

SWISS STATISTICS OF CATHETER ABLATIONS 2024



Schweizerische Stiftung für Rhythmologie
Fondation Suisse de Rythmologie
Fondazione Svizzera di Ritmologia

Overview

Ablation centers	33
Included in this statistic	29
Number of patients	11253
Number of interventions*	11813
thereof number of EPS	558
Number of ablations	13072

** All completely recorded and non-aborted interventions are evaluated.*

Ablation Centers

Clinic No.	Center	Interventions/ thereof incomplete	thereof aborted	Ablations*
101	Universitätsspital Basel	1257 / 0 (0%)	1	1291
102	Inselspital Bern	1715 / 0 (0%)	0	1942
103	Hôpital Cantonal Universitaire de Genève	412 / 0 (0%)	2	473
104	Centre Hospitalier Universitaire Vaudois (CHUV)	451 / 1 (0%)	3	472
105	Universitätsspital Zürich	594 / 0 (0%)	0	556
106	Universitäts-Kinderkliniken Zürich	76 / 0 (0%)	1	71
201	Kantonsspital Aarau	210 / 0 (0%)	2	195
202	Kantonsspital Baden	178 / 0 (0%)	1	190
211	Hôpital Fribourgeois	243 / 0 (0%)	0	274
214	HerzZentrum & Rhythmologie Hirslanden, Zürich	393 / 0 (0%)	4	593
216	Istituto Cardiocentro Ticino	265 / 0 (0%)	1	288
217	Kantonsspital Luzern, Sursee und Wolhusen	610 / 0 (0%)	3	631
218	Klinik St. Anna, Luzern	501 / 1 (0%)	0	543
220	Hôpital de la Tour	353 / 0 (0%)	0	421
228	Hôpital de Sion	79 / 0 (0%)	3	77
230	Solothurner Spitäler AG	299 / 0 (0%)	0	304
231	Kantonsspital St. Gallen	476 / 0 (0%)	3	499
233	GZO Spital Wetzikon	204 / 0 (0%)	0	201
234	Kantonsspital Winterthur	200 / 0 (0%)	0	249
236	Stadtspital Triemli, Zürich	534 / 0 (0%)	0	606
239	Klinik Beau-Site Bern	626 / 0 (0%)	1	647
241	HerzKlinik Hirslanden, Zürich	377 / 0 (0%)	0	377
246	Hirslandenklinik Aarau	321 / 0 (0%)	1	329
250	Klinik Im Park, Zürich	728 / 0 (0%)	6	1036
251	Herz-Neuro-Zentrum Bodensee	30 / 0 (0%)	1	31
267	Clinique Cécil	372 / 0 (0%)	0	431
278	Centre de Cardiologie du Valais	66 / 0 (0%)	0	65
284	Clinique de Genolier	146 / 0 (0%)	1	141
288	Herz&Rhythmus Zentrum	134 / 0 (0%)	1	139
Total	29	11850 / 2 (0%)	35	13072

* Only ablations of completely recorded and non-aborted interventions are evaluated.

Omissions

4 centers that did not report data to SwissEPnet and are therefore not included in the statistics

No.	Center
209	Kantonsspital Graubünden, Chur
268	Clinique des Grangettes
287	HerzGefässKlinik Bethanien
292	Herzklinik Kreuzlingen
Total	4

Ablation centers

18 centers with more than 250 interventions

Interventions and Ablations

according to number of interventions

No.	Center	Interventions	thereof aborted	Ablations
102	Inselspital Bern	1715	0	1942
101	Universitätsspital Basel	1257	1	1291
250	Klinik Im Park, Zürich	728	6	1036
239	Klinik Beau-Site Bern	626	1	647
217	Kantonsspital Luzern, Sursee und Wolhusen	610	3	631
105	Universitätsspital Zürich	594	0	556
236	Stadtspital Triemli, Zürich	534	0	606
218	Klinik St. Anna, Luzern	500	0	543
231	Kantonsspital St. Gallen	476	3	499
104	Centre Hospitalier Universitaire Vaudois (CHUV)	450	3	472
103	Hôpital Cantonal Universitaire de Genève	412	2	473
214	HerzZentrum & Rhythmologie Hirslanden, Zürich	393	4	593
241	HerzKlinik Hirslanden, Zürich	377	0	377
267	Clinique Cécil	372	0	431
220	Hôpital de la Tour	353	0	421
246	Hirslandenklinik Aarau	321	1	329
230	Solothurner Spitäler AG	299	0	304
216	Istituto Cardiocentro Ticino	265	1	288
Total	18	10282	25	11439

Ablation Procedures

according to number of interventions

No.	Center	AF	RAFlu	LAFlu	AT	AP	AVNRT	VT	PVC	AVN	AVN(R)	CN	Other
102	Inselspital Bern	946	435	119	35	39	161	46	88	18	51	3	1
101	Universitätsspital Basel	735	171	9	36	26	137	49	59	6	58	2	3
250	Klinik Im Park, Zürich	477	310	28	40	13	103	23	22	2	14	0	4
239	Klinik Beau-Site Bern	363	117	30	25	10	52	5	26	1	17	0	1
217	Kantonsspital Luzern, Sursee und Wolhusen	364	84	19	16	19	68	16	31	4	10	0	0
105	Universitätsspital Zürich	211	77	16	30	14	79	46	57	14	2	7	3
236	Stadtspital Triemli, Zürich	298	112	29	23	15	77	3	9	1	39	0	0
218	Klinik St. Anna, Luzern	312	81	10	15	19	63	3	27	4	9	0	0
231	Kantonsspital St. Gallen	279	90	12	9	16	63	8	8	0	10	3	1
104	Centre Hospitalier Universitaire Vaudois (CHUV)	158	81	29	25	26	54	39	27	4	26	1	2
103	Hôpital Cantonal Universitaire de Genève	164	124	47	17	19	42	13	13	5	27	2	0
214	HerzZentrum & Rhythmologie Hirslanden, Zürich	237	177	16	28	12	58	7	27	4	23	1	3
241	HerzKlinik Hirslanden, Zürich	199	73	1	14	10	49	3	18	9	1	0	0
267	Clinique Cécil	176	81	10	11	12	56	1	15	12	54	2	1
220	Hôpital de la Tour	184	87	20	18	11	43	6	12	9	29	1	1
246	Hirslandenklinik Aarau	182	51	7	11	7	46	0	7	3	15	0	0
230	Solothurner Spitäler AG	136	52	3	22	3	34	10	24	3	17	0	0
216	Istituto Cardiocentro Ticino	154	59	3	7	10	28	9	12	1	5	0	0
Total	18	5575	2262	408	382	281	1213	287	482	100	407	22	20

Ablation centers

7 centers with 100 to 250 interventions

Interventions and Ablations

according to number of interventions

No.	Center	Interventions	thereof aborted	Ablations
211	Hôpital Fribourgeois	243	0	274
201	Kantonsspital Aarau	210	2	195
233	GZO Spital Wetzikon	204	0	201
234	Kantonsspital Winterthur	200	0	249
202	Kantonsspital Baden	178	1	190
284	Clinique de Genolier	146	1	141
288	Herz&Rhythmus Zentrum	134	1	139
Total	7	1315	5	1389

Ablation Procedures

according to number of interventions

No.	Center	AF	RAFlu	LAFlu	AT	AP	AVNRT	VT	PVC	AVN	AVN(R)	CN	Other
211	Hôpital Fribourgeois	112	44	10	2	15	45	3	13	8	22	0	0
201	Kantonsspital Aarau	113	19	4	0	1	23	6	13	0	11	0	5
233	GZO Spital Wetzikon	100	47	2	9	1	26	1	2	1	8	0	4
234	Kantonsspital Winterthur	117	41	20	3	2	45	1	3	5	12	0	0
202	Kantonsspital Baden	115	38	4	5	1	22	0	0	1	4	0	0
284	Clinique de Genolier	62	65	5	1	3	3	0	0	0	2	0	0
288	Herz&Rhythmus Zentrum	71	13	5	7	2	13	1	10	1	16	0	0
Total	7	690	267	50	27	25	177	12	41	16	75	0	9

Ablation centers

4 centers with less than 100 interventions

Interventions and Ablations

according to number of interventions

No.	Center	Interventions	thereof aborted	Ablations
228	Hôpital de Sion	79	3	77
106	Universitäts-Kinderkliniken Zürich	76	1	71
278	Centre de Cardiologie du Valais	66	0	65
251	Herz-Neuro-Zentrum Bodensee	30	1	31
Total	4	251	5	244

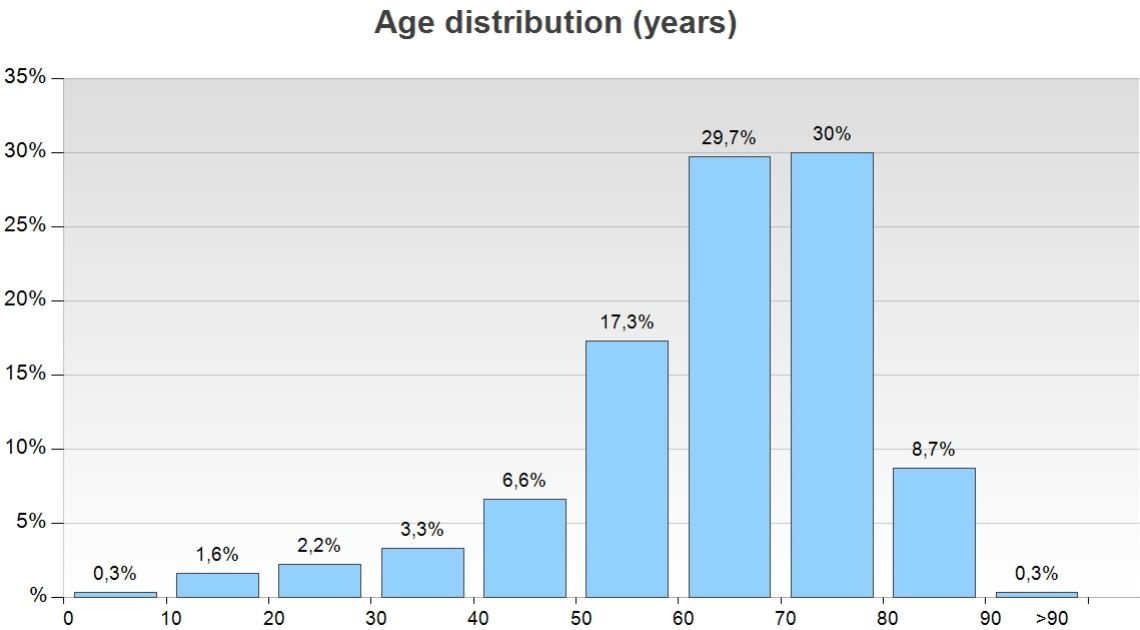
Ablation procedures

according to number of interventions

No.	Center	AF	RAFlu	LAFlu	AT	AP	AVNRT	VT	PVC	AVN	AVN(R)	CN	Other
228	Hôpital de Sion	4	25	1	5	5	26	0	0	3	8	0	0
106	Universitäts-Kinderkliniken Zürich	0	2	0	2	45	20	1	1	0	0	0	0
278	Centre de Cardiologie du Valais	27	9	0	5	1	11	1	3	1	7	0	0
251	Herz-Neuro-Zentrum Bodensee	17	5	1	2	0	4	0	0	2	0	0	0
Total	4	48	41	2	14	51	61	2	4	6	15	0	0

All ablation types

Number of ablations, not aborted: 13072



Age (years)	min.	Ø	max.
Female	0	65	97
Male	0	64	95
All	0	64	97

Number of patients	n	%
Females	4220	37,5
Males	7033	62,5
Total	11253	

Anesthesia	n	%
Local	7949	67,29
General	3864	32,71
Total	11813	

Combinations of ablations performed during one intervention

Number of interventions										11255
AF										4848
				AVNRT						1319
		RAFlu								1256
AF		RAFlu								1061
					PVC					502
						AVN(R)				483
			AP							339
				VT						293
			AT							263
		LAFIu								154
AF		LAFIu								135
						AVN				113
AF		LAFIu	RAFlu							88
AF				AT						53
		LAFIu	RAFlu							50
AF				AVNRT						42
AF		RAFlu		AT						31
			AT		AVNRT					24
							CN			20
AF		RAFlu		AVNRT						20
			RAFlu	AT						20
			RAFlu		AVNRT					20
								Other		20
		LAFIu		AT						12
			AP	AVNRT						11
						AVN	AVN(R)			8
				AVNRT		PVC				7
AF						PVC				5
AF		LAFIu		AT						5
		LAFIu	RAFlu	AT						5
AF		LAFIu	RAFlu	AT						4
AF				AP						4
AF		RAFlu				PVC				4
				VT	PVC					3
				AVNRT				Other		3
		RAFlu					AVN(R)			2
AF				VT						2
		RAFlu		AP						2
AF							AVN(R)			2
AF			AT		AVNRT					1
AF		RAFlu		AP						1
AF		LAFIu					AVN			1
			AT			PVC				1
		LAFIu			AVNRT					1
				AVNRT	VT					1
AF								Other		1
			AT				AVN(R)			1
		LAFIu				PVC				1
						PVC		Other		1
		RAFlu	AT		AVNRT					1
							CN	Other		1
AF		LAFIu	RAFlu			PVC				1
			RAFlu					Other		1
AF			RAFlu				CN			1
			AT					Other		1
AF		RAFlu			AVNRT		PVC			1
			RAFlu		VT					1
		LAFIu					AVN(R)			1
AF		LAFIu				PVC				1
AF		LAFIu						Other		1
			AT			VT				1

Only completely documented and non-aborted interventions are counted.

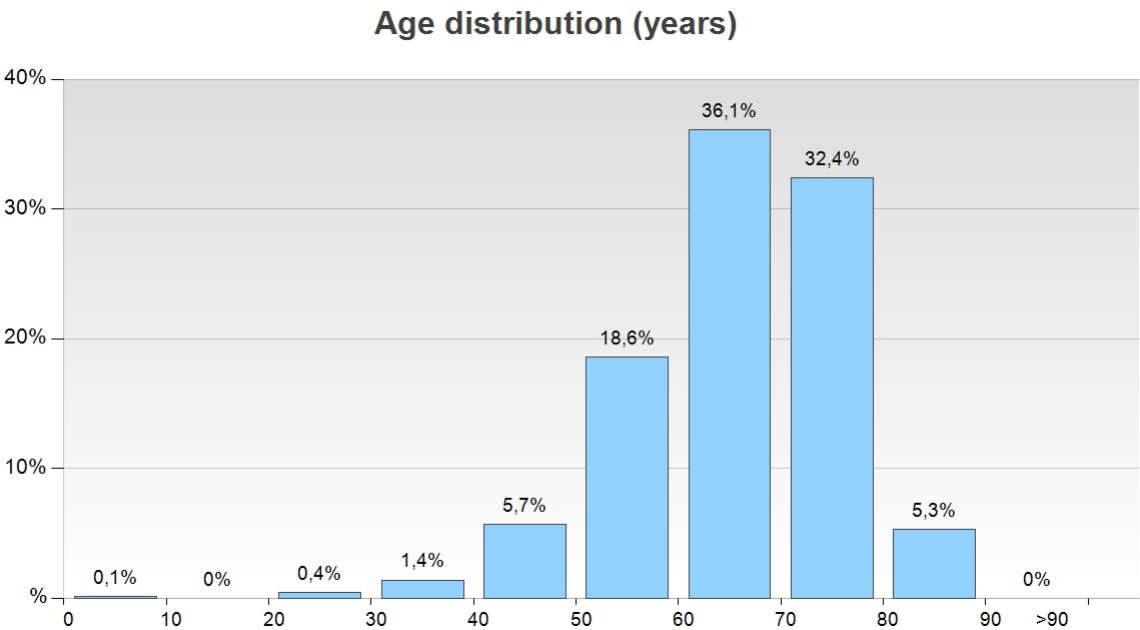
Ablation procedures or EPS

Atrial Fibrillation	6313	Right Atrial Flutter	2570
Paroxysmal	4015	Cavotricuspid	2505
Persistent	2208	Scar Related	79
Long-standing Persistent	90	Other	31
Left Atrial Flutter	460	Atrial Tachycardia	423
Roof-dependent	188	AVNRT	1451
Perimitral	195	Slow-Fast	1322
Peri-Incisional	24	Fast-Slow	64
Peri Ostial Pulm. Vein	23	Slow-Slow	81
Other	162		
Accessory Pathway	357	VT	301
Concealed	116	Monomorphic	258
WPW	203	Polymorphic	46
Asymptomatic Preexcitation	34	RVOT / Cusp / PA	59
Atrio-Fascicular	5	Tricuspid Annulus	14
PJRT	5	Right Pap Muscle	3
Mahaim	3	Parahisian	3
Other	5	BB Reentry	3
AVN (to Resync.)	122	LVOT / Cusp	64
AVN (Rate Control)	497	Mitral Annulus	37
Paroxysmal	99	Fascicular	11
Persistent	273	Left Pap Muscle	17
Long-standing Persistent	125	Epicardial LV / RV	16
Cardioneuro Ablation	22	Other	142
Other Arrhythmia	29	PVC	527
PAC	9	Monomorphic	472
JET	6	Polymorphic	55
SNT	1	Ischemic	10
Other	13	RVOT	232
		LVOT / Aortic Cusp	187
		Left Fascicular VT	10
		HP System	7
		Other	142
		EPS only	558

Atrial Fibrillation

Ablation of Atrial Fibrillation (AF)	n
All interventions	6313
AF combined with others	1465
AF combined with RAFLa	1061
AF only	4848

