



Valdoltra KNEE Arthroplasty Registry 2020

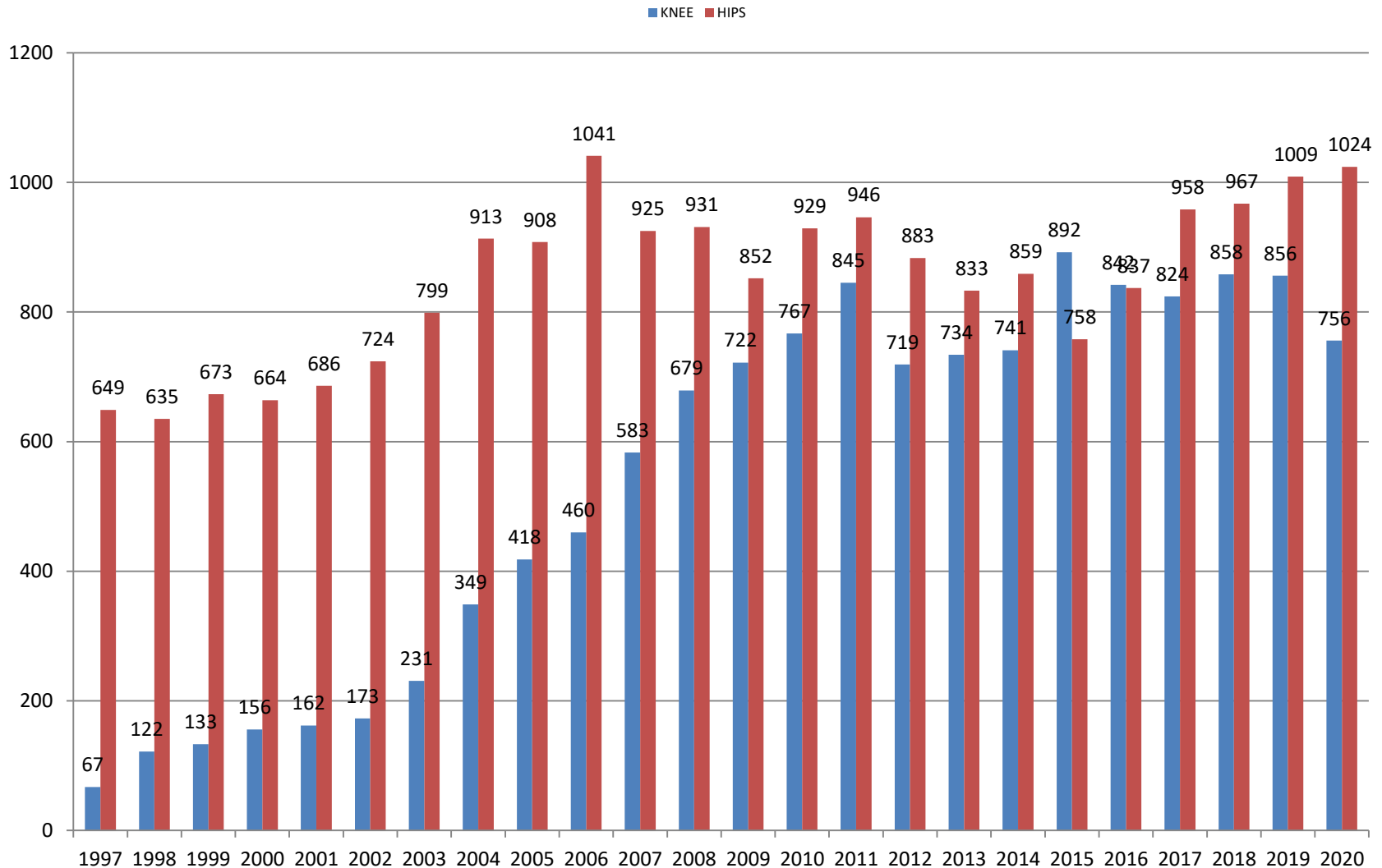
Dr. Vesna Levašič

Prof. dr. Ingrid Milošev

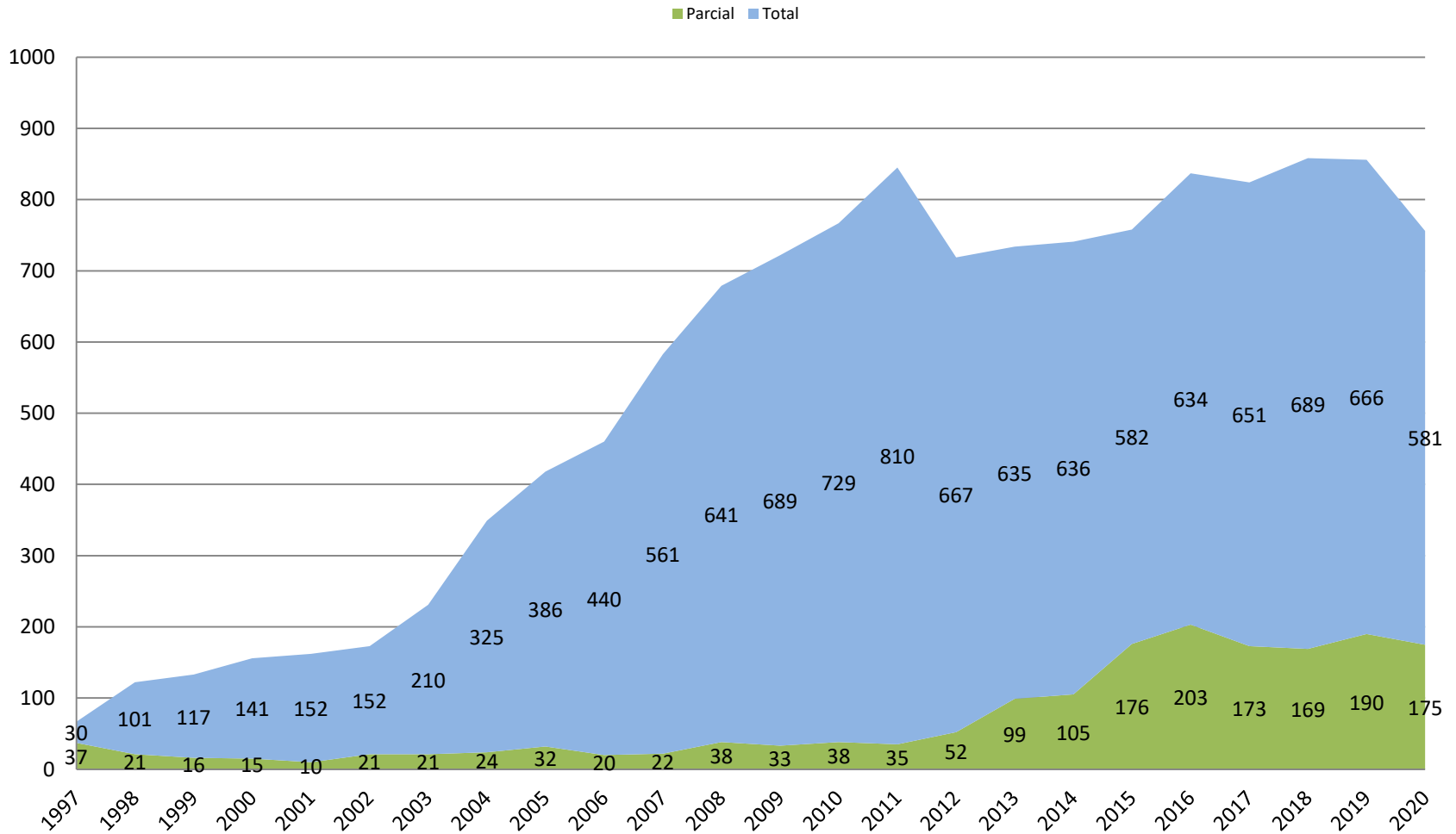
Denia Savarin

April 2022

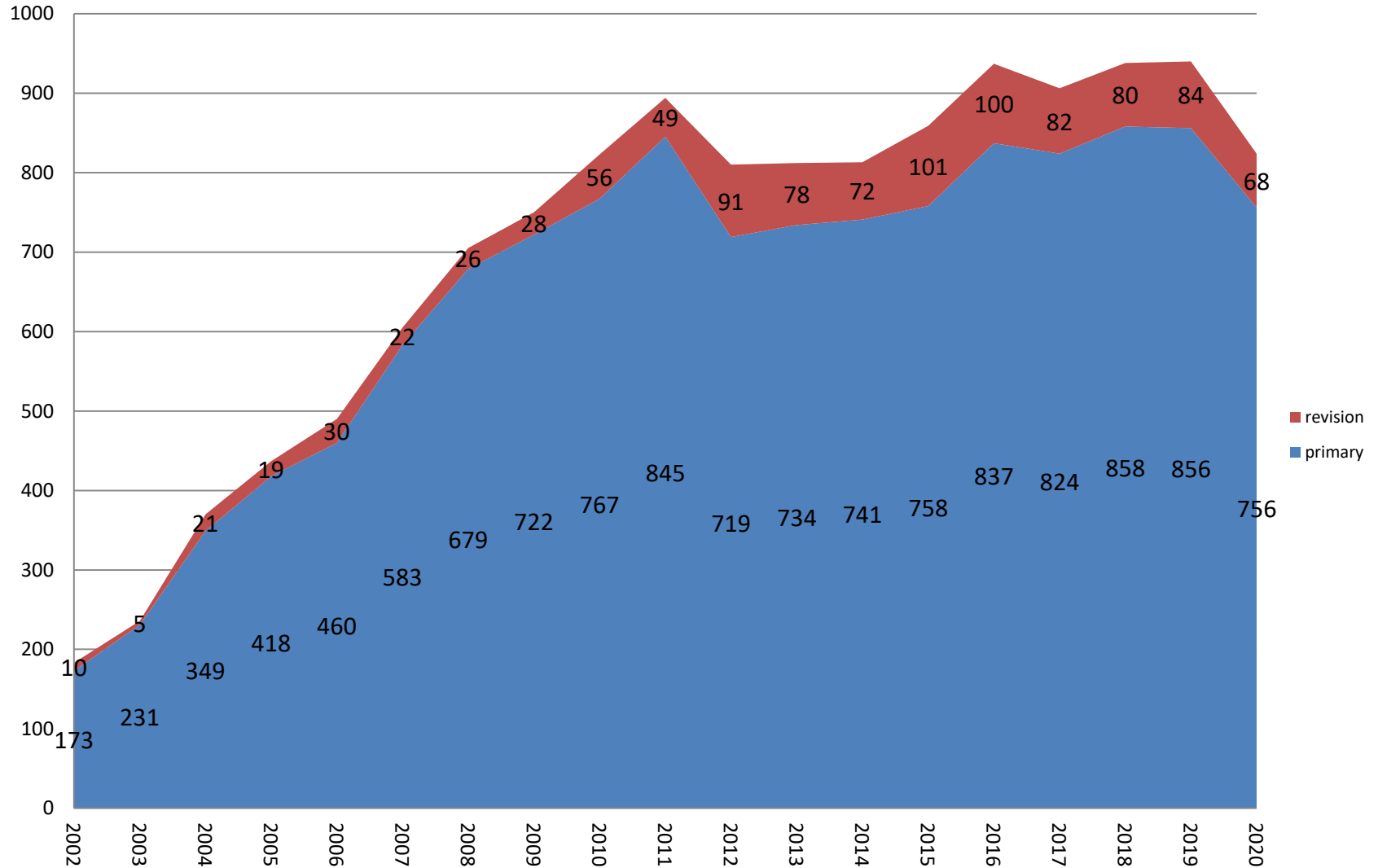
Primary Hip vs. Knee prostheses



Total and Partial Knee Joint Replacement

