

HEALTH & WELLNESS



Vibhav Talauliker and Ashley Williams, left, at an AquaSkills swim class. Mr. Talauliker, who grew up in Mumbai, says he didn't have easy access to a pool. Ms. Williams is taking lessons to overcome a fear of water that began as a child, when she watched as her cousin nearly drowned. Above, instructor Craig Hain helps a student master his kicking motions.

Teaching Adults to Jump In and Learn to Swim

Continued from page D1

problem for Mr. Riggio. He tried taking lessons as both a child and adult but couldn't overcome his phobia.

To ease Mr. Riggio's fear, Ms. Paillet spent the first few lessons simply talking and walking through the water with him.

"She asked about my family and children and teased me about my pizza business as we did exercises," he says.

Mr. Riggio had to unlearn all of his poor habits and commit proper technique to muscle memory. Now, he can do the arms, legs and breathing motions separately but has trouble syncing it all up. When he tries, often he just ends up splashing.

"Yes, it's embarrassing, but I'm going to be more embarrassed if I'm not a good swimmer but my children are," Mr. Riggio says.

The process of learning to swim can be slow and frustrating for adults who, unlike children, are "very results focused," says John Fitzpatrick, owner and head coach of a swim facility, Chicago Blue Dolphins.

Mr. Fitzpatrick first teaches adults how to float and glide by kicking off the side of the pool. "These activities—while fundamental and critical to them being successful—do not seem to them like they're swimming," he says. As a result, the adults tend to get frustrated with their seemingly slow progress.

In Manhattan, Ms. Paillet says one client wanted to skip the breathing and buoyancy basics and just "get it over with." At one point, she says, he became so frustrated, he began smacking the water with a foam noodle.

While learning the techniques are

important, Ms. Davis, the Boulder instructor, also teaches adults how to play. "Children don't need to be taught how to play, but adults are different creatures," she says. "They don't know how to respond to the water. It's this strange murky thing."

In a game called "bottom to bottom," students jump up in the water, then let themselves fall bottom-first to the floor of the pool. Sometimes in group lessons she will have adults compete in relays or swim in pairs, with one person doing the arm stroke while the other grips his partner's ankles and kicks. Ms. Davis calls her methods "functional play."

"Adults work all day. I don't want them to view swimming in the same light," she says.

Frank Papania, who lives in Bellmore, N.Y., signed up one week after his co-worker, Mr. Pace. Now the two,

who have been friends for 17 years, take lessons together.

"We encourage each other more than anything else, but we will give helpful hints when we can," says Mr. Papania, 40. "We'll say things like, 'Hey, straighten your legs.'"

The goal is to achieve "water competency," defined by the American Red Cross Scientific Advisory Council as being able to enter and exit the water, turn 360 degrees afloat, tread or float for one minute and move through the water for at least 25 yards.

Jess White, who grew up landlocked in Kansas and now lives in Boulder, says she never felt confident in the water. In 2010, she signed up for lessons with Ms. Davis to become more comfortable and ultimately compete in triathlons.

Learning to swim took longer

than she thought, about five months. She didn't tell many people at first, hesitant to admit "learning what seems like a childlike skill as an adult." But her efforts show. Last summer, she swam 500 meters in a triathlon and plans to swim 1,500 meters in one this month. Ms. White, 27, is still taking lessons to refine her stroke.

"Pretty much everybody knows now," she says. "It became a point of pride for me when I could say, 'Look at me, I can swim.'"

In the Swim»

Scan this code to watch a video that explains specialized techniques that help adults learn to swim, or watch it at [WSJ.com/Lifestyle](#).

Researchers Focus on Chemical In Brain in Hunt for Migraine Drugs

Continued from page D1

role activating the nerves in the brain appears to be the key when it comes to migraine pain.

In the mid-1980s, Peter Goadsby, a neurologist and headache specialist at the University of California San Francisco, and his colleagues found that CGRP is released in migraines and that triptans decreased CGRP action.

Several researchers and companies have been trying to develop drugs that bind to the CGRP receptors to prevent the chemical from activating the pain network. But because CGRP has a complex receptor—the slot where the molecule must bind in order to initiate actions in the body—it took chemists 15 years to figure out how to block the effects of CGRP, and even longer to develop a compound that could be taken orally, says Dr. Goadsby.