The following statistics include AF only procedures



Age (years)	min.	Ø	max.
Female	19	69	90
Male	0	65	91
All	0	66	91

Number of patients	n	%
Females	1577	33,21
Males	3171	66,79
Total	4748	

Atrial Fibrillation

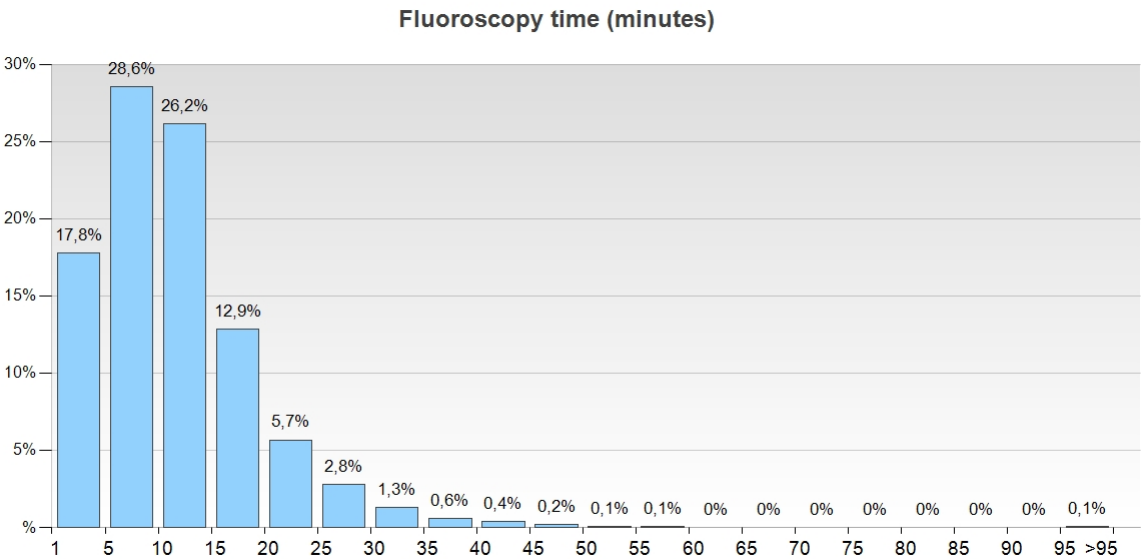
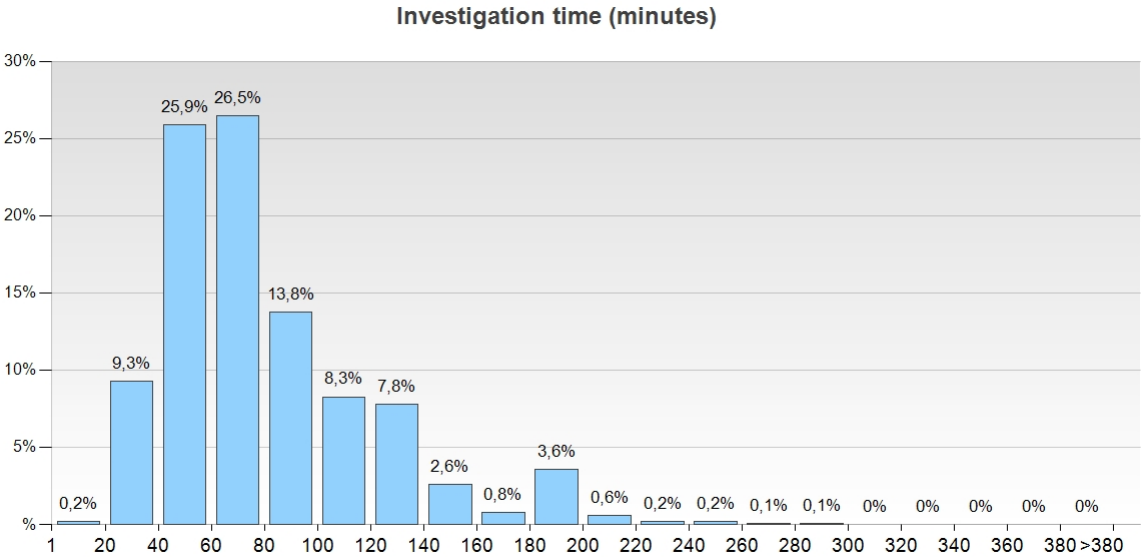
Cardiopathy (Underlying heart disease)	n	%
None	2894	59,69
Hypertensive Cardiomyopathy	573	11,82
Ischemic	396	8,17
Tachycardiomyopathy	390	8,04
Valvular	227	4,68
Dilated	129	2,66
Other	89	1,84
H(O)CM	74	1,53
Congenital	25	0,52
Infiltrative	15	0,31
Post Valvular Surgery	14	0,29
Angioplasty	8	0,17
CABG	6	0,12
Post Congenital Surgery	3	0,06
Brugada Syndrome	2	0,04
RV Cardiomyopathy	2	0,04
Channelopathy long QT	1	0,02
Channelopathy short QT	0	0
Early Repolarization Syndrome	0	0
Catecholaminergic Polymorphic VT	0	0
Total	4848	

Symptoms	n
Palpitations	3974
Dyspnea	1181
Fatigue	735
Dizziness	324
Other	282
None	279
Syncope	132
Angina Pectoris	71
SCD	2

Atrial Fibrillation

Anesthesia	n	%
Local	2568	52,97
General	2280	47,03
Total	4848	

Minutes	min.	Ø	max.	n	n ₀ *
Investigation time	5	78,2	491	4848	0
Fluoroscopy time	1	11,5	484	4699	149



Atrial Fibrillation

Type of AF	n	%
Paroxysmal	3124	64,44
Persistent	1661	34,26
Long-standing Persistent (>1 Year)	63	1,3

EHRA-Score	n	%
Score I	383	7,9
Score II	2946	60,77
Score III	1399	28,86
Score IV	120	2,48

Type of Intervention	n	%
Percutaneous	4847	99,98
Hybrid (Epicardial + Endovascular)	1	0,02
Surgical Ablation	0	0

Intervention	n	%
Primary Intervention	3893	80,3
Redo	955	19,7

Antiarrhythmic Drugs	n
Beta Blocker	3373
None	899
Amiodarone	820
Flecainide	324
Calcium Antagonist	130
Sotalol	79
Dronedarone	36
Other	28
Propafenone	11
Digitalis	10

Thromboembolic Risk Factors	n
Hypertension	2247
Diabetes	439
Congestive Heart Failure, LV dysfunction	399
Prior MI, Per. Artery Disease, Aortic Plaque	373
Stroke, TIA, Other Embolic Event	237

Atrial Fibrillation

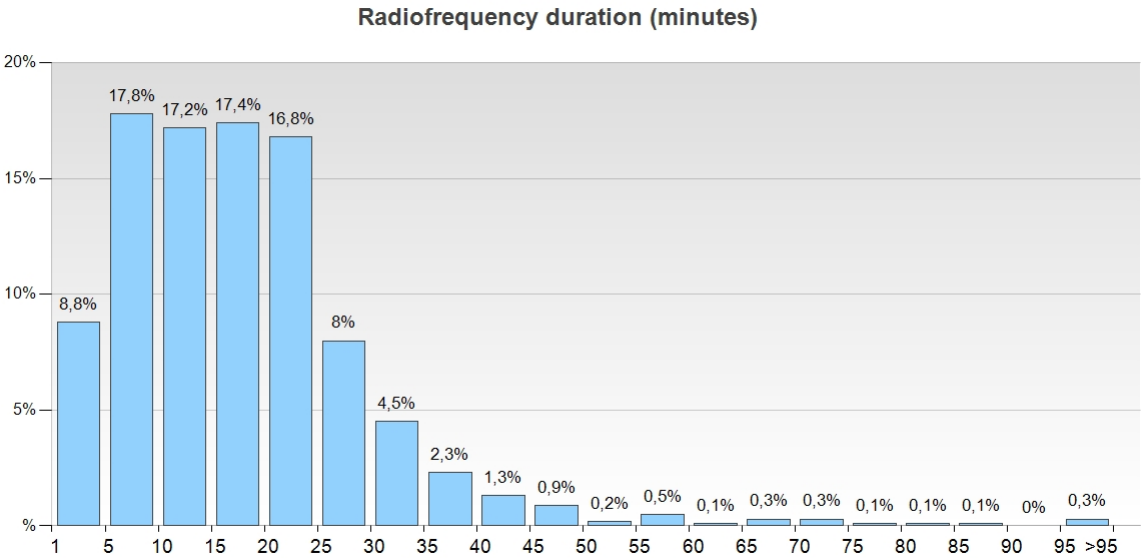
Anticoagulation, Antiaggregation	n
Factor Xa-Antagonist	4388
None	273
Direct Thrombin Inhibitor	81
Vitamin K-Antagonist	80
Clopidogrel	32
Aspirin	24
Other	17
Prasugrel	2
Ticagrelor	1

CHA₂DS₂-VASc Score	n
Score = 0	764
Score = 1	1225
Score = 2	1277
Score = 3	939
Score = 4	455
Score = 5	133
Score = 6	43
Score = 7	11
Average Score	1,94

Site of Ablation	n
RSPV	4434
LSPV	4419
LIPV	4384
RIPV	4364
Other Lines	252
Roof Line	220
RMPV	129
Non-PV Focus	108
CFAE	57
Mitral Isthmus Line	56
SVC	43
Other Veins	43
Vein of Marshall	23
Septal Line	14

Atrial Fibrillation

Radiofrequency	min.	Ø	max.	n	n ₀ *
Duration (minutes)	1	18	270	1453	44
Irrigated Technology				1322	
RF Duty Cycled				94	



Atrial Fibrillation

Cryoablation	min.	Ø	max.	n	n₀*
Total Duration (minutes)	4	23	900	716	84

	n
Additional RF or Cryo Cath Needed	4

	n
Laser ablation	2

	n
Contact force	642

	n
Pulsed field	2487

	n
Ethanol	8

	n
Radio ablation	0

Access	n	%
Trans-septal, Puncture	4539	93,63
Trans-septal, PFO	306	6,31
Other	3	0,06
Venous	0	0
Arterial	0	0
Epicardial, Coronary Sinus	0	0
Epicardial, Thoracotomy	0	0
Epicardial, Thoracoscopy	0	0
Epicardial, Sub-xiphoid	0	0
Trans-septal Puncture+arterial	0	0
Total	4848	

Atrial Fibrillation

Mapping	n	%
3D Mapping	2328	48,02
Conventional	1606	33,13
Lasso	666	13,74
Basket	216	4,46
HD Mesh	27	0,56
Non Contact	5	0,1
Other	0	0
Total	4848	

Catheter Steering	n	%
Conventional	4838	99,79
Stereotaxis	8	0,17
Other	2	0,04
Hansen	0	0
Total	4848	

Results	n
All Veins Isolated	4823
Roof Line Block Confirmed	113
Mitral Isthmus Line Block Confirmed	34
Not All Veins Isolated	20
Roof Line Block Not Confirmed	6
Mitral Isthmus Line Block Not Confirmed	0

Sinus Rhythm	n
Spontaneous	3044
With Electrical Cardioversion / Stimulation	1353
By Ablation	610
AAD	126
Not Achieved	24

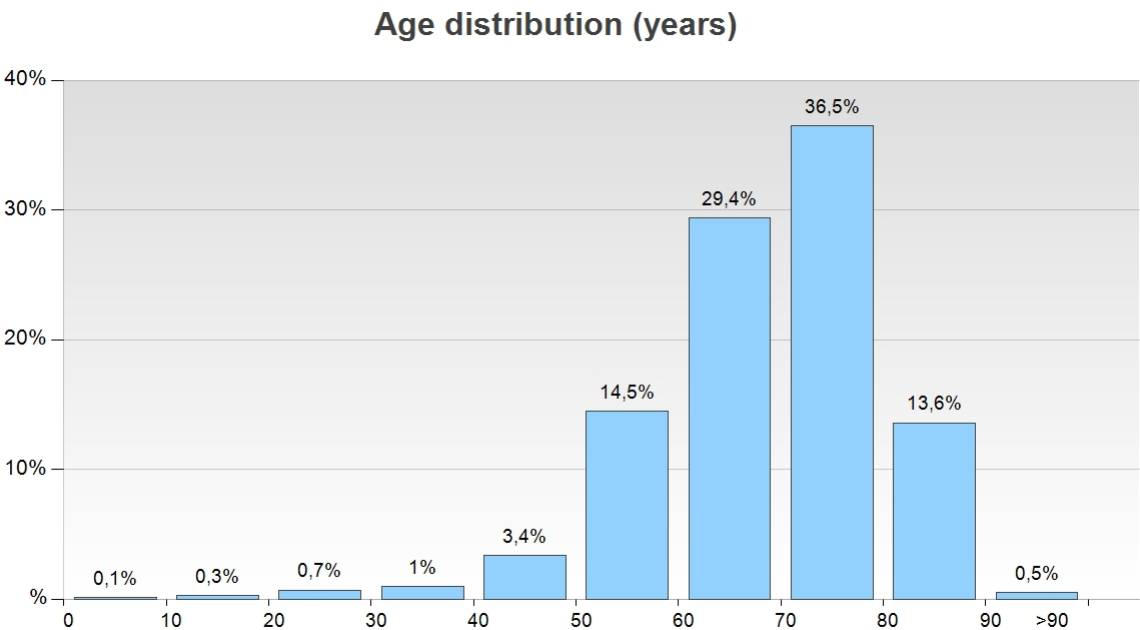
Atrial Fibrillation

Periprocedural Complications	n
No complications	4802
Phrenic Nerve Paralysis	13
Tamponade	11
Other	9
Inguinal Hematoma	5
Pericardial Effusion	4
Stroke	2
Pseudoaneurysm	1
TIA	1
AV Fistula	0
Aortic Dissection	0
Arterial Thrombosis	0
Arterial Occlusion	0
Pulmonary Embolism	0
Myocardial Infarction	0
Pneumothorax	0
Hemothorax	0
Transient AV Block	0
High Degree or Complete AV Block	0
Infection	0
PV Stenosis	0
Valvular Lesion	0
Pulmonary Oedema	0
Death	0

Right Atrial Flutter

Ablation of Right Atrial Flutter (RAFlu)	n
All interventions	2570
RAFlu combined with others	1314
RAFlu only	1256

The following statistics include RAFlu only procedures



Age (years)	min.	Ø	max.
Female	21	70	90
Male	0	69	94
All	0	69	94

Number of patients	n	%
Females	277	22,39
Males	960	77,61
Total	1237	

Right Atrial Flutter

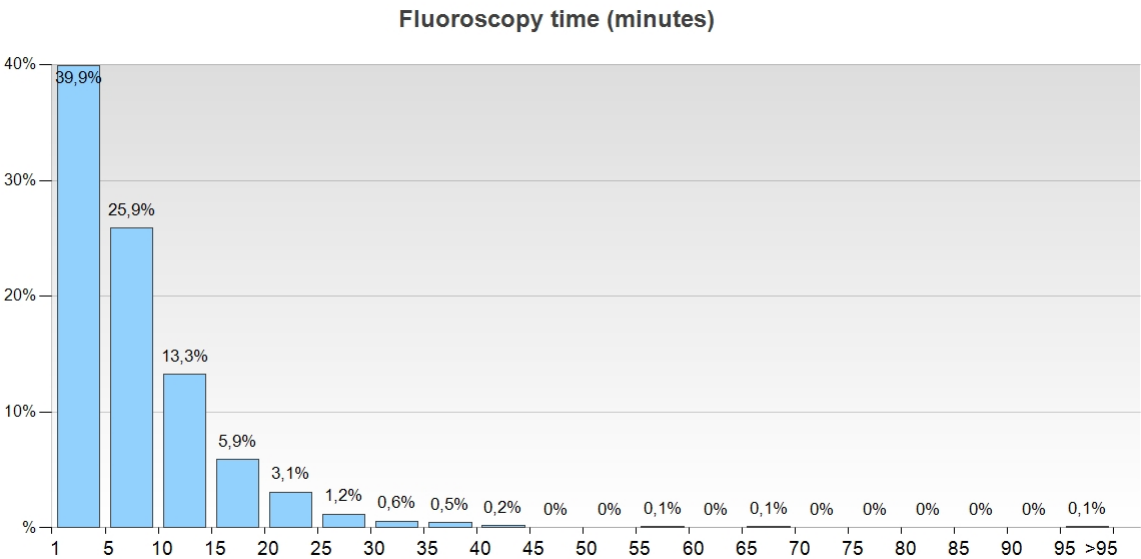
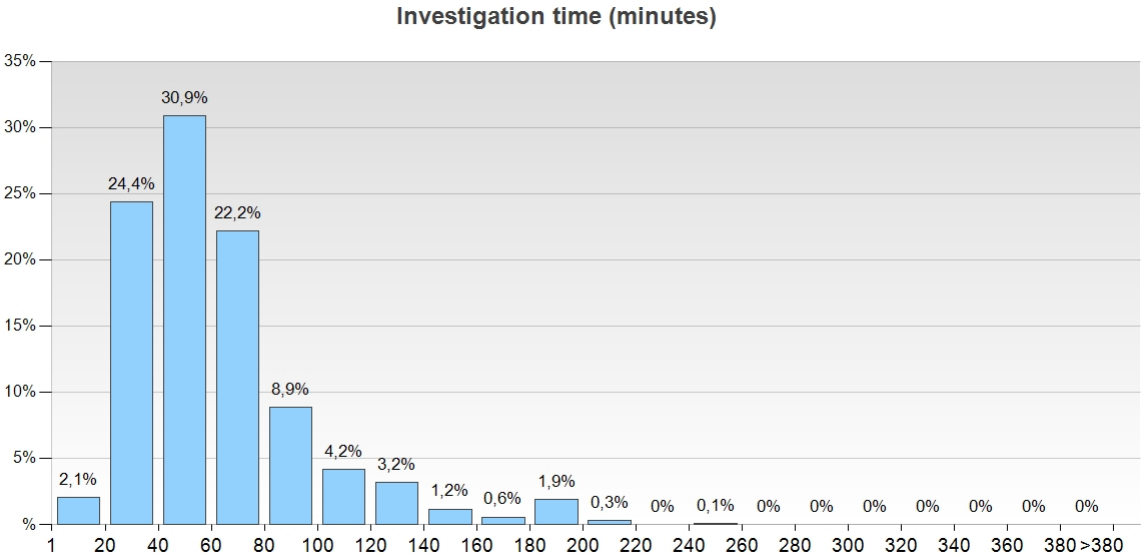
Cardiopathy (Underlying heart disease)	n	%
None	614	48,89
Ischemic	136	10,83
Hypertensive Cardiomyopathy	135	10,75
Valvular	116	9,24
Tachycardiomyopathy	107	8,52
Dilated	39	3,11
Other	35	2,79
Congenital	26	2,07
Post Valvular Surgery	18	1,43
H(O)CM	9	0,72
Post Congenital Surgery	8	0,64
CABG	7	0,56
Infiltrative	5	0,4
RV Cardiomyopathy	1	0,08
Channelopathy long QT	0	0
Channelopathy short QT	0	0
Brugada Syndrome	0	0
Early Repolarization Syndrome	0	0
Catecholaminergic Polymorphic VT	0	0
Angioplasty	0	0
Total	1256	

Symptoms	n
Palpitations	908
Dyspnea	381
Fatigue	233
None	81
Other	79
Dizziness	68
Syncope	25
Angina Pectoris	20
SCD	0

Right Atrial Flutter

Anesthesia	n	%
Local	1071	85,27
General	185	14,73
Total	1256	

Minutes	min.	Ø	max.	n	n ₀ *
Investigation time	1	60	243	1256	0
Fluoroscopy time	1	7,6	185	1140	116



