

## Anabolic Steroids in Medicine

Doctors never prescribe anabolic steroids for building muscle in young, healthy people. (Try push-ups instead!) But doctors sometimes prescribe anabolic steroids to treat some types of anemia or disorders in men that prevent the normal production of testosterone.

You may have heard that doctors sometimes prescribe steroids to reduce swelling. This is true, but these aren't anabolic steroids. They're corticosteroids.

Since corticosteroids don't build muscles the way that anabolic steroids do, people don't abuse them.

## STEROIDS

### True or False

- 1) Many people smoke or inhale steroids.
- 2) Anabolic steroids can affect the hypothalamus and the limbic region of the brain.
- 3) Anabolic steroids strengthen the immune system.
- 4) Anabolic steroids can cause males' breasts to grow and females' breasts to shrink.

1) False, 2) True, 3) False, 4) True.

## The Search Continues

There's still a whole lot that scientists don't know about the effects of anabolic steroids on the brain. Maybe someday you'll make the next big discovery.

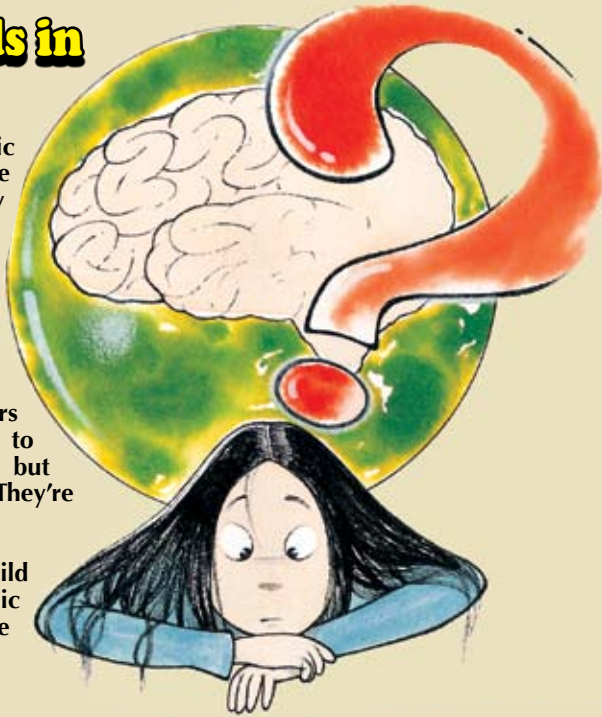
Until then, join me -- Sara Bellum -- in the other magazines in my series, as we explore how drugs affect the brain and nervous system.

For more information, visit:  
[www.drugabuse.gov](http://www.drugabuse.gov)

National Clearinghouse for Alcohol and Drug Information,  
P.O. Box 2345, Rockville, MD 20847

1-800-729-6686

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## The Brain's Response to Steroids

