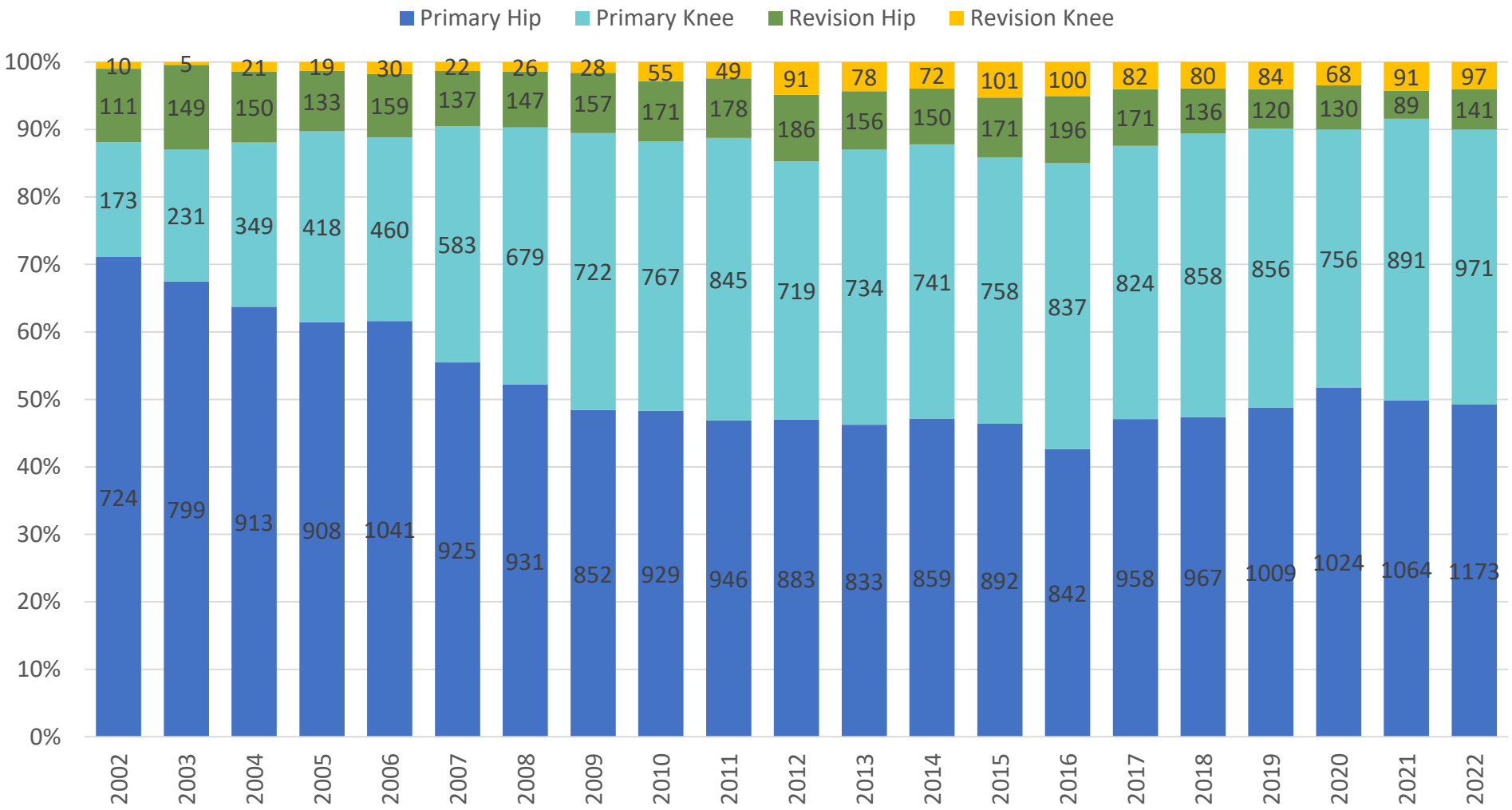
Register artroplastike Valdoltra

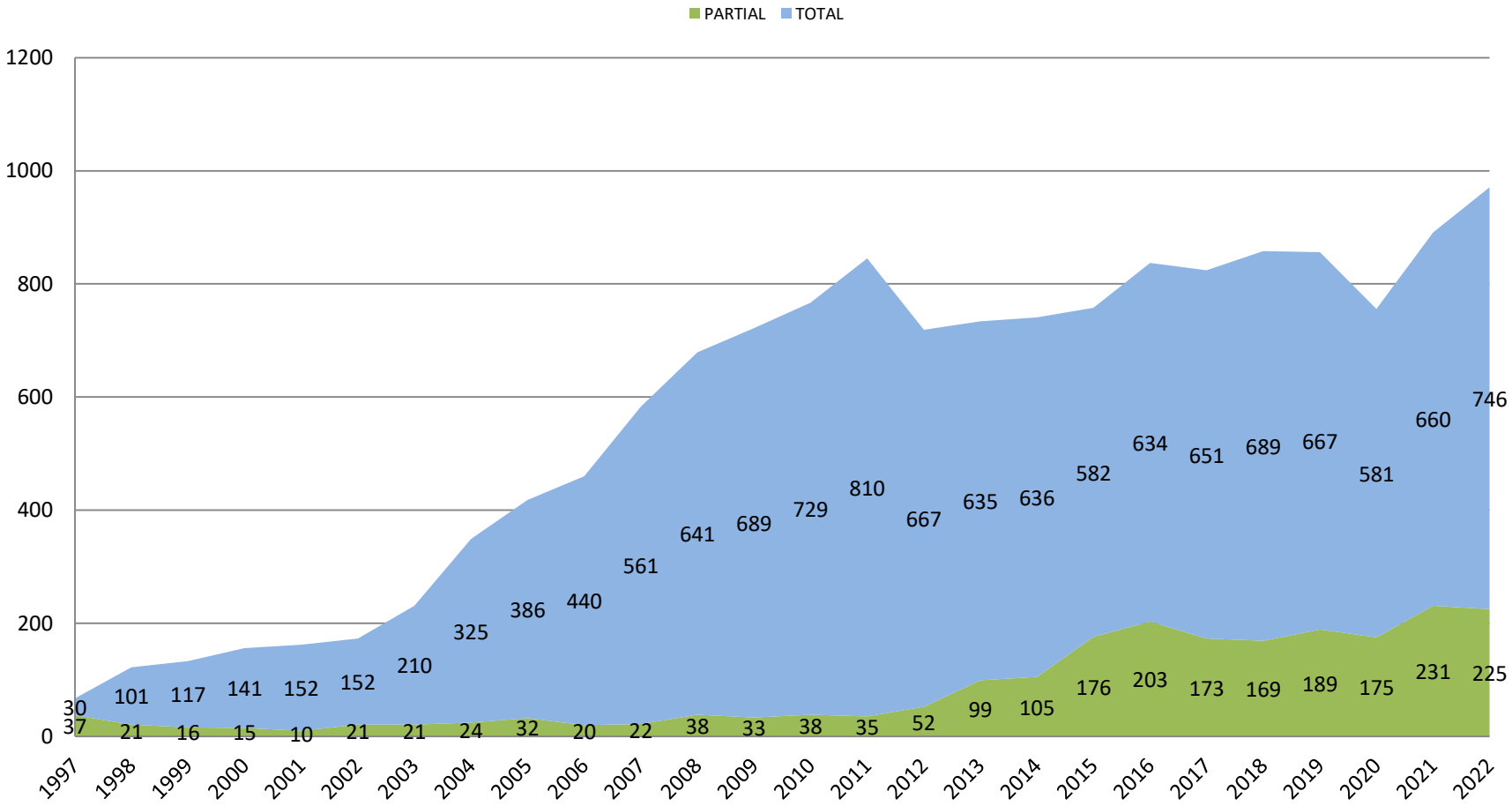
Valdoltra KNEE Arthroplasty Registry 2002 to 2022

dr. Vesna Levašič, MD, PhD, mag. Mateja Blas, asst. prof. Simon Kovač, MD, PhD, prof. dr. Ingrid Milošev, PhD