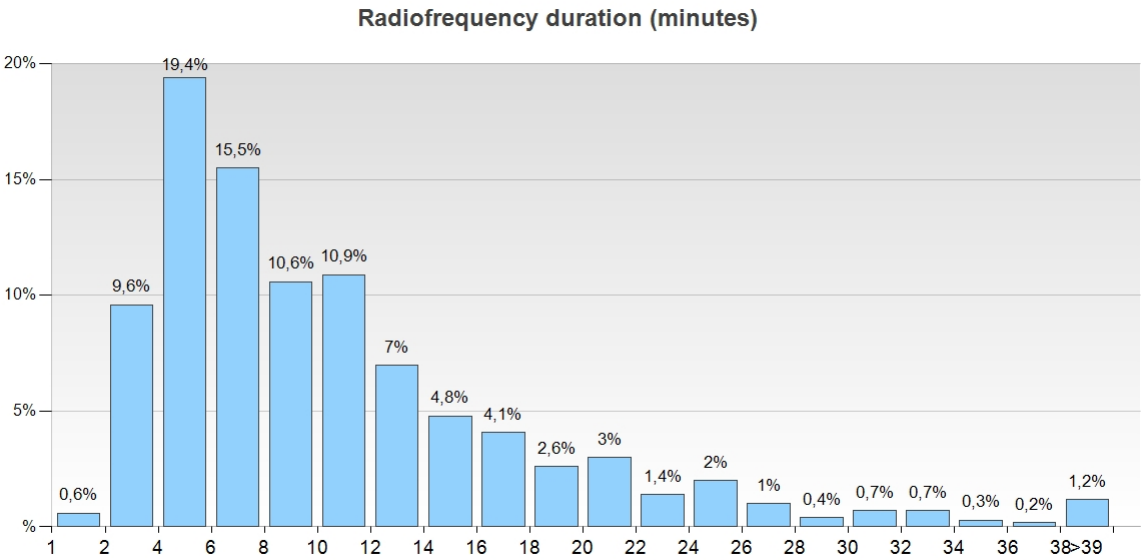
Right Atrial Flutter

Type of Flutter	n
Cavotricuspid	1211
Scar related	57
Other	17

Intervention	n	%
Primary Intervention	1159	92,28
Redo	97	7,72

Right Atrial Flutter

Radiofrequency	min.	Ø	max.	n	n ₀ *
Duration (minutes)	1	10	77	1163	47
Irrigated Technology				900	



Right Atrial Flutter

Cryoablation	min.	Ø	max.	n	n ₀ *
Total Duration (minutes)	1	14	40	45	0

	n
Additional RF or Cryo Cath Needed	0

	n
Contact force	157

	n
Pulsed field	1

	n
Ethanol	0

Access	n	%
Venous	1254	99,84
Epicardial, Thoracotomy	2	0,16
Arterial	0	0
Trans-septal, Puncture	0	0
Trans-septal, PFO	0	0
Epicardial, Coronary Sinus	0	0
Epicardial, Thoracoscopy	0	0
Epicardial, Sub-xiphoid	0	0
Trans-septal Puncture+arterial	0	0
Other	0	0
Total	1256	

Mapping	n	%
3D Mapping	616	49,04
Conventional	615	48,96
Lasso	19	1,51
Basket	3	0,24
Other	2	0,16
HD Mesh	1	0,08
Non Contact	0	0
Total	1256	

Right Atrial Flutter

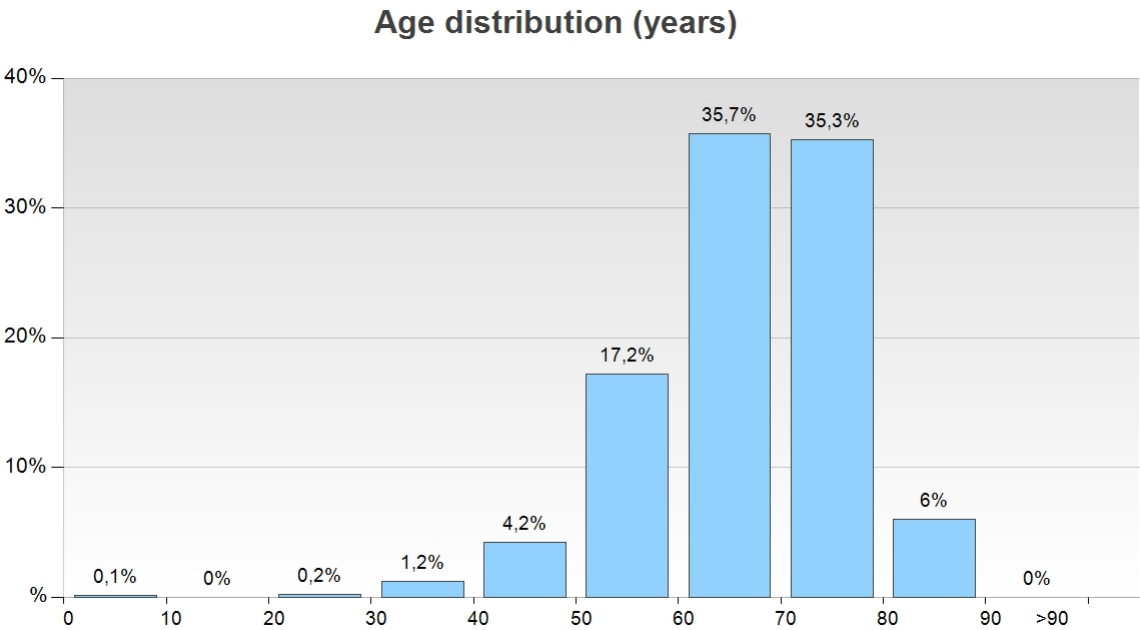
Catheter Steering	n	%
Conventional	1253	99,76
Other	2	0,16
Stereotaxis	1	0,08
Hansen	0	0
Total	1256	

Results	n	%
Block confirmed	1237	98,49
Block not confirmed	19	1,51

Periprocedural Complications	n
No complications	1252
Other	2
Inguinal Hematoma	1
Tamponade	1
AV Fistula	0
Pseudoaneurysm	0
Aortic Dissection	0
Arterial Thrombosis	0
Arterial Occlusion	0
Pulmonary Embolism	0
TIA	0
Stroke	0
Myocardial Infarction	0
Pericardial Effusion	0
Pneumothorax	0
Hemothorax	0
Transient AV Block	0
High Degree or Complete AV Block	0
Phrenic Nerve Paralysis	0
Infection	0
PV Stenosis	0
Valvular Lesions	0
Pulmonary Oedema	0
Death	0

Atrial Fibrillation combined with Right Atrial Flutter

Number of interventions (AF with RAFlu): 1061



Age (years)	min.	Ø	max.
Female	0	69	89
Male	25	66	89
All	0	67	89

Number of patients	n	%
Females	313	29,61
Males	744	70,39
Total	1057	

Atrial Fibrillation combined with Right Atrial Flutter

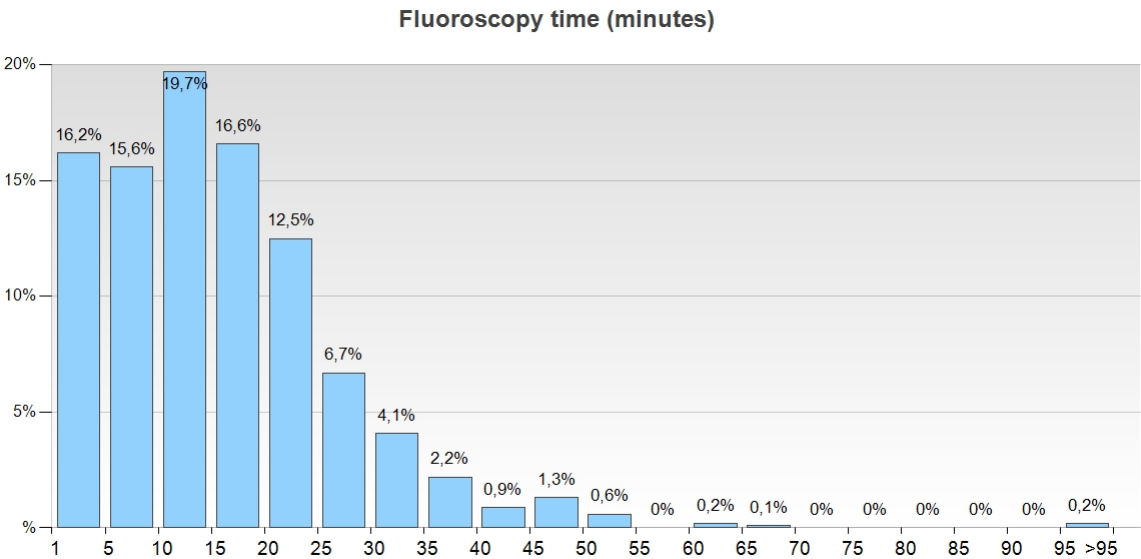
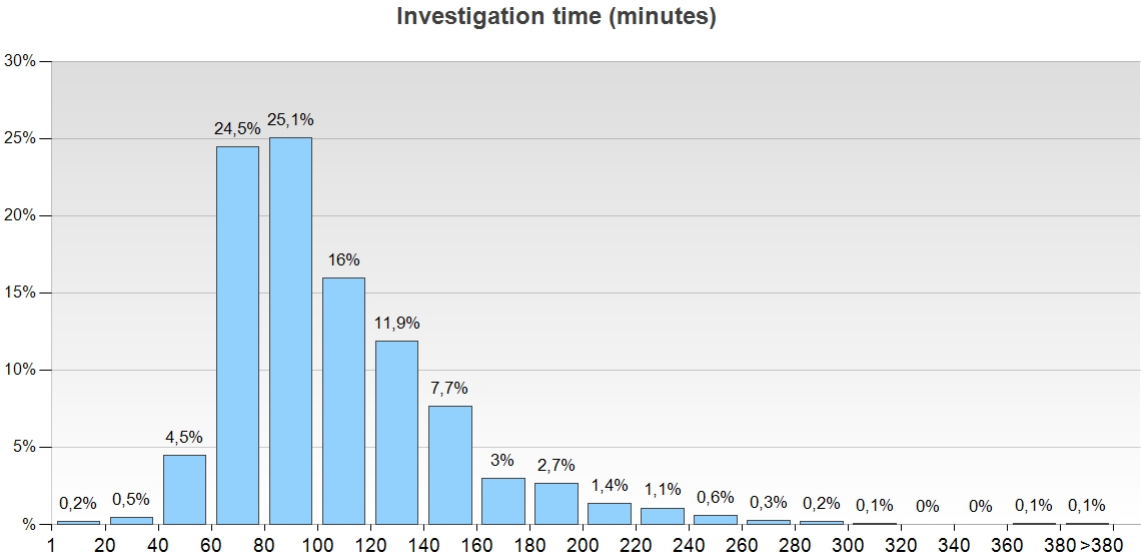
Cardiopathy (Underlying heart disease)	n	%
None	612	57,68
Tachycardiomyopathy	104	9,8
Hypertensive Cardiomyopathy	90	8,48
Valvular	78	7,35
Ischemic	71	6,69
Other	42	3,96
Angioplasty	29	2,73
Dilated	17	1,6
H(O)CM	9	0,85
Infiltrative	5	0,47
Post Valvular Surgery	2	0,19
Post Congenital Surgery	1	0,09
Congenital	1	0,09
Channelopathy long QT	0	0
Channelopathy short QT	0	0
Brugada Syndrome	0	0
Early Repolarization Syndrome	0	0
Catecholaminergic Polymorphic VT	0	0
RV Cardiomyopathy	0	0
CABG	0	0
Total	1061	

Symptoms	n
Palpitations	929
Fatigue	405
Dyspnea	237
Dizziness	65
Other	58
Syncope	24
None	23
Angina Pectoris	8
SCD	0

Atrial Fibrillation combined with Right Atrial Flutter

Anesthesia	n	%
Local	455	42,88
General	606	57,12
Total	1061	

Minutes	min.	Ø	max.	n	n ₀ *
Investigation time	3	104,1	406	1061	0
Fluoroscopy time	1	15,8	443	1028	33



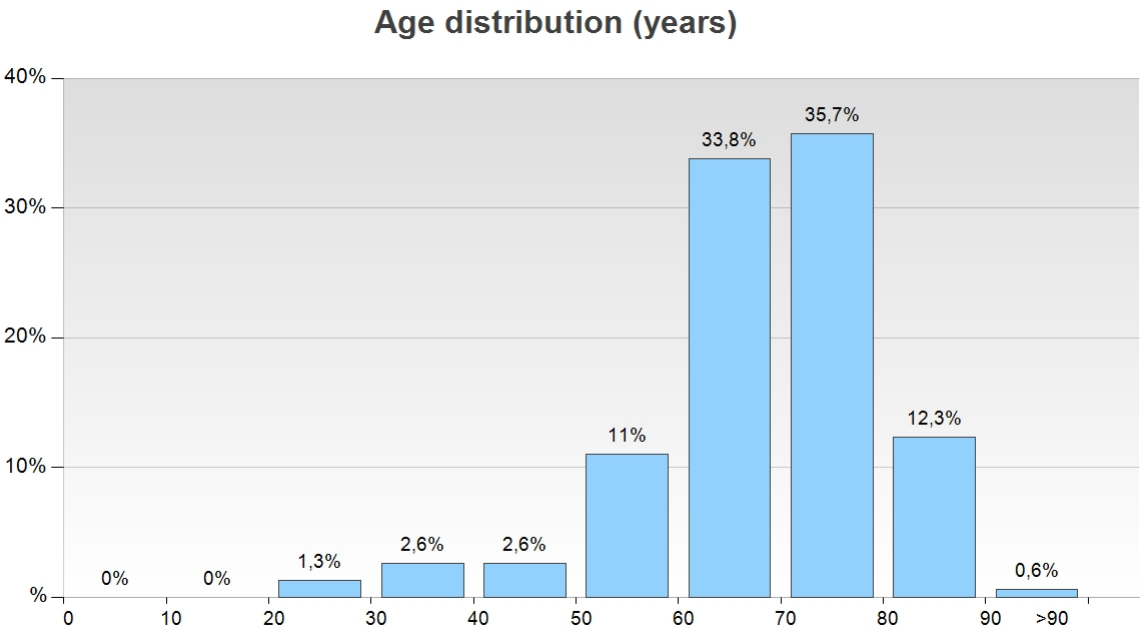
Atrial Fibrillation combined with Right Atrial Flutter

Periprocedural Complications	n
No complications	1047
Other	6
Tamponade	4
Pericardial Effusion	2
Inguinal Hematoma	1
Transient AV Block	1
AV Fistula	0
Pseudoaneurysm	0
Aortic Dissection	0
Arterial Thrombosis	0
Arterial Occlusion	0
Pulmonary Embolism	0
TIA	0
Stroke	0
Myocardial Infarction	0
Pneumothorax	0
Hemothorax	0
High Degree or Complete AV Block	0
Phrenic Nerve Paralysis	0
Infection	0
PV Stenosis	0
Valvular Lesions	0
Pulmonary Oedema	0
Death	0

Left Atrial Flutter

Ablation of Left Atrial Flutter (LAFlu)	n
All interventions	460
LAFlu combined with others	306
LAFlu only	154

The following statistics include LAFlu only procedures



Age (years)	min.	Ø	max.
Female	35	72	87
Male	25	67	92
All	25	68	92

Number of patients	n	%
Females	50	32,89
Males	102	67,11
Total	152	

Left Atrial Flutter

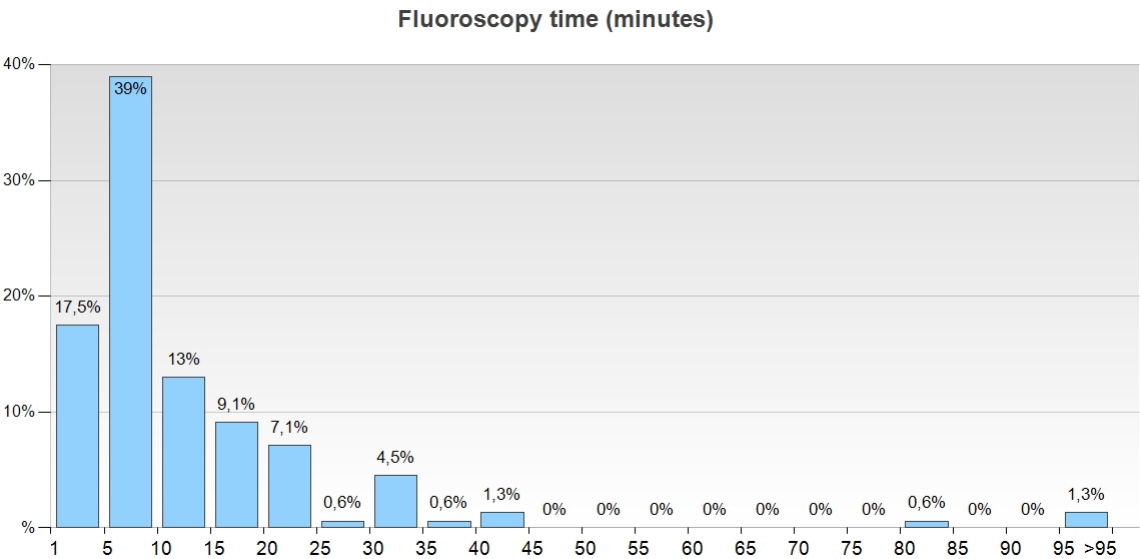
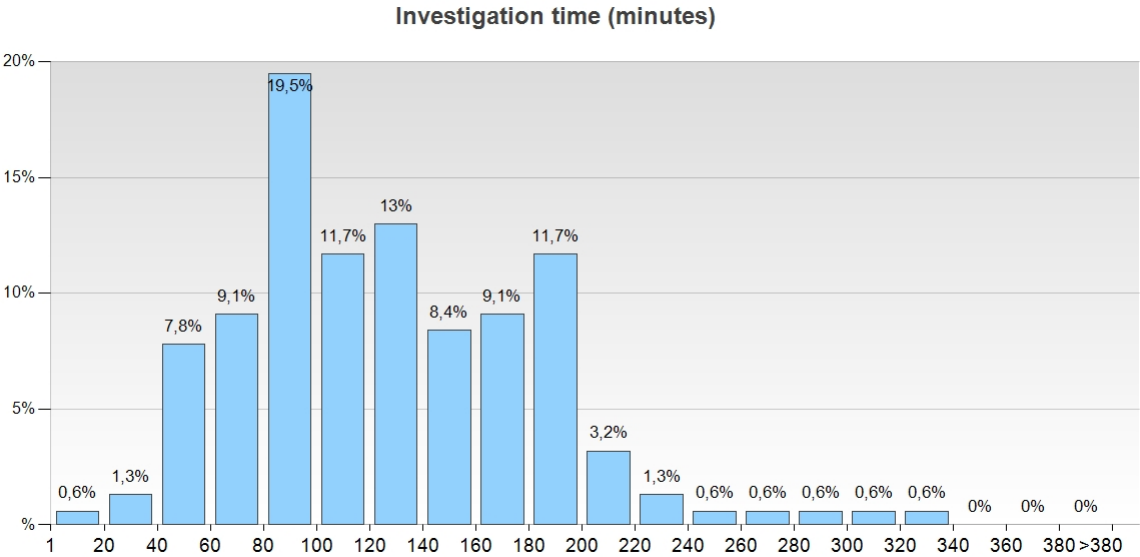
Cardiopathy (Underlying heart disease)	n	%
None	53	34,42
Hypertensive Cardiomyopathy	23	14,94
Tachycardiomyopathy	22	14,29
Valvular	21	13,64
Ischemic	13	8,44
Other	6	3,9
Dilated	6	3,9
Congenital	5	3,25
Post Valvular Surgery	2	1,3
H(O)CM	1	0,65
Infiltrative	1	0,65
Angioplasty	1	0,65
Channelopathy long QT	0	0
Channelopathy short QT	0	0
Brugada Syndrome	0	0
Early Repolarization Syndrome	0	0
Catecholaminergic Polymorphic VT	0	0
RV Cardiomyopathy	0	0
CABG	0	0
Post Congenital Surgery	0	0
Total	154	

Symptoms	n
Palpitations	118
Dyspnea	55
Fatigue	34
Dizziness	16
Other	11
None	4
Syncope	3
Angina Pectoris	1
SCD	0