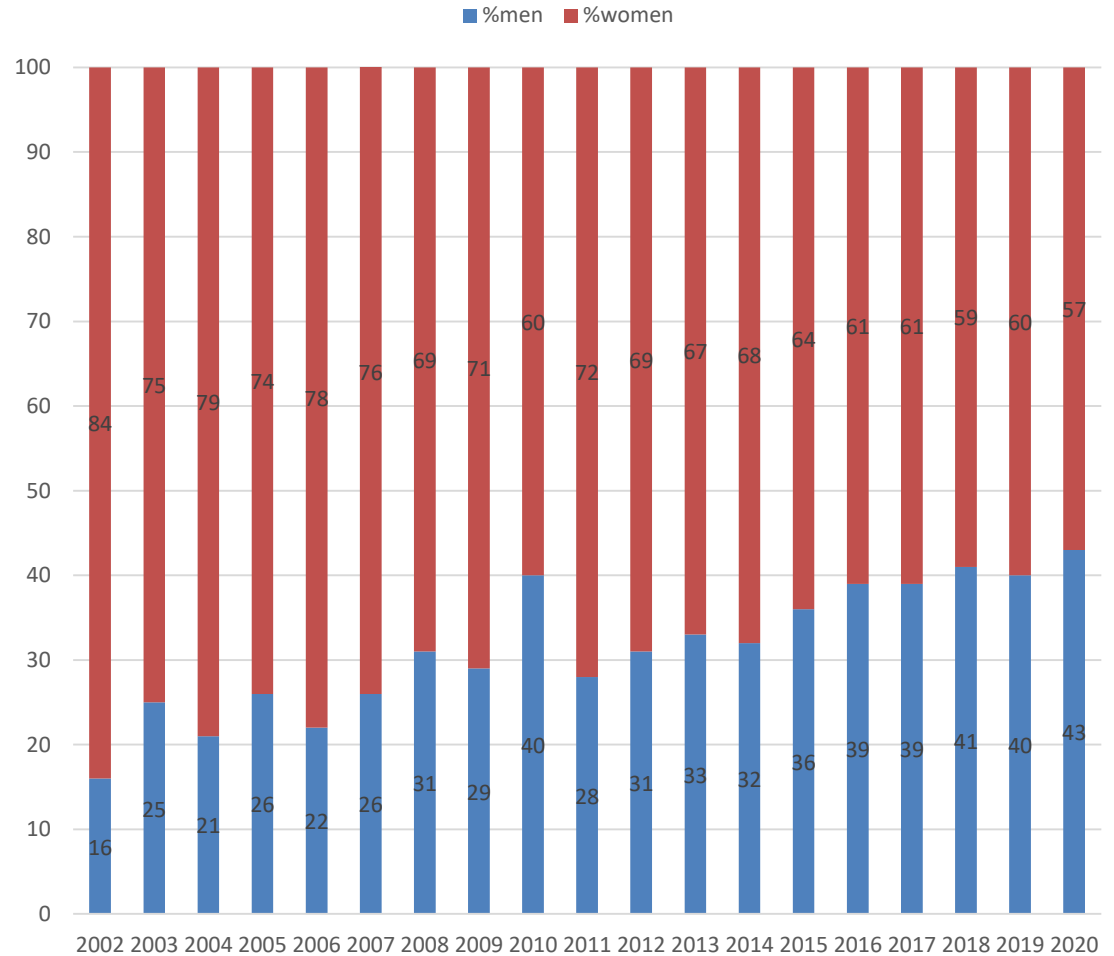


Primary vs. revision knee replacement

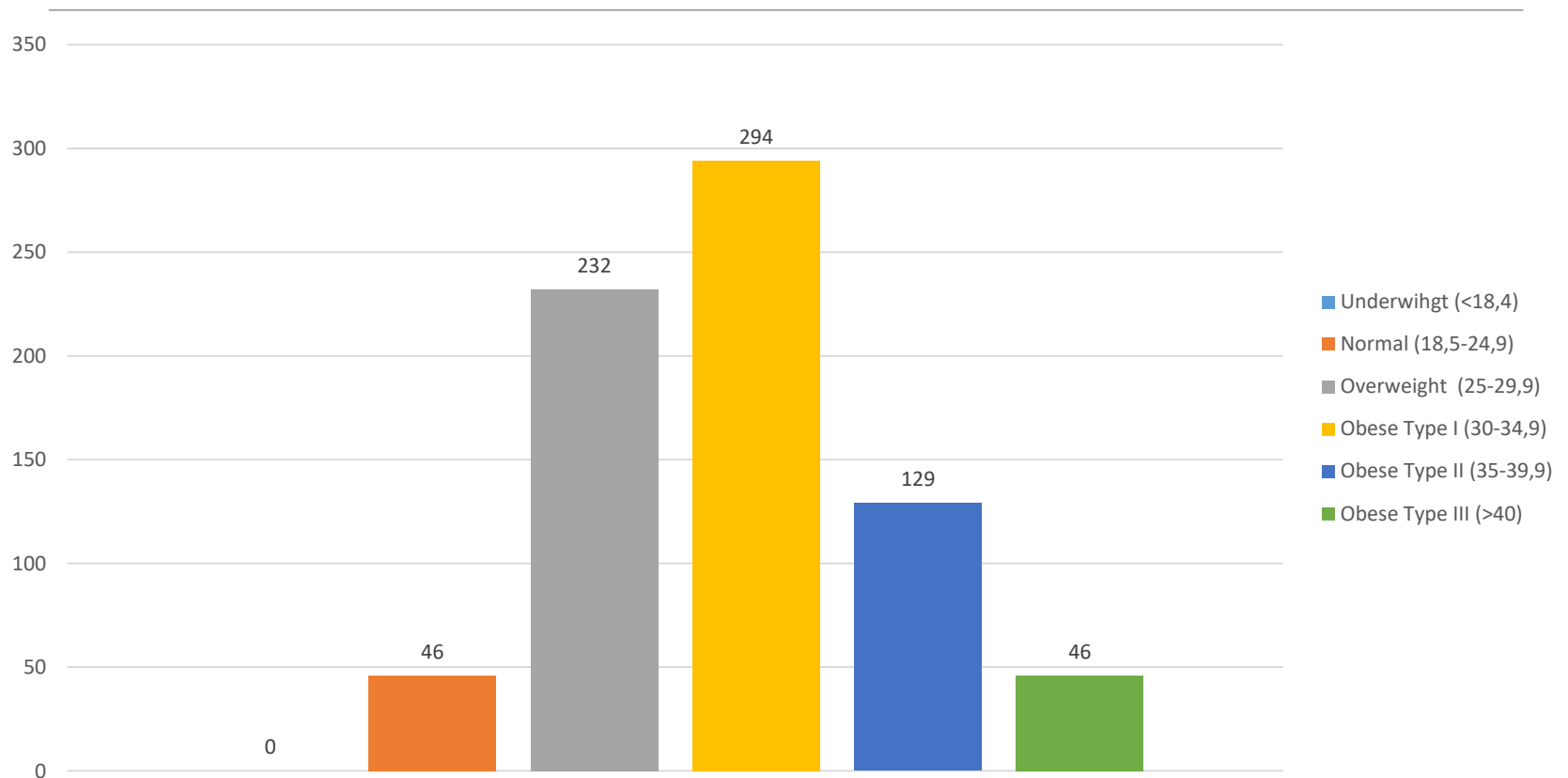


Patient data: age and gender at primaries

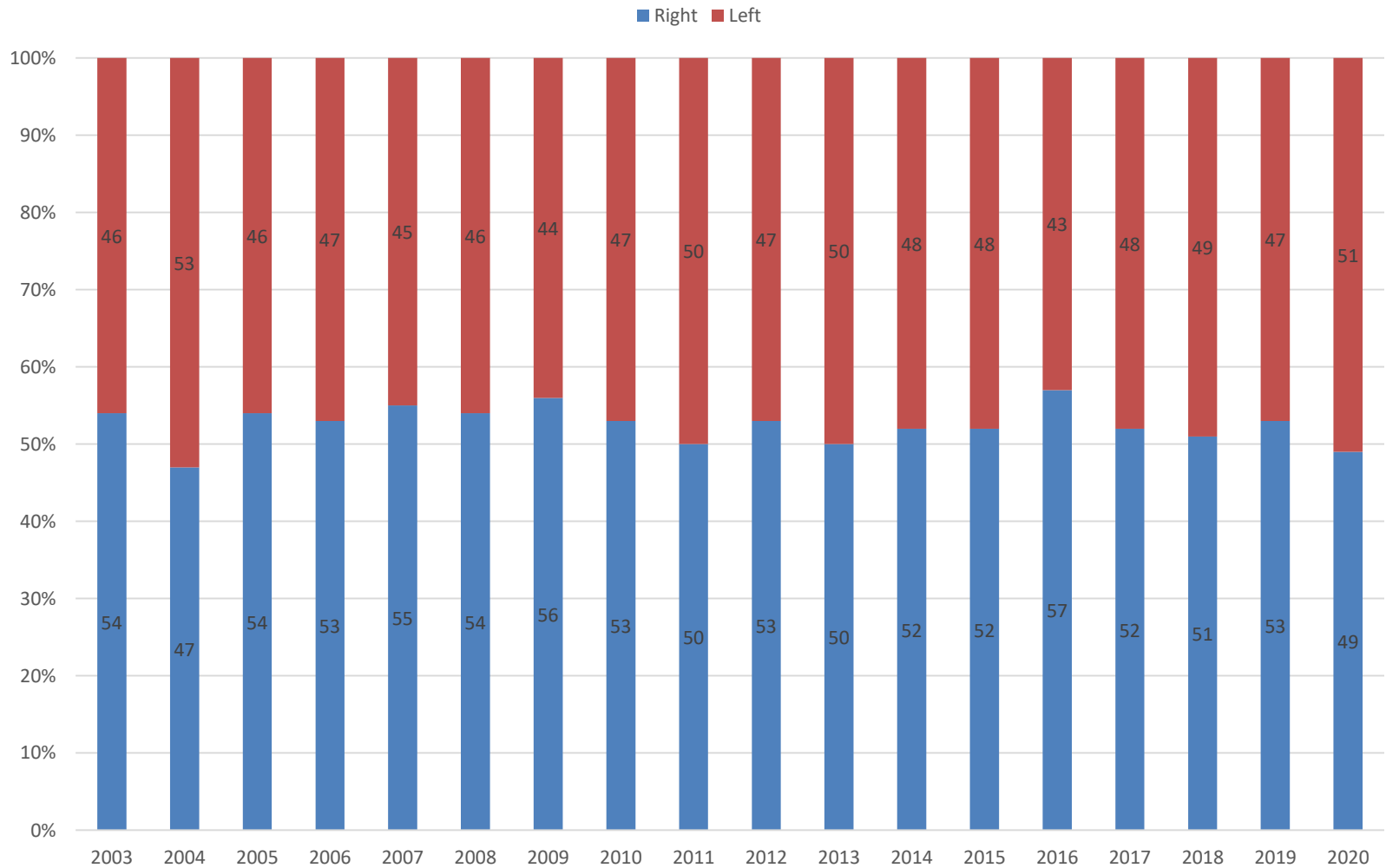
Year	Men	Women
2006	67 (40-80)	70 (43-84)
2007	69 (51-87)	71 (27-87)
2008	68 (40-85)	70 (32-87)
2009	68 (43-83)	71 (41-88)
