Some Facts About “Pink Slime”

What is pink slime?

This term refers to Lean Finely Textured Beef (LFTB). This product includes the remains of the cow carcass, once the muscular cuts are removed. Historically, labeling of products containing LFTB has not been required because it is considered lean beef (1).

What is Lean Finely Textured Beef (LFTB) technology?

The LFTB process has been approved by the Food and Drug Administration (FDA) since the early 1990s. Current methods for producing LFTB maximize the amount of lean beef that can be obtained from a carcass and reduces waste. The carcass trimmings are simmered at a low heat to allow for separation of the fat from muscle. The material is then centrifuged to complete separation, in a process that is similar to that used to separate milk from cream. One alternative would be to hand cut away the meat from the fatty trimmings to be used in lean ground beef products. However, this would not be as efficient and the producers of LFTB have indicated that such changes may result in increased costs (1).

Is it true that LFTB is unfit for human consumption?

Lean finely textured beef is meat. It does not contain cartilage, tendons, or other parts of the animal. Beef trimmings are edible. The process separates the lean mean from the fat, which was previously nearly impossible to accomplish through knife trimming by hand (1).

What is ammonium hydroxide?

Some producers of LFTB give the product a puff of ammonium hydroxide (approved by the FDA) to kill bacteria while others use citric acid for the same purpose. Ammonium hydroxide increases the pH, which prevents the growth of E. coli, a major

Pink Slime continued on page 2
Pink Slime (Continued from page 1)

posed a health risk to consumers (4).

What’s the future of Lean Finely Textured Beef?

Clearly the meat industry is concerned about the public outcry against LFTB. One of the major producers of LFTB has suspended operations at three of their plants, an action that may fuel consumer belief that the product is not safe for human consumption (5). Perhaps transparency would help modulate consumer concerns about the material added to food products. While there is no evidence that LFTB is a hazard to one’s health, the public was bombarded with messages about the product, not the least of which was the labeling of it as “pink slime”. While it has been suggested that the industry should be required to label products that contain LFTB, the USDA recognizes this product as 100 percent beef, which requires no label. Proponents of the labeling of LFTB-containing products think that this would provide consumers with information about what is in their food; however, this brings to question the ability of the public to make educated decisions over what has been termed “pink slime.” If a decision is made to provide the information on the label, it is essential that science-based consumer education be provided. Without that, consumers may simply see the label and assume that it is hazardous to their health.

References:

Written by Sara Cherr, Ali Kamally, Melissa Rakestra. General Microbiology, Sonoma State University, Rohnert Park, California.
Added Sugars and High-Fructose Corn Syrup

What are “added sugars”?

These are sugars that are not found naturally in foods, and have been added during processing. Most of the added sugars in the average American diet come from soda, desserts, fruit drinks, and candy (1). Foods that have naturally occurring sugars are milk, fruit and vegetables.

What is high-fructose corn syrup?

High-fructose corn syrup (HFCS) is made from regular corn syrup, which normally has no fructose. Enzymes are used to turn some of the glucose in corn syrup into fructose. High-fructose corn syrup is not pure fructose. There are two main types of high-fructose corn syrup that are used in foods:

1. 55 percent fructose/45 percent glucose: this is mostly used in sugary drinks, like soda, as well as in ice cream and other frozen desserts (2)
2. 42 percent fructose/58 percent glucose: this is mostly used in baked goods, like cookies and crackers, and canned fruits, condiments, and dairy products (2).

How is high-fructose corn syrup different from regular corn syrup and sugar?

Regular corn syrup is almost entirely glucose, and contains no fructose. High-fructose corn syrup is made from regular corn syrup. Enzymes are used to turn some of the glucose into fructose.

Table sugar usually comes from sugar cane or sugar beets, and is composed of a molecule called sucrose. Each sucrose molecule contains one fructose molecule and one glucose molecule bonded together. As a result, table sugar is 50 percent fructose and 50 percent glucose. High-fructose corn syrup has slightly higher or slightly lower concentrations of fructose, depending on the formulation (2). The fructose and glucose in HFCS are not bonded together, like they are in sucrose. Instead, they are free molecules.

Why do food manufacturers use high-fructose corn syrup instead of other sweeteners?

High-fructose corn syrup tends to be cheaper than sugar, it provides better browning in baked goods, and has more moisture than sugar with the same level of sweetness, helping keep foods moist (3).

