



Interventional Cardiology in Switzerland

Annual Statistic Report 2011

Data collected and processed by

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**on behalf of the
Swiss Working Group of Interventional Cardiology and
Acute Coronary Syndrome**



Figure 1. Numbers of coronary angiographies (CA) and percutaneous coronary interventions (PCI) from 2007 to 2011 in Switzerland.

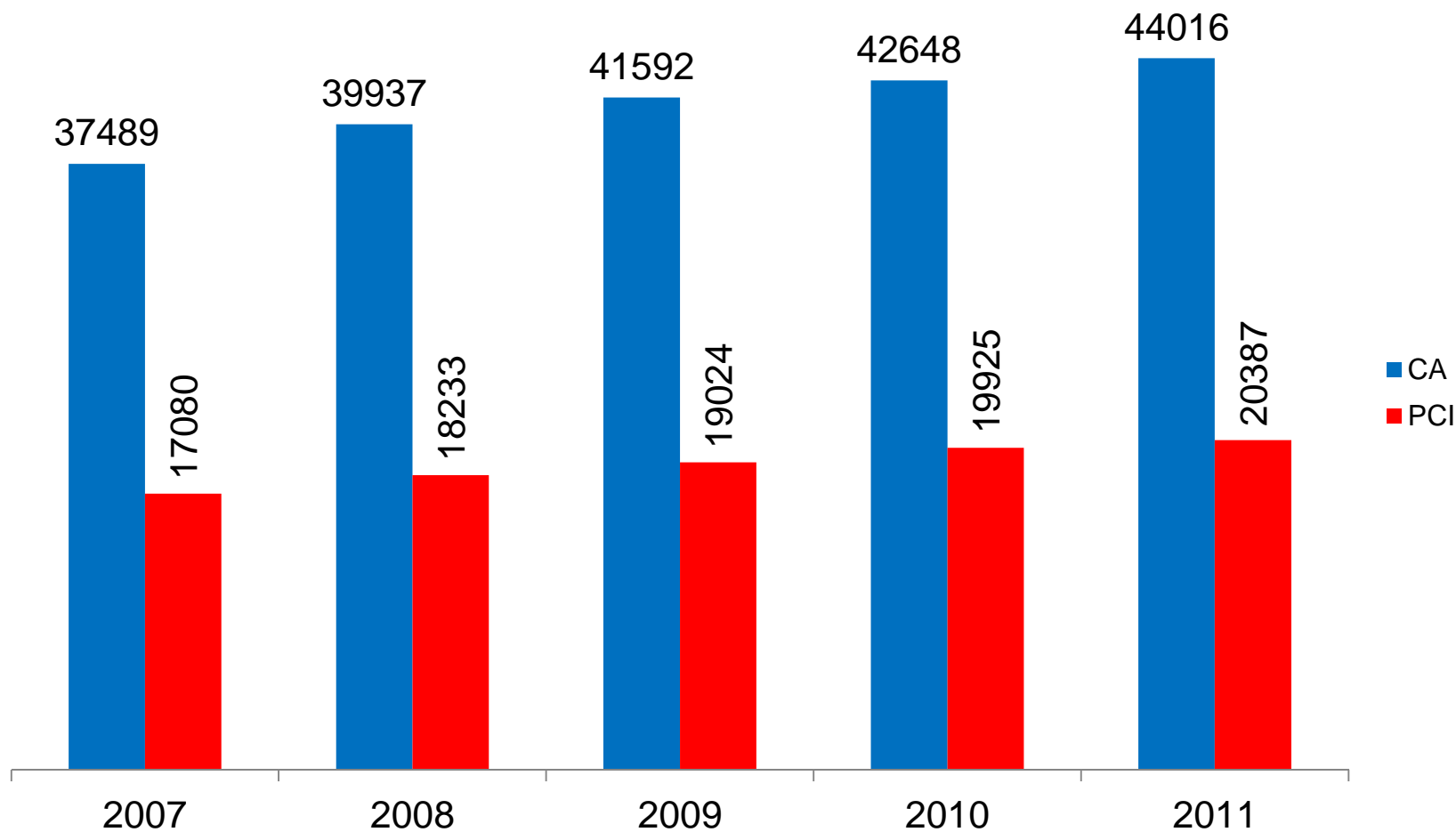




Figure 2. Coronary angiographies (CA) and percutaneous coronary interventions (PCI) in all centres during the year 2011. The centres are ranked according to their annual CA volume. USZ = UniversitätsSpital Zürich, KSW = Kantonsspital Winterthur, FF = Spital AG Thurgau (Frauenfeld).

