Supplemental Material

Data S1.

Used search terms:

(Mesh exp "Atrial Fibrillation" and key words "atrial fibrillation", "atrial fibrillations", "paroxysmal atrial fibrillation", "paroxysmal atrial fibrillations", "persistent atrial fibrillation", "persistent atrial fibrillations" or "long-standing persistent atrial fibrillation"), (Mesh exp "Catheter Ablation", and key words "catheter ablation", "transvenous catheter ablation", "radiofrequency ablation", "radio-frequency ablation", "ablation", "circumferential pulmonary vein isolation", or "pulmonary vein isolation"), "(Mesh exp "Non-inducibility", "Inducibility" and key words "non-inducibility", "noninducibility", "non inducibility", "not inducible", "inducibility", "inducible", "induction", or "induce"), and (Mesh exp "Recurrence", "Prognosis" and key words "recurrence", "recurrences", "freedom from AF", "freedom from arrhythmia", "freedom from arrhythmias", "prognosis", "prognostic factor", "prognostic factors", "prognostic significance", "clinical value", "outcome", "outcomes", "clinical outcomes", "arrhythmias-free outcome" or "arrhythmia-free outcome").

Studies	Selection	Comparability	Outcome	Total score
Kawai-2019 ¹⁰	****	*	***	8
Skala-2019 ¹³	****	**	***	9
Otsuka-2018 ⁸	****	*	***	8
Santangeli-2018 ¹²	****	*	***	8
Leong-Sit-2013 ¹¹	****	*	***	8
Adlbrecht-2013 ²¹	****	*	***	8
Liu-2012 ⁷	****	*	***	8
Satomi-200814	****	*	***	8
Chang-2007 ⁵	****		***	7
Richter -2006 ²²	****	**	***	9
Haïssaguerre-2004 ⁶	****		***	7
Oral-2004 ⁴	****	**	***	9

 Table S1. Quality assessment according to the Newcastle-Ottawa scale for nonrandomized studies.

Average score: 8.08

Table S2. GRADE rating of the quality of evidence.

Author(s):

Question: AF non-inducibility compared to AF inducibility

Setting:

Bibliography:

	Certainty assessment						№ of pat	ients	Ef	fect		
№ of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	AF non-inducibility	AF inducibility	Relative (95% Cl)	Absolute (95% Cl)	Certainty	Importance

AF recurrence rate (follow up: range 5 months to 42.5 months)

12	observational	not	not serious	not serious	not serious	strong	400/1612 (24.8%)	373/1160	RR 0.68	103 fewer	$\oplus \oplus \oplus$	
	studies	serious				association		(32.2%)	(0.60 to	per 1,000	\bigcirc	
									0.77)	(from 129	MODERATE	
										fewer to 74		
										fewer)		

PAF associated with AF recurrence rate (follow up: range 5 months to 42.5 months)

10	observational	not	not serious	not serious	not serious	strong	297/1344 (22.1%)	257/910	RR 0.64	102 fewer	$\oplus \oplus \oplus$	
	studies	serious				association		(28.2%)	(0.55 to	per 1,000	\bigcirc	
									0.75)	(from 127	MODERATE	
										fewer to 71		
										fewer)		

Non-AF associated with AF recurrence (follow up: range 5 months to 42.5 months)

4	observational	not	not serious	not serious	not serious	none	76/213 (35.7%)	72/161	RR 0.75	112 fewer	$\Theta \Theta \bigcirc$	
	studies	serious						(44.7%)	(0.59 to	per 1,000	\bigcirc	
									0.96)	(from 183	LOW	
										fewer to 18		
										fewer)		

Follow up less than 6 months associated with AF recurrence rate (follow up: mean 5 months)

2	observational	not	not serious	not serious	not serious	none	51/108 (47.2%)	58/226	RR 0.55	115 fewer	$\oplus \oplus \bigcirc$	
	studies	serious						(25.7%)	(0.41 to	per 1,000	\bigcirc	
									0.74)	(from 151	LOW	
										fewer to 67		
										fewer)		

