

# NIH News in Health

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**Inside News:** 3 Botulinum Toxin 4 Smoking and Cancer 4 Sunlight and Your Eyes 4 All of Us

## Delivering Safer Pregnancies Lower Your Risk of Health Problems

Pregnancy and childbirth can be a joyous time. But growing and delivering a baby are some of the most challenging things the human body can do. These processes can put so much strain on the body's systems that they may lead to serious health problems.

Most people have healthy pregnancies. Millions of births occur each year in the U.S. But, more than 50,000 people have serious health problems during or after pregnancy. Many can be successfully treated. But some may cause life-long difficulties or even disability.

Pregnancy can trigger or uncover heart problems, high blood pressure, blood clots, or **diabetes**. Some people experience severe bleeding or infection from giving birth. Others develop mental health conditions, like depression or anxiety.

The number of serious health problems and deaths from pregnancy have been rising in the U.S. in recent years. Knowing the symptoms to look out for and getting care quickly can help keep both mothers and their babies safe.

**Warning Signs** • The body goes

### Definitions

#### Diabetes

A disease in which the body has trouble controlling the level of glucose—a type of sugar—in the blood.



through many changes during pregnancy. So women may dismiss some potentially concerning symptoms.

“But you can catch a significant number of life-threatening conditions just by listening to your body and not ignoring certain things,” says Dr. Luis Pacheco, a pregnancy expert at the University of Texas.

“If something doesn't feel right, talk about it with your care provider,” says Dr. Janet Catov, who studies pregnancy-related health problems at the University of Pittsburgh. “The majority of severe health problems from pregnancy are preventable.”

Health problems from pregnancy and birth can happen to anyone. But some women are at higher risk than others. These include women with pre-existing health problems or who are pregnant with twins or other multiples.

Access to quality health care can play a big role in whether people stay healthy during and after pregnancy. Some parts of the country have few

doctors who specialize in pregnancy and childbirth. Poverty and lack of health insurance can also affect whether people get the care they need. In part because of factors like these, Black women and American Indian/Alaska Native women in the U.S. have a higher risk of death from pregnancy-related causes than White women.

“And, pregnancies nowadays are very different from what they used to be,” Pacheco says. People have babies later in life than they used to.

They're also more likely to carry excess weight.

“These things result in a higher chance of problems like diabetes and high blood pressure in pregnancy,” Pacheco says. “But if we catch them early enough, we can provide care and control these diseases.”

“The healthier someone is entering pregnancy, the healthier their pregnancy will be,” adds Catov. “Things like good sleep and staying physically active are important for health, and for a healthy pregnancy.” So is maintaining a healthy weight and avoiding excess weight gain.

*continued on page 2*

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*continued from page 1*

But, however healthy you are, you should still watch for certain warning signs during pregnancy (see the Wise Choices box).

### Addressing Health Problems •

There are effective treatments for many pregnancy-related health problems. Some drugs used for diabetes and mental health conditions can be used safely during pregnancy. Your doctor may prescribe aspirin to prevent a dangerous condition called preeclampsia if they find signs that you're at high risk. Preeclampsia can turn into a deadly condition called eclampsia.

NIH-funded researchers are now studying whether there are benefits to treating milder health conditions during pregnancy, too.

Many women start their pregnancy with mild high blood pressure, says Dr. Alan Tita, who studies pregnancy risks at the University of Alabama at Birmingham. In the past, it often went untreated.

"We weren't sure if treatment with blood pressure medicine would be helpful during the relatively short duration of pregnancy," he adds. So, in a large study, Tita and others

looked at whether treating mild high blood pressure with a certain medication during pregnancy could reduce health problems. They found that it did.

"Treatment reduced the risks of problems such as preterm birth and low birth weight," he explains. It also lowered the risks of the women's high blood pressure getting worse during pregnancy and for severe preeclampsia.

He and others are looking at whether treating other health problems and risks during pregnancy and delivery can bring benefits, too.

### Staying Healthy After Delivery •

Health risks from pregnancy don't end after delivery. Serious health problems can begin up to a year after giving birth. But the weeks right after delivery can be especially important.

"The first six weeks after pregnancy is another important time for women to pay attention to their own health. Most deaths happen in that short time after delivery," Catov explains. "It's a time when women are very focused on their baby. But they also need to be paying attention to how they're feeling. Anything that doesn't feel right, like bleeding, chronic headaches, or a chronic cough, is worth a call to the doctor."

