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News

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FDA and EPA Announce the Revised Consumer Advisory on Methylmercury in Fish

The Food and Drug Administration (FDA) and the Environmental Protection Agency (EPA) announced today their joint consumer advisory on methylmercury in fish and shellfish for reducing the exposure to high levels of mercury in women who may become pregnant, pregnant women, nursing mothers, and young children. This unifies advice from both FDA and EPA and supersedes FDA's and EPA's 2001 advisories.

The FDA and EPA want to emphasize the benefits of eating fish - consumers should know that fish and shellfish can be important parts of a healthy and balanced diet. They are good sources of high quality protein and other essential nutrients; however, as a matter of prudence, women might wish to modify the amount and type of fish they consume if they are planning to become pregnant, pregnant, nursing, or feeding a young child. By following these three recommendations for selecting and eating fish or shellfish, women will receive the benefits of eating fish and shellfish and be confident that they have reduced their exposure to the harmful effects of mercury.

1. Do not eat Shark, Swordfish, King Mackerel, or Tilefish because they contain high levels of mercury.

2. Eat up to 12 ounces (two average meals) a week of a variety of fish and shellfish that are lower in mercury.

- Five of the most commonly eaten fish that are low in mercury are shrimp, canned light tuna, salmon,pollock, and catfish.
- Another commonly eaten fish, albacore ("white") tuna has more mercury than canned light tuna. So, when choosing your two meals of fish and shellfish, you may eat up to six ounces (one average meal) of albacore tuna per week.

3. Check local advisories about the safety of fish caught by family and friends in your local lakes, rivers and coastal areas. If no advice is available, eat up to six ounces (one average meal) per week of fish you catch from local waters, but don't consume any other fish during that week.

Follow these same recommendations when feeding fish and shellfish to your young child, but serve smaller portions.

"This revised advisory is a culmination of months of hard work by both agencies," said FDA Deputy Commissioner Lester M. Crawford, D.V.M., Ph.D. "By following this advice, we're

confident that women and young children can safely include fish as an important part of a healthy diet."

In July 2002, FDA's Food Advisory Committee met and made several recommendations to FDA on how to revise its 2001 consumer advisory on methylmercury in fish with special concern for pregnant women, nursing mothers, women who may become pregnant, and young children. One recommendation was for FDA and EPA to coordinate mercury advisories on commercial fish and recreational fish and say something specific about canned tuna.

In December 2003, FDA's Food Advisory Committee met again to be updated on the progress FDA had made in responding to their recommendations. At that time the committee recommended listing in the advisory fish that are low in mercury. Since the December 2003 meeting and the period of time between the two meetings, FDA and EPA have been working together toward the goal of providing an updated consumer advisory in response to the recommendations from the Food Advisory Committee. This work has included conducting ongoing interagency meetings, conducting field assignments which provided additional testing of mercury in fish for which there were low sample sizes, sampling over 3400 cans of tuna, undertaking exposure assessments using these new data and conducting focus group testing on the revised advisory.

"Our guidance allows consumers to make educated dietary choices for fish they catch or buy," said EPA's Acting Assistant Administrator for the Office of Water Benjamin Grumbles. "With a few simple adjustments, consumers can continue to enjoy these foods in a manner that is healthy and beneficial."

As part of announcing the revised consumer advisory, FDA and EPA plan to launch a comprehensive outreach and educational campaign. Additional information can be found at: www.cfsan.fda.gov or the EPA website at www.epa.gov/ost/fish.

