What options do I have when there is an articular cartilage injury?

If a cartilage injury is suspected, it usually requires an arthroscopy of the joint. During an arthroscopy, the surgeon introduces a small camera into the knee or shoulder joint to evaluate the cartilage damage. If there is a small cartilage defect, the initial treatment can be the trimming of the defect edges and a clean up of debris that is floating inside the joint. This debris can be the cause for inflammation and mechanical symptoms such as popping and clicking.

What options do I have at the UK Center for Cartilage Repair and Restoration (CCRR)?

A simple technique for small lesions is the so called “microfracture”. The surgeon can create small holes into the underlying bone. This technique helps the body to regenerate and repair tissue that is similar to articular cartilage and may be sufficient to repair a small defect.

Repairing articular cartilage:

If the defect area is larger or it is in an area that bears a lot of the body's load (such as the knee cap) the “microfracture” treatment may not suffice. In this case other more advanced techniques may be utilized that the physicians at the CCRR can offer you.

1) Autologous chondrocyte implantation (ACI)

This is currently the most advanced technique to restore a cartilage surface with the bodies' own cartilage cells. During the initial surgery your surgeon will obtain a small sample of your own cartilage that is sent to a laboratory. The laboratory will treat the cartilage and grow up to 10 million new cartilage cells in 5 – 6 weeks. These cartilage cells can then be implanted into the defect in a second surgery.
2) Osteochondral allograft transplantation
This technique is particularly good for large defects that have already led to loss of bone. In this technique, the entire defect area including the underlying bone is replaced.

This technique requires “donor tissue”. The donor cartilage will then be sized to fit your defect and can be implanted in a second surgery.