed to be used as drugs, when advice is requested by the Medicines and Healthcare Products Regulatory Agency;
- c. used or proposed to be used or disposed of in such a way as to result in pollution of the environment.

To advise on important general principles or new scientific discoveries in connection with toxic risks, to co-ordinate with other bodies concerned with the assessment of toxic risks and to present recommendations for toxicity testing.

Membership of COT

Chair

Professor Ieuan Hughes
Professor and Head of Department of Paediatrics
University of Cambridge

Members

Dr. David Bell
Reader in Molecular Toxicology
University of Nottingham

Professor Alan Boobis
Professor of Biochemical Pharmacology
Imperial College

Dr. Philip Carthew
Senior Pathologist
SEAC Toxicologist Unit
Unilever

Dr. Rebecca Dearman
Head of Immunology
Syngenta

Dr. Joy Hinson
Reader in Molecular and Cellular Endocrinology
Barts and the London Queen Mary School of Medicine and Dentistry
University of London

Dr. Peter Jackson
Reader in Clinical Pharmacology and Therapeutics
University of Sheffield

Professor Joseph Lunec
Director of Clinical Pathology
University of Leicester

Professor David Ray
Head of Applied Neuroscience Group
University of Nottingham Medical School

Professor Ian Rowland
Professor of Human Nutrition and
Director of Northern Ireland Centre
for Diet and Health (NICHE)
University of Ulster

Dr. Lesley Rushton
Head of Epidemiology
Medical Research Council
Institute for the Environment and Health
University of Leicester

Dr. Lesley Stanley
Head of Operations
CXR Biosciences

Professor Stephen Strobel
Director of Post Graduate Clinical Education
Peninsula Medical School
Plymouth

Miss Alison Ward
Public Interest Representative

Mrs. Alma Williams
Public Interest Representative

Secretariat
Food Standards Agency

Conclusions of the Fish Inter-Committee Subgroup

- The majority of the UK population does not consume enough fish, particularly oily fish, and should be encouraged to increase consumption. The Inter-Committee Subgroup endorsed the COMA population guideline recommendation that people should eat at least two portions of fish a week, of which one should be oily. Consumption of this amount would probably confer significant public health benefits to the UK population in terms of reducing CVD risk. There may also be beneficial effects on fetal development.
- The Inter-Committee Subgroup stated that this recommendation should also apply to pregnant and lactating women, subject to the restrictions on certain fish – marlin, swordfish, shark and, to a lesser extent, tuna – due to methylmercury contamination.
- With regard to high levels of oily fish consumption and the dioxins and dioxin-like PCB contaminants therein, the evidence base is insufficient to conduct a quantitative risk-benefit analysis. Separate intake guidelines were, therefore, developed for different population groups.
- The Inter-Committee Subgroup noted that it might be beneficial for some subgroups to consume more than the guideline recommendation, but was unable to identify a precise level. It was decided that a guideline range for oily fish consumption, based on the nutritional and toxicological considerations (levels at which there would be clear benefits without undue risk), should be recommended.
- The guideline ranges for oily fish consumption were for:
- Women of reproductive age and girls should aim to consume within the range of one to two portions of oily fish a week, based on maintaining consumption of dioxins and dioxin-like PCBs below the TDI of 2 pg WHO-TEQ/kg bodyweight per day.
- Women past reproductive age, boys and men should aim to consume within the range of one to four portions of oily fish a week, based on maintaining consumption of dioxins and dioxin-like PCBs below the guideline value of 8 pg WHO-TEQ/kg bodyweight per day.
- It was noted that consumers would need to be provided with information on the levels of dioxins and dioxin-like PCBs present in different species of commonly consumed fish. This would enable consumers to make informed choices on the number and type of fish consumed per week.
- The Inter-Committee Subgroup emphasised that exceeding the designated ranges over the short-term was not deleterious, but long-term exceedances could have deleterious effects in sensitive individuals. In the case of pregnant and lactating women, for example, a woman who had not consistently exceeded the guideline range previously, could increase her oily fish consumption throughout pregnancy and lactation above the guideline range (e.g. to 2-3 portions of oily fish a week) without detrimental effects.

FSA issues new advice on oily fish consumption

Thursday, 24 June 2004

Ref: R913 - 44

Source: FSA Website

<http://www.food.gov.uk/news/newsarchive/2004/jun/oilyfishwebcast>

The FSA has today issued new advice on eating oily fish and, for the first time, is able to recommend maximum levels at which the health benefits of preventing heart disease clearly outweigh the possible risks from dioxins.

Based on independent expert advice the Agency recommends that men and boys, and women past child bearing age, can eat up to four portions of oily fish a week. Women of child bearing age, including pregnant and breastfeeding women, and girls, can eat up to two portions of oily fish a week.

Long-standing public health advice continues to be that people should eat at least two portions of fish a week, and that one should be oily. There is good evidence that eating oily fish reduces the risk of death from heart disease, which killed 117,500 people in 2002. On average, people in the UK eat a third of a portion of oily fish a week. Seven out of ten don't eat any at all.

Because some oily fish contain chemicals such as dioxins and PCBs, which accumulate over time in the body and could have adverse health effects if consumed over long periods at high levels, the FSA asked its expert advisers in June 2003 to examine the evidence on the risks and benefits of eating oily fish. The levels of dioxins in oily fish vary and some types, such as herring, tend to have higher levels than others, such as trout. The experts based their recommendations on people eating different types of oily fish.

Dioxins and PCBs are environmental pollutants and people accumulate them through eating foods containing fat such as milk, meat, fish and eggs. Exposure to dioxins in foods has fallen by around 70% over the last 10 years and continues to decline following the strict environmental controls that came into effect in 1992.

FSA Chair Sir John Krebs said: 'Eating oily fish is a simple way for people to reduce the risks of heart disease. But most people don't eat any. Eating just one portion of oily fish a week has clear cut health benefits. This extensive review of the scientific evidence has reduced the uncertainty about how many oily fish people can safely eat without the benefits being outweighed by the risks.

'I would like to thank Professor Jackson and the members of his expert group for their hard work and rigorous examination of the scientific evidence, which has allowed the Agency to issue this new advice.'

Alan Jackson, Professor of Human Nutrition at the School of Medicine, University of Southampton, and Chair of the expert group said: 'It was a challenge to weigh up both risks and benefits. We tried to focus in on exactly what were the benefits and risks, not just for the population as a whole, but for any particular groups. This enabled us to reaffirm the advice that everybody would benefit from eating oily fish and to conclude that any issues around high consumption were specific to women

because of the possible risks to the unborn baby.'

Eating oily fish – FSA advice

- Men and boys, and women past childbearing age or who cannot or are not intending to have children, can eat up to four portions of oily fish a week before the possible risks might start to outweigh the known health benefits.
- Girls and women who may become pregnant at some point in their lives can eat between one and two portions of oily fish a week to get the known health benefits whilst limiting any possible effects on any children that they may have in the future.
- Pregnant and breast feeding women can also eat between one and two portions of oily fish a week, and should do so not just for the health benefits to them but because oily fish also helps the neurological development of their babies. (The Agency already advises pregnant women, and women intending to become pregnant to avoid shark, marlin and swordfish and not to eat large amounts of tuna.)

Occasionally eating more than the amounts of oily fish advised by the Agency will not be harmful. Possible risks from chemicals such as dioxins are not immediate: they develop as the chemicals accumulate in the body over a long period of time.