Follow up between 6 months to 12 months associated with AF recurrence (follow up: range 6 months to 12 months)

8	observational	not	not serious	not serious	not serious	strong	296/956 (31.0%)	235/1041	RR 0.67	74 fewer	$\oplus \oplus \oplus$	
	studies	serious				association		(22.6%)	(0.58 to	per 1,000	\bigcirc	
									0.77)	(from 95	MODERATE	
										fewer to 52		
										fewer)		

Follow up longer than 12 months associated with AF recurrence rate (follow up: range 12 months to 42.5 months)

			Certainty as	sessment			Nº of pati	ients	Ef	fect		
№ of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	AF non-inducibility	AF inducibility	Relative (95% CI)	Absolute (95% Cl)	Certainty	Importance
4	observational studies	not serious	not serious	not serious	not serious	none	91/226 (40.3%)	169/551 (30.7%)	RR 0.73 (0.60 to 0.89)	83 fewer per 1,000 (from 123 fewer to 34 fewer)	⊕⊕⊖ ⊖ Low	

Cut-off time 1 minute associated with AF recurrence rate (follow up: range 6 months to 12 months)

5	observational	not	not serious	not serious	not serious	strong	100/179 (55.9%)	126/434	RR 0.54	134 fewer	$\oplus \oplus \oplus$	
	studies	serious				association		(29.0%)	(0.45 to	per 1,000	\bigcirc	
									0.66)	(from 160	MODERATE	
										fewer to 99		
										fewer)		

Cut-off time 2 minutes associated with AF recurrence rate (follow up: range 12 months to 19 months)

2	observational	not	not serious	not serious	not serious	none	81/207 (39.1%)	72/242	RR 0.86	42 fewer	⊕⊕⊖	
	studies	serious						(29.8%)	(0.67 to	per 1,000	\bigcirc	
									1.11)	(from 98	LOW	
										fewer to 33		
										more)		

Cut-off time 5-10 minutes associated with AF recurrence rate (follow up: range 12 months to 42.5 months)

4	observational	not	not serious	not serious	not serious	none	50/133 (37.6%)	128/436	RR 0.77	68 fewer	⊕⊕⊖	
	studies	serious						(29.4%)	(0.58 to	per 1,000	\bigcirc	
									1.01)	(from 123	LOW	
										fewer to 3		
l										more)		

Mild stimulation associated with AF recurrence rate (follow up: range 12 months to 19 months)

2	observational	not	not serious	not serious	not serious	none	81/207 (39.1%)	72/242	RR 0.86	42 fewer	⊕⊕⊖	
	studies	serious						(29.8%)	(0.67 to	per 1,000	\bigcirc	
									1.11)	(from 98	LOW	
										fewer to 33		
										more)		

Moderate stimulation associated with AF recurrence rate (follow up: range 12 months to 42.5 months)

6	observational	not	not serious	not serious	not serious	none	127/254 (50.0%)	212/680	RR 0.63	115 fewer	⊕⊕⊖	
	studies	serious						(31.2%)	(0.53 to	per 1,000	\bigcirc	
									0.74)	(from 147	LOW	
										fewer to 81		
										fewer)		

Severe stimulation associated with AF recurrence rate (follow up: range 6 months to 16 months)

			Certainty as	sessment		№ of pati	Ef	fect				
№ of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	AF non-inducibility	AF inducibility	Relative (95% Cl)	Absolute (95% Cl)	Certainty	Importance
3	observational	not	not serious	not serious	not serious	none	23/58 (39.7%)	42/190	RR 0.57	95 fewer	⊕⊕⊖	
	studies	serious						(22.1%)	(0.38 to	per 1,000	\bigcirc	
									0.86)	(from 137	LOW	
										fewer to 31		
										fewer)		

CI: Confidence interval; RR: Risk ratio



Figure S1. Sensitivity of the outcome (recurrence of AF).

