

## Scientists Say: Unsaturated fat

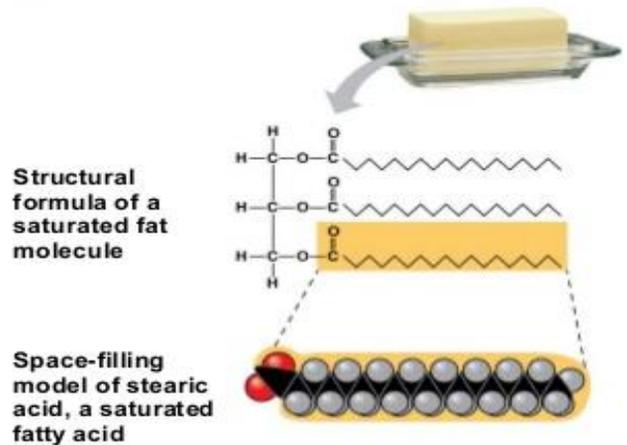
When carbons form double bonds in a fat molecule, things get kinky

**Fatty acids** are carbon chains with hydrogens on the outside.

### Saturated fats

When a fatty acid is saturated, each carbon is bound to two carbons — each by a single bond — with two hydrogens taking up the remaining bonds on either side.

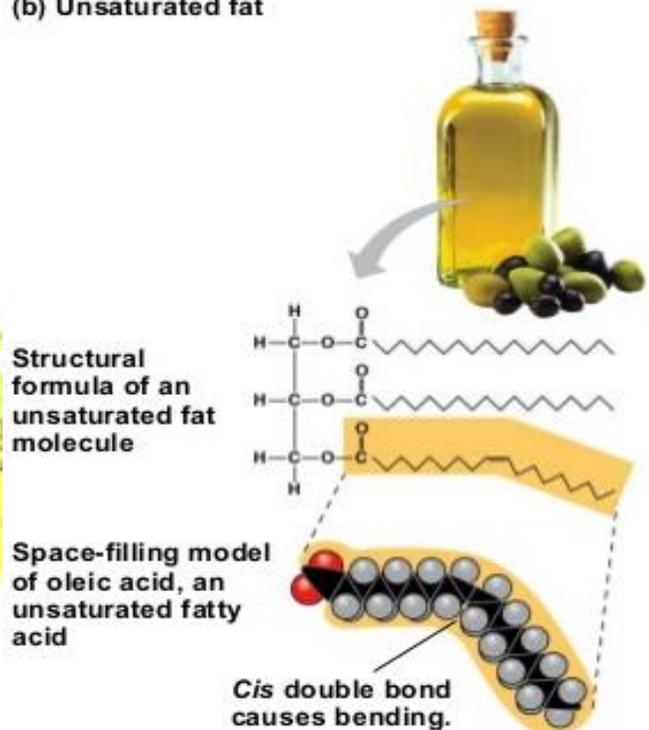
(a) Saturated fat



### Unsaturated fats

But sometimes, the carbons bond to each other with double bonds, leaving room for only one hydrogen. This makes the fatty acid unsaturated — meaning that it doesn't have as many hydrogens as it could.

(b) Unsaturated fat



These double bonds do more than take hydrogen's spot. They also cause the carbon chain to bend. The kinky chains don't line up well with each other. This makes unsaturated fats liquids at room temperature. These fats are usually oils, such as olive oil or corn oil.

### In a sentence

Scientists and doctors used to think that unsaturated fats including trans fats ,, were better for you than saturated fats.

## Something in plastics may be weakening kids' teeth



### New study links BPA exposures to defects in tooth's enamel

Over the past two decades, the share of children with defective tooth enamel has been rising. And BPA, a chemical used to make many plastics, could be partly to blame.

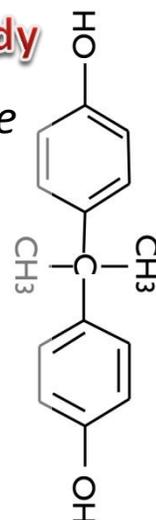
That's the finding of a new study in rats. It showed that this pollutant can trigger the same problem in lab animals that had been showing up in the kids.

In their new study, the researchers traced the weakened enamel in their rats to pollution-altered genes. Those genes instruct cells on how to build a tooth.

Enamel is the hard substance that covers a tooth. If it does not form properly, a child can develop cavities and other problems. A dentist can repair these defects. But there is no way to fix the altered gene instructions responsible for making the enamel weak in the first place.

