Does Cartilage Regenerate

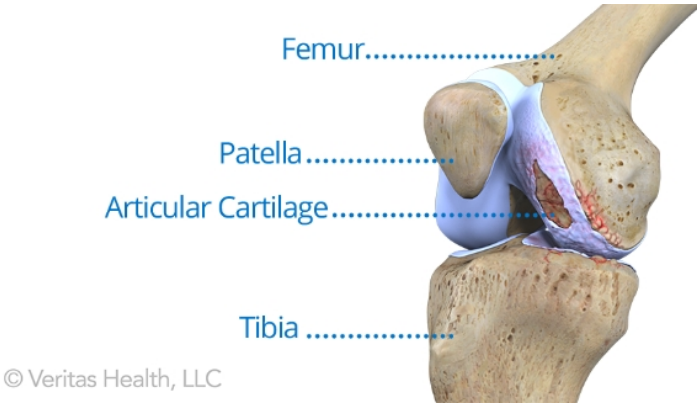
Cartilage is a very strong and flexible fibrous tissue found in the body. It takes many forms and serves different purposes throughout the body. There are 3 main types of cartilage;

- Elastic cartilage
- Hyaline Cartilage
- Fibrocartilage

Hyaline cartilage is the most common and is a tough, smooth shinny form of cartilage. This is found covering the articulating surfaces of most joints in the body. The main functions is to absorb shock and compressive forces and to allow almost friction less movement of one bone on the other.

As with most tissues in the body, regular exercise and loading appears to have a protective effect on cartilage, stimulating the body to maintain strong healthy cartilage cells. Importantly however this loading needs to be in a biomechanically efficient manner and at appropriate loads for the strength you possess.

Hyaline cartilage can be damaged with either a large traumatic force or with repetitive excessive forces over time. Cartilage tends to gets its nutrition from the synovial fluid (lubricating fluid) of the joint and does not have a great blood supply. As such once damaged, articular cartilage will not heal well. The collagen matrix of the cartilage does appear to have an ability to repair while our bones are growing, unfortunately the adult collagen matrix is essentially permanent. Over time this can result in areas of increasing wear in cartilage covering of the joints, resulting in poor ability to absorb load leading to pain and swelling of the joints – osteoarthritis.



Importantly, while cartilage will not regenerate, having pain in the joints with movement and signs of cartilage wear on imaging does not mean that you need to put up with this for life. The pain being experienced is often not just a result of the cartilage wear. Almost all adults would show signs of wear on imaging but most have little or no pain in the joints. To some degree some of this wear is a normal part of the aging process. The pain being experienced is often a sign of excessive load to the cartilage which may be related to other factors.

Over training, poor biomechanics, inadequate rest and obesity all place excessive load on the surface of the cartilage. A strength training program, staring at a level suitable to your ability is an important way of improving the capacity of the muscles to control the loads being applied to the joints. Cross training and removing excessive repetitive activity in order to rest certain areas of the body is another simple way to stay active but reduce pain. A healthy balanced diet consisting of plenty of good quality fruits and vegetables both provides your body with good fuel to maintain its tissues as well as assisting in weight loss which will directly decrease the load on the joint surface.

Cartilage is a tough hard wearing tissue essential for active pain free movement. Most of us tend to take it for granted until we have an issue. Making sure you put some steps in place in to protect your cartilage and prolong its lifespan is vital in

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order to stay fit healthy and active for many years to come.

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