

DOUBLE PELVIC OSTEOTOMY (DPO)

For the treatment of
Canine Hip Dysplasia



Canine Hip Dysplasia is a common orthopedic condition and is caused by abnormal development of the hip joint, including joint laxity and incongruency. Hip Dysplasia results in the development of arthritis and eventually degenerative joint disease. Common symptoms of Hip Dysplasia are lameness, abnormal gait, reluctance to rise, soreness after exercise, and hind limb stiffness. Some dogs initially do not show any symptoms.

Physical examination should include an Ortolani Test to detect hip joint laxity. Radiographs are required to confirm hip laxity and to determine if the dog is a good candidate for surgery. Typical views include: V/D pelvis, Frog leg V/D pelvis, Distraction and compression V/D pelvis and DAR view pelvis.

To ensure positive clinical outcomes, DPO should not be performed in patients who have pre-existing conditions, which could compromise the strength of the pelvic bone, or any radiographic evidence of degenerative changes in the coxofemoral joints. DPO should be avoided in patients less than 5 months old.

Early diagnosis is very important because many patients who could have benefited from this procedure are not diagnosed with hip dysplasia early enough to be candidates for the DPO procedure.

WHAT IS DPO?

Double (DPO) and Triple Pelvic Osteotomies (TPO) are two prophylactic procedures used on immature dogs to treat Canine Hip Dysplasia. Both procedures involve osteotomies of the pelvis, to allow for rotation of the acetabulum and improved acetabular coverage of the femoral head.

Important: The earlier DPO/TPO Surgery is performed, the better the long-term result.¹

DPO is a newer and generally preferred surgical procedure in which two separate osteotomies are performed, and the acetabulum is then rotated to cover more of the femoral head, allowing improved joint function. The intact ischium is what differentiates a DPO from a TPO².



What are the differences between DPO and TPO Procedures?

	DPO ^{2,3}	TPO ^{2,3}
Osteotomy	Two osteotomies (pubis and ilium)	Three osteotomies (ischium, pubis, and ilium)
Complications	<ul style="list-style-type: none">• Iliac side screw loosening• Difficult to rotate acetabulum	<ul style="list-style-type: none">• Sacral side screw loosening• Pelvic narrowing• Excessive head coverage• More healing complications from ischium osteotomy
Advantages	<ul style="list-style-type: none">• Only two cuts need to be made• Less complications	<ul style="list-style-type: none">• Easier to rotate• Longer clinical history

References

1. Vezzoni A. Early Diagnosis of CHD and Case Selection. World Veterinary Orthopedic Congress, Sept 15 – 18, 2010.
2. Vezzoni A, Boiocchi S, Vezzoni I, et al. Double pelvic osteotomy for the treatment of hip dysplasia in young dogs. *VCOT*. 2010; 6:444-452.
3. Rose S, Peck J, Tano C, et al. Effect of a locking triple pelvic osteotomy plate on screw loosening in 26 dogs. *Vet Surg*. 2012;41: 156-162.

WHY DEPUY SYNTHES VET DPO CONSTRUCTS?

PLATE DESIGN

Screw Holes

The *DePuy Synthes Vet* DPO plate is designed with two distinct screw-hole technologies to accommodate all plating modalities. The plate includes three stacked COMBI® Holes on the caudal side, and three stacked COMBI Holes and one locking compression plate (LCP)® COMBI Hole on the cranial side.

The stacked COMBI Hole in the plate accepts either cortex or locking screws. If locking screws are to be used in conjunction with cortex screws on the same side of the plate, the cortex screws must be inserted and tightened first, before any locking screws are inserted. If cortex screws are used, the plate must be appropriately contoured to the bone to ensure good bone plate contact.

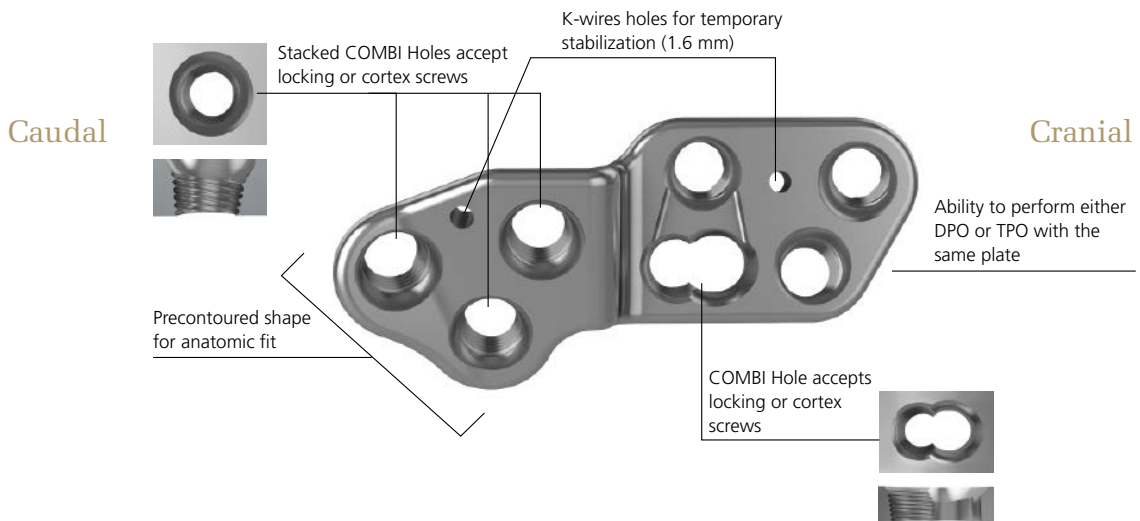
The LCP COMBI Hole accepts either cortex screws or locking screws. The cortex screw should be placed in the unthreaded portion of the COMBI Hole in either a loaded or neutral position. Alternatively, a locking screw may be used in the threaded portion of the COMBI Hole when indicated.

