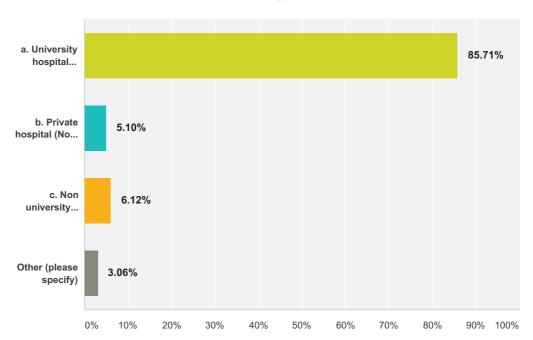
Q1 What type of institution do you work in?





Answer Choices	Responses	
a. University hospital (Academic)	85.71%	84
b. Private hospital (Non academic)	5.10%	5
c. Non university public institution	6.12%	6
Other (please specify)	3.06%	3
Total		98

#	Other (please specify)	Date
1	Private office associated with a Community hospital.	9/30/2016 2:40 AM
2	Rouge Valley Health System	9/21/2016 2:13 AM
3		9/20/2016 2:28 PM

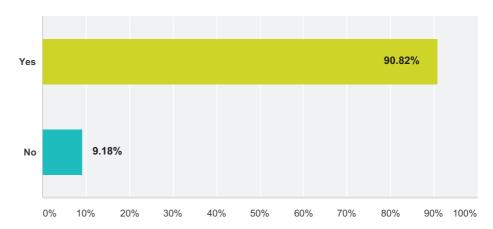
Q2 In which city and country is your centre based?

#	Responses	Date
1	Hamilton ON Canada	10/2/2016 9:55 PM
2	Calgary, Alberta, Canada	10/1/2016 9:35 PM
3	edmonton, canada	9/30/2016 11:44 PM
4	Newmarket Canada	9/30/2016 10:06 PM
5	Spain	9/30/2016 8:04 PM
6	Toronto, Canada	9/30/2016 3:30 PM
7	Vilnius, Lithuania	9/30/2016 8:33 AM
8	Nuremberg	9/30/2016 8:28 AM
9	Oslo, Norway	9/30/2016 7:25 AM
10	Ottawa Heart Institute, Canada	9/30/2016 5:36 AM
11	Langley, BC	9/30/2016 2:40 AM
12	Calgary, Alberta. Canada	9/29/2016 10:24 PM
13	Madtid Spain	9/29/2016 10:05 PM
14	Madrid Spain	9/29/2016 10:03 PM
15	Aarhus, Denmark	9/29/2016 9:47 PM
16	Basel, Switzerland	9/29/2016 7:14 PM
17	London Canada	9/29/2016 7:00 PM
18	Toulouse	9/29/2016 6:48 PM
19	Munich	9/29/2016 6:40 PM
20	Tbilisi, Georgia	9/29/2016 6:27 PM
21	Edmonton	9/29/2016 2:45 PM
22	Newmarket	9/29/2016 2:43 PM
23	Toronto, Canada	9/29/2016 1:50 PM
24	Toronto Canada	9/29/2016 1:41 PM
25	Kingston, Canada	9/29/2016 1:06 PM
26	Canada	9/26/2016 7:14 PM
27	Quebec, Canada	9/25/2016 11:11 PM
28	Canada	9/25/2016 4:03 AM
29	Newmarket, ON	9/24/2016 8:51 PM
30	Calgary, Canada	9/23/2016 11:12 PM
31	Toronto Canada	9/23/2016 10:43 PM
32	Toronto Canada	9/23/2016 9:11 PM
33	Calgary, Canada	9/21/2016 9:37 PM

35	Montreal, Canada	9/21/2016 6:37 PM
36	New Westminster, BC, Canada	9/21/2016 7:02 AM
37	Halifax, Canada	9/21/2016 4:54 AM
38	canada	9/21/2016 2:13 AM
39	toronto,canada	9/21/2016 1:39 AM
40	london , canada	9/21/2016 1:04 AM
41	Kingston, Ontario	9/21/2016 12:56 AM
42	London Canada	9/21/2016 12:05 AM
43	Ottawa Canada	9/20/2016 9:24 PM
44	Hamilton, Canada	9/20/2016 7:41 PM
45	Halifax, Canada	9/20/2016 5:17 PM
46	New Westmister, Canada	9/20/2016 3:28 PM
47	Hamilton,Canada	9/20/2016 3:26 PM
48	Hamilton Canada	9/20/2016 2:28 PM
49	Vancouver , Canada	9/20/2016 6:17 AM
50	vancouver canada	9/20/2016 5:55 AM
51	Regina, Canada	9/20/2016 5:23 AM
52	Vancouver, Canada	9/20/2016 5:06 AM
53	Sherbrooke Canafa	9/20/2016 3:53 AM
54	Vancouver canada	9/20/2016 3:42 AM
55	tornot	9/20/2016 3:37 AM
56	Canada	9/20/2016 3:26 AM
57	Valencia (SPAIN)	9/20/2016 12:06 AM
58	Polanica Zdrój; Poland	9/19/2016 9:06 AM
59	Norway	9/15/2016 6:20 PM
60	Sherbrooke, Canada	9/14/2016 5:40 AM
61	Rzzeszów, Poland	9/13/2016 9:05 AM
62	Hamilton, Canada	9/12/2016 7:14 PM
63	London, Canada	9/12/2016 12:12 AM
64	madrid spain	9/11/2016 7:08 PM
65	Winnipeg, Canada	9/10/2016 12:57 AM
66	Kingston Ontario Canada	9/9/2016 7:44 PM
67	Linz, Austria	9/9/2016 12:37 AM
68	Calgary, CANADA	9/8/2016 10:46 PM
69	Lodz, Poland	9/8/2016 8:24 PM
70	Toronto, Canada	9/8/2016 6:23 PM
71	Montreal Canada	9/8/2016 6:07 PM
72	Leipzig Germany	9/8/2016 2:30 PM
73	Warsaw, Poland	9/8/2016 1:12 PM
74	Madrid, Spain	9/8/2016 12:59 PM
75	University Hospital Grenoble	9/8/2016 10:05 AM