The registry‘s entries 2002-22



Total and Partial Knee Joint Replacement



ORTOPEDSKA BOLNIŠNICA
OSPEDALE ORTOPEDICO
VALDOLTRA

01

PRIMARY PARTIAL AND TOTAL KNEE ENDOPROTHESES

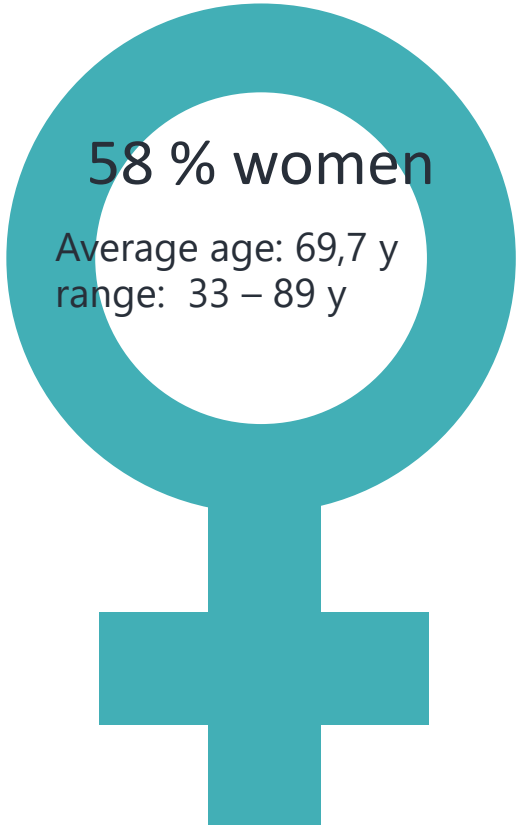
2022

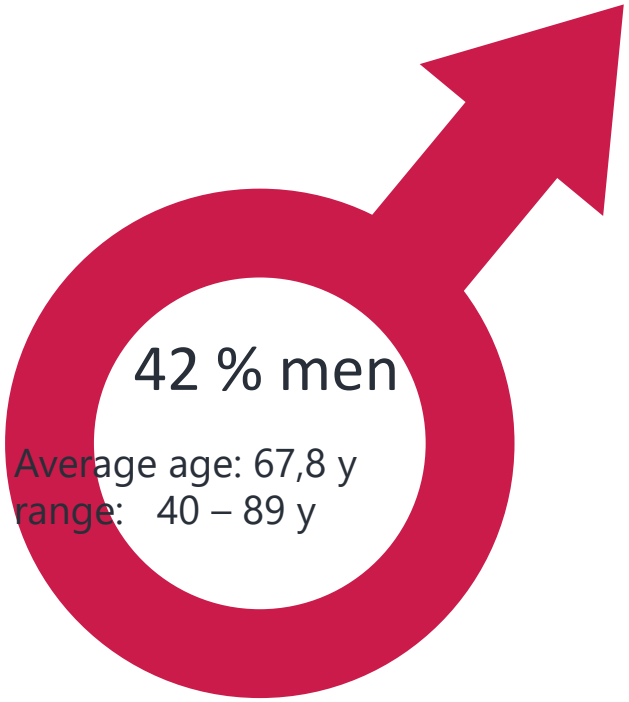
Primarne kolenske proteze 2022

Register artroplastike Valdoltra

971 primary knee endoprostheses

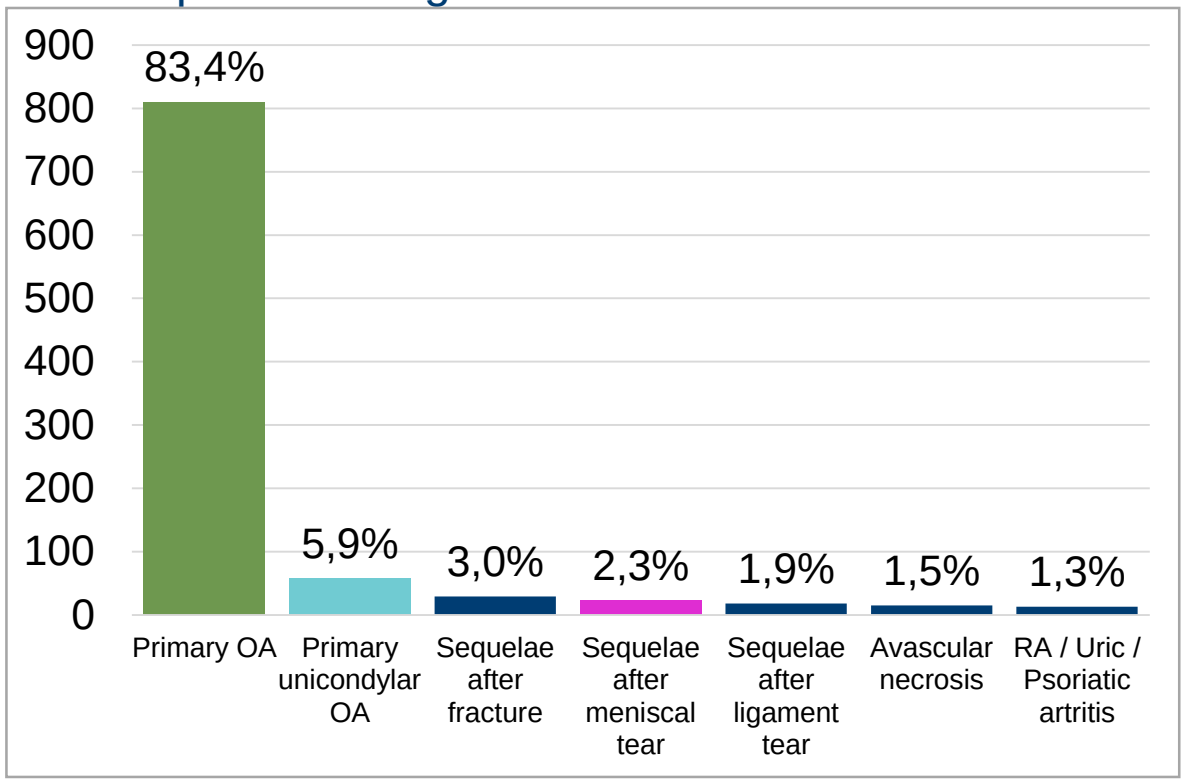
956 patients (15 patients on both sides - 2 on the same day)





