

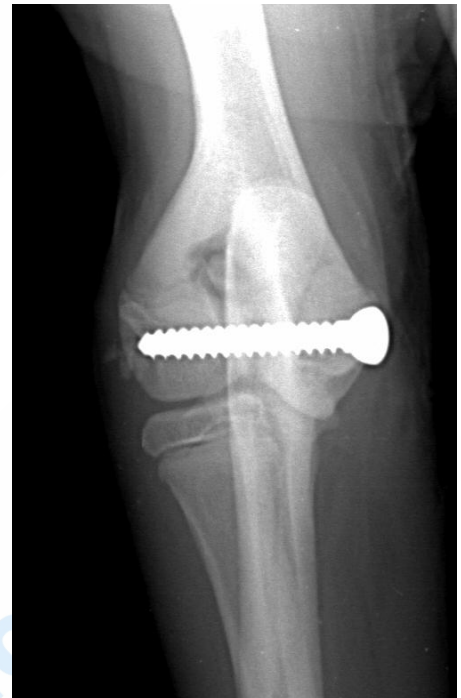
Incomplete ossification of the humeral condyle (IOHC) also known as humeral intracondylar fissure (HIF)

The basics

IOHC and/or HIF are pathologies of the elbow joint. The part of the humerus aka arm bone, that is part of the elbow joint is called the condyle. This condyle has two centres of growth in the womb and early life. Somewhere around 8-12 weeks of age, the two centres should fuse and form one strong bone.

In some cases, these centres do not fuse and this is called IOHC. In some dogs, the two centres fuse as normal but, when they reach adulthood, a fissure/crack forms. This is called HIF and is considered to be a stress fracture according to newer studies.

IOHC and HIF are most of the times seen in spaniels, labradors and, more recently, french bulldogs. The clinical signs are lameness of the fore leg. In some cases both elbows are affected. This means radiography of both elbows is recommended in IOHC/HIF. Both IOHC and HIF can progress to fractures of the humerus. Most of the times, the fracture happens during 'normal' activity i.e. going downstairs, jumping over small logs, walking in the woods etc. These fractures are difficult to treat but, nevertheless, most of the time they are fixable.

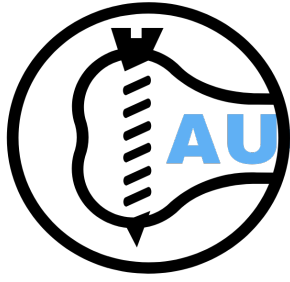


The procedure

To diagnose IOHC/HIF, several methods are used: radiography, CT scans, arthroscopy. In some cases radiography is sufficient for diagnosis, however, we would also perform an arthroscopy to confirm it. In some cases, a CT is required to diagnose the fissure. This is particularly the case with incomplete fissures.

After arthroscopy, a screw is placed to stabilise the fissured condyle. There is a risk that the fissure may never heal so the screw may need replacing if and when it loosens or it breaks.

In the unfortunate event a fracture has already happened, the same type of screw is placed but the construct would be reinforced with plates, screws and pins.



Postoperative

Please also check our website - Owners resources - for 'General Orthopaedic' sheet and more

The first 2 weeks

Sutures are usually resorbable, under the skin and there is no need to be removed.

Check ups with your vet/nurse are recommended at day 3 and day 10 postoperative.

Limping is to be expected. This is due to surgical trauma. However, weight bearing should be noted from day 5 to 10 postoperative. If this does not happen, please contact your vet.

Swelling of the region is also expected, again due to surgical trauma.

The incision should be clean and dry. If the wound opens up or if there is discharge, please see your vet.

Medication – pain killers are prescribed for 7-14 days, on a case by case basis.

Antibiotics – we are all aware of antibiotic resistance and the damage that misuse of antibiotics has done to our life. We usually don't prescribe antibiotics unless absolutely necessary.

Physiotherapy – please see the 'Postoperative recovery' sheet on our website.

*** From week 2-3 postoperative, the incision should be clean, dry, with a normal colour of the skin and not red, puffy or open. Please contact your vet if this is not the case

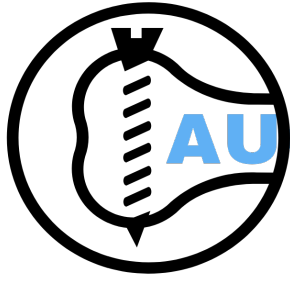
Week 2 to week 6 postoperative

Gradual improvement of the lameness should be noted. Be aware that the lameness will not subside for another 2-3 months. Although your pet may want to do more exercise, it is **IMPERATIVE** to continue the restricted exercise.

Once the incision has healed, hydrotherapy can be started and we do encourage it – please see our dedicated section on the website.

Physiotherapy – please see the 'Postoperative recovery' sheet on our website.

Follow up xrays are recommended at 4-6 weeks postoperative; these are performed to assess the metal implants and healing of the bones. In the rare case where complications occur, follow up xrays would allow us to act quickly, before the situation turns disastrous.



Week 6 to 12 postoperative

Gradual improvement of the lameness should be noted.

Providing all is well and recovery is within normal time frame, you should walk your dog on a long lead BUT NOT trotting and definitely NO running. Your pet is still not allowed to go upstairs or on the sofa.

Ideally, another set of xrays should be taken at 12 weeks postoperative to confirm progression of the healing and the integrity of the implants. Providing all is well, your pet should be ready to be signed off.

Exercise

The first 12 weeks postoperative, your pet should be walked on a lead.

He/she should not be allowed to jump/run, go on sofa, go upstairs etc. Cage rest is rarely recommended and, in our opinion, detrimental to your pet's mental health and recovery. In the rare occasion where dogs are too boisterous, cage/pen rest may be adequate.

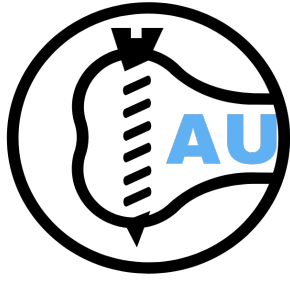
Walking regime should be started as soon as possible i.e. from day 1-2 postoperative. Dogs thrive on exercise and early ambulation will stimulate the blood flow and mental status which is beneficial for your pet.

We tend to recommend 10 minutes per walk, two to four times a day. Every 10 days, 5 minutes should be added to the walk i.e. 15 minutes per walk from day 10 postoperative, 20 minutes per walk from 20 days postoperative etc.

What to expect

Any fissures or fractures affecting the joint will have long term consequences on the health of the said joint. IOHC/HIF fissures/fractures heal very slow and sometime they never heal. This means you may need to reduce the level of exercise for the rest of your pet's life. If your pet is a working dog, it means you will have to consider retirement.

The good news is that almost 75% of dogs with IOHC/HIF fissures have a good outcome. The percentage is less for dogs with fractures and the outcome is variable, depending on the type of the fracture.



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Several complications of IOHC/HIF surgery include seroma, infection of the implants, failure (fracture) of the implants and persistent lameness. Should these complications occur, they may need further surgery to be resolved. If the implants fail, revision surgery is almost always recommended.

If your pet has been treated for IOHC/HIF we strongly recommend annual xrays of the affected elbow/s. This is to confirm the integrity of the implants.