What is the health impact of too many added sugars in the diet?

Higher added sugar consumption may be related to high triglycerides, low HDL cholesterol, added sugars continued on page 4

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Added Sugars (Continued from page 3)

and high LDL cholesterol. These can raise risk of heart disease (4-6).

How are the health effects of high-fructose corn syrup different from table sugar?

Overall, there is little difference between HFCS and regular table sugar (sucrose). This is because they have very similar fructose contents.

Animal and human studies have found that eating large amounts of fructose from HFCS, sucrose, or pure fructose is detrimental to health (7). The negative health effects of high fructose consumption include higher triglycerides, decreased insulin sensitivity, and increased uric acid production (3, 8, 9).

What are the recommendations for added sugars and high-fructose corn syrup?

The Dietary Guidelines for Americans recommends that Americans eat less added sugars, including table sugar and HFCS.

The Dietary Guidelines for Americans recommends that Americans eat less added sugars (1). This includes not just regular sugar, but also HFCS. There is no specific recommendation for HFCS.

Currently Americans on average get about 15 percent of their calories from added sugars, or around 360 calories a day (4). Added sugars are “empty calories”, in that they typically are in foods that don’t provide many nutrients other than calories. Some ways to cut down on the amount of added sugars you eat would be to switch from sugary drinks like soda to water and drinks without sugary sweeteners, and to eat fewer desserts.

References:

Written by: Anna Jones, Ph.D. Candidate. Center for Nutrition in Schools, Department of Nutrition, University of California, Davis.
BPA. It stands for Bisphenol A. It is a chemical used in the production of plastics and resins, such as some water bottles and the coatings of some food cans. It is also used in some consumer goods, such as compact discs and thermal cash register tapes. And it has generated controversy about its impact on human health and development.

The Food and Drug Administration’s (FDA) assessment is that the scientific evidence at this time does not suggest that the very low levels of human exposure to BPA through the diet are unsafe.

The agency has performed extensive research on BPA, has reviewed hundreds of other studies, and is continuing to address questions and potential concerns raised by certain studies.

FDA scientists have also recently determined that exposure to BPA through foods for infants is much less than had been previously believed and that the trace amounts of the chemical that enter the body, whether it’s an adult or a child, are rapidly metabolized and eliminated.

Dennis M. Keefe, Ph.D., director of FDA’s Office of Food Additive Safety, and other officials at FDA say the agency takes all concerns about BPA seriously and is evaluating them as part of the agency’s ongoing oversight of food safety.

Because of some studies in young animals that raised potential concerns about the safety of BPA, there has been particular concern about its use in infant bottles and training (sippy) cups, FDA has been supporting industry efforts to find alternatives to BPA in the manufacture of these and other products, Keefe says.

**Potential Concerns About BPA**

BPA has been used since the 1960s to make polycarbonate plastics and epoxy resins. These hard, clear plastics are often used in containers that store food and beverages, such as some water bottles. The resins are also used to protect foods from microbial and other contamination by coating the inside of metal products, such as some food cans.

Research has shown that people are exposed to BPA because small amounts can migrate into the food and beverages from their containers. Reports from some animal studies have raised potential concerns that BPA exposure may cause multiple health problems, including reproductive disorders, diabetes and cardiovascular disease.

There have also been studies that contend that BPA is a hazard to people too. But FDA—as well as the European Food Safety Agency (EFSA)—has carefully assessed these studies and finds no convincing evidence to support that belief.

The regulatory agency must objectively weigh all the evidence, says Keefe. “We make public health decisions based on a careful review of well performed studies, not based on claims or beliefs. We have to perform an unbiased evaluation of the data,” he says.

FDA is continuing its research and monitoring of studies to address uncertainties raised about BPA.

**FDA Continues to Study Bisphenol A**

BPA continued on page 6
FDA’s Findings

With the support of the National Institute of Environmental Health Sciences (NIEHS) and the National Toxicology Program (NTP), scientists at FDA’s National Center for Toxicological Research (NCTR) have been studying BPA.

The NCTR researchers have been conducting in-depth studies of BPA since September 2008, when a report by the NIEHS and NTP called for more research into the potential toxic effects of BPA on fetuses, infants and children.

