

Surgical Dislocation of the Hip (SDH) Periacetabular Osteotomy (PAO) and Surgical Instruments

According to the technique of Reinhold Ganz

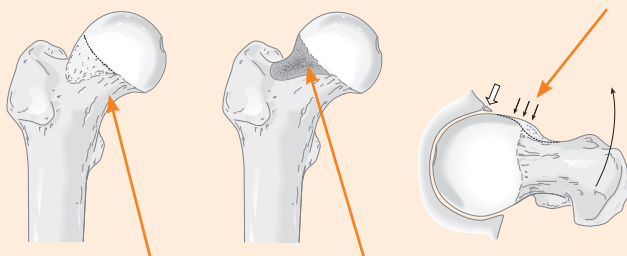


Surgical Dislocation of the Hip (SDH)

Surgical dislocation of the adult hip was long time considered as an operation with unpredictable risks for avascular necrosis of the femoral head. Detailed studies of the vascular anatomy of the proximal femur, however, helped to design a safe approach. It consists of a trochanteric flip osteotomy after a fascial incision anterior to the gluteus maximus muscle (Gibson). The joint capsule is exposed between piriformis and gluteus minimus muscles. A Z-shaped capsulotomy (right side) allows a complete anterior dislocation after transection of the round ligament. With fully preserved external rotators there is optimal protection of the blood supply of the femoral head via the medial femoral circumflex artery. This approach allows a 360° view of the acetabulum and a nearly 360° view of the femoral head. It is very versatile and can be used for acetabular fractures, periacetabular tumor resection, difficult primary THR, revision surgery and for the treatment of any intra- and periarticular pathology. It is the standard approach for open treatment of femoroacetabular impingement (FAI), where it has proven its safety regarding the femoral head perfusion.

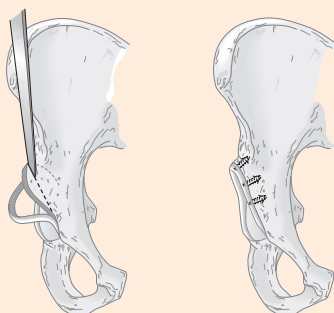


Subtilis Chisels are handmade from extra-high quality steel; Subtilis Retractors are specially designed for high soft-tissue protection and have an antiglare surface treatment.



