

Intervertebral Disc Disease

| Disease | Intervertebral disc extrusion (IVDE) | Intervertebral disc protrusion (IVDP) | Acute non-compressive nucleus pulposus extrusion (ANNPE) | Hydrated nucleus pulposus extrusion (HNPE) |
|--------------------|--|---|--|---|
| Signalment | <p>Young, chondrodystrophic breeds Dachshunds, French Bulldogs, Shih tzus, etc</p> <p>Genetic: Chromosome 12 and 18 FGF retrogene mutations</p> | <p>Older, medium to large breed dogs Labs, Goldens, GSD</p> | <p>Usually young to middle aged Non-chondrodystrophic breeds (larger) Peracute/acute onset Associated with high impact activity/trauma</p> <p>+/- painful (typically resolves in 1-2 days) +/- transiently progressive</p> | |
| Mechanism | <p>Degeneration of nucleus pulposus Early onset, all abnormal by 1y of age Chondroid metaplasia Herniation acute/acute on chronic Calcified NP tears through AF and extrudes dorsally into canal</p> | <p>Chronic fibrosis and degeneration of disc NP develops collagen and fibrocytes, AF fibers separate, thickening and protrusion of entire disc</p> <p>Chronic progressive Usually not painful</p> | <p>Increased forces on disc Tear in AF Extrusion of hydrated NP</p> <p>*Contusion no compression of spinal cord</p> | <p>Similar to AANPE May not have inciting event Hydrated, partially degenerative disc Contusion and compression</p> |
| Location | <p>T3-L3 most common (T12-L3 =75% of cases) Cervical 2nd especially in Frenchies L4-cd uncommon Often hx of activity</p> | T3-LS | | Cervical regions, often non-painful |
| Diagnostics | <p>MRI = Gold Standard T2W (fat and fluid bright) CT</p> | <p>MRI Radiographs to r/o other causes</p> | MRI | <p>MRI “Seagull Sign”</p> |

| | | | | |
|-------------------|---|--|---|---|
| Treatment | <p>Conservative</p> <p>First time back pain/ mild paresis</p> <p>Financial constraints</p> <p>Recurrence</p> <p>TL: 34-60%</p> <p>Cervical: 40-60%</p> <p>Steroid use not supported especially without MRI or CT</p> <p>Surgical</p> <p>Favorable outcomes with intact deep pain perception</p> <p>Lower recurrence rate (7-20%)</p> <p>Faster recovery</p> <p>Decompression, control hemorrhage disk fenestration</p> <p>Hemilaminectomy or ventral slot</p> | <p>Conservative</p> <p>Rest, PT</p> <p>Steroids may be used if edema is suspected in cord (or NSAIDS)</p> <p>Surgical</p> <p>Decompressive surgery</p> <p>Endoscopic hemilaminectomy</p> | <p>Conservative</p> <p>Cage rest 4-6 weeks: AF scars over in 2 weeks</p> <p>Time</p> <p>Physical Therapy</p> <p>*Prognosis- intact nociception = good (80% recover)</p> | Can consider surgery but better outcome with medical management |
| Other info | <p>Prev Hansen Type I IVDD</p> <p>Dogs w/o deep pain perception</p> <p>10-15% risk of myelomalacia</p> <p>If no improvement with medical management in 2 weeks, refer to surgery!</p> | Consider degenerative myelopathy as a ddx | <p>Other names include:</p> <p>Traumatic disc extrusion</p> <p>Liquid disc extrusion</p> <p>Discal cyst</p> <p>Bullet disc</p> <p>High velocity, low volume disc extrusion</p> <p>Hydrated nucleus pulposus extrusion</p> | |

Imaging

