BottomLine

For members of Evolution Benefits Association 2026

Tendon Trouble

Finding a Fix for Injured Tissue

(NIH-News In Health) Tendons connect muscles to bones. Without them, your muscles couldn't move your body. When you injure a tendon, it can affect your everyday activities.

"No matter how strong your muscle is, you're not going to be able to have the functionality and the stability that you need if a tendon is impaired," says Dr. Nelly Andarawis-Puri, a bioengineering researcher at Cornell University.

Tendon troubles can arise from inflammation, a rupture, or breakdown (degeneration) of the tendon tissue. These conditions are called tendinopathies. Symptoms include swelling, pain, stiffness, and weakness.

Problems can stem from a sudden, awkward movement. But they're usually a result of overuse. Overuse injuries are common in athletes. But daily activities that require repetitive movements can put anyone at risk. For instance, repeated exercises that require jumping may cause knee problems. Typing all day at work may lead to pain in your hands.

Also included in this issue:

Tendon injuries can lead to long-term (chronic) issues if they don't fully heal. And they often don't. That's because our bodies' ability to repair tendon tissue declines with age.

Researchers are trying to unravel why tendons often don't heal properly and what's needed to repair them.

Breaking the Cycle

"The most common type of tendon injury is an overuse, or wear-and-tear, injury," explains Andarawis-Puri. "It's not necessarily painful once it starts and can be silent for a long time. Essentially, you predispose yourself to more and more accumulation of damage. Then, eventually you have degeneration."

Getting treatment early can help keep tendon problems from getting worse. Your doctor may recommend icing the area, pain relievers, and resting the tendon.

These treatments don't help repair your tendon. "But they can make you less miserable and manage the pain and the discomfort," Andarawis-Puri says.

Physical therapy is often recommended for treatment as well. But there is a fine balance between exercise that promotes healing or causes damage. "That's tricky," Andarawis-Puri says, "because that's different for every person."

Her team is studying the biology of tendons to better understand how and when exercise promotes healing.

Tendons are made up of cells called tenocytes and bundles of a protein called collagen. These bundles form long helical chains.

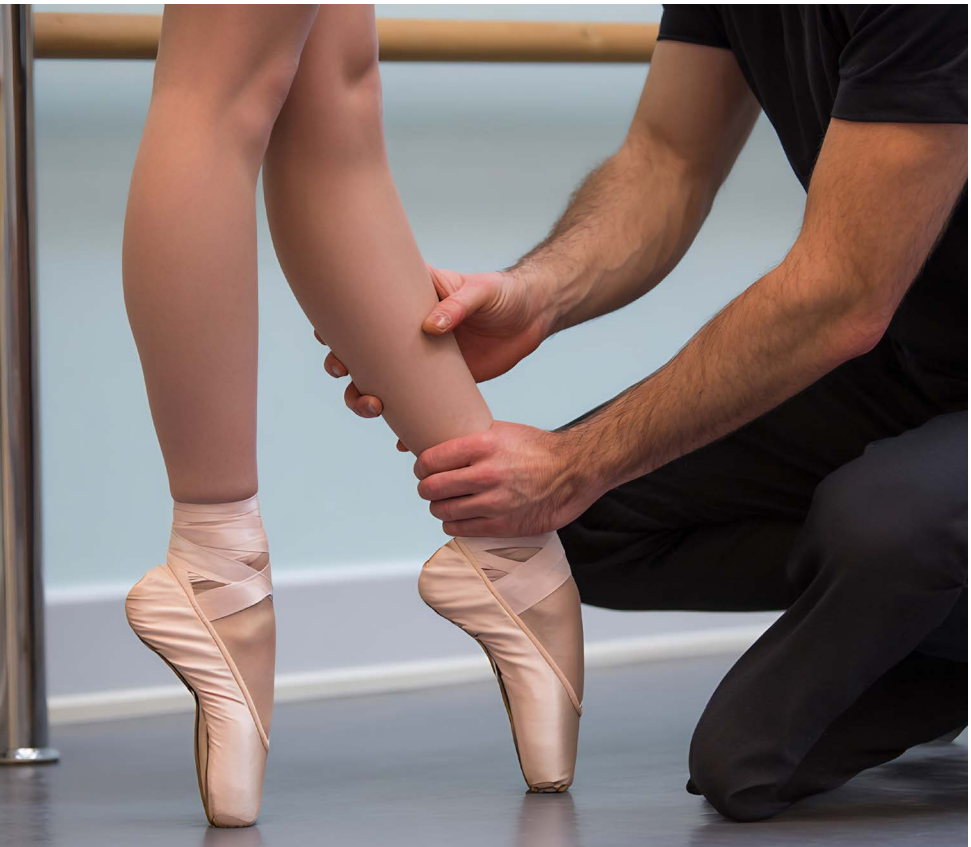
"These helices look almost like springs—that allows them to coil and uncoil," says Dr. Adam Abraham, an expert on chronic tendon disease at the University of Michigan. Coiling helps the fibers absorb the force from your body movements.

