

Penis Facts

There are all sorts of penis features that seem perplexing. For example:

Is there a bone, or not?

No, there is no bone in a human penis. As we've discussed earlier in this brochure, all erectile stiffness is from blood pressure inside of the clitoris, which is inside the penis.

Why are penises partly or fully erect in the mornings?

Penises are puffed up in the morning because the body is oxygenating them, and will do so about 4-6 times per day. The partial erection in the morning is just evidence of the last time the body oxygenated the penis during sleep. Men with nerve damage may notice that they don't get their usual morning erections, either because the neural control of erection is damaged, or the blood flow mechanisms are injured. Either cause is an important reason to see your health care provider. (If this has happened, using a vacuum pump daily will pull blood in, so that the clitoris stays functional and flexible, and doesn't scar from a lack of oxygen).

Why do they shrink up in cold water or cold weather?

Penises shrink in cold weather/water because the body naturally pulls blood towards its center to keep warm. Less blood to the penis means that the size will shrink temporarily.

How can you aim your pee when you have an erection?

If a healthy penis is fully engorged, a man can't pee, so "aim" is irrelevant. The muscles at the base of the bladder, above the prostate gland, are designed to hold tight during erections, allowing semen to pass through instead. A man may feel that his bladder is very full, but he won't be able to empty his bladder until the nerves of sexual arousal switch the muscle back off and allow urination.

Men with nerve damage from diabetes, surgery, or trauma sometimes have problems with urine leakage because the nerves don't function correctly and so can't hold the muscles tight. Each situation is unique, though, and some men recover full bladder control over time.

Do I have to have sex when I have an erection?

Nope. The mind can consciously stop sexual arousal at any time. Penis swelling from an erection may take more time to deflate, but the decision to become sexual happens moment-to-moment and changed in an instant.

How does an erection ring work?

An erection (cock) ring helps hold the blood in the clitoris. By lightly trapping the outflow veins, an erection ring supports erection pressure by preventing the clitoris from deflating, similar to a light tourniquet on an arm. At *A Woman's Touch*, we only sell cock rings that are easy to remove or adjust, because trapping blood in the clitoris for a long period of time can permanently damage it by depriving it of oxygen. Have a steel-hard erection, but don't wear steel cock rings.

What other techniques can help maintain erections?

Anything that wraps around the base of the penis can help hold erections. Wide rubber bands (watch the pubic hair), cock rings, and hands (particularly grabbing at the base and stroking out from the body) help to hold blood in the clitoris. The stimulation from hands rubbing along the shaft is an added bonus. Just don't hold on too tightly for too long, or use anything that can't be easily removed (under 30 minutes of restriction at a time).

Vacuum pumps dramatically help the inflow of clitoral blood by mechanically stretching the clitoral tunica. If blood *can* flow in, the vacuum pump will make room for it to do so.

Vibrators activate the neural mechanism that begins blood flow into the penis. Even if the nerves responsible for sexual arousal have been damaged, if the clitoral structure is still functional, you'll get a response. Vibrators create "sheer stress," and sheer stress applied to the blood vessels of the clitoris activates blood flow. Therefore, vibrators are a non-drug method for enhancing internal blood flow, and will bring more blood into the clitoris.

For more information on what to do when things don't work the way you want them to, plus more ways to increase your ability to have and maintain erections, see our brochure on *Erectile Dysfunction*.

Erectile Function

~What's happening in there?

~How do I encourage more erections?



A Woman's Touch
Sexuality Resource Center

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Dear Dr. Myrtle,

How do penises get erections?

Penile erections are pretty interesting events. Young boys notice that their penis is sometimes squishy and soft, and other times fuller and bigger. Ah, the jokes about “boners” and noodles—their penis turns into a bone (!) and then without warning reverts to noodle. Older men may have a better understanding of their bodies, but may still have questions about how erections work, and how to have more of them. Let’s take a look.

Four-Part Harmony

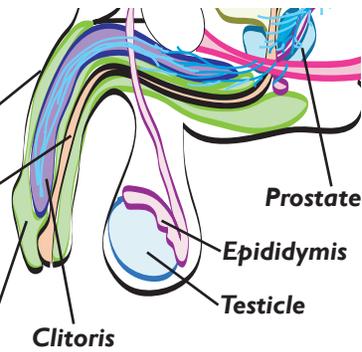
A male penis is made up of 4 basic parts:

1. **The soft, hairless outer skin** that stretches during engorgement.
2. **The urethra**, the central tube where urine and semen pass out from the body.
3. **The paraurethral gland**, a spongy gland that wraps around the urethra from the bladder to the tip of the penis, secretes drops of fluid into the urethra to keep the sides from sticking together. Paraurethral tissue also makes up the head of the penis, making it soft and spongy. This tissue can bend and stretch during sexual arousal, without changing in size or texture.
4. **The clitoris**, commonly called the *corpora cavernosa* (literally, “cavernous bodies”), is the hydraulic erectile tissue of the penis. Just like in women, the male clitoris is shaped like a wishbone, connected at the tip and separating into two legs/shafts inside the body. Because of higher testosterone levels, the male clitoris is longer (about 5”) than the female clitoris (about 4”), and develops primarily on the outside of the body, while the female clitoris is primarily inside. The blood supply (*pubdental artery*) and nerve connections are the same in both men and women.

