The Latest on Hip Dysplasia

I have just returned from the annual American College of Veterinary Surgeons conference and there were some great presentations which have changed the way we should think about treating hip dysplasia. The broad understanding of the pathophysiology of HD is relatively unchanged but a lot of really good evidence has come out about which surgical procedures work best, how to screen effectively, and what medical options are available and when to use them.

I have put together a treatment algorithm on the next page, which is a good summary and hopefully can be something to refer to, or at least argue about in your practice. Below is some useful background information.

**Juvenile Pubic Symphasiodesis (JPS):** Is a procedure aimed at increasing the coverage of the femoral head by the acetabulum. The procedure works by fusing the pubic symphysis in the young patient, so that continued sacral and ilieal growth has the effect of rotating the acetabuli into a more ventral facing direction. To be effective it must be performed no later than 20 weeks and hip dysplasia should be mild to moderate, without signs of arthritis present. It is a relatively easy procedure capable of being performed in most practices.

**Triple (or Double) Pelvic Osteotomy (TPO/DPO):** is also aimed at increasing coverage of the femoral head but does so by cutting the ilium, pubis and ischium (for triple osteotomy) and then reattaching the free acetabular segment in a more ventral facing direction with a plate. It is a very effective procedure in the correct patients, those with moderate HD, less than 12 months old and without arthritis present. It is generally considered a specialist procedure.

**Acetabular denervation:** Is a salvage procedure performed when the hip joint is painful, but still relatively stable. Ablation of the nerves supplying the dorsal acetabular rim allows the dog to use the hip, usually for several years. Osteoarthritis progresses unchecked, but it is a procedure well within the abilities of most practitioners. There is not much long term follow up available yet, and there do seem to be some dogs which re-establish nerve function in time. The procedure can be repeated if necessary.

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**Figure 33-72 A, Ventrodorsal radiograph of an immature dog with subluxation of the femoral heads and minimal evidence of OJD, typifying a candidate for triple pelvic osteotomy. B, Ventrodorsal radiograph of a dog with advanced hip dysplasia and osteophyte formation. This dog may be a candidate for total hip replacement or femoral head osteotomy if clinical signs cannot be managed medically.**
Femoral Head Osteotomy (FHO); is another salvage procedure involving removal of the femoral head. It is relatively easy to perform and gives acceptable results in dogs less than 20 kg. The resulting gait is not normal and activity levels, even in smaller dogs, are reduced, suggesting some degree of pain or reduced “joint” mobility. It is not recommended for dogs above 20 kg and above 40kg, the results are often poor.

Total Hip Replacement (THR); is a joint replacement procedure, which implants a stem into the femur and a cup into the acetabulum and mimics the normal joint. Once considered a procedure of last resort, improvements in implants and surgical techniques have greatly expanded the range of indications. Hip replacement can be performed in young or old dogs, dogs with previous femoral head resections and in cases of severe HD or arthritis. It is a specialist procedure.

Screening: Routine puppy screening is being increasingly undertaken in “at risk” breeds from about 16 weeks, often in conjunction with early desexing. It is usually done by palpation under GA for excessive hip laxity (Ortolani test) and extended hip x-rays. This is not screening for breeding purposes and is NOT designed to definitely diagnose every case of HD, but is aimed at picking up dogs with moderate to severe disease, which can benefit from early intervention. A way this has been successfully incorporated into a practice in our area is set out below.

1. 6 – 12 week check up and vaccination - Identify breeds at risk of HD and discuss the problem with the owner. Give a handout with information or refer to a good website.
2. 12 – 18 week vaccination and check up - Revisit HD and discuss the benefits of early screening with or without desexing.
3. Admit the dog for hip assessment with or without desexing at about 16 weeks. If mild to moderate HD is identified, then perform a JPS. If severe HD is identified then desex and discuss referral for TPO or THR.

Note. Penn Hip views are much more sensitive at detecting joint laxity than extended hip x-rays.

We can help you with handouts if you feel they would be useful in your practice, and are happy to give you some training in performing JPS if you are interested. Maybe there would even be some interest in a ½ to 1-day course for this? Let me know, and if we can get 6 – 8 takers I will organise a wet lab too.
Total Hip Replacement
(Time for a rethink)

Total Hip Replacement used to be considered a procedure of last resort. It was difficult, expensive and had lots of potentially disastrous complications, all of which meant it was avoided unless there was no alternative. Happily things have changed!

The development of new cementless implant systems has lead to a reduction in complication rates and a much broader range of indications. This is because the new implants encourage, long term implant incorporation with no granuloma formation and less chance of long term loosening or fracture. The KYON total hip is arguably the best system at present as is manufactured in Switzerland to an extraordinary standard.

What are the indications for a total hip?
There are many; femoral head and neck fractures, osteoarthritis, hip dysplasia with luxation or sub-luxation, acetabular fractures, in fact any condition where the hip joint is unstable or painful.

What age should the dog be?
Over 6 – 8 months is best. Young dogs get the most benefit, a life-time of pain free function but any dog with chronic pain can benefit.

What size animals can get a hip and how soon do they get better?
Dogs above 15kg benefit most. Most dogs are walking the next day and return to excellent function within 4 – 6 weeks.

What does it cost?
The procedure costs $4,200 to $4,500, and the implants are a large part of that. However, the cost of 3 years of NSAID treatment is about the same, has more side effects, is less effective at restoring function and requires more effort for the owner.

What are the complication rates?
Low – for dogs between 20 and 40kg around 5% of patients will have a complication, mostly minor. Less than 0.5% (1/200) require implant removal. Removal leaves the dog with a femoral head resection – still not a disaster.

What if something goes wrong?
The KYON hip is guaranteed – if the hip fails for any reason, it will be replaced and the revision surgery fully paid. In addition we will cover the costs of any problems with the hip for the life of the dog if the patient has a yearly check up and x-ray with us, or the referring vet (with the exception of dislocation (50% cover) or trauma).

For more information see www.kyon.ch