



Valdoltra KNEE Arthroplasty Registry 2002-2021

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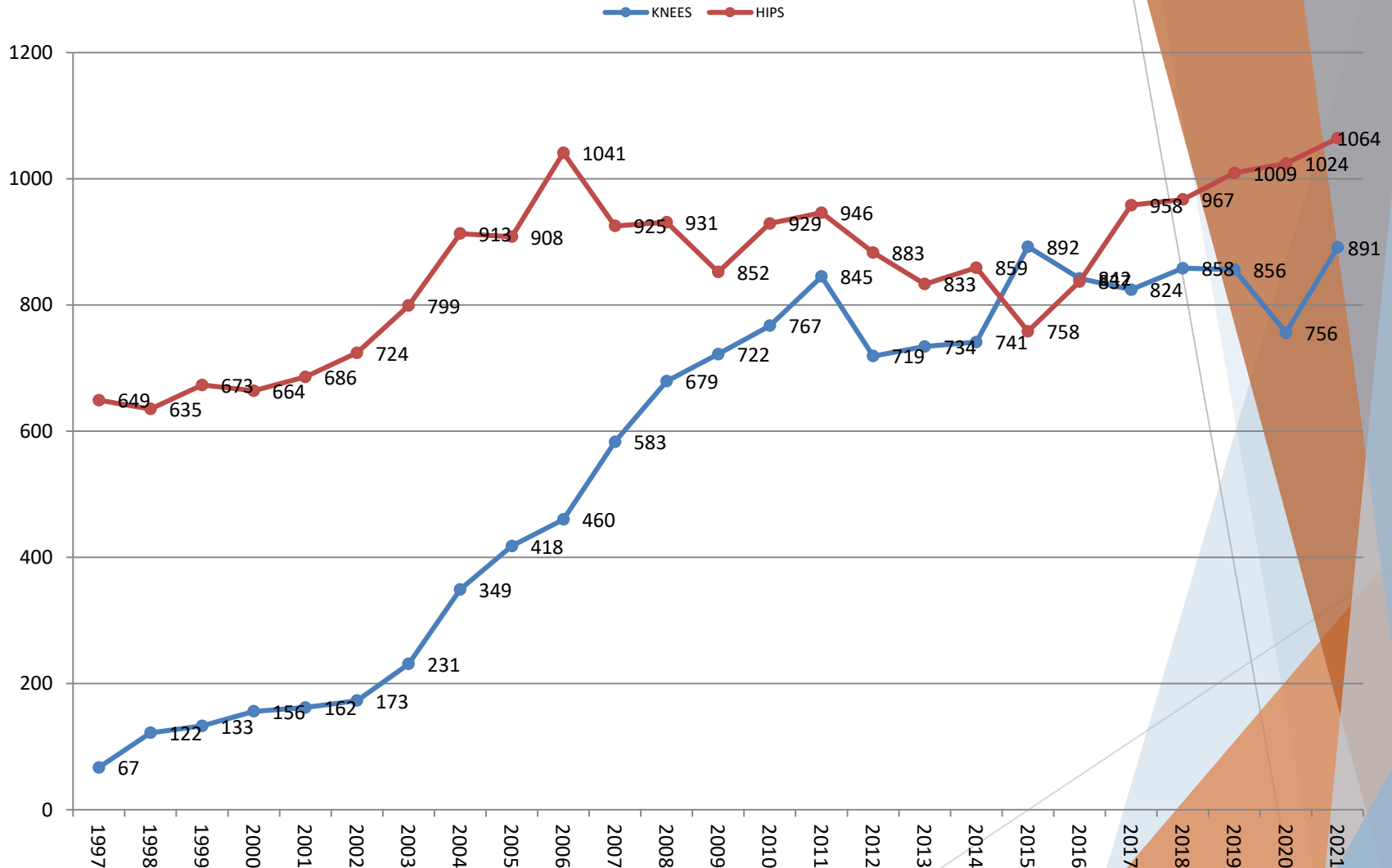
Denia Savarin