NCTR’s findings include:

• The level of BPA from food that could be passed from pregnant mothers to the fetus is so low that it could not be measured. Researchers fed pregnant rodents 100 to 1,000 times more BPA than people are exposed to through food, and could not detect the active form of BPA in the fetus eight hours after the mother’s exposure.

• Exposure to BPA in human infants is from 84 to 92 percent less than previously estimated.

NCTR researchers report that they were able to build mathematical models of what happens to BPA once it’s in the human body. These models showed that BPA is rapidly metabolized and eliminated through feces and urine. They found that BPA is “exactly the opposite” from some other toxins, like dioxin, that can stay in the body’s tissues for months or even years.

The center’s toxicology research has not found evidence of BPA toxicity at low doses in rodent studies, including doses that are still above human exposure levels.

What Can Consumers Do?

Consumers should avoid changes in their food consumption that would prevent good nutrition, particularly for infants.

Here is information for consumers who want to limit their exposure to BPA:

• Plastic containers have recycle codes on the bottom. Some, but not all, plastics that are marked with recycle codes 3 or 7 may be made with BPA.

• Do not put very hot or boiling liquid that you intend to consume in plastic containers made with BPA. BPA levels rise in food when containers/products made with the chemical are heated and come in contact with the food.

• Discard all bottles with scratches, as these may harbor bacteria and, if BPA-containing, lead to greater release of BPA.

For More Information:

Bisphenol A (BPA) (http://www.fda.gov/Food/FoodIngredientsPackaging/ucm166145.htm)

Public Health Focus: BPA (http://www.fda.gov/NewsEvents/PublicHealthFocus/ucm064437.htm)


Resins containing BPA have also been used to line the inside of metal cans to protect food from microbial or other types of contamination.
Maternal Obesity, Diabetes Associated With Autism, Other Developmental Disorders

A major study conducted by researchers affiliated with the UC Davis MIND Institute has found strong links between maternal diabetes and obesity and the likelihood of having a child with autism spectrum disorder (ASD) or another developmental disorder (1).

Mothers with diabetes were found to be nearly 67 percent more likely to have a child with ASD compared to healthy mothers. Children without ASD of mothers with any of the metabolic conditions displayed mild deficits in problem solving, language comprehension and production, motor skills and socialization.

"Over a third of U.S. women in their childbearing years are obese, and nearly one-tenth have gestational or type 2 diabetes during pregnancy. Our finding that these maternal conditions may be linked with neurodevelopmental problems in children raises concerns and therefore may have serious public-health implications," said Paula Krakowiak, a PhD Candidate in Epidemiology affiliated with the MIND Institute.

"And while the study does not conclude that diabetes and obesity cause ASD and developmental delays, it suggests that fetal exposure to elevated glucose and maternal inflammation levels adversely affect fetal development."

Mothers with diabetes were found to be nearly 67 percent more likely to have a child with developmental delays compared to healthy mothers.

The study also found that the children of diabetic mothers who had ASD were more disabled -- had greater deficits in language comprehension and production and adaptive communication -- than were the children with ASD born to healthy mothers.

However, even children without ASD born to diabetic mothers exhibited impairments in socialization in addition to language comprehension and production, when compared with the non-ASD children of healthy women. Children without ASD of mothers with any of the metabolic conditions displayed mild deficits in problem solving, language comprehension and production, motor skills and socialization.

The study, "Maternal metabolic conditions and risk for autism and other neurodevelopmental disorders," is published online in Pediatrics, the journal of the American Academy of Pediatrics. Its authors said that it is the first study to examine the associations between neurodevelopmental disorders and maternal metabolic conditions not restricted solely to type 2 or gestational diabetes. It is also the first to include obesity and hypertension, which have similar underlying biological characteristics, and to investigate correlations between these conditions and impairments in the skills and abilities of children in specific developmental domains.

Over 60 percent of U.S. women of Maternal continued on page 8
childbearing age are overweight; 34 percent are obese; and 16 percent have metabolic syndrome. Nearly 9 percent of U.S. women of childbearing age are diabetic, and more than 1 percent of U.S. pregnancies were complicated by chronic hypertension. In California, where the study was conducted, 1.3 percent of women had type 2 diabetes, and 7.4 percent had gestational diabetes.