2010	67 (33-86)	69 (40-87)
2011	67 (27-90)	70 (34-90)
2012	67 (41-82)	70 (48-89)
2013	67 (36-87)	70 (47-89)
2014	66 (30-87)	69 (41-89)
2015	67 (47-90)	70 (39-87)
2016	68 (43-89)	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)



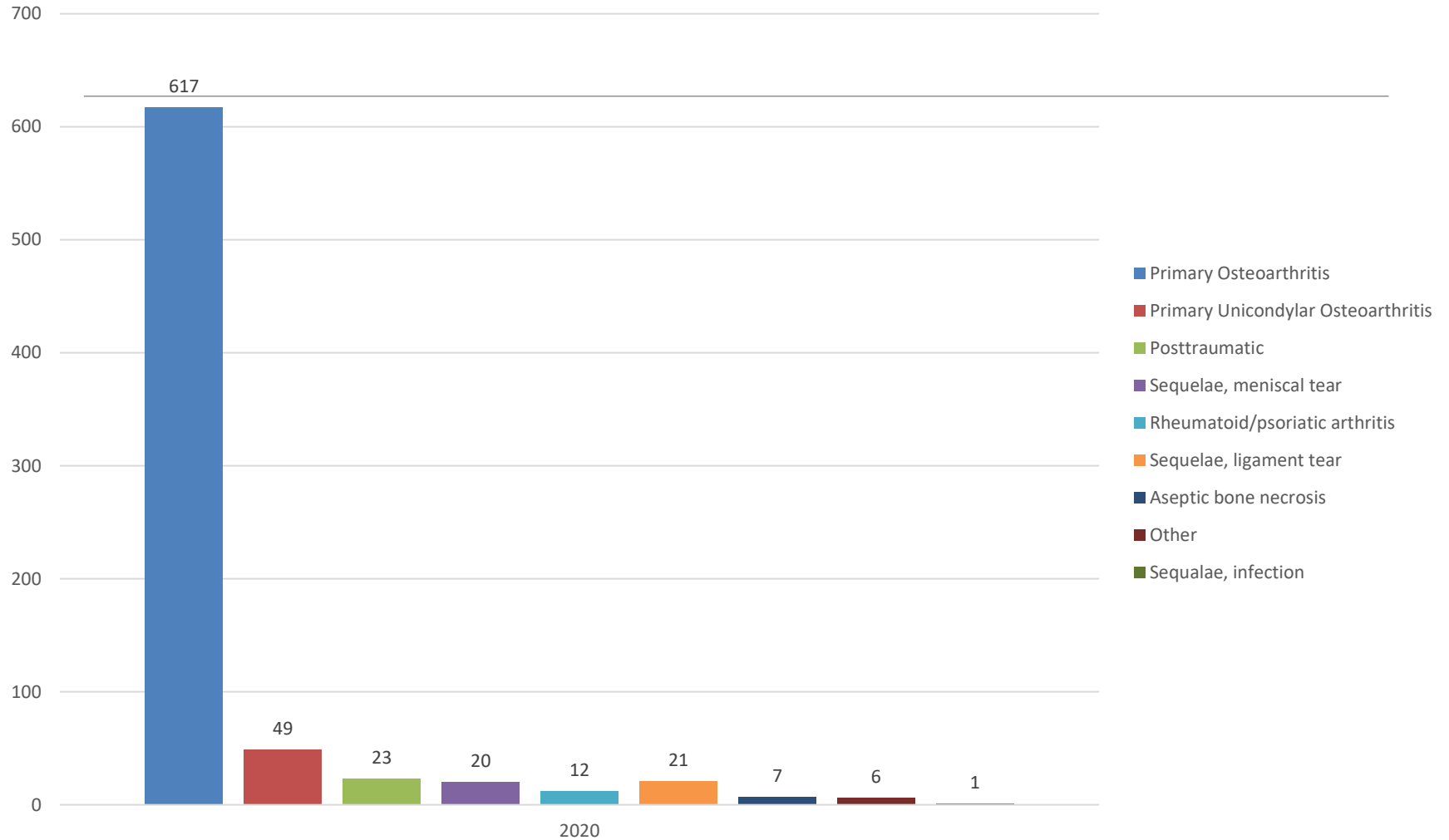
BMI of patients in 2020: average 31,9; min 20,8 in max 49,5



