

These Diapers Now Outsell Infant Diapers

Analysis by [Dr. Joseph Mercola](#)

✓ Fact Checked

April 16, 2022

STORY AT-A-GLANCE

- › Demand for adult diapers is soaring, reaching a value of \$15.4 billion in 2020 and outpacing sales for infant diapers
- › With an expected compound annual growth rate of 7.8% from 2021 to 2026, the global adult diaper market is projected to reach a value of \$24.2 billion by 2026
- › Among women aged 40 years and over, intakes of total fat were associated with an increased risk of stress urinary incontinence after one year
- › Women younger than 65 with the most proinflammatory diets were significantly more likely to report urinary incontinence compared to those with the most anti-inflammatory diets
- › Postmenopausal women who reported 30 or more hours of physical activity a week were 16% less likely to develop urge urinary incontinence and 34% less likely to develop mixed urinary incontinence
- › Pelvic muscle exercises, known as Kegel exercises, can specifically target and strengthen the muscles that support your bladder

Demand for adult diapers is soaring, reaching a value of \$15.4 billion in 2020¹ and outpacing sales for infant diapers.² With an expected compound annual growth rate of 7.8% from 2021 to 2026, the global adult diaper market is projected to reach a value of \$24.2 billion by 2026, driven by increasing rates of urinary incontinence among older populations.

Elderly adults are looking for products that have improved fluid absorption and retention capacities, while sales are expected to be bolstered by technological advancements including thinner, more comfortable products that are easier on the skin with better odor control.³

An adult diaper market global report released in 2021 named North America as enjoying “the leading position in the global adult diaper market,” courtesy of its growing geriatric population and successful “awareness campaigns” run by diaper manufacturers, which have helped to remove some of the stigma associated with urinary incontinence.⁴

The most pertinent question in all of this, however, is what’s causing all of these problems with urinary incontinence and bladder control to begin with? You might be surprised to learn that diet is an important factor.⁵

What Is Urinary Incontinence?

Urinary incontinence is a type of bladder control problem in which urine leaks accidentally. This may occur during everyday activities, such as coughing or exercising, or in bed while you’re sleeping. Symptoms of urinary incontinence also include being unable to hold urine, leaking urine without any warning, not being able to reach a toilet in time or leaking urine during sexual activity.⁶

In some cases, urinary incontinence can be caused by urinary tract infections, constipation or certain medications. However, when the problem persists, it’s likely related to:⁷

Weak bladder or pelvic floor muscles	Overactive bladder muscles
Damage to nerves that control the bladder, which may occur in multiple sclerosis, diabetes or Parkinson’s disease	Pelvic organ prolapse

Prostatitis, or inflammation of the prostate gland

Enlarged prostate gland, which can lead to benign prostate hyperplasia

While urinary incontinence is extremely common, affecting about 50% of women at some point during their lifetimes, fewer than half of them seek care for their symptoms, often due to the stigma attached.⁸ There are three subtypes of urinary incontinence, which include:⁹

- 1. Stress urinary incontinence** – This describes urine leakage that occurs due to physical activity or pressure on the bladder. It may occur during exercise, coughing, laughing, sneezing or while lifting heavy objects.
- 2. Urge urinary incontinence** – This involves a sudden urgency to urinate with a feeling that it can't be controlled. People with urge urinary incontinence may not be able to hold their urine long enough to make it to the toilet. It may occur in those with diabetes, Alzheimer's disease, Parkinson's disease, multiple sclerosis or stroke.¹⁰
- 3. Mixed urinary incontinence** – This involves a strong urge to void along with urine leakage that occurs during physical activity.

Dietary Factors Can Affect Bladder Control

While the risk of urinary incontinence increases with age, leading a healthy lifestyle can help you to maintain bladder control as you get older. Diet is a key factor. In a study of 5,816 women aged 40 years and over, intakes of total fat, saturated fatty acids and monounsaturated fatty acids were associated with an increased risk of stress urinary incontinence after one year.¹¹

Further, “trans-fats, white flour, white sugar, processed foods, high vegetable oil intake, alcohol, soda pop and other sugar-rich beverages contribute to diet-induced inflammation,” noted chiropractor Dr. Lina Dobberstein, who is board certified in clinical

nutrition.¹² A proinflammatory diet, including one rich in processed foods and vegetable – or seed – oils, is, in turn, also linked to urinary incontinence.