Autism spectrum disorder is characterized by impairments in social interaction, communication deficits and repetitive behaviors and often is accompanied by intellectual disability. An estimated 1 in 88 children born today will be diagnosed with autism spectrum disorder, according to statistics recently released by the U.S. Centers for Disease Control and Prevention. An estimated 1 in 83 U.S. children has another developmental disorder, which includes other disorders resulting in intellectual disability.

The study included 1,004 mother/child pairs from diverse backgrounds enrolled in the Childhood Autism Risks from Genetics and the Environment Study (CHARGE), most of them living in Northern California, with a small subset living in Los Angeles. The children were between 24 and 60 months old, born in California and resided with at least one biological parent who spoke either English or Spanish. There were 517 children who had ASD; 172 who had other developmental disorders but not ASD; and 315 who were developing typically. The participants were enrolled between January 2003 and June 2010.

The researchers obtained demographic and medical information for the mothers and their children using the CHARGE Study Environmental Exposure Questionnaire, a telephone survey, the study participants' birth files and medical records. The primary metabolic conditions of interest were type 2 diabetes or gestational diabetes.

Women were considered diabetic if the condition was noted in their medical records or if during the telephone surveys they answered "yes" to the questions "During this pregnancy were you ever told by a physician or nurse that you had gestational diabetes?" or "At any time before you became pregnant were you told by a doctor that you had [type 2] diabetes?" The same wording was used to obtain information about hypertension. BMI was calculated using height and weight prior to pregnancy from medical records or telephone interviews.

To confirm the developmental diagnoses of the children with ASD researchers used the Autism Diagnostic Interview-Revised (ADIR) and the Autism Diagnostic Observation Schedules (ADOS). All of the children were administered the Mullen Sales of Early Learning and the Vineland Adaptive Behavior Scales to assess their cognitive and adaptive development. Spanish-speaking children were administered the tests in Spanish. The participants were then divided into groups of children with ASD, developmental delay or typical development.

Among children whose mothers were diabetic during their pregnancies, the study found that the percentage of children with ASD born to women with type 2 diabetes or gestational diabetes (9.3 percent) or developmental disability (11.6 percent) was higher than the 6.4 percent of children with ASD born to women without these metabolic conditions.

Maternal (Continued from page 7)
Over 20 percent of the mothers of children with ASD or developmental delay were obese, compared with 14 percent of the mothers of typically developing children.

Approximately 29 percent of the children with ASD had mothers with a metabolic condition, and nearly 35 percent of the children with developmental delay had mothers with metabolic conditions. In contrast, 19 percent of the typically developing children had mothers with a metabolic condition.

The study also examined the link between hypertension and ASD or developmental disorders. The prevalence of high blood pressure was low for all groups, but more than two times higher among mothers of children with ASD or developmental delay than among mothers of children with typical development, though the finding did not reach statistical significance.

Analyses of the children’s cognitive abilities found that, among the children with ASD, children of mothers with diabetes exhibited poorer performance on tests of expressive and receptive language and communication skills of everyday living when compared with the children of healthy mothers. And the presence of any metabolic condition was associated with lower scores on all of the tests among children without ASD.

The authors note that obesity is a significant risk factor for diabetes and hypertension, and is characterized by increased insulin resistance and chronic inflammation, as are diabetes and hypertension. In diabetic, and possibly pre-diabetic pregnancies, poorly regulated maternal glucose can result in prolonged fetal exposure to elevated maternal glucose levels, which raises fetal insulin production, resulting in chronic fetal exposure to high levels of insulin.

Because elevated insulin production requires greater oxygen use this may result in depleted oxygen supply for the fetus. Diabetes also may result in fetal iron deficiency. Both conditions can adversely affect fetal brain development, the authors said.

"The sequence of events related to poorly regulated maternal glucose levels is one potential biological mechanism that may play a role in adverse fetal development in the presence of maternal metabolic conditions," Krakowiak said.

Maternal inflammation, which accompanies metabolic conditions, may also adversely affect fetal development. Certain proteins involved in cell signaling that are produced by cells of the immune system can cross the placenta from the mother to the fetus and disturb brain development.