Ass. dr. Simon Kovač, MD

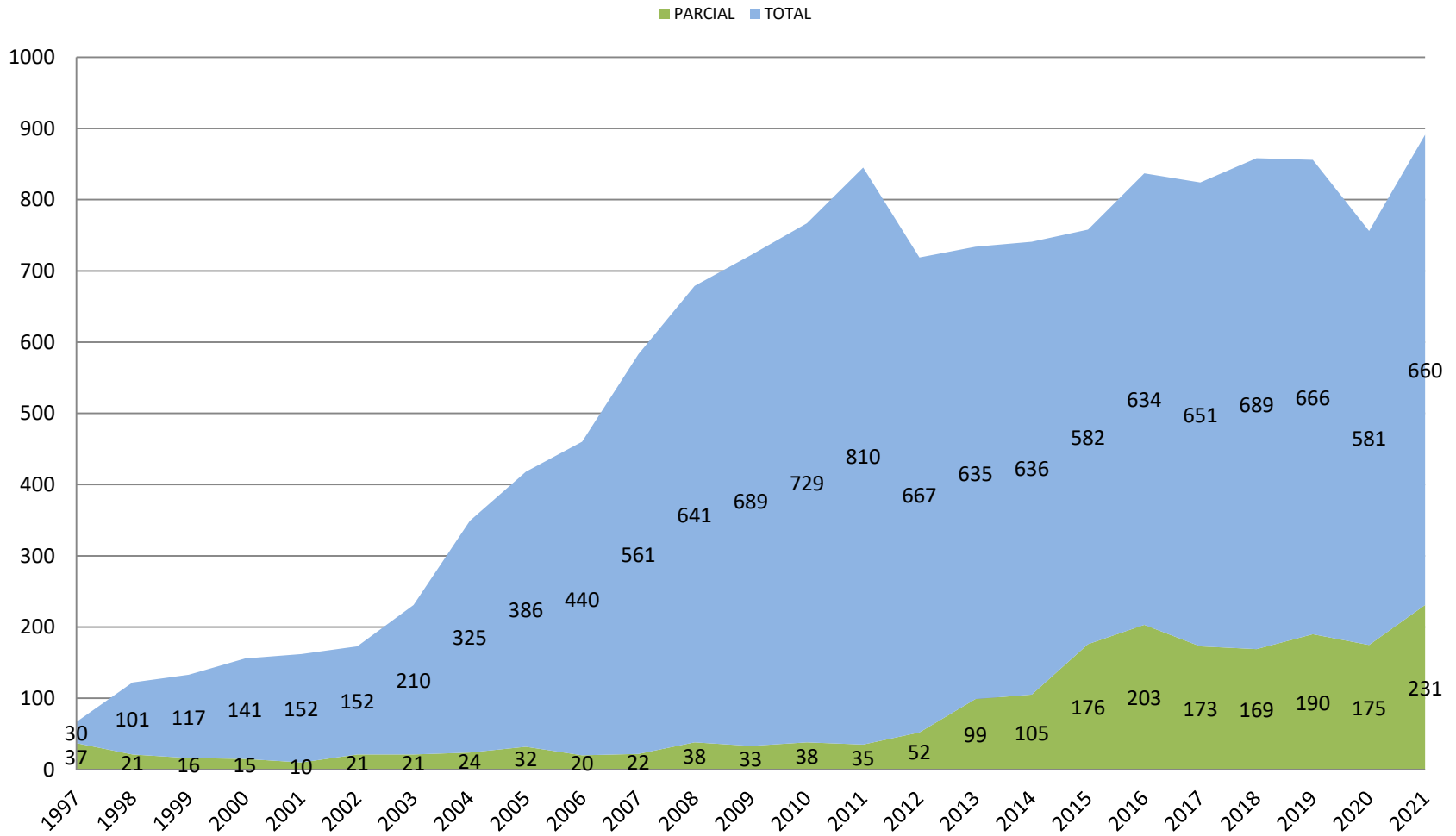
Prof. dr. Ingrid Milošev

January 2023

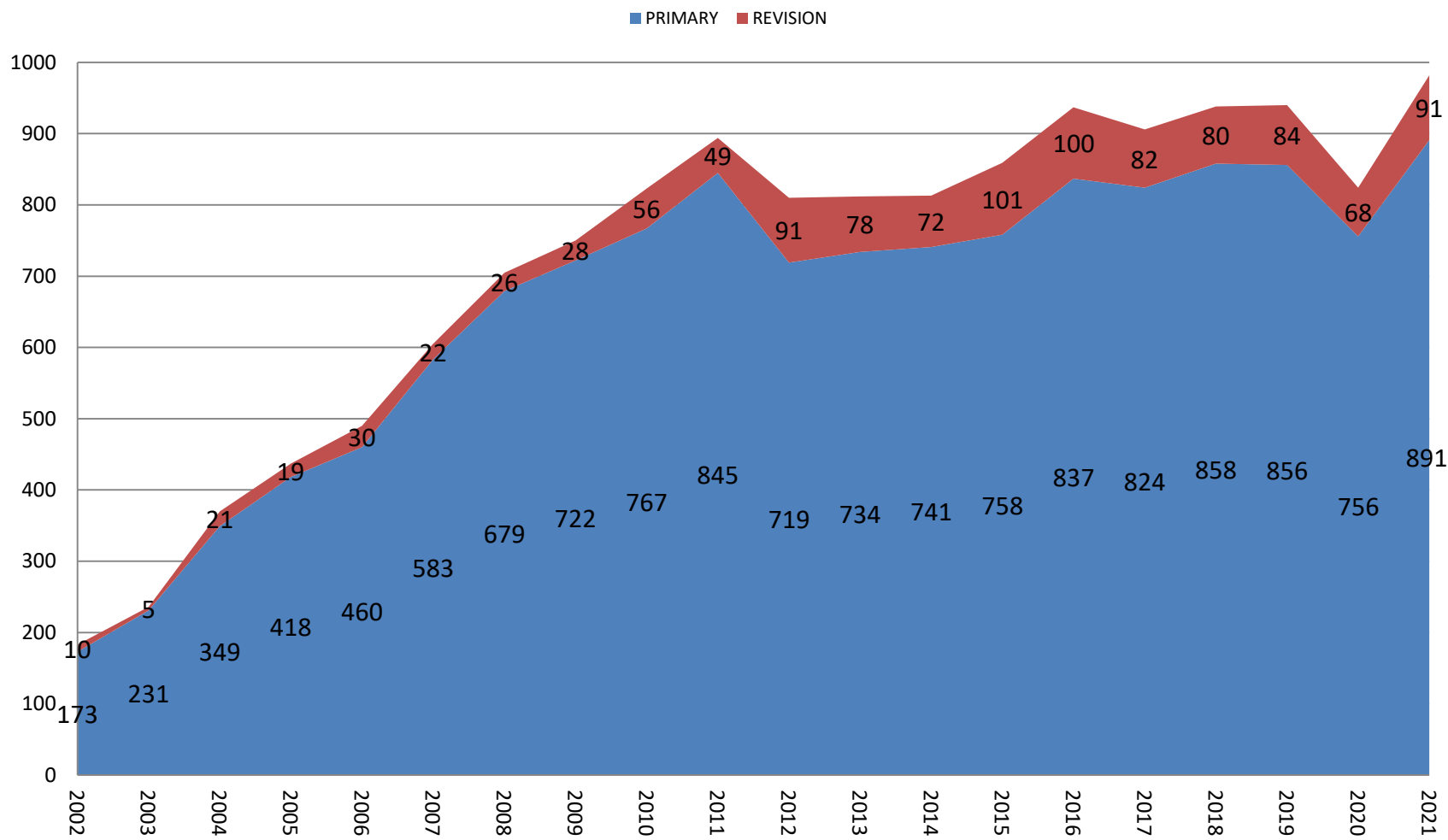
Primary Hip vs. Knee prostheses



Total and Partial Knee Joint Replacement

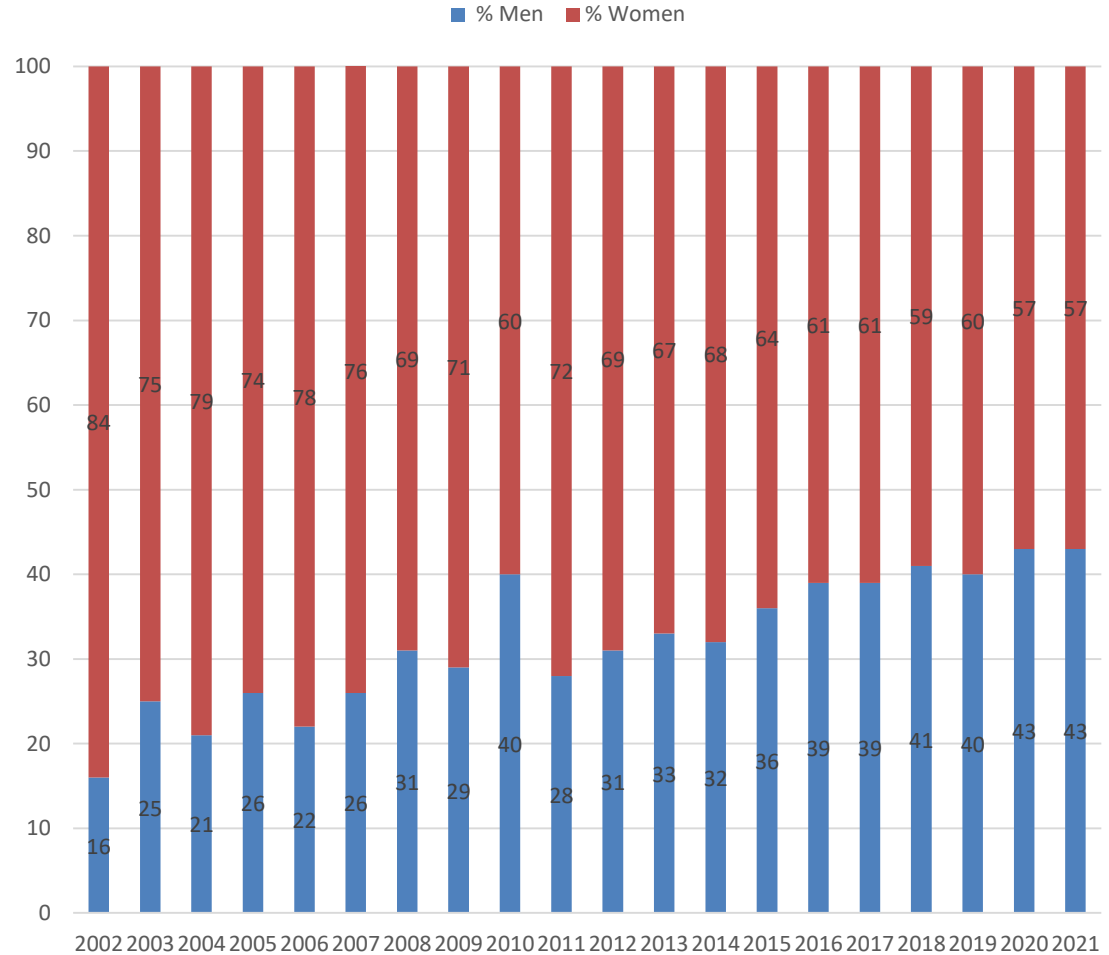


Primary vs. revision knee replacement

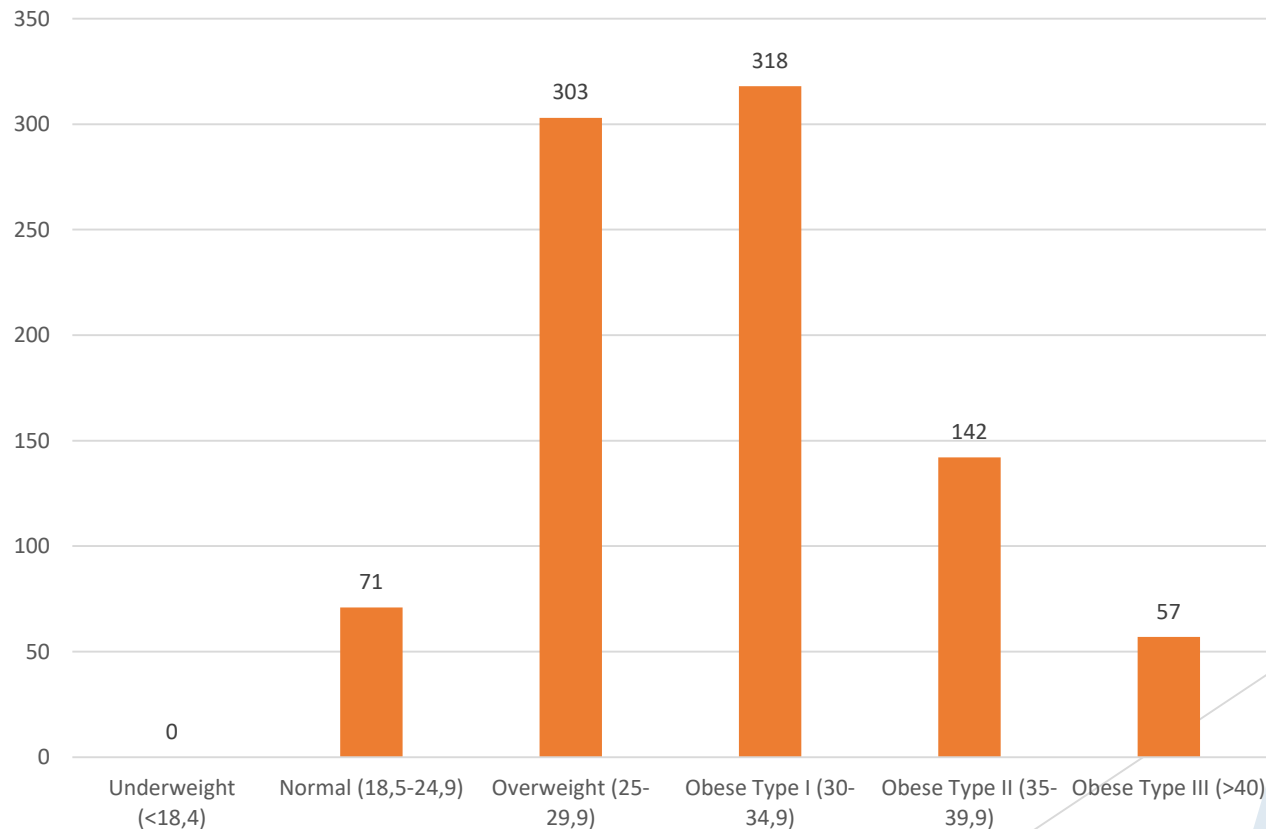


Patient data: age and gender at primaries

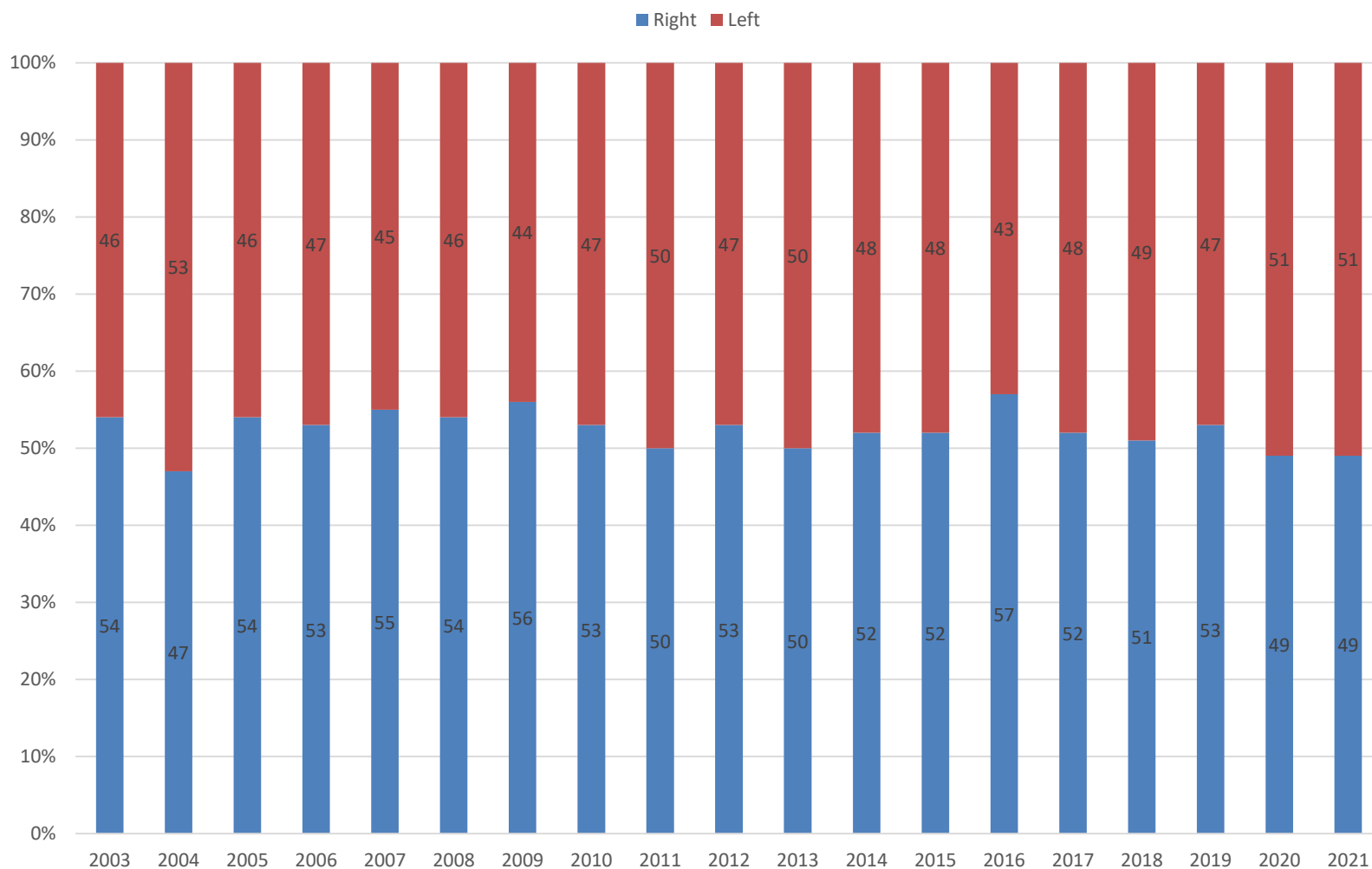
Year	Men mean (min-max)	Women mean (min-max)
2006	67 (40-80)	70 (43-84)