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FDA-EPA Advisory: What You Need to Know about Mercury in Fish and Shellfish (March 2004)
Mercury Levels in Commercial Fish and Shellfish (March 2004)
Mercury in Fish: FDA Monitoring Program (1990-2003)
FDA-EPA Backgrounder (March 19, 2004)

U.S. Department of Health and Human Services
and
U.S. Environmental Protection Agency

March 2004 EPA-823-R-04-005

What You Need to Know About Mercury in Fish and Shellfish

2004 EPA and FDA Advice For:
Women Who Might Become Pregnant
Woman Who are Pregnant
Nursing Mothers
Young Children

Fish and shellfish are an important part of a healthy diet. Fish and shellfish contain high-quality protein and other essential nutrients, are low in saturated fat, and contain omega-3 fatty acids. A well-balanced diet that includes a variety of fish and shellfish can contribute to heart health and children's proper growth and development. So, women and young children in particular should include fish or shellfish in their diets due to the many nutritional benefits.

However, nearly all fish and shellfish contain traces of mercury. For most people, the risk from mercury by eating fish and shellfish is not a health concern. Yet, some fish and shellfish contain higher levels of mercury that may harm an unborn baby or young child's developing nervous system. The risks from mercury in fish and shellfish depend on the amount of fish and shellfish eaten and the levels of mercury in the fish and shellfish. Therefore, the Food and Drug Administration (FDA) and the Environmental Protection Agency (EPA) are advising women who may become pregnant, pregnant women, nursing mothers, and young children to avoid some types of fish and eat fish and shellfish that are lower in mercury.

By following these 3 recommendations for selecting and eating fish or shellfish, women and young children will receive the benefits of eating fish and shellfish and be confident that they have reduced their exposure to the harmful effects of mercury.

1. Do not eat Shark, Swordfish, King Mackerel, or Tilefish because they contain high levels of mercury.

2. Eat up to 12 ounces (2 average meals) a week of a variety of fish and shellfish that are lower in mercury.

    - Five of the most commonly eaten fish that are low in mercury are shrimp, canned light tuna, salmon, pollock, and catfish.

    - Another commonly eaten fish, albacore ("white") tuna has more mercury than canned light tuna. So, when choosing your two meals of fish and shellfish, you may eat up to 6 ounces (one average meal) of albacore tuna per week.

3. Check local advisories about the safety of fish caught by family and friends in your local lakes, rivers, and coastal areas. If no advice is available, eat up to 6 ounces (one average meal) per week of fish you catch from local waters, but don't consume any other fish during that week.

Follow these same recommendations when feeding fish and shellfish to your young child, but serve smaller portions.

Frequently Asked Questions about Mercury in Fish and Shellfish:

1. "What is mercury and methylmercury?"
   Mercury occurs naturally in the environment and can also be released into the air through industrial pollution. Mercury falls from the air and can accumulate in streams and oceans and is turned into methylmercury in the water. It is this type of mercury that can be harmful to your unborn baby and young child. Fish absorb the methylmercury as they feed in these waters and so it builds up in them. It builds up more in some types of fish and shellfish than others, depending on what the fish eat, which is why the levels vary.

2. "I'm a woman who could have children but I'm not pregnant - so why should I be concerned about methylmercury?"
   If you regularly eat types of fish that are high in methylmercury, it can accumulate in your blood stream over time. Methylmercury is removed from the body naturally, but it may take over a year for the levels to drop significantly. Thus, it may be present in a woman even before she becomes pregnant. This is the reason why women who are trying to become pregnant should also avoid eating certain types of fish.

3. "Is there methylmercury in all fish and shellfish?"
   Nearly all fish and shellfish contain traces of methylmercury. However, larger fish that have lived longer have the highest levels of methylmercury because they've had more time to accumulate it. These large fish (swordfish, shark, king mackerel and tilefish) pose the greatest risk. Other types of fish and shellfish may be eaten in the amounts recommended by FDA and EPA.

4. "I don't see the fish I eat in the advisory. What should I do?"
   If you want more information about the levels in the various types of fish you eat, see the FDA food safety website www.cfsan.fda.gov/~frf/sea-mehg.html or the EPA website at www.epa.gov/ost/fish.

5. "What about fish sticks and fast food sandwiches?"
   Fish sticks and "fast-food" sandwiches are commonly made from fish that are low in mercury.

