

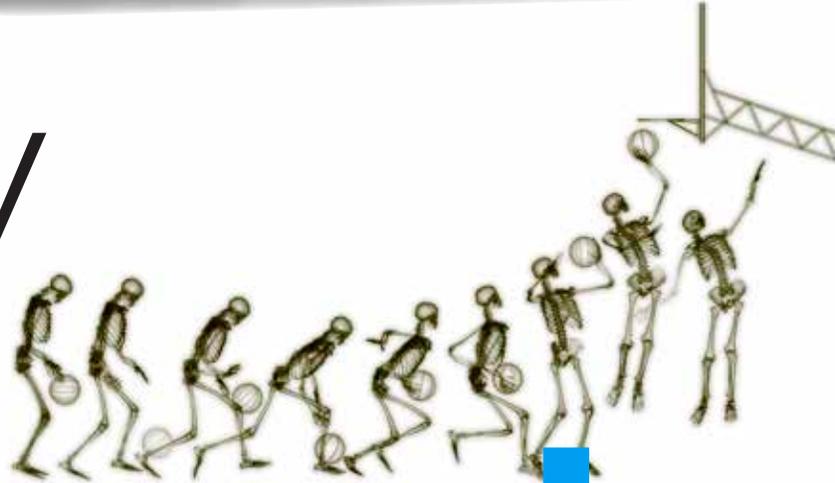


Better Safe!



WELCOA'S ONLINE BULLETIN FOR YOUR FAMILY'S SAFETY

Healthy & Safe Movements



YOUR BODY'S MECHANICS

Think about all the movements you do every day: walking, climbing stairs, typing, turning doorknobs and lifting. Your bones, muscles and joints all work together to make your body an amazingly movable machine. Like any machine, your body can suffer some wear and tear. It needs regular care and maintenance to keep moving with ease.

Scientists are studying the mechanical movements of our bodies to help us be as strong, flexible and mobile as possible throughout our lives. This type of research is called biomechanics. These studies are finding that the way you move—including walking, standing and bending—can affect your future mobility and overall health.

“All systems, whether in traditional mechanics or in the human body, are governed by the same basic physical laws,”

says Dr. Jeffrey Weiss, a biomechanics expert at the University of Utah. Body movements involve force, balance, gravity and motion. “Biomechanics is effectively applying the physics of mechanics to problems in biology and medicine,” Weiss says.

The main moving parts of your body include the solid bones, the joint tissues that link bones together, and the muscles that attach to your bones. Your body has about 200 bones and more than 600 muscles. These parts all work together to help you move throughout the day.

Looking At Common Sources Of Problems & Pains

Joints are a common source of problems and pain. Some joints, such as your shoulder joint, can move in many directions. But others, like your knee joint, can only bend

one way. Any movements outside a joint's natural range might cause injury.

Dr. Timothy Hewett, head of sports medicine research at Ohio State University, has long studied a part of the knee joint known as the ACL (or anterior cruciate ligament). The ACL connects the thigh bone to the shin bone. When it stretches or tears, some people hear or feel a “pop.” Athletes who need to make sudden stops or quickly change direction—as in basketball, tennis and soccer—are at risk for damaging the ACL.

Hewett and other biomechanics researchers use “motion capture” tools to study how people move. Reflective markers—about the size of coins—are attached to the skin or clothing over people's joints and muscles to make it easy to visualize their movements on a

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computer screen. A series of cameras around the lab can then track how people run, jump, walk and twist. Feeding these data into computers allows scientists to create 3-D animations of full-body motions. It's the same type of technology used to make animated characters in Hollywood movies, such as Shrek or Avatar.

Hewett and his colleagues have identified certain movements that make some people more likely to get ACL injuries. For instance, athletes who allow their knees to collapse inward when landing from a jump are at risk for ACL tears. Once at-risk people are identified, coaches and physical therapists can develop exercises to help them strengthen certain muscles and learn to land and pivot in healthier, safer ways. "We've shown that we can use this information to reduce the relative risk of an ACL injury by 60-65%," says Hewett.

Other Tools To Pinpoint Pain

Motion-tracking tools are also being used to learn how older people might avoid injury from falls. Dr. Clive Pai, a physical therapist and researcher at the University of Illinois at Chicago, explains, "We're studying how older adults can learn to modify their movements to adapt to an unexpected environment, such as a slippery floor."

Falls are serious at any age, but especially for older adults, who are more likely to break a bone. Each year, more than 1.6 million older Americans go to emergency rooms for fall-related injuries. "Falling causes a lot of suffering and is a huge problem for society," says Pai.

Exercises that improve your balance and strengthen your muscles can help to prevent falls. Pai and his colleagues have also found that people can be trained to avoid falls if they practice walking over unstable—but safe—surfaces in the laboratory. "People age 65 and older can adapt and remember remarkably well how to keep their body posture upright when disturbances occur in the environment if they've encountered similar situations 2 or 3 times before," Pai says.

Body Maintenance

- Maintain a healthy weight. Too much weight can make your knees and hips ache.
- Engage in muscle strengthening (resistance) activities that involve all your major muscle groups 2 or more times a week.
- Stay active all week long. Aim for 150 minutes of moderate intensity activity a week, such as brisk walking.
- Wear comfortable, properly fitting shoes.
- Eat a well-balanced diet. Get enough calcium and vitamin D daily to protect your bones.
- Try to avoid lifting heavy objects. If you need to lift something heavy, bend your knees and keep your back straight.

Exercises that improve your balance and strengthen your muscles can help to prevent falls.