"A tendon is a unique connective tissue that's highly ordered and made primarily of collagen. That's what gives it its strength," explains Dr. Jenna Galloway, a regenerative medicine expert at Massachusetts General Hospital and Harvard Medical School. "When you do too much movement, you can damage some of those collagen fibers. Normally, we can repair a little bit of damage. But if you do this over and over again, you change the properties of the tendon."

When collagen fibers are injured, they look kinked under a microscope, says Andarawis-Puri. Her team has shown in animals that exercising too soon after an injury worsens that kinking. They've also found that waiting two weeks before letting the animals exercise gives time for the coils to straighten out.

"Our research shows that with the right timing and conditions, movement can actually trigger the tendon to repair," Andarawis-Puri says.

Her team hopes to find ways to easily tell when exercise will help rather than hurt.



Reversing Chronic Conditions

The highly organized nature of tendons is key for them to work properly.

"But tendons are a rather lazy organ," Abraham explains. "They are slow to adapt, if they adapt at all."

Abraham's team is trying to understand the changes tendons undergo from chronic injuries. They've developed a system that allows them to grow 3D tendon-like structures using cells from patients' tendons.

"We're developing a system that basically allows us to make microtendons," Abraham explains. "The goal is to grow hundreds to thousands of these from a single person. That may sound very large, but they're the size of a human hair."

This 3D system allows the researchers to expose the micro-tendons to different conditions. Then, they can look at how the microtendons respond. They're comparing microtendons grown with cells taken from people who have healthy tendon tissue to those with chronic tendinopathies.

"We can stress out healthy microtendons and get them to behave like those from patients with chronic injuries," says Abraham. "The cells that come from patients with a chronic condition are already stressed. They become locked in this stressed state."

His team is trying to restore chronically injured cells to a healthy state. "We're hoping with this 3D system, we will be able to synthesize many hundreds of different environments at the same time. So we can screen what might be a possible fix," he explains.

Abraham's team is also testing an injectable hydrogel to mimic a healthy environment. They hope to deliver it to injured tissue to restore an organized tendon structure.

Coaxing Repair

Unlike people, some animals can fully repair tendon tissue as adults. For instance, zebrafish completely regenerate tendons throughout their lives. Galloway hopes to learn from them.

Her group has shown that tenocytes can repair fully torn tendon tissue in zebrafish. Her recent study showed that the cells bridge fully severed tissue back together.

People and other mammals have tenocytes, too. But after a tendon is injured in mammals, the tissue usually doesn't recover. Instead, a scar forms and disrupts the carefully crafted collagen structure.

There's something different about how mammals respond to a fully torn tendon injury, Galloway says.

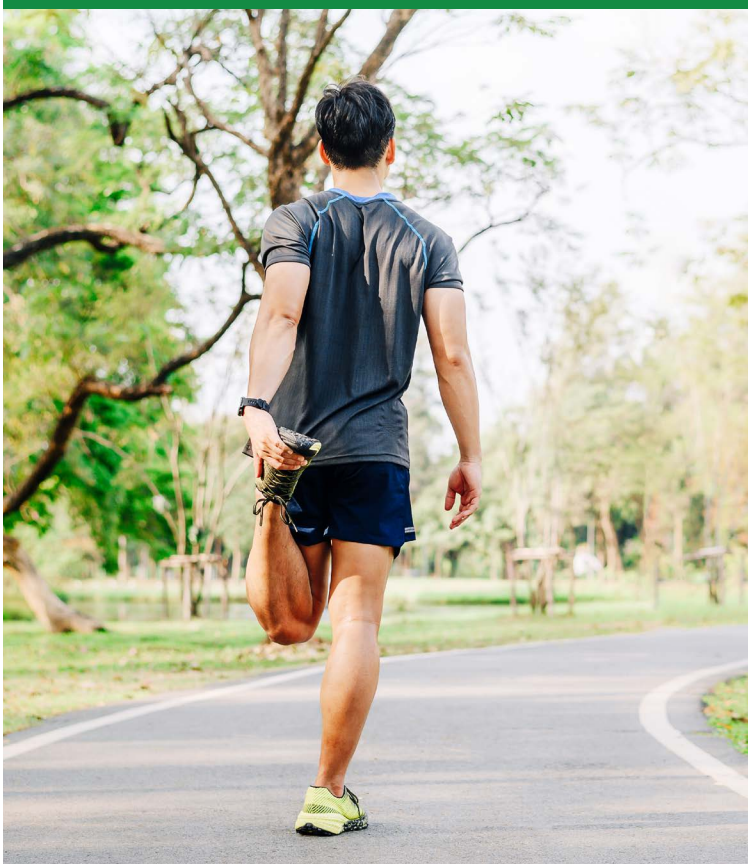
"The cells in the zebrafish can respond to an injury to regenerate the tissue, but the cells in mammals cannot," she adds.