Bringing to market CGRP blockers, or antagonists—the most advanced of the new drugs in development for mi-

graines—has proved challenging. Several investigational compounds have been shown to be toxic to the liver, a challenge that highlights the difficulty in developing drugs for conditions that affect the brain.

CGRP antagonists don't appear to work as well as triptans, but the blockers have an advantage in they

Some scientists and drug companies are trying to develop artificial antibodies to soak up the chemical CGRP.

don't appear to cause cardiovascular complications, says Stephen Silberstein, a neurology professor and director of Thomas Jefferson University's Headache Center in Philadelphia.

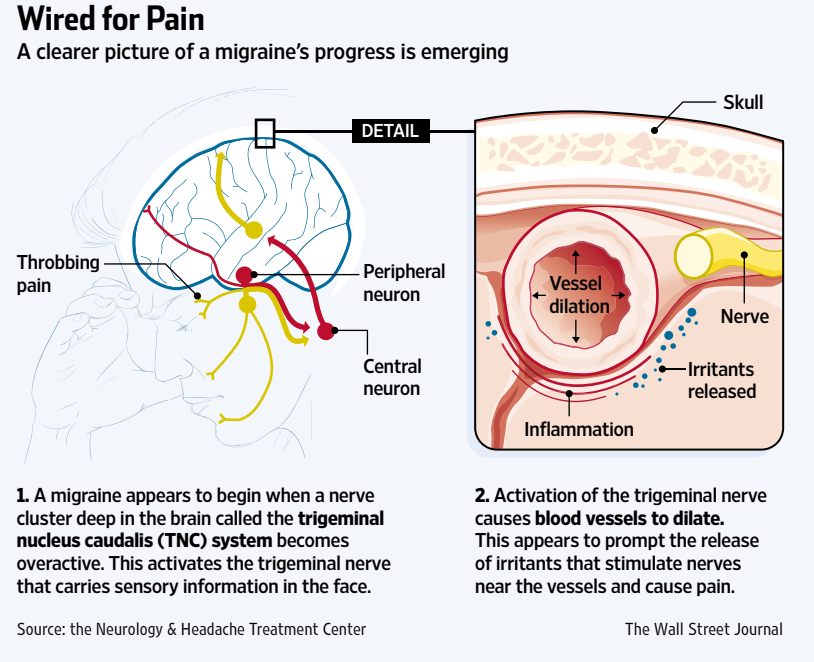
"You trade one kind of risk for another," says Dr. Silberstein, who has

served as an investigator on several companies' clinical trials.

Merck & Co. had a promising CGRP-receptor antagonist under development but discovered in late-stage clinical-trial testing that some patients experienced liver enzyme changes. In July of last year, the company said it was discontinuing development of the compound, telcagepant, after looking at all its trial data. Germany's Boehringer Ingelheim GmbH was also working on a CGRP antagonist but canceled development. A spokesman declined to comment.

Bristol-Myers Squibb Co. is conducting several early stage studies on CGRP antagonists and other companies are testing or may begin development of similar compounds as well.

Researchers and companies also are trying to develop artificial antibodies that, when injected, would glom onto CGRP in the bloodstream or brain, before it reaches the receptors in the brain, or by blocking the receptors.



Research into these biologic antibody-based approaches is at an earlier stage than the testing of antagonist drugs, but antibodies eventually might be able to block CGRP action regularly so that migraines don't ever begin.

"The CGRP story is a story of developing an acute treatment for migraine," says Dr. Goadsby. "But the antibody story is testing the larger idea [that] if you blocked continuously CGRP, would you have a preventive treatment."

Wrong Call: The Difficulties With Diagnosing Diabetes

Don't Confuse These

Despite the similar sounding names, Type 1 and Type 2 diabetes are substantially different conditions. Type 1 is an autoimmune disorder that attacks the body's ability to make insulin. In Type 2, brought on by inactivity and obesity, the body can't make efficient use of insulin to control blood sugar.

Type 1 Diabetes	Type 2 Diabetes
◆ The condition begins mainly in childhood and adolescence, but increasingly in adults.	◆ Onset is primarily in people over 40 years old, but increasingly in younger patients.
◆ People with Type 1 are often thin or normal weight.	◆ People with Type 2 are often obese.
◆ Patients are prone to ketoacidosis, a dangerous buildup of acids in the blood.	◆ There is no ketoacidosis.
◆ Regular insulin injections are required treatment.	◆ Treatment involves healthy diet and exercise, diabetes medications, and sometimes insulin injections.