Primary knee endoprstheses 2022

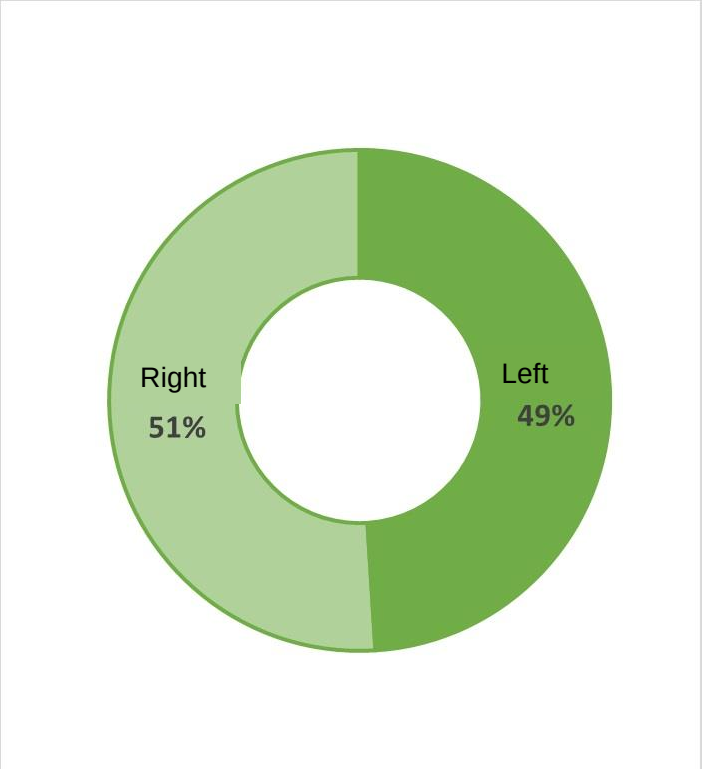
Preoperative diagnosis



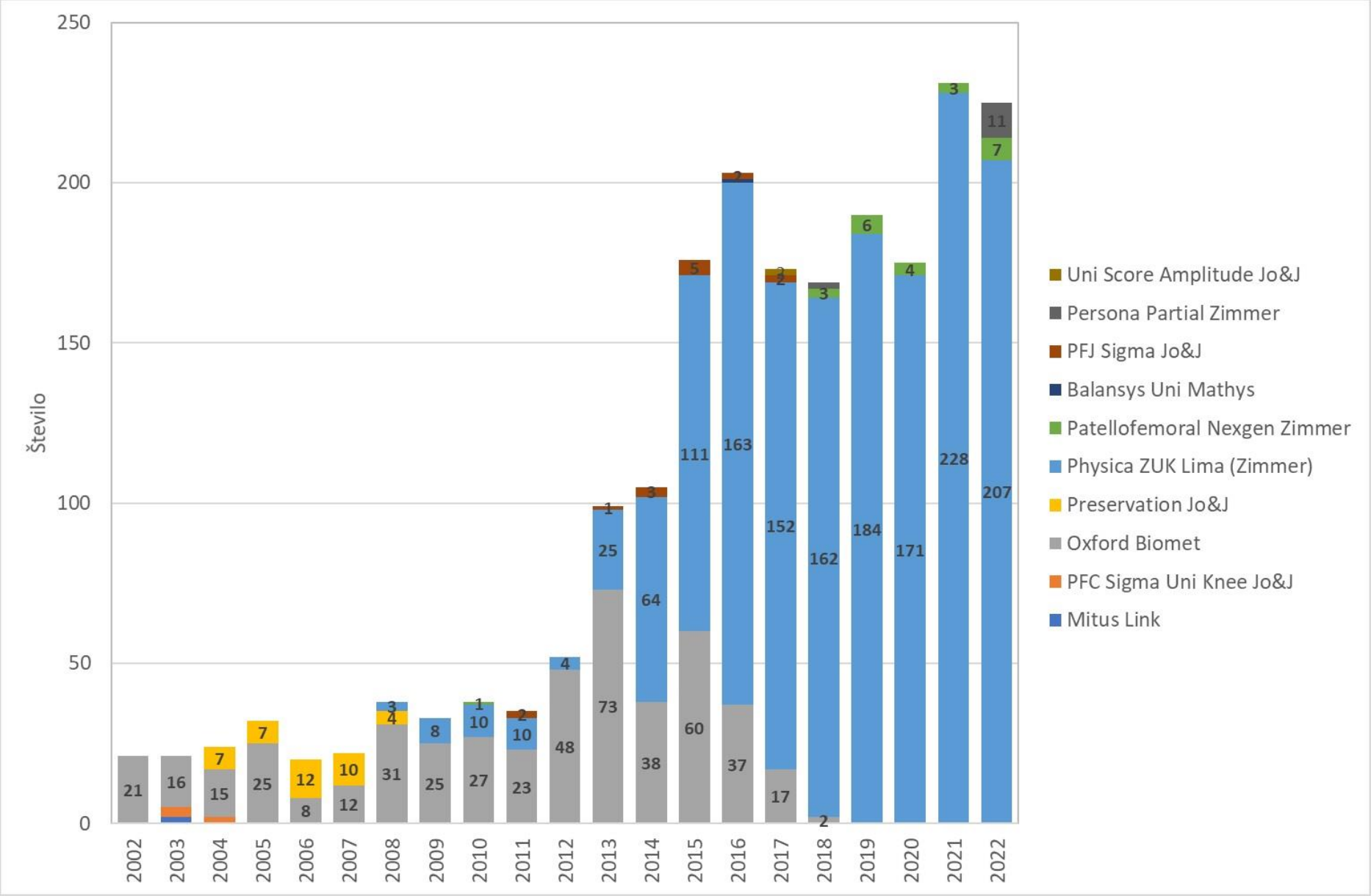
Approach	N	%
Medial parapatelar	733	75.5
Medial miniinvasive	157	16.2
Medial transvastus	37	3.8
Lateral parapateral	30	3.1
Medial subvastus	9	0.9
Lateral miniinvasive	4	0.4
Other	1	0.1

Knee Society Knee Score (KSKS)	Clinical (n=546)	Functional (n=545)
Average (st. deviation)	51.8 (19.7)	61.2 (18.5)
Range	0-95	0-100

Side of operated knee:



Primary partial knee endoprostheses 2002-2022

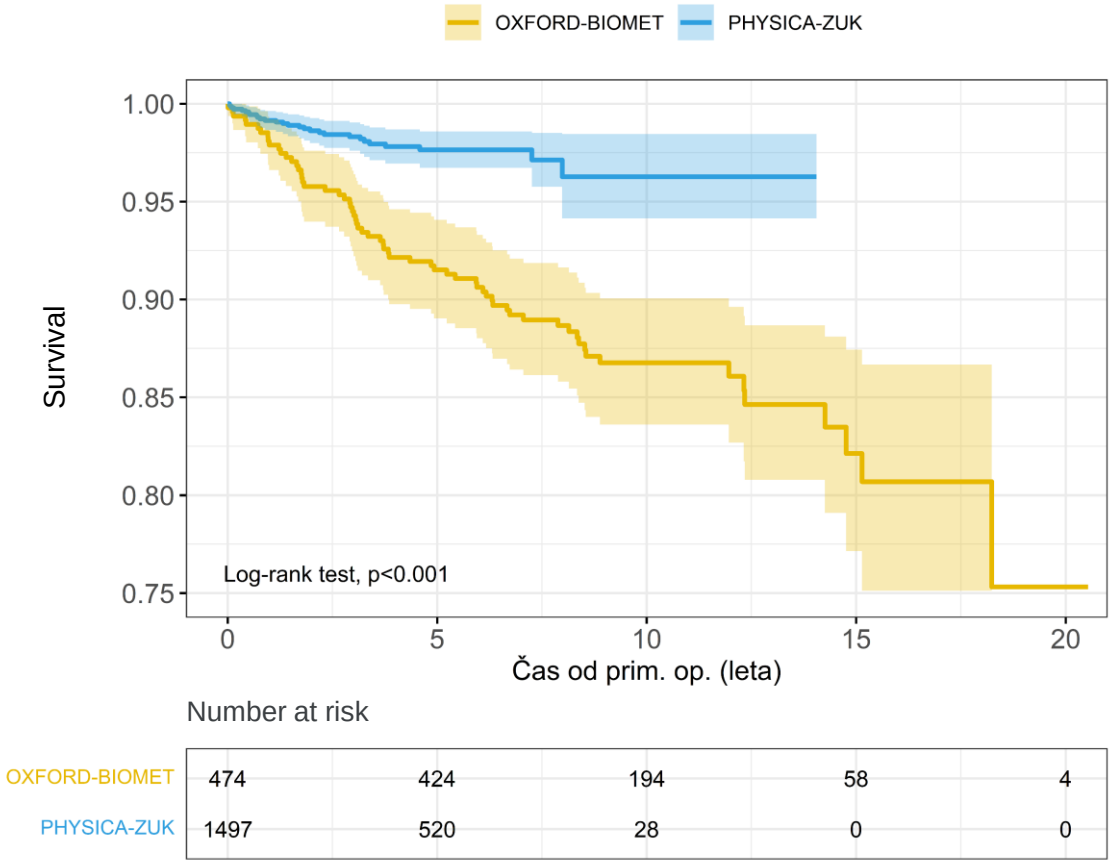


Primary partial knee endoprostheses 2022

Survival 2002-22

Femoral-tibial part	N of primaries	N of first revisions	Age *Median (IOR)*	% of women	Time from primary *1 y*	*5 y*	*10 y*	*15 y*
OXFORD-BIOMET	474	65	66 (60-72)	69	2.11 (1.14 - 3.89)	8.49 (6.3 - 11.4)	13.23 (10.35 - 16.84)	17.87 (13.35 - 23.7)
PHYSICA ZUK-ZIMMER LIMA	1469	28	68 (61-74)	56	0.85 (0.49 - 1.5)	2.35 (1.58 - 3.49)	3.73 (2.09 - 6.61)	3.73 (2.09 - 6.61)

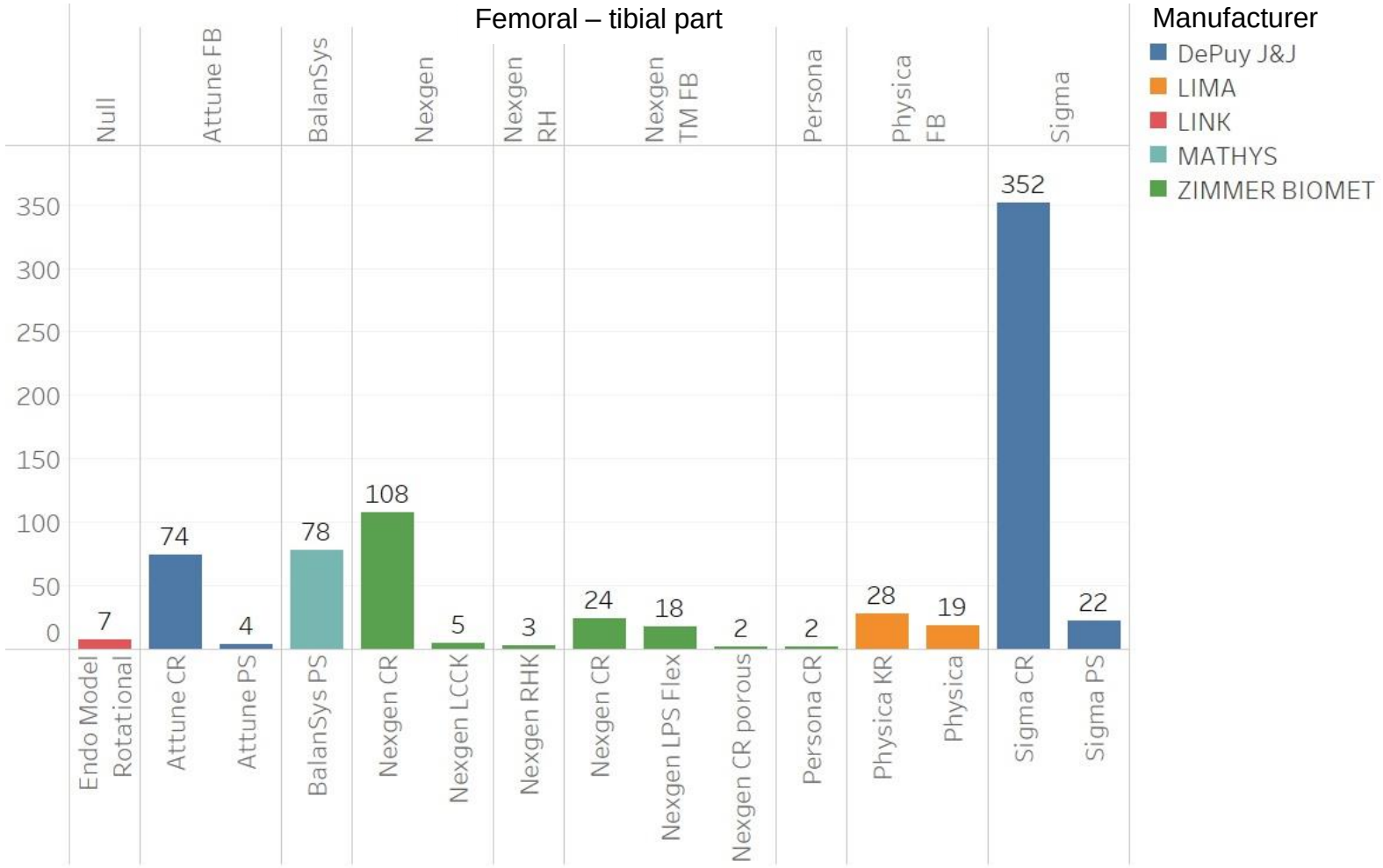
*at least 20 cases
IQR-interquartile range