6. "The advice about canned tuna is in the advisory, but what's the advice about tuna steaks?"
   Because tuna steak generally contains higher levels of mercury than canned light tuna, when choosing your two meals of fish and shellfish, you may eat up to 6 ounces (one average meal) of tuna steak per week.

7. "What if I eat more than the recommended amount of fish and shellfish in a week?"
   One week's consumption of fish does not change the level of methylmercury in the body much at all. If you eat a lot of fish one week, you can cut back for the next week or two. Just make sure you average the recommended amount per week.

8. "Where do I get information about the safety of fish caught recreationally by family or friends?"
   Before you go fishing, check your Fishing Regulations Booklet for information about recreationally caught fish. You can also contact your local health department for information about local advisories. You need to check local advisories because some kinds of fish and shellfish caught in your local waters may have higher or much lower than average levels of mercury. This depends on the levels of mercury in the water in

which the fish are caught. Those fish with much lower levels may be eaten more frequently and in larger amounts.

For further information about the risks of mercury in fish and shellfish call the U.S. Food and Drug Administration's food information line toll-free at 1-888-SAFEFOOD or visit FDA's Food Safety website www.cfsan.fda.gov/seafood1.html

For further information about the safety of locally caught fish and shellfish, visit the Environmental Protection Agency's Fish Advisory website www.epa.gov/ost/fish or contact your State or Local Health Department. A list of state or local health department contacts is available at www.epa.gov/ost/fish. Click on Federal, State, and Tribal Contacts. For information on EPA's actions to control mercury, visit EPA's mercury website at www.epa.gov/mercury.

This document is available on the web at http://www.cfsan.fda.gov/~dms/admehg3.html.

Seafood Information and Resources

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FDA/Center for Food Safety & Applied Nutrition
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魚介類中の水銀に関し知るべきこと（仮訳）

妊娠する可能性のある女性(women who might become pregnant)、妊婦、　授乳中の母親(nursing mothers)、幼児(young children)を対象とした 2004 年 EPA ／ FDA 勧告

魚介類は、健康的な食事を構成するものとして重要である。魚介類は、高質なタンパク質及びその他の必須栄養素を含み、飽和脂肪酸が少なく、オメガ３脂肪酸を含んでいる。多種類の魚介類を含むバランスの取れた食事は、心臓の健康、子供の正常な成長及び発達に貢献することができる。よって、栄養上非常に有益であるため、特に女性や幼児の食事には魚介類を含めるべきである。

しかしながら、殆ど全ての魚介類は微量の水銀を含んでいる。大抵の人にとっては、魚介類を食することによる水銀のリスクは、健康上の懸念とはならない。しかし、幾つかの魚介類は、胎児や幼児の神経系の発達を害しかねない程高い濃度の水銀を含んでいる。魚介類中の水銀によるリスクは、その摂食量及び含有する水銀濃度によって異なる。このため、食品医薬品庁(FDA)と環境保護庁(EPA)は、妊娠する可能性のある女性、妊婦、授乳中の母親及び幼児を対象に、ある種の魚を避け、水銀が少ない魚介類を食するよう、助言している。

魚介類の選択又は摂食の際に以下の３つの勧告(recommendations)に従うことにより、女性及び幼児は、魚介類を食することの効果を享受することとなり、また、水銀の有害な影響を受ける機会を削減すことができるため安心である。

１．高濃度の水銀を含むサメ(Shark)、メカジキ(Swordfish)、キングマッケレル(King　Mackerel)[注1]またはタイルフィッシュ(Tilefish)[注2]を食べないこと。

２．水銀が少ない多種類の魚介類は、１週間に最大 12 オンス((340g：平均 2 食)まで食べても差し支えない。

○　水銀含有量の少なく最も一般的に食される魚介類は、エビ、缶詰のライトツナ[注3](canned light tuna)、サケ、タラ(pollock)、及びナマズの５種類である。