76	Krakow	9/8/2016 9:18 AM
77	Calgary, Canada	9/8/2016 6:02 AM
78	Montreal, Canada	9/8/2016 5:24 AM
79	Hamilton, Canada	9/8/2016 3:38 AM
80	Canada	9/8/2016 3:37 AM
81	Victoria, Canada	9/8/2016 1:47 AM
82	Zabrze, Poland	9/8/2016 1:27 AM
83	Kingston, Ontario, Canada	9/8/2016 1:01 AM
84	Halifax, Canada	9/7/2016 11:34 PM
85	Halifax, Canada	9/7/2016 11:10 PM
86	Palma de Mallorca, Spain	9/7/2016 10:16 PM
87	Victoria Canada	9/7/2016 10:00 PM
88	Calgary, Canada	9/7/2016 9:57 PM
89	Zabrze, Poland	9/7/2016 9:42 PM
90	Quebec City, canada	9/7/2016 9:34 PM
91	Vancouver BC Canada	9/7/2016 8:54 PM
92	St. John's, NL Canada	9/7/2016 8:52 PM
93	Edmonton, Canada	9/7/2016 8:50 PM
94	Toulouse	9/7/2016 8:13 PM
95	Brest, FRANCE	9/7/2016 7:23 PM
96	dfh	9/7/2016 6:43 PM
97	Tbilisi, Georgia	9/7/2016 5:57 PM
98	Aberdeen Scotland	9/7/2016 5:52 PM

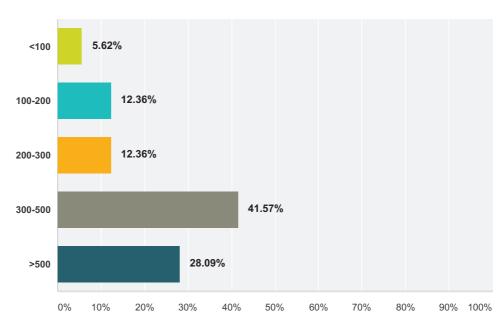
Q4 Would you like acknowledgement of your centre in the Europace Journal and on the EHRA Website?



Answer Choices	Responses	
Yes	90.82%	89
No	9.18%	9
Total		98

Q5 What was the total number of catheter ablations for all types of arrhythmias at your institution last calendar year?

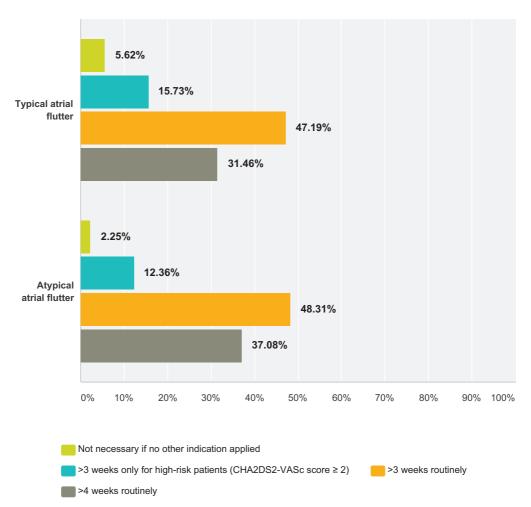




Answer Choices	Responses	
<100	5.62%	5
100-200	12.36%	11
200-300	12.36%	11
300-500	41.57%	37
>500	28.09%	25
Total		89

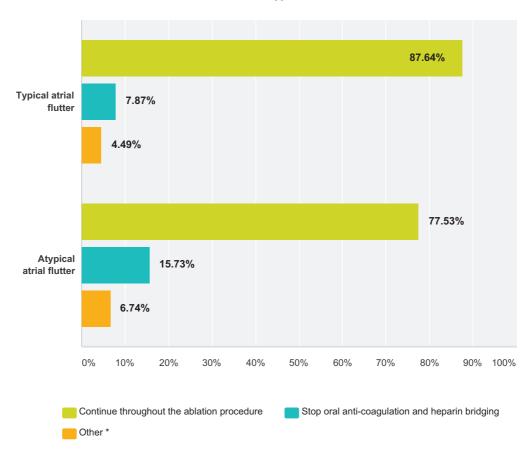
Q6 How long do you prescribe oral anticoagulant before an atrial flutter ablation procedure?