### BPA The Unknown Danger BPA's effects on the human body

1. *Hormone levels. BPA could theoretically act like a hormone*
2. *Brain and behavior problems.*
3. *Cancer. possible link between BPA exposure and a later increased risk of cancer.*
4. *Heart problems.*
5. *Other conditions. — obesity, diabetes, ADHD, and others Increased risk to children.*



# STORE-RECEIPT CHEMICALS TAIN BLOOD AND URINE

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## Cashiers' blood and urine possessed potentially risky levels of chemicals that mimic hormones

Handling cash-register receipts may cost extra — at least in terms of health risks, a new study suggests.

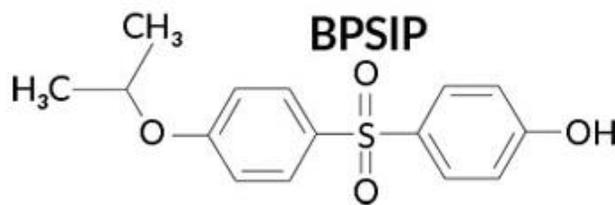
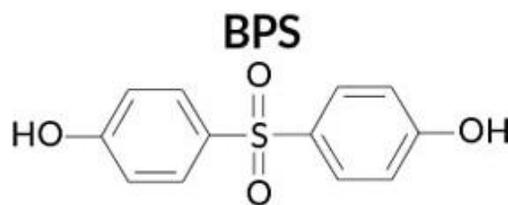
Receipt paper might look like any other. But it's often coated with chemicals that change color when the paper is exposed to heat.

That chemical trick makes it possible to print receipts without using ink. One such color-change chemical often used in receipt paper is called bisphenol S (Bis-FEE-nul A) or BSPIS.

This bisphenol is used in many other products as well. Research has shown that this chemical can pass through the skin and enter the human body. When it does, it can mimic natural *hormones* that help control many body activities. BPA has been linked with cancer, obesity and cardiovascular diseases.



Thirty-two of the cashiers handled receipts coated with BPS. After working a shift, the average concentration of BPS in the urine of those cashiers had doubled.



## Minty fresh zits treatment?

The same cleanser that works on your pearly whites may also clean up acne

**What should you do about zits?** When an **acne** outbreak seems impossible to control or makes you feel very sad and withdrawn, talk to your doctor. Depression is a serious disease and shouldn't be ignored — especially if it's triggered by something that can be treated. Sometimes working with a skin doctor, or dermatologist, is best. He or she can help come up with a plan to treat breakouts that works for you. They may even point you to medications or cleansers available without a prescription.



Rita Pichardo-Geisinger, a dermatologist at Wake Forest Baptist Medical Center in Winston-Salem, N.C, mentions one humorous acne cleanser: **toothpaste!**

Acne and dirty teeth have something in common: **bacteria**. These tiny germs live on every part of your body. In the mouth, a population of them that grows out of control can lead to tooth decay. On the skin, germs may play a role in acne.



Toothpaste contains ingredients meant to kill the bacteria that grow in people's mouths. Some of these ingredients also work against microbes on the skin. One such ingredient is baking soda. Fluoride, another common toothpaste ingredient, helps clean the teeth, but can sometimes irritate the skin.

Since not all toothpastes contain the same ingredients, Pichardo-Geisinger cautions that "you have to pick the right one." A toothpaste with **low fluoride or no fluoride** is the safest bet. Also, **solid white-colored** toothpaste works better than gels.



## How fake sugar can lead to overeating

### New study shows artificial sweetener can trick the brain into eating more

People trying to lose weight may turn to fake sugars — or foods that contain them. But these sugar substitutes have provoked controversy in the past few years.

One reason: Studies have shown that they can actually boost someone’s appetite. **A new study now confirms that — and points to why.**



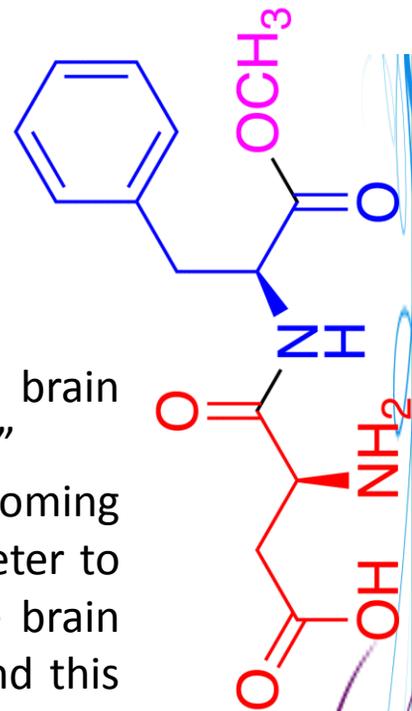
In the new study, scientists showed that eating a popular artificial sweetener made fruit flies and mice hungrier. This study is important because “nobody really knew” what happened in the brain or elsewhere to fuel that hunger, says Herbert Herzog.

