

TABLE E-1 Clinical Data

Case No.	Date of Primary	Primary Implants devices c/nc/h	Primary Articulation	Patient's Complaints	Radiological Findings	
1	1.3.1992	stem:WEBER Permalock 11.25; cup: Chirulen (PE) 56/28	c	Metasul	start up pain, noise	head not contained in cup due to trapped fragment of bone cement
2	9.11.1993	stem: CF 30; cup: Weber Metasul	c	Metasul	increasing pain at weight bearing since 12.97	osteolyses ventr. & lat.femur and acetabulum
3	1.7.1996	stem: MS 30 [c], cup Fitek [nc]	h	Metasul	irritability of the hip, groin pain, start up pain, limping	progressive lytic lesion of the calcar and the margin of the cup
4	28.6.1994	stem: Alloclassic size 4; cup: Alloclassic 61/28	nc	Metasul	increasing pain since 1995	osteolysis in prox. femur and acetabulum since 06.96.
5	14.7.1993	stem: Alloclassic; cup: Alloclassic CSF 58/28	nc	Metasul	increasing pain since 1996	increasing osteolyses in acetabulum and prox. femur since 1995
6	7.4.1997	stem: ?; cup: Alloclassic 61/28	nc	Metasul	?	?
7	17.6.1995	stem: CLS; cup: CLS expansion cup 54	nc	Metasul	pain	radiolucent lines around stem, bone scan indicated acetabular hot spots
8	24.5.1996	stem: TCM; cup: Fitek	nc	Metasul	hip sensible to shock since 09.97: increas. pain at weight bearing since 02.98 pain allows walking only with crutches since 02.99	radiolucent lines in prox. femur, cranially & caudally in acetabulum
9	20.11.1995	stem: Alloclassic 4; cup: Alloclassic 64/28	nc	Metasul	increasing thigh pain at weight bearing & hip movement since 1997	progressive osteolysis in femur proximally & mid stem
10	6.5.1998	stem: Alloclassic 4; cup: ACA 56	nc	Metasul	hip and thigh pain esp. at weight bearing since implantation	radiolucent line around stem since 01.99
11	11.4.1996	stem: 06 PPF, cup: SKT 56	nc	metal/metal (Stratek)	thigh pain, dorsolateral & greater trochanter, clicking, dislocation	perfect radiol. appearance of implants and bone
12	1.3.1995	stem: PPF; cup: SKT	nc	metal/metal (Stratek)	lateral thigh pain, esp.during weight bearing since implantation	osteolyses: cranially & caudally in acetabulum, greater trochanter, and calcar femoris; implants not loose
13	25.3.1996	stem: Alloclassic 6; cup: Spotorno 52/28	nc	Metasul	since 1997 increasing pain at weight bearing, progressive noise during hip movements	no major osteolyses
14	28.8.1998	stem: CLS 6; cup: St. Nabor 52/28	nc	Metasul	increasing pain at weight bearing & occasionally pain at night since 11.1998	no osteolyses, but pedestal formation at tip of stem
15	15.2.1993	stem: Alloclassic size 8; cup: Alloclassic 61/28	nc	Metasul	thigh pain, limping, instability	osteolysis prox. femur, avulsion of greater trochanter
16	7.11.1997	stem: TCM-Titan, cup: Fitek	nc	Metasul	hip pain, more intense than usual since implantation	1y: lucent line zone I of cup, 2y: radiol.loosening of cup, lucent lines proximal femur
17	28.4.1999	stem: TCM 7; cup: Artec Ti	nc	Metasul	pain at weight bearing since 07.1999, limping and increasing groin-pain since 10.1999	scintigram 11.99: hot spot around cup, no osteolysis
18	12.10.1998	stem: Thrust plate; cup: Pyramid	nc	Metasul	pain at weight bearing multiple subluxations since implantation	no osteolyses
19	10.7.1999*	stem: Zweymüller SLR; cup: Bicon	nc	metal/metal (Plus)	pain at weight bearing & at rest, limping since implantation	radiolucent lines around stem

* revision of endoprosthetic stem with Metasul articulation, primary implanted in 02.97

Legend for Table E1

Clinical Data. For the following cases additional information is available.

Case 3: a metal allergy test proved high sensitivity to nickel. Case 4: urinalysis: Co=5.5 µm/L (norm: 0.5 µm/L), blood analysis: Co=0.85 µm/L (norm: 0.01 µm/L). Case 5: 13.08.1997 urinalysis: Co=1.8 (norm<1.0), Cr=1.4 (norm<5.0), Ti=21 (norm<1.0 mg/L); blood analysis: Co=0.12 (norm <0.2), Cr=0.11 (norm <0.2), Ti=0.3 (norm <0.1 mg/dL). Case 6: impingement marks on Ti neck and CoCr Metasul cup. Case 16: the noncemented TEP was implanted on left only a few months after implantation of a non-cemented TEP on right. Case 19: metal allergy test: sensitive to nickel.