	Not necessary if no other indication applied	>3 weeks only for high-risk patients (CHA2DS2-VASc score ≥ 2)	>3 weeks routinely	>4 weeks routinely	Total
Typical atrial flutter	5.62% 5	15.73%	47.19% 42	31.46% 28	89
Atypical atrial flutter	2.25% 2	12.36% 11	48.31% 43	37.08% 33	89

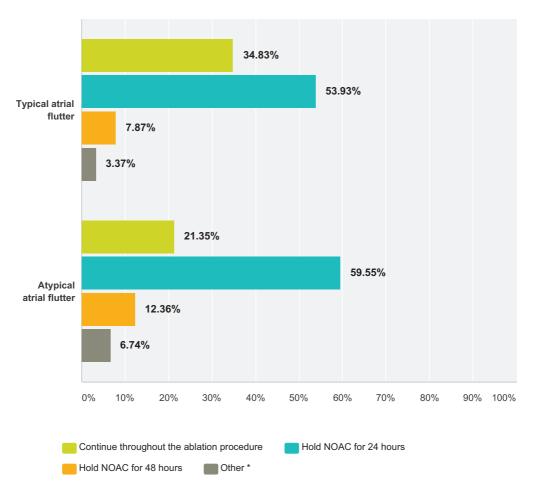
Q7 How do you manage oral anticoagulation if vitamin K antagonist is used before the procedure for an atrial flutter ablation?



	Continue throughout the ablation procedure	Stop oral anti-coagulation and heparin bridging	Other *	Total
Typical atrial flutter	87.64% 78	7.87% 7	4.49% 4	89
Atypical atrial flutter	77.53% 69	15.73%	6.74%	89

#	* Please specify if answered "Other"	Date
1	Continue vka in patients with mechanical heart valves, otherwise bridge with heparin	9/30/2016 5:42 AM
2	Would not use Vit K, would rebook procedure	9/29/2016 10:29 PM
3	LMWH bridging	9/21/2016 9:39 PM
4	I check INR in the previous week and, if it is between 2-3.5, I reduce vitamin K antagonist dosis to the half the day before	9/20/2016 12:15 AM
5	Stop (except for mechanical valves or histry of prior stroke or systemic embolism) and TEE the day of the procedure	9/8/2016 5:28 AM
6	Check INR between 2-3 the prior weeks	9/8/2016 1:02 AM

Q8 How do you manage non-vitamin K antagonist oral anticoagulation (NOAC) before the procedure for an atrial flutter ablation?

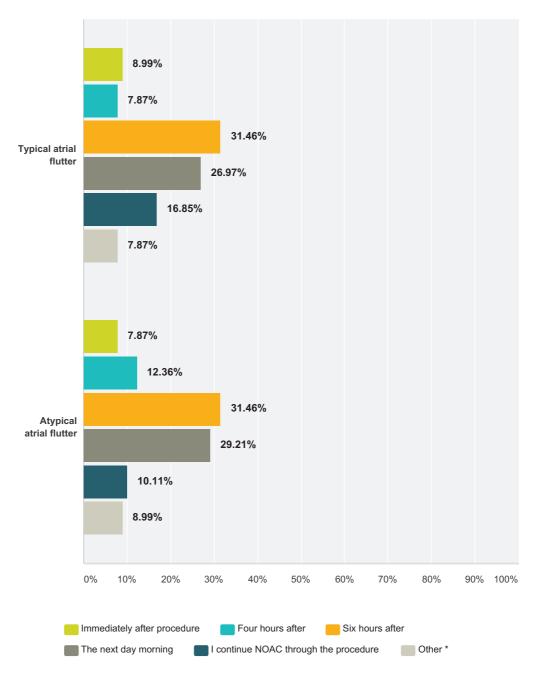


	Continue throughout the ablation procedure	Hold NOAC for 24 hours	Hold NOAC for 48 hours	Other *	Total
Typical atrial flutter	34.83% 31	53.93% 48	7.87%	3.37%	89
Atypical atrial flutter	21.35% 19	59.55% 53	12.36%	6.74%	89

#	* Please specify if answered "Other"	Date
1	Hold NOAC for 36h	9/30/2016 5:42 AM
2	Don't use NOAC	9/29/2016 1:52 PM
3	Will hold NOAC for 24-48 hours depending on CrCl	9/29/2016 1:10 PM
4	hold noac on morning of procedure	9/21/2016 1:41 AM
5	depends someone on Chads score	9/21/2016 1:06 AM
6	depends on creat clearancaa	9/20/2016 9:25 PM
7	Hold for 36 hours prior (none day before or morning of procedure)	9/20/2016 3:31 PM

Q9 When do you restart NOAC after the procedure for an atrial flutter ablation?