Fixed-angle Stability

The threads on the head of the locking screws lock into the threaded plate holes to form a fixed-angle construct that will increase load transfer between the plate and bone. When compared to conventional plate-and-screw constructs, the angular and axial stability of locking screws increases the strength of the construct under load without requiring precise anatomical contouring.

Anatomical Contour

The anatomically shaped DPO plate is contoured to match the ilial shaft and to allow clearance for acetabular flare and the tuberosity for the rectus femoris muscle origin.

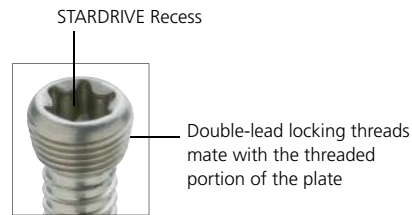


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LOCKING SCREWS

Screw Head

The tapered, double-lead machine thread on the head of the locking screw engages the threads of the locking plate holes. The resulting fixed-angle construct provides stable fixation of the bone fragments without having to compress the plate to the bone. A perfectly contoured plate is therefore not required to achieve fixation and maintain proper alignment.



Thread Profile

Because locking screws do not compress the plate to the bone, the "pull-out" mode of failure is not applicable to locking screws. For this reason, locking screws are made with a smaller thread profile and a larger core diameter. This results in increased mechanical strength over comparably sized cortex screws.¹



Drive Mechanism

The STARDRIVE™ Recess of a locking screw provides three significant improvements over an internal hex drive. First, "stripping" of the screw head is minimized as a failure mode, which results in a much higher tolerance to wear for the screwdriver.¹ Second, the tapered STARDRIVE Recess provides automatic screw retention without the need for an additional screw holding mechanism. Third, the more efficient STARDRIVE Recess allows a smaller screw head and allows the screw head to sit flush with the plate.

WHO IS DEPUY SYNTHES VET?

DePuy Synthes Companies is a leading global medical device company. Through its nine product groups (Vet, Joint Reconstruction, Trauma, Spine, Sports Medicine, Codman Neuro, Craniomaxillofacial, Power Tools and Biomaterials) it develops, produces, and markets instruments, implants and biomaterials for the surgical fixation, correction, and regeneration of both the animal and human skeleton and its soft tissues.

Caution: *DePuy Synthes Companies* of *Johnson & Johnson* implants and instruments are manufactured with proprietary processes that produce superior products to those created by conventional manufacturing processes. Though other companies may be able to estimate the *DePuy Synthes Companies* general product design, *DePuy Synthes Companies* product dimensions are proprietary. The precision design of *DePuy Synthes Companies* products is very important for long-term product function and optimal fit between implants.

Only the finest quality materials are used to manufacture *DePuy Synthes Companies* implants. The metals *DePuy Synthes Companies* uses have been scientifically proven to be of the best biocompatibility and quality available today.

With these features and qualities, the mixing of *DePuy Synthes Companies* implants with the implants from other companies is not recommended. The overall performance may be compromised due to differences in design, chemical composition, mechanical properties, and quality.

Given these qualities are trade-secret, no competitor of *DePuy Synthes Companies* can make a genuine claim "the same as *DePuy Synthes Companies*." Combining implants from other companies with *DePuy Synthes Companies* implants could reduce product performance. Consequently, it is strongly recommended to not mix parts from different manufacturers.

IMPLANTS

3.5 mm DPO/TPO Plate, 44 mm long,
3.2 mm thick

VP4601.L7	20°, Left
VP4601.R7	20°, Right
VP4602.L7	25°, Left
VP4602.R7	25°, Right
VP4603.L7	30°, Left
VP4603.R7	30°, Right



3.5 mm Locking Screws, self-tapping, with STARDRIVE™ Recess

VS303.010–	10 mm–40 mm (in 2 mm increments)
VS303.040	
VS303.045–	45 mm–70 mm (in 5 mm increments)
VS303.070	



3.5 mm Cortex Screws, self-tapping

VS302.010–	10 mm–50 mm (in 2 mm increments)
VS302.050	
VS302.055–	55 mm–70 mm (in 5 mm increments)
VS302.070	



Also available

3.5 mm Cortex Screws, non-self-tapping

VS301.010–	10 mm–50 mm (in 2 mm increments)
VS301.040	
VS301.045–	45 mm–70 mm (in 5 mm increments)
VS301.070	



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CAUTION: USA Law restricts these devices to sale by or on the order of a physician.

Not all products are currently available in all markets.



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