Figure S2. (random effects models) AF non-inducibility vs AF inducibility by burst pacing after catheter ablation on the recurrence of AF in total patients.

	Non-induc	ibility	Inducit	oility		Risk Ratio	Risk Ratio
Study or Subgroup	Events	Total	Events	Total	Weight	M-H. Random, 95% Cl	M-H. Random, 95% CI
Adlbrecht-2013 21	35	85	22	36	11.1%	0.67 [0.47, 0.97]	-
Chang-2007 ⁵	14	77	6	11	4.0%	0.33 [0.16, 0.68]	
Haïssaguerre-20046	6	46	9	24	2.6%	0.35 [0.14, 0.86]	
Kawai-201910	12	48	15	50	4.8%	0.83 [0.44, 1.59]	
Leong-Sit-201311	27	55	44	89	12.0%	0.99 [0.71, 1.40]	+
Liu-20127	74	500	142	641	16.1%	0.67 [0.52, 0.86]	-
Oral-2004 ⁴	10	70	10	30	3.6%	0.43 [0.20, 0.92]	
Otsuka-2018 ⁸	71	236	25	55	11.7%	0.66 [0.47, 0.94]	
Richter-2006 ²²	61	156	53	78	16.5%	0.58 [0.45, 0.74]	-
Santangeli-2018 12	45	187	37	118	10.9%	0.77 [0.53, 1.11]	
Satomi-2008 14	18	43	7	17	4.5%	1.02 [0.52, 1.98]	
Skala-2019 ¹³	27	109	3	11	2.1%	0.91 [0.33, 2.52]	
Total (95% CI)		1612		1160	100.0%	0.68 [0.58, 0.79]	•
Total events	400		373				
Heterogeneity: Tau ² =	0.02; Chi ² =	16.29, df	= 11 (P =	0.13);	l² = 32%		
Test for overall effect:	Z = 4.94 (P <	0.0000	1)				0.02 0.1 1 10 50 Favor Non-inducibility Favor Inducibility

Figure S3. (random effects models) AF non-inducibility vs AF inducibility by burst pacing after catheter ablation on the recurrence of AF in different AF type and follow-up time.