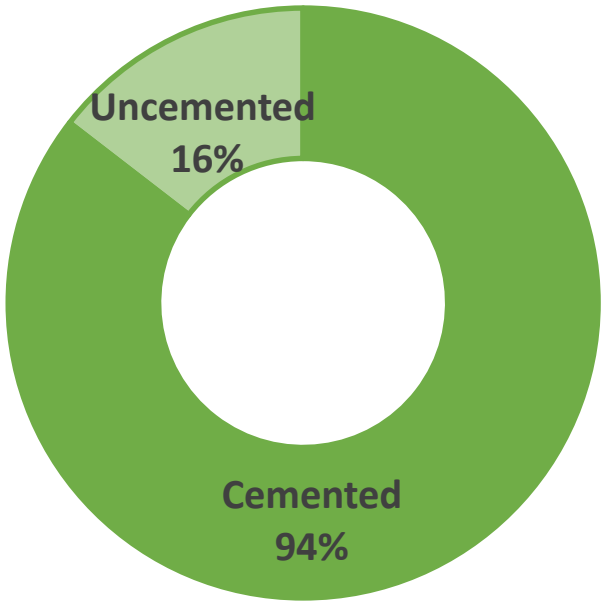


Number at risk

OXFORD-BIOMET	474	424	194	58	4
PHYSICA-ZUK	1497	520	28	0	0

Primary total knee endoprostheses 2022, sum 746





Primary total knee endoprostheses 2002-2022

Register artroplastike Valdoltra

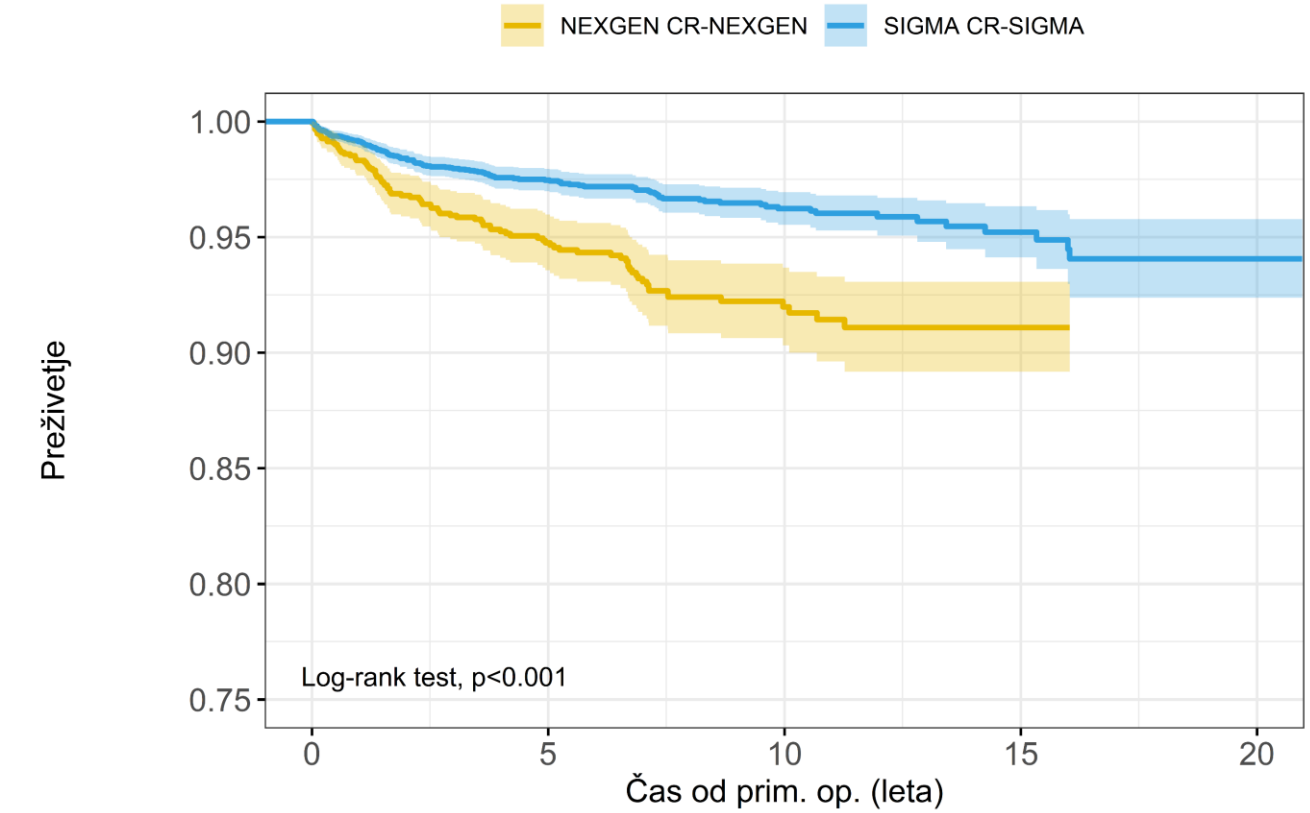
Cumulative percentage of revision

Femoral-tibial part	N°of primaries	N°of first revisions	Age *Mediana (IOR)*	% prostheses in women	Time from primary operation *1 y*	*5 y*	*10 y*	*15 y*
ADVANCE-ADVANCE	299	27	69 (64-74)	69	2.01 (0.91 - 4.41)	6.41 (4.14 - 9.87)	9.01 (6.22 - 12.96)	
AGC-AGC	721	37	72 (67-74)	75	0.7 (0.29 - 1.66)	2.85 (1.85 - 4.38)	4.85 (3.45 - 6.8)	5.98 (4.27 - 8.35)
ATTUNE CR-ATTUNE	279	1	69 (62-74)	63	0.43 (0.06 - 2.98)	0.43 (0.06 - 2.98)		
BALANSYS PS-BALANSYS	560	13	70 (64-75)	62	0.41 (0.1 - 1.61)	3 (1.64 - 5.45)		
ENDOMODEL LINK	38	3	75 (65-81)	76	2.63 (0.37 - 17.25)	5.67 (1.44 - 20.93)	15.11 (4.13 - 47.02)	15.11 (4.13 - 47.02)
GENESIS-GENESIS	30	3	72 (69-75)	97	3.33 (0.48 - 21.39)	6.79 (1.74 - 24.51)	10.84 (3.6 - 30.13)	10.84 (3.6 - 30.13)
IB-IB	39	3	77 (74-79)	92	2.56 (0.37 - 16.84)	7.83 (2.59 - 22.35)	7.83 (2.59 - 22.35)	7.83 (2.59 - 22.35)
NEXGEN CR-NEXGEN	1523	94	70 (63-75)	61	1.69 (1.14 - 2.49)	5.24 (4.16 - 6.59)	8.02 (6.5 - 9.87)	8.9 (7.15 - 11.06)
NEXGEN CR-NEXGEN TM	54	1	65 (58-71)	35	1.85 (0.26 - 12.43)			
NEXGEN LPS POROUS-NEXGEN MONOBLOCK	853	38	67 (62-72)	67	1.06 (0.55 - 2.02)	2.86 (1.93 - 4.24)	4.14 (2.93 - 5.83)	5.62 (4.05 - 7.78)
NEXGEN LPS FLEX-NEXGEN	402	24	70 (64-75)	72	1 (0.38 - 2.64)	2.83 (1.58 - 5.05)	4.6 (2.88 - 7.31)	6.48 (4.28 - 9.75)
NEXGEN LPS FLEX-NEXGEN TM	33	1	66 (63-73)	36	3.23 (0.46 - 20.77)			
PHYSICA CR-PHYSICA FB	30	0	72 (65-79)	70	0	0	0	0
PHYSICA KR-PHYSICA FB	37	0	73 (65-78)	76	0	0	0	0
SIGMA CR-SIGMA	4724	135	70 (63-75)	67	0.87 (0.64 - 1.18)	2.53 (2.09 - 3.07)	3.77 (3.12 - 4.54)	4.79 (3.8 - 6.03)
SIGMA PS-SIGMA	465	16	69 (62-75)	61	1.32 (0.6 - 2.92)	3.63 (2.2 - 5.97)	3.93 (2.42 - 6.37)	
SIGMA PS-SIGMA MBT	88	5	62 (56-70)	46	1.14 (0.16 - 7.79)	4.55 (1.73 - 11.66)	5.71 (2.42 - 13.18)	
SOLUTION-SOLUTION	1131	44	71 (66-76)	75	0.71 (0.36 - 1.42)	2.37 (1.62 - 3.47)	3.47 (2.53 - 4.76)	4.7 (3.42 - 6.46)
VANGUARD-VANGUARD	564	34	70 (63-76)	68	1.6 (0.83 - 3.04)	5.2 (3.64 - 7.4)	6.63 (4.54 - 9.63)	