*CA: Hirslanden: 1606, Im Park: 1726; PCI: Hirslanden: 735, Im Park: 783.

#CA: USZ: , KSW: , FF: ; PCI: USZ: , KSW: , FF: .

†CA: Inselspital: , Sonnenhof: ; PCI: Inselspital: , Sonnenhof: .



Figure 2.

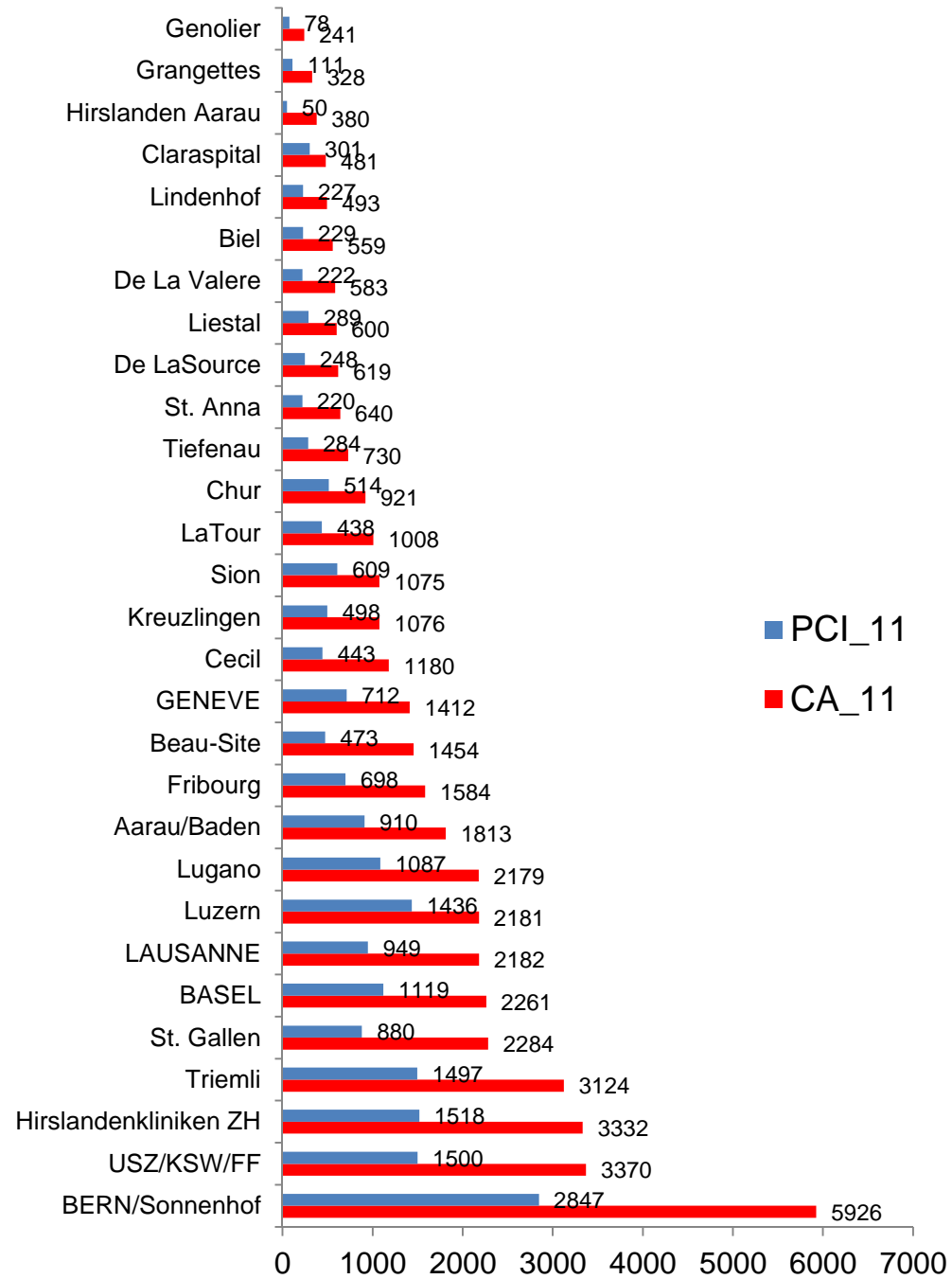




Figure 4. Interventions for structural heart defects: closure of atrial septal defect (ASD) and patent foramen ovale (PFO), transcatheter aortic valve implantation (TAVI), and transcatheter mitral valve repair (TMVR) from 2007 to 2011.