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	Non-induc	ibility	Inducit	oility		Risk Ratio	Risk Ratio
Study or Subgroup	Events	Total	Events	Total	Weight	M-H, Random, 95% C	M-H, Random, 95% Cl
1.2.1 PAF							
Adlbrecht-2013 ²¹	35	85	22	36	11.5%	0.67 [0.47, 0.97]	
Chang-2007 ⁵	14	77	6	11	3.0%	0.33 [0.16, 0.68]	
Haïssaguerre-2004 ⁶	6	46	9	24	1.9%	0.35 [0.14, 0.86]	
Liu-20127	74	500	142	641	23.3%	0.67 [0.52, 0.86]	
Oral-2004 ⁴	10	70	10	30	2.6%	0.43 [0.20, 0.92]	
Otsuka-2018 ⁸	45	166	8	22	4.1%	0.75 [0.41, 1.37]	
Richter-2006 ²²	39	115	31	50	13.6%	0.55 [0.39, 0.76]	
Santangeli-201812	29	133	19	68	6.1%	0.78 [0.47, 1.29]	
Satomi-200814	18	43	7	17	3.4%	1.02 [0.52, 1.98]	
Skala-2019 ¹³	27	109	3	11	1.5%	0.91 [0.33, 2.52]	
Subtotal (95% CI)		1344		910	71.0%	0.63 [0.54, 0.74]	◆
Total events	297		257				
Heterogeneity: Tau ² =	0.01; Chi ² = ⁻	10.16, df	= 9 (P =	0.34); l²	! = 11%		
Test for overall effect: 2	Z = 5.50 (P <	0.00001)				
1.2.2 Non-PAF							
Kawai-2019 ¹⁰	12	48	15	50	3.6%	0.83 [0.44, 1.59]	
Otsuka-2018 ⁸	26	70	17	33	7.5%	0.72 [0.46, 1.13]	
Richter-2006 ²²	22	41	22	28	12.9%	0.68 [0.48, 0.96]	
Santangeli-2018 ¹²	16	54	18	50	5.0%	0.82 [0.47, 1.43]	
Subtotal (95% CI)		213		161	29.0%	0.73 [0.58, 0.92]	\bullet
Total events	76		72				
Heterogeneity: Tau ² =	0.00; Chi ² = ().53, df =	= 3 (P = 0	.91); l² =	= 0%		
Test for overall effect: 2	Z = 2.65 (P =	0.008)					
Total (95% CI)		1557		1071	100.0%	0.66 [0.58, 0.75]	•
Total events	373		329				
Heterogeneity: Tau ² =	0.00: Chi ² = '	11.74. df	= 13 (P =	= 0.55):	$ ^2 = 0\%$		
Test for overall effect:	Z = 6.57 (P <	0.00001	0	2.50/	. 576		0.02 0.1 1 10 50
Test for subgroup diffe	rences: Chi ²	= 1.08. c	., if = 1 (P =	= 0.30).	$ ^2 = 7.7\%$		Favor Non-inducibility Favor Inducibility
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	Non-inducibility		Inducik	oility		Risk Ratio	Risk Ratio
Study or Subgroup	Events	Total	Events	Total	Weight	M-H, Random, 95% C	M-H, Random, 95% CI
1.3.1 Follow-up ≤6 r	nonths						
Oral-2004 ⁴	10	70	10	30	3.0%	0.43 [0.20, 0.92]	
Richter-2006 ²²	48	156	41	78	11.7%	0.59 [0.43, 0.80]	-
Subtotal (95% CI)		226		108	14.7%	0.56 [0.42, 0.75]	\bullet
Total events	58		51				
Heterogeneity: Tau ² =	0.00; Chi ² = ().55, df =	= 1 (P = 0	.46); I² :	= 0%		
Test for overall effect:	Z = 3.90 (P <	0.0001)					
1.3.2 6 months <foll< td=""><td>ow-up≪12 m</td><td>onths</td><td></td><td></td><td></td><td></td><td></td></foll<>	ow-up≪12 m	onths					
Chang-2007 ⁵	14	77	6	11	3.4%	0.33 [0.16, 0.68]	
Haïssaguerre-2004 ^e	6	46	9	24	2.2%	0.35 [0.14, 0.86]	
Kawai-2019 ¹⁰	12	48	15	50	4.0%	0.83 [0.44, 1.59]	
Leong-Sit-2013	27	55	44	89	10.6%	0.99 [0.71, 1.40]	+
Liu-20127	74	500	142	641	14.7%	0.67 [0.52, 0.86]	
Richter-2006 ²²	61	156	53	78	15.1%	0.58 [0.45, 0.74]	
Skala-2019 13	27	109	3	11	1.8%	0.91 [0.33, 2.52]	
Subtotal (95% CI)		991		904	51.8%	0.65 [0.51, 0.84]	\bullet
Total events	221		272				
Heterogeneity: Tau ² =	0.05; Chi ² = '	12.97, df	= 6 (P =	0.04); l ^a	! = 54%		
Test for overall effect:	Z = 3.26 (P =	0.001)					
1.3.3 Follow-up > 12	months						
Adlbrecht-2013 ²¹	35	85	22	36	9.8%	0.67 [0.47, 0.97]	
Otsuka-2018 ⁸	71	236	25	55	10.3%	0.66 [0.47, 0.94]	
Santangeli-2018 ¹²	45	187	37	118	9.6%	0.77 [0.53, 1.11]	
Satomi-200814	18	43	7	17	3.8%	1.02 [0.52, 1.98]	
Subtotal (95% CI)		551		226	33.5%	0.72 [0.59, 0.88]	•
Total events	169		91				
Heterogeneity: Tau ² =	0.00; Chi ² = '	1.50, df =	= 3 (P = 0	.68); l² :	= 0%		
Test for overall effect:	Z = 3.22 (P =	0.001)					
Total (95% CI)		1768		1238	100.0%	0.67 [0.58, 0.77]	•
Total events	448		414				
Heterogeneity: Tau ² =	0.02; Chi ² = '	16.99, df	= 12 (P =	: 0.15);	l² = 29%		
Test for overall effect:	Z = 5.69 (P <	0.00001)				Eavor Non-inducibility Eavor Inducibility
Test for subaroup diffe	erences: Chi2	= 2.01. c	if = 2 (P =	0.37).	l ² = 0.3%		Favor Non-Inducionity Favor Inducionity

