

**ADVANCES IN CARDIAC
ARRHYTHMIAS
and
GREAT INNOVATIONS
IN CARDIOLOGY
Turin
October 13-15, 2016**

*How the combination of contact force
technology and SF tip can improve
efficiency of ablation procedures*

**Dott. D. Pecora
Chair of Electrophysiology Unit
Fondazione Poliambulanza
Brescia**

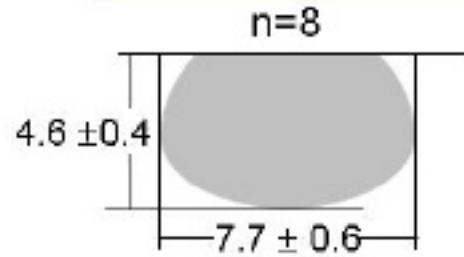


- Conflict of interest: consulting fees from Medtronic and Boston Scientific

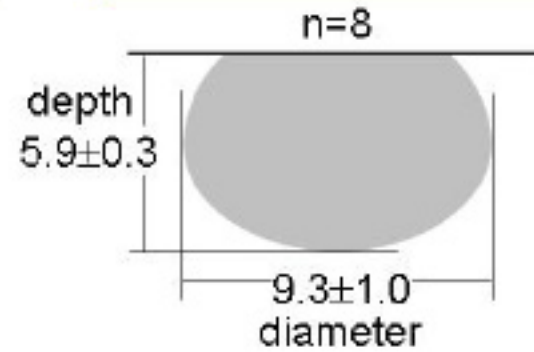
Catheter ablation of atrial fibrillation and atrial fibrillation surgery (1)

Recommendations	Class	Level
Catheter ablation of symptomatic paroxysmal AF is recommended to improve AF symptoms in patients who have symptomatic recurrences of AF on antiarrhythmic drug therapy (amiodarone, dronedarone, flecainide, propafenone, sotalol) and who prefer further rhythm control therapy, when performed by an electrophysiologist who has received appropriate training and is performing the procedure in an experienced centre.	I	A
Ablation of common atrial flutter should be considered to prevent recurrent flutter as part of an AF ablation procedure if flutter has been documented or occurs during the AF ablation.	IIa	B
Catheter ablation of AF should be considered as first-line therapy to prevent recurrent AF and to improve symptoms in selected patients with symptomatic paroxysmal AF as an alternative to antiarrhythmic drug therapy, considering patient choice, benefit, and risk.	IIa	B
All patients should receive oral anticoagulation for at least 8 weeks after catheter (IIaB) or surgical (IIaC) ablation.	IIa	B C
Anticoagulation for stroke prevention should be continued indefinitely after apparently successful catheter or surgical ablation of AF in patients at high-risk of stroke.	IIa	C
When catheter ablation of AF is planned, continuation of oral anticoagulation with a VKA (IIaB) or NOAC (IIaC) should be considered during the procedure, maintaining effective anticoagulation.	IIb	B C
Catheter ablation should target isolation of the pulmonary veins using radiofrequency ablation or cryotherapy balloon catheters.	IIa	B

