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MORE PAIN WHEN IT RAINS

Some people say their aches and pains get worse when it rains. It may be because they are more sensitive to air pressure, but the research is inconclusive



Doctors say patients with joint issues often complain of increased discomfort in wet weather. PHOTO: ISTOCKPHOTO



Akshita Nanda
Correspondent

Dr Jonathan Chong, a family physician at DTAP Clinic @ Novena, often hears patients with joint-related diseases complain about the weather.

"They say they feel a storm coming in their bones and joints," he says.

Some people seem to have more aches and pains on rainy days. Ahead of and during stormy weather, sufferers of arthritis and joint-related diseases report increased discomfort and difficulty moving.

The perceived link between weather and musculoskeletal woes is so strong that multiple studies have looked into this phenomenon. Results have been mixed, depending on the type of musculoskeletal condition studied, as well as the location of the research.

A 2007 study published in The American Journal of Medicine followed 200 people with knee osteoarthritis in the United States

for three months. Changes in atmospheric pressure and temperature were found to affect the severity of knee pain experienced by people with this degenerative joint disease.

A 2014 study of nearly 1,000 people in Sydney, Australia, found no link between temperature and atmospheric pressure and onset of lower back pain, though higher wind speed did increase the chances of lower back pain.

The authors of that study, which was published in the journal Arthritis Care & Research, noted that a similar study conducted in places with more extreme weather conditions might have different results.

Indeed, a 2019 study of more than 2,600 people in the United Kingdom over 15 months found clear links between weather and pain in people with conditions such as arthritis. The study was published in NPJ Digital Medicine, under the umbrella of science journal brand Nature, and had people self-report their pain scores via an app.

The researchers found that higher humidity increased pain, as did lower atmospheric pressure – which is associated with rainy weather – and increased wind speed.

Yet, more recently, a 2024 review of weather and pain research,

published in Seminars in Arthritis and Rheumatism, found that weather changes did not seem to increase the risk of pain in the lower back, knee or hip.

Dr Chong says the conflicting data makes it difficult to establish a link between weather and joint pain. However, he adds: "If it's real to the person who experiences it, then it's real for them."

**LOWER AIR PRESSURE
COULD INCREASE JOINT PAIN**

The conflicting research is one reason rheumatologist Anindita Santosa used to be sceptical when patients complained about increased pain during or before stormy weather.

That was back when she was a trainee doctor. Now, after seeing many more such patients, the medical director of Aaria Rheumatology accepts that some people do indeed suffer more because of cold or rainy weather.

This could be because they have receptors in their skin that are more sensitive to changes in atmospheric pressure, also known as barometric pressure, she says.

Changes in the atmospheric pressure trigger these receptors, leading to the perception of pain.

She adds: "While these patients do have a better perception of the air pressure, they are not necessarily experiencing a flare-up of arthritis when pressure changes."

Dr Chong offers another explanation of the pressure-pain link. When the atmospheric pressure drops, the atmosphere exerts less pressure on the joints, he says. This could cause the soft tissues around the joint to expand and cause discomfort to an already diseased joint.

**COOLER TEMPERATURES MAY
INCREASE INFLAMMATION**

Rainy weather means a dip in temperature. Physiotherapist Calvin Sim works with beneficiaries of the National Arthritis Foundation, a charitable body, and says that his clients suffer in colder weather.

"Their muscles get tighter because of the cold weather. They feel aches because of the compression on their joints," says Mr Sim, who is also principal physiotherapist of private practice Physio Connectionz.

Dr Santosa says some of her patients with rheumatoid arthritis have flare-ups after experiencing a big temperature difference, for example, travelling from tropical Singapore to London in winter.

Rheumatoid arthritis is an autoimmune condition, in which the immune system attacks other parts of the body.

When the immune system is triggered, chemicals called cytokines are produced by the cells lining the joints, causing inflammatory symptoms such as pain, swelling and warmth.

Blood circulation may not be as good in cold weather, as blood vessels constrict in response to a temperature dip. This increases the inflammatory effect, since the cytokines are not cleared away as fast as usual.

Dr Chong notes that another consequence of cold, rainy weather is that people may prefer to stay at home and be less active.

Yet moving around would help their pain symptoms, he says. "If you are inactive and immobile for an extended period of time, this can worsen joint stiffness and increase pain."

Dr Santosa agrees. "Patients with

joint inflammation often say that, first thing in the morning, their pain level feels like being hit by a truck. This is because they haven't been moving all night. As they start moving, things get a bit better."

STAY ACTIVE AND WARM

In rainy and cold weather, people with stiff and painful joints may find it counter-intuitive to move. Mr Sim suggests starting off slow, with simple stretches on the bed before getting up.



Those with underlying issues such as osteoarthritis can consider wearing knee supports or braces to support the affected joint. PHOTO: PIXABAY



Have stiff fingers that seem to hurt more when it rains? Try soaking hands in warm water to increase blood flow to the muscles. PHOTO: ST FILE

"Start with a gentle range of motion," he says.

Try gentle neck stretches, he suggests. Hugging the knees to the chest, or getting into the child's pose, can help relieve pain and stiffness in the lower back.

For those with stiff fingers, soaking their hands in warm water can increase blood flow to the muscles. A warm bath may also help alleviate pain.

"The key is getting the joints moving. The more you don't move, the stiffer the joints will be and the more you will ache," Mr Sim says.

Dr Chong says the same. "Adverse weather conditions or not, we want to encourage you to keep active to maintain joint function."

Dr Santosa notes that patients may be tempted to increase their arthritis medication during rainy weather, but should first consult their doctor.

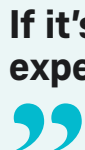
Instead, topical gels with non-steroidal anti-inflammatory drugs might help relieve the pain.

Knee supports or other braces can also help those with underlying mechanical issues such as osteoarthritis, she adds.

"Keep on moving, keep on stretching. If you exercise, you improve blood circulation and pain gets better," she urges.

Keeping warm and bundling up might also help, as might a change of scenery.

"There's a reason people in colder countries like to retire to warmer places," she says. "I had patients who went on a trip to the Gobi Desert. They said the arid climate helped them feel great."



If it's real to the person who experiences it, then it's real for them.

DR JONATHAN CHONG, on how the pain feels real to sufferers, despite conflicting data making it difficult to establish a link between weather and joint pain

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