Femoroacetabular impingement FAI

Resection

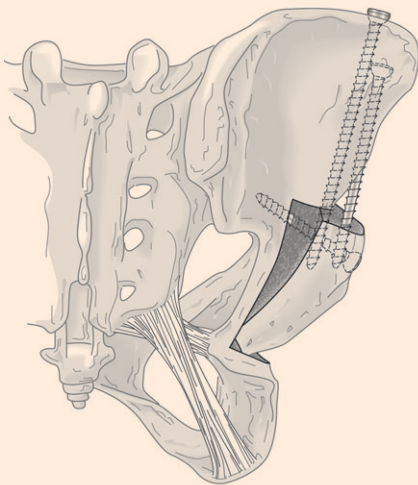


References

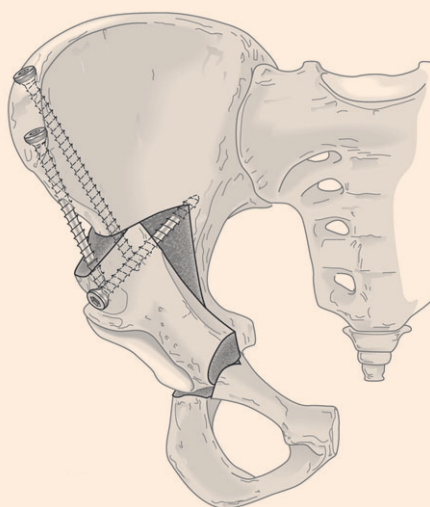
- Leunig M, Casillas MM, Hamlet M, Hersche O, Nötzli H, Slongo T, Ganz R: Slipped capital femoral epiphysis: early mechanical damage to the acetabular cartilage by the prominent femoral metaphysis. *Acta Orthop Scand*, 2000; 71 (4): 370–375.
- Gautier E, Ganz K, Krügel N, Gill Th, Ganz R: Anatomy of the medial femoral circumflex artery and its surgical implications. *J Bone Joint Surg (Br.)*, 2000; 82-B: 679–683.
- Ganz R, Gill T J, Gautier E, Ganz K, Krügel N, Berlemann U: Surgical dislocation of the adult hip *J Bone Joint Surg* 2001 (Br), 83-B, 1119–1124
- Nötzli H P, Siebenrock K A, Hempfing A, Ramseier L E, Ganz R: Perfusion of the femoral head during surgical dislocation of the hip. Monitoring by laser Doppler flowmetry *J Bone Joint Surg (Br)* 2002; 84-B: 300–304
- Ganz R, Parvizi J, Beck M, Leunig M, Nötzli H, Siebenrock K A: Femoroacetabular Impingement. A Cause for Osteoarthritis of the Hip. *CORR* 2003;417: 112–120
- Ganz R, Beck M, Leunig M, Nötzli H P, Siebenrock K A: Femoroacetabuläres Impingement. In: *Becken, Hüfte (Hrsg. Tschauer Ch), Orthopädie und Orthopädische Chirurgie (Hrsg. Wirth C J, Ziechener L), Georg Thieme Verlag, D-Stuttgart* 2004;191–205
- Ganz R: Chirurgische Luxation des Hüftgelenks bei Erwachsenen. In: *Becken, Hüfte (Hrsg. Tschauer Ch), Orthopädie und Orthopädische Chirurgie (Hrsg. Wirth C J, Ziechener L), Georg Thieme Verlag, D-Stuttgart* 2004; 206–210
- Lavigne M, Parvizi J, Beck M, Siebenrock K A, Ganz R, Leunig M: Anterior Femoroacetabular Impingement. Part I. Techniques of Joint Preserving Surgery. *Clin Orthop* 2004;418: 61–66
- Beck M, Leunig M, Parvizi J, Boutier V, Wyss D, Ganz R: Anterior Femoroacetabular Impingement. Part II. Midterm Results of Surgical Treatment. *Clin Orthop* 2004;418: 74–80
- Lavigne M, Kalhor M, Beck M, Ganz R, Leunig M: Distribution of Vascular Foramina around the Femoral Head and Neck Junction: Relevance for Conservative Intracapsular Procedures of the Hip *Orthop Clinics North Am* 2005;36: 171–176
- Beck M, Kalhor M, Leunig M, Ganz R: Hip Morphology influences the Pattern of Damage to the Acetabular Cartilage. Femoroacetabular Impingement as a Cause of early Osteoarthritis of the Hip. *J Bone Joint Surg* 2005; 87-B: 1012–1018
- Espinosa N, Beck M, Rothenfluh D A, Ganz R, Leunig M: Open Treatment of Femoro-Acetabular Impingement: Anatomical Basis, Technique of Surgical Dislocation and Reconstruction. *J Bone Joint Surg Am. Suppl.* 2007, in press,
- Espinosa N, Rothenfluh D A, Beck M, Ganz R., Leunig M: Treatment of Femoro-Acetabular Impingement: Preliminary Results of Labral Refixation *J Bone Joint Surg Am.* 2006;88: 925–935
- Leunig M, Slongo T, Kleinschmidt M, Ganz R: Subcapitale Reorientierung in der Behandlung der Epiphysiolysis Capitis Femoris. *Chirurgische Hüftluxation und Reduktion der Trochanterbasis zur Sicherung der Epiphysären Durchblutung. Operative Orthopädie und Traumatologie*, 2007, in press
- Ganz R, Leunig M: Labral Refixation for Femoro-Acetabular Impingement. Video, *VJO/Journal of Bone and Joint Surgery (JBJS)*, 2007. www.jbjs.org

Periacetabular Osteotomy (PAO)

Acetabular dysplasia is a significant cause of osteoarthritis of the hip in young people. Patients will have pain and a limp reducing the activity substantially. Early corrective attempts of acetabular dysplasia have been augmentation procedures (Shelf, Chiari). More recent approaches deal with realignment of the acetabulum over the femoral head. One of the most powerful osteotomies for realignment is the Bernese Periacetabular Osteotomy (PAO). It aims for restoring a normal hip anatomy, allowing more physiological load distribution in the acetabular cartilage followed by decreased pain and increased activity. The Bernese Periacetabular Osteotomy has become one of the most successful joint-preserving procedures of the hip.