Other components of the penis are nerves, ligaments, veins and arteries. There is no bone within the male penis in humans (trivia fact: there is one in a whale’s penis).

The Clitoris

The clitoris (*corpora cavernosa*) is composed of a stiff outer layer (*tunica*) surrounding multiple balloon-like caverns. Blood moves in and out of the caverns, filling them like



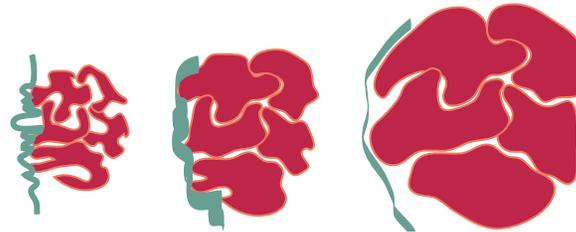
balloons and naturally flooding them several times per day to provide routine oxygen and nourishment. These floods are the erections men notice in the morning and during the day, and are unrelated to sexual arousal. When the caverns are empty, the clitoris is very flexible and floppy like a quarter-filled balloon.

Blood Flows In...

How does blood get into the clitoris? Although it seems simple enough, pumping blood into the clitoris requires all of the following:

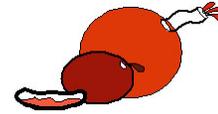
- Healthy, flexible blood vessels
- Healthy, flexible clitoral caverns
- Normal range of blood pressure
- Sufficient intake of the dietary protein L-arginine
- Low levels of inflammation in the body
- Healthy nerves

The nerves responsible for sexual arousal (*nitroergic parasympathetic nerves*) trigger the flow of blood into the caverns. The entire nerve pathway must be fully intact and unbroken in order to function properly. Also, the flow of blood must not be too low or too high, and the clitoris has to be flexible enough to stretch open. If all of these things are in place, blood will fill the caverns.



Keeping it Up

Blood flows in and blood flows out. But how does a penis stay erect? For an erection to hold, blood has to stay in the clitoris. Once blood flows in, the clitoris traps it there. Normally, blood flows into the caverns through arteries in the center of the penis, and drains out through the veins on the very outside of the shaft. When sexual arousal begins, blood flows quickly into the clitoris, creating pressure. The blood presses hard against the tunica, causing the whole structure to stiffen. If sexual arousal continues, eventually enough blood is pushed into the clitoris to squash the outflow veins, trapping the blood inside.



Flexibility of the clitoris’ tunica is one key to holding blood into an intact clitoris. To hold erections, the tunica must:

- be complete, without tears or holes
- be able to stretch all the way out to put pressure on the outflow veins
- lack scarring from trauma or inflammation, which would leave it too small to stop the flow.

The other key is continued arousal. If erotic stimulation stops or non-erotic thoughts interfere, the erection will go away.

During the development of an erection, the other structures of the penis “tag along” but do not contribute at all to the erection. For example, the skin on the outside of the penis stretches tight, while the urethra and paraurethral tissue conform to the new, erect shape. The head of the penis does not change shape because the head is made of paraurethral tissue, and is not part of the clitoris. Overall, the width of the penis is what changes most, and the length changes to a lesser degree. An erect penis may look much longer because the erection makes it stick out from the body.

What if you lose your erection?

Erections are important for penetration, but they are not necessary for sexual pleasure or orgasm. The sensory nerves that trigger pleasure and orgasm often function even when the clitoris won’t hold an erection. As a comparison, a woman’s clitoris swells and ebbs with different levels of stimulation and arousal, yet women experience sexual pleasure and orgasm. This happens because the female tunica is very thin and relatively porous. The male tunica is much thicker (the testosterone surge that happens while a fetus is in the uterus, and which causes the genitals to form into the penis and testicles, also thickens the tunica). This thickness allows it to swell, and to press on the outflow veins to close them off. Thus, with sufficient pressure, men hold erections for a longer period of time than women do. This is what supports penetrative sex play, but even without these longer held erections, men can enjoy arousal and orgasm.