○　この他でよく食されているビンナガマグロ(albacore("white")　tuna)は、缶詰のライトツナよりも多くの水銀を含有している。このため、１週間に２回魚介類ををを食する際には、ビンナガマグロは１週間に最大６オンス（平均的１食分）まで食しても差し支えない。

３．地元の湖、河川及び沿岸部で、家族や友人により捕獲した魚の安全性に関しては、その地域の勧告を確認すること。勧告が得られない場合には、地元の水域で捕獲した魚は、１週間当たりの最大摂食量は６オンス（平均１食）までとし、その場合その週は他の魚は食べないこと。

幼児に魚介類をに与える際にも、これらの勧告に従い、分量は更に減らすこと。

魚介類中の水銀に関する頻度の高い質問

１．水銀、メチル水銀とは何か？

水銀は環境中に自然に存在し、また、工業汚染を通じて大気中に放出されることもありうる。大気から降下し、小川や海に蓄積する場合があり、水中でメチル水銀に変換される。これがすなわち、、胎児や幼児に害を及ぼす可能性がある水銀の形態である。魚は、これらの水域で餌を食べることで、メチル水銀を吸収し、体内に蓄積する。餌次第で、いくつかの魚種は、他の魚種からより高濃度の水銀を蓄積するが、このことが水銀濃度が多様になる理由である。

２．出産する可能性がある女性であるが現在は妊婦していない。何故、メチル水銀に関して心配するべきなのか？。

メチル水銀を多く含有する魚を定期的に食べると、長い間には血流中に蓄積する可能性がある。メチル水銀は、自然に体外に排出されるが、その濃度が有意に(significnatly)低減するには１年以上を要する可能性がある。このように、妊娠前であっても体内に存在する恐れがあり、このことが、出産を計画している女性は、特定の種類の魚については摂食を避けるべきある理由である。

３．全ての魚介類にメチル水銀が存在するのか？

ほとんど全ての魚介類は微量のメチル水銀を含有している。しかしながら、寿命の長い大型の魚はメチル水銀の含有量が最も多い。それらの魚は、水銀を蓄積する時間が長いからである。これらの大型の魚（メカジキ、サメ、キングマッケレル及びタイルフィッシュ）は最大リスクを呈する。その他の魚介類については、FDA および EPA によって勧告された量を食することは差し支えない。

４．勧告の中に私が通常食べるている魚が見あたらない。どうすべきか？

通常的に食べている多種類の魚に含まれる濃度について、さらに情報を得たい場合には、FDA の食品安全ウェブサイト www.cfsan.fda.gov/~frf/sea-mehg.html　または、EPA のウェブサイト www.epa.gov/ost/fish を参照されたい

５．フィシュスティックやファストフードのサンドウィッチについてはどうか？。

フィッシュスティックとファストフードのサンドウィッチは、通常、水銀濃度が低い魚を使用している。

６．マグロ缶詰についてのアドバイスが勧告の中にあるが、マグロステーキについての勧告はどういったものか？

一般的に、マグロステーキは、ライトツナ缶詰より水銀濃度が高いので、魚介類を２食選択する場合は、マグロステーキは１週間当たり最大６オンス（平均的１食分）なら食べるても差し支えない。

７．１週間に勧告された量以上の魚介類を食べたらどうなるのか？

１週間当たりの魚の消費量が、体内のメチル水銀の濃度を大きく変えるものではない。１週間に大量の魚を食べるのであれば、その後１－２週間は魚の摂食を制限すればよい。１週間当たりの平均値が勧告された量となるよう配慮することが重要である。。