PAF: paroxysmal AF; Non-PAF: non-paroxysmal AF.

Figure S4. (random effects models) AF non-inducibility vs AF inducibility by burst pacing after catheter ablation on the recurrence of AF in different induction protocols.

Α	Non-induc	ibility	Inducib	ility		Risk Ratio	Risk Ratio		
Study or Subaroup	Events	Total	Events	Total	Weight	M-H. Random, 95% C	M-H, Random, 95% Cl		
1.4.1 Cut-off time 1 mi	in								
Adlbrecht-2013 ²¹	35	85	22	36	13.0%	0.67 [0.47, 0.97]			
Chang-2007 ⁵	14	77	6	11	5.3%	0.33 [0.16, 0.68]			
Haïssaguerre-20046	6	46	9	24	3.6%	0.35 [0.14, 0.86]			
Oral-2004 ⁴	10	70	10	30	4.8%	0.43 [0.20, 0.92]			
Richter-2006 ²²	61	156	53	78	17.9%	0.58 [0.45, 0.74]	-		
Subtotal (95% CI)		434		179	44.6%	0.55 [0.44, 0.68]	◆		
Total events	126		100						
Heterogeneity: Tau ² = 0).01; Chi ² = 4	l.61, df =	= 4 (P = 0.	33); l² =	= 13%				
Test for overall effect: 2	z = 5.42 (P <	0.00001)						
1.4.2 Cut-off time 2 mi	'n								
Leong-Sit-201311	27	55	44	89	13.9%	0.99 [0.71, 1.40]	+		
Santangeli-201812	45	187	37	118	12.9%	0.77 [0.53, 1.11]			
Subtotal (95% CI)		242		207	26.8%	0.88 [0.68, 1.14]	•		
Total events	72		81						
Heterogeneity: Tau ² = 0	0.00; Chi ² = 1	.04, df =	= 1 (P = 0.	31); l² :	= 3%				
Test for overall effect: Z	2 = 0.97 (P =	0.33)							
1.4.3 Cut-off time 5-10	min								
Kawai-2019 ¹⁰	12	48	15	50	6.2%	0.83 [0.44, 1.59]			
Otsuka-2018 ⁸	71	236	25	55	13.6%	0.66 [0.47, 0.94]			
Satomi-2008 ¹⁴	18	43	7	17	5.9%	1.02 [0.52, 1.98]	_		
Skala-2019 ¹³	27	109	3	11	2.9%	0.91 [0.33, 2.52]			
Subtotal (95% CI)		436	-	133	28.6%	0.75 [0.58, 0.99]	•		
Total events	128		50						
Heterogeneity: Tau ² = 0	0.00; Chi ² = 1	l.54. df =	3 (P = 0	67); l ² :	= 0%				
Test for overall effect: 2	z = 2.05 (P =	0.04)		,,					
Total (95% CI)		1112		519	100.0%	0.68 [0.56, 0.81]	•		
Total events	326		231	0.5		0.00 [0.00, 0.01]			
Heterogeneity: Tau ² = ($0.03 \cdot Chi^2 = 3$	6 30 df	= 10 (P =	0.09)	l ² = 39%				
Test for overall effect: 7	r = 4.16 (P < 100)	0.0001)	- 10 (1	0.00),	- 5570		0.02 0.1 1 10 50		
Test for subgroup differ	ences: Chi ²	= 8.38 d	f = 2 (P =	0.02)	² = 76 1%		Favor Non-inducibility Favor Inducibility		
rest for subdroub differences. Give $= 8.38$, df $= 2.19 = 0.02$), if $= 76.1\%$									