Catov recommends that people have a plan for emergencies in the months after birth. This could include lining up support in advance for transportation and childcare.

Prenatal care is vital for the healthiest possible pregnancy. But access to care after birth is important, too. If you're pregnant and don't have coverage, you can look for resources at [www.healthcare.gov](http://www.healthcare.gov).

Catov's team is testing programs to improve mothers' health in the year after birth. They're looking for ways to manage high blood pressure from pregnancy. Women who have



## Wise Choices Signs of a Pregnancy Problem

Symptoms that can signal a dangerous problem during or after pregnancy include:

- Severe headache
- Dizziness or fainting
- Changes in your vision
- Fever
- Trouble breathing
- Overwhelming tiredness
- Chest pain
- Severe belly pain
- Severe nausea and throwing up
- Severe swelling
- Thoughts about harming yourself or your baby

*Adapted from the U.S. Centers for Disease Control and Prevention*

certain pregnancy problems, like preeclampsia and preterm delivery, are at higher risk for high blood pressure up to seven years later. "And the majority of maternal deaths happen after delivery," Catov adds.

Catov's team is testing a health education program for Black women who experience high blood pressure during pregnancy. Black women are much more likely than other women in the U.S to die from blood-pressure problems related to pregnancy.

Study participants get in-home training in how to measure and manage their blood pressure. The study will show if the program improves women's blood pressure a year after giving birth.

"If we can help them get back on track for their own health, that's going to be good for them and for their families," Catov says. ■

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**Web  
Links**

For more about preventing pregnancy problems, see "Links" in the online article:  
[newsinhealth.nih.gov/2023/07/delivering-safer-pregnancies](http://newsinhealth.nih.gov/2023/07/delivering-safer-pregnancies)

# The Benefits of Botulinum Toxin

## It's Not Just for Wrinkles

Botulinum toxin injections are well-known for their use smoothing out wrinkles. They're available under brand names such as Botox, Xeomin, Dysport, Myobloc, and Jeuveau. While wrinkle removal is the most common use, it's not the only one.

The first use for botulinum toxin injections came out decades ago. It was for treating certain eye problems. Since then, doctors have been finding that the injections can help treat all kinds of conditions.

Botulinum toxin is a poisonous substance that's made by certain bacteria. It's actually one of the most potent toxins found in nature. It causes botulism, a rare but potentially lethal form of food poisoning.

It may sound odd that something



so dangerous could be helpful. But the very properties that make botulinum toxin dangerous also make it useful. It works by blocking the nerve signals that tell muscles to tighten, or contract. When this happens in the muscles that control breathing, it can cause you to suffocate. But some medical conditions involve muscles contracting too much or at the wrong time. Botulinum toxin injections can treat these conditions by forcing the muscles to relax.

Botulinum toxin can also relieve certain kinds of pain. It's been shown to relieve a recurring type of headache called chronic migraines. It can block your body's ability to make sweat and saliva, too. So, it can treat conditions in which your body makes too much of either of these. See the Wise Choices box for more about the conditions that botulinum toxin is used to treat.

Two NIH researchers, Dr. Pamela Stratton and Dr. Barbara Karp, have been studying botulinum toxin for treating pain associated with endometriosis. Endometriosis is when tissue normally found in the uterus grows outside it. This

causes pain in the pelvic area. It's usually treated with hormones or surgery to remove the abnormal tissue. But sometimes the pain remains even after these treatments. In a small, proof-of-concept study of women with endometriosis, Stratton and Karp found that botulinum toxin injections helped improve the pain.

Botulinum toxin treatments use very small amounts of the toxin, and only at the treatment site. When used properly, the injections only affect the muscle or organ being treated.

Side effects are usually mild. They can include pain where the toxin is injected, mild headaches, or flu-like symptoms. These usually clear up on their own. "It's remarkably safe for a deadly toxin," Karp says.

That being said, botulinum toxin isn't risk-free. If it's not given properly, the toxin might spread beyond the treatment site. Then it can affect other muscles in the body that you don't want it to. This could cause muscle weakness or vision problems, or make it harder to talk, swallow, or even breathe. Because of this risk, always get botulinum toxin treatments from a licensed health care provider who has experience using it for your condition.

