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May 11, 2018

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A Balancing Act: Building Bone Mass and Staying Active

When it comes to bone mass, use it or lose it, say local medical experts. Here's everything you need to know about building your body's framework so you can stay active for a lifetime.

by Jamie Korf

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When it comes to bone mass, use it or lose it, say local medical experts. Here's everything you need to know about building your body's framework so you can stay active for a lifetime. Plus, the connection between estrogen, menopause, and osteoporosis.



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Being “big-boned” is more than just a euphemism—it’s an actual thing. “People of Northern European descent, like us Minnesotans, have a higher incidence of bone issues,” says Amy Beacom, MD, a sports medicine physician with Summit Orthopedics. “We’re just taller, bigger women in general, and if you’re a bigger person, you’re going to have bigger bones.”

Bone is usually referred to as a sort of supportive framework for the body. But it’s more than just that: Between osteoclasts (special cells designed to remove bone) and osteoblasts (the bone-forming cells), bone is a very dynamic living tissue that constantly changes throughout our life. This process is kept in balance in healthy adult bones.

“It’s been tried and true that if you stress bone in a healthy way, it will respond positively,” says Beacom. She cites a study that involved 100 nursing home patients divided into two different groups, where one group was put into a weight-lifting program while the other continued with regular daily activities. After a few months, the first group got CT scans on cross-sections of their thighs, and saw a 96 percent increase in muscle mass. “Any time you can build muscle mass, you’re setting yourself up for [good] bone health,” she says.

Those results corroborate a 2017 study by the University of Exeter and the University of Leicester, where scientists looked at data on more than 2,500 women and found that premenopausal women who did brief bursts of high-intensity, weight-bearing activity (think: one to two minutes), and postmenopausal women who did a slow jog, had overall better bone health.



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“Joint-loading activity like walking, running, and weight lifting is loading of the muscle, of the bone, and it’s going to bear out,” Beacom says. “The one question we’re still trying to answer, however, is: Does increased muscle mass from lifting translate to bone mass and density? Intuitively I would think yes, but we just don’t know yet.”

While the research may not give a clear picture whether exercise builds bone, it does show that it can protect bone in other ways. When it comes to weight-bearing exercise, like the nursing home study, a decreased risk of fracture may be attributed to more bone . . . or stronger muscles that make falling less likely.

What we do know is that being female puts you at risk of developing osteoporosis, since women tend to have thinner bones than men. Osteoporosis is predicted to affect as many as half of all Americans over age 50 (mainly females) by the year 2020, according to the CDC.

“I see a lot of women who are in the borderline, where they don’t have osteoporosis yet, but their bone mass is starting to run low,” says Beacom. “Menopause changes things, and women you wouldn’t peg as having weak bones are actually having stress fractures show up in these tests.”

She orders bone mineral density tests two to three times a week for her female patients. The hormonal changes that take place during menopause interfere with the body’s natural bone-building process, causing major bone loss.

As Estrogen Falls So Does Bone Density

“Women are more active than ever,” Beacom adds. “I’m seeing more women in their 50s and 60s who are of a generation that doesn’t sit at home. They don’t have time to be sidelined with an injury: They have grandkid-watching duties or a Pilates class they have to make!” Melvin Ashford, MD, an obstetrician and gynecologist at Minnesota Women’s Care, agrees. “Women today in their 50s and 60s have thriving careers and lifestyles, which makes menopausal symptoms [like bone loss] especially challenging,” he says. “But most women are candidates for hormonal replacement therapy [HRT].”

HRT generated mass fear in 2002, when the Women’s Health Initiative study, sponsored by the U.S. National Institutes of Health [NIH], found that women taking estrogen were at a higher risk of developing certain cancers and heart disease. “The views on hormone therapy changed abruptly from using it as a supplement to associating it with all these health issues,” says Christine M. Larson, MD, with OBGYN West.

