

# Specific Fats in Diet Tied to Endometriosis Risk

BY JENNIE SMITH

**D**ata from a large cohort study have shown that women who regularly eat fish, mayonnaise, and other foods that are rich in omega-3 fatty acids are at decreased risk of being diagnosed with endometriosis.

In contrast, women whose diets are rich in trans fats are much likelier to develop the disease.

The findings suggested no association between women's endometriosis risk and overall fat intake, but only associations by the type of dietary fats consumed.

Women in the highest fifth of long-chain omega-3 fatty acid consumption were 22% less likely to be diagnosed with endometriosis, compared with those in the lowest fifth.



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**A diet rich in omega-3 fatty acids includes tuna and other dark fish.**

Women in the highest fifth of trans fat consumption were 48% more likely to be diagnosed with endometriosis than were those in the bottom fifth.

The investigators adjusted the results for variables such as age at menarche, menstrual cycle length, and parity (Hum. Reprod. 2010 March 24 [doi:10.1093/humrep/deq044]).

"The message—and we stress that this is the first publication to address this—is that the findings affirm the benefits of a healthy-fat diet that has also been shown to be beneficial for cardiovascular health," Stacey A. Missmer, Sc.D., the lead author of the study, said in an interview.

"Low-fat across the board is not the way to go," she added.

For their analysis, Dr. Missmer of Harvard Medical School, Boston, and her colleagues examined 12 years of data (1989-2001) from 70,709 women who were registered nurses.

Diet assessments were based on self-reported questionnaires, but diagnoses of endometriosis (with or without infertility) were confirmed through medical records.

Women with prior endometriosis who had undergone hysterectomy, were menopausal, or had prior cancer were excluded.

The study participants updated their diet information at 4-year intervals over the course of the trial period.

By the final year of analysis, 1,199 cases of laparoscopically confirmed endometriosis had been reported.

The researchers identified the major sources of long-chain omega-3 fatty acids in the women's diets as salad dressing and mayonnaise, tuna, and other dark fish, although Dr. Missmer said some

women reported taking omega-3 supplements.

The major sources of trans-unsaturated fatty acids were fried foods that were not cooked at home, "particularly french fries," Dr. Missmer said, along with margarine and crackers.

Although trans-unsaturated fats proved to be an easily identified culprit, an increased risk of endometriosis—20%—was also seen in the quintile of

subjects who had consumed the most animal fats.

However, the researchers wrote, "intakes of saturated fat and monounsaturated fat, the major components of animal fat, were not associated with endometriosis risk.

"Interestingly, palmitic acid intake, a saturated fat primarily contributed by animal products, was significantly related to increased endometriosis risk when

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all other dietary components were held constant.”

The researchers were unable to draw any conclusions about the timing of dietary exposure (ranging from 2 to 10 years before diagnosis) and endometriosis. They found that the risk was consistent across time.

That does not mean that adding omega-3 fatty acids and avoiding trans fats would not be helpful in preventing endometriosis, Dr. Missmer said.

“We think that the more likely conclusion is that people don’t tend to change their diets a lot,” she pointed out.

**Women in the highest fifth of trans fat consumption were 48% more likely to be diagnosed with endometriosis than were those in the bottom fifth.**

Indeed, Dr. Missmer and her colleagues predicted that endometriosis risk could be slashed significantly by

substituting omega-3 fatty acids for trans fats.

“Each 1% of energy from omega-3 fatty acids rather than from trans fats was associated with nearly a 50% lower risk of endometriosis,” they wrote.

“Also, each 1% of energy from trans fats rather than from any other type of fat was associated with a significantly higher risk of endometriosis.”

Dr. Missmer indicated that the next step would be to study whether an in-

crease in omega-3 fatty acids in the diet, and a decrease in trans fats leads to reduction of endometriosis symptoms, as has been suggested in animal studies (Fertil. Steril. 2007;88:1108-19) and a report that links omega-3s to an alleviation of menstrual pain, which endometriosis is known to exacerbate (Eur. J. Clin. Nutr. 1995;49:508-16).

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Neither Dr. Missmer nor her colleagues reported conflicts of interest. ■

## Indication

Humalog (insulin lispro injection [rDNA origin]) is for use in patients with diabetes mellitus for the control of hyperglycemia. Humalog should be used with longer-acting insulin, except when used in combination with sulfonylureas in patients with type 2 diabetes.

## Important Safety Information

Humalog is contraindicated during episodes of hypoglycemia and in patients sensitive to Humalog or one of its excipients.

Humalog differs from regular human insulin by its rapid onset of action as well as a shorter duration of action. Therefore, when used as a mealtime insulin, Humalog should be given within 15 minutes before or immediately after a meal.

Due to the short duration of action of Humalog, patients with type 1 diabetes also require a longer-acting insulin to maintain glucose control (except when using an insulin pump). Glucose monitoring is recommended for all patients with diabetes.

The safety and effectiveness of Humalog in patients less than 3 years of age have not been established. There are no adequate and well-controlled clinical studies of the use of Humalog in pregnant or nursing women.

**Starting or changing insulin therapy should be done cautiously and only under medical supervision.**

## Hypoglycemia

**Hypoglycemia is the most common adverse effect associated with insulins, including Humalog. Hypoglycemia can happen suddenly, and symptoms may be different for each person and may change from time to time. Severe hypoglycemia can cause seizures and may be life-threatening.**

## Other Side Effects

Other potential side effects associated with the use of insulins include: hypokalemia, weight gain, lipodystrophy, and hypersensitivity. Systemic allergy is less common, but may be life-threatening. Because of the difference in action of Humalog, care should be taken in patients in whom hypoglycemia or hypokalemia may be clinically relevant (eg, those who are fasting, have autonomic neuropathy or renal impairment, are using potassium-lowering drugs, or taking drugs sensitive to serum potassium level).

**For additional safety profile and other important prescribing considerations, see accompanying Brief Summary of full Prescribing Information.**

**Please see full user manual that accompanies the pen.**

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