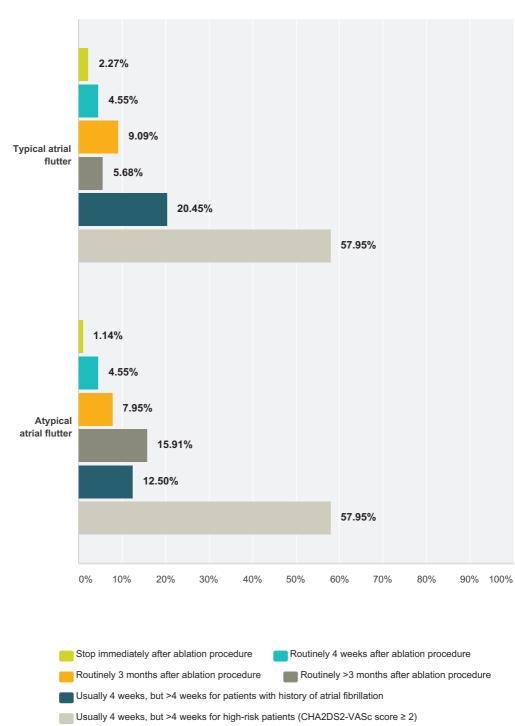
	Immediately after procedure	Four hours after	Six hours after	The next day morning	I continue NOAC through the procedure	Other *	Total
Typical atrial flutter	8.99% 8	7.87%	31.46% 28	26.97% 24	16.85%	7.87% 7	89
Atypical atrial flutter	7.87% 7	12.36% 11	31.46% 28	29.21% 26	10.11% 9	8.99% 8	89

#	* Please specify if answered "Other"	Date
---	--------------------------------------	------

1	6-8 hours after sheath removal	9/29/2016 7:02 PM
2	Don't use NOAC	9/29/2016 1:52 PM
3	Restart at the next regularly scheduled time; usually the next morning	9/29/2016 1:10 PM
4	It depends upon the CHADS2 score. 0-1 the morning after, 2+: the same day	9/21/2016 6:39 PM
5	half a dose of LMWH night of the procedure and full dose NOAC next AM	9/20/2016 3:27 AM
6	When next dose is scheduled.	9/12/2016 7:16 PM
7	Don't stop	9/8/2016 3:39 AM
8	8 to 12 hours post procedure	9/8/2016 1:49 AM

Q10 For how long do your patients take oral anticoagulation after atrial flutter ablation?

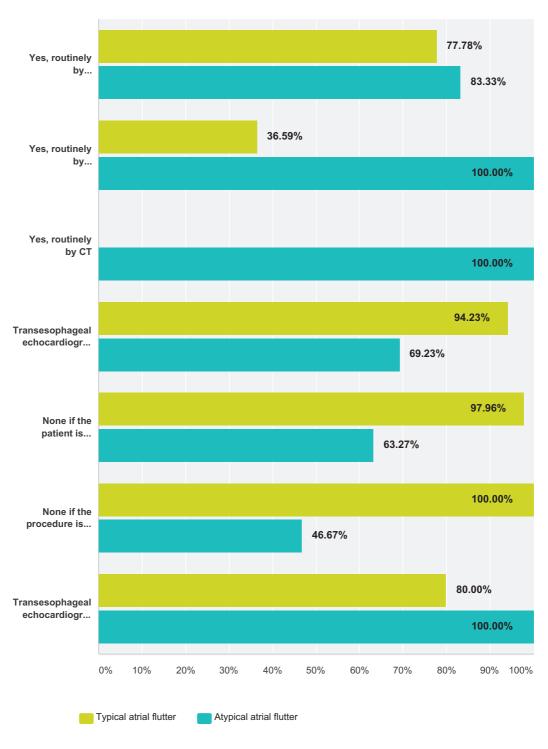




	Stop immediately after ablation procedure	Routinely 4 weeks after ablation procedure	Routinely 3 months after ablation procedure	Routinely >3 months after ablation procedure	Usually 4 weeks, but >4 weeks for patients with history of atrial fibrillation	Usually 4 weeks, but >4 weeks for high-risk patients (CHA2DS2-VASc score ≥ 2)	Total
--	--	---	--	---	--	---	-------

Typical atrial flutter	2.27% 2	4.55% 4	9.09% 8	5.68% 5	20.45% 18	57.95% 51	88
Atypical atrial flutter	1.14% 1	4.55% 4	7.95% 7	15.91%	12.50%	57.95% 51	88