He studies how the brain works. In the new study, his team shows how the brain responds to a diet that contains artificial sugar.

### Confusing the brain’s calorie-counter

Some genes play a huge role in determining how much and what types of foods an organism eats.

“When you take artificial sweeteners, the brain somehow gets fooled for a short period of time,”  
“But then it realizes that there are no calories coming in.” Because it can no longer trust its sweet meter to gauge how many calories are on the way, the brain starts to behave as if the animal is starving. And this urges that body to grab more food.





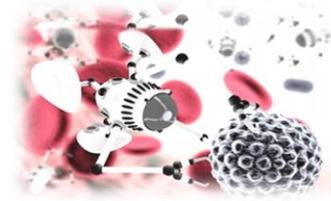
## Scientists Say: pineapple These houseplants are both helpful and handsome

Today, pineapple can be commonly found in any grocery store and in many homes all-around the world. pineapple is not only valued for its sweet taste - it has been used for centuries to treat digestion problems and inflammation.

### Possible health benefits of pineapples

- 1. Age-related macular degeneration:** decrease risk of and progression of age-related macular degeneration.
- 2. Asthma prevention:** nutrients such as beta-carotene, found in plant foods like pineapple, mangoes, papaya, apricots, broccoli, cantaloupe, pumpkin and carrots decrease the risks for developing asthma.
  - Diets rich in beta-carotene may also play a protective role against prostate cancer,
- 3. Blood pressure:** Increasing potassium intake can help with lowering blood pressure.
- 4. Cancer:** As an excellent source of the strong antioxidant vitamin C, pineapples can help combat the formation of free radicals known to cause cancer.
- 5. Heart health:** The fiber, potassium and vitamin C content in pineapple all support heart health.
- 6. Diabetes:** Studies have shown that type 1 diabetics who consume high-fiber diets have lower blood glucose levels and type 2 diabetics may have improved blood sugar, lipids and insulin levels. One medium pineapple provides about 13 grams of fiber.





Nanomedicine is a broad field. “It really covers anything that can be used for care or treatment that’s on the nanoscale,”

## Why nano?

Medicines work best when they get to the part of the body where they’re needed. Because they’re tiny, nanomedicines can go where bigger particles can’t.

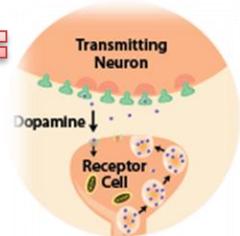
Even medicines as small as one millionth of a meter across may not be able to squeeze through the walls of blood vessels. But much smaller nanomedicines can burrow deep into tissues. Some might even go “straight inside the cells,”

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## Parkinson’s disease



Parkinson's Patient

A free radical is like the kid in a kindergarten class who can’t keep his hands to himself. In the body, that theft can unleash a type of cell damage known as *oxidative stress*.

In Parkinson’s disease, for example, free radicals may contribute to the loss of certain brain cells known as neurons.

## Parkinson’s nano drugs

Cerium-oxide nanoparticles can find free radicals and neutralize them. Now they are no longer radicals. And that means they no longer pose a threat to healthy cells.

Natural *antioxidants*, like vitamin C or vitamin E, work in a similar way. They give up an electron to the free radicals

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## cancer-killing Nano-drugs

In a similar study, another team of scientists worked with a very toxic cancer medicine. researchers worked with nanoparticles shaped a bit like porous nano-size balls

This design slowed down the drug’s release.

Now one dose could kill cancer cells for a longer period of time. At least as importantly, tucking the medicine inside the balls cut down its harm to the marrow.

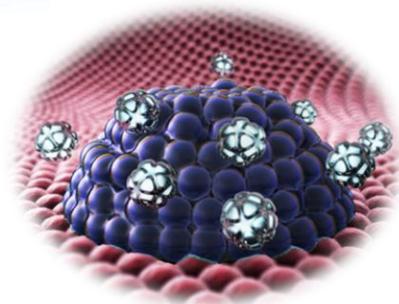


Now researchers have found a way to use magnets like a remote control to turn on cell-killing, metal beads. The technology may point to new treatments for diseases such as cancer, which kills more than 7 million people every year.