Primary total knee endoprostheses 2002-2022

Register artroplastike Valdoltra

Survival of 2 cemented total knee endoprostheses: Sigma De Puy J&J, Nexgen Zimmer 2002-22



Število izpostavljenih

NEXGEN CR-NEXGEN	1523	935	370	34	0
SIGMA CR-SIGMA	4723	2607	1119	315	15

ORTOPEDSKA BOLNIŠNICA
OSPEDALE ORTOPEDICO
VALDOLTRA

02

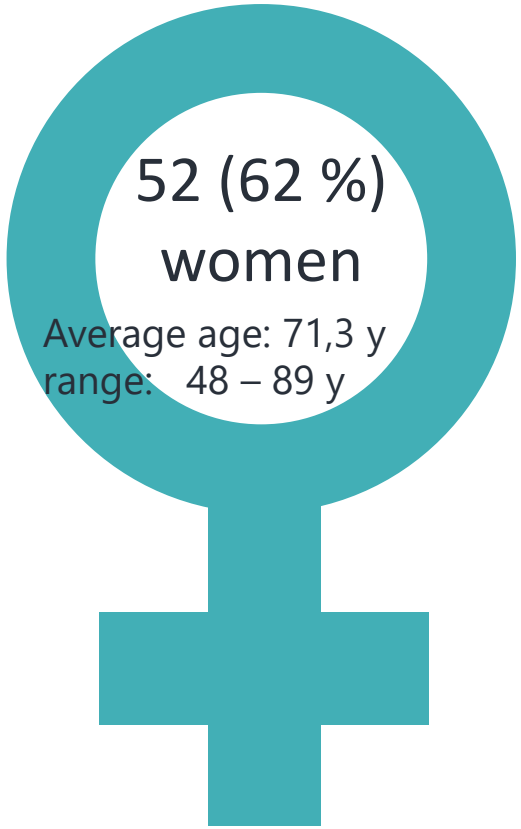
REVISION OPERATIONS OF KNEE JOINT REPLACEMENTS 2022

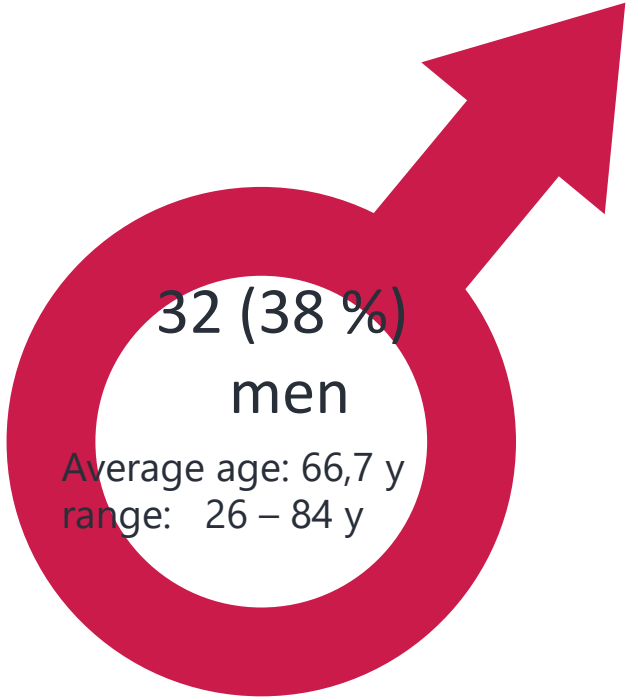
Revision knee arthroplasties 2022

Register artroplastike Valdoltra

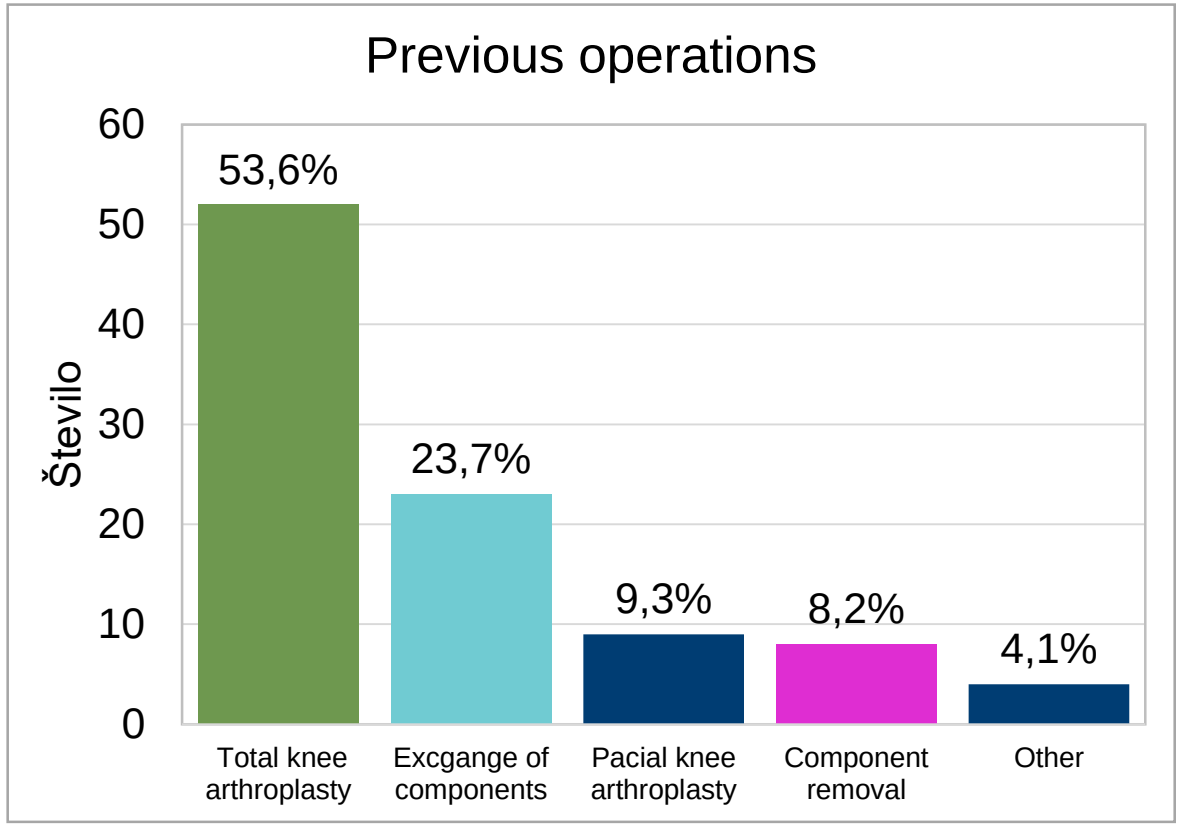
97 revision operations

84 patients (11 patients operated 2-times, 1 pacient 3-times)