2007	69 (51-87)	71 (27-87)
2008	68 (40-85)	70 (32-87)
2009	68 (43-83)	71 (41-88)
2010	67 (33-86)	69 (40-87)
2011	67 (27-90)	70 (34-90)
2012	67 (41-82)	70 (48-89)
2013	67 (36-87)	70 (47-89)
2014	66 (30-87)	69 (41-89)
2015	67 (47-90)	70 (39-87)
2016	68 (43-89)	70 (40-88)
2017	67 (42-88)	70 (42-88)
2018	67 (29-88)	69 (28-91)
2019	66 (39-87)	68 (42-89)
2020	68 (43-87)	70 (33-91)
2021	68 (30-89)	71 (38-91)



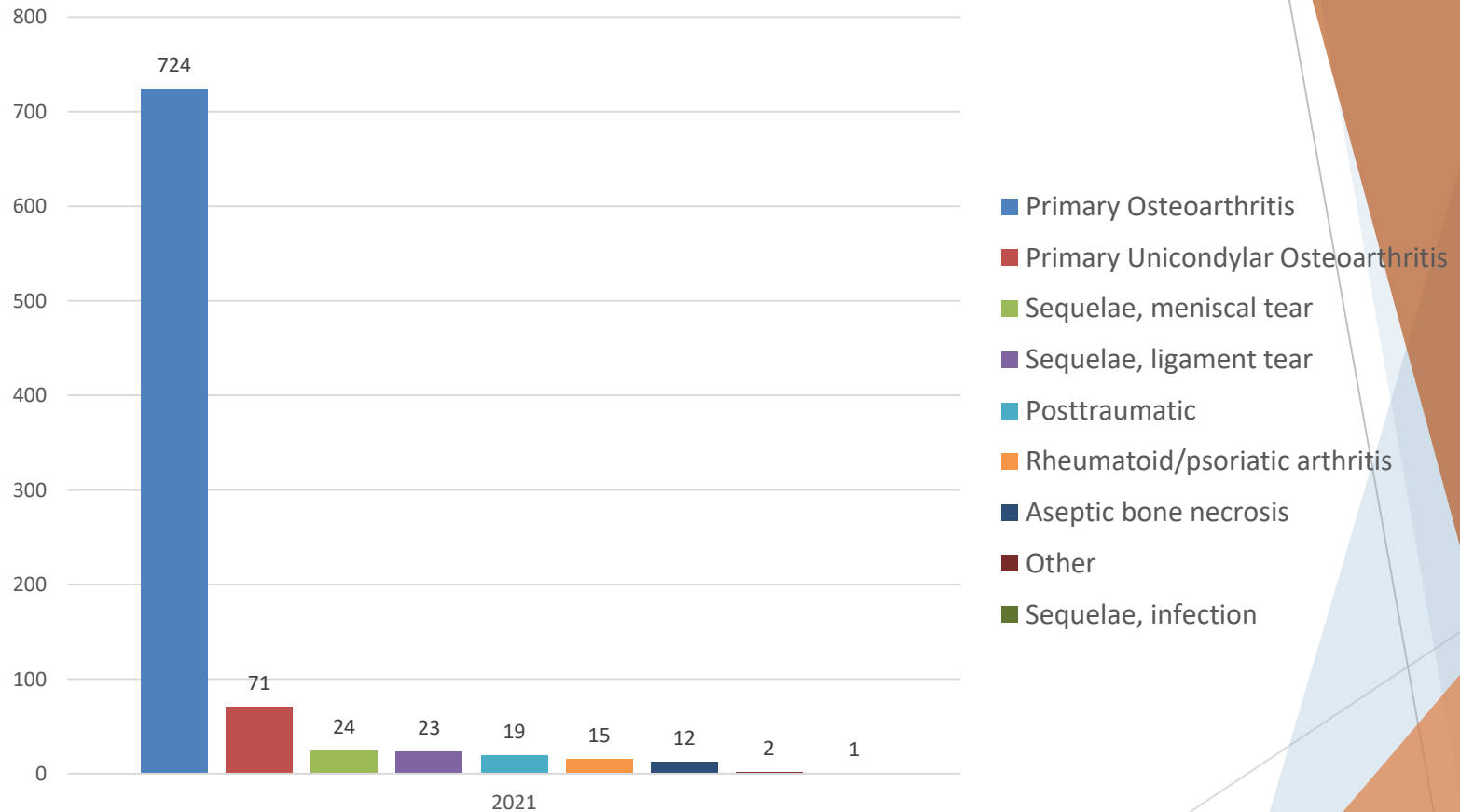
BMI of patients in 2021: average 31,4 kg/m²; min 19,1 and max 49,3