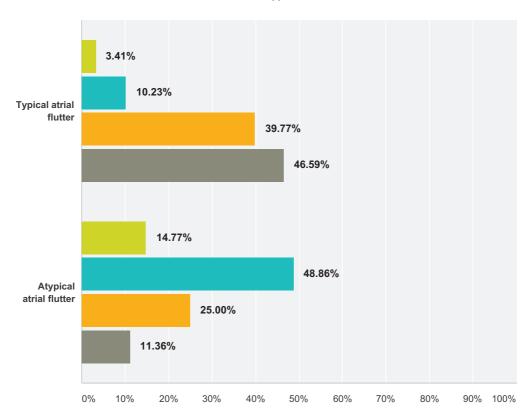
Q11 Do you routinely perform examinations to screen thrombosis in the left atrium before atrial flutter ablation? (Choose all that apply)



Typical atrial	Atypical atrial	Total	
flutter	flutter	Respondents	

Yes, routinely by transthoracic echocardiography	77.78%	83.33%	
	14	15	18
es, routinely by transesophageal echocardiography	36.59%	100.00%	
	15	41	4
res, routinely by CT	0.00%	100.00%	
	0	2	:
Fransesophageal echocardiography only when INR is not in the therapeutic range	94.23%	69.23%	
	49	36	5
None if the patient is taking anticoagulant	97.96%	63.27%	
	48	31	4
None if the procedure is performed in sinus rhythm	100.00%	46.67%	
	45	21	4
Fransesophageal echocardiography only when CHA2DS2-VASc score≥ 2 and none if the	80.00%	100.00%	
score < 2	4	5	

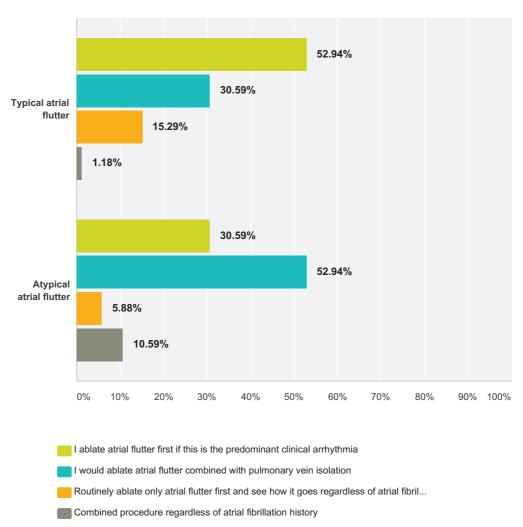
Q12 What is your treatment strategy for persistent atrial flutter?





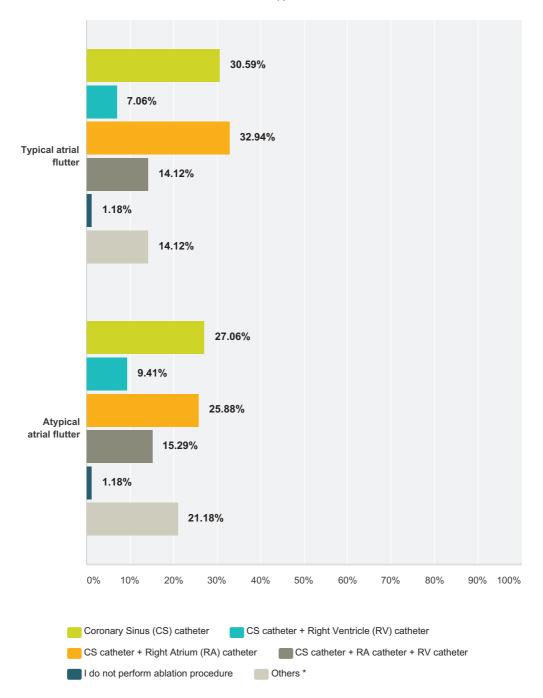
	Try antiarrhythmic drug(s) first	Direct current cardioversion first and followed by antiarrhythmic drug(s)	Direct current cardioversion first and followed by ablation	Employ ablation at the first episode	Total
Typical	3.41%	10.23%	39.77%	46.59%	
atrial	3	9	35	41	88
flutter					
Atypical	14.77%	48.86%	25.00%	11.36%	
atrial	13	43	22	10	88
flutter					

Q13 What is your treatment strategy for atrial flutter if patient has a history of atrial fibrillation?



	I ablate atrial flutter first if this is the predominant clinical arrhythmia	I would ablate atrial flutter combined with pulmonary vein isolation	Routinely ablate only atrial flutter first and see how it goes regardless of atrial fibrillation his	Combined procedure regardless of atrial fibrillation history	Total
Typical	52.94%	30.59%	15.29%	1.18%	
atrial	45	26	13	1	85
flutter					
Atypical	30.59%	52.94%	5.88%	10.59%	
atrial	26	45	5	9	85
flutter					

Q14 Which diagnostic catheter setup do you routinely use during ablation?