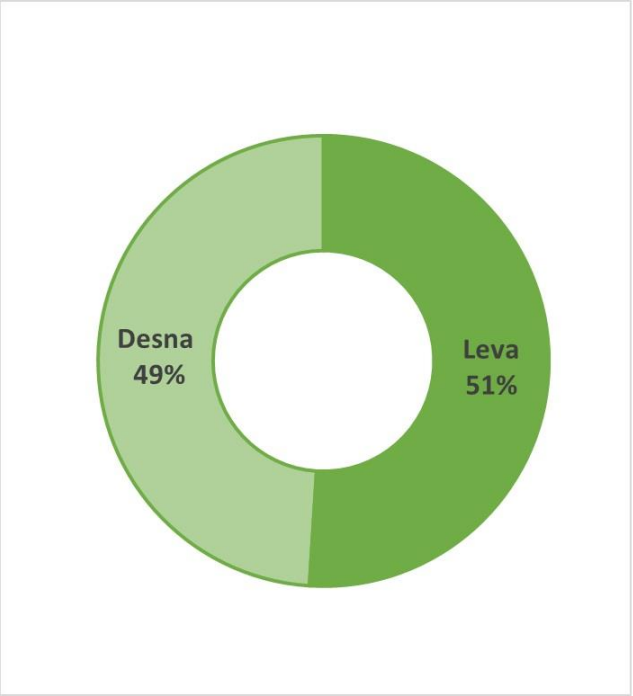
Revision knee arthroplasties 2022



Approach	N°	%
Medial parapatelar	92	94.8
Medial transvastus	1	1
Lateral parapateral	1	1
Other	3	3.2

Knee Society Knee Score (KSKS)	Clinical (n=23)	Functional (n=23)
Average (st. deviation)	49.4 (18)	52 (14.4)
Range	14-79	30-90

Side of surgery



Revision knee arthroplasties 2022

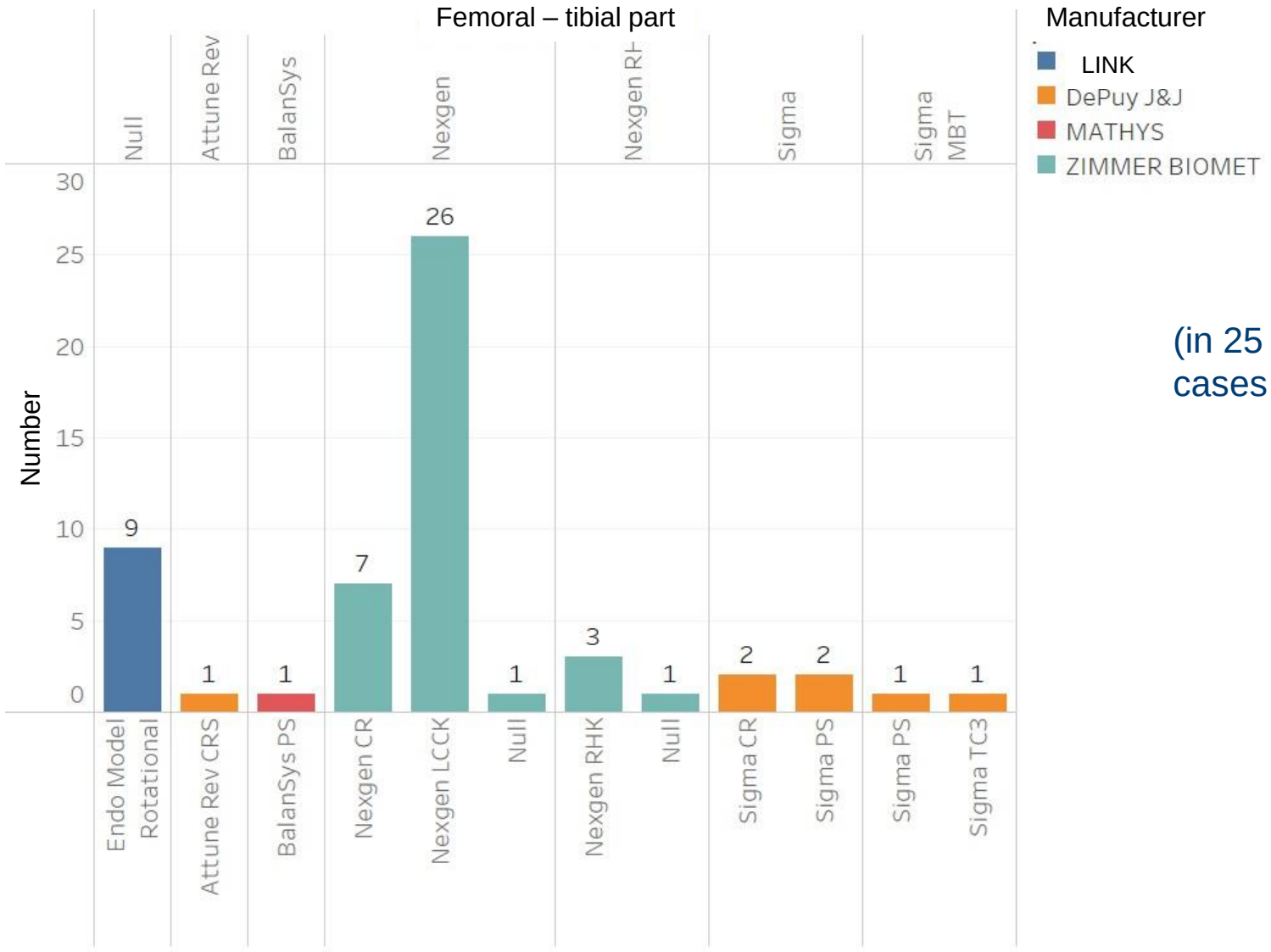
Register artroplastike Valdoltra

Reasons for revision hips vs. knees

Period 2002 - 2022	Knee (%)	Hip (%)
Deep infection	25,6	13,3
Aseptic loosening	20,9	52,6
Instability, malalignment, bad range of motion	14,1	0
2-stage revision	13,1	6,7
Pain	7,8	2,5
OA of the other compartment	6,6	0
Other	6,4	6
Periprosthetic fracture	3	8,7
Luxation (dislocation)	1,6	4,8
Implant broken	0,9	3
Osteolysis	0	2,2
Metalosis	0	0,3

Revision knee arthroplasties 2022

Implanted material



(in 25 cases implanted PE inlay only and in 4 cases added patellar components)