People who have certain health conditions shouldn't get botulinum toxin injections. And it's not recommended for people who are pregnant or breastfeeding. If you're considering botulinum toxin treatment, talk with your health care professional. They can confirm if the treatment could help you and guide you to an experienced provider. They can also tell you if there are any reasons you shouldn't get the treatment. ■



### Wise Choices

#### Conditions Botulinum Toxin Can Help Treat

- **Strabismus:** when both eyes don't look in the same direction.
- **Dystonia:** muscles contract when you don't want them to. This causes repetitive movements or your body to twist into awkward positions.
- **Blepharospasm:** a form of dystonia that causes uncontrolled eye closing.
- **Chronic migraine:** a history of 15 or more headache days a month, at least eight of which involve migraines, for at least three months.
- **Hyperhidrosis:** excessive sweating under the arms, on the palms, or on the soles of the feet.
- **Overactive bladder:** when the bladder squeezes out urine at the wrong time.



### Web Links

For more about botulinum toxin, see "Links" in the online article: [newsinhealth.nih.gov/2023/07/benefits-botulinum-toxin](https://newsinhealth.nih.gov/2023/07/benefits-botulinum-toxin)







## Health Capsules

For links to more information, please visit our website and see these stories online.

### Stop Smoking Early To Improve Cancer Survival

Lung cancer is responsible for one in five cancer deaths in the U.S., and smoking is largely to blame. Since the number of smokers has fallen in recent years, lung cancer rates have also dropped. Still, survival rates remain low. About 75% of lung cancer patients die within five years of diagnosis.

Previous studies found that quitting smoking can help to lengthen life. A new study found that for people with lung cancer, the earlier they had quit smoking before their diagnosis, the better their

chance of survival.

Scientists studied more than 5,500 patients who were diagnosed with lung cancer. Some were smokers or former smokers when they were diagnosed. Others had never smoked.

Nearly 70% of the patients died during the study. Overall, current smokers had a 68% higher death rate than patients who had never smoked. Former smokers had a 26% higher death rate than the never-smokers.

But the researchers also found that lung cancer patients who had quit smoking before diagnosis were much

more likely to survive longer than the smokers. And the longer they had gone without smoking, the better their chance of survival.

“Our participants’ smoking histories varied, with some having stopped smoking a few years before their diagnosis and others having stopped several decades before,” says study lead Dr. David C. Christiani of Harvard University. “This wide range gave us confidence in our results.”

To learn more about quitting smoking, visit [smokefree.gov](https://smokefree.gov). ■

### Protect Your Eyes From Sun Damage

Most of us know that too much sun can cause sunburn and skin damage. But did you know that the sun’s ultra-violet (UV) rays can also harm your eyes? UV light is invisible. It can’t be seen by the human eye. But it can still damage your vision.

Sunlight has a mixture of both visible and invisible rays, or waves. The long waves, like radio waves, are harmless to people. But shorter waves like UV light can cause problems. There are two types of UV rays.

UVA can cause wrinkles and aging of the skin. UVB is responsible for sunburns and most UV-related cancers.

Several eye problems have been linked to UV light as well. These include cataracts, which are cloudy areas in the eye’s lens. Cataracts can make vision blurry, hazy, or less colorful. Excess UV light has also been linked to cancers of the eyelid.

Wearing sunglasses and a wide-brimmed hat is a safe and easy way to protect your eyes from UV light. To

protect your eyes from sun damage, choose sunglasses that block at least 99% of both UVA and UVB rays. These might also be marked with a UV400 rating.

Check your local weather forecast for the UV index, which shows the intensity of UV rays. Even on cloudy days, the UV index can be high and potentially harmful to eyes.

To learn more about protecting your eyes from the sunlight, visit [go.nih.gov/NIHNiHJul23sun](https://go.nih.gov/NIHNiHJul23sun). ■



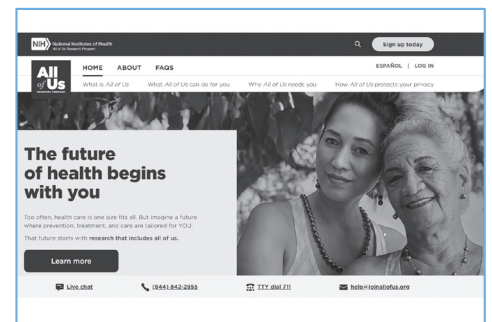
### Featured Website

All of Us Research Program

[joinallofus.org/newsinhealth](https://joinallofus.org/newsinhealth)

NIH is inviting 1 million people across the U.S. to join one of the most diverse health databases in history. Researchers use this data to learn more about why people get

sick or stay healthy. Learn more about your own health, too. You can receive personalized reports about your health risks and possible responses to medicines.



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