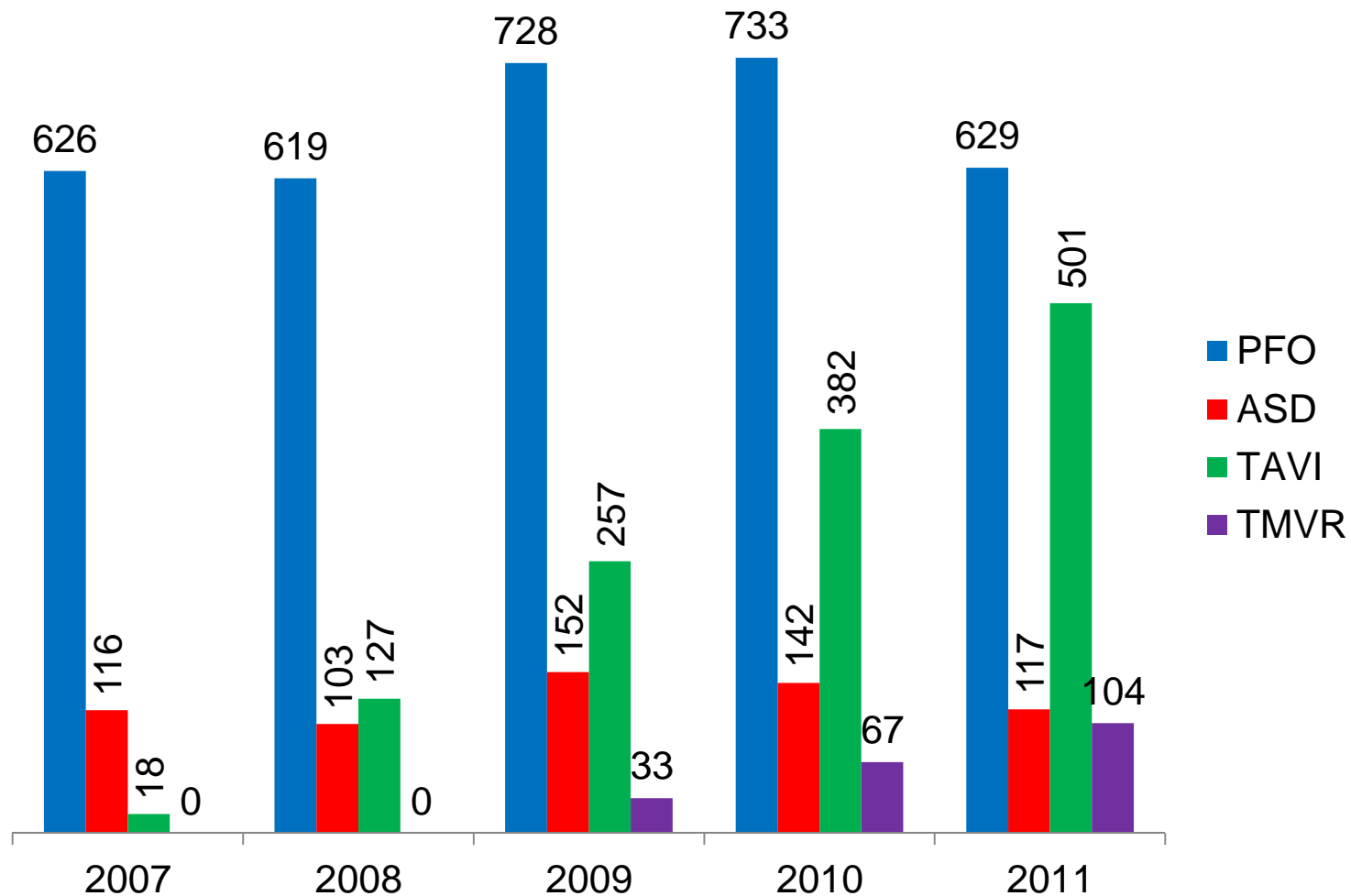




Table 1. Interventional centres and number of coronary procedures in Switzerland 2011

	Electronic Database	Number of Cathlabs	Operators diagnostic only (n)	Operators interventional (n)	On-site surgery	Coronary angiography (n)	PCI (n)
Clinique de Genolier	1	1	0	6	0	241	78
Clinique de Grangettes, Chêne-Bougeries	1	1	6	9	0	328	111
Hirslanden Klinik, Aarau	1	2	0	4	1	380	50
St. Claraspital, Basel	1	1	2	2	0	481	301
Lindenhofspital, Bern	1	1	3	2	0	493	227
Centre Hsopitalier, Bienne	1	1	0	5	0	559	229
Clinique de Valère, Sion	1	1	0	2	0	583	222
Kantonspital Liestal	1	1	1	2	0	600	289
Clinique de La Source, Lausanne	1	1	0	4	0	619	248
Klinik St. Anna, Luzern	1	1	1	5	0	640	220
Spital Tiefenau, Bern	1	1	0	4	0	730	284
Kantonsspital Graubünden, Chur	1	1	0	3	0	921	514
Hôpital de la Tour, Meyrin	1	1	7	5	1	1008	438
Hôpital de Sion	1	1	0	4	1	1075	609
Herzzentrum Bodensee, Kreuzlingen	1	1	1	2	1	1076	498