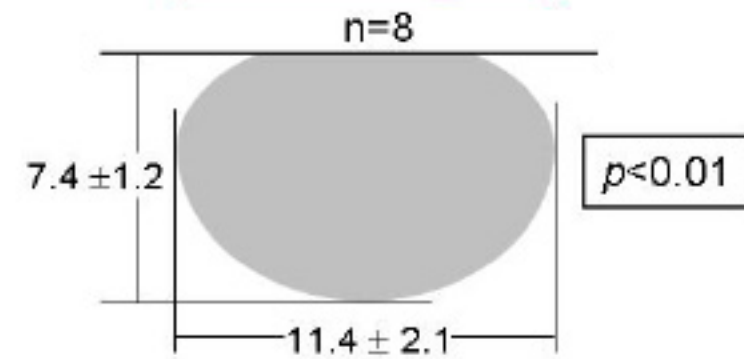
RV 25W, Low CF



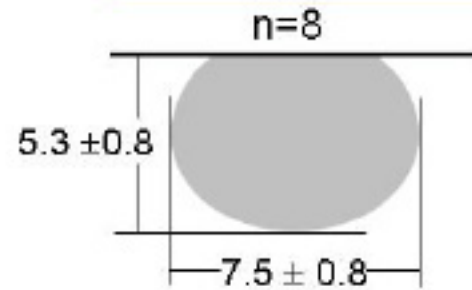
RV 25W, Moderate CF



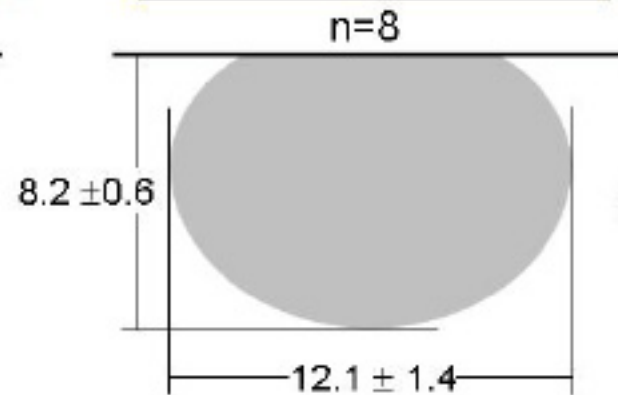
RV 25W, High CF



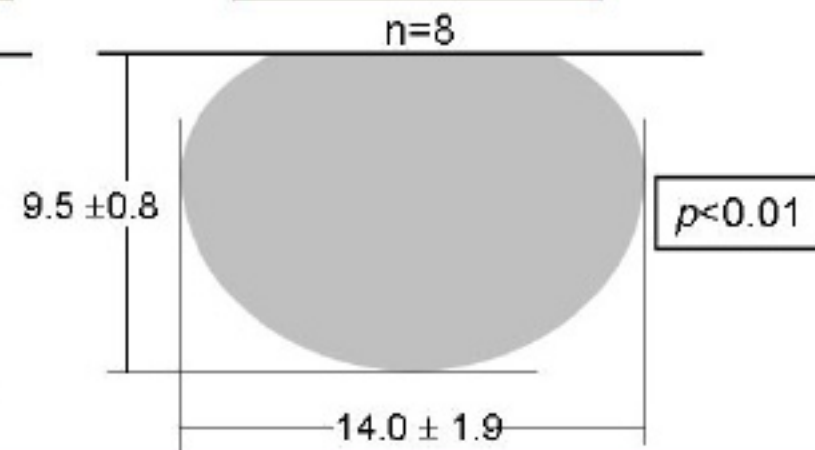
LV 40W, Low CF



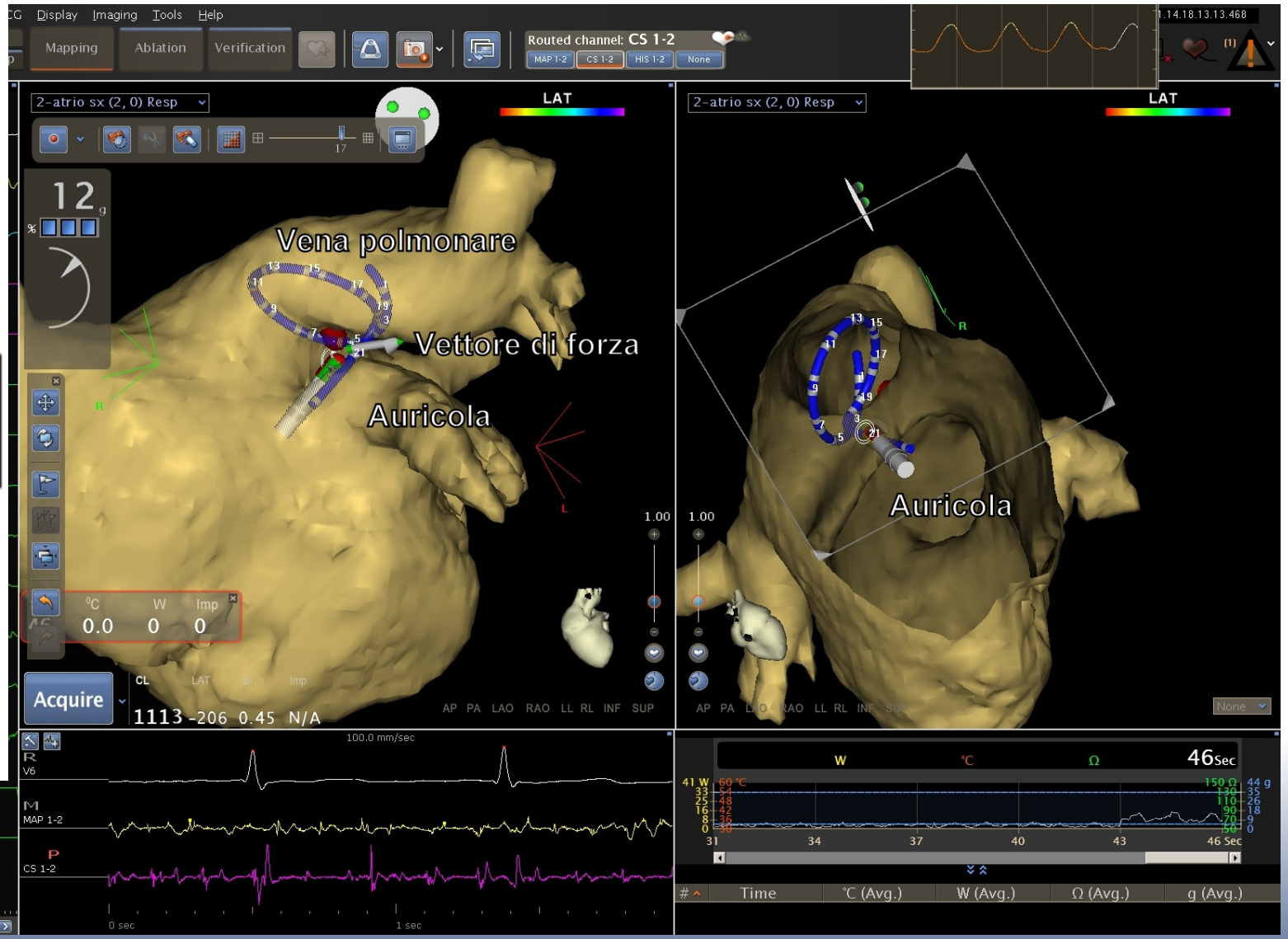