Left Atrial Flutter

Anesthesia	n	%
Local	70	45,45
General	84	54,55
Total	154	

Minutes	min.	Ø	max.	n	n ₀ *
Investigation time	17	125,4	320	154	0
Fluoroscopy time	1	14,2	234	146	8



Left Atrial Flutter

Type of Flutter	n
Perimitral	67
Roof-dependent	55
Other	55
Peri Ostial Pulmonary Vein	12
Peri-Incisional	5

EHRA-Score	n	%
Score I	14	9,09
Score II	80	51,95
Score III	58	37,66
Score IV	2	1,3

Type of Intervention	n	%
Percutaneous	153	99,35
Hybrid (Epicardial + Endovascular)	0	0
Surgical Ablation	1	0,65

Intervention	n	%
Primary Intervention	67	43,51
Redo	87	56,49

Antiarrhythmic Drugs	n
Beta Blocker	128
Amiodarone	26
None	12
Calcium Antagonist	10
Sotalol	5
Flecainide	4
Dronedarone	1
Other	1
Propafenone	0
Digitalis	0

Left Atrial Flutter

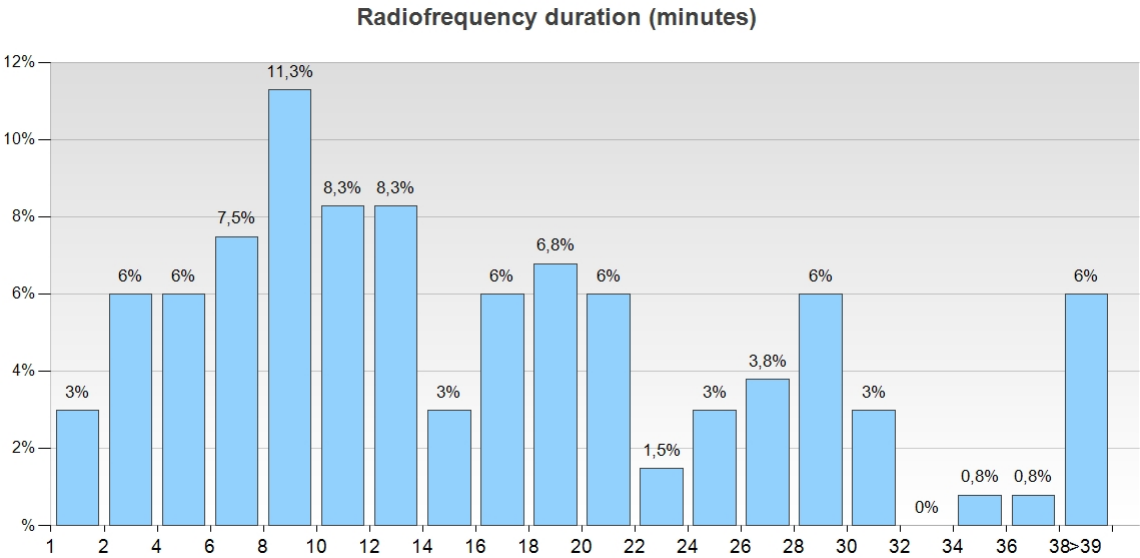
Thromboembolic Risk Factors	n
Hypertension	75
Congestive Heart Failure, LV dysfunction	25
Diabetes	19
Prior MI, Per. Artery Disease, Aortic Plaque	17
Stroke, TIA, Other Embolic Event	10

Anticoagulation, Antiaggregation	n
Factor Xa-Antagonist	125
Vitamin K-Antagonist	10
Direct Thrombin Inhibitor	9
None	8
Aspirin	3
Clopidogrel	1
Prasugrel	0
Ticagrelor	0
Other	0

CHA₂DS₂-VASc Score	n
Score = 0	18
Score = 1	27
Score = 2	36
Score = 3	41
Score = 4	24
Score = 5	5
Score = 6	2
Score = 7	1
Average Score	2,35

Left Atrial Flutter

Radiofrequency	min.	Ø	max.	n	n ₀ *
Duration (minutes)	1	17	105	130	3
Irrigated Technology				113	
RF Duty Cycled				0	



Left Atrial Flutter

Cryoablation	min.	Ø	max.	n	n ₀ *
Total Duration (minutes)	9	9	9	1	0

	n
Laser ablation	0

	n
Contact force	39

	n
Pulsed field	29

	n
Ethanol	3

Access	n	%
Trans-septal, Puncture	135	87,66
Trans-septal, PFO	14	9,09
Arterial	4	2,6
Other	1	0,65
Venous	0	0
Epicardial, Coronary Sinus	0	0
Epicardial, Thoracotomy	0	0
Epicardial, Thoracoscopy	0	0
Epicardial, Sub-xiphoid	0	0
Trans-septal Puncture+arterial	0	0
Total	154	

Mapping	n	%
3D Mapping	132	85,71
Conventional	15	9,74
HD Mesh	4	2,6
Basket	2	1,3
Lasso	1	0,65
Non Contact	0	0
Other	0	0
Total	154	

Left Atrial Flutter

Catheter Steering	n	%
Conventional	154	100
Stereotaxis	0	0
Hansen	0	0
Other	0	0
Total	154	

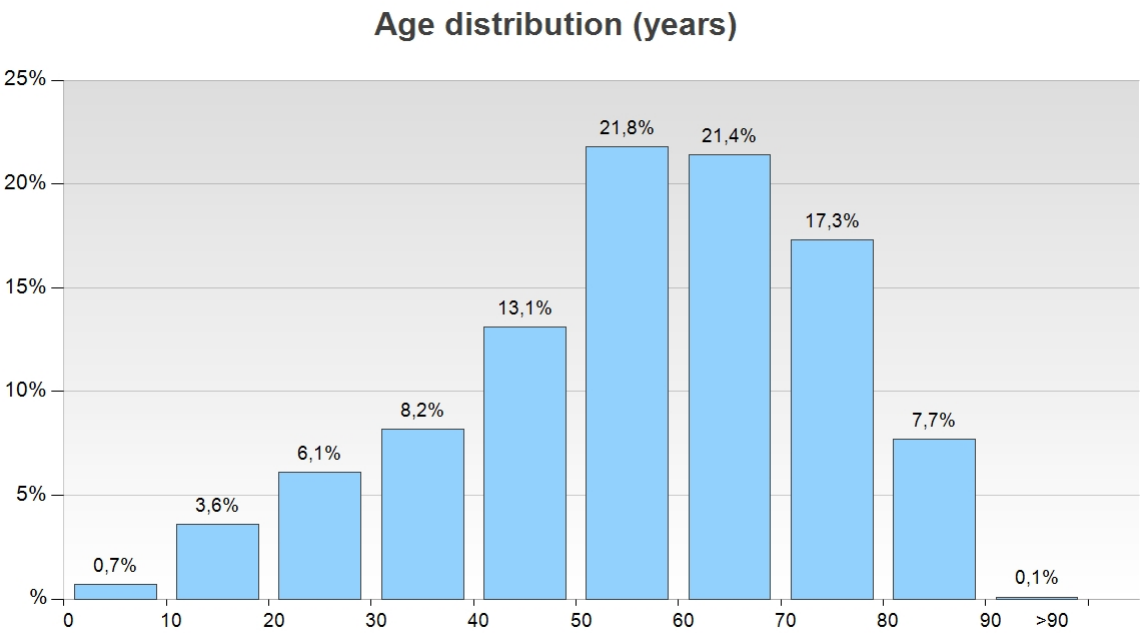
Results	n	%
Block confirmed	144	93,51
Block not confirmed	10	6,49

Periprocedural Complications	n
No complications	150
Inguinal Hematoma	1
Pericardial Effusion	1
Tamponade	1
Other	1
AV Fistula	0
Pseudoaneurysm	0
Aortic Dissection	0
Arterial Thrombosis	0
Arterial Occlusion	0
Pulmonary Embolism	0
TIA	0
Stroke	0
Myocardial Infarction	0
Pneumothorax	0
Hemothorax	0
Transient AV Block	0
High Degree or Complete AV Block	0
Phrenic Nerve Paralysis	0
Infection	0
PV Stenosis	0
Valvular Lesions	0
Pulmonary Oedema	0
Death	0

Atrioventricular Nodal Reentry Tachycardia (AVNRT)

Ablation of AVNRT	n
All interventions	1451
AVNRT combined with others	132
AVNRT only	1319

The following statistics include AVNRT only procedures



Age (years)	min.	Ø	max.
Female	1	55	90
Male	5	60	91
All	1	57	91

Number of patients	n	%
Females	772	59,2
Males	532	40,8
Total	1304	

Atrioventricular Nodal Reentry Tachycardia (AVNRT)

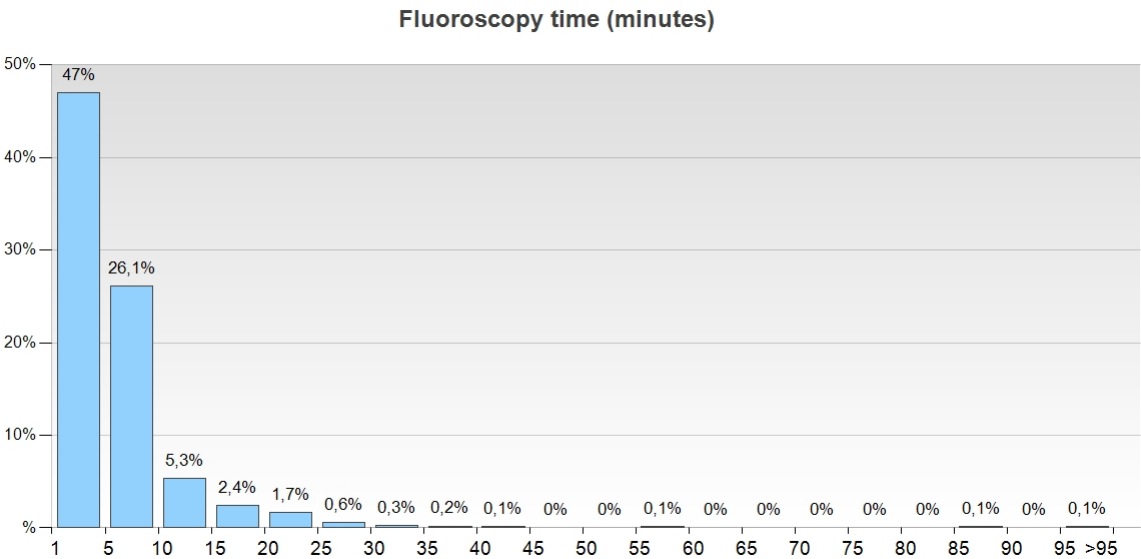
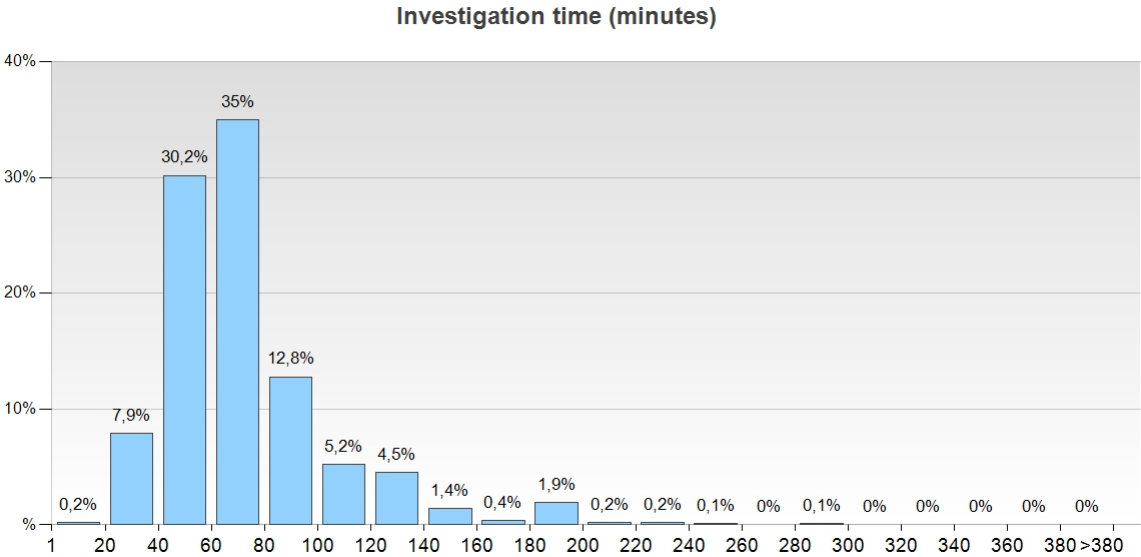
Cardiopathy (Underlying heart disease)	n	%
None	1085	82,26
Ischemic	70	5,31
Hypertensive Cardiomyopathy	50	3,79
Tachycardiomyopathy	38	2,88
Valvular	35	2,65
Other	16	1,21
Congenital	6	0,45
H(O)CM	4	0,3
Dilated	4	0,3
Infiltrative	4	0,3
Post Valvular Surgery	2	0,15
Angioplasty	1	0,08
RV Cardiomyopathy	1	0,08
CABG	1	0,08
Post Congenital Surgery	1	0,08
Channelopathy long QT	1	0,08
Channelopathy short QT	0	0
Brugada Syndrome	0	0
Early Repolarization Syndrome	0	0
Catecholaminergic Polymorphic VT	0	0
Total	1319	

Symptoms	n
Palpitations	1215
Dizziness	142
Dyspnea	103
Fatigue	102
Other	75
Syncope	73
None	38
Angina Pectoris	29
SCD	1

Atrioventricular Nodal Reentry Tachycardia (AVNRT)

Anesthesia	n	%
Local	1249	94,69
General	70	5,31
Total	1319	

Minutes	min.	Ø	max.	n	n ₀ *
Investigation time	11	69,6	296	1319	0
Fluoroscopy time	1	5,9	415	1106	213

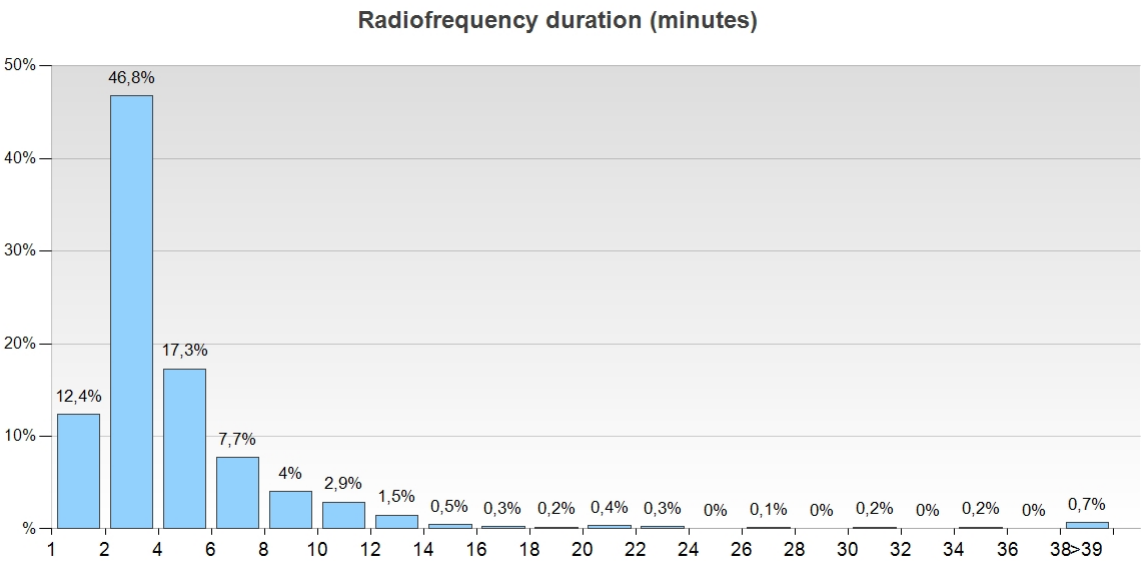


Atrioventricular Nodal Reentry Tachycardia (AVNRT)

Type	n
Slow-Fast	1195
Slow-Slow	79
Fast-Slow	60

Intervention	n	%
Primary Intervention	1244	94,31
Redo	75	5,69

Radiofrequency	min.	Ø	max.	n	n ₀ *
Duration (minutes)	1	4	160	1249	60
Irrigated Technology				203	



Atrioventricular Nodal Reentry Tachycardia (AVNRT)

Cryoablation	min.	Ø	max.	n	n ₀ *
Total Duration (minutes)	4	19	43	11	0
n					
Contact force	79				
n					
Pulsed field	0				
n					
Ethanol	0				

Access	n	%
Venous	1313	99,55
Other	6	0,45
Arterial	0	0
Trans-septal, Puncture	0	0
Trans-septal, PFO	0	0
Epicardial, Coronary Sinus	0	0
Epicardial, Thoracotomy	0	0
Epicardial, Thoracoscopy	0	0
Epicardial, Sub-xiphoid	0	0
Trans-septal Puncture+arterial	0	0
Total	1319	

Mapping	n	%
3D Mapping	865	65,58
Conventional	445	33,74
Basket	5	0,38
Lasso	4	0,3
Non Contact	0	0
HD Mesh	0	0
Other	0	0
Total	1319	

Atrioventricular Nodal Reentry Tachycardia (AVNRT)

Catheter Steering	n	%
Conventional	1316	99,77
Stereotaxis	2	0,15
Other	1	0,08
Hansen	0	0
Total	1319	

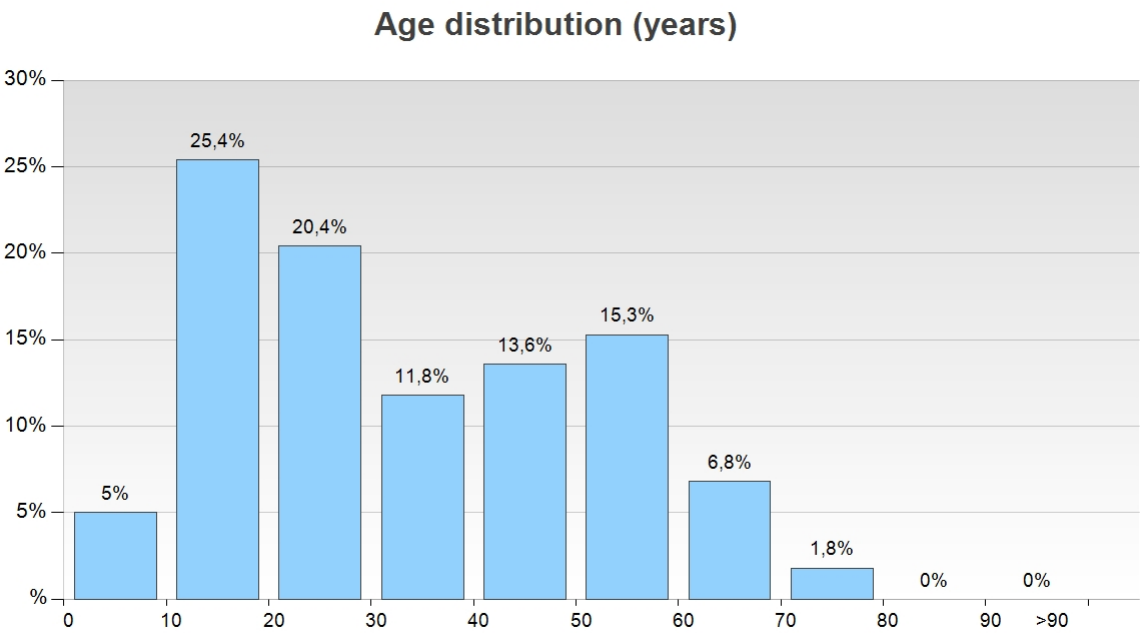
Results	n	%
Success	1301	98,64
No success	18	1,36