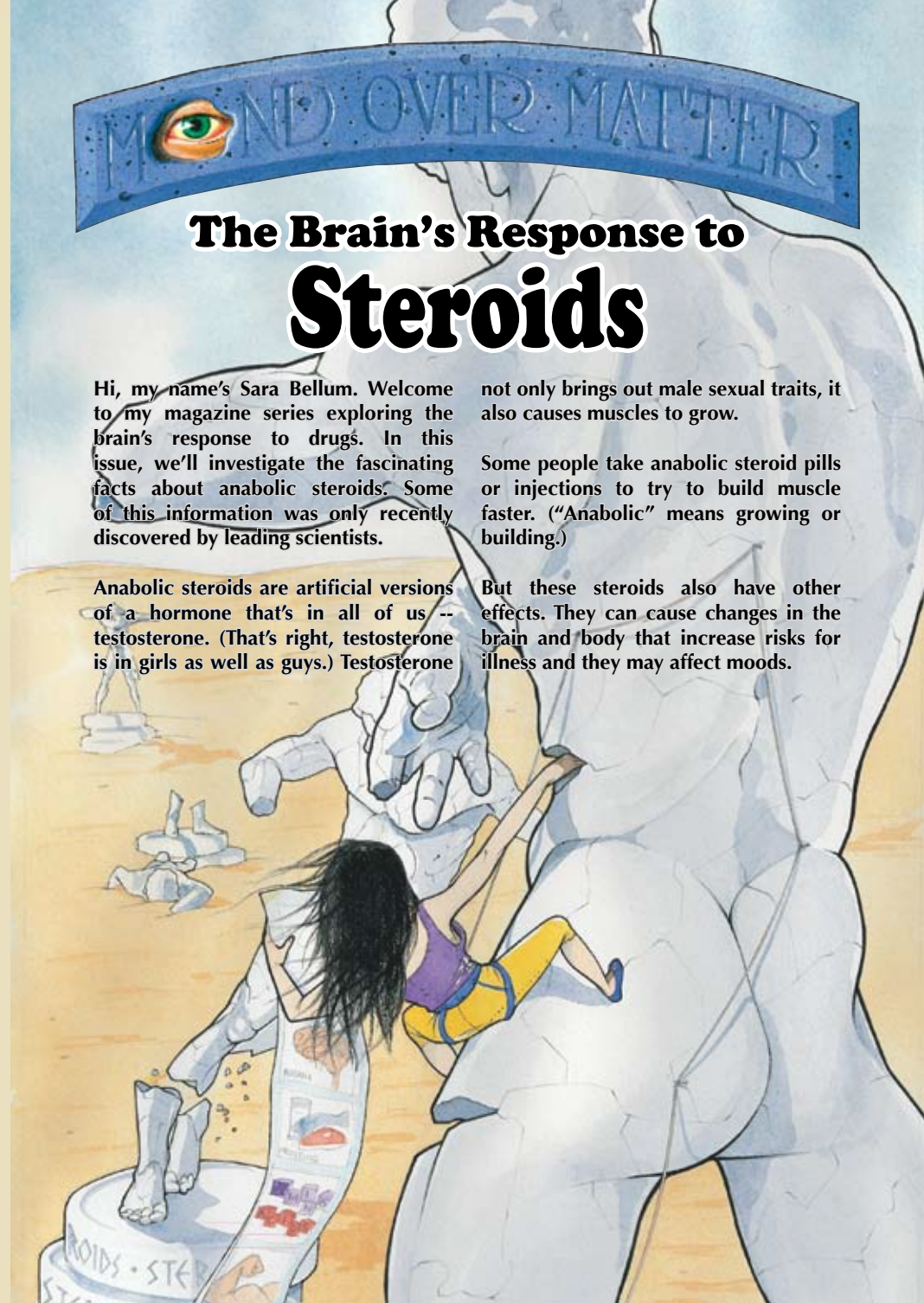
Hi, my name's Sara Bellum. Welcome to my magazine series exploring the brain's response to drugs. In this issue, we'll investigate the fascinating facts about anabolic steroids. Some of this information was only recently discovered by leading scientists.

not only brings out male sexual traits, it also causes muscles to grow.

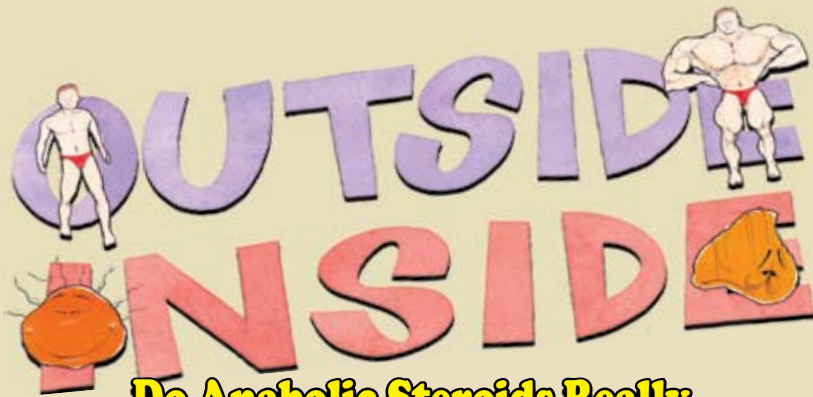
Some people take anabolic steroid pills or injections to try to build muscle faster. ("Anabolic" means growing or building.)

Anabolic steroids are artificial versions of a hormone that's in all of us -- testosterone. (That's right, testosterone is in girls as well as guys.) Testosterone

But these steroids also have other effects. They can cause changes in the brain and body that increase risks for illness and they may affect moods.



