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Lifestyle/ Health & Wellness

What your hands say about your health, from arthritis to diabetes – telltale signs of illness, and why King Charles' fingers may be swollen

Hands provide clues about ailments from water retention to infections, which is why King Charles' inflamed, crimson fingers have received scrutiny recently

Experts describe conditions that can impair our hands' function, and how tremors, swelling and redness may reflect bigger problems that require urgent attention



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King Charles' fingers have drawn attention recently for their puffiness and redness. It turns out our hands say a lot about our health. Photo: AFP

It wasn't the first time his digits had caused concern. At the funeral of his father, Prince Phillip, in April last year, the then <u>future king</u>'s fingers appeared chubby and inflamed.

Similarly, at the Commonwealth Day Service in London in March 2020, and at a royal engagement at a pub in May 2021, the monarch's crimson hands and stubby extremities did not go unnoticed.

Various medical experts weighed in, including Dr Gareth Nye, a senior lecturer at England's University of Chester.

He told British tabloid newspaper the Daily Star that bloated fingers and red hands may be due to any number of health conditions – among them fluid retention (oedema), which "mostly affects people over the age of 65 as the ability for fluid control is restricted", and arthritis, when the "fingers usually become stiff, painful and swollen".

Although Nye added that it could not be concluded that the king's swollen fingers were cause for any immediate medical concern, it's fair to say that our hands can reveal a lot about our well-being.



King Charles' swollen hands during a 2019 ceremony in which the monarch decorated soldiers returning from Afghanistan. Photo: Getty Images

"Often, doctors and therapists can simply look at a patient's hands for clues to underlying health conditions," says Clare Black, an occupational therapist at Hong Kong clinic Asia Medical Specialists.

"Certain symptoms and changes in the hand are normal, but sometimes these may point to more serious underlying concerns."

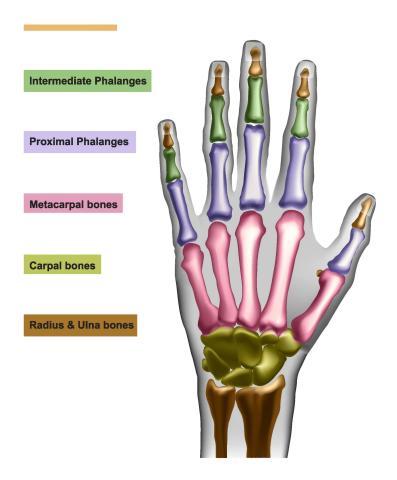


Dr Gareth Nye, senior lecturer at the University of Chester in the UK. Photo: University of Chester

A bony, complex appendage

We may not pay that much attention to our hands but they are complex structures.

Did you know that your hands – made up of wrists, palms, fingers and thumbs – house more than a quarter of your body's bones? Each hand has 27 bones – eight carpal bones (in the wrist), five metacarpal bones (in the lower half of the fingers) and 14 phalangeal bones (in the top of the fingers).



Each of our hands has 27 bones. Photo: Shutterstock

Sesamoid bones, small bones embedded in the tendons, provide extra leverage and reduce stress on underlying tissues, Black says.

"There are 27 joints and over 120 known ligaments in each hand. Ligaments are a strong, rope-like tissue that connect bones to other bones," she adds. They provide alignment and stability when we move our joints.

Each hand has over 30 muscles, most of which lead to the wrists and forearms. Fingers do not have muscles.



Clare Black is an occupational therapist at Asia Medical Specialists in Hong Kong. Photo: Asia Medical Specialists

"Tendons are soft tissue that connect muscles to bone and allow us to move our joints when our muscles contract. Small muscles in the palm of the hand known as intrinsic muscles are responsible and help with fine motor movement, allowing us to grasp and grip different objects, and coordinate movement."

[&]quot;Hand movements are mostly initiated by muscles in the forearm that attach to the fingers and thumb via tendons," Black says.



An X-ray of human hands shows some of their complexity. Photo: Shutterstock

The ulnar nerve travels through the wrist in a tunnel called Guyon's canal and supplies sensation to the little finger and half of the ring finger.

The median nerve travels through the wrist via the carpal tunnel and provides sensation to the thumb, index finger, middle finger and part of the ring finger.

The skin on our palms has no hair and does not tan, Black explains. Each palm has about 17,000 touch receptors and free nerve endings, which sense pressure, movement, light touch and vibration.

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Human hands and primates' hands share many similarities, says Dr Athena Au, a specialist in orthopaedics and traumatology at Matilda Orthopaedic and Spine Centre in Hong Kong.

"Humans also have a longer thumb in relation to our other four fingers – this allows for different grips and manoeuvres – but primates have a short thumb and long fingers, making locomotion almost effortless."



A human hand and chimpanzee hand share many similarities. Photo: Getty Images

What can go wrong with our hands

Several medical conditions may affect our hands, Au says.

They include:

- osteoarthritis degeneration and wear-and-tear of the joints;
- carpal tunnel syndrome numbness, tingling, and weakness in the hand and arm from compression of the median nerve;
- trigger finger or tenosynovitis of the finger inflammation in the sheath around a tendon that may cause a finger to "lock" in a bent position;
- de Quervain's syndrome pain or swelling in or near the base of the thumb;

• rheumatoid arthritis – an autoimmune and inflammatory disease that affects the joint tissues in the fingers, thumb and/or wrist.

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Dupuytren's disease affects the tissue layer called the fascia that lies under the skin in the palm.

"Knots of tissue form under the skin, appearing like nodules in the palm and eventually creating a thick cord that can pull one or more fingers or your thumb into a bent position," Black says. It may require hand surgery.

Ganglion cysts are lumps found in the fingers, hand and wrist. Although benign, they tend to return despite careful treatment. They may contribute to joint pain and reduce range of motion.



Dr Athena Au, a specialist in orthopaedics and traumatology at Matilda Orthopaedic and Spine Centre in Hong Kong. Photo: Matilda Orthopaedic and Spine Centre

The way our hands look and feel may point to certain health issues. For instance, Au says that swollen and painful finger joints may indicate a localised problem like osteoarthritis, acute trauma or injury, or an infection.

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"While these may signal carpal tunnel syndrome or cubital tunnel disease, the numbness may also be due to peripheral neuropathy, a complication of diabetes mellitus.

"The compression of nerves at the neck, or anywhere along our upper extremities, may also lead to numbness.

"That's why it's important to see an upper limb surgeon if you experience these symptoms."

Hand tremors are usually caused by underlying medical conditions that may include Parkinson's disease, multiple sclerosis, vitamin B12 deficiency, alcohol withdrawal syndrome, thyroid issues, and the side effects of certain drugs, Au says.

If you experience hand tremors, she suggests consulting an internal medicine specialist.



Hand tremors can be a sign of an underlying health condition. Photo: Shutterstock

"The smaller arteries that supply blood to your skin become narrow, limiting blood flow to affected areas. Your fingers may feel numb, cold and painful and appear white or blue," Black says.

Swollen fingers may be a sign of fluid retention, gout, or rheumatoid arthritis.

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30 Sep 2019

So don't neglect what your hands may be trying to tell you. Besides giving us insights into our well-being, our hands do so much for us, Au says.

"They help you manipulate the environment, care for yourself, use tools," she adds. "Moreover, they're an extension of your personality as they allow you to paint, create music, play sports, and embrace your loved ones."

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