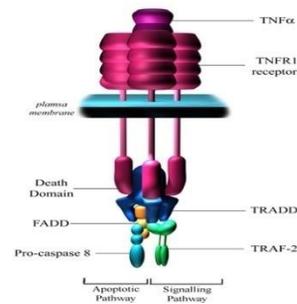
Scientists developed the new technology, which can flip a “death switch” on cells, causing them to self-destruct. The researchers described how they used their method to kill cancer cells

The outside surface of every cell contains many receptors, each functioning like a chemical lock. When the appropriate chemical slides into a receptor, this chemical acts like a key, unlocking some particular action of the receptor.



In a sense, these receptors allow the outside world to communicate with the interior of cells.

Activating one of these receptors, known as death receptor 4, will release a signal that instructs the cell to die. Researchers were figuring out how to activate that receptor.



They turned to nanoparticles of iron. These bits are far too small to be seen with the human

The researchers attached the metal particles to proteins that can find and stick to the death receptor.

In tests, the researchers added the iron-protein combos to a lab dish containing colon cancer cells. As the team had hoped, the protein “glued” the nanoparticles to the cells. Then the scientists used magnets to pull on the nanoparticles — and flip the death receptor’s switch. At once, cells started to die. After 24 hours of this magnetic therapy, more than half of the cancer cells were dead.



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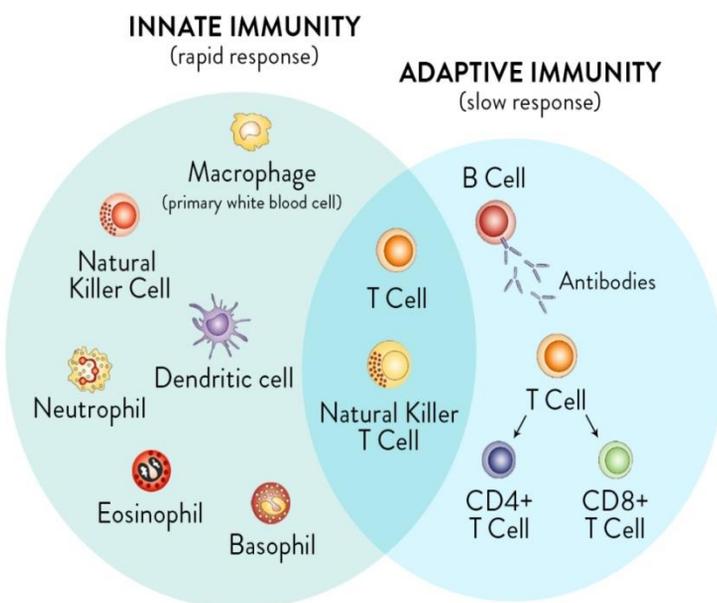
## Elevated body temperature helps certain types of immune cells to work better

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With cold and flu season almost here, the next time you're sick, you may want to thank your fever for helping fight off infection. That's because scientists have found more evidence that elevated body temperature helps certain types of immune cells to work better.



Scientists found that the generation and differentiation of a particular kind of lymphocyte, known as a "CD8+ cytotoxic T-cell" (capable of destroying virus-infected cells and tumor cells) is enhanced by mild fever-range hyperthermia. Specifically, their research suggests that elevated body temperature changes the T-cells' membranes which may help mediate the effects of micro-environmental temperature on cell function.



The microbes that infect us simply can't replicate as well when we have fevers, but this new work also suggests that the immune system might be temporarily enhanced functionally when our temperatures rise with fever. Although very high body temperatures are dangerous and should be controlled

# HEAVY CHOCOLATE CONSUMPTION MAY BE LINKED TO HEART HEALTH

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High levels of chocolate consumption might be associated with a one third reduction in the risk of developing heart disease,

A number of recent studies have shown that eating chocolate has a positive influence on human health due to its antioxidant and anti-inflammatory properties. This includes reducing blood pressure and improving insulin sensitivity (a stage in the development of diabetes).

However, the evidence about how eating chocolate affects your heart still remains unclear.



Five studies reported a beneficial link between higher levels of chocolate consumption and the risk of cardiovascular events. They found that the "highest levels of chocolate consumption were associated with a 37% reduction in cardiovascular disease and a 29% reduction in stroke

The studies did not differentiate between dark or milk chocolate and included consumption of chocolate bars, drinks, biscuits and desserts.

The authors say the findings need to be interpreted with caution, in particular because commercially available chocolate is very calorific (around 500 calories for every 100 grams) and eating too much of it could lead to weight gain, risk of diabetes and heart disease.

However, they conclude that given the health benefits of eating chocolate, initiatives to reduce the current fat and sugar content in most chocolate products should be explored.