В Non-inducibility Inducibility **Risk Ratio Risk Ratio** M-H. Random, 95% CI Study or Subaroup Events Total Events Total Weight M-H. Random, 95% CI 1.5.1 Mild stimulation Leong-Sit-201311 89 13.9% 0.99 [0.71, 1.40] 27 55 44 Santangeli-201812 12.9% 26.8% 0.77 [0.53, 1.11] 0.88 [0.68, 1.14] 45 187 37 118 Subtotal (95% CI) 242 207 Total events 81 72 Heterogeneity: Tau² = 0.00; Chi² = 1.04, df = 1 (P = 0.31); I² = 3% Test for overall effect: Z = 0.97 (P = 0.33) 1.5.2 Moderate stimulation Adlbrecht-2013²¹ 35 85 22 36 13.0% 0.67 [0.47, 0.97] Haïssaguerre-2004 ⁶ Kawai-2019 ¹⁰ 6 46 9 24 3.6% 0.35 [0.14, 0.86] 12 48 15 50 6.2% 0.83 [0.44, 1.59] Otsuka-2018⁸ 71 236 25 55 13.6% 0.66 [0.47, 0.94] Richter-2006²² 61 156 53 78 17.9% 0.58 [0.45, 0.74] Skala-2019¹³ 27 109 3 2.9% 0.91 [0.33, 2.52] 11 Subtotal (95% CI) 680 254 57.3% 0.63 [0.53, 0.74] Total events 212 127 Heterogeneity: Tau² = 0.00; Chi² = 3.58, df = 5 (P = 0.61); l² = 0% Test for overall effect: Z = 5.56 (P < 0.00001)1.5.4 Severe stimulation Chang-2007 5 77 5.3% 0.33 [0.16, 0.68] 14 6 11 Oral-2004⁴ 70 4.8% 0.43 [0.20, 0.92] 10 10 30 Satomi-200814 43 190 18 7 17 5.9% 1.02 [0.52, 1.98] Subtotal (95% CI) 58 16.0% 0.53 [0.27, 1.06] Total events 42 23 Heterogeneity: Tau² = 0.24; Chi² = 5.56, df = 2 (P = 0.06); l² = 64% Test for overall effect: Z = 1.79 (P = 0.07) Total (95% CI) 1112 519 100.0% 0.68 [0.56, 0.81] Total events 326 231 Heterogeneity: Tau² = 0.03; Chi² = 16.30, df = 10 (P = 0.09); l² = 39% 0.02 0.1 10 50 Test for overall effect: Z = 4.16 (P < 0.0001) Favor Non-inducibility Favor Inducibility Test for subaroup differences: Chi² = 5.42. df = 2 (P = 0.07). I^2 = 63.1%

Mild stimulation: burst pacing to refractoriness, 2:1 atrial captlure, or 180-200 ms (maintaining $\leq 3 \text{ sec/15 beats}$); Moderate stimulation: burst pacing to refractoriness, or 180-200 ms (maintaining 5 sec/30 beats); Severe stimulation: burst pacing to refractoriness (maintaining $\geq 10 \text{ sec}$), or 150 ms (maintaining 5-10 sec).