Periprocedural Complications	n
No complications	1308
Pericardial Effusion	3
Transient AV Block	2
High Degree or Complete AV Block	2
Other	2
AV Fistula	1
Pseudoaneurysm	1
Inguinal Hematoma	0
Aortic Dissection	0
Arterial Thrombosis	0
Arterial Occlusion	0
Pulmonary Embolism	0
TIA	0
Stroke	0
Myocardial Infarction	0
Tamponade	0
Pneumothorax	0
Hemothorax	0
Phrenic Nerve Paralysis	0
Infection	0
PV Stenosis	0
Valvular Lesions	0
Pulmonary Oedema	0
Death	0

Accessory Pathway

Ablation of Accessory Pathway (AP)	n
All interventions	357
AP combined with others	18
AP only	339

The following statistics include AP only procedures



Age (years)	min.	Ø	max.
Female	4	35	77
Male	0	34	77
All	0	34	77

Number of patients	n	%
Females	135	41,41
Males	191	58,59
Total	326	

Accessory Pathway

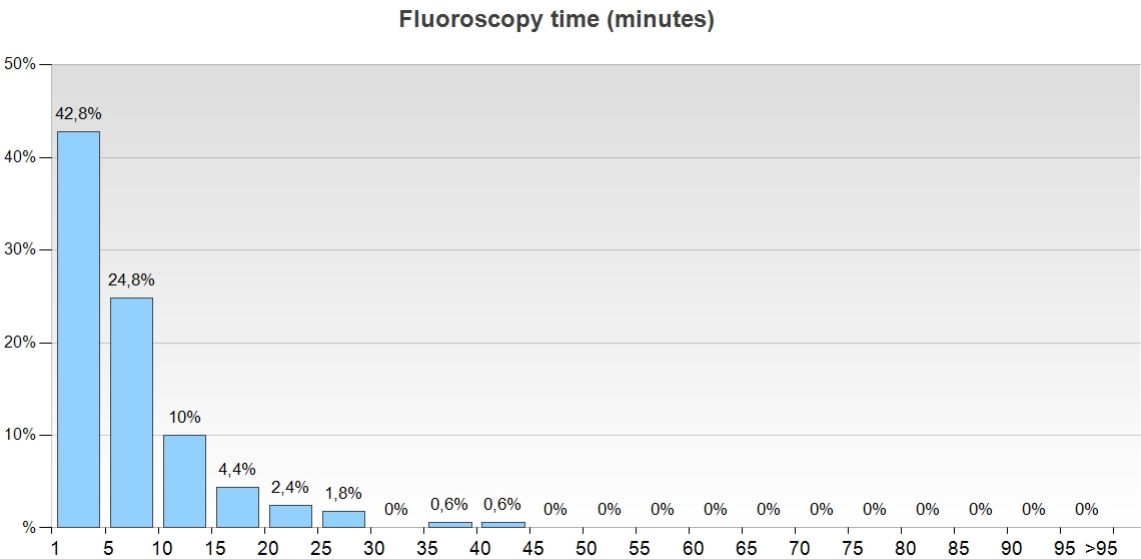
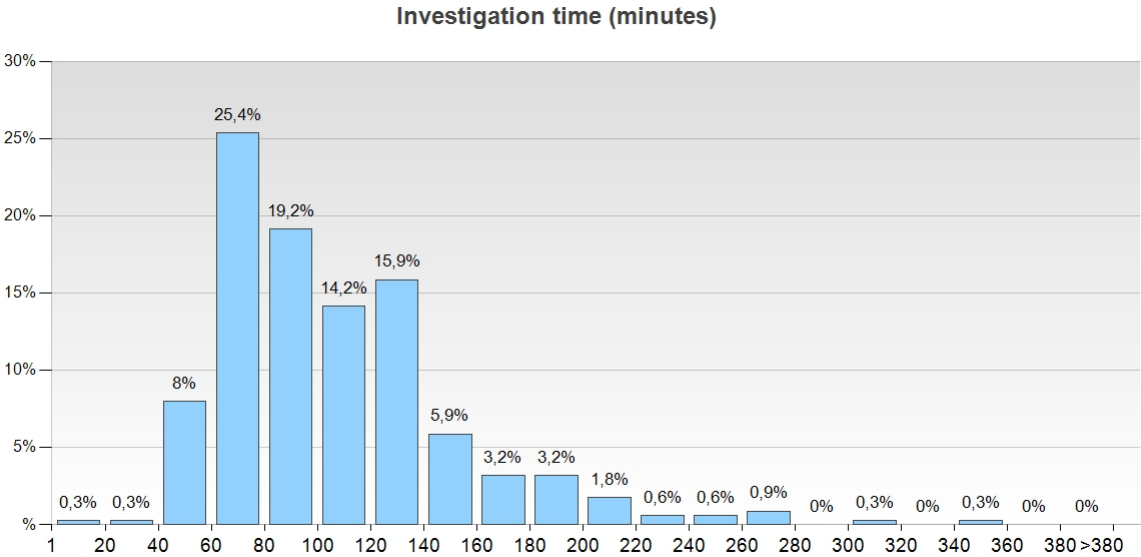
Cardiopathy (Underlying heart disease)	n	%
None	295	87,02
Tachycardiomyopathy	10	2,95
Congenital	8	2,36
Hypertensive Cardiomyopathy	6	1,77
Other	5	1,47
Ischemic	5	1,47
Dilated	4	1,18
H(O)CM	2	0,59
Valvular	2	0,59
Channelopathy long QT	1	0,29
Angioplasty	1	0,29
Infiltrative	0	0
Channelopathy short QT	0	0
Brugada Syndrome	0	0
Early Repolarization Syndrome	0	0
Catecholaminergic Polymorphic VT	0	0
RV Cardiomyopathy	0	0
CABG	0	0
Post Congenital Surgery	0	0
Post Valvular Surgery	0	0
Total	339	

Symptoms	n
Palpitations	269
None	49
Dizziness	19
Fatigue	16
Syncope	14
Other	12
Dyspnea	11
Angina Pectoris	8
SCD	0

Accessory Pathway

Anesthesia	n	%
Local	254	74,93
General	85	25,07
Total	339	

Minutes	min.	Ø	max.	n	n ₀ [*]
Investigation time	2	104,3	358	339	0
Fluoroscopy time	1	6,7	43	296	43



Accessory Pathway

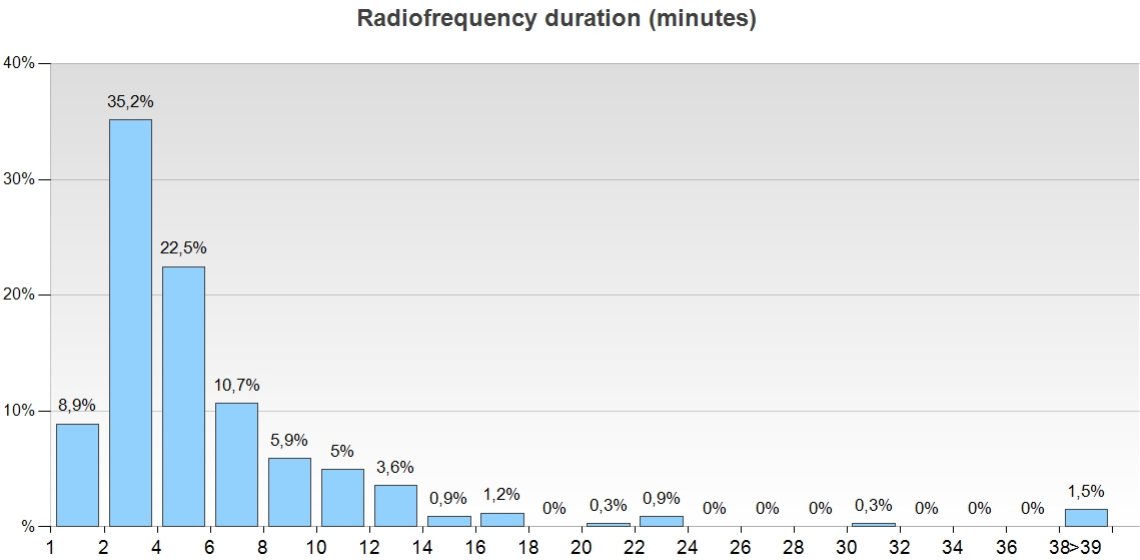
Type	n
WPW	200
Concealed	102
Asymptomatic Preexcitation	34
PJRT	5
Other	5
Atrio-Fascicular	4
Mahaim	3

Intervention	n	%
Primary Intervention	298	87,91
Redo	41	12,09

Site of Ablation	n
left	215
right	132
left: Free Wall	123
right: Posteroseptal	76
left: Posteroseptal	60
left: Posterior	37
right: Free Wall	18
right: Anteroseptal	16
right: Midseptal	11
right: Parahisian	9
right: Posterior	6
right: Coronary Sinus Aneurysm	2

Accessory Pathway

Radiofrequency	min.	Ø	max.	n	n ₀ *
Duration (minutes)	1	6	60	327	11
Irrigated Technology				248	



Accessory Pathway

Cryoablation	min.	Ø	max.	n	n₀*
Total Duration (minutes)	10	10,5	11	2	0

	n
Contact force	91

	n
Pulsed field	0

	n
Ethanol	0

Access	n	%
Venous	183	53,98
Trans-septal, Puncture	134	39,53
Trans-septal, PFO	12	3,54
Arterial	9	2,65
Epicardial, Coronary Sinus	1	0,29
Epicardial, Thoracotomy	0	0
Epicardial, Thoracoscopy	0	0
Epicardial, Sub-xiphoid	0	0
Trans-septal Puncture+arterial	0	0
Other	0	0
Total	339	

Mapping	n	%
3D Mapping	280	82,6
Conventional	54	15,93
HD Mesh	4	1,18
Basket	1	0,29
Lasso	0	0
Non Contact	0	0
Other	0	0
Total	339	

Accessory Pathway

Catheter Steering	n	%
Conventional	337	99,41
Stereotaxis	1	0,29
Other	1	0,29
Hansen	0	0
Total	339	

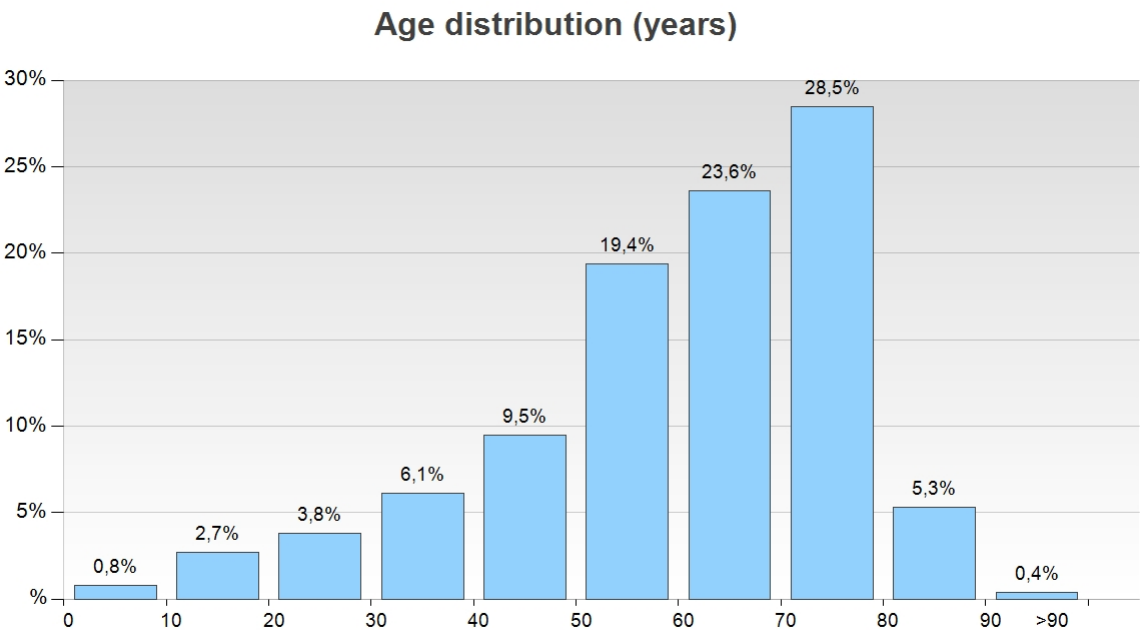
Results	n	%
Success	321	94,69
No success	18	5,31

Periprocedural Complications	n
No complications	338
Other	1
Inguinal Hematoma	0
AV Fistula	0
Pseudoaneurysm	0
Aortic Dissection	0
Arterial Thrombosis	0
Arterial Occlusion	0
Pulmonary Embolism	0
TIA	0
Stroke	0
Myocardial Infarction	0
Pericardial Effusion	0
Tamponade	0
Pneumothorax	0
Hemothorax	0
Transient AV Block	0
High Degree or Complete AV Block	0
Phrenic Nerve Paralysis	0
Infection	0
PV Stenosis	0
Valvular Lesions	0
Pulmonary Oedema	0
Death	0

Atrial Tachycardia

Ablation of Atrial Tachycardia (AT)	n
All interventions	423
AT combined with others	160
AT only	263

The following statistics include AT only procedures



Age (years)	min.	Ø	max.
Female	5	62	93
Male	11	59	89
All	5	61	93

Number of patients	n	%
Females	140	55,34
Males	113	44,66
Total	253	

Atrial Tachycardia

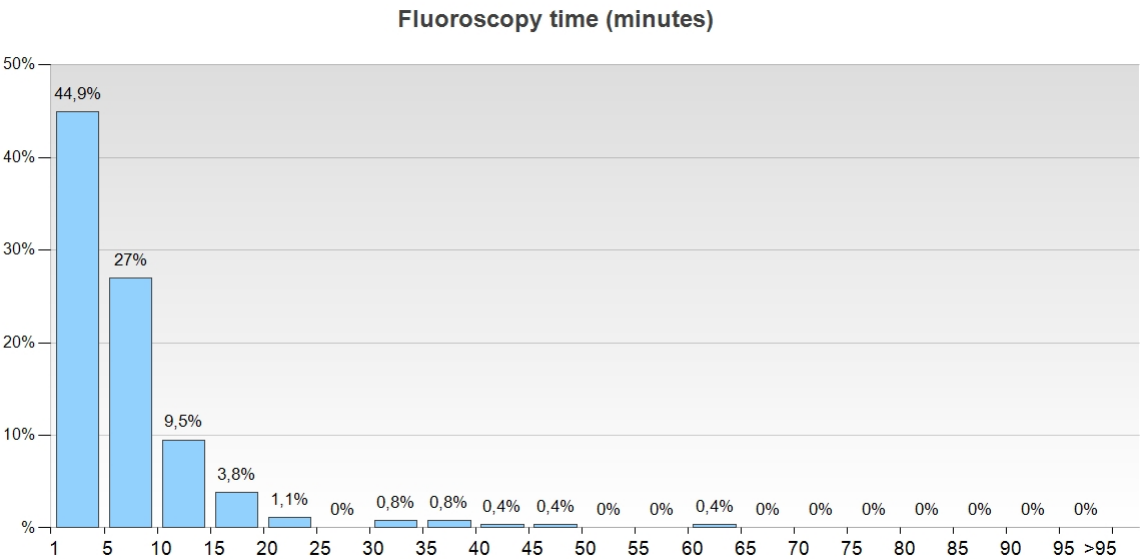
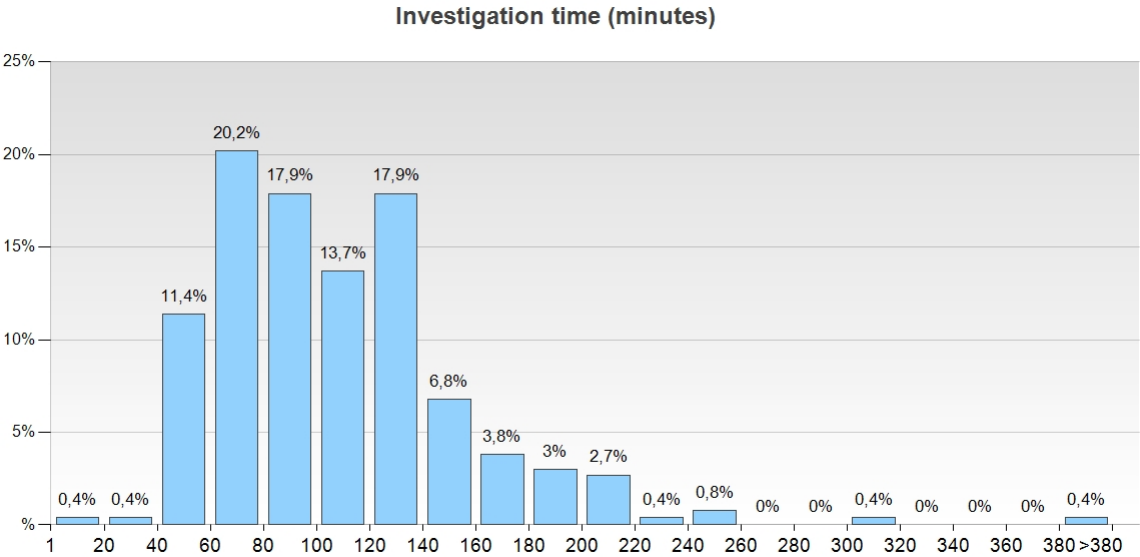
Cardiopathy (Underlying heart disease)	n	%
None	173	65,78
Valvular	17	6,46
Hypertensive Cardiomyopathy	15	5,7
Other	15	5,7
Tachycardiomyopathy	14	5,32
Ischemic	13	4,94
Congenital	9	3,42
Dilated	5	1,9
Post Valvular Surgery	1	0,38
Post Congenital Surgery	1	0,38
H(O)CM	0	0
Infiltrative	0	0
Channelopathy long QT	0	0
Channelopathy short QT	0	0
Brugada Syndrome	0	0
Early Repolarization Syndrome	0	0
Catecholaminergic Polymorphic VT	0	0
RV Cardiomyopathy	0	0
CABG	0	0
Angioplasty	0	0
Total	263	

Symptoms	n
Palpitations	237
Fatigue	45
Dyspnea	43
Dizziness	29
Syncope	11
Other	11
Angina Pectoris	5
None	4
SCD	0

Atrial Tachycardia

Anesthesia	n	%
Local	219	83,27
General	44	16,73
Total	263	

Minutes	min.	Ø	max.	n	n ₀ *
Investigation time	8	104,7	380	263	0
Fluoroscopy time	1	6,6	60	234	29