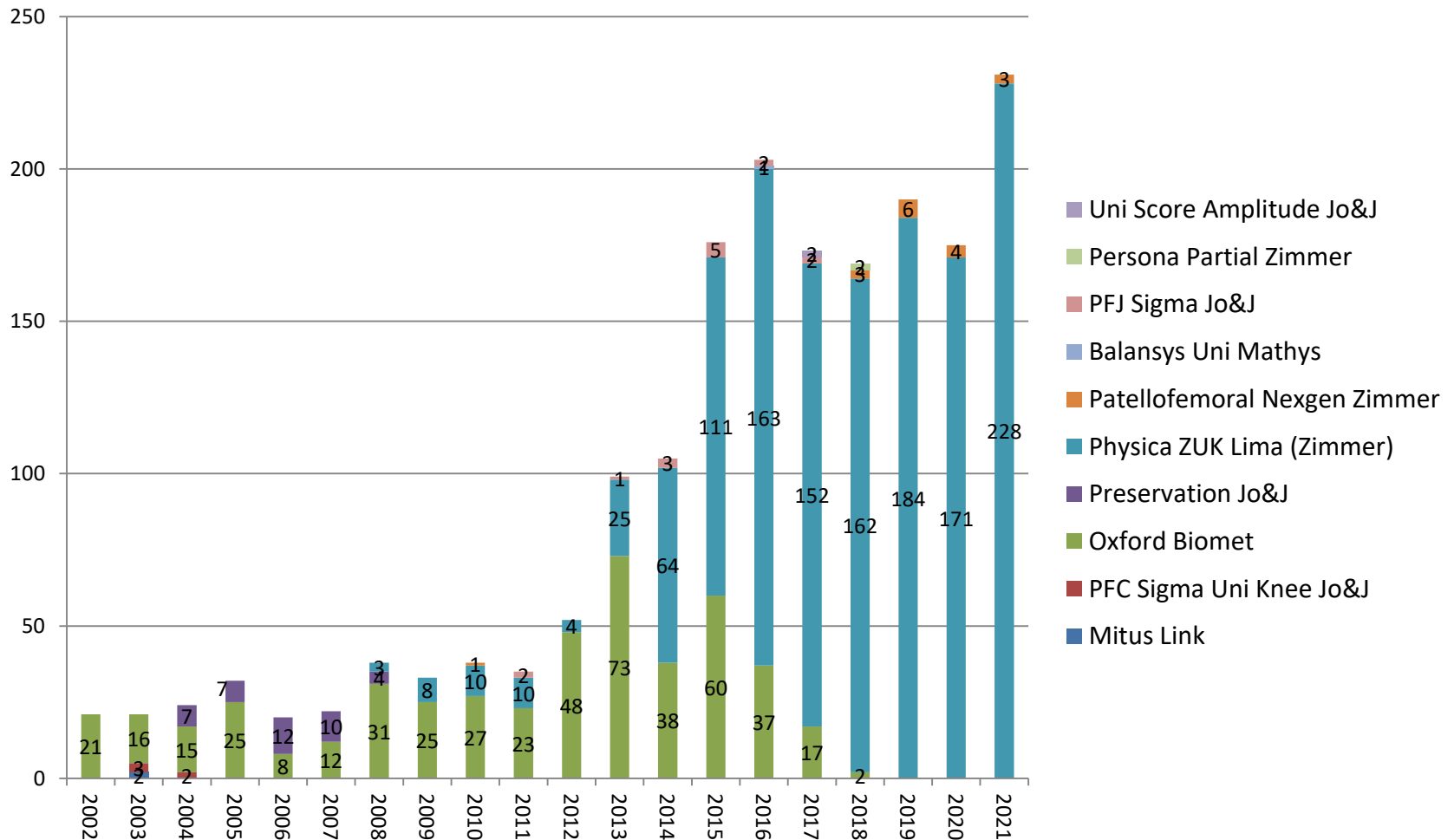
Side of operated knee 2003-21



Preoperative diagnosis 2021

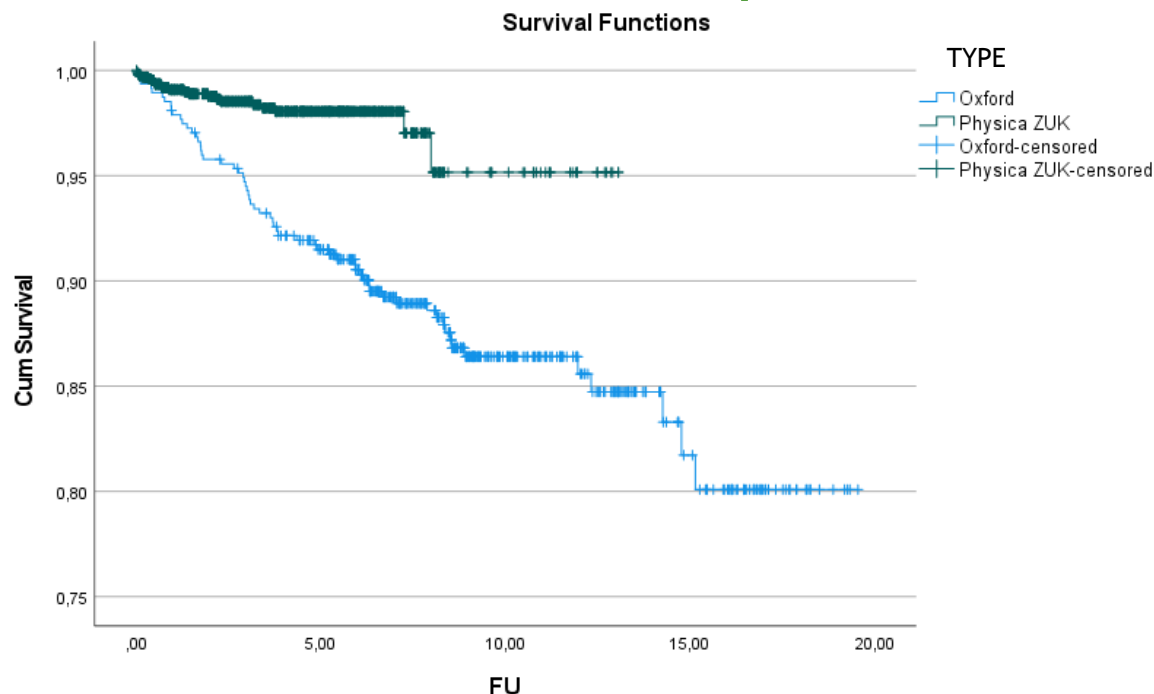


Unicondylar Knee Prostheses in 2021: sum 231



Survival of 2 unycondylar knee prostheses : Oxford Biomet, ZUK Zimmer (Lima)

End of FU 31.12.2021



Physica ZUK
Lima



Oxford Biomet

Oxford Biomet: After **17,1** yrs survival **80,1 %** (95 % CI = **73,6 % - 86,6 %**)

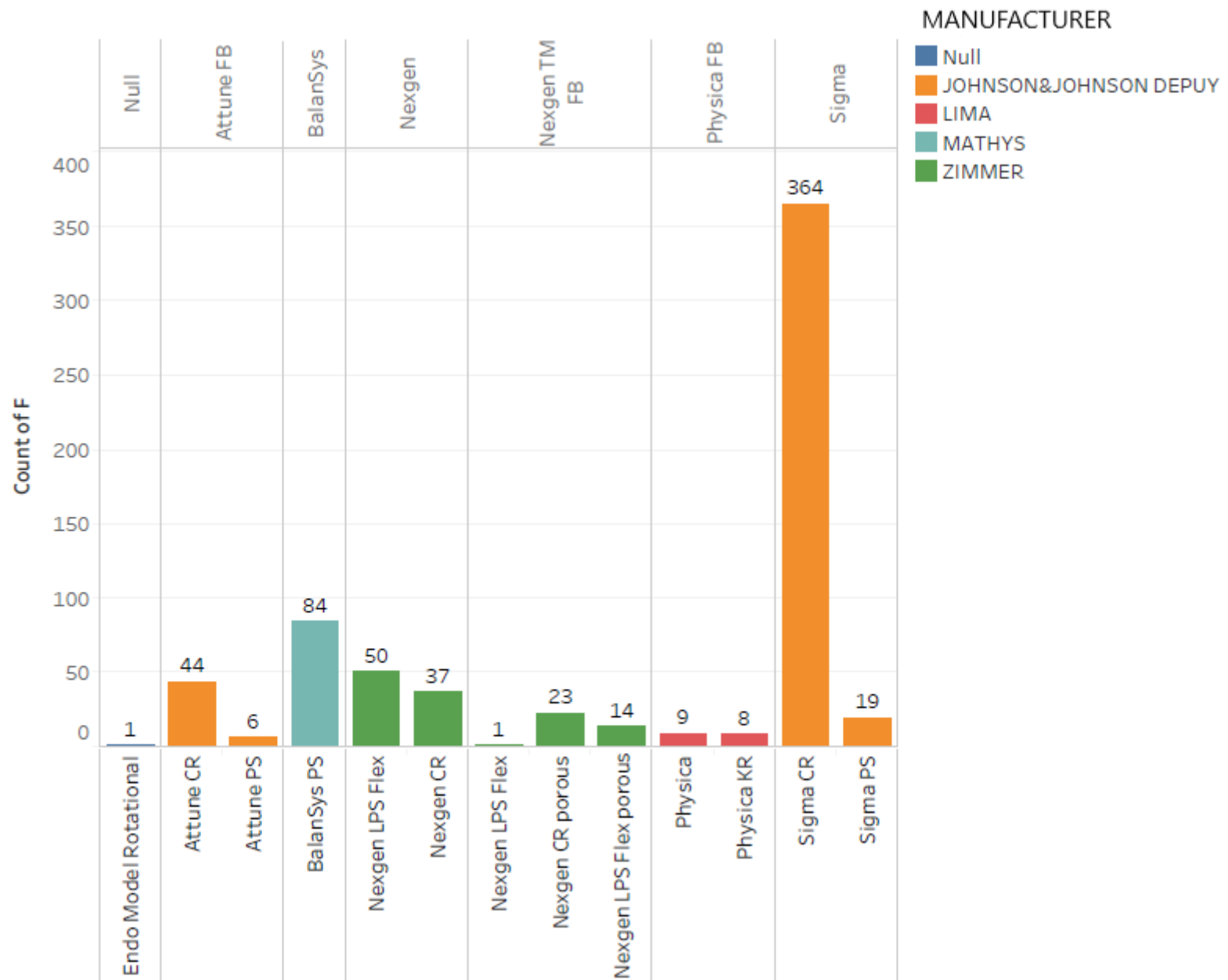
ZUK Zimmer - Lima: After **12,6** yrs survival **95,2 %** (95 % CI = **91,1 % - 99,3 %**)