Clinique Cecil-Hirslanden, Lausanne	1	1	10	13	1	1180	443
Hôpitaux Universitaires Genève	1	2	0	6	1	1412	712
Clinique Beau-Site-Hirslanden, Bern	1	2	6	4	1	1454	473
Kantonsspital Fribourg	1	1	0	5	0	1584	698
Kantonsspital Aarau/Baden	1	2	0	4	0	1813	910
Cardiocentro Ticino, Lugano	1	3	2	8	1	2179	1087
Kantonsspital Luzern	1	2	1	3	1	2181	1436
CHUV, Lausanne	1	2	0	7	1	2182	949
Universitätsspital Basel	1	2	2	8	1	2261	1119
Kantonsspital St. Gallen	1	2	2	6	0	2284	880
Stadtpital Triemli, Zürich	1	2	0	6	1	3124	1497
Hirslandenkliniken ZH	1	5	7	13	1	3332	1518
- Klinik im Park, Zürich	-	-	-	-	-	1762	783
- Klinik Hirslanden, Rürich	-	-	-	-	-	1606	735
Universitätsspital Zürich / Kantonsspital Winterthur/Frauenfeld	0	5	0	10	1	3370	1500
Inselspital Bern / Herzklinik Sonnenhof Bern	1	5	2	10	1	5926	2847
- Inselspital Bern	-	-	-	-	-	5184	2492
- Herzklinik Sonnenhof, Bern	-	-	-	-	-	742	355
Total	26	50	47	147	15	43447	20189



