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Martial arts get added to the list of activities we can't do as we age, right? Unless you're doing tai chi or aikido, most people think there's no place in contact sports for aging folks.

Except, as it turns out, there is.

From hip shows like "Cobra Kai" (and its basis, "The Karate Kid") to centuries of tradition, older people and martial arts actually mix quite well — and they can be a great throughline for an active life.

Martial arts took off in the United States back in the 1980s with the "Karate Kid" franchise, which continues today. The original movies showed us Pat Morita, an Okinawan expatriate and karate master who trains Ralph Macchio's character, Daniel LaRusso. Morita's Mr. Miyagi is no spring chicken, but he's able to take LaRusso to new levels of karate expertise

'TOO OLD' FOR MARTIAL ARTS? TELL IT TO MR. MIYAGI

— and also beat down bad guy John Kreese in the process, despite Kreese being a much younger man.

Mr. Miyagi is based on a "stock" character, or archetype, from traditional Asian martial arts culture. But there's a grain of truth to it, whether you're looking at real-life martial artists (Henry Plée comes to mind, who practiced well into his 80s) or fighting school founders in medieval Japan — who often viewed karate as integral to their understanding of Zen and other spiritual matters, and thus essential as they got older.

Netflix's "Cobra Kai" carries on the tradition, showing us a much-older LaRusso who takes on the Miyagi role, opposite his longtime "frenemy" Johnny Lawrence. LaRusso and Lawrence have both returned to karate in middle age, and even Kreese reappears, now in his 70s and as formidable as ever. Is that realistic? You bet! According to one study, the average karate practitioner is 55 years old, and the average martial artist is 46. Many in both groups report regular sparring and contact practice.

If you're a martial artist, you may have to make some adjustments as you get older, but you'll never have to give up your discipline entirely. And if you're new to the world of martial arts, it's never too late to start — as long as you find the right teacher and school!

THE TRUTH ABOUT VITAMIN D

HOW ONE TINY SHIFT IN YOUR BODY COULD CHANGE YOUR LIFE

Do you remember the vitamin D craze that popped up last spring? Everywhere I went online, people were sharing studies of vitamin D and speculating about whether it could be our secret weapon in the fight against COVID-19. I think this focus on vitamin D surprised a lot of people, but I wasn't one of them. I've known for a long time that vitamin D is far, far more important than many doctors make it out to be!

In school, we're taught that our bodies produce vitamin D when our skin is exposed to the sun and that it's a great vitamin for warding off bone deformities, brittleness, and pain. You might remember your health teacher telling you that we need vitamin D to prevent rickets. This is all true! But what most people *aren't* taught is that vitamin D is a precursor to dozens of hormones. Taking vitamin D supplements is basically like doing hormone replacement therapy.

Vitamin D affects almost every single biological process in our bodies. That includes everything like the way your muscles fire during exercise, the timing of your breath, the stages of your sleep, how you metabolize food, and so much more. That means vitamin D deficiency is a huge problem! It can mess with your sleep, hormones, and mental state. Pain even feels worse if you don't have enough vitamin D in your fat tissue.

Not long ago, one of my friends experienced this firsthand. They were struggling with pain, brain fog, sleeping problems, and other mysterious symptoms. Their doctors were baffled. When I dug into the issue, though, it turned out those doctors hadn't tested my friend's level of vitamin D.

The National Institutes of Health says a healthy individual should have a vitamin D level above 20 nanograms per milliliter (ng/mL). Below that, you're at risk for rickets (among many, many other things), but the optimal level *above* 20 ng/mL varies from person to person. When I sent my friend's blood off for additional testing, guess what I found? Their vitamin D was at 7 ng/mL! I was floored. Not only was it amazing my friend was still standing, but it was also concerning that their doctors hadn't thought to test for such an important vitamin.



I started learning about vitamin D in dental school and dove deeper in my study of sleep apnea. It was an important part of my research because vitamin D is so interconnected with pain and sleep. Today, when I treat patients with TMJ pain and sleep apnea, I use an oral appliance to help position their jaws, decrease pain, and open their airway. But I also look at their blood panels, paying special attention to vitamins D and D3.

When I look at those levels, I want to help my patient achieve the best possible gut health, immunity, and quality of life. The ideal level varies from person to person based on their skin tone and absorption rate. But in general, neurologist Dr. Sasha Gominak, a Harvard-trained expert who specializes in sleep, sun exposure, and microbiome issues, recommends a vitamin D3 25OH blood level at 60-80 ng/mL for most people.

I offer nutritional counseling guided by Dr. Gominak's research to help my patients decrease their pain, increase their immune health, and get better sleep. If you want to try it, I'll help you pinpoint your optimal vitamin D level and show you how to maintain it and feel your best for life. As we slowly come out of a pandemic, there has never been a more important time to protect your health! To learn more about how to enroll in nutritional counseling, email our dental sleep medicine coordinator, Jennifer, at jennifer@greatsmilesnj.com.