Log Rank < 0,001

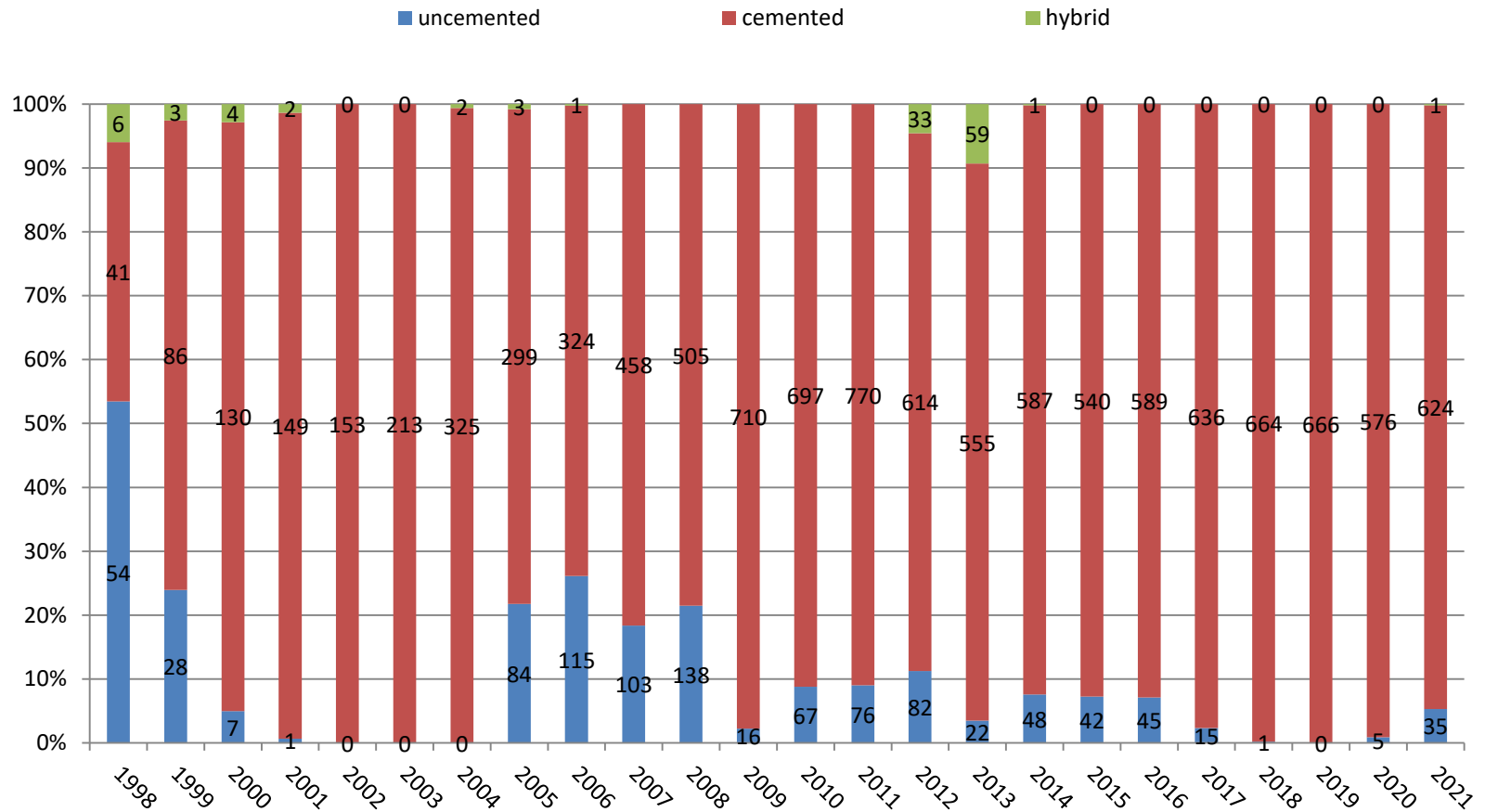
Cumulative percent of revision: 2002-21

TYPE	N Total	N Revised	AGE	SEX M/F	1 Yr	5 Yrs	10 Yrs	15 Yrs
OXFORD – BIOMET	474	62	66 (42-86)	31/69	4,00 (2,04 - 5,96)	9,00 (7,04 - 10,96)	14,00 (10,08-17,92)	20,00 (14,12-25,88)
PHYSICA ZUK – ZIMMER LIMA	1293	21	68 (37-89)	43/57	1,00 (1,00- 1,00)	2,00 (2,00-2,00)	4,00 (0,08-7,00)	-

Primary TKR in 2021 by manufacturer

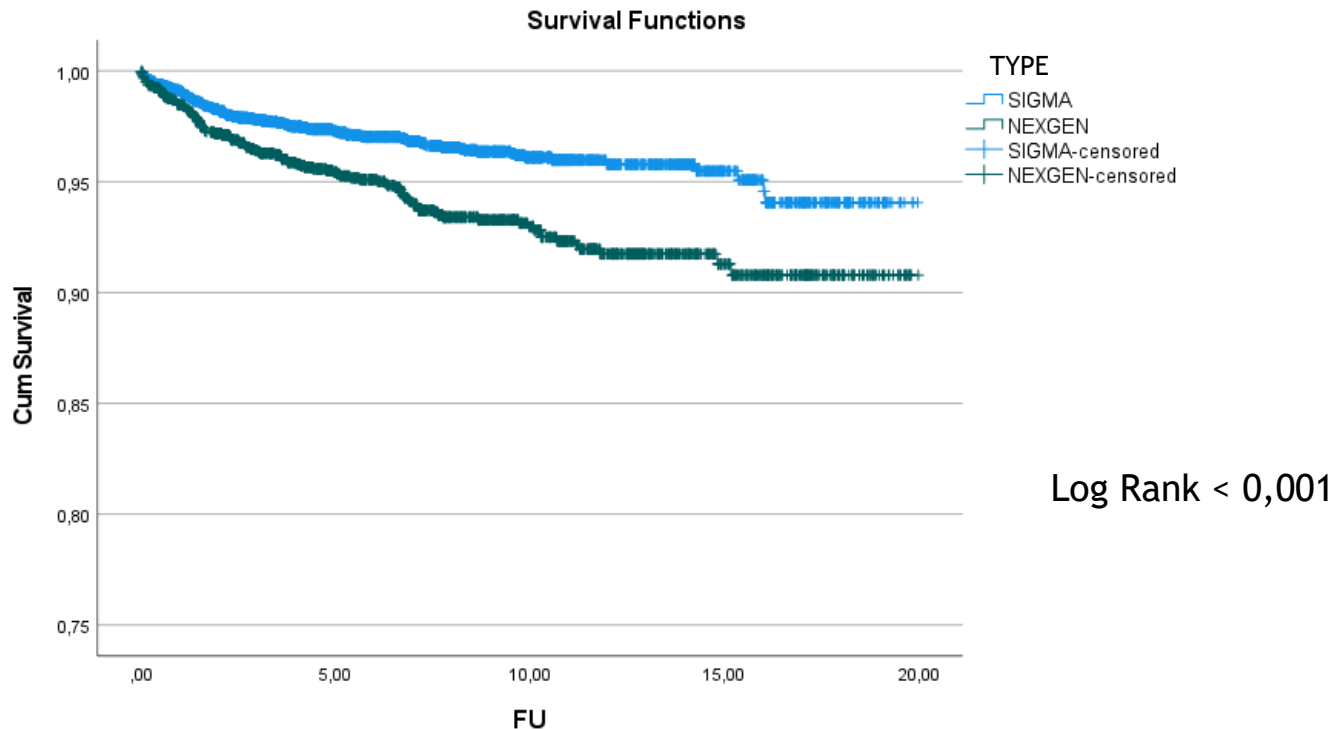


Knee replacement by fixation



Survival of 2 cemented total knee endoprotheses: Sigma De Puy Johnson, Nexgen Zimmer