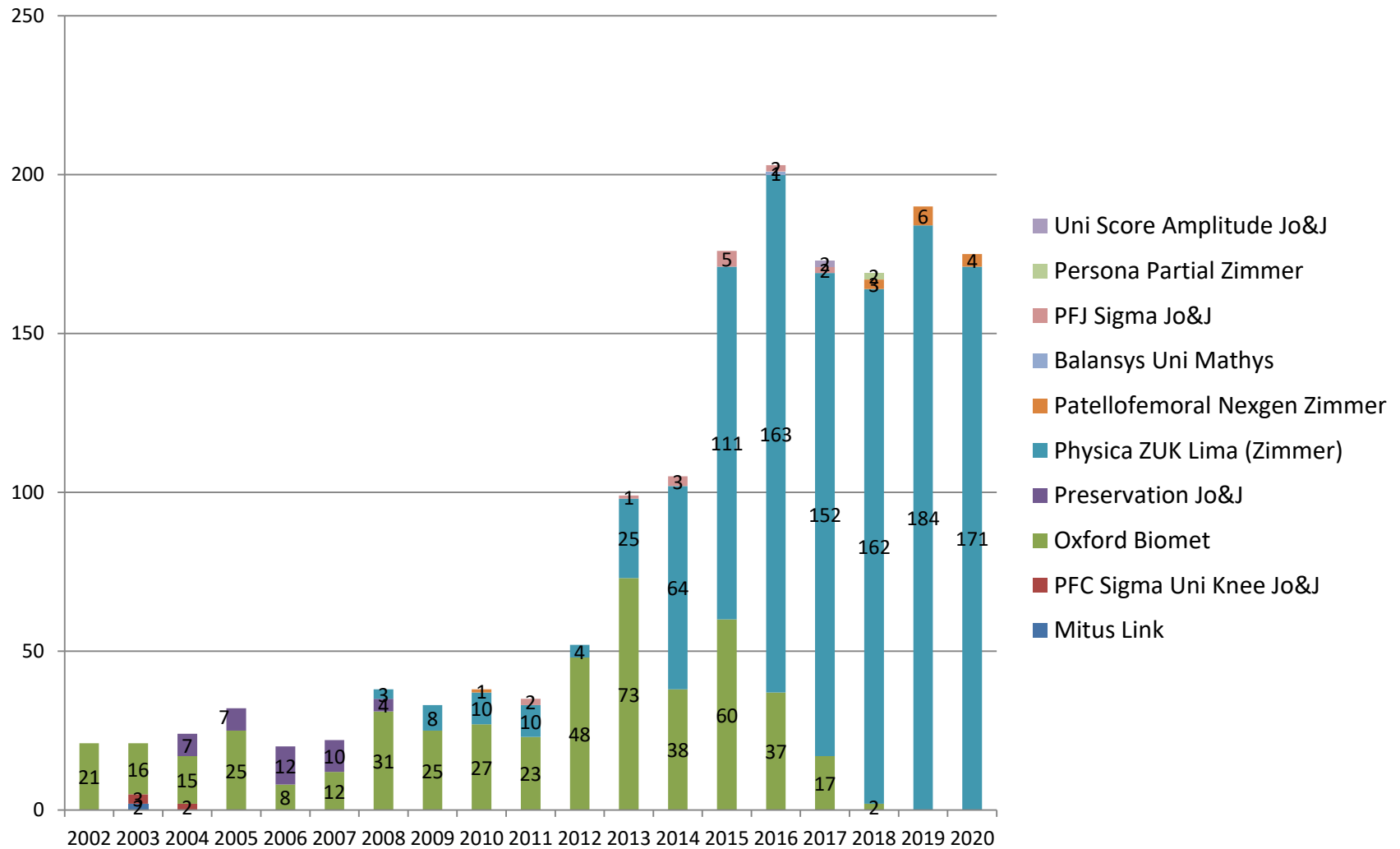
Operated knee side 2003-20



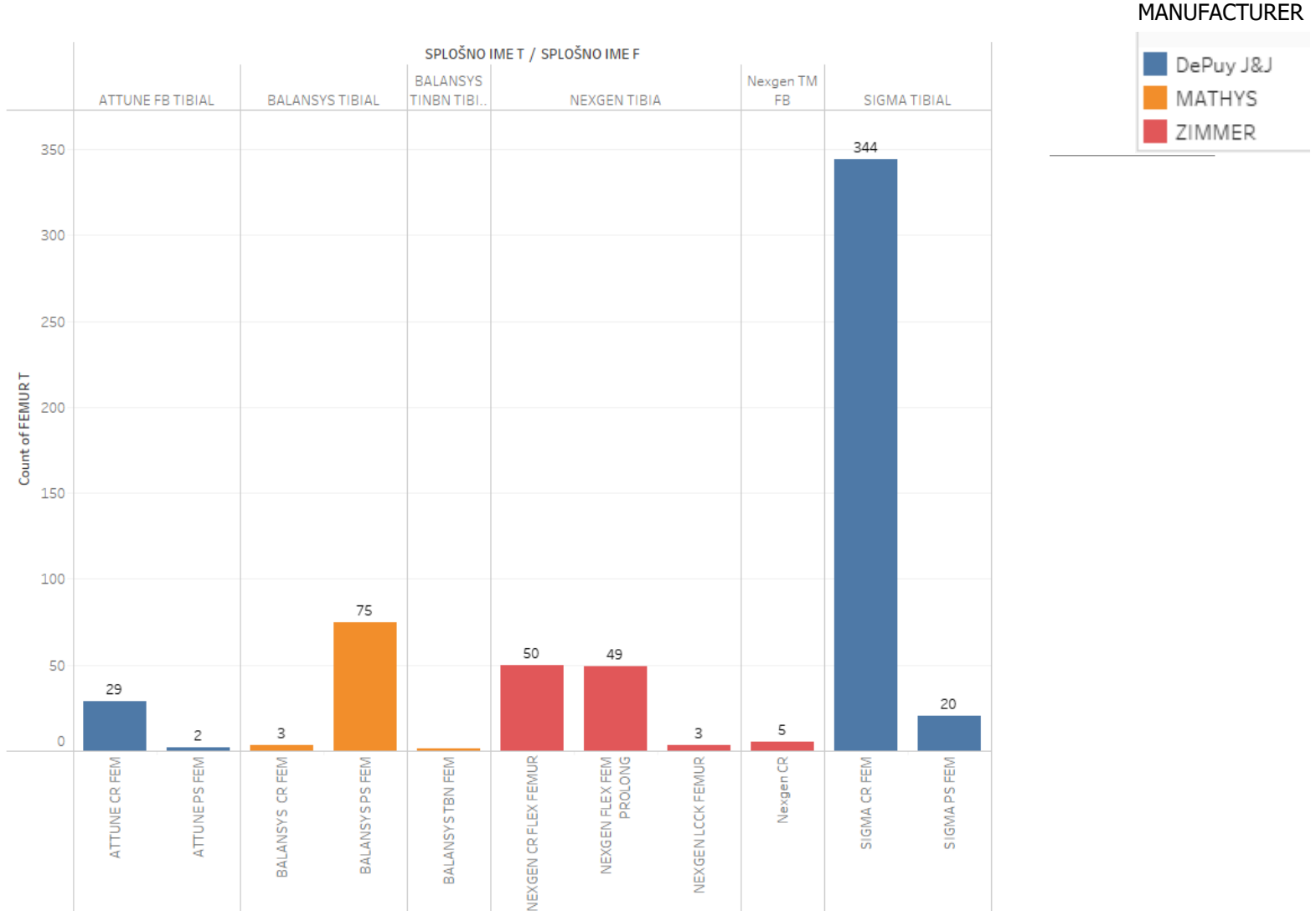
Preoperative diagnosis 2020



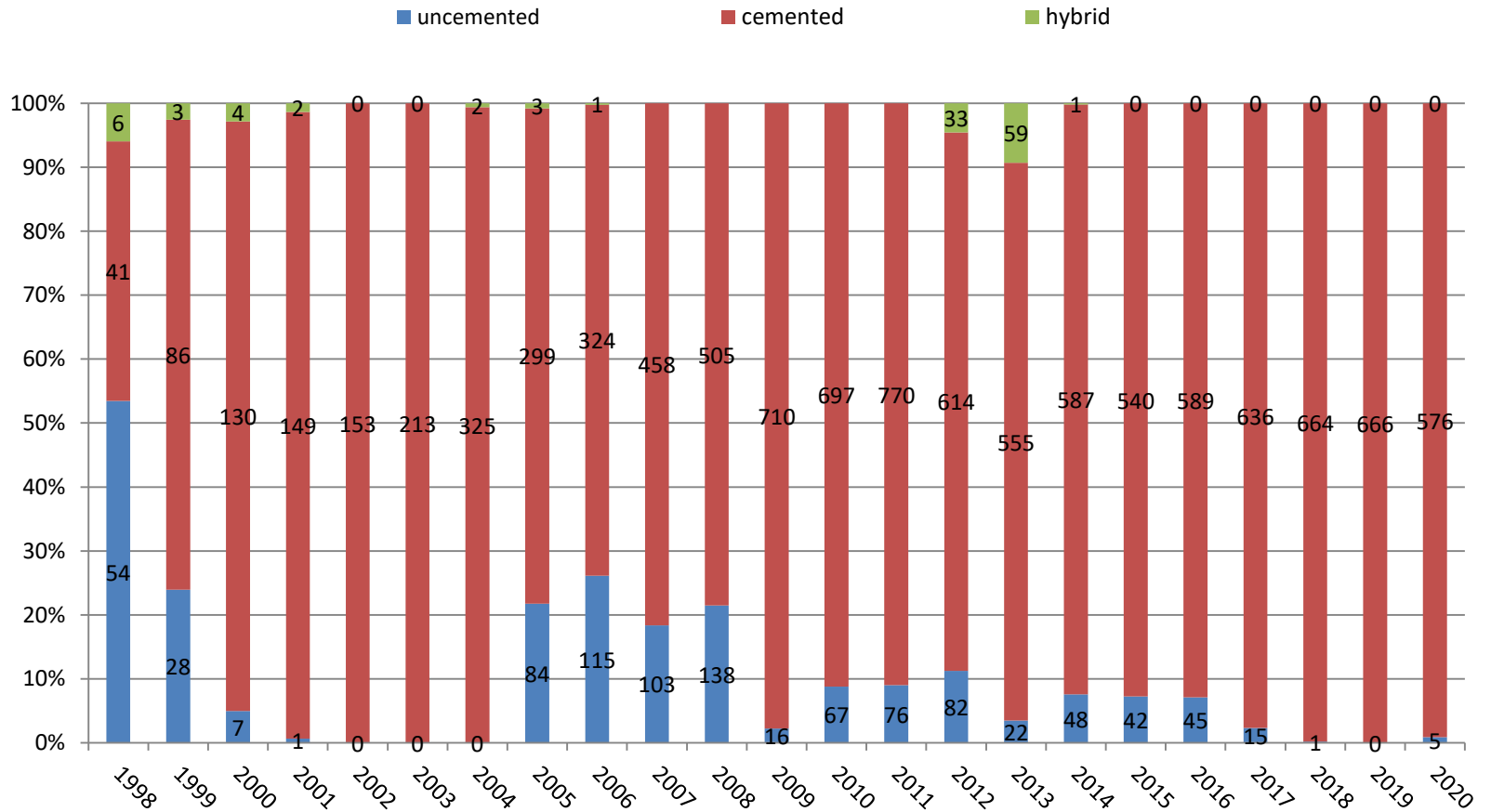
Unicondylar Knee Prostheses in 2020: sum 175