８．家族や友達が遊魚で捕獲した魚の安全性についての情報をどこで得るのか？

魚釣りに行く前に、遊漁で捕獲した魚についての情報は遊漁規則集(fishing regulations booklet)を確認すること。地域の勧告に関する情報は、地域の保健／衛生担当省に照会すればよい。地域の水域で捕獲した魚介類は種類によってはは、平均的な濃度に比べ高い場合または低い場合があるため、地域の勧告を確認する必要がある。これは、捕獲された水域の水銀濃度のよって依存する。濃度が非常に低い魚は、より頻繁にかつ大量に食べても差し支えない。

魚介類中の水銀のリスクについての更なる情報については、料金無料の米国 FDA 食品情報回線（1-888-SAFEFOOD）に電話するかまたは FDA 食品安全ウェブサイト（www.cfsan.fda.gov/seafood1.html）を検索されたい。

地域で採捕される魚介類の安全性についての更なる情報については、EPA の魚類の勧告ウェブサイト（www.epa.gov/ost/fish）を検索するかまたは州または地域の保健省に照会されたい。州または地域の保健省のリストは www.epa.gov/ost/fish で入手できる。連邦、州及び部族の連絡先をクリックすること。水銀規制に関する EPA の活動に関する情報は、EPA の水銀ウェブサイト（www.epa.gov/mercury）を検索されたい。

訳者注

注１：King Mackerel は、サバ科の大型魚で、サワラに似る。

注２：Tilefish は、米国沿岸で捕れるアマダイに似ているが、深海性で大型。日本のアマダイとは違う。

注３：light tuna は「キハダマグロ」のこと。white tuna は「ビンナガマグロ」のこと

U.S. Department of Health and Human Services
and
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Mercury Levels in Commercial Fish and Shellfish

Return to Advisory on Mercury in Seafood

See also Mercury in Fish: FDA Monitoring Program

Table 1. Fish and Shellfish With Highest Levels of Mercury						
SPECIES	MERCURY CONCENTRATION (PPM)				NO. OF SAMPLES	SOURCE OF DATA
	MEAN	MEDIAN	MIN	MAX		
MACKEREL KING	0.73	NA	0.23	1.67	213	GULF OF MEX ICO REPORT 2 000
SHARK	0.99	0.83	ND	4.54	351	FDA SURVEY 1990-02
SWORDFISH	0.97	0.86	0.10	3.22	605	FDA SURVEY 1990-02
TILEFISH (Gulf of Mexico)	1.45	NA	0.65	3.73	60	NMFS REPORT 1978

Table 2. Fish and Shellfish With Lower Levels of Mercury						
SPECIES	MERCURY CONCENTRATION (PPM)				NO. OF SAMPLES	SOURCE OF DATA
	MEAN	MEDIAN	MIN	MAX		
ANCHOVIES	0.04	NA	ND	0.34	40	NMFS REPORT 1978
BUTTERFISH	0.06	NA	ND	0.36	89	NMFS REPORT 1978
CATFISH	0.05	ND	ND	0.31	22	FDA SURVEY 1990-02
CLAMS	ND	ND	ND	ND	6	FDA SURVEY 1990-02
COD	0.11	0.10	ND	0.42	20	FDA SURVEY 1990-03
CRAB [3]	0.06	ND	ND	0.61	59	FDA SURVEY 1990-02
CRAWFISH	0.03	0.03	ND	0.05	21	FDA SURVEY 2002-03
CROAKER (Atlantic)	0.05	0.05	0.01	0.10	21	FDA SURVEY 1990-03
FLATFISH [2]	0.05	0.04	ND	0.18	22	FDA SURVEY 1990-02
HADDOCK	0.03	0.04	ND	0.04	4	FDA SURVEY 1990-02
HAKE	0.01	ND	ND	0.05	9	FDA SURVEY 1990-02
HERRING	0.04	NA	ND	0.14	38	NMFS REPORT 1978
JACKSMELT	0.11	0.06	0.04	0.50	16	FDA SURVEY 1990-02
LOBSTER (Spiny)	0.09	0.14	ND	0.27	9	FDA SURVEY 1990-02
MACKEREL ATLANTIC (N. Atlantic)	0.05	NA	0.02	0.16	80	NMFS REPORT 1978
MACKEREL CHUB (Pacific)	0.09	NA	0.03	0.19	30	NMFS REPORT 1978
MULLET	0.05	NA	ND	0.13	191	NMFS REPORT 1978