End of FU 31.12.2021

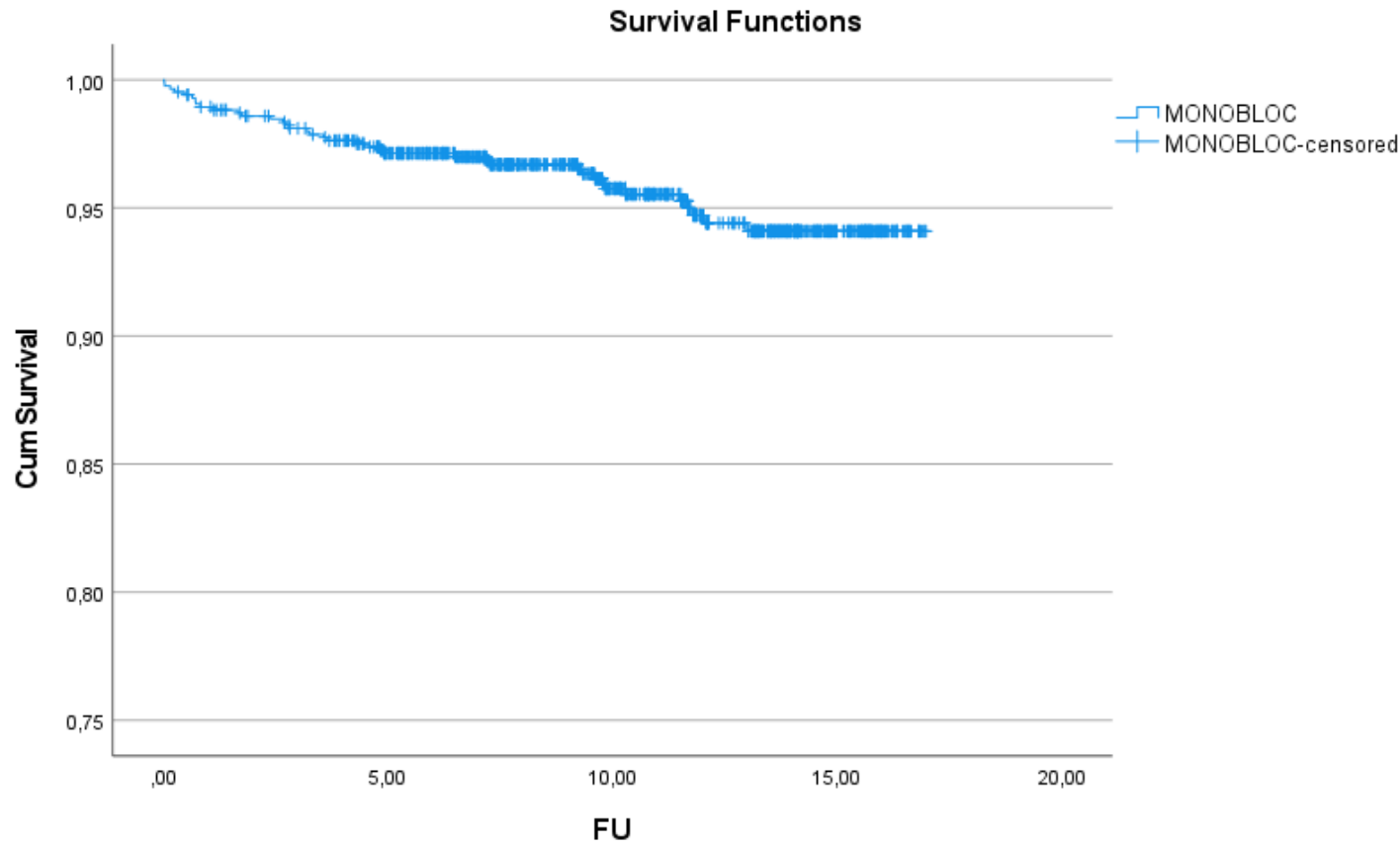


Nexgen Zimmer: After **19,9** yrs survival **90,8 %** (95 % CI = **88,4 % - 93,0 %**)

Sigma DePuy JJ: After **19,9** yrs survival **94,1 %** (95 % CI = **92,14 % - 96,1 %**)

Survival of uncemented knee endoprosthesis: Nexgen Monobloc Zimmer

End of FU 31.12.2021



Nexgen Monobloc Zimmer: After **16,9** yrs survival **94,1 %** (95 % CI = **92,1 % - 96,1 %**)

Total knee endoprostheses in Valdoltra



Attune DePuy



Balansys Mathys



Nexgen CR Zimmer



Nexgen LPS Flex Zimmer



Sigma CR DePuy



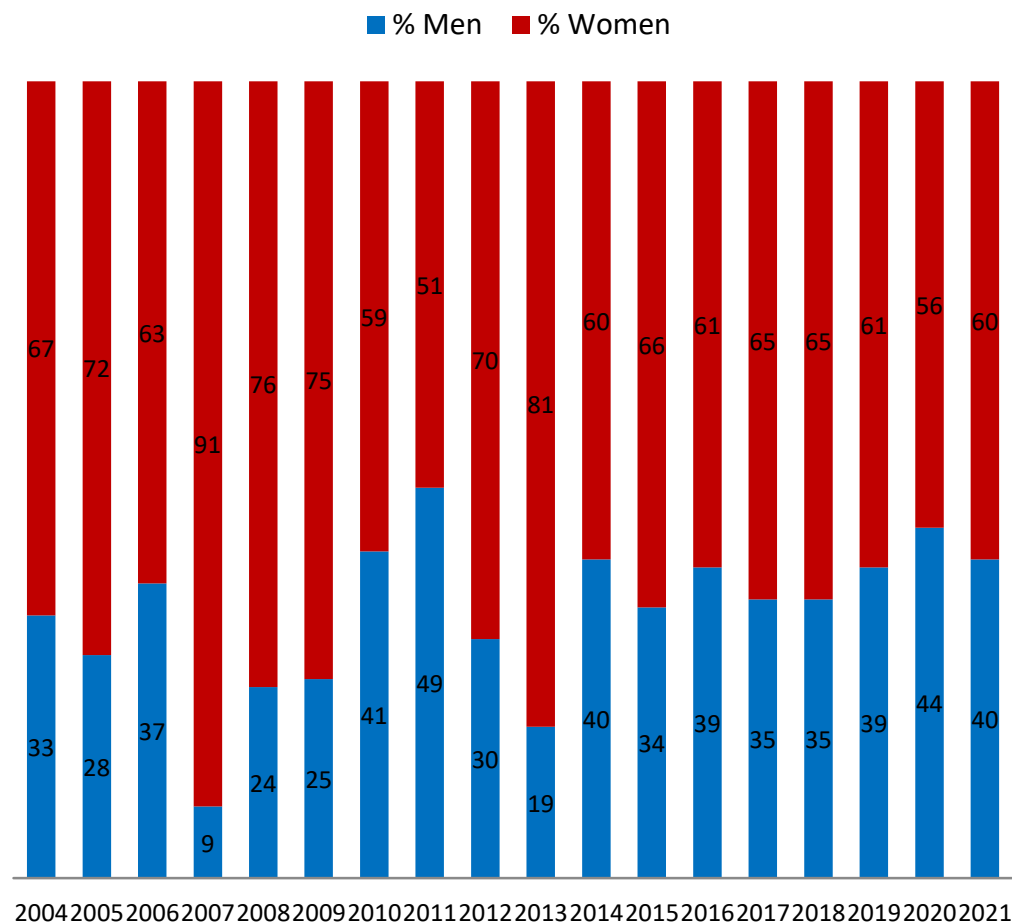
Sigma PS DePuy

REVISION OPERATIONS OF KNEE JOINT REPLACEMENTS

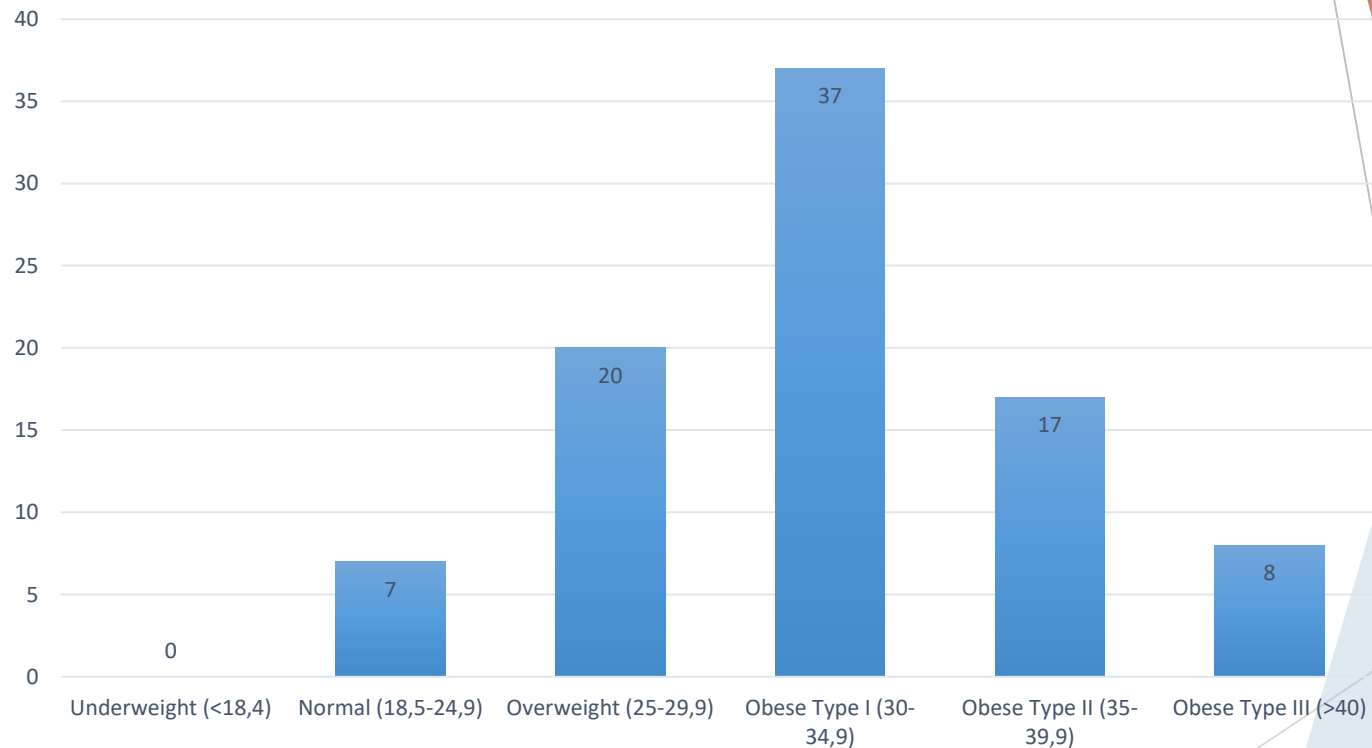
2021: 91 REVISIONS IN 61 patients (10
OPERATED 2X IN THE SAME YEAR).