Abbreviations: Al₂O₃ = alumina ceramic, CoCr = cobalt-chromium alloy, c = cemented, h = hybrid, nc = noncemented, PE = polyethylene, y = year/s; all others are implant names.

Date of Revision	Age at Rev.	Indication for Revision	Findings at Revision	Revision Implants devices	c/nc/h	Articulation Replaced	Relief of Symptoms
31.8.1993	58 y	patient complaints	bursa formation, stem & cup fixed	stem and cup left in situ, only Metasul head replaced	c	Metasul	persistence of hip pain
17.6.1998	65 y	increasing pain and osteolyses	stem & cup loose	stem: PFM R nc, cup: support ring + low profile PE c, head: Al2O3	h	Al2O3 / PE	no complaints, no pain
28.4.1999	52 y	patient unhappiness with clinical result	stem & cup well fixed	cup: exchange to PE inlay, head: Al2O3	h	Al2O3 / PE	no complaints, but only occasionally groin pain
27.11.1997	67 y	pain and increasing osteolyses	massive hip joint effusion, stem & cup well fixed	stem: Alloclassic, cup: Alloclassic PE, head: Al2O3	nc	Al2O3 / PE	no complaints, no pain
11.9.1997	76 y	increasing pain and osteolyses	stem: distally well fixed, but prox. osteolyses 8 cm depth; cup: loose & massive osteolyses	cup: Alloclassic 61, PE inlay 28, head: Al2O3	nc	Al2O3 / PE	no complaints, no pain
12.12.1997	63y	loosening of cup	?	?	nc	Al2O3 / PE	no complaints
5.5.1998	57 y	pain	hip joint effusion, stem still fixed, left in situ	?	nc	Al2O3 / PE	no complaints
19.2.1999	72 y	increasing pain	stem & cup loose	stem: PFM - R, cup: Fitek, head: Al2O3	nc	Al2O3 / PE	no complaints, no pain
16.2.1999	61 y	increasing pain and osteolyses	femur: fixed distally, extensive osteolyses proximal; cup: well fixed	stem: SSL 6, cup: PE inlay 61/28, head: Al2O3	nc	Al2O3 / PE	no complaints, no pain
28.4.1999	56 y	suspected infection**	hip joint effusion; stem & cup: loose, with soft tissue membrane at interface	stem: Alloclassic 5, cup: ACA 60	nc	Metasul	persistence of complaints
1.6.1999	56 y	patient was afraid of recurrent dislocation	large bursa, & massive effusion, stem & cup fixed	debridement, exchange of inlay again to metal/metal	nc	metal/metal (Stratec)	persistence of pain, crepitation and swelling
7.7.1999	62 y	pain and osteolyses	stem & cup fixed	debridement, exchange to PE-inlay, head: Al2O3	nc	Al2O3 / PE	no complaints, no pain
6.7.1999	58 y	increasing pain and noise	bursa formation, hip joint effusion, stem & cup fixed	cup: PE inlay, head: Al2O3	nc	Al2O3 / PE	no complaints, no pain
28.6.1999	55 y	progressive pain	stem loose, discrete proximal osteolysis, cup: well fixed, left in situ	stem: MS 30 cemented, head: Al2O3	h	Al2O3 / PE	complete pain relief
9.11.1999	59y	avulsion of the greater trochanter	complete dislocation of greater trochanter	stem: Weller long stem c, cup: change of inlay nc	h	Metasul	persistence of thigh pain
15.10.1999	71 y	loosening of cup & stem	stem & cup loose, soft tissue membranes at implant/bone interface	stem: PFM-Revision, cup: Fitmore	nc	Metasul	persistence of thigh pain
29.2.2000	64 y	increasing pain, aseptic loosening of cup and stem	cup & stem loose	stem: PFM-R, cup: Fitmore	nc	Durasul: CoCr/cross-linked PE	complaints improved
7.11.2000	40 y	multiple subluxations	large bursa trochanterica, communicating with hip joint, massive hip joint effusion, stem & cup fixed	change of inlay & head	nc	Durasul: CoCr/cross-linked PE	complete pain relief
7.11.2000	54 y	patient complaints	hip joint effusion, stem: loose, cup: still fixed	stem: Zweymüller SLR, cup: BOFOR, head: Al2O3	nc	Al2O2/PE	cup went loose again

** infection histologically not verified

Table E-1 part 2