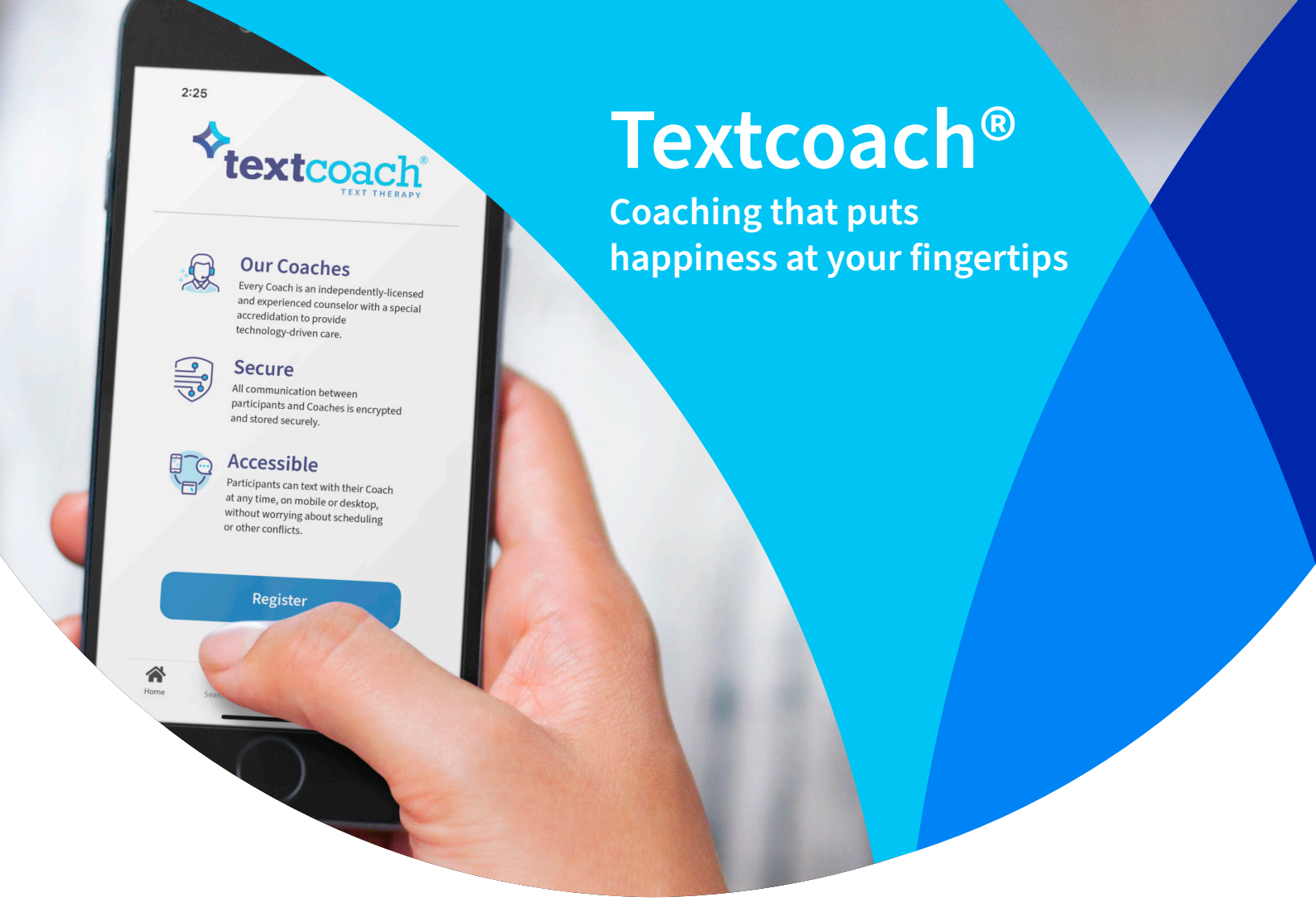
Her team is comparing differences between fish and mammals after a tendon injury. And they're testing potential compounds in injured tissue in mammals. They hope they can make the process of healing go better for them, too.

