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Always consult your doctor before trying anything recommended in this or any other publication that speaks to general health issues.

For more information about incontinence, write or call:

NAFC

P.O. Box 1019
Charleston, SC 29402
phone: 843-377-0900
fax: 843-377-0905
toll-free: 1-800-BLADDER (1-800-252-3337)
Web site: www.nafc.org

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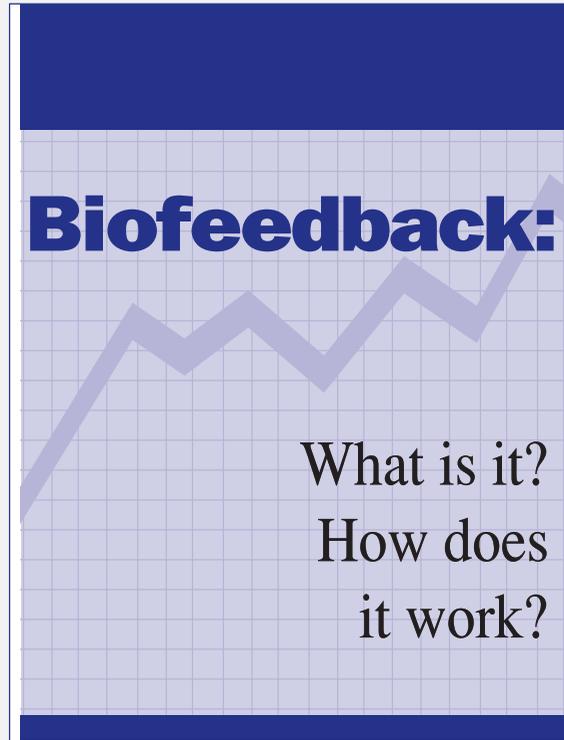
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Biofeedback

What is it?
How does
it work?

By Barbara F. Woolner, RN,CCCN

Through biofeedback, patients are taught when and how to use their muscles correctly to control urine loss

What Is Biofeedback?

Biofeedback is a method for providing individuals with information about their body.

People use biofeedback on a regular basis though they are seldom aware of doing so. For example, a bathroom scale “feeds back” information about our weight. We can use that information to modify our diet accordingly. Nurses, doctors, physical therapists and other health professionals use very sensitive biofeedback instruments to provide information to patients about their bodily functions. It has long been used for helping people gain skill in relaxing their muscles. More recently it has been found to be very valuable in helping to strengthen muscles. Its use in rehabilitating the muscles of stroke or accident victims and for the treatment of incontinence is highly successful.

How Long has Biofeedback been used to Treat Incontinence?

Biofeedback treatment for loss of bladder control (urinary incontinence) is not new. Dr. Arnold Kegell, a gynecologist, used a pressure feedback device in the late 1940s to teach his patients how to strengthen the muscles that support the bladder and other pelvic organs. These muscles stretch from the pubic bone in front to the tail bone in back and are very important in bladder control. In women, the pelvic muscles are often damaged during childbirth and lose even more strength as hormone levels decrease during menopause. Unlike other muscles in the body, the pelvic muscles do not move a limb or a joint. Because of this fact we often forget they are there and do nothing to maintain their tone. By contracting (squeezing tight) and relaxing the pelvic muscles they become stronger and more efficient. Dr. Kegell recognized these facts and developed his feedback device as a means of “seeing” how the muscles behaved.

Kegell’s exercises were adopted by others in the medical field as a means of improving bladder control, though often without the benefit of biofeedback. Unfortunately, Dr. Kegell’s original success was not maintained without the aid of biofeedback. The good news is that today special computerized biofeedback devices are available to teach Kegell’s exercises (pelvic muscle exercise).

What are the Benefits of Biofeedback?

- *Safe, non-invasive*
- *Effective*
- *Does not preclude other treatment options*



*For the treatment of incontinence, pelvic muscle exercise and bladder inhibition using biofeedback therapy has received the highest rating possible by the AHCPR Guideline.**

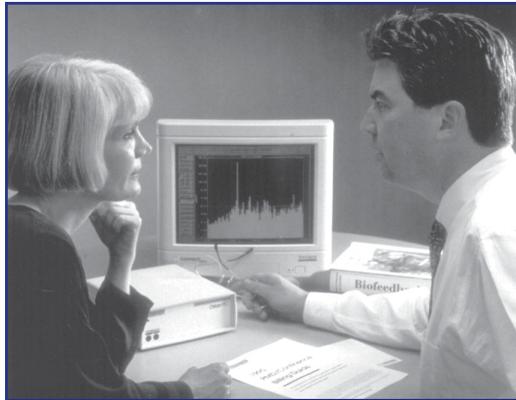
*Biofeedback for teaching pelvic muscle exercises to reduce incontinence is a recommended treatment by the Agency for Health Care Policy and Research (AHCPR) Clinical Practice Guideline Urinary Incontinence in Adults: Acute and Chronic Management.