Primary TKR in 2020 by manufacturer



Knee replacement by use cement

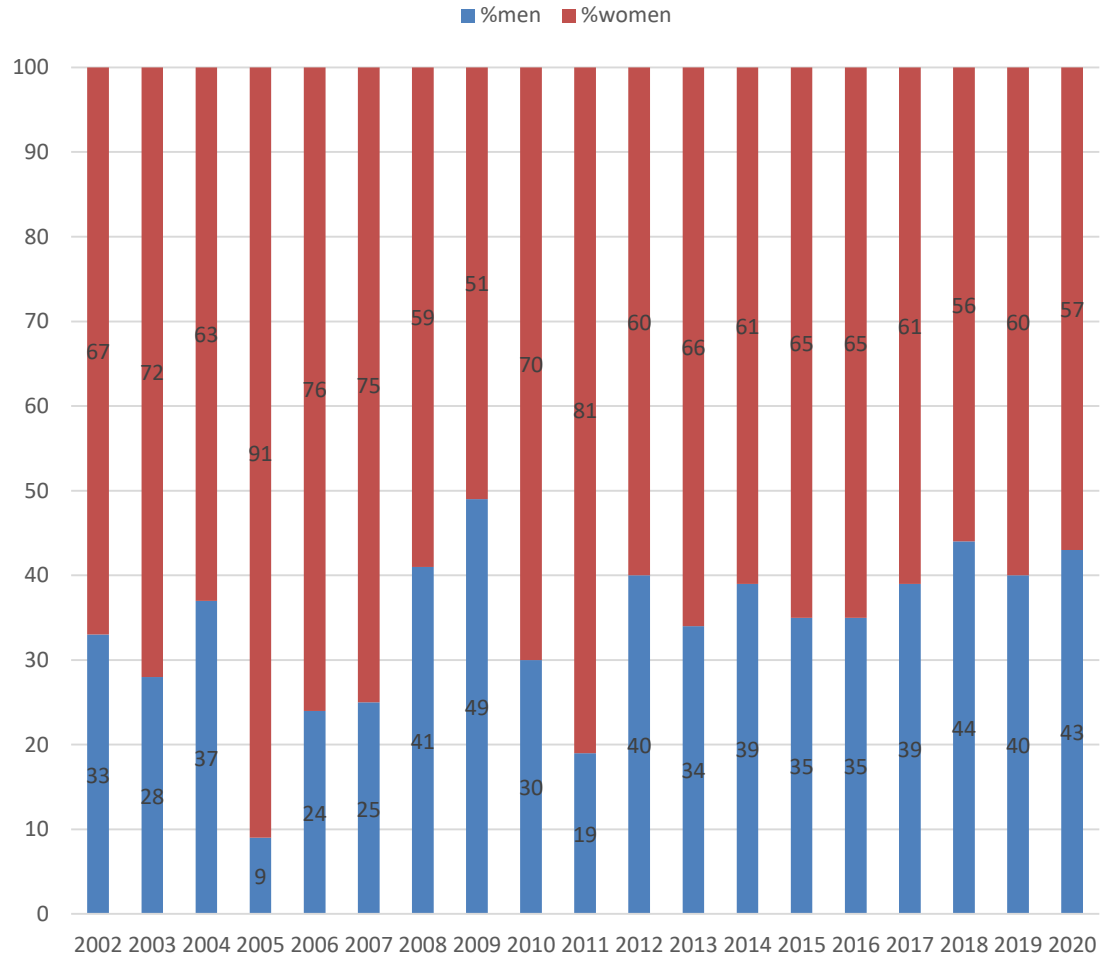


REVISION OPERATIONS OF KNEE JOINT REPLACEMENTS

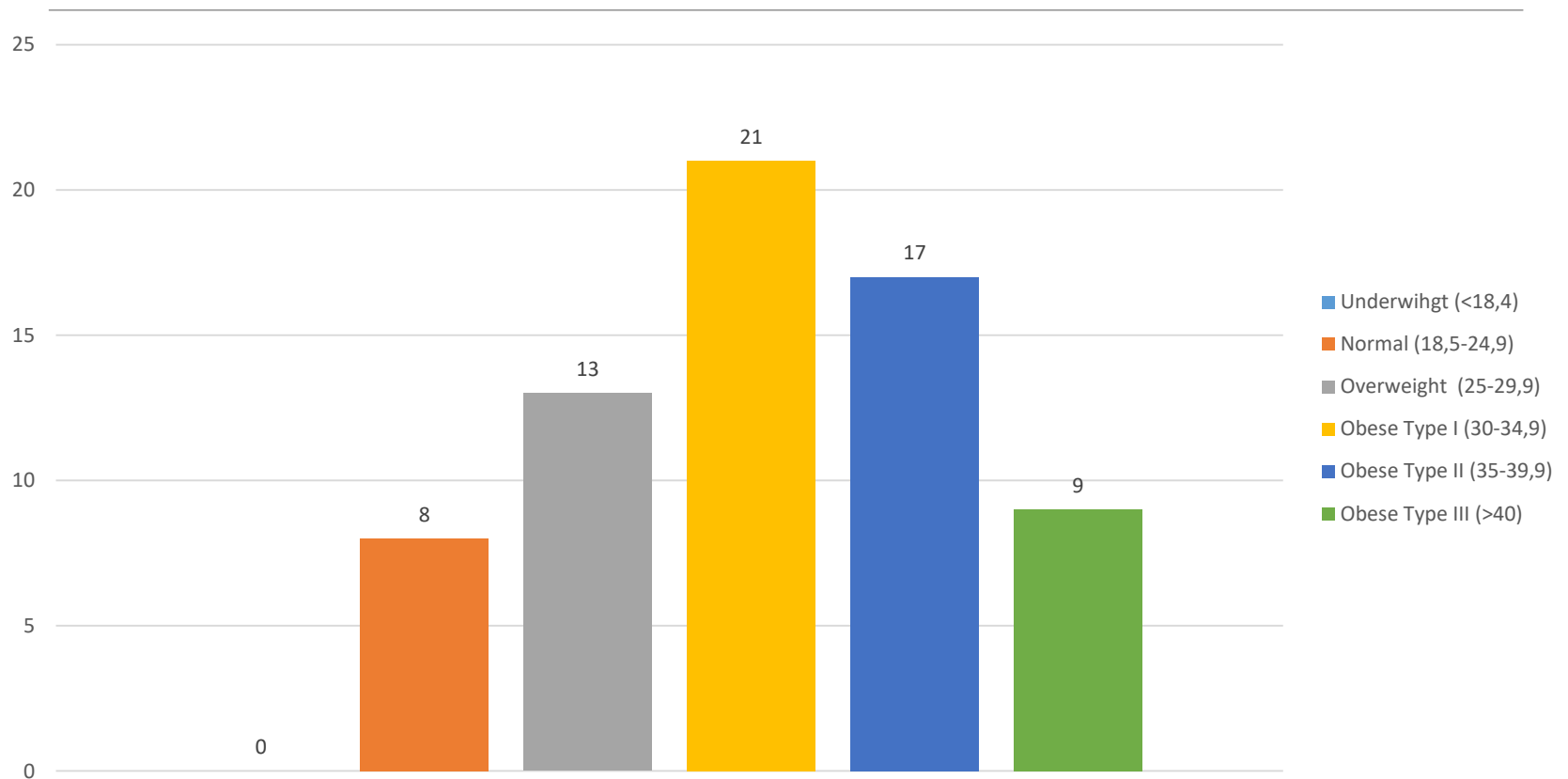
2020: 68 REVISIONS IN 61 PATIENTS
(7 OPERATED 2X IN THE SAME YEAR).