Autism Spectrum Disorder

Uncovering Clues To A Complicated Condition



Autism is a complex brain disorder that first appears during early childhood. It affects how a person behaves and interacts with others. People with autism might not look you in the eye when talking. They may spend a lot of time lining up toys or other objects. Or they may say the same sentence over and over.

The disorder is so variable—affecting each person in very different ways—that it can be difficult to diagnose and treat. This variability is why autism is called a “spectrum” disorder. It spans the spectrum from mild to severe and includes a wide range of symptoms.

About 1 in 88 children may have autism spectrum disorder, according to the U.S. Centers for Disease Control and Prevention. The number of affected children has been growing in recent years. Many researchers believe this increase is due to better diagnosis and awareness. Others suspect that yet-unknown factors may be partly to blame.

What Causes Autism & How Is It Diagnosed?

Although the exact causes of autism are unclear, research suggests that both genes and the environment play important roles. Autism affects a child's development in different ways, and so it's known as a developmental disorder.

Parents are often the first to suspect that something may not be quite right with their child's development. They may notice their baby doesn't make eye contact, becomes overly focused on certain objects or isn't “babbling” like other children the same age.

There are no direct tests, like blood tests or brain scans that can identify autism. Instead, the condition is diagnosed by looking at a child's behaviors and development.

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In May 2013, the American Psychiatric Association updated an important book that's used to diagnose and classify mental disorders. *The DSM-5 (Diagnostic and Statistical Manual of Mental Disorders, 5th edition)* includes an updated definition for autism spectrum disorder. The condition is now identified by looking for 2 broad categories of symptoms: problems with social communication and the presence of "stereotyped" behaviors, such as walking in certain patterns or insisting on specific or unusual routines. To be diagnosed with autism, these symptoms must arise during early childhood, even if they're not noticed until later, when social demands increase.

How Is It Treated?

Research has shown that therapies focusing on behavior and communication can be helpful. Some drugs can also reduce certain related symptoms, but no medications have been approved by the U.S. Food and Drug Administration specifically for treating the main symptoms of autism.

Scientists are also looking for ways to predict likely outcomes for children with autism. One National Institutes of Health (NIH)-funded team found that the brain waves of some 2-year-olds with autism can have a distinctive pattern when they listen to familiar words. The children with

more severe social symptoms didn't have a typical focused response in the brain region that processes language. Follow-up studies showed that these brain responses predicted the children's developmental abilities 2 and 4 years later.

While research is ongoing, it's clear that early diagnosis and treatment can improve outcomes for those with autism. If you're concerned about your child's social communication and behaviors, don't wait. Talk with your child's doctor. You may be referred to a specialist who can do a thorough evaluation. The earlier autism is diagnosed, the sooner specific therapy can begin.

Signs of Autism

Children with autism may:

- Have problems with normal back-and-forth conversation.
- Lack interest in other children or have trouble sharing in imaginative play.
- Avoid eye contact.
- Miss social cues, such as facial expressions and gestures.
- Repeat words or movements.
- Excessively line up or flip over objects such as toys, or have an intense attachment to objects.
- Insist on familiar routines.
- React strongly (or under-react) to the way things smell, taste, look, feel or sound.

The CDC recommends that children be screened for developmental delays and disabilities during regular doctor visits at 9, 18, and 24 or 30 months, with screening for autism at 18 and 24 months.



RECOGNIZING

Cataracts

Watch For Vision Changes As You Age

As life goes on, we all start to notice certain changes that are a natural part of aging. Maybe our joints aren't as flexible as before, or our hearing just isn't what it used to be. Our vision, too, may be less sharp than it once was.

One cause of impaired eyesight later in life is cataracts. A cataract is a clouding of the lens in the eye. People with cataracts may notice cloudy vision or halos around lights when driving at night. If left untreated, cataracts can greatly limit vision. In fact, some people with severe cataracts may only be able to tell the difference between light and dark.

Cataracts are common in older adults. About half of all Americans will either have cataracts or have had cataract surgery by the time they reach age 80.

How are Cataracts Treated?

Early symptoms of cataract can be improved with eyeglasses, brighter lighting, anti-glare sunglasses or magnifying lenses. If these steps don't help, surgery is the only effective option for treatment. Surgery involves removing the cloudy lens and replacing it with a plastic lens.

Cataract procedures are among the most common surgeries performed in the United States. Most patients recover in just a few weeks, and many have

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improved eyesight after a few days. Recent advances have allowed doctors to tailor new lenses to patients and help reduce the need for eyeglasses after surgery.

The decision to have cataract surgery is a personal one that should be made between you and your doctor. Some experts advise that cataracts be removed only when vision loss interferes with your everyday activities, such as driving, reading or watching TV.

How To Prevent Cataracts

The best way to prevent or delay cataracts is to protect your eyes from harmful ultraviolet rays from the sun. Try wearing

sunglasses or a hat with a brim. Researchers also believe that good nutrition can help reduce the risk of age-related cataract. They recommend eating plenty of green leafy vegetables, fruits, nuts and other healthy foods. Also, don't smoke, because smoking may speed cataract development.

To screen for early signs of eye disease, it's recommended that everyone have a dilated eye exam at age 40, even if your vision seems fine. To be sure, many serious eye diseases have no early warning signs, so it's important to make regular eye exams part of your standard health care routine. Once you're in your 60s, a dilated eye exam is usually advised every year.

Cataract Symptoms

Check with an eye care professional if you have any of these symptoms. They may also be a sign of other eye problems:

- Cloudy or blurry vision.
- Colors seem faded.
- Glare—headlights, lamps or sunlight may appear too bright. A halo may appear around lights.
- Poor night vision.
- Double vision or multiple images in one eye. (This symptom may clear as the cataract gets larger.)
- Frequent prescription changes in your eyeglasses or contact lenses.

