

# Surgical Technique of the 3-Dimensional-printed Personalized Hip Implant for the Treatment of Canine Hip Dysplasia

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## Materials

Name	Company	Catalog Number	Comments
<b>The laboratory for implant design</b>			
3D Lab	University Medical Center Utrecht 3D, Utrecht, Netherlands		The laboratory responsible for designing the 3DHIP implant. [ <a href="https://www.umcutrecht.nl/nl/3d-lab/">https://www.umcutrecht.nl/nl/3d-lab/</a> ]
<b>Software</b>			
3-Matic software version 17	Materialise, Leuven, Belgium		CT DICOM data processing
Materialise Mimics software version 25.1	Materialise, Leuven, Belgium		Software to design the 3DHIP implant on the 3D model of the pelvis
<b>Implant manufacturer</b>			
Amnovis	Amnovis, Aarschot, Belgium		Printing and postprocessing of the 3DHIP implant. [ <a href="https://www.amnovis.com/">https://www.amnovis.com/</a> ]
<b>Instrument and machine</b>			
2.4 LeiLOX locking screw titanium	Rita Leibinger, BW, Germany	242-224	Titanium self tapping locking screw 2.4 mm.
2.7 LeiLOX locking screw titanium	Rita Leibinger, BW, Germany	242-227	Titanium self tapping locking screw 2.7 mm.
3.5 LeiLOX locking screw titanium	Rita Leibinger, BW, Germany	242-235	Titanium self tapping locking screw 3.5 mm.
BLUE SEAL 100 x 360 mm	Interster, Wormerveer, Netherlands	3FKFB210819	The transparent sterilization laminate size 100 x 360 mm
ETHILON 3-0 with FS-1 needle	Johnson & Johnson Medical GmbH, Norderstedt, Germany	669H	Polyamide 6 3-0 (non-absorbable suture material) with 24 mm 3/8c reverse cutting needle using for skin closure
Fluoroscopy model NZS 229	Philips, Eindhoven, Netherlands		Fluoroscopy

Foley Catheter 10 fr x 90 cm (36") with 3 cc Balloon	MILA international inc., Kentucky, USA	MLIUC1036	Foley urine catheter size 10 fr
Foley Catheter 6 fr x 60 cm (24") with 3 cc Balloon	MILA international inc., Kentucky, USA	MLIUC624	Foley urine catheter size 6 fr
Foley Catheter 8 fr x 90 cm (36") with 3 cc Balloon	MILA international inc., Kentucky, USA	MLIUC836	Foley urine catheter size 8 fr
Ioban 2	3M, MN, USA	6640EU	Iodine-impregnated surgical drape
Miele professional G 7826	Miele Nederland B.V., Vianen, Netherlands		The hygienic washing machine
MMM sterilizer OB10643	MMM Group, Planegg, Germany		Steam autoclave
MONOCRYL 2-0 with SH Plus needle	Johnson & Johnson Medical GmbH, Norderstedt, Germany	MCP3170H	Poliglecaprone 25 plus antibacterial 2-0 (absorbable suture material) with 26 mm 1/2c taperpoint needle using for subcutaneous tissue closure
MONOCRYL 3-0 with SH Plus needle	Johnson & Johnson Medical GmbH, Norderstedt, Germany	MCP3160H	Poliglecaprone 25 plus antibacterial 3-0 (absorbable suture material) with 26 mm 1/2c taperpoint needle using for subcutaneous tissue closure
PDS 0 with CP needle	Johnson & Johnson Medical GmbH, Norderstedt, Germany	PDP485H	Polydioxanone plus antibacterial 0 (absorbable suture material) with 40 mm 1/2c reverse cutting needle using for muscle fascia and tendon closure
PDS 2-0 with CP-1 needle	Johnson & Johnson Medical GmbH, Norderstedt, Germany	PDP466H	Polydioxanone plus antibacterial 2-0 (absorbable suture material) with 36 mm 1/2c reverse cutting needle using for muscle fascia and tendon closure
ProX DMP320	3D systems, South Carolina, USA		Direct metal printing machine using selective laser melting technology
<b>Medications</b>			
Betadine oplossing	Mylan B.V., Amstelveen, Netherlands	RVG 01331	Povidone-iodine solution 100 mg/mL (500 mL)
Betadine shampoo	Mylan B.V., Amstelveen, Netherlands	RVG 08943	Povidone-iodine 75 mg/mL (120 mL)
Carporal 20 mg	AST Farma B.V. Oudewater, Netherlands	REG NL 101766	Carprofen 20 mg/tablet
Carporal 40 mg	AST Farma B.V. Oudewater, Netherlands	REG NL 115715	Carprofen 40 mg/tablet
Carporal 50 mg	AST Farma B.V. Oudewater, Netherlands	REG NL 101767	Carprofen 50 mg/tablet
Cefazolin Mylan 1 g	Mylan B.V., Amstelveen, Netherlands	RVG 16532	Cefazolin powder 1 g for injection
Chlorhexidine 0.5% in alcohol 70% spray	Orphi Farma BV, Lage Zwaluwe, Netherlands	8711407672906	Chlorhexidine 0.5% in alcohol 70% spray (250 mL)
Dexdomitor 0.5 mg/mL	Orion Corporation, Espoo, Finland	EU/2/02/033/001-002	Dexmedetomidine hydrochloride 0.5 mg/mL for injection (20 mL)
Gabapentin Sandoz 300 mg	Sandoz B.V., Almere, Netherlands	RVG 33681	Gabapentin 300 mg/capsule
GABAPENTINE TEVA 100 mg	Teva B.V., Haarlem, Netherlands	RVG 31980	Gabapentin 100 mg/capsule
HiBiScrub	Mölnlycke Health Care AB., Utrecht, Netherlands	RVG 10156	Chlorhexidine digluconate 40 mg/mL (500 mL)
Insistor 10 mg/mL	Richter pharma AG, Oostenrijk, Netherlands	REG NL 121166	Methadone hydrochloride 10 mg/mL for injection (10 mL)
Isoflutek 1000 mg/g	Laboratorios Karizoo S.A., Barcelona, Spain	REG NL 118938	Isoflurane 1000 mg/g (250 mL)
Levobupivacaine Fresenius Kabi 2.5 mg/mL	Fresenius Kabi Nederland b.v., Huis ter Heide, Netherlands	AWA 0611	Levobupivacaine 2.5 mg/mL solution for injection (10 mL)
Morfine HCl CF 10 mg/mL	Centrafarm B.V., Breda, Netherlands	RVG 50836	Morphine hydrochloride 10 mg/mL (1 mL)
Narketan 10	Vetoquinol B.V., Breda, Netherlands	vm08007/4090	Ketamine 10 mg/mL (10 mL)

Propofol 10 mg/mL	Fresenius Kabi Nederland b.v., Huis ter Heide, Netherlands	RVG 110627	Propofol 10 mg/mL emulsion for injection or infusion (50 mL)
Rimadyl	Zoetis B.V., Capelle a/d IJssel, Netherlands	REG NL 10101	Carprofen 50 mg/mL for injection (20 mL)
Sufentanil-hameln 50 mcg/mL	Hameln pharma gmbh, Hameln, Germany	4260016653249	Sufentanil citrate 50 mcg/mL for injection
Trazadone EG 100 mg	EG (Eurogenerics) NV Heizel, Brussel, Belgium	BE439607	Trazadone hydrochloride 100 mg/tablet