Patient data: age and gender at primaries

Year	Men	Women
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)



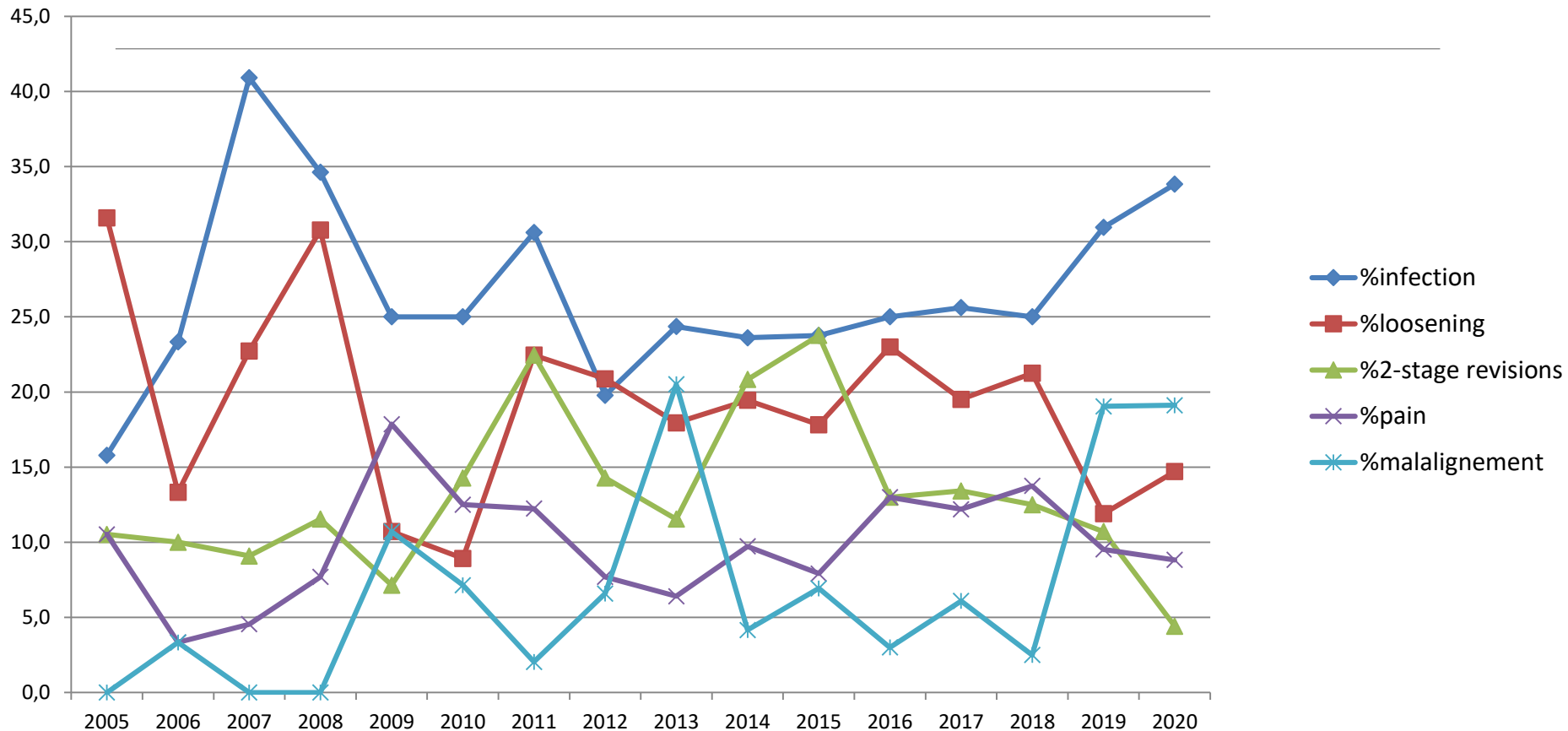
BMI of patients in 2020: average 32,7; min 19,5 in max 44,1



Reasons for revision Knees vs. Hips 2002-2020

2002 - 2018	Knees (%)	Hips (%)
Deep infection	12,5	25,0
Aseptic loosening	54,2	20,2
Instability, malalignment, bad range of motion	0,0	14,5
2-stage revision	7,0	13,2
Pain	2,4	8,3
OA of the other compartment	0,0	7,1
Other	5,3	6,5
Periprosthetic fracture	8,2	2,9
Luxation (dislocation)	4,8	1,4
Implant broken	2,9	0,9
Osteolysis	2,4	0,0
Metallosis	0,2	0,0

Reasons for knee replacement revisions in % from 2005 to 2020



Revisions from other hospitals

Year	All revisions	Revisions from other hospitals	% from other hospitals
2002	10	2	20 %
2003	5	1	20 %
2004	21	5	24 %
2005	19	2	11 %
2006	30	4	13 %
2007	22	2	9 %
2008	26	2	8 %
2009	28	2	7 %
2010	56	8	7 %
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%

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
Norway 21	8,34	1,04
NJR 21	6,06	0,89



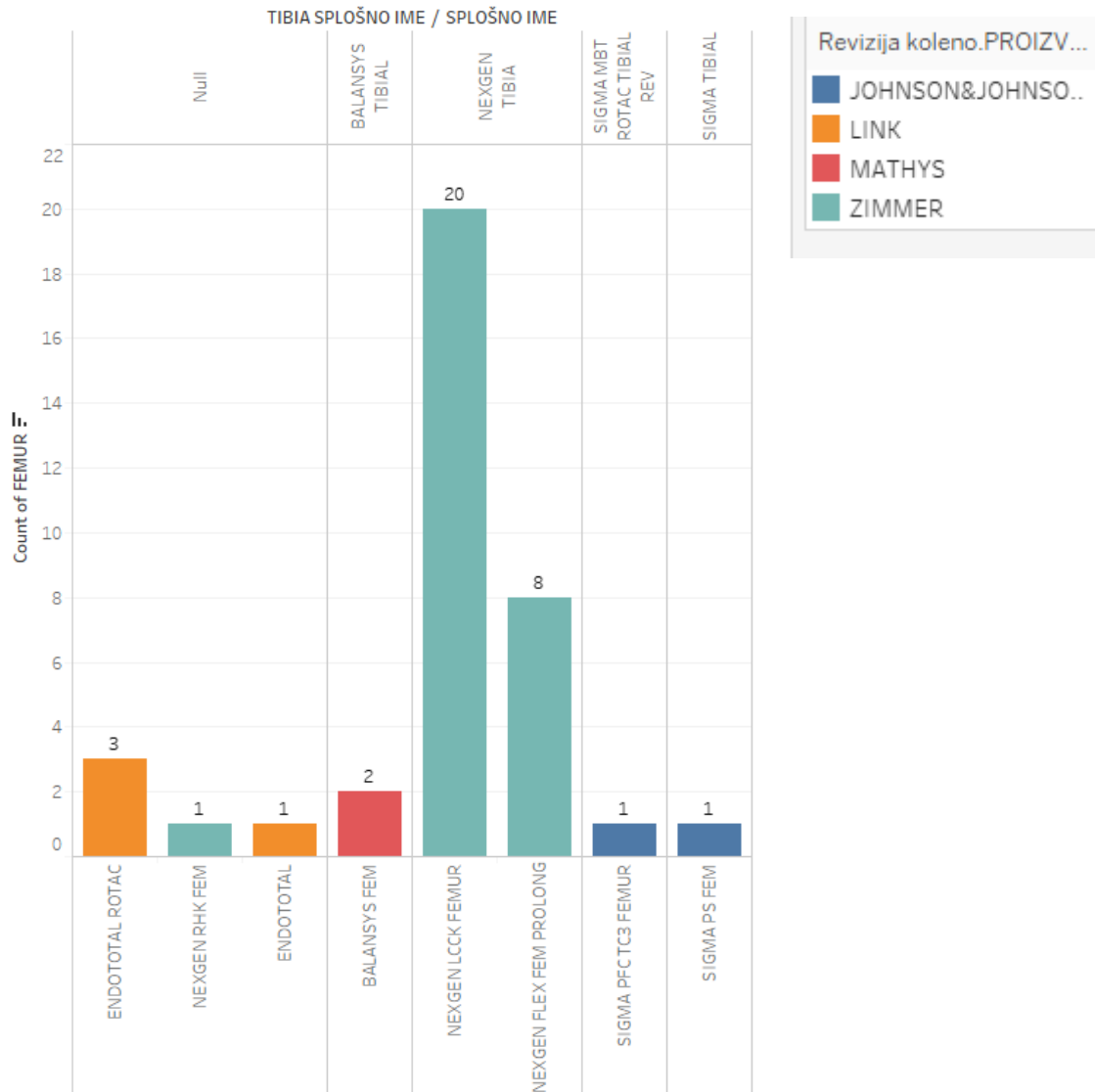
Revisions per 100 observed components year - knee

Year	Mean Follow up period (years)	Revision rate	Number primary cases	Number of all revisions	Number of first revisions in this FU period	Revision rate for revisions in this FU period	Observed component years	Revisions per 100 observed component years
2002	0,46	5,46	173	10	0	0,00	79,81	0,00
2003	0,88	3,58	404	15	0	0,00	354,16	0,00
2004	1,22	4,56	753	36	6	0,76	922,31	0,65
2005	1,60	4,49	1171	55	12	0,98	1873,54	0,64
2006	2,03	4,95	1631	85	21	1,22	3305,12	0,64
2007	2,36	4,61	2214	107	29	1,25	5216,43	0,56
2008	2,69	4,40	2893	133	39	1,29	7771,63	0,50
2009	3,05	4,26	3615	161	54	1,43	11015,85	0,49
2010	3,43	4,72	4382	217	82	1,78	15008,65	0,55
2011	3,79	4,84	5227	266	99	1,80	19818,78	0,50
2012	4,27	5,66	5946	357	136	2,16	25414,18	0,54
2013	4,75	6,11	6680	435	172	2,42	31728,17	0,54
2014	5,22	6,40	7421	507	208	2,62	38745,25	0,54
2015	5,69	6,92	8179	608	258	2,94	46531,09	0,55
2016	6,11	7,28	9016	708	320	3,29	55131,48	0,58
2017	6,56	7,43	9840	790	364	3,42	64524,19	0,56
2018	6,99	7,52	10698	870	410	3,54	74777,85	0,55
2019	7,43	7,63	11554	954	453	3,62	85880,35	0,53
2020	7,95	7,67	12310	1022	476	3,57	97864,50	0,49