In an analysis of 13,441 women younger than 65, those with the most proinflammatory diets were significantly more likely to report urinary incontinence compared to those with the most anti-inflammatory diets.¹³

The study used a dietary inflammatory index, or DII, score to assess proinflammatory diets, and suggests that inflammation could be a key reason why unhealthy diets may increase the risk of urinary incontinence. As for how inflammation may affect bladder control, the researchers, writing in Scientific Reports, explained:¹⁴

“[H]igh DII score (representing pro-inflammatory diets) has been positively associated with increased levels of inflammatory markers including CRP, TNF- α , IL-6.

Studies indicated that inflammatory cytokines play a key role in the modulation of connexins expression and the pathogenesis of urinary bladder dysfunction and inflammatory cytokines were involved in an interaction of overactive parasympathetic and peptidergic/sensory innervations of the bladder with local immune cells.

Furthermore, several molecular pathways indicated that inflammation accompanies the changes of SUI [stress urinary incontinence] in rat model system. SMAD2 is a known downstream mediator of TGF- β , which plays an important role in tissue inflammation and other disorders, SMAD2 was found upregulated in SUI compared with healthy controls in previous study.”

Other dietary factors, including specific foods and medications, that have been linked to problems with bladder control and bladder irritation include:^{15,16}

Alcohol	Caffeine
Carbonated beverages	Artificial sweeteners

Chocolate	Chili peppers
Citrus fruit	Spicy foods
Blood pressure and heart medications	Muscle relaxers
Sedatives	Tomatoes and tomato-based products
Corn syrup	Sugar

Environmental Chemicals Affect Bladder Control

Aside from dietary toxins, chemicals in the environment may also contribute to problems with bladder control. Lower urinary tract dysfunction, including urgency to urinate and urge urinary incontinence, is also common among men and has been described as “nearly ubiquitous in men of advancing age.”¹⁷

While research into how environmental chemicals affect the bladder is limited, an animal study suggested that exposure to polychlorinated biphenyls (PCBs) in the womb may cause an increase in male bladder volume and changes in bladder function.¹⁸

A review published in *Toxics* further suggested that chemical insults to the lower urinary tract in men could lead to abnormal sensory processes in the bladder, urothelial damage and overactive bladder. In the prostate, toxic exposures could lead to change in prostatic smooth muscle contraction along with changes in urine velocity.¹⁹

The endocrine-disrupting chemical bisphenol-A (BPA) has also been linked to lower urinary tract symptoms, including voiding dysfunction,²⁰ and the findings “implicate BPA exposure in adulthood in male lower urinary tract dysfunction.”²¹

Healthy Lifestyle Changes May Improve Incontinence

Strong associations exist between urinary incontinence and risk factors for cardiovascular disease, such as obesity, diabetes, high blood pressure, smoking and intake of alcohol and caffeine. As such, programs aimed at improving diet and physical activity, while maintaining a healthy weight and quitting smoking, can improve both heart health and urinary incontinence.²²

Since bladder problems can have such a detrimental impact on quality of life, they can also be a strong motivating factor to help you stick with an overall healthier lifestyle — and, lifestyle and behavioral strategies represent the first-line treatment for most cases of urinary incontinence, anyway, and often they're successful.

In one study of 19,741 postmenopausal women, those who reported 30 or more hours of physical activity a week were 16% less likely to develop urge urinary incontinence and 34% less likely to develop mixed urinary incontinence.²³

Engaging in exercises such as modified pilates can also be beneficial, with those taking part reporting improved self-esteem, decreased social embarrassment, lower impact on daily activities and improvement in personal relationships among women with urinary incontinence.²⁴ Taking part in pilates also improved overall attitudes toward exercise, healthy diet and well-being.