Table 2A. PCI in Switzerland 2011: procedural characteristics Part A

	PCI (n)	PCI for STEMI (n)	PCI for NSTEMI (n)	PCI in cardiogenic shock (n)	Ad hoc PCI (n)	Stent cases (n)	BMS cases (n)	DES-cases (n)
Clinique de Genolier	78	2	0	0	71	69	5	64
Clinique de Grangettes, Chêne-Bougeries	111	0	1	0	105	95	13	82
Hirslanden Klinik, Aarau	50	10	8	0	42	48	9	39
St. Claraspital, Basel	301	49	99	6	222	274	83	191
Lindenhofspital, Bern	227	20	33	1	178	220	15	205
Centre Hsopitalier, Bienne	229	48	47	2	210	204	30	174
Clinique de Valère, Sion	222	2	5	0	222	222	14	208
Kantonspital Liestal	289	33	46	3	281	287	40	247
Clinique de La Source, Lausanne	248	3	11	0	233	238	24	214
Klinik St. Anna, Luzern	220	20	38	3		143	58	132
Spital Tiefenau, Bern	284	91	88	1	267	243	30	213
Kantonsspital Graubünden, Chur	514	118	95	2	395	415	58	357
Hôpital de la Tour, Meyrin	438	21	23	0	408	399	91	308
Hôpital de Sion	609	112	123	2	608	561	330	233
Herzzentrum Bodensee, Kreuzlingen	498	120	77	17	400	412	18	394
Clinique Cecil-Hirslanden, Lausanne	443	4	439	0	395	412	48	363
Hôpitaux Universitaires Genève	712	178	195	50	588	639	181	458
Clinique Beau-Site-Hirslanden, Bern	473	54	42	2	461	455	27	428
Kantonsspital Fribourg	698	59	197	19	681	649	108	541
Kantonsspital Aarau/Baden	910	245	354	11	787	789	190	688
Cardiocentro Ticino, Lugano	1087	250	288	26	1004	1012	106	906
Kantonsspital Luzern	1436	350	300	35	1350	1386	286	1100
CHUV, Lausanne	949	347	414	15	904	843	348	486
Universitätsspital Basel	1119	292	301	18	1059	1060	764	296
Kantonsspital St. Gallen	880	221	309	7	815	774	199	589
Stadtspital Triemli, Zürich	1497	384	34	34		1396	275	1121
Hirslandenkliniken ZH	1518	84	119	12	1220	1218	53	1165
Universitätsspital Zürich / Kantonsspital Winterthur/Frauenfeld	1500	-	-	-				
Inselspital Bern / Herzklinik Sonnenhof Bern	2847	524	943	-	2783	2609	229	2380
Total	20189	3639	4628	266	15513	16908	3614	13436