Revision rate for knee prostheses from 02 to 20

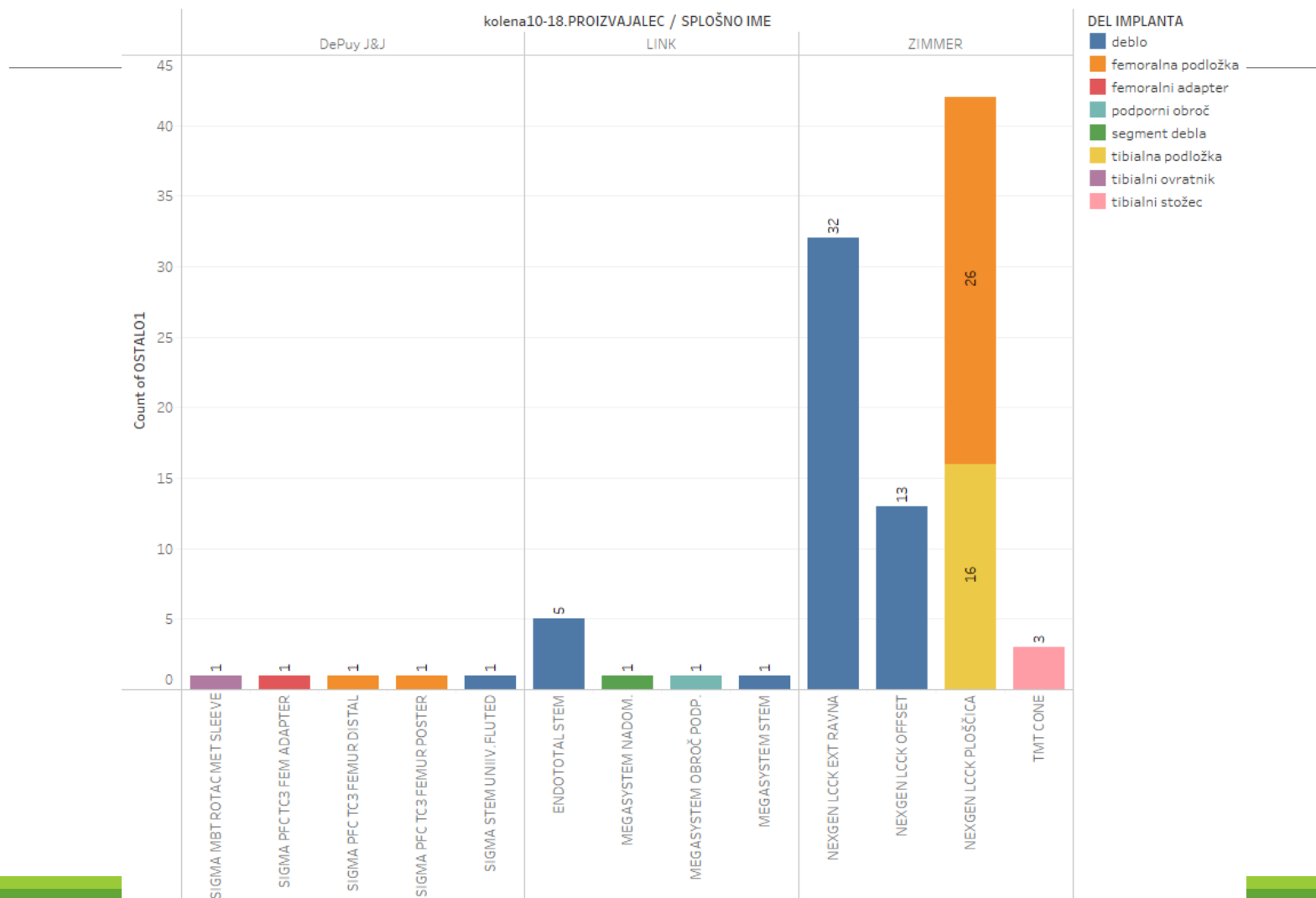
Name	Implanted 02-18	Remowed 02-18	% of revision
Attune Jo&J	182	0	0,00%
Patellofemoral Nexgen Zimmer	14	0	0,00%
PFJ Sigma Jo&J	15	0	0,00%
Balansys Mathys	400	3	0,75%
Physica ZUK Lima (Zimmer)	1067	12	1,12%
Sigma Jo&J	4593	79	1,72%
Solution S&N	1152	30	2,60%
Nexgen Monobloc Zimmer	859	29	3,38%
Vanguard Biomet	531	21	3,95%
AGC Biomet	747	31	4,15%
Nexgen Zimmer	1666	83	4,98%
Nexgen LCCK Zimmer	43	3	6,98%
Endomodel LINK	57	4	7,02%
Advance WRIGHT	300	23	7,67%
Preservation Jo&J	40	4	10,00%
Oxford Biomet	478	54	11,30%
Genesis S&N	33	4	12,12%

Revision TKR components in 2020 by manufacturers



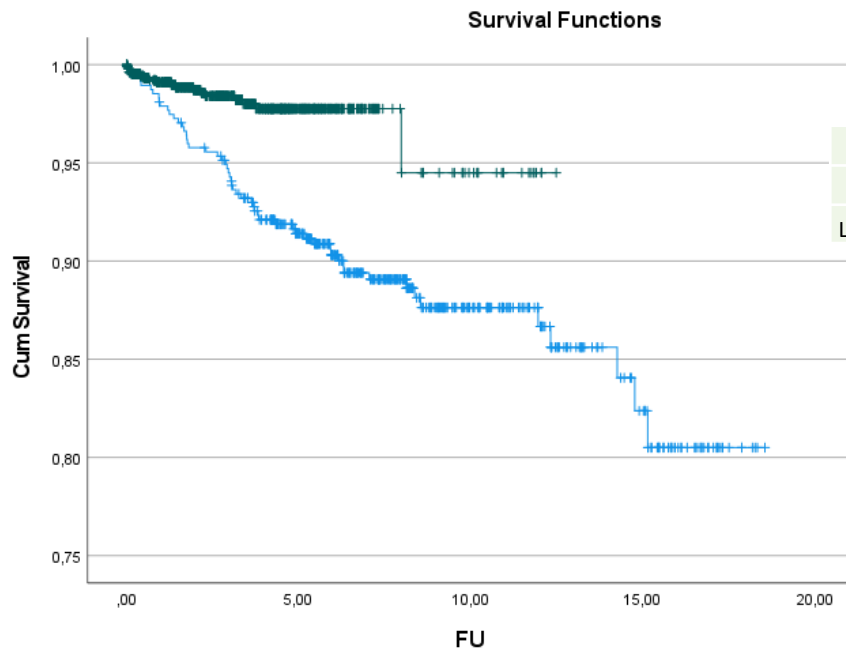
Added stems, sleeves, augments and adapters in revisions in 2020

Sheet 2



Count of OSTAL01 for each SPLOŠNO IME broken down by kolena10-18.PROIZVAJALEC. Color shows details about DEL IMPLANTA. The view is filtered on SPLOŠNO IME and DEL IMPLANTA. The SPLOŠNO IME filter excludes ENDOTOTAL PE CENTRALIZATOR, NEXGEN ČEPI and SIGMA PFC TC3 FEM ADAPTER BOLT. The DEL IMPLANTA filter excludes tibialno deblo.

