Treatment Options for Osteochondritis Dissecans (OCD) in Dogs

Shoulder

Shoulder OCD lesions typically occur on the caudocentral or caudomedial humeral head. Lesions on the caudocentral aspect are more load-bearing and thus associated with more severe lameness.

Medical management may be suitable for small caudomedial lesions or when surgery isn't feasible. However, retained cartilage flaps can cause persistent lameness and may displace into the bicipital groove.

Arthroscopic debridement involves flap removal and subchondral curettage. A large study reported complete resolution of lameness in 91% of dogs[1]. Single-session bilateral surgeries showed poorer outcomes.

Open approaches, including the caudal or caudolateral arthrotomy and the modified Cheli approach, allow flap removal in more complex cases. The latter offers a minimally invasive alternative with persistent lameness in only 6.5% of 164 dogs[2].

Resurfacing may be needed for large caudocentral lesions.

Osteochondral autografting from the stifle shows good outcomes but carries donor site concerns[3].

Synthetic implants (e.g., SynACART) are an option for large defects. A study of 24 dogs reported positive outcomes with this method[4].

Elbow

Arthroscopic debridement of the medial humeral condyle improves lameness in most dogs, but long-term progression of osteoarthritis is common. A recent study reported good to excellent outcomes in 94% of elbows[5], although clinical impressions suggest persistent lameness is frequent.

Resurfacing techniques include:

Osteochondral autografting (OATS), often combined with treatment of medial coronoid disease (MCD) or proximal ulnar osteotomy, showed promising short-term outcomes[6]. As with the shoulder, there are concerns about donor site morbidity.

Synthetic resurfacing with SynACART has shown clinical improvement in a case series[7].

CUE (Canine Unicompartmental Elbow) involves partial resurfacing with metal and UHMWPE implants. Using a caudomedial approach avoids medial epicondylar osteotomy. A 98% functional improvement rate was reported, though 25% had complications[8].

Joint realignment using the Sliding Humeral Osteotomy (SHO) aims to unload the medial compartment. However, follow-up arthroscopy showed poor fibrocartilage infill and continued joint degeneration[9].

Stifle

Debridement, either arthroscopic or open, has shown limited success. In one series, 5 of 6 dogs had resolution of lameness[10]. However, progression of osteoarthritis is common, making prognosis generally fair to poor.

Resurfacing options include:

Osteochondral autografting using donor grafts from the trochlear ridge is biomechanically preferable due to superior subchondral bone density[11] and cartilage thickness[12]. Despite concerns, successful outcomes with only minor complications have been reported in several studies[13-15].

Osteochondral allografting allows for improved lesion matching and avoids donor site morbidity. In a study of 19 stifles, 17 had good outcomes; failures were confined to a single dog with bilateral lesions[16].

Synthetic resurfacing in 14 stifles showed 13 stable implants and clinical improvement with few complications[17].

Custom implants, tailored to lesion size and curvature, have been successfully used in large lesions but require accurate placement[18].

Hock

Debridement, whether open or arthroscopic, does not appear to alter the natural course of osteoarthritis, especially in larger lesions affecting joint congruency[19,20].

Joint realignment through Distal Tibial Osteotomy (DTO) mimics the high tibial osteotomy in people and is used to offload the medial talar ridge. Although yet to be peer-reviewed, early outcomes show improved weightbearing and slower OA progression compared to debridement alone.

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