Posterior view



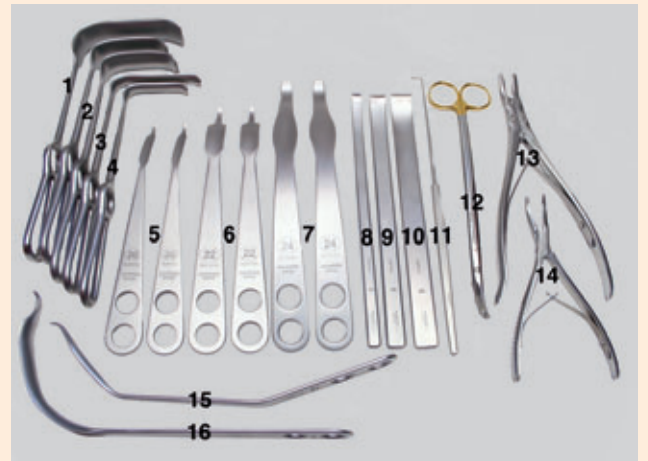
Anterior view

References

- Ganz R, Klaue K, Tho Son Vinh, Mast JW: A new periacetabular osteotomy for the treatment of hip dysplasias, technique and preliminary results. *Clin Orthop* 232: 26–36, 1988
- Trousdale RT, Ekkernkamp A, Ganz R, Wallrichs SL: Periacetabular and Intertrochanteric Osteotomy for the Treatment of Osteoarthritis in Dysplastic Hips. *J Bone and Jt Surgery* 77-A, 1:73–85, 1995
- Hersche O, Casillas M, Ganz R: Indications for intertrochanteric osteotomy after periacetabular osteotomy for adult hip dysplasia. *CORR* 1998; 347: 19–26.
- Leunig M, Ganz R: Berner periazetabuläre Osteotomie. *Orthopäde* 1998; 27 (11): 743–750.
- Siebenrock KA, Schöll E, Lottenbach M, Ganz R: Bernese Periacetabular Osteotomy *Clin Orthop*, 1999; 363: 9–20.
- Hussell JG, Rodriguez JA, Ganz R: Technical Complications of the Bernese Periacetabular Osteotomy. *Clin Orthop*, 1999; 363: 81–92.
- MacDonald SJ, Hersche O, Ganz R: Periacetabular osteotomy in the treatment of neurogenic acetabular dysplasia. *J Bone Joint Surg*, 1999; 81-B (6): 975–978.
- Leunig M, Siebenrock KA, Ganz R: Rationale of periacetabular osteotomy and background work. *J Bone Joint Surg* 2001, 83-A (3): 438–448
- Siebenrock KA, Leunig M, Ganz R: Periacetabular Osteotomy. The Bernese Experience. *J Bone Joint Surg* 2001, 83-A (3): 449–455
- Leunig M, Siebenrock KA, Ganz R: Periazetabuläre Osteotomie (PAO) nach Ganz In *Becken, Hüfte (Hrsg. Tschauner Ch) Orthopädie und Orthopädische Chirurgie (Hrsg. Wirth CJ, Ziechener L)*, Georg Thieme Verlag, D-Stuttgart 2004;177–181
- Parvizi J, Burmeister H, Ganz R: Previous Bernese Periacetabular Osteotomy Does not Compromise the Results of Total Hip Arthroplasty. *CORR* 2004;423:118–122

SDH-FAI Instrumentation

Set No. 0943511 SDH
Pr Ganz Complete Tray



Number	Art. No. S&N	Art. No. PLUS		Description
1	75007689	AC 24.04.62-S		Subtilis Wound Retractor Hösel 100×30 mm/250 mm
2	75007688	AC 24.04.52-S	2 ×	Subtilis Wound Retractor Kocher Forceps 70×25 mm/225 mm
3	75007692	AC 24.10.56-S		Subtilis Wound Retractor Dockhorn 80×14 mm/220 mm
4	75007691	AC 24.10.51-S		Subtilis Wound Retractor Dockhorn 55×14 mm/220 mm
5	75007693	AC 24.51.36	2 ×	Subtilis Bone Lever Hohmannn 8 mm/220 mm
6	75007694	AC 24.51.38	2 ×	Subtilis Bone Lever Hohmannn 18 mm/240 mm
7	75007695	AC 24.51.40	2 ×	Subtilis Hip Lever 24 mm blunt/265 mm
8	75007714	AC 35.57.61		Subtilis Lambotte Flat Chisel curved 10 mm/240 mm
9	75007715	AC 35.57.66		Subtilis Lambotte Flat Chisel curved 15 mm/240 mm
10	75007716	AC 35.57.71		Subtilis Lambotte Flat Chisel curved 20 mm/240 mm
11	75007686	AC 22.00.97		Nerve-Root Retractor Cushing 10 mm/280 mm
12	75007723	AC BC552		Durotip HM-Scissor, blade strongly curved 250 mm
13	75007685	AC 16.20.74		Chisel Extractor Smith-Petersen strongly curved 240 mm
14	75007684	AC 16.10.11		Chisel Extractor Stellbrink geb. 2 mm/170 mm
15	75007699	AC 24.51.48		Subtilis Bone Lever double curved 15/300 mm
16	75007700	AC 24.51.52		Subtilis Hip Lever 22/300 cm
	75007721	AC 47.30.06		Sterilization Tray 515*245*60 mm