SPECIES	MERCURY CONCENTRATION (PPM)				NO. OF SAMPLES	SOURCE OF DATA
	MEAN	MEDIAN	MIN	MAX		
OYSTERS	ND	ND	ND	0.25	34	FDA SURVEY 1990-02
PERCH OCEAN	ND	ND	ND	0.03	6	FDA SURVEY 1990-02
PICKEREL	ND	ND	ND	0.06	4	FDA SURVEY 1990-02
POLLOCK	0.06	ND	ND	0.78	37	FDA SURVEY 1990-02
SALMON (Canned)	ND	ND	ND	ND	23	FDA SURVEY 1990-02
SALMON (Fresh/Frozen)	0.01	ND	ND	0.19	34	FDA SURVEY 1990-02
SARDINE	0.02	0.01	ND	0.04	22	FDA SURVEY 2002-03
SCALLOPS	0.05	NA	ND	0.22	66	NMFS REPORT 1978
SHAD (American)	0.07	NA	ND	0.22	59	NMFS REPORT 1978
SHRIMP	ND	ND	ND	0.05	24	FDA SURVEY 1990-02
SQUID	0.07	NA	ND	0.40	200	NMFS REPORT 1978
TILAPIA	0.01	ND	ND	0.07	9	FDA SURVEY 1990-02
TROUT (Freshwater)	0.03	0.02	ND	0.13	17	FDA SURVEY 2002-03
TUNA (Canned, Light)	0.12	0.08	ND	0.85	131	FDA SURVEY 1990-03
WHITEFISH	0.07	0.05	ND	0.31	25	FDA SURVEY 1990-03
WHITING	ND	ND	ND	ND	2	FDA SURVEY 1990-02

Table 3. Mercury Levels of Other Fish and Shellfish						
SPECIES	MERCURY CONCENTRATION (PPM)				NO. OF SAMPLES	SOURCE OF DATA
	MEAN	MEDIAN	MIN	MAX		
BASS (Saltwater)[1]	0.27	0.15	0.06	0.96	35	FDA SURVEY 1990-03
BLUEFISH	0.31	0.30	0.14	0.63	22	FDA SURVEY 2002-03
BUFFALOFISH	0.19	0.14	0.05	0.43	4	FDA SURVEY 1990-02
CARP	0.14	0.14	0.01	0.27	2	FDA SURVEY 1990-02
CROAKER WHITE (Pacific)	0.29	0.28	0.18	0.41	15	FDA SURVEY 1990-03
GROUPER	0.55	0.44	0.07	1.21	22	FDA SURVEY 2002-03
HALIBUT	0.26	0.20	ND	1.52	32	FDA SURVEY 1990-02
LOBSTER (Northern/American)	0.31	NA	0.05	1.31	88	NMFS REPORT 1978
MACKEREL SPANISH (Gulf of Mexico)	0.45	NA	0.07	1.56	66	NMFS REPORT 1978
MACKEREL SPANISH (S. Atlantic)	0.18	NA	0.05	0.73	43	NMFS REPORT 1978
MARLIN	0.49	0.39	0.10	0.92	16	FDA SURVEY 1990-02
MONKFISH	0.18	NA	0.02	1.02	81	NMFS REPORT 1978
ORANGE ROUGHY	0.54	0.56	0.30	0.80	26	FDA SURVEY 1990-03
PERCH (Freshwater)	0.14	0.15	ND	0.31	5	FDA SURVEY 1990-02
SABLEFISH	0.22	NA	ND	0.70	102	NMFS REPORT 1978