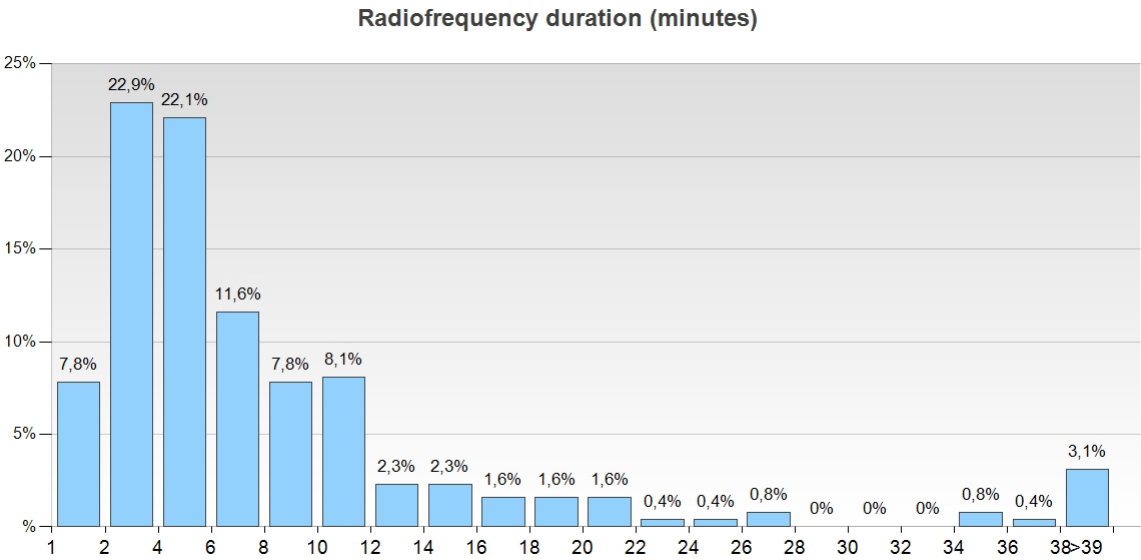
Atrial Tachycardia

Intervention	n	%
Primary Intervention	227	86,31
Redo	36	13,69

Site of Ablation	n
right	211
left	80
right: Other Right	72
right: Crista Terminalis	59
right: Septal Right	47
right: Peritricuspid	37
left: Other Left	29
left: Septal Left	22
left: Perimitral	17
left: Periostial PV	12
right: Right Appendage	10
left: Left Atrial Appendage	6

Atrial Tachycardia

Radiofrequency	min.	Ø	max.	n	n ₀ *
Duration (minutes)	1	9	120	247	11
Irrigated Technology				191	



Atrial Tachycardia

Cryoablation	min.	Ø	max.	n	n₀*
Total Duration (minutes)	0	0	0	0	0

	n
Contact force	65

	n
Pulsed field	5

	n
Ethanol	0

Access	n	%
Venous	198	75,29
Trans-septal, Puncture	52	19,77
Arterial	8	3,04
Trans-septal, PFO	4	1,52
Trans-septal Puncture+arterial	1	0,38
Epicardial, Coronary Sinus	0	0
Epicardial, Thoracotomy	0	0
Epicardial, Thoracoscopy	0	0
Epicardial, Sub-xiphoid	0	0
Other	0	0
Total	263	

Mapping	n	%
3D Mapping	233	88,59
Conventional	22	8,37
HD Mesh	4	1,52
Non Contact	2	0,76
Basket	1	0,38
Lasso	1	0,38
Other	0	0
Total	263	

Atrial Tachycardia

Catheter Steering	n	%
Conventional	263	100
Stereotaxis	0	0
Hansen	0	0
Other	0	0
Total	263	

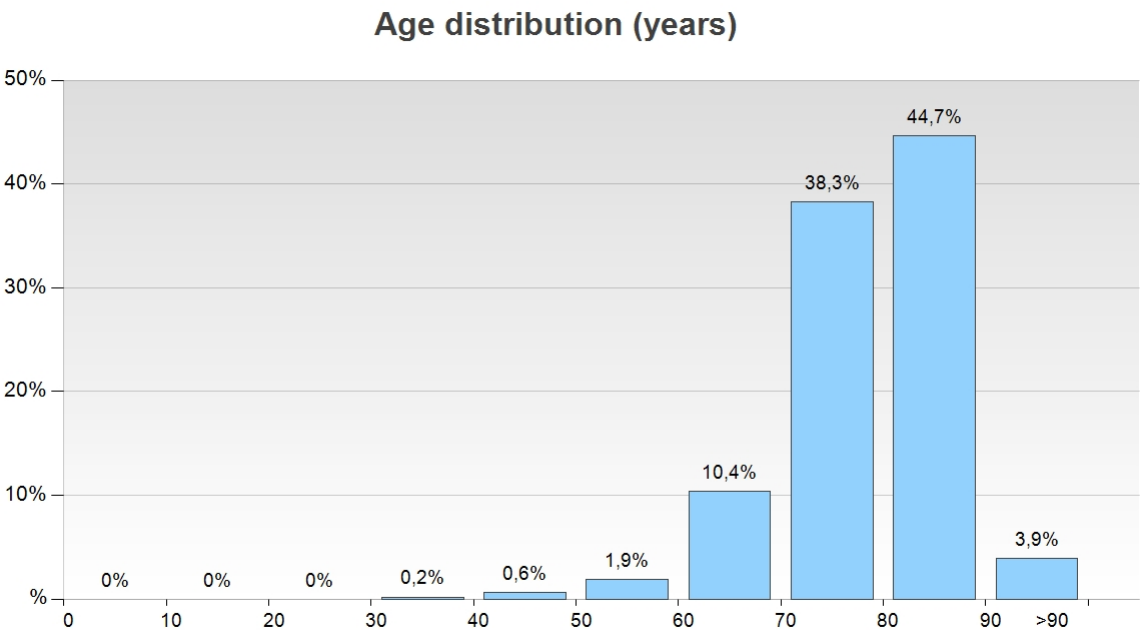
Results	n	%
Success	243	92,4
No success	20	7,6

Periprocedural Complications	n
No complications	262
Pseudoaneurysm	1
Inguinal Hematoma	0
AV Fistula	0
Aortic Dissection	0
Arterial Thrombosis	0
Arterial Occlusion	0
Pulmonary Embolism	0
TIA	0
Stroke	0
Myocardial Infarction	0
Pericardial Effusion	0
Tamponade	0
Pneumothorax	0
Hemothorax	0
Transient AV Block	0
High Degree or Complete AV Block	0
Phrenic Nerve Paralysis	0
Infection	0
PV Stenosis	0
Valvular Lesions	0
Pulmonary Oedema	0
Death	0
Other	0

Atrioventricular Node (Rate Control in Atr. Fibrillation)

Ablation of AVN(R)	n
All interventions	497
AVN(R) combined with others	14
AVN(R) only	483

The following statistics include AVN(R) only procedures



Age (years)	min.	Ø	max.
Female	52	80	97
Male	39	77	94
All	39	79	97

Number of patients	n	%
Females	282	59
Males	196	41
Total	478	

Atrioventricular Node (Rate Control in Atr. Fibrillation)

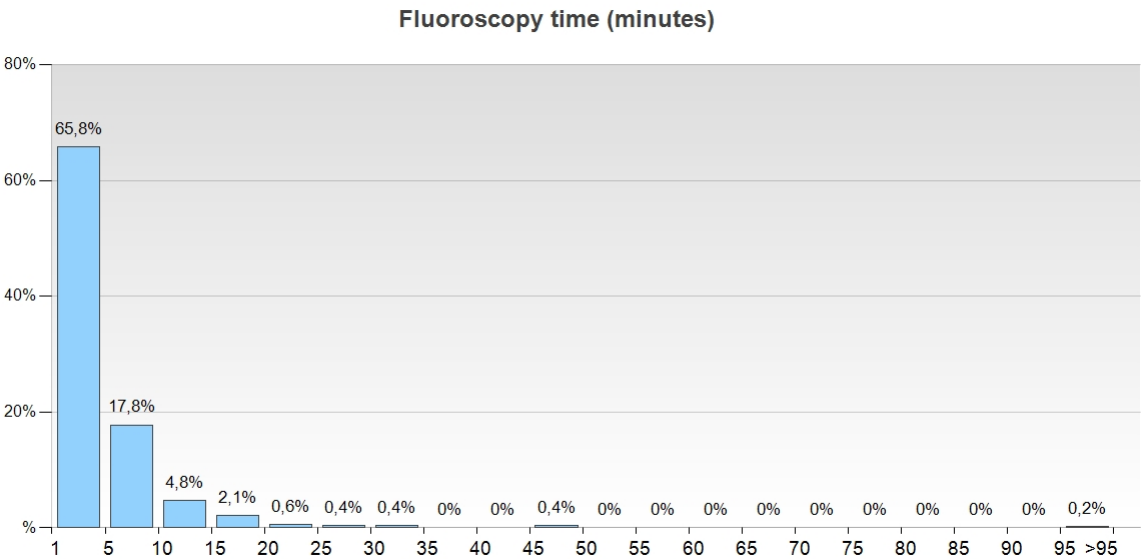
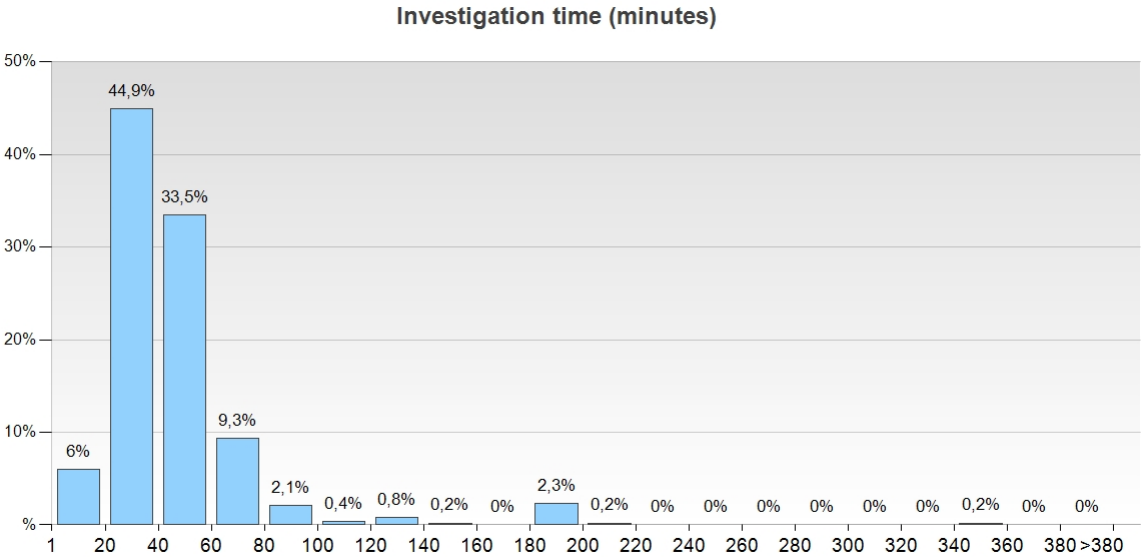
Cardiopathy (Underlying heart disease)	n	%
None	137	28,36
Tachycardiomyopathy	110	22,77
Hypertensive Cardiomyopathy	62	12,84
Ischemic	52	10,77
Valvular	50	10,35
Dilated	23	4,76
Other	23	4,76
H(O)CM	7	1,45
Infiltrative	7	1,45
Post Valvular Surgery	7	1,45
Post Congenital Surgery	1	0,21
Congenital	1	0,21
CABG	1	0,21
Angioplasty	1	0,21
Channelopathy long QT	1	0,21
Channelopathy short QT	0	0
Brugada Syndrome	0	0
Early Repolarization Syndrome	0	0
Catecholaminergic Polymorphic VT	0	0
RV Cardiomyopathy	0	0
Total	483	

Symptoms	n
Palpitations	343
Dyspnea	227
Fatigue	158
Dizziness	32
None	30
Other	27
Syncope	6
Angina Pectoris	1
SCD	0

Atrioventricular Node (Rate Control in Atr. Fibrillation)

Anesthesia	n	%
Local	466	96,48
General	17	3,52
Total	483	

Minutes	min.	Ø	max.	n	n ₀ *
Investigation time	1	43,9	345	483	0
Fluoroscopy time	1	4,6	141	447	36



Atrioventricular Node (Rate Control in Atr. Fibrillation)

Type of Fibrillation	n	%
Paroxysmal	96	19,88
Persistent	267	55,28
Long-standing Persistent (>1 Year)	120	24,84

EHRA-Score	n	%
Score I	20	4,14
Score II	187	38,72
Score III	229	47,41
Score IV	47	9,73

Intervention	n	%
Primary Intervention	424	87,78
Redo	39	8,07
Previous AF Abl. Procedure	20	4,14

Antiarrhythmic Drugs	n
Beta Blocker	398
Amiodarone	112
Calcium Antagonist	38
None	27
Other	17
Digitalis	12
Flecainide	8
Propafenone	3
Sotalol	3
Dronedarone	0

Atrioventricular Node (Rate Control in Atr. Fibrillation)

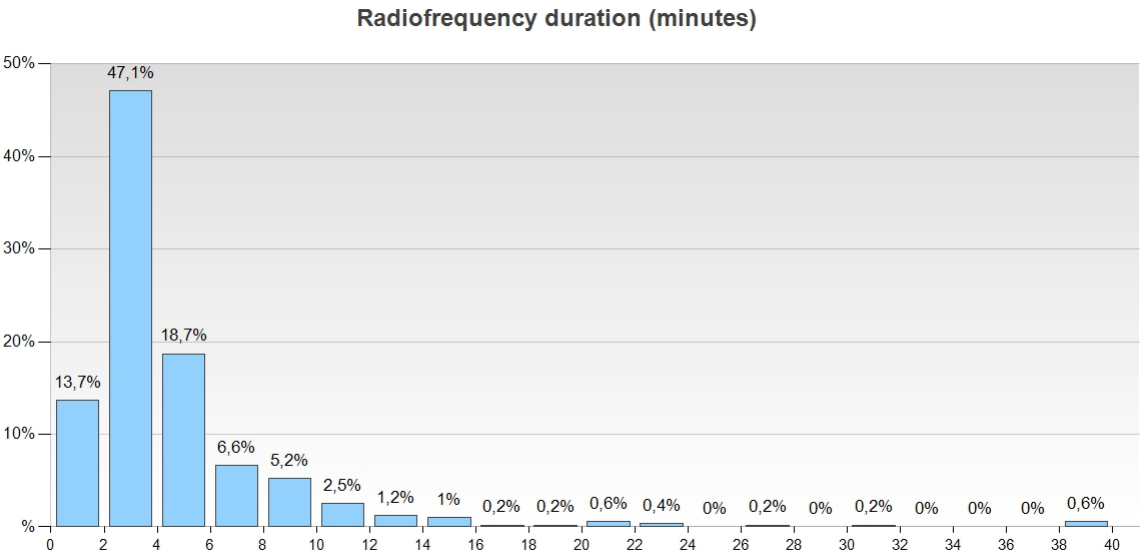
Thromboembolic Risk Factors	n
Hypertension	269
Congestive Heart Failure, LV dysfunction	103
Diabetes	55
Prior MI, Per. Artery Disease, Aortic Plaque	49
Stroke, TIA, Pther Embolic Event	17

Anticoagulation, Antiaggregation	n
Factor Xa-Antagonist	409
None	24
Vitamin K-Antagonist	23
Other	17
Aspirin	9
Clopidogrel	3
Direct Thrombin Inhibitor	3
Prasugrel	0
Ticagrelor	0

CHA₂DS₂-VASc Score	n
Score = 0	9
Score = 1	30
Score = 2	74
Score = 3	146
Score = 4	153
Score = 5	48
Score = 6	13
Score = 7	9
Average Score	3,33

Atrioventricular Node (Rate Control in Atr. Fibrillation)

Radiofrequency	min.	Ø	max.	n	n ₀ *
Duration (minutes)	1	4	109	475	7
Irrigated Technology				360	



Atrioventricular Node (Rate Control in Atr. Fibrillation)

Cryoablation	min.	Ø	max.	n	n ₀ *
Total Duration (minutes)	2	2	2	1	0

	n
Contact force	33

	n
Pulsed field	0

	n
Ethanol	0

Access	n	%
Venous	479	99,17
Trans-septal, Puncture	3	0,62
Arterial	1	0,21
Trans-septal, PFO	0	0
Epicardial, Coronary Sinus	0	0
Epicardial, Thoracotomy	0	0
Epicardial, Thoracoscopy	0	0
Epicardial, Sub-xiphoid	0	0
Trans-septal Puncture+arterial	0	0
Other	0	0
Total	483	

Mapping	n	%
Conventional	378	78,26
3D Mapping	103	21,33
Lasso	1	0,21
Basket	1	0,21
Non Contact	0	0
HD Mesh	0	0
Other	0	0
Total	483	

Atrioventricular Node (Rate Control in Atr. Fibrillation)

Catheter Steering	n	%
Conventional	482	99,79
Other	1	0,21
Stereotaxis	0	0
Hansen	0	0
Total	483	

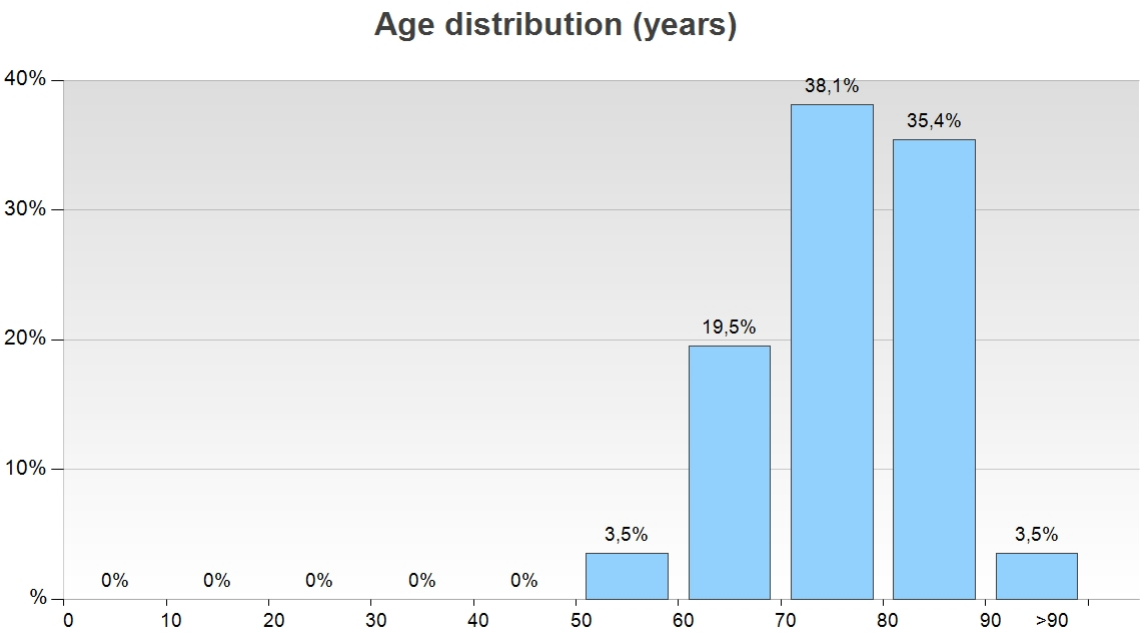
Results	n	%
Success	480	99,38
No success	3	0,62

