# **Week 7: Investigations**

## X-rays

These are used to looks for significant changes to bone or joints. Commonly used to check for osteoarthritis (bony wear and tear) and fractures. They do not give us any information about muscle, discs, ligaments, organs, or any other 'soft tissue'



This x-ray shows a normal knee joint. See how there is space between the bones and the surfaces of the bones within the joint look smooth.



In comparison this knee shows a much reduced space between the bones and a roughening of the joint surfaces. This is a severely arthritic joint.

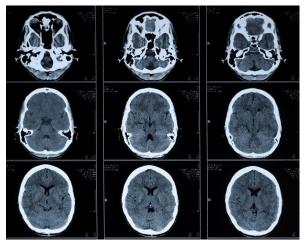
These kind of bony wear and tear conditions normally respond well to physiotherapy or injections, or in more advanced cases surgery.

In persistent pain, x-rays don't always give useful information. As we have learned in this type of pain, it's less to do with the state of the joints, and more to do with how the brain registers and perceives information incorrectly.



#### CT Scans





These scans aren't used much due to the high amount of radiation they emit. They are most often used in brain scans, cancer imaging or in rare cases where fractures are very complex and each bone fragment needs to be seen in more detail to prepare surgery.

## **MRI scans**

These are used to detect meaningful changes in the spine or soft tissue structures in other part of the body. Commonly seen in spinal and knee pain to diagnose and/or plan for surgery.



Interestingly, a study done by Jensen in 1994 showed that in a large group of people with no back pain, a high number were shown on MRI to have issues that would otherwise have been considered to be significant. They had bulging discs and numerous other 'abnormalities'. But none of them had any pain or would have thought they had any back issues.

#### What does this teach us?

Well, it proves that what we see on scans and x-rays doesn't always mean something. We have seen patients with normal MRI scans who have pain, and with 'abnormal' scans who have no pain. The images are only there to support a diagnosis made by a skilled clinician who has listened to your story and thoroughly examined you. The scan is only there to confirm what we think may be going on.

If you have been told there are significant finding on a scan, it may or may not actually be significant. Abnormal scans to some degree are normal!



## **Blood tests**

In persistent pain, blood tests are commonly used to check for infections, inflammatory conditions and connective tissue disorders (Rheumatoid Arthritis, Ankylosing Spondylitis)



They can also be used to check on the health of your kidneys and liver if you have been taking certain medicines for some time.

In persistent pain, they don't often help us as there may not been anything in the blood which would be causing the pain.

#### **Summary**

Blood tests and imaging certainly have a very useful role in many conditions. However, as we have learned, when we have persistent pain, there can frequently be nothing to see of significance in these tests.

This doesn't mean that you're imagining the pain. It more like the pain is to do with what the brain thinks, rather than what is actively going on in the area(s) of pain.

This is what out Pain Management Programme is all about – tackling pain through different but proven methods beyond medication and medical intervention.

We often see patients getting increasingly frustrated that their GP / specialist won't test further to try and 'find the pain'. Hopefully now you can see why.

It also helps is understand why surgery would not help either.