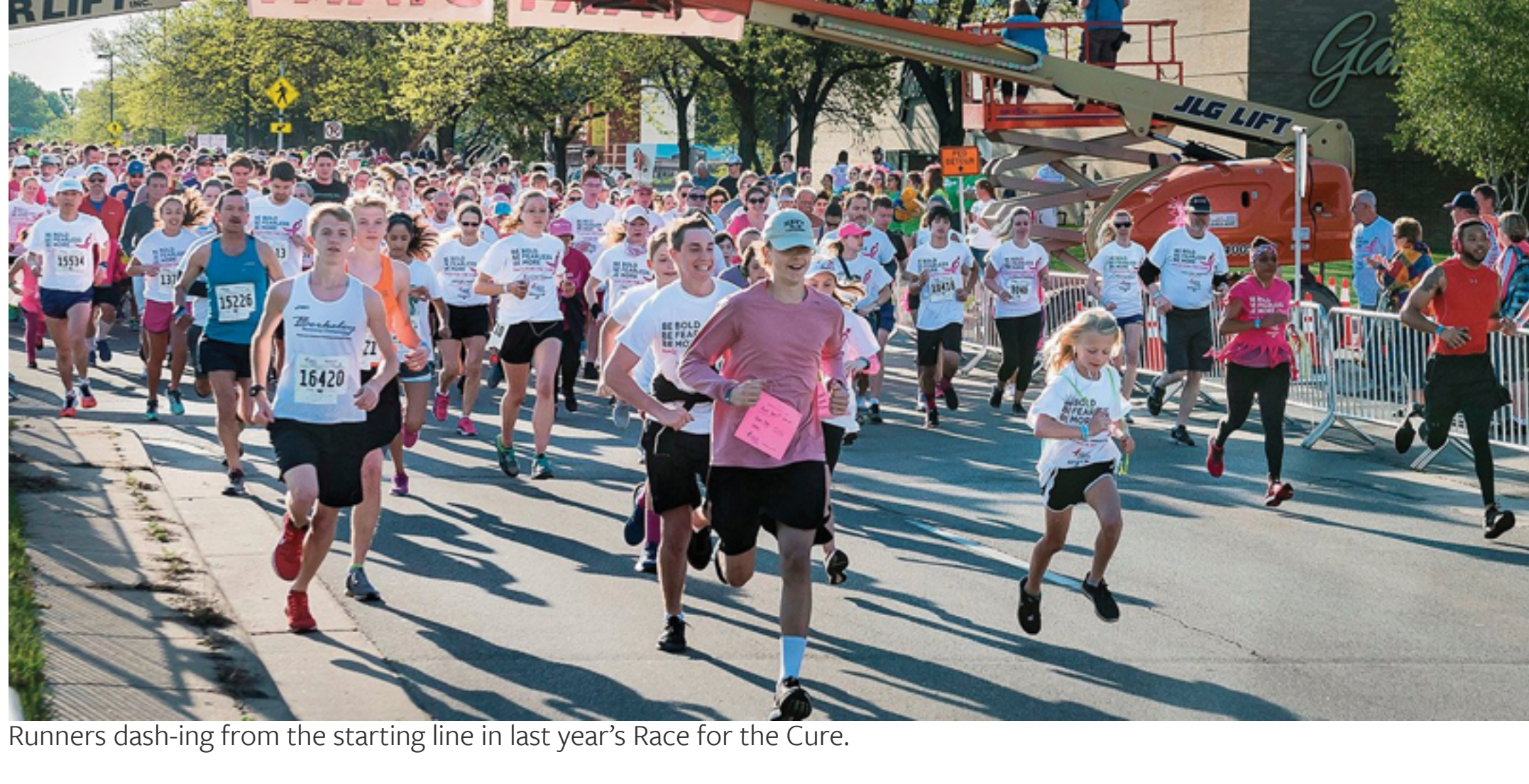
It was later found that the increased risk of breast cancer was extremely small and may have only represented an earlier diagnosis rather than an actual cancer increase (the study was dropped prematurely). “Now that we’ve helped another generation of patients through the menopausal transition, we can confidently talk about using hormones again in the appropriate doses,” says Larson.