Periprocedural Complications	n
No complications	481
Tamponade	1
Death	1
Inguinal Hematoma	0
AV Fistula	0
Pseudoaneurysm	0
Aortic Dissection	0
Arterial Thrombosis	0
Arterial Occlusion	0
Pulmonary Embolism	0
TIA	0
Stroke	0
Myocardial Infarction	0
Pericardial Effusion	0
Pneumothorax	0
Hemothorax	0
Transient AV Block	0
High Degree or Complete AV Block	0
Phrenic Nerve Paralysis	0
Infection	0
PV Stenosis	0
Valvular Lesions	0
Pulmonary Oedema	0
Other	0

Atrioventricular Node (to resynchronisation)

Ablation of AVN	n
All interventions	122
AVN combined with others	9
AVN only	113

The following statistics include AVN only procedures



Age (years)	min.	Ø	max.
Female	59	80	96
Male	53	75	90
All	53	77	96

Number of patients	n	%
Females	46	41,07
Males	66	58,93
Total	112	

Atrioventricular Node (to resynchronisation)

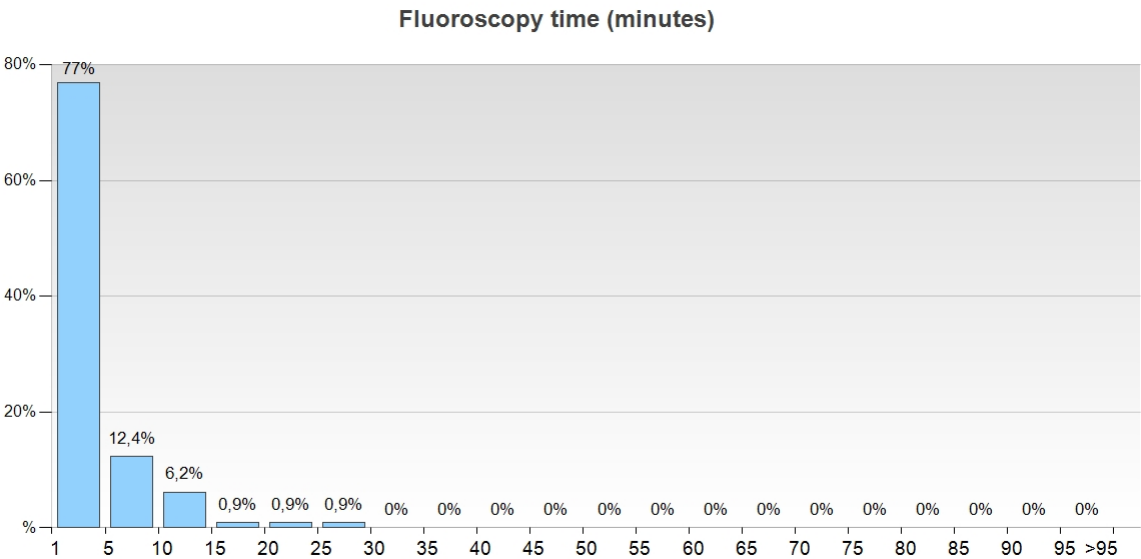
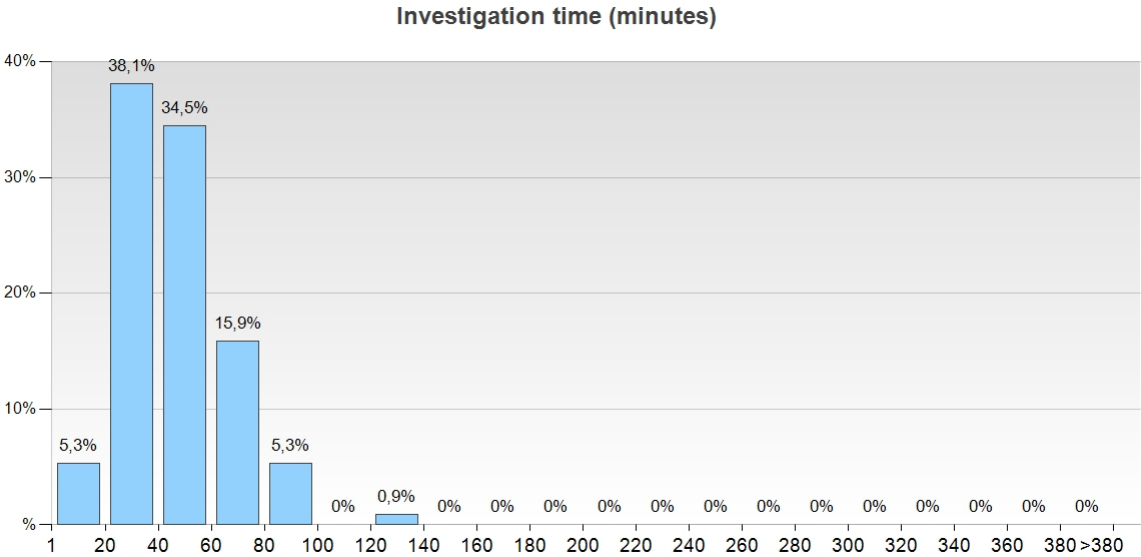
Cardiopathy (Underlying heart disease)	n	%
Tachycardiomyopathy	24	21,24
None	23	20,35
Ischemic	18	15,93
Dilated	17	15,04
Valvular	11	9,73
Hypertensive Cardiomyopathy	10	8,85
Other	8	7,08
H(O)CM	1	0,88
Post Valvular Surgery	1	0,88
Congenital	0	0
Infiltrative	0	0
Channelopathy long QT	0	0
Channelopathy short QT	0	0
Brugada Syndrome	0	0
Early Repolarization Syndrome	0	0
Catecholaminergic Polymorphic VT	0	0
RV Cardiomyopathy	0	0
CABG	0	0
Angioplasty	0	0
Post Congenital Surgery	0	0
Total	113	

Symptoms	n
Palpitations	69
Dyspnea	56
Fatigue	34
Other	19
None	4
Dizziness	3
SCD	1
Angina Pectoris	1
Syncope	0

Atrioventricular Node (to resynchronisation)

Anesthesia	n	%
Local	111	98,23
General	2	1,77
Total	113	

Minutes	min.	Ø	max.	n	n ₀ *
Investigation time	10	43,7	120	113	0
Fluoroscopy time	1	3,6	25	111	2



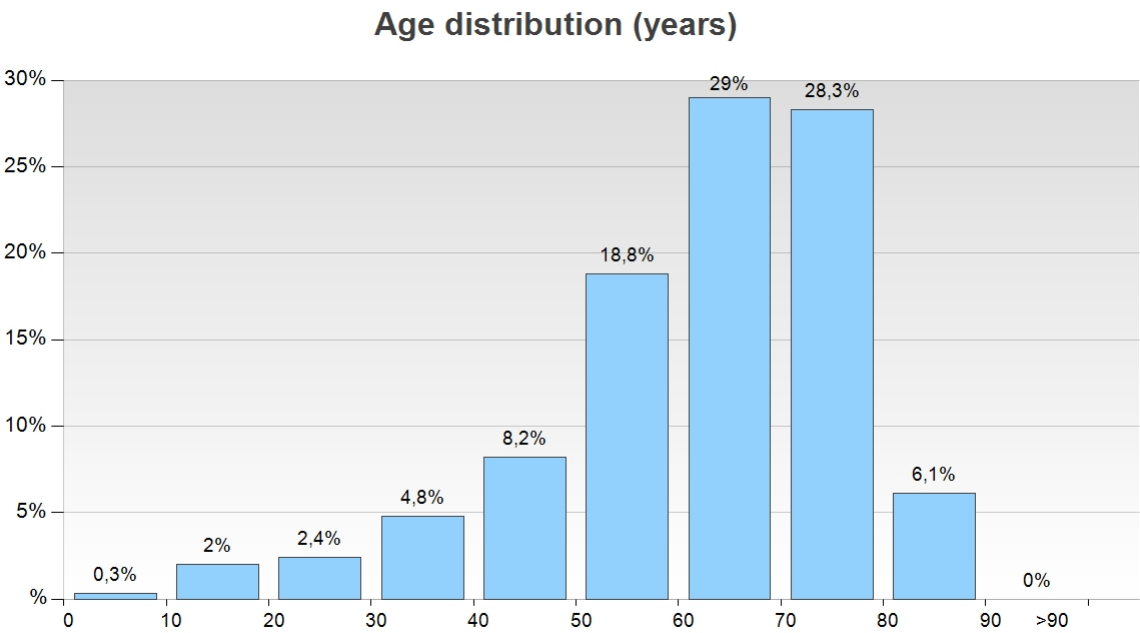
Atrioventricular Node (to resynchronisation)

Periprocedural Complications	n
No complications	113
Inguinal Hematoma	0
AV Fistula	0
Pseudoaneurysm	0
Aortic Dissection	0
Arterial Thrombosis	0
Arterial Occlusion	0
Pulmonary Embolism	0
TIA	0
Stroke	0
Myocardial Infarction	0
Pericardial Effusion	0
Tamponade	0
Pneumothorax	0
Hemothorax	0
Transient AV Block	0
High Degree or Complete AV Block	0
Phrenic Nerve Paralysis	0
Infection	0
PV Stenosis	0
Valvular Lesions	0
Pulmonary Oedema	0
Death	0
Other	0

Ventricular Tachycardia

Ablation of Ventricular Tachycardia (VT)		n
All interventions		301
VT combined with others		8
VT only		293

The following statistics include VT only procedures



Age (years)	min.	Ø	max.
Female	1	55	85
Male	13	64	86
All	1	62	86

Number of patients	n	%
Females	49	17,95
Males	224	82,05
Total	273	

Ventricular Tachycardia

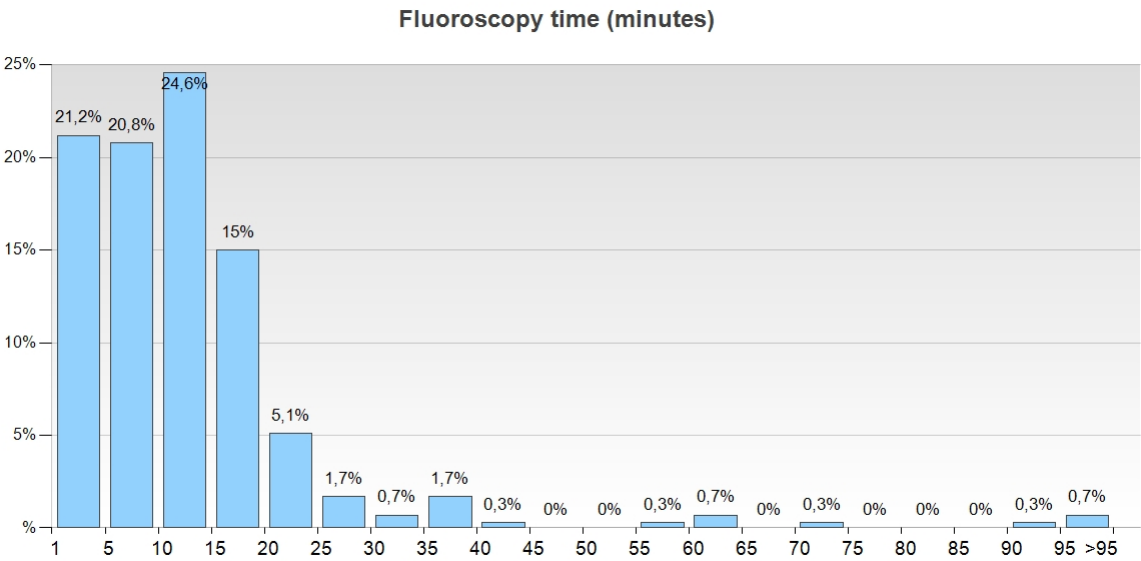
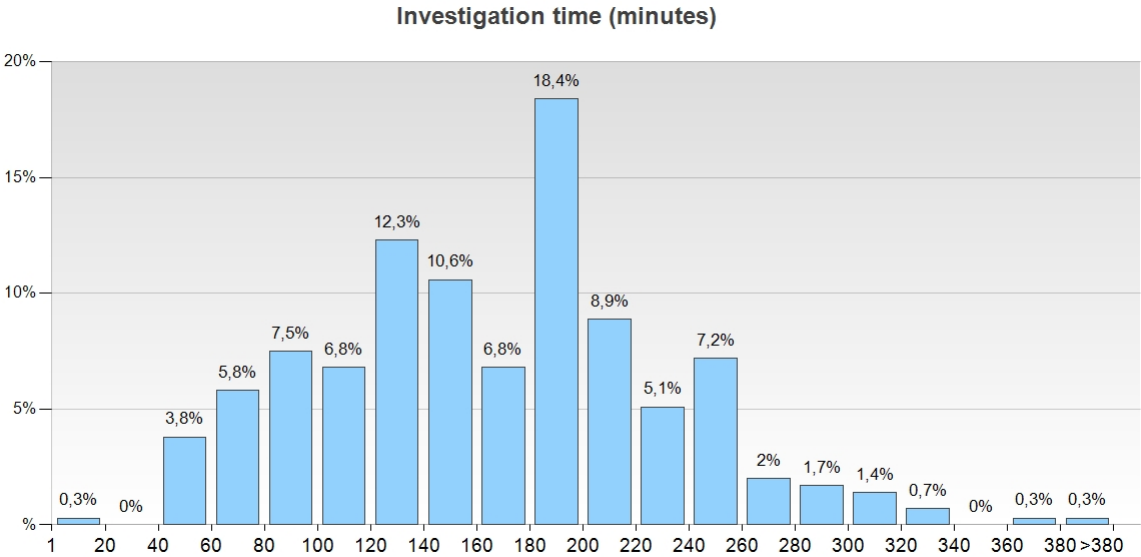
Cardiopathy (Underlying heart disease)	n	%
Ischemic	119	40,61
None	65	22,18
Dilated	36	12,29
Tachycardiomyopathy	19	6,48
Other	13	4,44
Valvular	12	4,1
RV Cardiomyopathy	11	3,75
Congenital	6	2,05
Hypertensive Cardiomyopathy	3	1,02
H(O)CM	3	1,02
Infiltrative	3	1,02
Angioplasty	1	0,34
Channelopathy long QT	1	0,34
CABG	1	0,34
Channelopathy short QT	0	0
Brugada Syndrome	0	0
Early Repolarization Syndrome	0	0
Catecholaminergic Polymorphic VT	0	0
Post Congenital Surgery	0	0
Post Valvular Surgery	0	0
Total	293	

Symptoms	n
Palpitations	202
Syncope	51
Dyspnea	42
Other	38
Dizziness	37
Fatigue	32
SCD	28
None	15
Angina Pectoris	4

Ventricular Tachycardia

Anesthesia	n	%
Local	168	57,34
General	125	42,66
Total	293	

Minutes	min.	Ø	max.	n	n ₀ *
Investigation time	7	163,3	390	293	0
Fluoroscopy time	1	12,8	160	274	19



Ventricular Tachycardia

Type	n
Monomorphic	251
Polymorphic	45

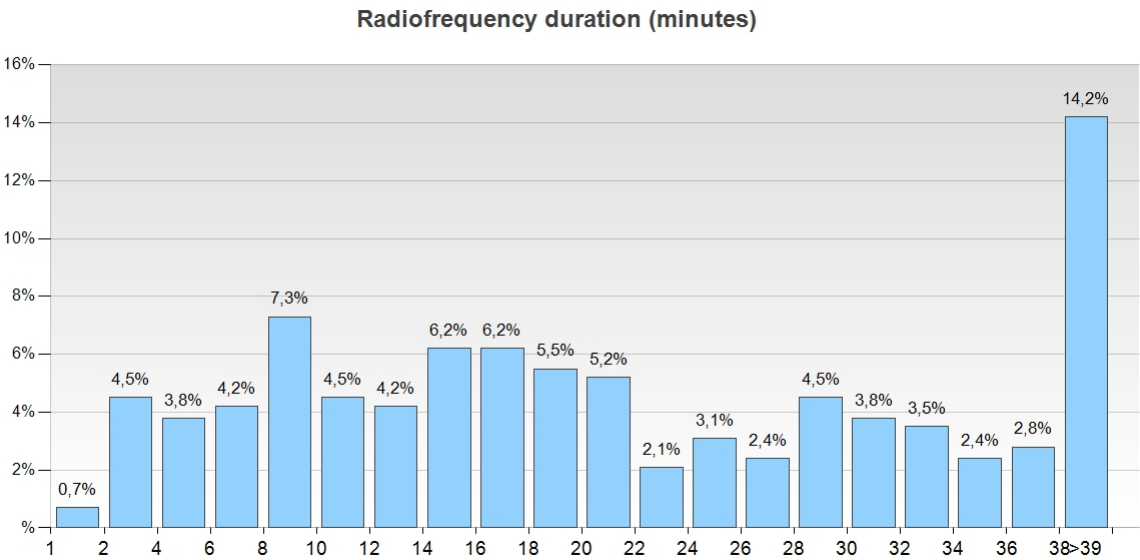
Location	n
Other	138
LVOT / Cusp	61
RVOT / Cusp / PA	57
Mitral Annulus	37
Left Pap Muscle	17
Epicardial LV / RV	16
Tricuspid Annulus	13
Fascicular	11
Right Pap Muscle	3
Parahisian	3
BB Reentry	3

Intervention	n	%
Primary Intervention	224	76,45
Redo	69	23,55

Antiarrhythmic Drugs	n
Beta Blocker	212
Amiodarone	135
None	38
Calcium Antagonist	14
Flecainide	6
Other	5
Sotalol	4
Propafenone	0

Ventricular Tachycardia

Radiofrequency	min.	Ø	max.	n	n ₀ *
Duration (minutes)	1	24	324	268	21
Irrigated Technology				231	



Cryoablation	min.	Ø	max.	n	n ₀ *
Total Duration (minutes)	0	0	0	0	0

	n
Laser ablation	0

	n
Contact force	47

	n
Pulsed field	5

	n
Ethanol	1

	n
Radio ablation	0

	n
Bipolar ablation	1

Number of Induced VT: 526

Ventricular Tachycardia

Access	n	%
Trans-septal, Puncture	122	41,64
Venous	106	36,18
Arterial	45	15,36
Epicardial, Sub-xiphoid	11	3,75
Trans-septal, PFO	4	1,37
Trans-septal Puncture+arterial	4	1,37
Epicardial, Coronary Sinus	1	0,34
Epicardial, Thoracotomy	0	0
Epicardial, Thoracoscopy	0	0
Other	0	0
Total	293	

Mapping	n	%
3D Mapping	268	91,47
Conventional	21	7,17
HD Mesh	3	1,02
Basket	1	0,34
Lasso	0	0
Non Contact	0	0
Other	0	0
Total	293	

Ventricular Tachycardia

Catheter Steering	n	%
Conventional	293	100
Stereotaxis	0	0
Hansen	0	0
Other	0	0
Total	293	