-Dr. Michelle Weddle



PHYSICAL THERAPY:

A SURPRISING WAY TO FIGHT ALZHEIMER'S

Alzheimer's disease is an ailment that continues to baffle us, even as we learn more about it than ever before. Doctors and scientists have made huge strides in understanding and fighting Alzheimer's, especially in the past three decades. But for everything learned, more questions must be asked. Sometimes, things just work, and we aren't sure why. For a long time, exercise and physical therapy were part of that. PT had a role in slowing Alzheimer's, but doctors didn't fully understand what that was. Today, we have a much clearer picture, and that provides hope for future understanding.

There are two things at the root of PT's connection to good Alzheimer's treatment. The first is very basic: Alzheimer's responds to physical activity. Just as certain mental exercises can help stave off or slow down the advent of the disease, physical activity has been shown in studies published by Harvard and in trade journals to have a positive effect on some Alzheimer's outcomes. Obviously, it isn't a frontline treatment, but staying active helps your brain continue to "work out" the parts that are connected to movement and body functions, which are negatively impacted by the mid and late stages of the disease.

To that end, physical therapy itself has a big part to play. The key goal is to retain mobility. If a patient has a broken leg,



we expect PT to progress and then slow down, even cease after a while. That's because the injury has healed. But with Alzheimer's, the goal of PT is to keep mobility high *for as long as possible*. It's not a winning battle, but the longer we can stay active and mobile, the better our quality of life will be.

Once the illness progresses to the mobility and physical function regions of the brain, physical therapy becomes all the more important. Because many late-stage Alzheimer's patients can expect to be bedridden, increasing mobility as much as possible for as long as possible can help mitigate risks such as bed sores and other secondary ailments. According to a recent study published in the American Journal of Medicine, therapy and activity can decrease the disease progressing through the physical activity centers of the brain by as much as 50%.

There's no denying that Alzheimer's is a frightening condition, and watching loved ones go through it is hard. But we aren't powerless in this situation. We need to put together a treatment plan, and a holistic plan will include physical activity, and later physical therapy, to mitigate those aspects of the disease. It may not be a cure, but it is a smart and effective treatment based on hard science. Right now, that has to be enough.



KALE, SEAWEED, AND OTHER NOT-SO-NEW SUPERFOODS



There's nothing so trendy as a new superfood or diet, and the "in vogue" ones change constantly. Older readers may remember the Atkins diets and other fads of the early 2000s, but younger ones may not even remember a time before the paleo diet was a thing — and it's already almost a thing of the past. Many things we associate with these trends, though, are anything but new.

We see this most clearly with the grains we turn to in the name of health. Westerners generally wouldn't be familiar with quinoa, amaranth, teff, or kamut if it weren't for their presence in the hippest healthy-eating Instagram feeds. Many of these foods hail from

Africa or the Far East, so it's understandable we don't know them all — but there's nothing really new about them. People in the Americas and the Old World have eaten quinoa for 3,000–5,000 years. Teff, which is technically a grass seed, was one of the first domesticated plants, emerging thousands of years ago in what is now Ethiopia.

Alternate sources of protein and fiber show a similar trend. Seaweed — the perennial favorite of Twitter dieters everywhere — has been consumed in China, Korea, and Japan since before recorded history. If you know anything about recorded history in those regions, then you know that's a long time! And kale, whose reputation precedes itself, has been cultivated since at least 2,000 B.C. in Greece, Asia Minor, and other parts of the Mediterranean.

So, the next time you dig into your favorite health food, take a moment to Google what you are eating. You might be part of a long line of human beings who have turned to that food for sustenance over the millennia!

TAKE A BREAK!



GRILLED CHICKEN SHAWARMA

Inspired by FeastingAtHome.com

INGREDIENTS

- 2 tbsp ground cumin
- 2 tbsp ground coriander
- 2 tsp kosher salt
- 1/4 tsp cayenne pepper
- 2 tsp turmeric
- 1 tsp ground ginger
- 1 tsp ground black pepper
- 2 tsp allspice
- 8 garlic cloves, minced
- 6 tbsp olive oil
- 2 lbs boneless, skinless chicken thighs

DIRECTIONS

1. To create marinade, whisk all spices with the garlic and olive oil in a medium bowl.
2. Add chicken to the bowl, coat well with marinade, cover, and let sit in the fridge for at least 20 minutes — or up to 48 hours. Strain off excess marinade before cooking.
3. Preheat grill to medium-high heat. Grill thighs for 10-12 minutes on each side, or until a meat thermometer reads 165 F.
4. Serve with rice, vegetables, or pita bread with tzatziki.