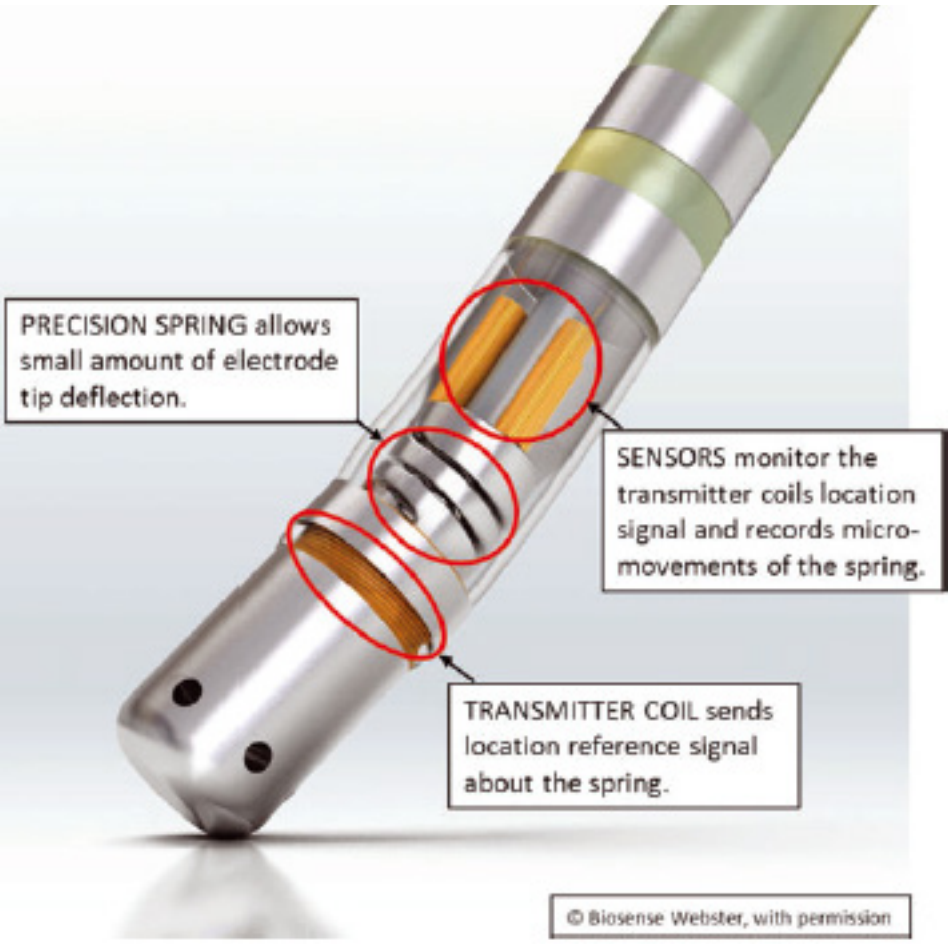
LV 40W, Moderate CF



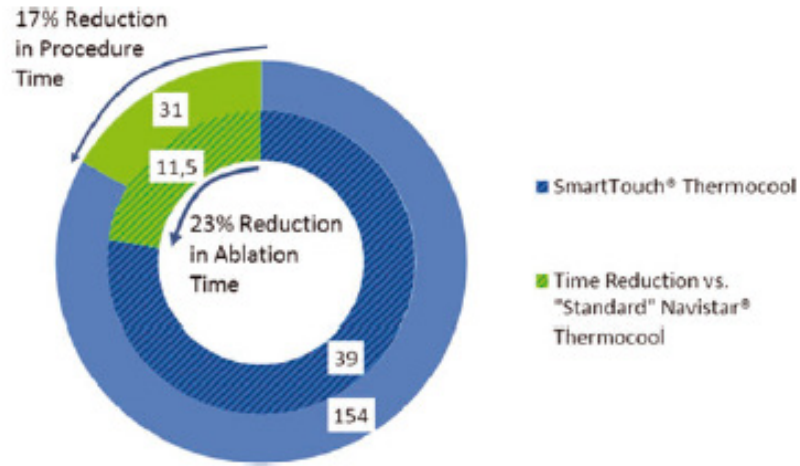
LV 40W, High CF



Nakagawa H et al. JAFIB 2014; 7: 78-84



Clinical Impact of an Open-Irrigated Radiofrequency Catheter with Direct Force Measurement on Atrial Fibrillation Ablation