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



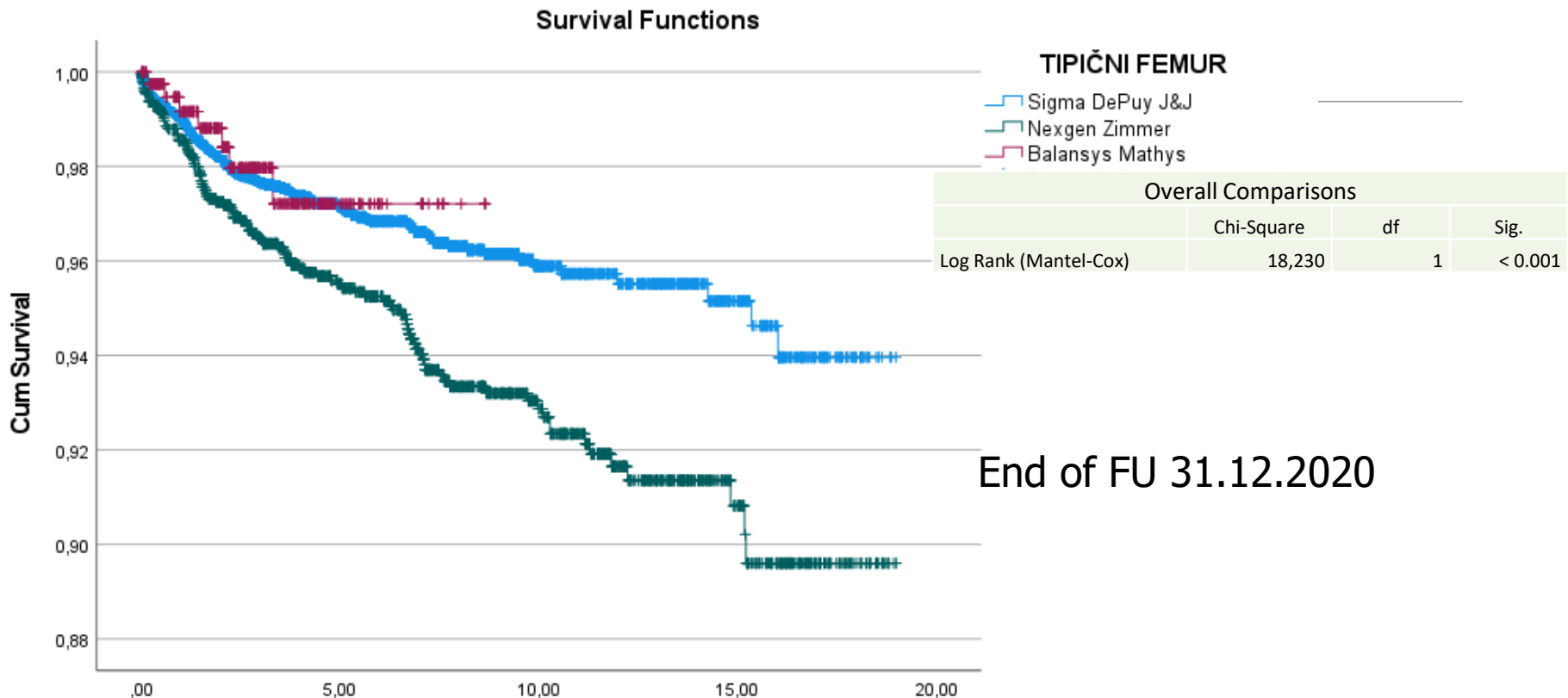
Overall Comparisons			
	Chi-Square	df	Sig.
Log Rank (Mantel-Cox)	22,556	1	< 0.001

End of FU 31.12.2020

Oxford Biomet: After **18,5** yrs survival **80,5 %** (95 % CI = **73,6 % - 87,4 %**)

ZUK Zimmer - Lima: After **12,5** yrs survival **94,5 %** (95 % CI = **88,0 % - 100,9 %**)

Survival of 3 total knee prostheses: Sigma De Puy Johnson, Nexgen Zimmer, Balansys Mathys

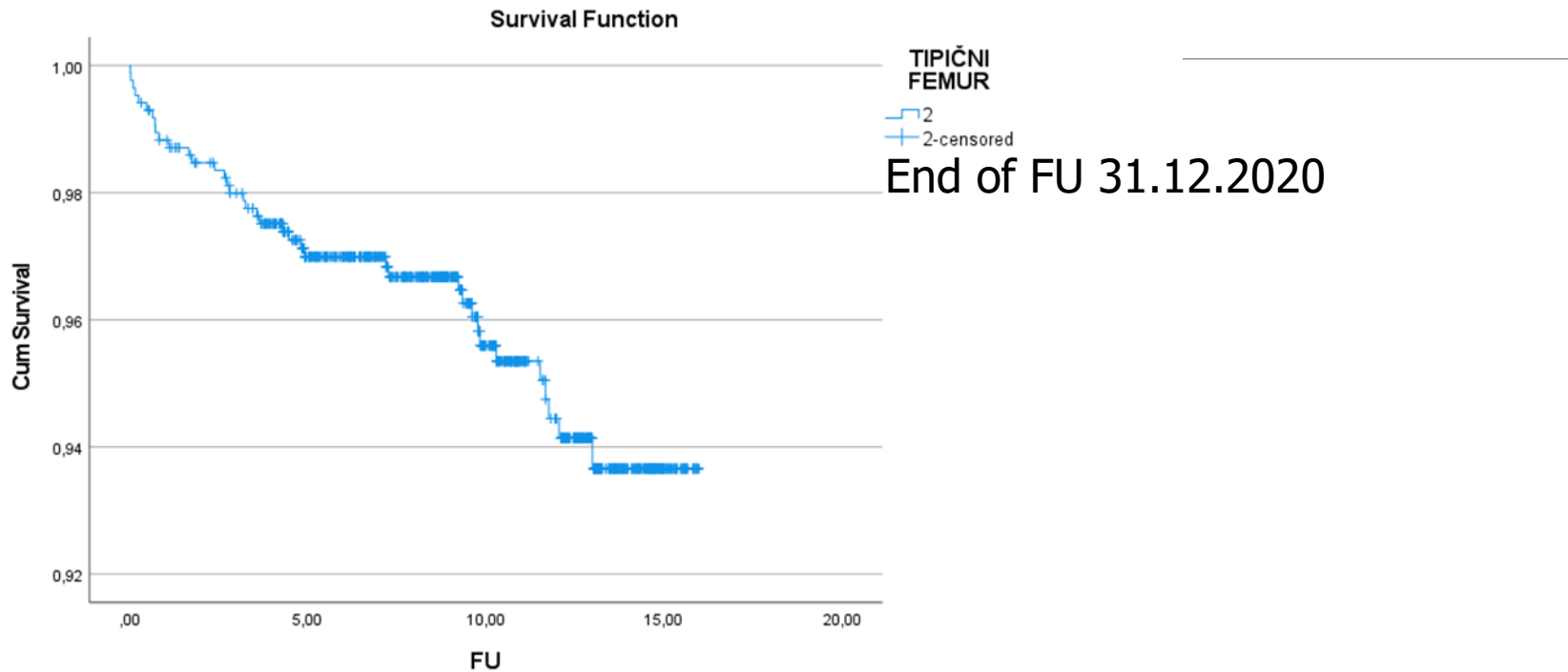


Sigma DePuy JJ: After **19,0 yrs** survival **93,2 %** (95 % CI = **93,17 % - 93,24 %**)

Nexgen Zimmer: After **19,0 yrs** survival **94,0 %** (95 % CI = **92,0 % - 96,0 %**)

Balansys Mathys: After **8,6 yrs** survival **97,2 %** (95 % CI = **95,0 % - 99,4 %**)

Survival of uncemented knee prosthesis: Nexgen Monobloc Zimmer



Nexgen Monobloc Zimmer: After **16,0** yrs survival **93,7 %** (95 % CI = **91,5 % - 95,9 %**)

Removed prostheses – time in situ KNEES 2002 - 2020

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 - 18)
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)	4,4 (0-18)
2019	50 (collected)	4,1 (0-21)
2020	50 (collected)	4,2 (0-25)
Sum	541	Avarage: 4,8 (0 - 25)

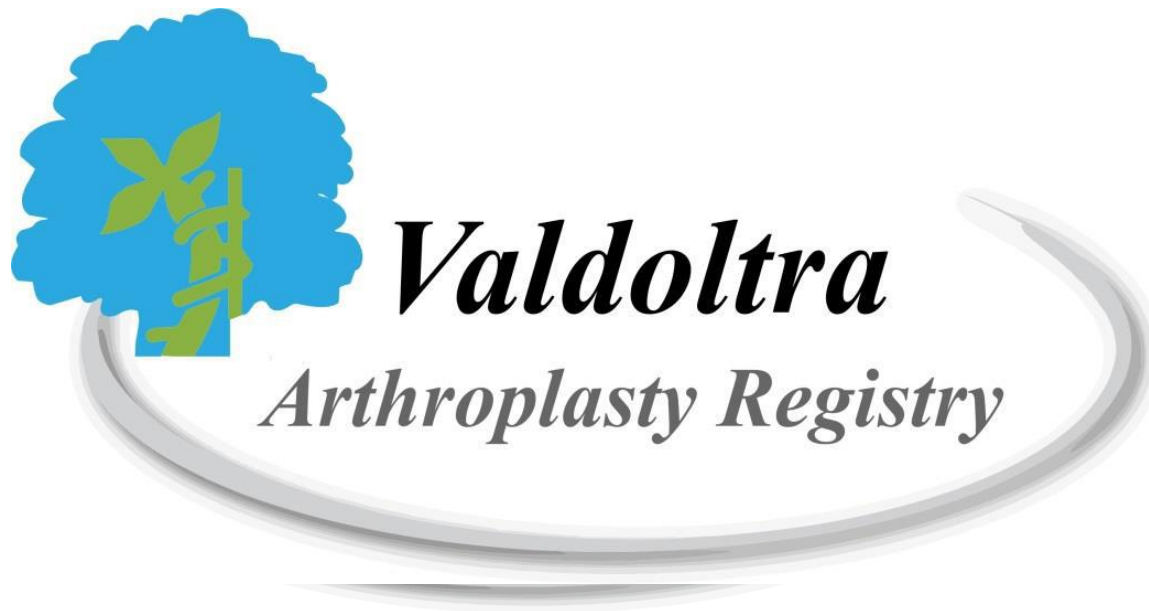
„ The longest time in situ“



Parcial LINK
Time in situ: 25,4 years



Total Cremascoli
Time in situ: 15,6 years



Citation:

Levašič V, Savarin D, Milošev I. Valdoltra Arthroplasty Registry [Internet]. Valdoltra Orthopaedic Hospital. [cited 2022 April 4]. Available from: [International patients | Ortopedska bolnišnica Valdoltra \(ob-valdoltra.si\)](https://www.ob-valdoltra.si)