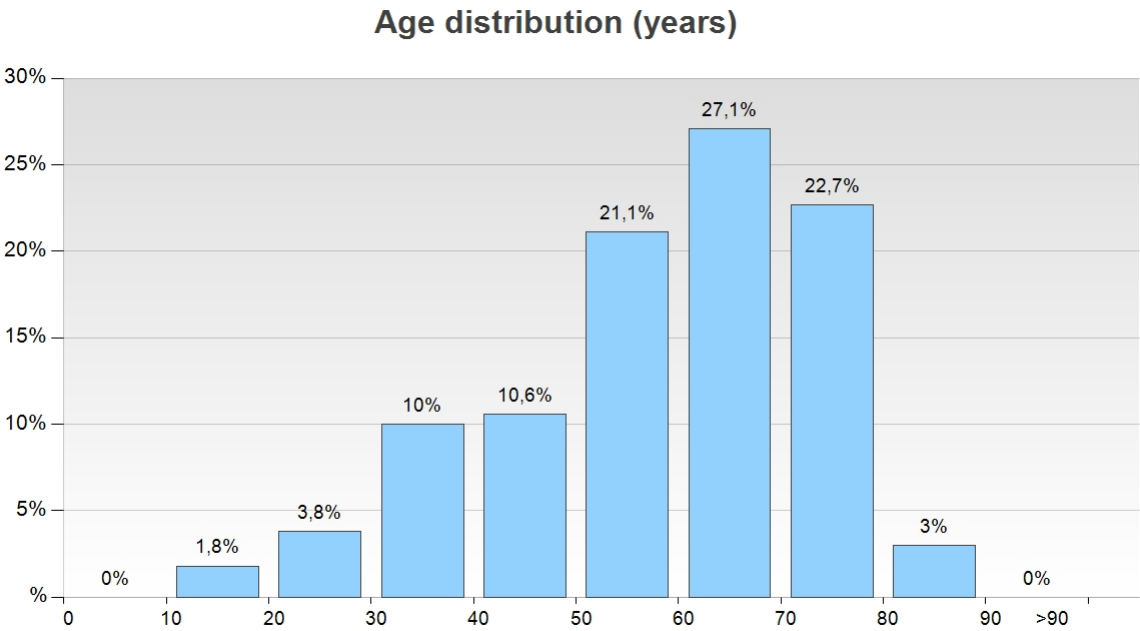
Results	n	%
All Induces VT Ablated	166	56,66
Target VT Ablated	116	39,59
Failure	11	3,75

Periprocedural Complications	n
No complications	285
Inguinal Hematoma	2
Other	2
Aortic Dissection	1
Stroke	1
Tamponade	1
Transient AV Block	1
Infection	1
AV Fistula	0
Pseudoaneurysm	0
Arterial Thrombosis	0
Arterial Occlusion	0
Pulmonary Embolism	0
TIA	0
Myocardial Infarction	0
Pericardial Effusion	0
Pneumothorax	0
Hemothorax	0
High Degree or Complete AV Block	0
Phrenic Nerve Paralysis	0
PV Stenosis	0
Valvular Lesions	0
Pulmonary Oedema	0
Death	0

Premature Ventricular Contraction

Ablation of PVC	n
All interventions	527
PVC combined with others	25
PVC only	502

The following statistics include PVC only procedures



Age (years)	min.	Ø	max.
Female	15	54	89
Male	16	62	86
All	15	59	89

Number of patients	n	%
Females	209	43,36
Males	273	56,64
Total	482	

Premature Ventricular Contraction

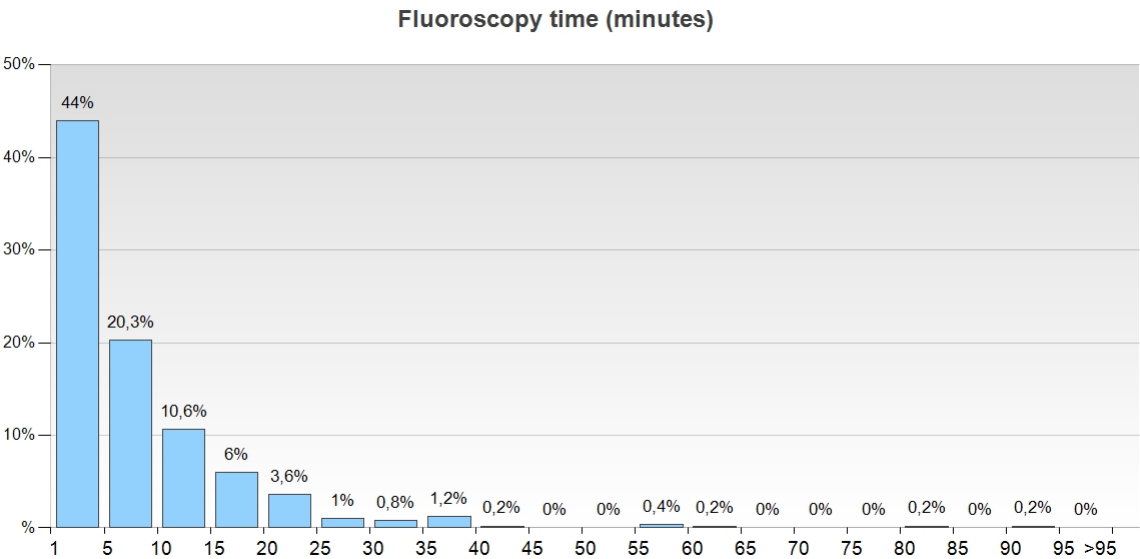
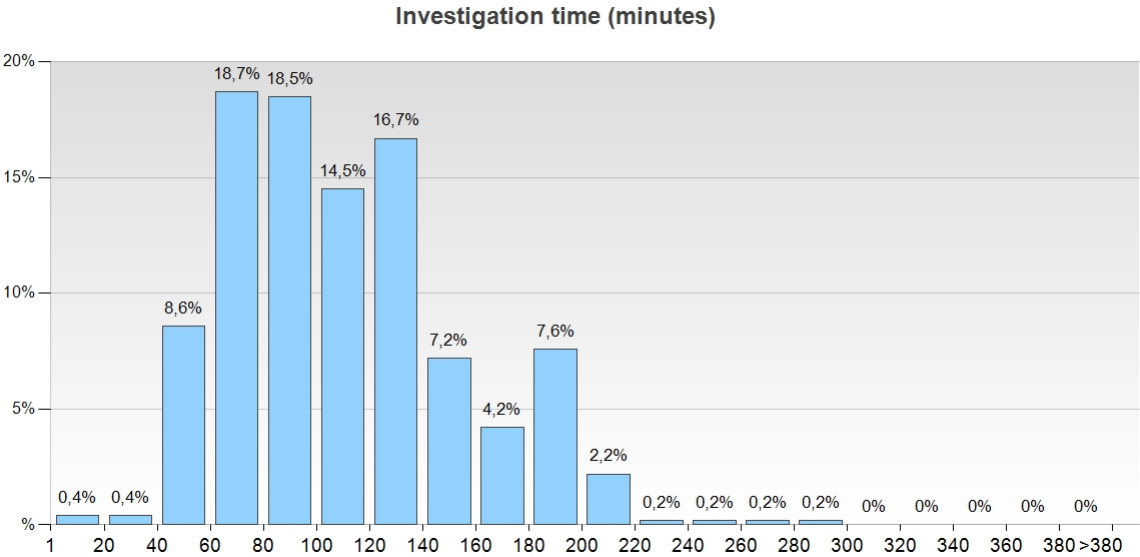
Cardiopathy (Underlying heart disease)	n	%
None	282	56,18
Ischemic	70	13,94
Dilated	40	7,97
Tachycardiomyopathy	29	5,78
Other	26	5,18
Hypertensive Cardiomyopathy	20	3,98
Valvular	13	2,59
Angioplasty	7	1,39
H(O)CM	6	1,2
Congenital	3	0,6
RV Cardiomyopathy	3	0,6
Channelopathy long QT	2	0,4
Catecholaminergic Polymorphic VT	1	0,2
Infiltrative	0	0
Channelopathy short QT	0	0
Brugada Syndrome	0	0
Early Repolarization Syndrome	0	0
CABG	0	0
Post Congenital Surgery	0	0
Post Valvular Surgery	0	0
Total	502	

Symptoms	n
Palpitations	395
Dyspnea	71
Fatigue	68
None	37
Other	30
Dizziness	28
Syncope	19
SCD	5
Angina Pectoris	5

Premature Ventricular Contraction

Anesthesia	n	%
Local	464	92,43
General	38	7,57
Total	502	

Minutes	min.	Ø	max.	n	n ₀ [*]
Investigation time	1	107,9	280	501	1
Fluoroscopy time	1	8	90	445	57



Premature Ventricular Contraction

Type	n
Monomorphic	449
Polymorphic	53
Ischemic	10

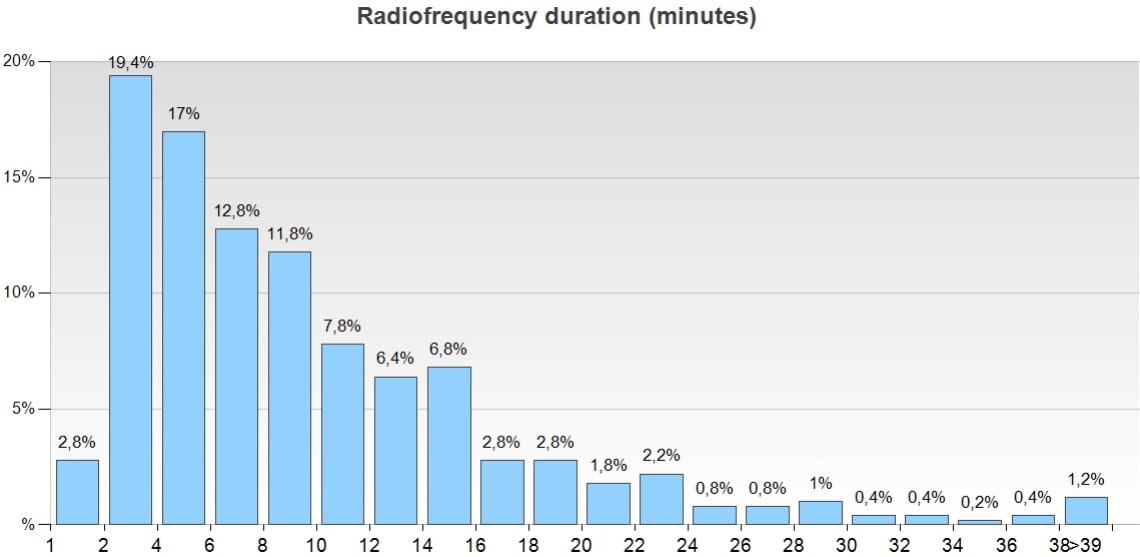
Location	n
RVOT	225
LVOT / Aortic Cusp	179
Other	133
Left Fascicular PVC	9
HP System	6

Site of Ablation	n
Right Ventricle	277
Left Ventricle	267

Intervention	n	%
Primary Intervention	448	89,24
Redo	54	10,76

Premature Ventricular Contraction

Radiofrequency	min.	Ø	max.	n	n ₀ *
Duration (minutes)	1	10	172	498	3
Irrigated Technology				432	



Cryoablation	min.	Ø	max.	n	n ₀ *
Total Duration (minutes)	0	0	0	0	1

	n
Laser ablation	0
	n
Contact force	114
	n
Pulsed field	1
	n
Ethanol	0
	n
Radio ablation	1
	n
Bipolar ablation	0

Premature Ventricular Contraction

Access	n	%
Venous	272	54,18
Arterial	140	27,89
Trans-septal, Puncture	84	16,73
Trans-septal, PFO	3	0,6
Trans-septal Puncture+arterial	2	0,4
Epicardial, Sub-xiphoid	1	0,2
Epicardial, Coronary Sinus	0	0
Epicardial, Thoracotomy	0	0
Epicardial, Thoracoscopy	0	0
Other	0	0
Total	502	

Mapping	n	%
3D Mapping	458	91,24
Conventional	33	6,57
Basket	8	1,59
HD Mesh	3	0,6
Lasso	0	0
Non Contact	0	0
Other	0	0
Total	502	

Premature Ventricular Contraction

Catheter Steering	n	%
Conventional	501	99,8
Stereotaxis	1	0,2
Hansen	0	0
Other	0	0
Total	502	

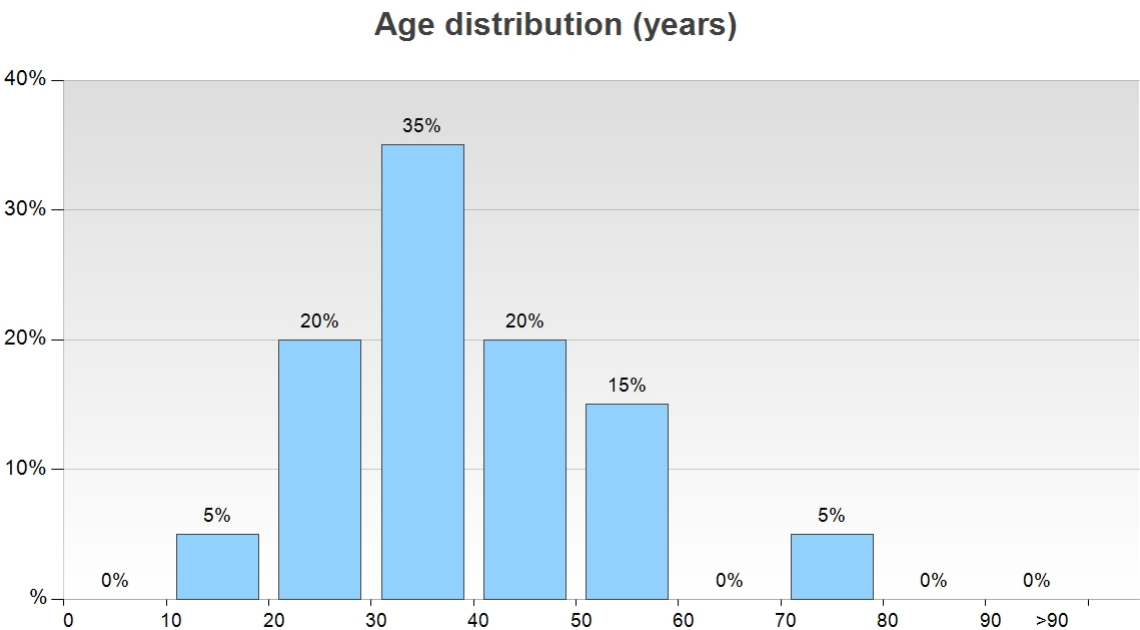
Results	n	%
Success	456	90,84
No Success	46	9,16

Periprocedural Complications	n
No complications	491
Other	4
Myocardial Infarction	2
Pericardial Effusion	2
Arterial Occlusion	1
Tamponade	1
High Degree or Complete AV Block	1
Death	1
Inguinal Hematoma	0
AV Fistula	0
Pseudoaneurysm	0
Aortic Dissection	0
Arterial Thrombosis	0
Pulmonary Embolism	0
TIA	0
Stroke	0
Pneumothorax	0
Hemothorax	0
Transient AV Block	0
Phrenic Nerve Paralysis	0
Infection	0
PV Stenosis	0
Valvular Lesions	0
Pulmonary Oedema	0

Cardioneuro Ablation

Cardioneuro Ablation	n
All interventions	22
Cardioneuro Ablation combined with others	2
Cardioneuro Ablation only	20

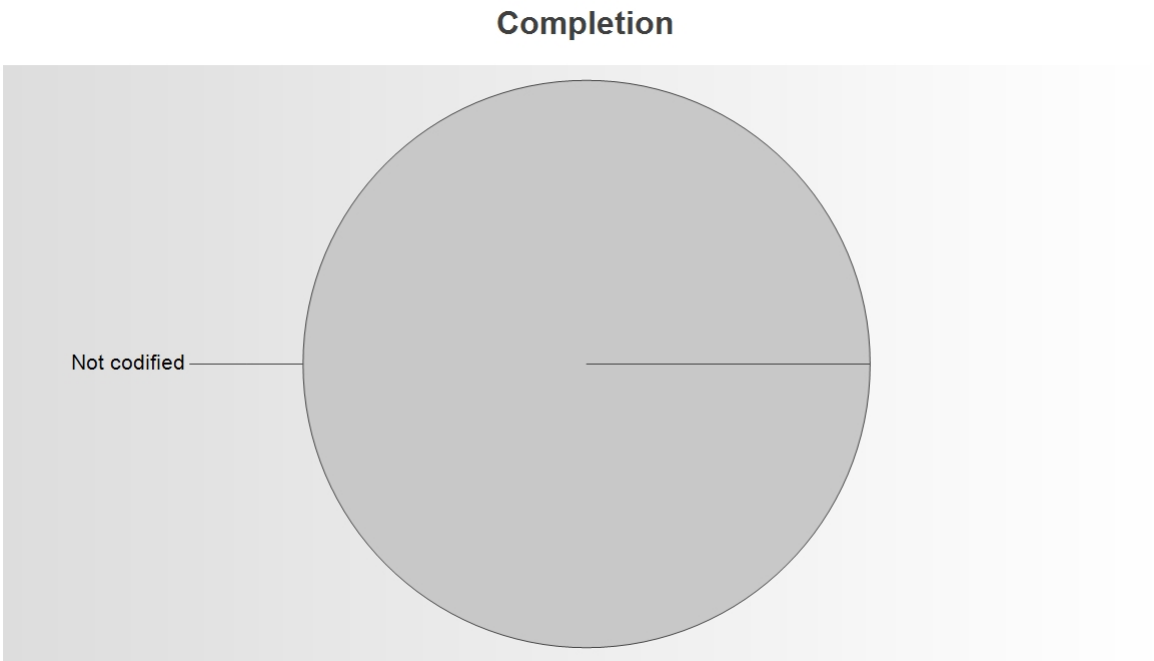
The following statistics include Cardioneuro Ablation only procedures



Age (years)	min.	Ø	max.
Female	21	40	71
Male	20	37	54
All	20	38	71

Number of patients	n	%
Females	7	35
Males	13	65
Total	20	

Completion



Cause of completion	n	%
Not codified	1	100
Regular End of Follow-Up	0	0
Lost to Follow-Up	0	0
Death	0	0
Change from Rhythm Control to Rate Control	0	0
Total	1	

The statistics are based on the data from SwissEPnet from 01.01.2024 to 31.12.2024. Its completeness and correctness depends on the complete and correct data entry in the respective hospital. EPS are counted as interventions.

0,0% incomplete records are not included in these statistics.

n₀*: Investigations were reported with 0 minutes and are not included in these statistics.

Ø depicts the arithmetic mean.

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Abbreviations

AF = Atrial Fibrillation
RAFlu = Right Atrial Flutter
LAFlu = Left Atrial Flutter
AT = Atrial Tachycardia
AP = Accessory Pathway
AVNRT = Atrioventricular Nodal Reentry Tachycardia
VT = Ventricular Tachycardia
PVC = Premature Ventricular Contraction
AVN = Atrioventricular Node (to resynchronisation)
AVN(R) = Atrioventricular Node (Rate Control in Atr. Fibrillation)
CN = Cardioneuro Ablation
Other = Other Arrhythmia

The cover picture shows a steerable ablation catheter from the late 90s