Procedural Parameters			
	"Standard" Navistar® Thermocool (Biosense Webster)	SmartTouch® Thermocool (Biosense Webster)	P
Ablation time (minutes)	50.5 ± 15.9	39.0 ± 11.0	0.007
Procedure duration (minutes)	185 ± 46	154 ± 39	0.022
Total energy delivered (Ws)	70, 926 ± 19, 470	58, 510 ± 14, 655	0.019
Maximum power delivered (W)	30.2 ± 2.3	31.0 ± 4.3	0.418
Fluoro duration (minutes)	28.6 ± 17.4	23.6 ± 13.1	0.312
Acute pulmonary vein reconnection	9/25 (36%)	3/25 (12%)	0.095
Mean INR at day of procedure	2.5 ± 0.6	2.3 ± 0.5	0.334
Mean ACT value during procedure (seconds)	331 ± 39	345 ± 36	0.368

INR = international normalized ratio; ACT = activated clotting time.

Martinek M et al. PACE 2012; 35:1312–1318

Paroxysmal AF Catheter Ablation With a Contact Force Sensing Catheter Results of the Prospective, Multicenter SMART-AF Trial

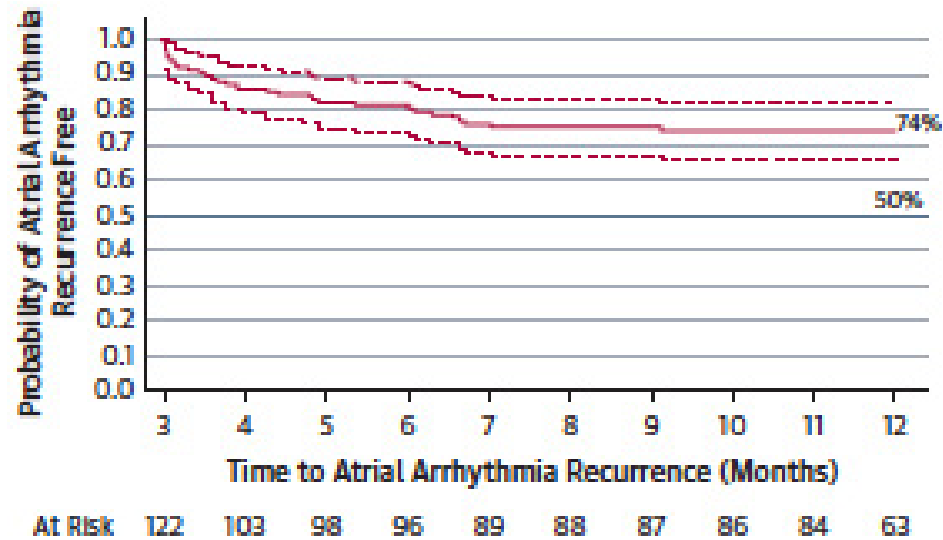
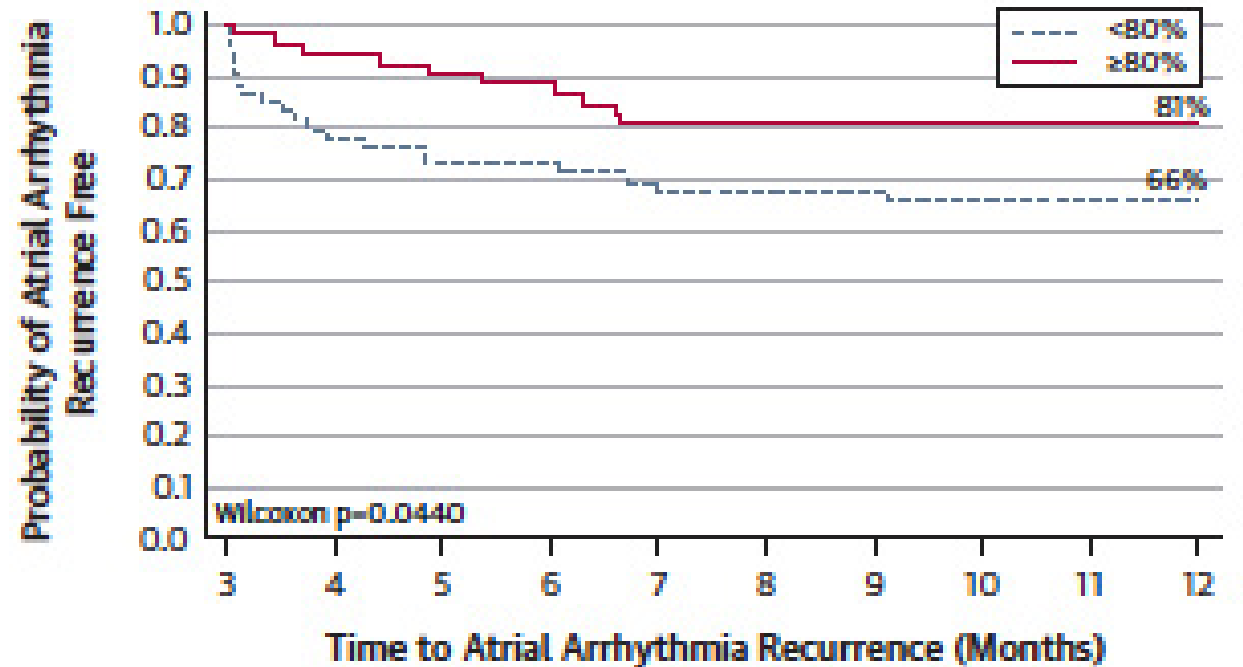