Patient data: age and gender at primaries

Year	Men mean (min-max)	Women mean (min-max)
2006	67 (40 - 80)	70 (43 - 84)
2007	63 (57 - 68)	70 (38 - 87)
2008	71 (60 - 80)	69 (39 - 86)
2009	71 (63 - 82)	75 (54 - 86)
2010	67 (51 - 85)	71 (56 - 83)
2011	73 (59 - 89)	73 (52 - 87)
2012	68 (52 - 85)	70 (56 - 88)
2013	71 (51 - 85)	69 (50 - 89)
2014	68 (47 - 86)	68 (49 - 83)
2015	67 (44 - 87)	72 (53 - 89)
2016	67 (45 - 84)	71 (52 - 90)
2017	70 (55 - 84)	70 (49 - 90)
2018	68 (20 - 81)	74 (55 - 89)
2019	67 (32 - 81)	70 (48 - 85)
2020	68 (54 - 82)	72 (53 - 84)
2021	68 (49 - 88)	73 (50 - 86)



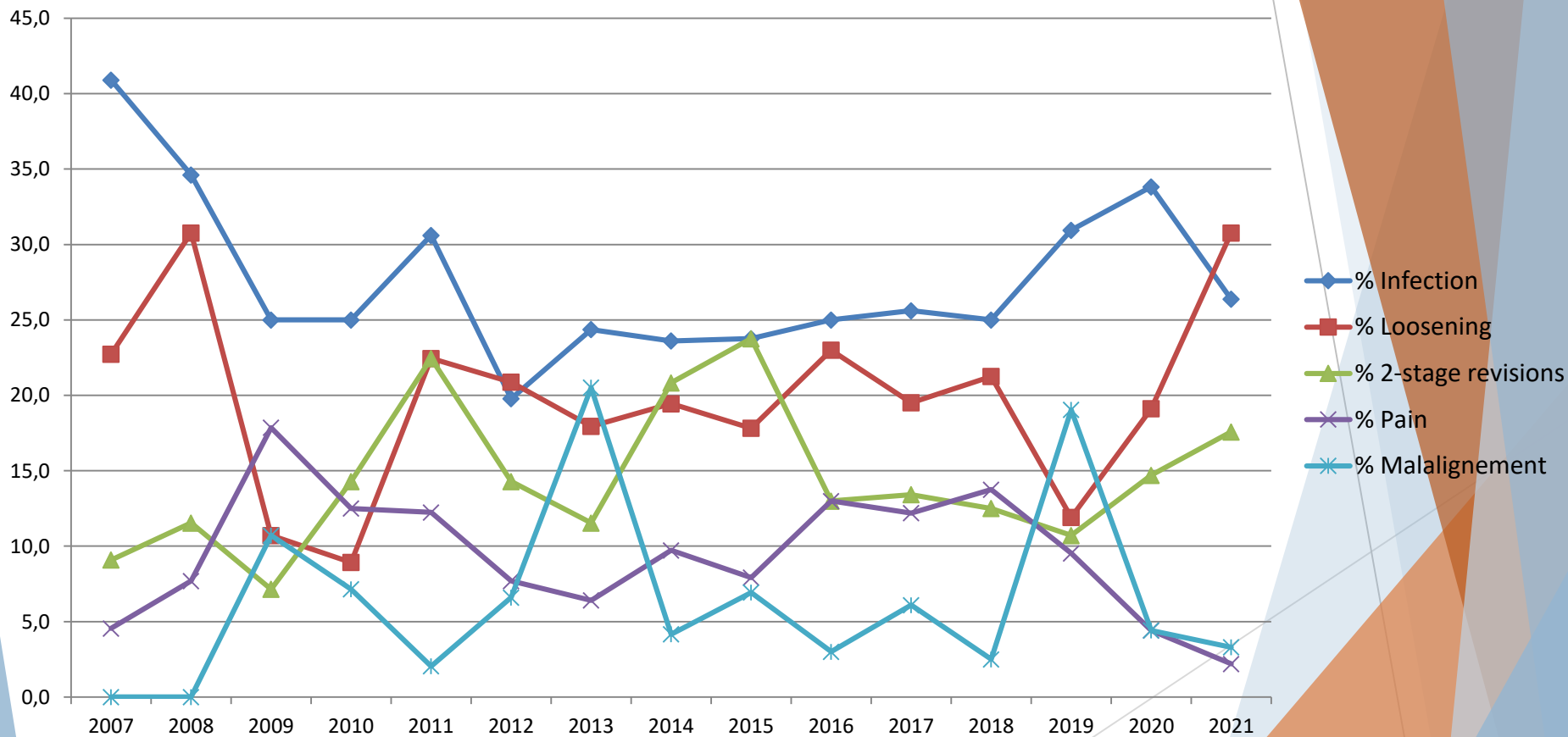
BMI of patients in 2021: average 32,65 kg/m²; min 21 in max 46,7



Reasons for revision Knees vs. Hips 2002-2021

2002 - 2021	Hips (%)	Knees (%)
Deep infection	13,3	25,1
Aseptic loosening	53,0	20,7
Instability, malalignment, bad range of motion	0,0	14,2
2-stage revision	6,8	13,4
Pain	2,3	8,0
OA of the other compartment	0,0	6,8
Other	5,6	6,4
Periprosthetic fracture	8,5	2,9
Luxation (dislocation)	4,9	1,5
Implant broken	3,0	0,9
Osteolysis	2,3	0,0
Metalosis	0,3	0,0