Reference:

Source: UC Davis Health System News Room; Apr. 8, 2012; http://www.ucdmc.ucdavis.edu/publish/news/newsroom/6166
Nearly 18 percent of U.S. school-aged children and adolescents are obese, as the rate of childhood obesity has more than tripled in the past 30 years. The prevalence of obesity puts children at greater risk of developing heart disease, type 2 diabetes, stroke and other illnesses, and of suffering severe obesity as adults. New study results indicate that where a child lives, including factors such as the neighborhood’s walkability, proximity to higher quality parks, and access to healthy food, has an important effect on obesity rates (1). Researchers found that children living in neighborhoods with favorable neighborhood environment attributes had 59 percent lower odds of being obese.

“Obesogenic Neighborhood Environments, Child and Parent Obesity: The Neighborhood Impact on Kids Study” was published in a special theme issue of the American Journal of Preventive Medicine. Led by Brian Saelens, PhD, of Seattle Children’s Research Institute, this is among the first neighborhood environment studies to look at a combination of nutrition and physical activity environments and to assess children and their parents. It is also among the largest studies of its kind to use objective geographic information system (GIS) data to examine the physical activity and healthy food option attributes of a neighborhood related to obesity.

Researchers used GIS to assess Seattle and San Diego area neighborhoods’ nutrition and physical activity environments. Nutrition environments were defined based on supermarket availability and concentration of fast food restaurants. Physical activity environments were defined based on environmental factors related to neighborhood walkability and at least one park with more or better amenities for children. Kids that lived in neighborhoods that were poorer in physical activity and nutrition environment had the highest rates of obesity—almost 16 percent—in the study. This figure is similar to the national average. On the flip side, only eight percent of children were obese in neighborhoods where physical activity and nutrition environments were positive.

“People think of childhood obesity and immediately think about an individual’s physical activity and nutrition behaviors, but they do not necessarily equate obesity with where people live,” said Dr. Saelens, who is also a professor of pediatrics at the University of Washington. “Everyone from parents to policymakers should pay more attention to zip codes because they could have a big impact on weight.”

Fast food may not be as easy to come by in the Seattle area, based on the study. There were 3,474 fast food locations in San Diego County, as compared to 1,660 in King County, Wash. On a county-level block group average basis, San Diego had 2.0 fast food locations per block group, and King County had 1.1.

Numerous national health organizations have identified neighborhood environment and built environment, including healthy food and physical activity opportunities, as important factors in childhood obesity, including the Institute of Medicine and the Centers for Disease Control and Prevention. “Our data support recommendations from these groups that we need to change our environments to make them more supportive of physical activity and nutrition,” said Saelens.

Reference:

How Many Calories Does It Take to Reach Childhood Obesity Prevention Goals?

In order for the nation to achieve goals set by the federal government for reducing obesity rates by 2020, children in the United States would need to eliminate an average of 64 excess calories per day, researchers calculated in a study published in the *American Journal of Preventive Medicine* (1). This reduction could be achieved by decreasing calorie intake, increasing physical activity, or both. Without this reduction, the authors predict that the average U.S. youth would be nearly four pounds heavier than a child or teen of the same age was in 2007-2008, and more than 20 percent of young people would be obese, up from 16.9 percent today.

“Sixty-four calories may not sound like much individually, but it’s quite a consequential number at the population level, and children at greatest risk for obesity face an even larger barrier,” says Y. Claire Wang, MD, ScD, assistant professor of Health Policy and Management at Columbia University’s Mailman School of Public Health and lead author of the study. “Closing this gap between how many calories young people are consuming and how many they are expending will take substantial, comprehensive efforts.”

The daily difference between how many calories young people consume and how many they expend through normal growth, body function and physical activity is known as the energy gap. The 64-calorie difference between consumption and expenditure is an average for the population. Dr. Wang and her colleagues note it is not intended to represent a change for any individual young person, and that many young people would need to see even greater reductions.

In particular, children and teens who currently have higher obesity rates would require larger energy gap reductions to reach the obesity rate goal. For instance, based on their current obesity rates, white youths would need a 46-calorie reduction, on average, in their energy gap to reach the goals. But given their higher obesity rates in 2008-2010, the average reduction needed to close the energy gap for Mexican-American youths is 91 calories and, for black youths, it is 138 calories. Youths in lower-income communities also need greater reductions than their peers in higher-income areas, again due to higher rates of obesity. Additionally, an earlier study by several of the same researchers found that the problem is especially acute for teens who are already overweight.