Attention to healthy sun exposure, to ensure optimal vitamin D levels, may also help. Vitamin D receptors can be found in the bladder detrusor muscle, and a review of 12 studies found an association between low levels of vitamin D and urinary incontinence.²⁵

Copper levels could also be implicated, with high levels increasing the risk.²⁶ This is something to consider, particularly, if you've used birth control pills or copper IUDs. Dobberstein wrote:²⁷

"This makes me question the prevalent use of birth control pills and copper IUDs that can readily cause your body to retain copper. Some women also have a genetic tendency to retain copper. Have these birth control measures that affect copper metabolism led to bladder control difficulties in some women? If

you have bladder control concerns and use birth control, get a blood test to measure your copper levels.”

Healthy Lifestyle and Bladder Control Training

The use of adult diapers is becoming so commonplace that the products were recently included in a move in Florida to make diaper sales tax-free.²⁸ The diaper sales tax exemption is currently only aimed at infant diapers, but legislators are trying to change that. “Unfortunately, this agreement doesn’t include adult incontinence products (though they were a part of my proposal) – we’ll continue the fight next year,” state Sen. Lauren Book tweeted.²⁹

To avoid reaching the point where you’ll need to support the growing adult diaper industry, focusing on a whole foods diet with limited proinflammatory processed foods is important, as is avoiding the potential dietary triggers listed above. To quench your thirst, water is the best beverage for your bladder.³⁰

Regular exercise, combining strength training, endurance, balance and flexibility workouts, can benefit your bladder and your overall health,³¹ while pelvic muscle exercises, known as Kegel exercises, can specifically target and strengthen the muscles that support your bladder.³²

Additional forms of bladder control training can also be helpful, such as urgency suppression, which involves distracting yourself when you feel the need to urinate. Timed voiding is another option. By scheduling a time to urinate, for instance once every hour, it can help you to gradually extend the time between voiding.

Sources and References

- ^{1, 3, 4} [Business Wire February 23, 2021](#)
- ² [StayDry News](#)
- ^{5, 12, 15, 27} [Wellness Resources April 4, 2022](#)
- ⁶ [National Institute of Diabetes and Digestive and Kidney Diseases, Symptoms & Causes of Bladder Control Problems \(Urinary Incontinence\)](#)

- ^{7, 10, 32} National Institute on Aging, Urinary Incontinence in Older Adults
- ^{8, 9} North Carolina Medical Journal November 2016, 77 (6) 423-425; doi: 10.18043/ncm.77.6.423
- ¹¹ Eur J Clin Nutr. 2004 Jun;58(6):920-6. doi: 10.1038/sj.ejcn.1601913
- ^{13, 14} Sci Rep. 2021; 11: 9340
- ^{16, 30} National Association for Continence, Diet Habits
- ¹⁷ Toxics. 2022 Feb; 10(2): 89
- ¹⁸ Toxics. 2022 Feb; 10(2): 89., Section 2.1, The Bladder
- ¹⁹ Toxics. 2022 Feb; 10(2): 89., Figure 1
- ^{20, 21} Am J Physiol Renal Physiol. 2018 Nov 1; 315(5): F1208–F1216
- ²² Int Urogynecol J. 2020 May;31(5):857-863. doi: 10.1007/s00192-019-04058-w. Epub 2019 Jul 26
- ²³ J Gerontol A Biol Sci Med Sci. 2021 Aug 13;76(9):1600-1607. doi: 10.1093/gerona/glab118
- ²⁴ BMC Womens Health. 2018; 18: 16
- ²⁵ Int Urogynecol J. 2021 Sep 7. doi: 10.1007/s00192-021-04963-z
- ²⁶ Biol Trace Elem Res. 2021 Mar;199(3):842-849. doi: 10.1007/s12011-020-02205-9. Epub 2020 May 28
- ²⁸ ABC Action News March 15, 2022
- ²⁹ Twitter, Lauren Book March 14, 2022
- ³¹ National Association for Continence, Exercise and Lifestyle Tips