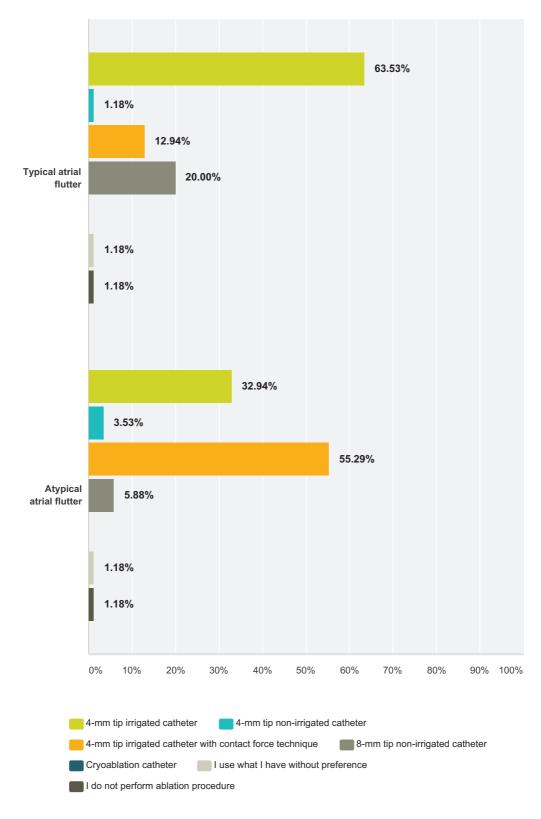


	Coronary Sinus (CS) catheter	CS catheter + Right Ventricle (RV) catheter	CS catheter + Right Atrium (RA) catheter	CS catheter + RA catheter + RV catheter	I do not perform ablation procedure	Others *	Total
Typical	30.59%	7.06%	32.94%	14.12%	1.18%	14.12%	
atrial flutter	26	6	28	12	1	12	85

Atypical	27.06%	9.41%	25.88%	15.29%	1.18%	21.18%	
atrial	23	8	22	13	1	18	85
flutter							

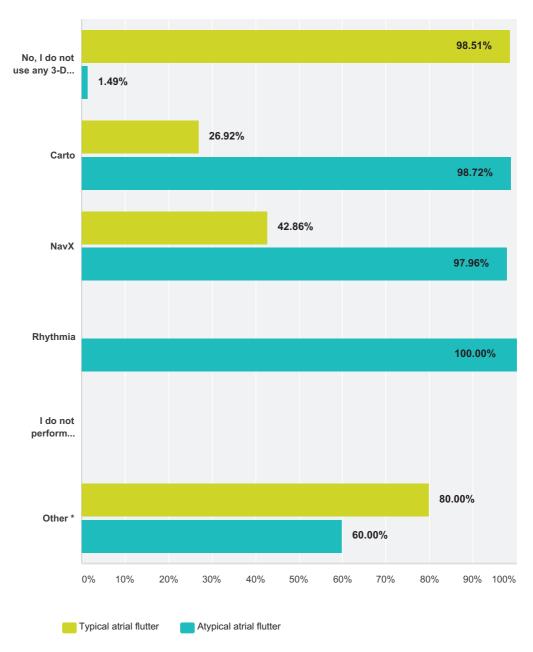
#	* Describe if replied "Others"	Date
1	CS Cath + Lasso-catheter	9/30/2016 3:00 PM
2	Variable depending on if RA or LA flutter	9/29/2016 1:14 PM
3	Consistently use CS catheter, other catheters depend on nature of atypical AFL and prior ablation procedures (e.g. PVI). Could include Halo-type catheter, circular mapping catheter or Pentarray catheter.	9/23/2016 11:24 PM
4	Crista Cather and tricuspid annulus catheter and ablation catheter	9/21/2016 7:08 AM
5	duodecapolar ra/cs catheter and RV catheter	9/21/2016 5:00 AM
6	CS + halo	9/20/2016 9:28 PM
7	CS, Halo, Ablatiion	9/20/2016 3:05 PM
8	For most atypical flutters I employ a CS and a multipolar mapping catheter for the LA (spiral catheter or PentaRay)	9/20/2016 6:22 AM
9	This tends to be left sided and therefore the setup is like an AF ablation (Lasso catheter, ablation catheter, CS catheter)	9/20/2016 5:29 AM
10	Roving decapolar catheter, parked in Crista Terminalis	9/20/2016 5:11 AM
11	add on catheters if left sided	9/20/2016 3:30 AM
12	One 20-pole catheter looped around tricuspid annulus with distal electrodes in the coronary sinus. No other diagnostic catheter in RA or RV.	9/15/2016 6:31 PM
13	I use a Lasso catheter for atypical atrial flutter ablation as I usually perform PVI at the same time. The exception would be suspected scar related right atrial flutter, in which case I use only the CS catheter (and sometimes a Pentaray catheter)	9/14/2016 5:50 AM
14	CS, Duodecapolar and Ablation	9/12/2016 7:25 PM
15	3D mapping system	9/8/2016 6:35 PM
16	Usually CS, HRA (or Crista) and a Lasso since most are post-PVI in my practice	9/8/2016 6:08 AM
17	CS, duo-decapolar and RV	9/8/2016 3:43 AM
18	CS catheter plus circular mapping catheter or Pentaray for flutter mapping.	9/8/2016 1:53 AM
19	Atypical: CS + halo	9/8/2016 1:07 AM
20	Duodecapolar catheter + RV	9/7/2016 11:43 PM
21	20-pole HALO-type RA catheter in typical AFL, CS and HALO in atypical AFL	9/7/2016 9:55 PM
22	Right Decapolar BDB Atrium Catheter + ablation catheter	9/7/2016 9:42 PM
23	It dépends of the location of the flutter and usually I use a mapping system	9/7/2016 7:30 PM

Q15 Which ablation catheter do you routinely use during the procedure?