Scientists are still trying to fully understand tendon biology. In the meantime, it's important to protect your tendons and get injuries treated early.

Protect Your Tendons

- Warm up or stretch before exercise.
- Do strengthening exercises for the muscles around your joints on a regular basis.
- Don't sit still for long periods.
- Take frequent breaks when doing activities that require repetitive motions.
- Practice good posture and position your body properly for tasks.
- Begin new physical activities slowly. Gradually increase the intensity over time.
- Stop activities if they cause you pain.
- Cushion your joints while using tools and sports equipment. Try padding, gloves, or grip tape.





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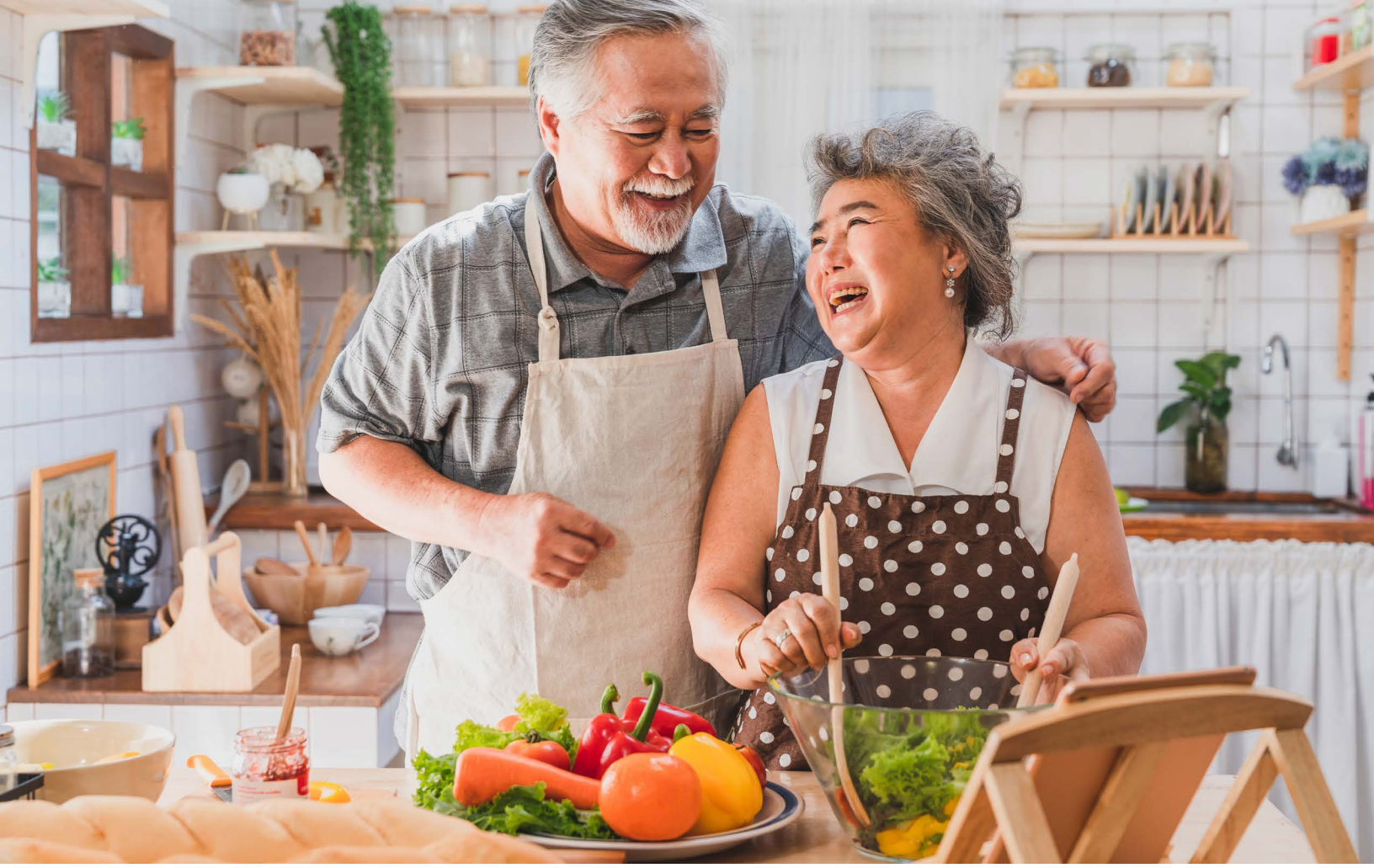