Table 2B. PCI in Switzerland 2011: procedural characteristics Part B

	Radial access (n / % of all CA)	Radial access (n / % of all PCI)	Rotablation (n)	CTO (n)	FFR (n)	OCT (n)	IVUS (n)	IABP (n)	Assist Devices/Impella (n)
Clinique de Genolier	241 / 45%	-	0	0	24	0	0	0	0
Clinique de Grangettes, Chêne-Bougeries	328 / 51%	-	0	10	8	0	0	0	0
Hirslanden Klinik, Aarau	0 / 0%	0 / 0%	0	0	3	0	0	0	0
St. Claraspital, Basel	2 / 0.4%	-	0	0	19	0	0	0	6
Lindenhospital, Bern	0 / 0%	0 / 0%	1	0	0	0	0	0	0
Centre Hsopitalier, Bienne	-	33 / 14%	0	4	7	0	0	0	0
Clinique de Valère, Sion	567 / 97%	-	0	20	0	0	0	0	0
Kantonsspital Liestal	301 / 50%	-	0	16	0	0	0	0	0
Clinique de La Source, Lausanne	376 / 54%	-	0	17	4	0	0	0	0
Klinik St. Anna, Luzern	4 / 0.6%	-	0	0	12	0	0	2	0
Spital Tiefenau, Bern	181 / 24.8%	-	0	2	13	0	0	0	0
Kantonsspital Graubünden, Chur	261 / 29.0%	-	5	31	74	0	24	2	0
Hôpital de la Tour, Meyrin	469 / 46.5%	-	11	9	66	0	13	4	0
Hôpital de Sion	665 / 61.9%	-	0	30	35	0	0	10	1
Herzzentrum Bodensee, Kreuzlingen	269 / 25.0%	-	19	57	179	0	336	18	3
Clinique Cecil-Hirslanden, Lausanne	670 / 56.8%	-	0	10	15	0	0	0	0
Hôpitaux Universitaires Genève	-	528 / 74%	10	28	50	12	30	46	4
Clinique Beau-Site-Hirslanden, Bern	-	4 / 0.85%	1	7	4	0	0	3	0
Kantonsspital Fribourg	213 / 13.4%	-	5	0	8	48	6	16	0
Kantonsspital Aarau/Baden	490 / 26.8%	-	3	53	40	0	20	12	2
Cardiocentro Ticino, Lugano	301 / 14.0%	-	4	15	71	7	89	25	4
Kantonsspital Luzern	56 / 2.6%	-	4	48	65	5	65	25	11
CHUV, Lausanne	411 / 18.9%	-	11	41	154	0	29	25	0
Universitätsspital Basel	-	49 / 4.4%	0	5	91	0	12	9	43
Kantonsspital St. Gallen	40 / 1.8%	-	14	61	25	0	4	19	8
Stadsspital Triemli, Zürich	684 / 21.9%	-	4	17	62	0	0	80	0
Hirslandenkliniken ZH	-	170 / 11.2%	9	77	255	4	46	19	0
Universitätsspital Zürich / Kantonsspital Winterthur/Frauenfeld	179 / 5.3%	-	14	-	55	10	18	97	-
Inselspital Bern / Herzklinik Sonnenhof Bern	157 / 2.6%	-	14	31	116	83	23	55	7
Total	-	-	129	579	1423	169	715	467	89



Table 3. Peripheral vascular interventions performed by coronary centres in Switzerland 2011

	PTA (n)	PTA stent cases (n)	Renal artery intervention (n)	Renal artery stent cases (n)	Carotid artery intervention (n)	Carotid artery stent cases (n)	Renal denervation (n)
Clinique de Genolier	44	28	0	0	0	0	0
Clinique de Grangettes, Chêne-Bougeries	9	5	0	0	0	0	0
St. Claraspital, Basel	1	1	14	14	0	0	0
Lindenhospital, Bern	2	2	0	0	0	0	0
Clinique de La Source, Lausanne	2	2	2	2	0	0	0
Klinik St. Anna, Luzern	3	3	3	3	0	0	0
Spital Tiefenau, Bern	3	1	0	0	0	0	0
Clinique Cecil-Hirslanden, Lausanne	24	20	3	1	0	0	0
Hôpitaux Universitaires Genève	73	60	1	1	5	5	3
Clinique Beau-Site-Hirslanden, Bern	3	1	2	2	0	0	0
Kantonsspital Fribourg	155	112	3	3	0	0	0
Kantonsspital Aarau/Baden	0	0	0	0	0	0	0
Cardiocentro Ticino, Lugano	4	4	8	8	2	2	0
Kantonsspital Luzern	22	15	18	16	4	2	3
Universitätsspital Basel	0	0	0	0	0	0	3
Kantonsspital St. Gallen	0	0	0	0	0	0	3
Stadtpital Triemli, Zürich	6	6	2	2	31	31	0
Hirslandenkliniken ZH	25	20	63	63	11	11	3
Universitätsspital Zürich / Kantonsspital Winterthur/Frauenfeld	-	-	16	16	5	5	5
Inselspital Bern / Herzklinik Sonnenhof Bern	156	0	21	0	1	0	3
Total	479	247	156	131	59	56	23