	4-mm tip irrigated catheter	4-mm tip non- irrigated catheter	4-mm tip irrigated catheter with contact force technique	8-mm tip non- irrigated catheter	Cryoablation catheter	I use what I have without preference	I do not perform ablation procedure	Total
Typical atrial flutter	63.53% 54	1.18%	12.94% 11	20.00% 17	0.00% 0	1.18% 1	1.18% 1	85
Atypical atrial flutter	32.94% 28	3.53%	55.29% 47	5.88% 5	0.00% O	1.18% 1	1.18% 1	85

Q16 Do you use 3-D mapping system for ablation of atrial flutter? (Choose all that apply)

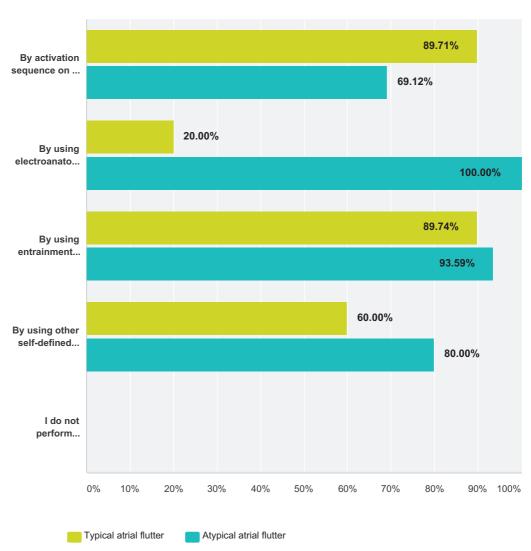


	Typical atrial flutter	Atypical atrial flutter	Total Respondents
No, I do not use any 3-D mapping system	98.51%	1.49%	
	66	1	67
Carto	26.92%	98.72%	
	21	77	78
NavX	42.86%	97.96%	
	21	48	49

Rhythmia	0.00%	100.00%	
	0	7	7
I do not perform ablation procedure	0.00%	0.00%	
	0	0	0
Other *	80.00%	60.00%	
	4	3	5

#	* Please specify if replied "Other"	Date
1	Atypical atrial flutter: 3D mapping system even for first procedure Typical atrial flutter: first procedure without 3D, any redo procedure with 3D	9/25/2016 11:20 PM
2	Carto always used to prevent fluoroscopy	9/20/2016 3:57 AM
3	I will use a mapping system for a typical flutter if it's a redo procedure.	9/12/2016 7:25 PM
4	Loca Lisa system	9/8/2016 1:53 AM

Q17 How do you make the diagnosis at the start of the procedure? (Choose all that apply)

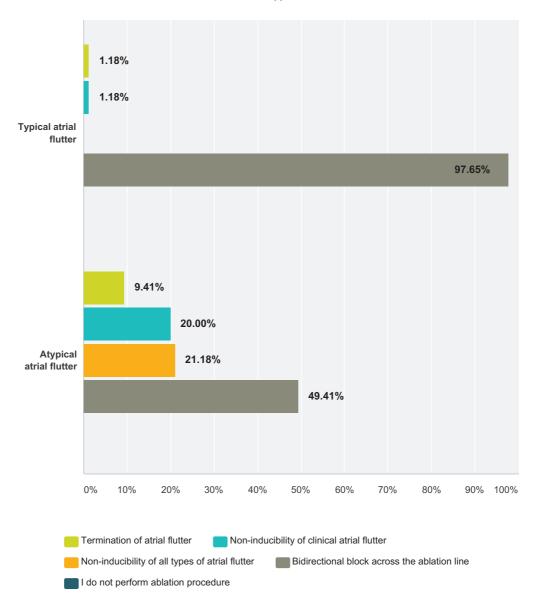


	Typical atrial flutter	Atypical atrial flutter	Total Respondents
By activation sequence on the multipolar diagnostic catheter	89.71%	69.12%	
	61	47	6
By using electroanatomical mapping on a 3-D system	20.00%	100.00%	
	14	70	
By using entrainment pacing maneuvers	89.74%	93.59%	
	70	73	;
By using other self-defined methods (describe in box below) *	60.00%	80.00%	
	3	4	
I do not perform ablation procedure	0.00%	0.00%	
	0	0	