The first step in performing pelvic muscle exercise is learning the correct muscles to contract and relax. Biofeedback is an important tool in teaching people to identify and become more aware of the pelvic muscles.

Can Biofeedback Help Me?

In the case of weak muscles that accompany **stress incontinence**, patients are taught when and how to use the muscles correctly to control urine loss during a cough, sneeze or other activity. As the muscles grow stronger with exercise, people are more and more successful in preventing leakage.

For those with **urge incontinence**, the biofeedback therapist instructs the patient in using the muscles to quiet the sensation of urgency thus giving the patient more time to reach the bathroom.

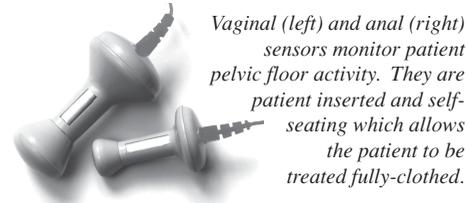


How Does Biofeedback Work?

All muscles in the body give off a small electrical signal that can be monitored with electromyography (EMG), the type of biofeedback most often used for bladder control and other pelvic muscle problems. By placing small sensors close to the muscles being monitored, biofeedback devices detect and record this electrical activity. By “feeding back” the information gathered by the EMG to the patient, immediate knowledge about these muscles becomes available. For people with urinary incontinence this information can then be used to plan a personal exercise program to increase the strength and holding power of the muscles that control urination.

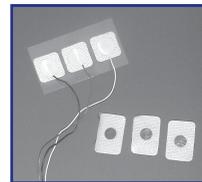
Monitoring the pelvic muscles is achieved by using small sensors. Because not all patients are comfortable with the same sensor, pelvic muscle activity is monitored with either of two types of sensors.

- ❖ For women, small tampon-like sensors are placed in the vagina. For men (and women with small vaginal openings) smaller sensors are available that fit inside the anus. Patients are most often able to place these sensors by themselves and can remain fully-clothed.



Vaginal (left) and anal (right) sensors monitor patient pelvic floor activity. They are patient inserted and self-seating which allows the patient to be treated fully-clothed.

- ❖ Some patients will prefer an external “stick-on” type of sensor. These are especially good for elderly patients and should always be used for children. These patches are like small Band-Aids and stick to the skin surface just outside the anal opening. They are called electrodes and are similar to the ones used for EKGs.



Both types of sensors are effective in measuring muscle activity.

After the pelvic muscle sensor is in place or applied to the skin, another set of sensors is placed on the surface of the abdomen. The most common error that people make in performing Kegel's exercises is using their abdominal muscles instead of the pelvic muscles. With biofeedback, the patient can learn to stop using the wrong muscles and start using the correct ones.

Seeing is Believing

Once the sensors are in place, the biofeedback therapist connects the sensors to a computer. The computer changes the electrical activity of the muscles into a signal that can be seen (or heard) on the computer screen. The signal may be viewed as colored lines moving across the screen or bars that move up and down as the muscles tense and relax. Sometimes an audible tone accompanies the signal.

Putting it All Together

The job of the biofeedback therapist is to coach the patient in the proper use of the pelvic muscles. By following instructions, patients will see the signals changing as they contract and relax the muscles. Seeing is believing! As these changes occur, patients become more aware of the pelvic muscles.

Biofeedback does nothing to patients but assists them in learning to control their own body. It is a safe and effective treatment technique with no known side effects.



The color video shows relax activity at left of screen, followed by contract at right.

Summary

Biofeedback treatments for incontinence

- ❖ are effective in the treatment of urge or stress incontinence when used by trained therapists.
- ❖ can be helpful in certain other conditions caused by pelvic muscle dysfunction.
- ❖ are useful for people who are willing and able to assume more responsibility and control of their body.
- ❖ can be used along with medications and other types of treatment for incontinence such as bladder training and dietary modification.
- ❖ may be prescribed before and after surgery.
- ❖ are reimbursed by Medicare in most cases.

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▼**NAFC Membership**—Annual membership entitles you to a Quality Care quarterly newsletter subscription. Every issue includes helpful information about causes and treatments for incontinence. With NAFC membership you will also receive the *Resource Guide - Products and Services for Incontinence*, a complete directory of incontinence products and services; access to our *Continence Resource Service* database of health care professionals; and discounts on all NAFC fact sheets. (*\$25 annually*)

▼**Pelvic Muscle Exercises for Men**—This audio cassette tape is most helpful for men experiencing urine leakage after prostate surgery. The accompanying training manual helps you to follow the verbal instructions with written descriptions and detailed drawings. (*\$6 postpaid*)

▼**Pelvic Muscle Exercises for Women**—This audio cassette tape is most helpful for women experiencing stress urinary incontinence. The accompanying training manual helps you to follow the verbal instructions with written descriptions and detailed drawings. (*\$6 postpaid*)