Table 4. Interventions for structural heart disease in Switzerland 2011

	TASH (n)	MVP (n)	MitraClip (n)	11_TAVI	PVR (n)	PDA (n)	PFO (n)	ASD (n)	VSD (n)	Coarctation (n)	LAA-closure	Other (n)
Clinique de Grangettes, Chêne-Bougeries	0	0	0	0	0	0	1	0	0	0	0	0
Hirslanden Klinik, Aarau	0	0	0	0	0	0	2	0	0	0	0	0
St. Claraspital, Basel	0	0	0	0	0	0	10	2	0	0	0	0
Lindenhofspital, Bern	0	0	0	0	0	0	7	0	0	0	0	0
Clinique de La Source, Lausanne	8	0	0	0	0	0	2	0	0	0	0	0
Klinik St. Anna, Luzern	0	0	0	0	0	0	6	1	0	0	0	0
Hôpital de la Tour, Meyrin	0	0	0	3	0	0	8	0	0	0	0	0
Hôpital de Sion	0	0	0	0	0	0	8	2	0	0	1	0
Herzzentrum Bodensee, Kreuzlingen	0	0	0	0	0	0	10	2	1	0	0	0
Clinique Cecil-Hirslanden, Lausanne	0	2	0	3	0	0	20	2	0	0	0	0
Hôpitaux Universitaires Genève	2	5	0	24	0	1	28	8	0	0	2	4 ¹
Clinique Beau-Site-Hirslanden, Bern	0	0	0	13	0	0	5	1	0	0	0	0
Kantonsspital Fribourg	0	0	0	3	0	0	30	2	0	0	3	0
Kantonsspital Aarau/Baden	0	0	0	0	0	0	20	2	0	0	0	0
Cardiocentro Ticino, Lugano	0	0	8	16	0	0	11	1	0	0	5	15 ²
Kantonsspital Luzern	6	5	9	12	0	1	9	2	2	2	0	8 ³
CHUV, Lausanne	2	5	0	34	1	1	19	15	2	11	3	10 ⁴
Universitätsspital Basel	4	7	6	65	0	0	39	6	0	0	8	5 ⁵
Kantonsspital St. Gallen	1	0	0	0	0	0	34	2	0	0	0	0
Stadtspital Triemli, Zürich	3	6	0	39	0	0	60	12	0	2	4	6 ⁶
Hirslandenkliniken ZH	6	0	5	50	0	0	73	7	1	1	45	15 ⁷
Universitätsspital Zürich / Kantonsspital Winterthur/Frauenfeld	3	5	32	93	13	0	24	14	1	8	7	0
Inselspital Bern / Herzklinik Sonnenhof Bern	6	8	12	146	4	6	201	36	4	3	39	0
Total	41	43	72	501	18	9	626	117	11	27	117	102

¹ Closure of AV fistula (n=1), Interventional treatment of pulmonary embolism (n=3);
² Stemm cell treatment (n=15), LAA-closure (n=5)
³ Interventional treatment of pulmonary embolism
⁴ Interventional closure of paravalvular leaks (n=10)
⁵ not specified
⁶ PTA subclavian artery (n=3), Retrieval of foreign body (n=3)
⁷ stenting of aortic aneurysm



Table 5. TAVI procedures in Switzerland 2011

	TAVI (n)	TAVI transfemoral Corevalve (n)	TAVI transsubclavian CoreValve (n)	TAVI transfemoral Edwards (n)	TAVI transapikal Edwards (n)	TAVI transapikal Jena (n)
Hôpital de la Tour, Meyrin	3	0	0	2	1	0
Clinique Cecil-Hirslanden, Lausanne	3	3	0	0	0	0
Hôpitaux Universitaires Genève	24	22	0	0	2	0
Clinique Beau-Site-Hirslanden, Bern	13	0	0	7	6	0
Kantonsspital Fribourg	3	3	0	0	0	0
Cardiocentro Ticino, Lugano	17	7	2	4	0	0
Kantonsspital Luzern	12	12	0	0	0	0
CHUV, Lausanne	34	0	0	18	16	0
Universitätsspital Basel	65	15	0	27	13	5
Stadtpital Triemli, Zürich	39	22	0	0	17	0
Hirslandenkliniken ZH	50	4	0	46	0	0
Universitätsspital Zürich / Kantonsspital Winterthur/Frauenfeld	93	0	0	0	0	0
Inselspital Bern / Herzklinik Sonnenhof Bern	146	65	0	58	23	0
Total	502	153	2	162	82	5