Source: National Institutes of Health



Allissa Kaplan Michaels, pictured with her son, Leo, was able to resume an active life after her Type 1 diabetes was correctly diagnosed and she began proper treatment.

Continued from page D1

with the disease.

Type 2 diabetes, by contrast, is brought on by inactivity and obesity, mainly in adults, and is characterized by the body's inability to make efficient use of insulin. Type 2 diabetes, which is beginning to occur in teenagers, can be kept at bay in some cases with lifestyle changes and is widely treated with oral medications to improve insulin absorption. Type 2 diabetes also can require insulin injections.

"Most of my [adult Type 1 patients] have been misdiagnosed as having Type 2," says Robin Golland, co-director of the Naomi Berrie Diabetes Center at Columbia University Medical Center in New York. "Once the right diagnosis is made the patient feels much, much better, but they are distrustful of doctors and who could blame them?"

Estimates of the number of people with Type 1 diabetes in the U.S. range from 1.3 million to 2.6 million people, accounting for 5% to 10% of the total diabetic population. Incidence of Type 1 has been rising in the U.S. and in parts of Europe by about 2.5% to 4% a year for reasons scientists can't explain, according to several large-scale studies published in peer-reviewed medical journals. Scientists say Type 1 diabetes is caused by a combination of genetic and environmental factors but they don't know what the trigger is.

An incorrect diagnosis usually occurs in the offices of primary-care doctors, many of whom haven't received adequate education in medical school about rising rates of Type 1 in adults and how to diagnose it. "It is not on their radar because they see

so much diabetes and it is by far mostly Type 2," said Irl B. Hirsch, professor of medicine at the University of Washington Medical Center in Seattle.

After elevated blood sugars are detected, diagnosing which diabetes a person has usually is done by looking at the patient, assessing family history, weight and age, doctors say. "It's not a good way to make a diagnosis. You'd like to measure something that represents the disease process," says Jerry Palmer, director of endocrinology at VA Puget Sound Health Care System. To properly diagnose Type 1, doctors need to test for antibodies that indicate the presence of the autoimmune disorder. But few order such tests.

Cherie Serota, 48, was told by her primary-care doctor in early 2009 that she was on the brink of having Type 2 diabetes. Weighing just 120 pounds, Ms. Serota, of Brookville, N.Y., didn't fit the profile of a typical Type 2 patient. She revved up her exercise regime and watched her diet. One night after Chinese takeout sent her blood-sugar levels high, she called her doctor who told her this was normal and not to eat Chinese food anymore. Eventually she stopped eating carbohydrates. "That really did me in," says the mother of three. "I had no energy."

Six months later, feeling drained and now down to 113 pounds, the former fashion executive sought out an endocrinologist at New York University who told her she had Type 1. When she told her primary-care doctor, he was so surprised she made him call the specialist, she says.

"I understand why I was misdiagnosed; it is a very small amount of

people who are diagnosed as an adult," Ms. Serota says.

In some adults with Type 1, the loss of insulin-producing cells, located in the pancreas, is much slower than for children, making the onset of the disease more gradual. Some researchers consider the slow onset a distinct form of Type 1 called latent autoimmune diabetes in adults, or LADA. Because the disease progresses more slowly, it can be more easily confused with Type 2, researchers say.

Benjamin Jones, a 63-year-old retired probation officer, likely had the slow-onset form of the disease. For six years, Mr. Jones treated what had been diagnosed as Type 2 diabetes. He changed his diet and took three oral medications daily. An avid exerciser, Mr. Jones says for several years he was able to keep his blood-sugar levels in check in part by Rollerblading, swimming, playing tennis and basketball, and cycling. Still, rarely did his blood-sugar level dip below 120, which is high for a non-diabetic person.

After a bad reaction to a flu shot earlier this year, Mr. Jones says his sugar levels surged to 500. He says he asked to be put on insulin, but his primary-care doctor refused, fearing that Mr. Jones could risk hypoglycemia, a condition in which blood sugars go too low. That was when Mr. Jones sought out a specialist at the Joslin Diabetes Center in Boston. He was immediately put on insulin, given an antibody test and told he had Type 1.

"When your sugar is high you don't feel right. You feel on edge," Mr. Jones says. "I feel like a new person, like I should feel."