DASH-Style Diet Helps Control Blood Sugar

(NIH-News In Health) For over 30 years, doctors have recommended the DASH diet to help people reduce high blood pressure. Studies have repeatedly shown that the DASH eating plan can improve heart health. The DASH diet seems to have other health benefits. But its effects on blood glucose, also called blood sugar, in people with type 2 diabetes were unclear.

The DASH diet encourages eating fruits, vegetables, whole grains, and low-fat dairy. It favors beans and lean meats for protein. It suggests limiting saturated fats and sugar-sweetened food and drinks.

In a new study, researchers tweaked the DASH diet to help improve glucose control. The adjusted diet for diabetes is called DASH4D. It includes slight changes, such as eating even fewer sweets and starchy foods like potatoes.

Researchers studied 89 people with type 2 diabetes. Participants followed four different diets, in random order, for five weeks each. Two of the diets were variations on DASH4D. The other two were similar to the typical American adult diet.

Compared to a typical diet, the DASH4D eating plan led to more time with blood glucose in the recommended range. The results suggest that a modified DASH diet could help control blood sugar levels in adults with type 2 diabetes.

"The original DASH diet has long been recommended for people with diabetes and other health conditions due to its effectiveness in lowering blood pressure," says Dr. Elizabeth Selvin at Johns Hopkins University. "But this is the first time a controlled study has shown a significant improvement in glucose control as well."

NOTICE OF ANNUAL MEETING OF MEMBERS

The Annual Meeting of the Members of Evolution Benefits Association will be held at 12444 Powerscourt Drive, Suite 500A, St. Louis, MO 63131, on Wednesday, March 18, 2026 at 11:15 a.m. (CST) for election of Directors and for the transaction of such other business as may properly come before the meeting and any adjournment thereof.

The above notice is given pursuant to the By-Laws of the Association.

PROXY
Evolution Benefits Association
March 18, 2026 Annual Meeting of Members
THIS PROXY IS SOLICITED ON BEHALF OF EVOLUTION BENEFITS ASSOCIATION

The undersigned member of Evolution Benefits Association does hereby constitute and appoint the President of Evolution Benefits Association, the true and lawful attorney(s) of the undersigned with full power of substitution, to appear and act as the proxy or proxies of the undersigned at the Annual Meeting of the Members of Evolution Benefits Association and at any and all adjournments thereof, and to vote for and in the name, place and stead of the undersigned, as fully as the undersigned might or could do if personally present, as set forth below:

1. FOR [ ], or to [ ] WITHHOLD AUTHORITY to vote for, the following nominees for Board of Directors: Don Breckenridge, Tom Ebner and John Schwaig
2. In their discretion, the proxies are authorized to vote upon such other business as may properly come before the Meeting.

This proxy, when properly executed, will be voted in the manner directed by the undersigned member. If no direction is made, this proxy will be voted for the election of directors and officers.

DATED: _____ , 2026

Signature _____

Name (please print) _____

Please date and sign and return promptly to 12444 Powerscourt Drive, Suite 500A, St. Louis, MO 63131 whether or not you expect to attend this meeting. The Proxy is revocable and will not affect your right to vote in person in the event that you attend the meeting.

St. Louis, Missouri
February 9, 2026
Date

BottomLine is published by:
Evolution Benefits Association

For information regarding your membership
and association services, call or write:

Membership Services Office
Evolution Benefits Association
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1-800-992-8044 or (636) 530-7200

Benefits may not be available in all membership levels.
For more information, or to upgrade your membership, please call 1-800-387-9027.

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