Reasons for knee replacement revisions in % from 2007 to 2021



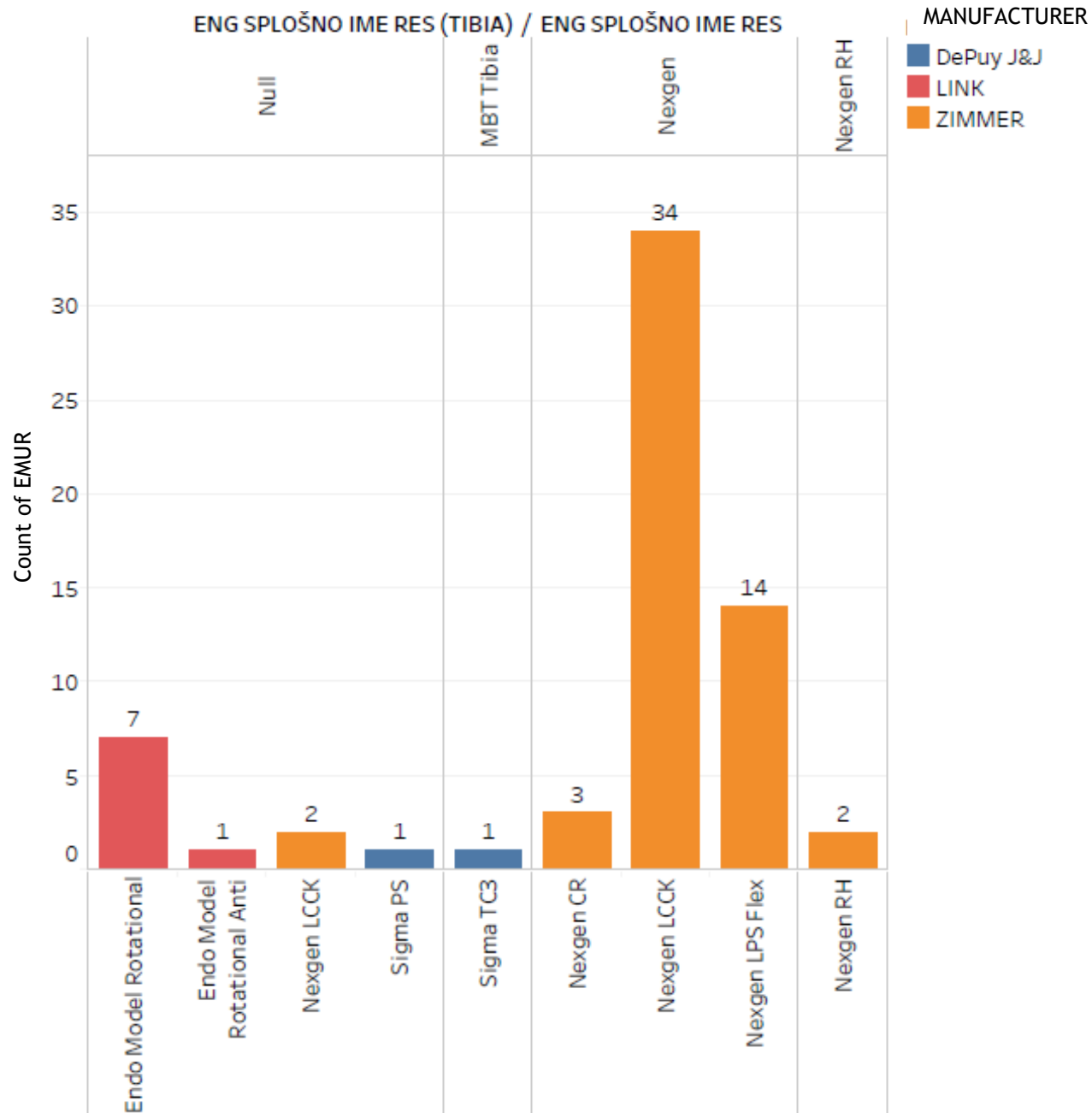
Revisions from other hospitals

Year	All revisions	Revisions from other hospitals	% from other hospitals
2002-2010	217	28	13 %
2011	49	6	12 %
2012	91	12	13 %
2013	78	17	22 %
2014	72	12	17 %
2015	101	15	15 %
2016	100	12	12 %
2017	82	12	15 %
2018	80	11	13 %
2019	84	20	24%
2020	68	21	31%
2021	91	32	35%

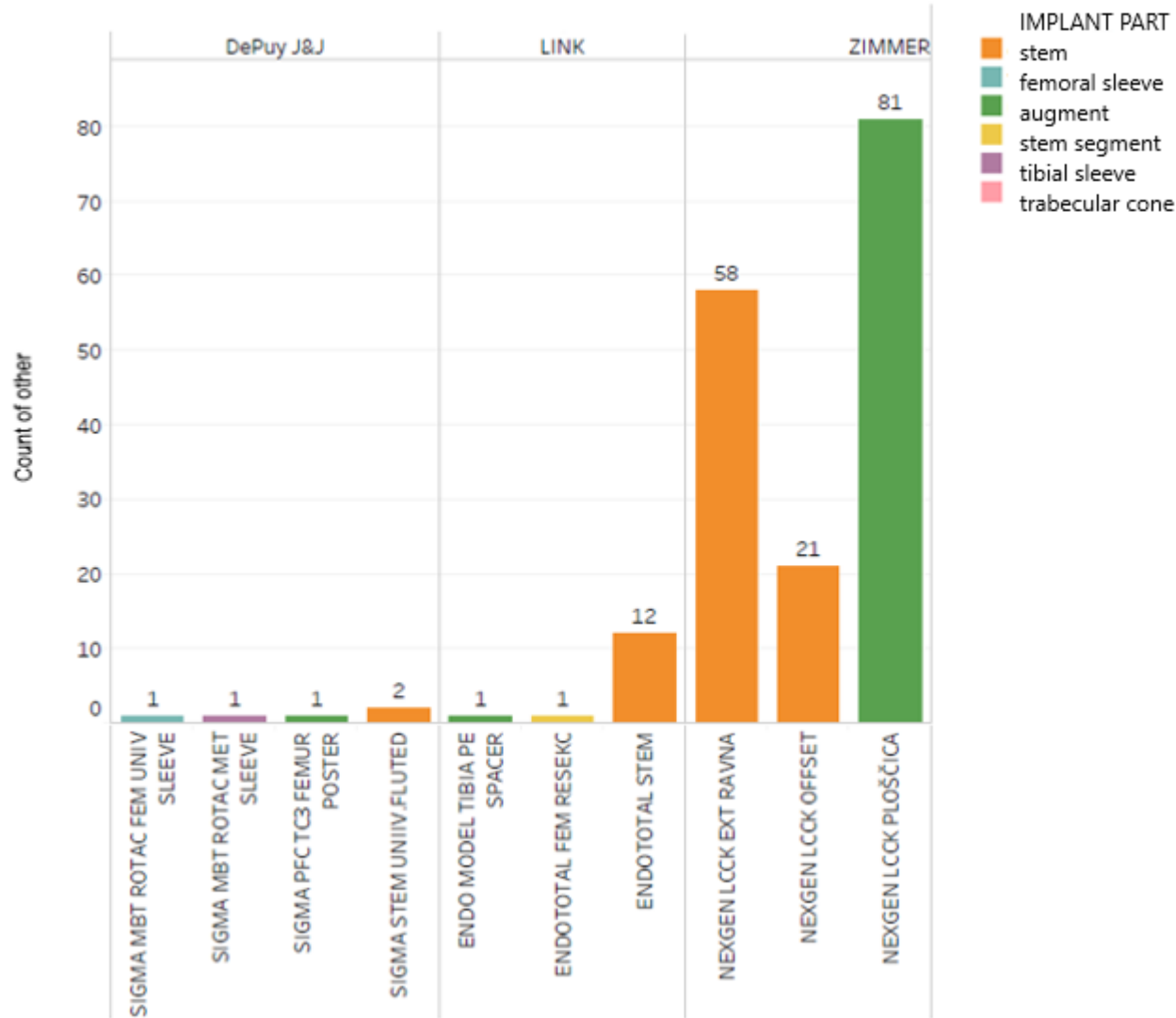
Revision burden: all revisions and revisions from infections in Valdoltra Hospital

Year	RB (revision burden) = N° of revisions*100/(N° of primaries+ N° of revisions) in %	N° of revisions for infection*100 / (N° of primaries+ N° 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	7,57	2,03
2019	6,81	2,34
2020	6,07	1,46
Avarage Valdoltra	5,86	1,50

Revision TKR components in 2020 by manufacturers



Added stems, sleeves, augments and adapters in revisions in 2021



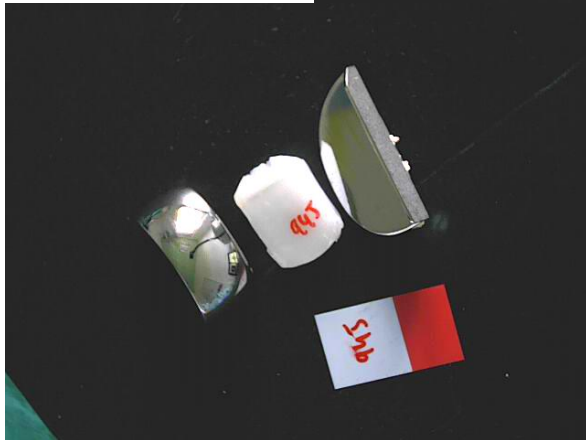
Removed prostheses – time in situ KNEES 2002 - 2021

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 (zbranih)	4,0 (0-18)
2015	61 (zbranih)	4,8 (0-19)
2016	66 (zbranih)	4,4 (0-20)
2017	52 (zbranih)	6,1 (0-21)
2018	30 (zbranih)	5,3 (0-18)
2019	50 (zbranih)	4,1 (0-21)
2020	55 (zbranih)	4,2 (0-25)
2021	72 (zbranih)	5,5 (0-27)
Sum	720	ANVERAGE: 4,8 (0 - 27)

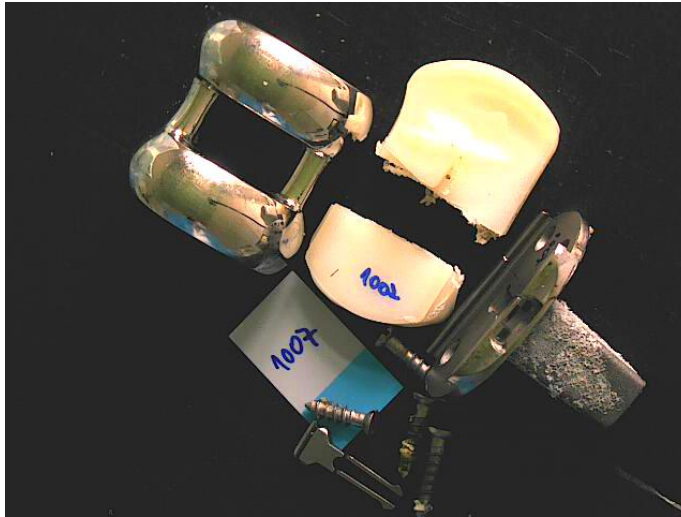
Total knee prostheses 2021



Parcial knee prostheses 2021



„ The longest time in situ“



1007, F, born 1938

-prim. op., D, 1995, OBV

-**total knee endoprosthesis IB Cremascoli**

-time situ: **26,7 years**

-reason: femoral component loosening

THANK YOU!



Valdoltra Arthroplasty Registry



The National Arthroplasty
Registry of Slovenia

Levašič V., Savarin D., Kovač S., Milošev I.
Register artroplastike Ortopedske bolnišnice
Valdoltra. Dosegljivo 4.2.2023 s spletne strani:
[Register artroplastike OB Valdoltra | Ortopedska
bolnišnica Valdoltra \(ob-valdoltra.si\)](https://ob-valdoltra.si)