TABLE 3 Multivariate Logistic Regression Analyses of Risk Factors for Primary Effectiveness Endpoint (Effectiveness Cohort, n =122)

Risk Factor	Odds Ratio	95% Confidence Interval	p Value*
Total procedure time, min	0.99	0.99-1.00	0.0340
Percentage of time with CF within investigator selected ranges $\geq 80\%$	4.25	1.53-11.79	0.0054
Percentage of time with lateral CF >30 g	1.16	0.94-1.42	0.1670
Percentage of time with shaft proximity interference severity ≥ 2	0.99	0.97-1.01	0.3797

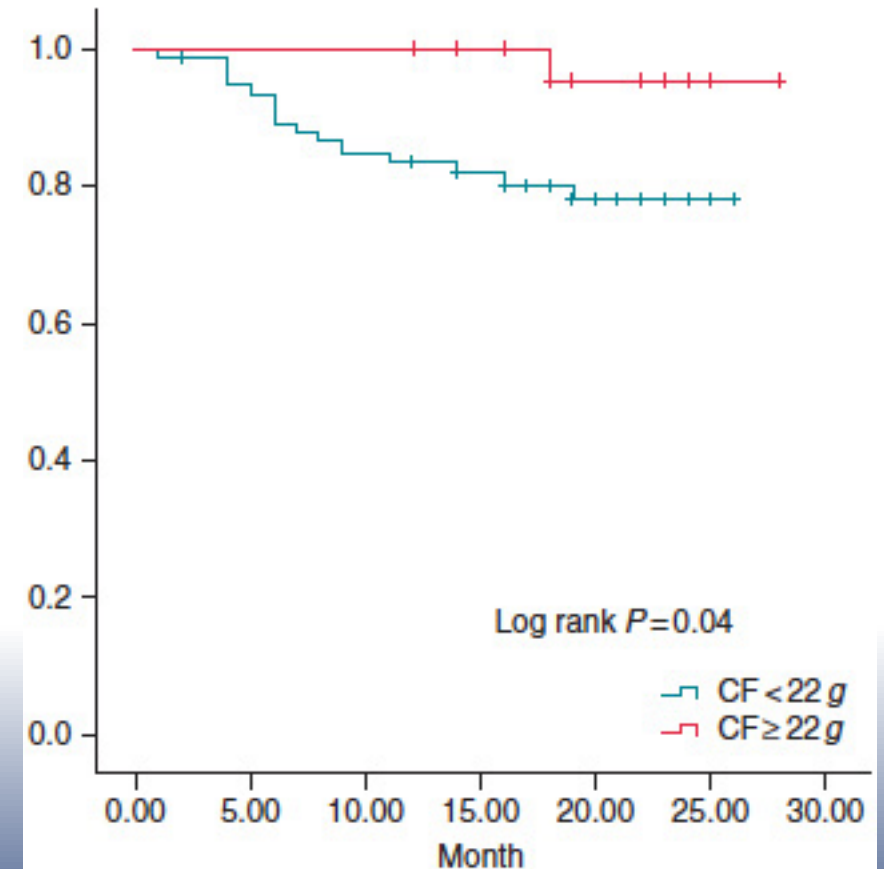
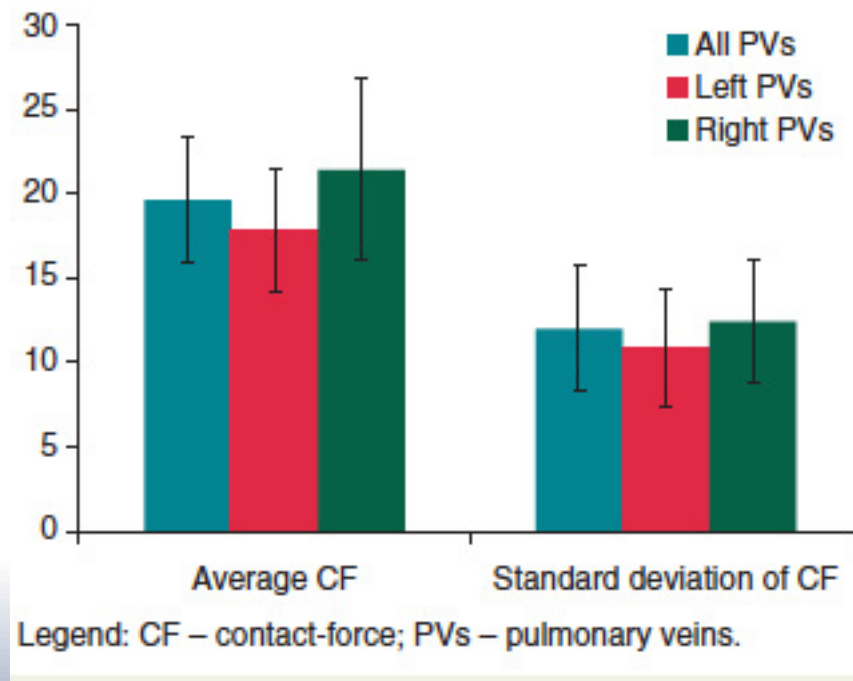
Paroxysmal AF Catheter Ablation With a Contact Force Sensing Catheter Results of the Prospective, Multicenter SMART-AF Trial