* Please describe Date	
------------------------	--

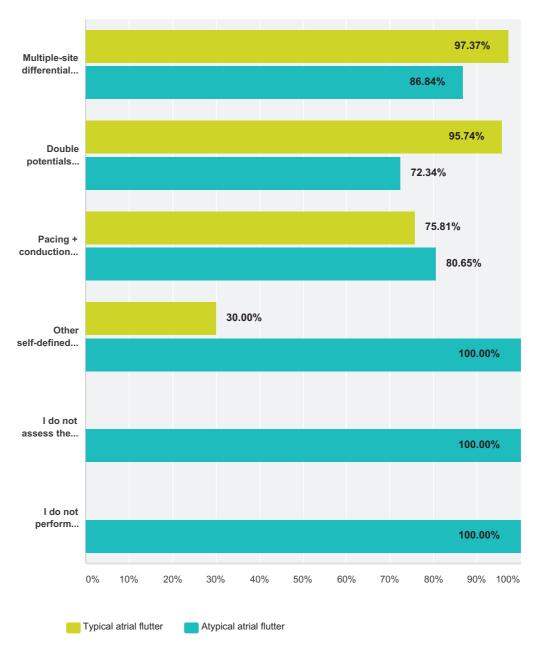
1	Multielectrode mapping with Carto	9/29/2016 9:56 PM
2	I try not to use pacing maneuvres initially due to concerns of changing or terminating the flutter	9/21/2016 9:43 PM
3	ECG	9/20/2016 3:36 PM
4	typical flutter we do a manual map around the tricuspid annulus to make sure we have the full flutter cycle length in the right atrium. this is used with a typical ECG to make the diagnosis.	9/8/2016 1:56 AM
5	Large fractionnated - low voltage in the isthmus area	9/7/2016 9:46 PM

Q18 What is the endpoint of the procedure for atrial flutter ablation?



	Termination of atrial flutter	Non-inducibility of clinical atrial flutter	Non-inducibility of all types of atrial flutter	Bidirectional block across the ablation line	I do not perform ablation procedure	Total
Typical atrial flutter	1.18%	1.18% 1	0.00% O	97.65% 83	0.00% O	85
Atypical atrial flutter	9.41% 8	20.00% 17	21.18% 18	49.41% 42	0.00% O	85

Q19 How do you assess the bidirectional block across the ablation line? (Choose all that apply)

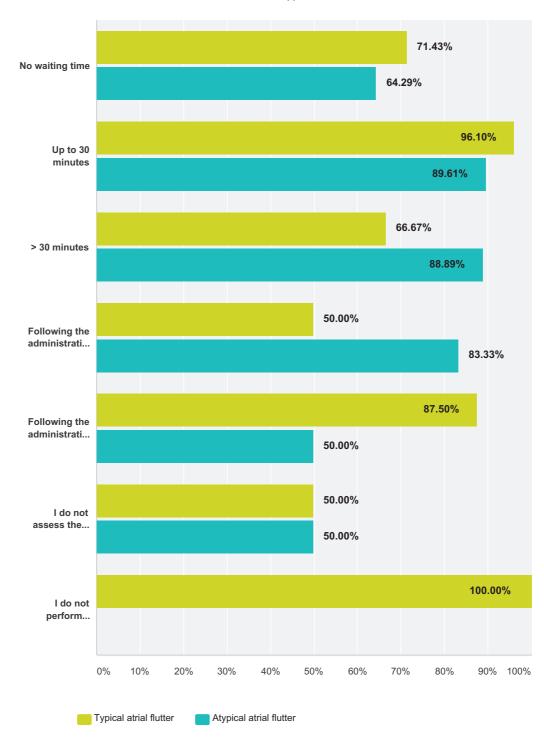


	Typical atrial flutter	Atypical atrial flutter	Total Respondents
Multiple-site differential pacing using the ablation catheter	97.37% 74	86.84% 66	76
Double potentials along ablation line	95.74% 45	72.34% 34	47
Pacing + conduction pattern on the multipolar diagnostic catheter	75.81% 47	80.65% 50	62

Other self-defined methods	30.00%	100.00%	
	3	10	10
I do not assess the block across the ablation line	0.00%	100.00%	
	0	5	5
l do not perform ablation procedure	0.00%	100.00%	
	0	1	1

Q20 How long do you monitor for bidirectional block or the recurrence of atrial flutter at the time of the procedure? (Choose all that apply)

Answered: 85 Skipped: 13



Typical atrial flutter Atypical atrial flutter Total Respondents

No waiting time	71.43%	64.29%	
	10	9	
Up to 30 minutes	96.10%	89.61%	
	74	69	
> 30 minutes	66.67%	88.89%	
	6	8	
Following the administration of Isoproterenol	50.00%	83.33%	
	3	5	
Following the administration of Adenosine	87.50%	50.00%	
	7	4	
I do not assess the block across the ablation line	50.00%	50.00%	
	1	1	
I do not perform ablation procedure	100.00%	0.00%	
	1	0	