FAI Templates

Set No. 0943500 FAI
Pr Ganz Templates



Art. No. S&N	Art. No. PLUS	Description	Size
75001578	027P00142	Femoral Template	42
75001579	027P00144	Femoral Template	44
75001580	027P00146	Femoral Template	46
75001581	027P00148	Femoral Template	48
75001582	027P00150	Femoral Template	50
75001583	027P00152	Femoral Template	52
75001584	027P00154	Femoral Template	54
75001585	027P00156	Femoral Template	56
75001586	027P00158	Femoral Template	58

PAO Instrumentation

Set No. 0943522 PAO
Pr Ganz Complete Tray



Number	Art. No. S&N	Art. No. PLUS		Description
1	75007689	AC 24.04.62-S		Subtilis Wound Retractor Hösel 100×30 mm/250 mm
2	75007688	AC 24.04.52-S	2 ×	Subtilis Wound Retractor Kocher forceps 70×25 mm/225 mm
3	75007687	AC 24.10.51-S		Subtilis Wound Retractor Dockhorn 55×14 mm/220 mm
4	75007690	AC 24.10.50-S		Subtilis Wound Retractor Dockhorn 40×12 mm/220 mm
5	75007693	AC 24.51.36	2 ×	Subtilis Bone Lever Hohmannn 8 mm/220 mm
6	75007694	AC 24.51.38	2 ×	Subtilis Bone Lever Hohmannn 18 mm/240 mm
7	75007695	AC 24.51.40	2 ×	Subtilis Hip Lever 24 mm blunt/265 mm
8	75007696	AC 24.51.42	2 ×	Subtilis Pelvis Lever Ganz, 24 mm/265 mm
9	75007697	AC 24.51.45		Subtilis Pubis Lever Ganz, with long beak-shaped 22/260 mm
10	75007698	AC 24.51.46		Subtilis Pubis Lever Ganz, with short beak-shaped 22/260 mm
11	75007704	AC 29.20.20		Raspatory with iron handle Wagner 8 mm/330 mm
12	75007709	AC 35.14.15		PAO-Chisel Ganz, 15 mm blade curved, 300 mm long
13	75007710s	AC 35.14.20		PAO-Chisel Ganz, 20 mm blade curved 40 mm, 300 mm long
14	75023130	AC 13.33.12		Bone Spread-out Forceps 12 mm width 270 mm long
15	75023129	AC 13.33.08		Bone Spread-out Forceps 8 mm width 270 mm long
16	75007722	AC 75.00.43		Capsule Clamp
17	75007681	AC 04.71.15		Preparation Cissors Walden-Marshall curved 230 mm 1 cutting edge with teeth
18	75007682	AC 07.28.15		Surgical Pincers Adson Micro 150 mm 1×2 Z
19	75007685	AC 16.20.74		Chisel Extractor Smith-Petersen strongly curved 240 mm
20	75007708	AC 35.12.20		Lexer Flat Chisel straight with longer blade and hittingplatte 20 mm/230 mm
21	75007707	AC 35.12.15		Lexer Flat Chisel straight with longer edge and hittingplatte 15 mm/230 mm
22	75007706	AC 35.12.10		Lexer Flat Chisel straight with longer edge and hittingplatte 10 mm /230 mm
23	75007713	AC 35.54.71		Subtilis Lambotte Flat Chisel straight 20 mm/240 mm
24	75007712	AC 35.54.66		Subtilis Lambotte Flat Chisel straight 15 mm/240 mm
25	75007711	AC 35.54.61		Subtilis Lambotte Flat Chisel straight 10 mm/240 mm
26	75018822	AC 29.09.14-S		Raspatory with steel handle curved 14 mm 185 mm rounded edge
27	75023100	AC 29.04.06-S		Raspatory with steel handle 6 mm 185 mm edge slightly curved rounded form
28	75007716	AC 35.57.71		Subtilis Lambotte Flat Chisel curved 20 mm/240 mm
29	75007715	AC 35.57.66		Subtilis Lambotte Flat Chisel curved 15 mm/240 mm
30	75007714	AC 35.57.61		Subtilis Lambotte Flat Chisel curved 10 mm/240 mm
31	75007703	AC 29.11.22		Raspatory straigth 20 mm/200 mm with conical form and rounded blade
32	75007705	AC 29.51.48		Elevatorium Langenbeck 10 mm/200 mm
33	75007718	AC 36.86.15	4 ×	Schanz's Screw Ø 5×150 mm
34	75007717	AC 36.51.00		4-Edge Awl steel handle 200 mm
	75007721	AC 47.30.06		Sterilization tray 515*245*60 mm

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