Revision knee arthroplasties 2022

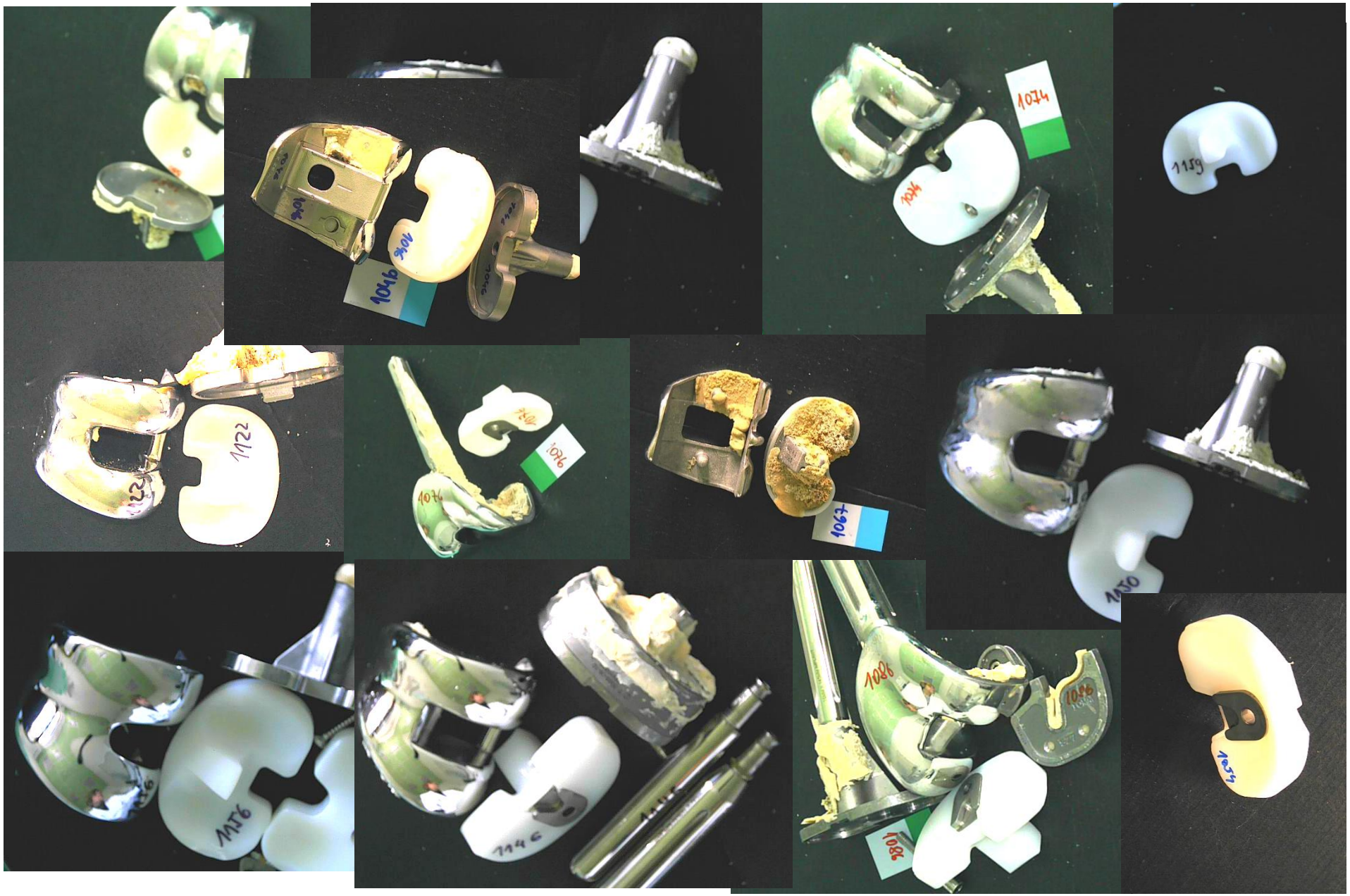
Revision burden: all revisions and revisions from infections in Valdoltra Hospital

Register artroplastike Valdoltra

Year	RB (revision burden) = Nº of revisions*100/(Nº of primaries+ Nº of revisions) in %	Nº of revisions for infection*100 / (Nº of primaries+ Nº of revisions) in %
2002	4,37	1,09
2003	1,69	0,00
2004	4,32	0,81
2005	3,89	0,92
2006	5,31	1,22
2007	3,31	1,49
2008	3,40	1,28
2009	3,47	0,93
2010	5,83	1,46
2011	4,81	1,23
2012	9,75	1,98
2013	7,51	1,60
2014	7,43	1,86
2015	10,01	2,56
2016	9,39	2,24
2017	7,73	1,99
2018	7,36	2,03
2019	6,81	2,34
2020	6,07	1,46
2021	7,43	1,63
2022	8,37	2,67
Average OBV	**6,11**	**1,74**

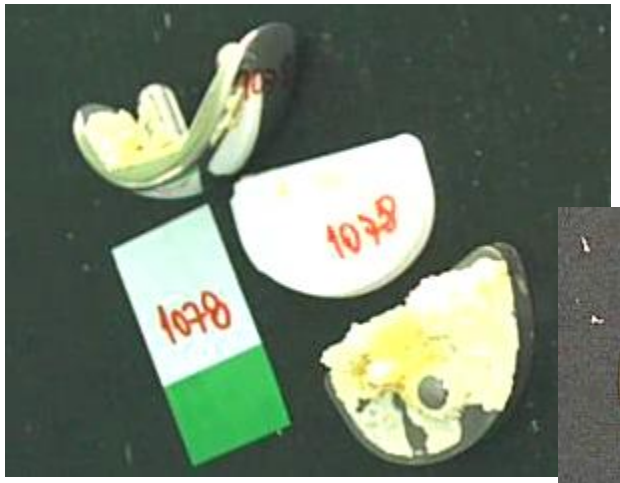
Removed and collected total knee prostheses 2022

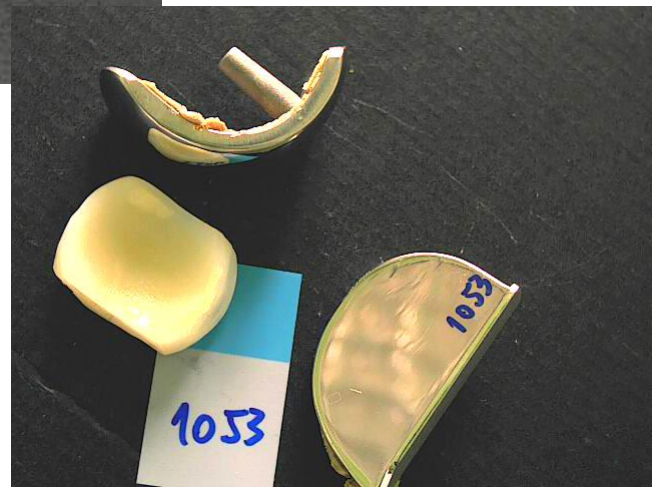
Register artroplastike
Valdoltra



Removed and colleted partial knee prostheses 2022

Register artroplastike
Valdoltra





Removed prostheses – time in situ KNEES 2002 - 2022

Year	N° of removed	Time in situ of the removed (Years)
2002	7	4,8 (1-10)
2003	5	7,9 (2-19)
2004	18	3,9 (0-21)
2005	15	4,9 (0-13)
2006	25	5,3 (0-13)
2007	17	6,6 (0-20)
2008	21	6,5 (0-24)
2009	23	3,5 (0-12)
2010	36	3,8 (0-13)
2011	19	4,8 (0-8)
2012	42	3,2 (0-10)
2013	61	4,1 (0-20)
2014	45 (collected)	4,0 (0-18)
2015	61 (collected)	4,8 (0-19)
2016	66 (collected)	4,4 (0-20)
2017	52 (collected)	6,1 (0-21)
2018	30 (collected)	5,3 (0-18)
2019	50 (collected)	4,1 (0-21)
2020	55 (collected)	4,2 (0-25)
2021	72 (collected)	5,5 (0-27)
2022	81 (collected)	5,0 (0-25)
Vsota	622	**Average of all: 4,9 ± 1,1 (0 - 27)**

Register artroplastike Valdoltra

The longest time in situ2022

1163, M, born 1961
-prim. op., Sin, 1999, Sarajevo
-**total knee endoprosthesis IB Cremascoli**-čas in situ: **26,7 years**
-reason for revision: late deep infection

REFERENCE

Levašič V., Blas M., Kovač S., Milošev I. Valdoltra Arthroplasty Registry. Available on 4th April 2024: https://www.ob-valdoltra.si/sl/international