

Q&A

Urinary Incontinence



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Millions of women suffer in silence from incontinence—yet experts say the vast majority of them can be helped with proper treatment. **RODNEY A. APPELL, M.D.**, a specialist in urinary incontinence in women at the Cleveland Clinic and a member of the board of directors of the National Association for Continence, talks with **MIA SCHMIEDES-KAMP**, special correspondent for *SCIENTIFIC AMERICAN*.

Q How does urinary incontinence affect women?

A Women tend to be most susceptible to two types of urinary incontinence. The classic onset of one type, stress incontinence, is the loss of a little urine with a cough or a sneeze; as the condition progresses, any movement that increases pressure in the abdomen—such as bending over—may cause leakage. With so-called urge incontinence, on the other hand, sufferers feel a sudden, urgent need to urinate but can't make it to the bathroom in time. Rarer in women (but quite common in men) is overflow incontinence, in which the bladder empties only partially on demand; urine eventually accumulates in the bladder to the point of spilling out.

Perhaps 20 million people in the U.S. are incontinent; easily 15 to 18 million of these are women. There is a gradual increase in incidence with age: we see more problems in postmenopausal women than in premenopausal women—and urinary incontinence is the second leading cause of admission to nursing homes (after Alzheimer's disease). But this does not mean that a 24-year-old can't be incontinent. No one should be left with the feeling that this is just an old person's problem.

While incontinence is not a life-or-death issue, nothing is more of a quality-of-life issue. Incontinent women give up activities they enjoy and curtail their social lives. And in the most severe cases, incontinence can cause secondary health problems, including recurrent urinary tract infections and breakdown of the skin. To solve this problem, we have to treat the underlying disorder—we've got to get the patient dry.

What causes stress incontinence?

Childbirth seems to be a major cause of stress incontinence in women. Delicate nerves become stretched and injured during labor and delivery, leaving women with poor control of their pelvic muscles. With time, the muscles themselves atrophy, further reducing structural support for the bladder and urethra. Without this support, the urinary tract becomes distorted, and the urethral sphincter—which controls exit of urine from the bladder—weakens, resulting in leakage.

This situation worsens if the fibrous tissues that keep the organs in place are also damaged. The result may be what doctors call prolapse: a shift in the position of the bladder and other organs that further distorts a woman's internal anatomy. Prolapse is especially common in women who have had

hysterectomies—removal of the uterus leaves an empty space in which organs can move about more easily.

Menopause is another factor in stress incontinence. The falling levels of estrogen associated with menopause lead to thinning of the tissues of the lower urinary tract, as well as a reduction in the number of receptors in muscle that receive signals from nerve endings. Thus, the effects of childbirth and menopause are additive: pelvic nerves already functioning poorly because of trauma during childbirth may control muscles that are less responsive because of a lack of receptors; the result is muscles that just don't contract as well as before.

What are some causes of urge incontinence?

Urge incontinence is essentially a hyperactivity of the bladder. We know that aging in general plays a role in this disorder, stemming from effects on the central nervous system. With age come reductions of blood flow in the brain; these reductions can impair the brain's function—including its ability to inhibit the activity of the urinary tract. The result is loss of bladder control. And we know that the hormonal changes of menopause further exacerbate this condition.

Stroke is an extreme example of impaired blood flow in the brain; it often leaves its victims severely incontinent. Other diseases, including many neurological disorders—multiple sclerosis and Parkinson's disease, for example—may also result in various types of incontinence. Spinal cord injury or injury to the bladder or urethra can also cause incontinence, as do certain tumors and metabolic diseases. Diabetes is often a factor in overflow incontinence in women.

Are some cases of incontinence transient?

Various diseases and drugs can cause incontinence as a passing symptom or side effect; often these are the first causes we try to rule out when treating patients. For example, urge incontinence is a common symptom of urinary tract infections—a symptom that disappears when we treat the underlying condition.

Some medications used to treat high blood pressure reduce muscle tone in the urethral sphincter, causing stress incontinence; other common culprits include muscle relaxants and drugs on the market for depression, including Prozac and Zoloft. This side effect doesn't occur in everyone, so patients need to tell their doctors if they experience problems. In many cases, other drugs can be substituted that don't cause incontinence.

Other cases of involuntary urine loss are not true incontinence at all. We find this especially in nursing homes, where there are frequently numerous barriers to using the toilet—especially for the bedridden. These patients simply face so many delays in getting to the bathroom that they are often forced to wet themselves. Many of these patients are treated as incontinent and catheterized, when in fact they suffer no physical

deficit in their urinary tract. What these patients need is improved access and more vigilant care. Solving their problem doesn't mean fixing their anatomy—it's a matter of logistics.

