



## Question: Why do people crack knuckles?

Answer: Cracked knuckles feel looser and enjoy more mobility for a while after cracking. It is also possible that as kids people realize that cracking knuckles produces a funny noise and may repeat cracking just to produce the sound. This may make some people habitual "knuckle crackers".

## Question: What causes the sound?

Answer: Joints (knuckles) are covered by a capsule (the joint capsule or synovial capsule). Within the space of this capsule the synovial fluid is contained which acts as a lubricant and also contains nutrients for the adjacent bone surfaces. A variety of gases are continuously dissolved in this fluid. When one cracks a knuckle, the stretching of the capsule lowers the pressure inside the joint and creates a vacuum which is filled by the gas previously dissolved in the synovial fluid. This creates a "bubble" which then bursts producing the characteristic "popping" or "cracking" sound. It takes a while until these gases are re-dissolved in the synovial fluid which explains why knuckles cannot be "re-cracked" immediately.

## Question: Are there any side effects to cracking knuckles?

There is no evidence that cracking knuckles causes any damage such as arthritis in the joints. However, a couple of reports in the medical literature are available associating knuckle cracking with injury of the ligaments surrounding the joint or dislocation of the tendons ( attachments of muscles to bones) which improved with conservative treatment. A study found that after many years of cracking habitual knuckle crackers may have reduced grip strength compared with people not cracking their knuckles.

## Question: Is there a difference between what happens in children / adults?

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Answer: No. However habitual cracking has been associated in one 14 yo female with skin changes

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over the knuckles (called “knuckle pads”).

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### **Question: What causes arthritis?**

Answer: There are different kinds of arthritis with the major categories being two: The inflammatory arthritides such as the rheumatoid arthritis and the degenerative arthritis best known as osteoarthritis or “wear and tear arthritis”. The causes for either are not well known and research focuses on elucidating the mechanisms leading to these diseases. In general a genetic predisposition is highly likely for both. For the inflammatory arthritis an unknown exposure to environmental stimuli is considered possible. For the “wear and tear arthritis” instead, aging and excessive mechanical stress may play a role in accelerating the damage in the joints as it happens in the knees of genetically predisposed older obese people.

### **Question: Can cracking knuckles / joints lead to arthritis?**

Answer: There is no evidence of such an association. In limited studies performed there was no change in occurrence of arthritis between “habitual knuckle crackers” and “non crackers”

### **Question: If you have arthritis, can cracking knuckles / joints make it worse?**

Answer: No. However theoretically “knuckle – cracking” in patients with weak or damaged joints due to arthritis could potentially lead more easily to ligament injury or acute trauma to the joints.

## **Arthritis Center**

Founded in 1998, the Arthritis Center at Johns Hopkins is dedicated to providing quality education to patients and healthcare providers alike.

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