Dataset	No. of Pts	12-Month Success (AF/AT-free)
SMART-AF ($\geq 80\%$ time within preselected contact force range)	51	81%
SMART-AF ($< 80\%$ time within preselected contact force range)	57	66%
Non Force-Sensing Open-Irrigated Catheter ^a	106	66%



Natale et al. Am Coll Cardiol 2014;64:647–56

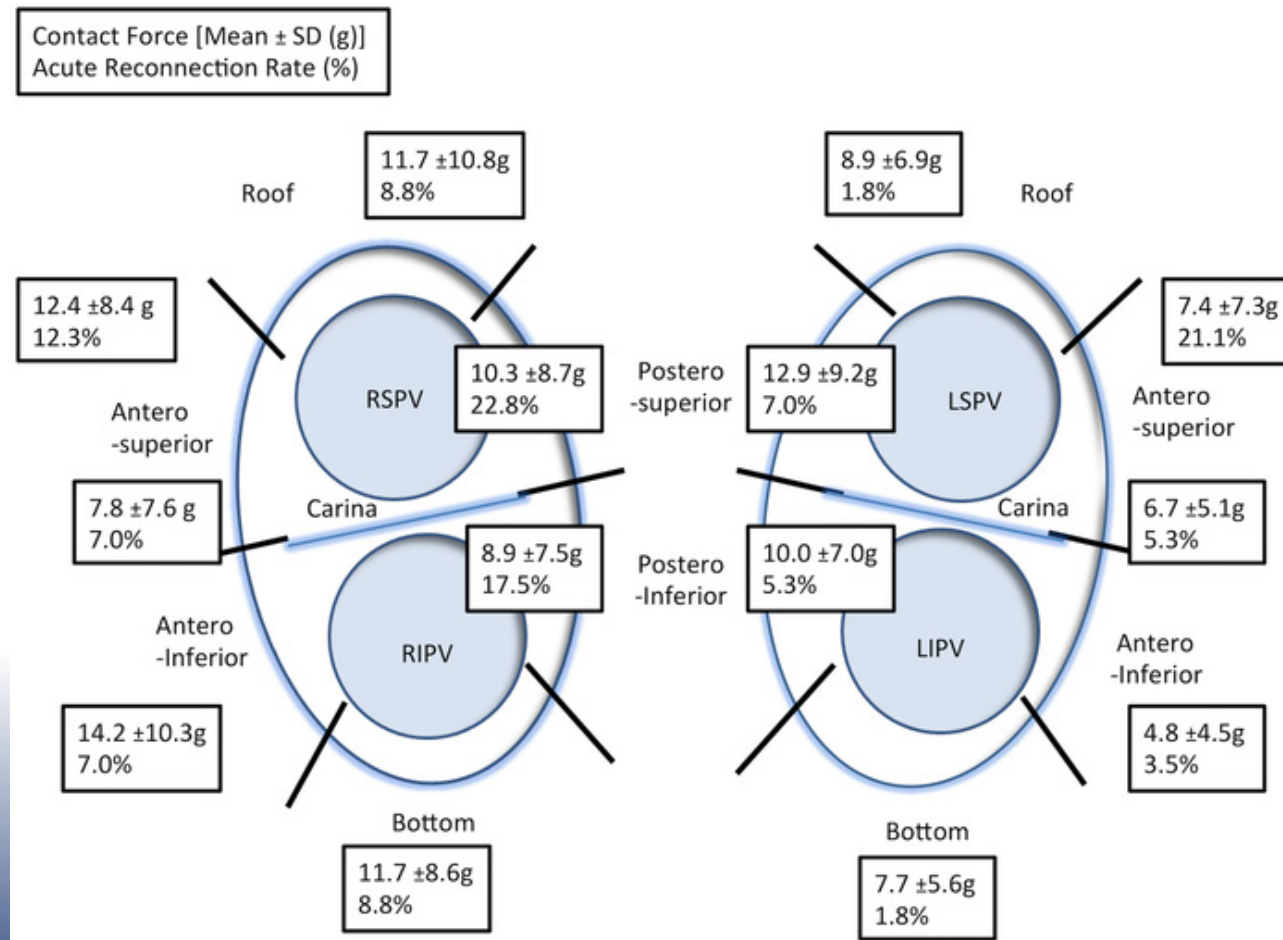
Higher contact-force values associated with better mid-term outcome of paroxysmal atrial fibrillation ablation using the SmartTouch™ catheter