Some of the most difficult cases of uncontrolled urination also occur in nursing homes and also are not strictly incontinence. These involve patients with mental deficits, including Alzheimer's disease, who have healthy urinary tracts, but who do not exercise conscious control over their urination.

How many incontinent women go untreated?

We have just barely scratched the surface of the problem. Of the approximately 15 to 18 million women who suffer from incontinence, only 50,000 or so receive treatment.

Part of the problem is that urinary incontinence is a quality-of-life issue but not a deadly one. Harried primary care doctors have little time to ask the right questions—to investigate a bit. And patients are embarrassed to mention their difficulty; they think they just have to put up with it. I find the elderly especially hesitant—they are often afraid that revealing their problem will hasten the path to the nursing home. These women simply muddle along, hiding in their diapers.

Although diapers and pads are fine in the very short term for protection, women are getting the message that incontinence is a normal part of aging and that diapers are the only solution. Instead women should be getting themselves to a doctor: almost all urinary incontinence is treatable.

When we evaluate treatment success, we speak of keeping the patient dry, which is the ideal, and also of a subjective cure, in which the patient may not be bone-dry but is happy nonetheless. The bottom line is patient satisfaction. With treatment, more than 90 percent of incontinent women should be able to reach this level, and the rest should see dramatic improvements. Even with the most severe cases, we can usually reach the point where there is no longer breakdown of the skin or recurrent infections—these toughest cases are often found in women in nursing homes who don't receive adequate care.

Women need to be their own advocates. They need to demand treatment, and they need to seek a specialist. Often solving the problem of incontinence is beyond the scope of a primary care physician. By treating incontinence, we can dramatically improve women's quality of life—"turn their lives around," in the words of many patients.

What are some of the most useful treatments?

For both stress and urge incontinence, we have women do pelvic floor exercises, also known as Kegel exercises [see box on this page], which strengthen the muscles that inhibit urine flow. Sometimes we will combine this with electrical stimulation of pelvic muscles through a device placed in the vagina or rectum for short periods. Both these techniques can be done by women themselves after instruction by a physical therapist.

We often use medication to treat urge incontinence; there are a number of drugs available that can inhibit bladder hyperactivity. And in menopausal and postmenopausal women, hormone replacement therapy can often reduce incontinence. These women may gain relief from other types of treatments as well, including Kegel exercises; however, without an appropriate hormonal milieu, none of these approaches is likely to be optimally effective.

For stress incontinence that does not respond fully to the frontline treatments, surgical intervention is often necessary. There are many different options, but the basic idea behind most surgical techniques is to provide structural support to the

Kegel Exercises

A simple exercise can help both prevent urinary incontinence and minimize its effects. The goal is to work your pelvic muscles; you can find the correct ones by noting which muscles you use to stop a urine flow midstream. You won't see motion when you tense these muscles—they work internally. Once you know where the muscles are, you can exercise anytime: squeeze for a few seconds, relax for a few seconds, then repeat 10 times. Ideally, these exercises, called Kegels (named after gynecologist A. H. Kegel), should be done at least three times a day.

—M.S.

base of the bladder, to correct prolapse and to stabilize the position of the urethral sphincter.

Another approach is to bulk up the urethra near the neck of the bladder, where exit of urine is controlled, as a way to increase the resistance against urine flow. We currently do this by injecting collagen into the tissue surrounding the urethra, under local anesthesia. These injections have proved reasonably effective in two thirds of women with stress incontinence, although about 23 percent of these women need a booster injection within two years at additional cost.

The point here is that no one treatment is for everyone: the regimen needs to be tailored to the patient. This is yet one more reason women should seek a specialist—the treatment alternatives are numerous and diverse.

Is there any way that women can prevent or minimize incontinence?

Women should be doing Kegel exercises long before they plan to have children and then stick with the routine during and after pregnancy. Intriguingly, it isn't pregnancy itself that causes most of the damage that results in stress incontinence; it is labor and delivery. Women who have cesarean sections often avoid problems with incontinence.

But anything that causes stress to the abdomen can exacerbate urinary incontinence. Therefore, I recommend that my patients watch their weight and keep their muscle tone good in general. I also encourage my patients to stop using caffeine and nicotine altogether, as both these substances cause bladder irritation and hyperactivity.

The evening is an especially tricky time to consume foods and drugs with diuretic effects, because the kidneys naturally produce more urine during the nighttime hours. A doctor may be able to reschedule a late dose of diuretic medication, and patients can avoid dietary diuretics at night.

Otherwise I don't usually make prohibitive lifestyle recommendations; for example, no changes in diet are going to make a dent in the problem like proper treatment will. And I don't want women to avoid activities they enjoy—the whole point here is to improve women's quality of life. This is not a situation women should put up with. They should seek care because they can be helped.

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For more information, contact the National Association for Continence at <http://www.nafc.org> on the World Wide Web or call 800-BLADDER.

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