In order to project how many young people would be obese in 2020, Dr. Wang and her colleagues analyzed decades of data on obesity rates. Height and weight among U.S. youths ages 2-19 were taken from National Health and Nutrition Examination Surveys from 1971 to 2008. Based on the trends, the authors projected that the childhood obesity rate would be about 21 percent in 2020, up from 16.9 percent now.

Dr. Wang and her colleagues then compared the projected rate of 21 percent to the goal of 14.6 percent set by the U.S. Department of Health and Human Services in a 2010 report titled Healthy People 2020 and calculated how much of a daily energy gap the average youth would need to close in order to achieve that goal. A childhood obesity rate of 14.6 percent has not been seen since 2002.

“Reaching the 2020 goal will require...
significant changes to calories consumed and expended,” said C. Tracy Orleans, PhD, co-author of the study and senior scientist at the Robert Wood Johnson Foundation. “Because we know that children and teens who already are overweight or obese will need larger reductions, and that preventing obesity will be more effective than treating it, we must focus our attention on the policy and environmental changes likely to have early, broad, and sustainable impacts.”

The authors outline several policy strategies that could help to close the daily energy gap for American youths. For instance, they point to research showing that:

- Replacing all sugar-sweetened beverages in school with water and not consuming any additional sugary beverages outside of school could reduce the energy gap by 12 calories per day;
- Participating in a comprehensive physical education program could eliminate 19 calories per day among children ages 9-11; and
- Engaging in an after-school activity program for children in grades K-5 results in an additional 25 calories expended per day.

In a commentary accompanying the study, William H. Dietz, MD, PhD, director of the Division of Nutrition, Physical Activity, and Obesity at the U.S. Centers for Disease Control and Prevention, writes that the research “provides important data that highlight the promise of prevention and raise the challenge of treatment in children and adolescents.”

Reference:


Enzyme in Saliva Helps Regulate Blood Glucose

Scientists from the Monell Center report that blood glucose levels following starch ingestion are influenced by genetically-determined differences in salivary amylase, an enzyme that breaks down dietary starches. Specifically, higher salivary amylase activity is related to lower blood glucose (1).

The findings are the first to demonstrate a significant metabolic role for salivary amylase in starch digestion, suggesting that this oral enzyme may contribute significantly to overall metabolic status. Other implications relate to calculating the glycemic index of starch-rich foods and ultimately the risk of developing diabetes.

“Two individuals may have very different glycemic

Saliva continued on page 13
responses to the same starchy food, depending on their amylase levels,” said lead author Abigail Mandel, Ph.D., a nutritional scientist at Monell. “Individuals with high amylase levels are better adapted to eat starches, as they rapidly digest the starch while maintaining balanced blood glucose levels. The opposite is true for those with low amylase levels. As such, people may want to take their amylase levels into account if they are paying attention to the glycemic index of the foods they are eating.”

Starch from wheat, potatoes, corn, rice, and other grains is a major component of the United States diet, comprising up to 60 percent of our calories. Amylase enzymes secreted in saliva help break down starches into simpler sugar molecules that can be absorbed into the bloodstream. In this way, amylase activity influences blood glucose levels, which need to be maintained within an optimal range for good health.

A previous Monell study had demonstrated that individuals with high salivary amylase activity are able to break down oral starch very rapidly. This finding led the researchers to ask how this ‘pre-digestion’ contributes to overall starch digestion and glucose metabolism.

In the current study, published online in the *Journal of Nutrition*, amylase activity was measured in saliva samples obtained from 48 healthy adults. Based on extremes of salivary amylase activity, two groups of seven were formed: high amylase (HA) and low amylase (LA).

Each subject drank a simplified corn starch solution and blood samples were obtained over a two hour period afterwards. The samples were analyzed to determine blood glucose levels and insulin concentrations.

After ingesting the starch, individuals in the HA group had lower blood glucose levels relative to those in the LA group. This appears to be related to an early release of insulin by the HA individuals.

“For not all people are the same in their ability to handle starch,” said senior author Paul Breslin, Ph.D., a sensory geneticist at Monell. “People with higher levels of salivary amylase are able to maintain more stable blood glucose levels when consuming starch. This might ultimately lessen their risk for insulin resistance and non-insulin dependent diabetes.”