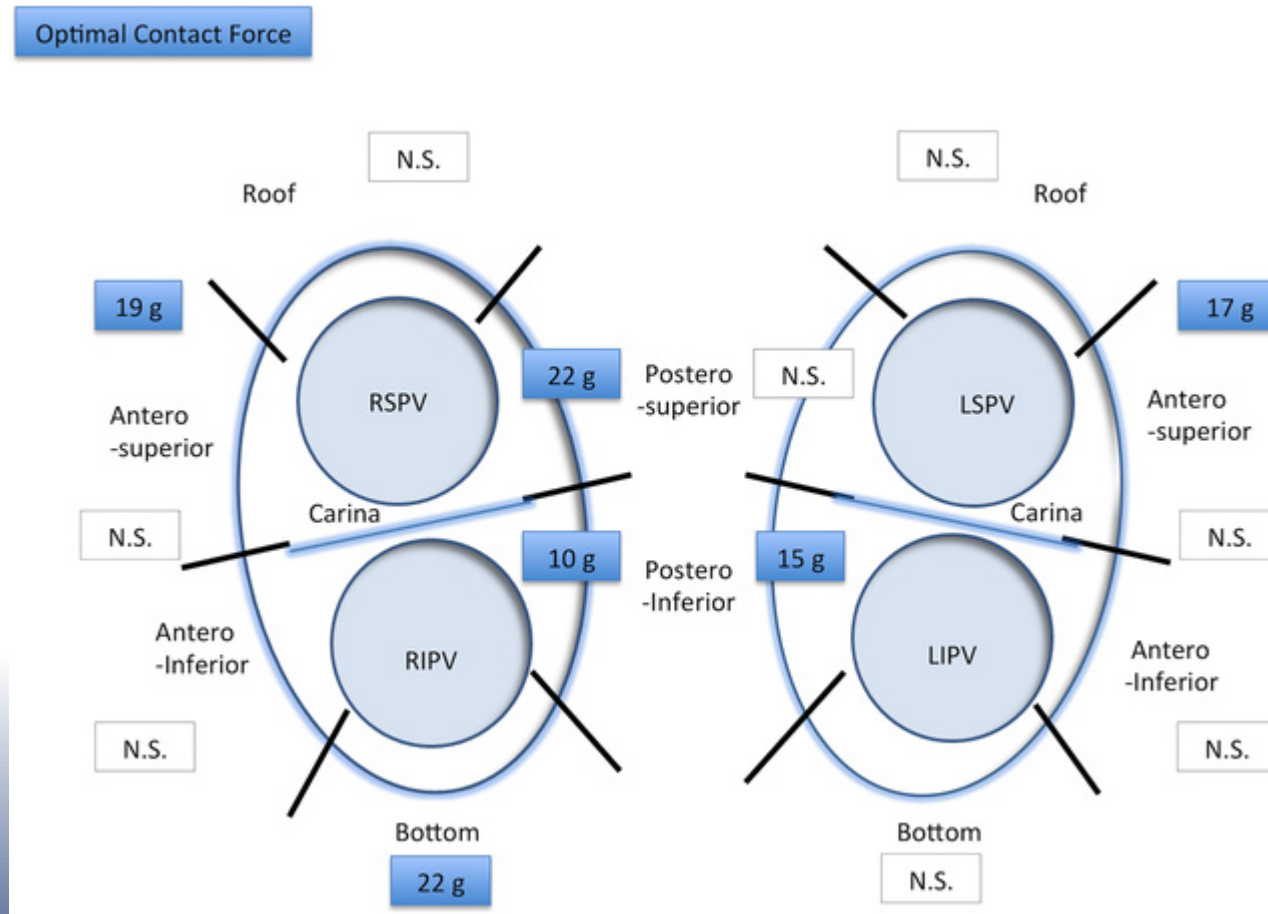
Group	M0	M6	M12	M18	M24
≥22 g	25	25	25	25	15
<22 g	75	68	61	39	9

Providencia R et al. Europace doi:10.1093/europace/euu218

Regional Difference of Optimal Contact Force to Prevent Acute Pulmonary Vein Reconnection During Radiofrequency Catheter Ablation for Atrial Fibrillation



