

Cracking joints

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Cracking of the joints in the foot is sometimes used for massage

Cracking or popping of joints is the action of [joint manipulation](#) to produce a sharp cracking or popping sound. This commonly occurs during deliberate [knuckle-cracking](#). It is possible to crack many joints, such as those in the back and neck [vertebrae](#), hips, neck, wrists, elbows, shoulders, toes, ankles, knees, jaws, feet, and the [Achilles tendon](#) area.

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Causes [edit]

The physical mechanism causing a cracking sound produced by bending, twisting, or compressing joints is uncertain.

Suggested causes include:

- [Cavitation](#) within the joint—small cavities of partial vacuum form in the synovial fluid and then rapidly collapse, producing a sharp sound.
- Rapid stretching of ligaments.^[1]
- Intra-articular (within-joint) [adhesions](#) being broken.^[1]

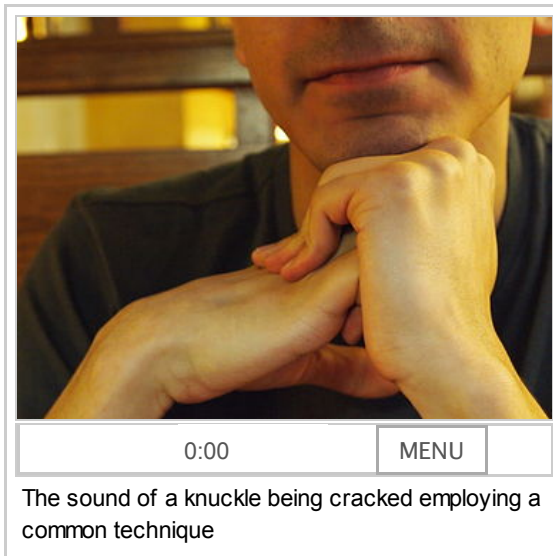
[Synovial fluid](#) cavitation has some evidence to support it.^[2] When a [spinal manipulation](#) is performed, the applied force separates the [articular](#) surfaces of a fully encapsulated synovial joint, which in turn creates a reduction in pressure within the joint cavity. In this low-pressure environment, some of the [gases](#) that are dissolved in the [synovial fluid](#) (which are naturally found in all bodily fluids) leave the solution, making a [bubble](#), or [cavity](#), which rapidly collapses upon itself,

resulting in a "clicking" sound. The contents of the resultant gas bubble are thought to be mainly [nitrogen](#).^[3] The effects of this process will remain for a period of time known as the "[refractory period](#)", which can range from a few seconds to some hours while it is slowly reabsorbed back into the [synovial fluid](#). There is some evidence that [ligament laxity](#) may be associated with an increased tendency to cavitate.^[4]

The snapping of tendons or scar tissue over a prominence (as in [snapping hip syndrome](#)) can also generate a loud snapping or popping sound.^[1]

Effects [\[edit\]](#)

The common claim that cracking one's knuckles



causes [arthritis](#) appears unsupported. A recent study examined the hand radiographs of 215 people (aged 50 to 89) and compared the joints of those who regularly cracked their knuckles to those who did not.^[5] The study concluded that knuckle-cracking did not cause hand osteoarthritis, no matter how many years or how often a person cracked their knuckles.^[5] An earlier study also concluded that there was no increased preponderance of arthritis of the hand of chronic knuckle-crackers; however, habitual knuckle-crackers were more likely to have hand swelling and lowered grip strength.^[6] Habitual knuckle-cracking was associated with manual labour, biting of the nails, smoking, and drinking alcohol and was suggested to result in functional hand impairment.^[6] This early study has been criticized for not taking into consideration the possibility of confounding factors, such as whether the ability to crack one's knuckles is associated with impaired hand functioning rather than being a cause of it.^[7]

Medical doctor Donald Unger cracked the knuckles of his left hand every day for more than sixty years, but he did not crack the knuckles of his right hand. No arthritis or other ailments formed in either hand, earning him the 2009 [Ig Nobel Prize](#) in Medicine, a [parody](#) of the [Nobel Prize](#).^[8]