Additional studies will confirm the current findings using more complex starchy foods, such as bread and pasta. Another focus will involve identifying the neuroendocrine mechanisms that connect starch breakdown in the mouth with insulin release.

References:
1. Mandel AL, Breslin PA. High Endogenous Salivary Amylase Activity Is Associated with Improved Glycemic Homeostasis following Starch Ingestion in Adults. *J Nutr*; Apr 4, 2012; [Epub ahead of print]

Analysis Suggests Insufficient Evidence that Omega-3 Fatty Acid Supplements Offer Secondary Prevention of Cardiovascular Events in Patients with Heart Disease

An analysis of prior clinical trials suggests there is insufficient evidence of a secondary preventive effect of omega-3 fatty acid supplements against overall cardiovascular events among patients with a history of cardiovascular disease, according to a report published in the Archives of Internal Medicine (1).

Although some previous clinical trials have reported the efficacy of omega-3 fatty acid supplements in the secondary prevention of cardiovascular disease (CVD), the evidence remains inconclusive, the study background indicates.

Sang Mi Kwak, M.D., of the Center for Cancer Prevention and Detection, Republic of Korea, and colleagues conducted a meta-analysis to examine the association between use of the omega-3 fatty acid supplements eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA) and risk of CVD among patients with existing CVD.

Reference:

Source: Archives News Releases; Apr. 9, 2012; http://pubs.ama-assn.org/media/2012a/0409.dtl#2.

New American Cancer Society Nutrition and Physical Activity Guidelines for Cancer Survivors

New guidelines from the American Cancer Society say for many cancers, maintaining a healthy weight, getting adequate physical activity, and eating a healthy diet can reduce the chance of recurrence and increase the likelihood of disease-free survival after a diagnosis. The recommendations are included in newly released Nutrition and Physical Activity Guidelines for Cancer Survivors, published in CA: A Cancer Journal for Clinicians (1).

Increasing evidence shows that for many cancers, excess weight, lack of exercise, and poor nutrition increase the risk of cancer recurrence and reduce the likelihood of disease-free and overall survival for cancer patients. "The data suggests that cancer survivors, just like everyone else, benefit from these important steps," said Colleen Doyle MS RD, American Cancer Society director of nutrition and physical activity and co-author of the guidelines. "While we’ve published previous reports outlining..."
the evidence on the impact of nutrition and physical activity on cancer recurrence and survival, this is the first time the evidence has been strong enough to release formal guidelines for survivorship, as we've done for cancer prevention. Living a physically active lifestyle and eating a healthy diet should absolutely be top of mind for anyone who's been diagnosed with cancer."

The report was last updated in 2006, and was first created in 2001. For the update, a group of experts in nutrition, physical activity, and cancer survivorship evaluated the scientific evidence and best clinical practices related to optimal nutrition and physical activity after the diagnosis of cancer. Among the review’s conclusions:

- Avoiding weight gain throughout treatment may be important not only for survivors who are overweight, but also those of normal weight.
- Intentional weight loss after recovering from cancer treatment among overweight and obese patients may be associated with health-related benefits.
- Evidence strongly suggests that exercise is not only safe and feasible during cancer treatment, but that it can also improve physical functioning, fatigue, multiple aspects of quality of life, and may even increase the rate of completion of chemotherapy.
- Physical activity after cancer diagnosis is associated with a reduced risk of cancer recurrence and improved overall mortality among multiple cancer survivor groups, including breast, colorectal, prostate, and ovarian cancer.
- Among breast cancer survivors, physical activity after diagnosis has consistently been associated with reduced risk of breast cancer recurrence and breast cancer-specific mortality.
- Results from observational studies suggest that diet and food choices may affect cancer progression, risk of recurrence, and overall survival in individuals who have been treated for cancer.

"As more people survive cancer, there is increasing interest in finding information about food choices, physical activity, and dietary supplements to improve treatment outcomes, quality of life, and overall survival," said Doyle. "Our report summarizes the findings of this expert panel, and is intended to present health care providers with the best possible information with which to help cancer survivors and their families make informed choices related to nutrition and physical activity."

The recommendations also include specific guidance for people diagnosed with breast, colorectal, endometrial, ovarian, lung, prostate, head and neck, and hematologic cancers. It also includes a section with answers to common questions about alcohol, organic foods, sugar, supplements, and several other areas of interest.

Reference:

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