Since then, HRT has been considered one of the best-studied medications in history. Within just two years of HRT withdrawal in the wake of the Women’s Health Initiative trials, elderly women lost a substantial portion of previously gained bone mass, according to NEJM Journal Watch. Within this subset of women, bone mineral density of the spine increased by about 6 percent during three years on HRT, and two-thirds of this gain was lost during two years off HRT.

This type of data is helpful for doctors and their patients who are deciding whether to replace HRT with other osteoporosis therapies. While Bisphosphonates remain the gold standard for osteoporosis treatment and prevention, according to the National Osteoporosis Society, clinical trials are underway for a drug called romosozumab that stimulates new bone formation. And imaging processes, like bone-clearing techniques, are providing new views of cellular activity, which could lead to insights that help people with diseased bones.

What All of This Means for You

You’re never too young or old to take care of your bones. As your muscles and bones work together and age together, your most important defense is to stay on your toes—literally. “After you reach peak bone mass in your 30s, it’s harder to hold on to the bone you have,” says Beacom. “Weight-bearing exercise, especially for older women, keeps your balance strong on top of everything else.” Better balance equals better footing.



Runners dash-ing from the starting line in last year’s Race for the Cure.

More Than Pink

The Susan G. Komen Twin Cities Race for the Cure gears up for its 26th year.

Southdale will be at the center of all the action come Mother’s Day, May 13, when thousands of runners and supporters gather together to make the trek against breast cancer. Funds raised for the Susan G. Komen Twin Cities Race for the Cure will support the Bold Goal of reducing the current number of breast cancer deaths in the U.S. by 50 percent by 2026.

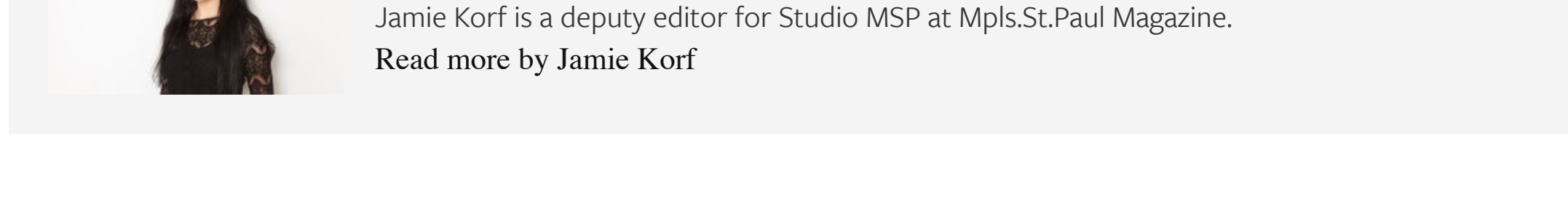
To date, Komen Minnesota has invested more than \$40 million in national research and in local nonprofit, tribal, and government agencies to provide breast health and breast cancer services throughout Minnesota to medically underserved men and women. At the heart of its research efforts is to develop a clearer understanding of how and why breast cancer spreads in order to better treat and prevent metastatic breast cancer altogether.

Race Day Schedule

Sunday, May 13

- **6–9:30 a.m.** Registration—Inside Southdale Center, first level
- **7 a.m.** Aerobic Warm-Up—Outside, Health Expo Area
- **7:25 a.m.** 5K Women’s and Men’s Wheelchair Race—Outside, 69th St. and France Ave.
- **7:30 a.m.** 5K Women’s and Men’s Combined Run—Outside, 69th St. and France Ave.
- **7–10 a.m.** Health Expo—Outside
- **7–10 a.m.** Race Day Refreshments—Outside, Health Expo
- **8:15 a.m.** Survivor Celebration & Photo—Outside, Health Expo
- **9:15 a.m.** 1K Walk—Outside, 69th St. and France Ave.