**National Institute on Drug Abuse**

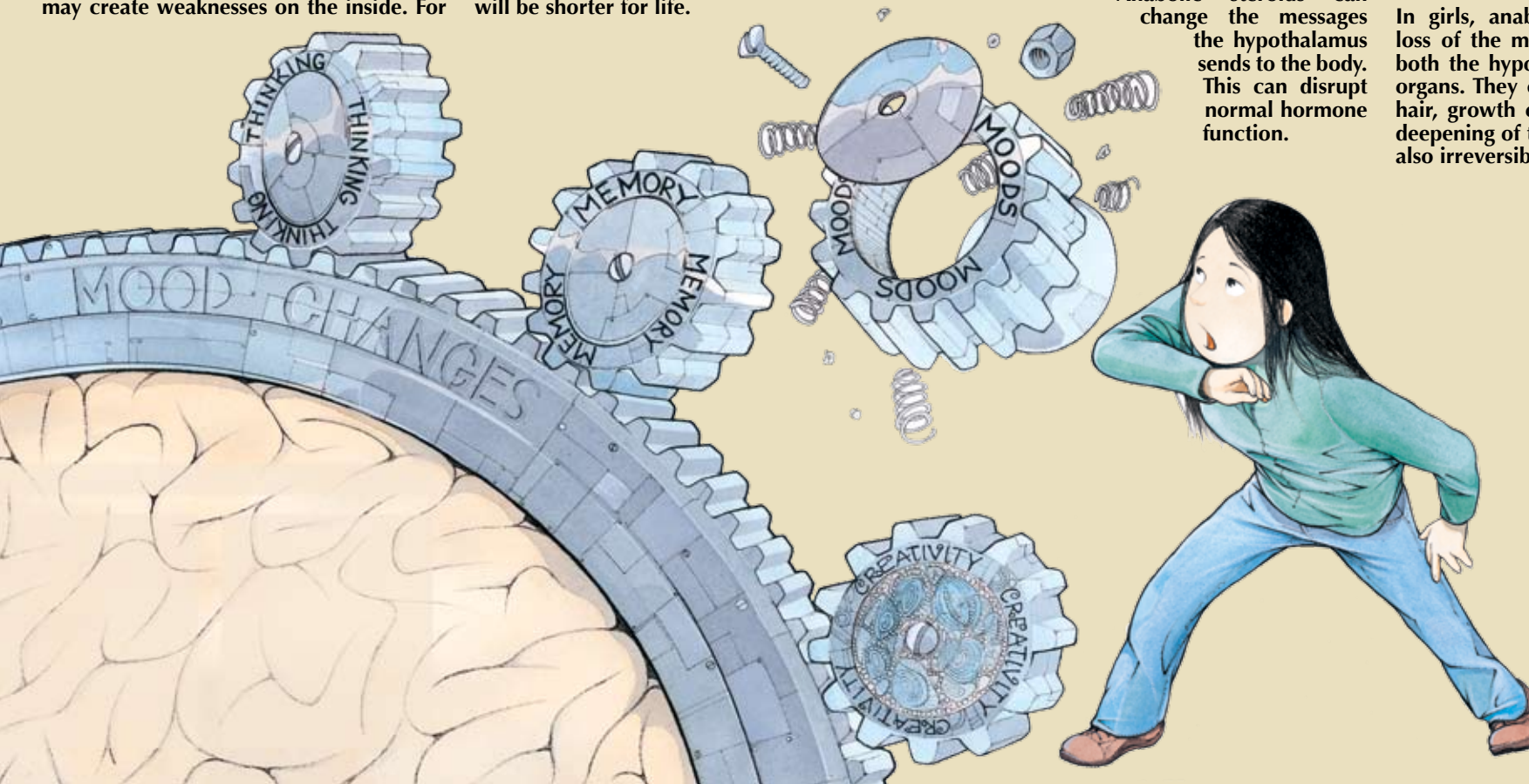


## Do Anabolic Steroids Really Make the Body Stronger?

You may have heard that some athletes use anabolic steroids to gain size and strength. Maybe you've even seen an anabolic steroid user develop bigger muscles over time.

But while anabolic steroids can make some people look stronger on the outside, they may create weaknesses on the inside. For

example, anabolic steroids can weaken the immune system -- the body's defense against germs and diseases. They can also lead to liver damage or cancer, even in young people. They can also permanently stop bones from growing in teenagers. This means that a teenage steroid user may not grow to be his or her full adult height and will be shorter for life.



## Anabolic Steroids Affect the Brain

Parts of the brain that influence your moods and are involved in learning and memory are called the limbic system. Anabolic steroids act in the limbic system. In animals, they have been shown to impair learning and memory. They can also lead to changes in mood, such as feelings of depression or irritability.

Anabolic steroid users may act mean to people they're normally nice to, like friends and family.

Anabolic steroids in the brain may trigger really aggressive behavior. Some outbursts can be so severe they have become known in the media as "roid rages."

## Anabolic Steroids Can Confuse the Brain and Body

Your body's testosterone production is controlled by a group of nerve cells at the base of the brain, called the hypothalamus. The hypothalamus also does a lot of other things. It helps control appetite, blood pressure, moods, and reproductive ability.

In guys, anabolic steroids can interfere with the normal production of testosterone. They can also act directly on the testes and cause them to shrink. This can result in a lower sperm count and reproductive ability. They can also cause an irreversible loss of scalp hair.

Anabolic steroids can change the messages the hypothalamus sends to the body. This can disrupt normal hormone function.

In girls, anabolic steroids can cause a loss of the monthly period by acting on both the hypothalamus and reproductive organs. They can also cause loss of scalp hair, growth of body and facial hair and deepening of the voice. These changes are also irreversible.