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Jamie Korf is a deputy editor for Studio MSP at Mpls.St.Paul Magazine.
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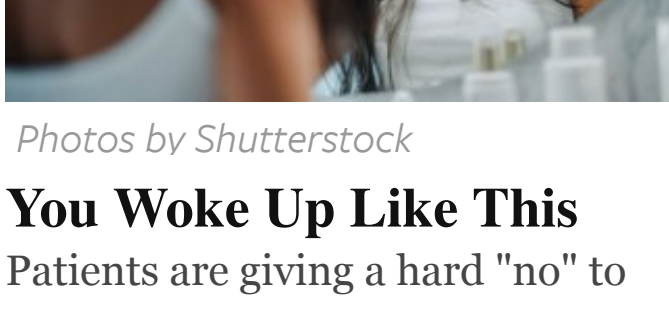
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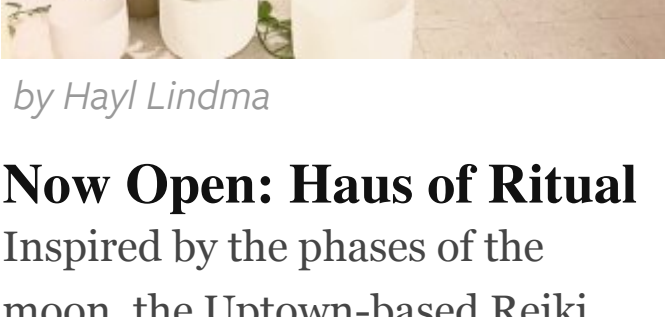
Undoing the effects of burnout is a whole lot harder than stopping it before it starts, especially in today’s 24/7, always-on culture.



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You Woke Up Like “This”

Patients are giving a hard “no” to puffy faces and exaggerated features and saying “hell yes” to looking like themselves—just a little more “prejuvenated.”



by Hayli Lindma

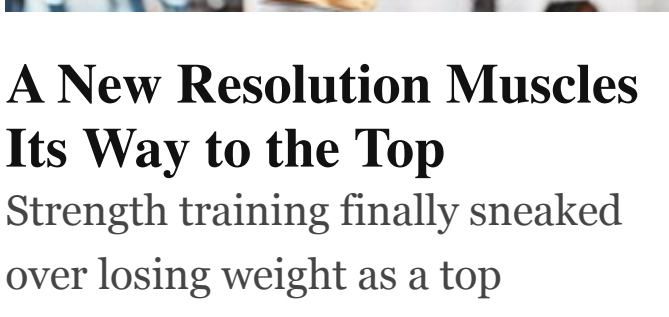
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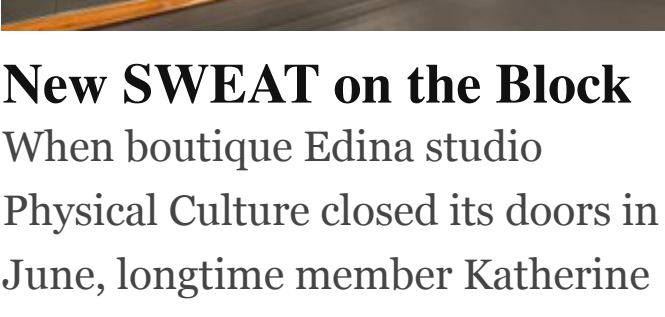
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We sat down with Hennepin Healthcare’s Dr. David Hilden for a dose of expert tips and takeaways from his Healthy Matters podcast.



A New Resolution Muscles Its Way to The Top

Strength training finally gained over losing weight as a top resolution for the new year, according to a recent survey by Life Time. Call it the year of the flex.



New SWEAT on the Block

When boutique Edina studio Physical Culture closed its doors in June, longtime member Katherine Olson stepped in, remodeling the space and reworking the workout. After months of soft open, SWEAT is finally ready for an official open on December 1.



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