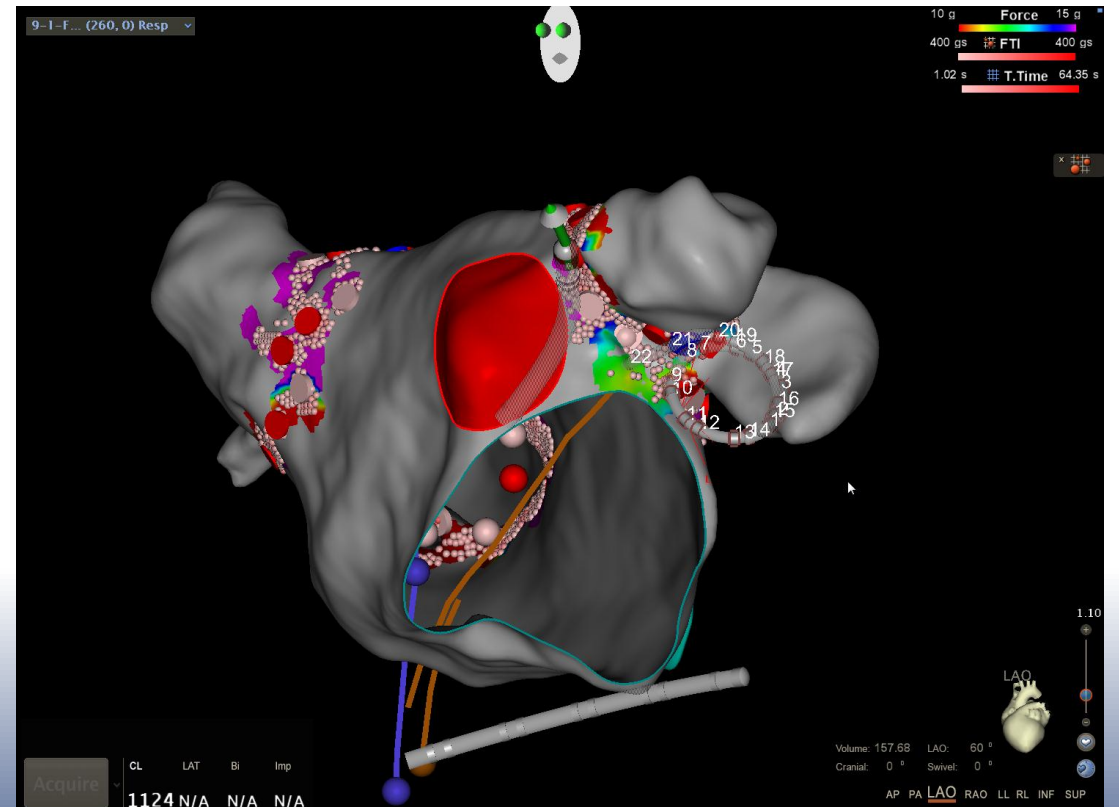
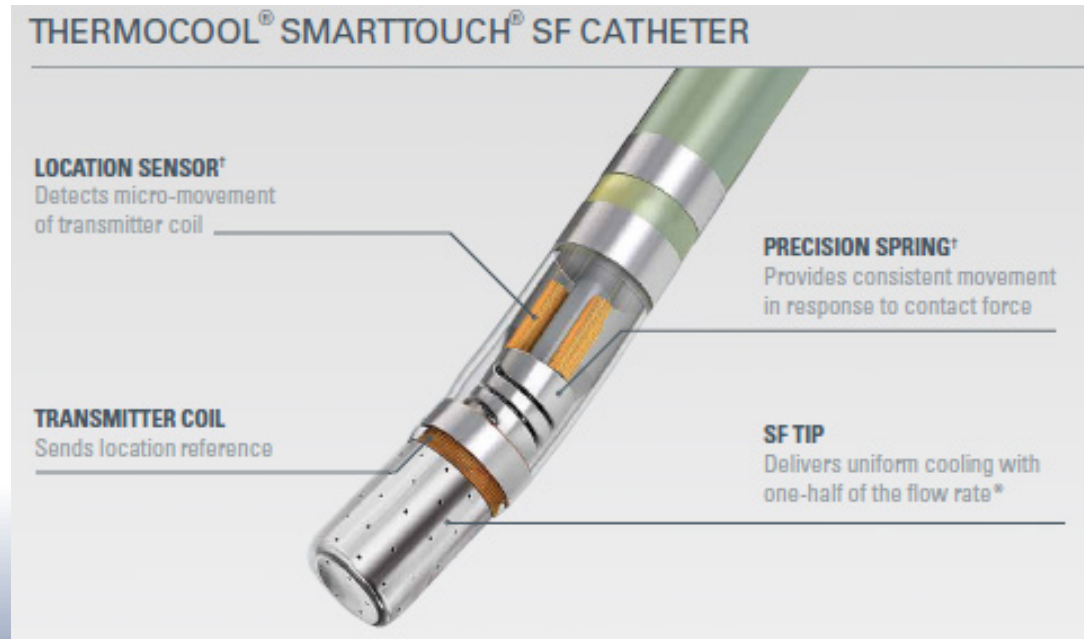
Regional Difference of Optimal Contact Force to Prevent Acute Pulmonary Vein Reconnection During Radiofrequency Catheter Ablation for Atrial Fibrillation



Sotomi Y et al J Cardiovasc Electrophysiol 2014; 25: 941-947

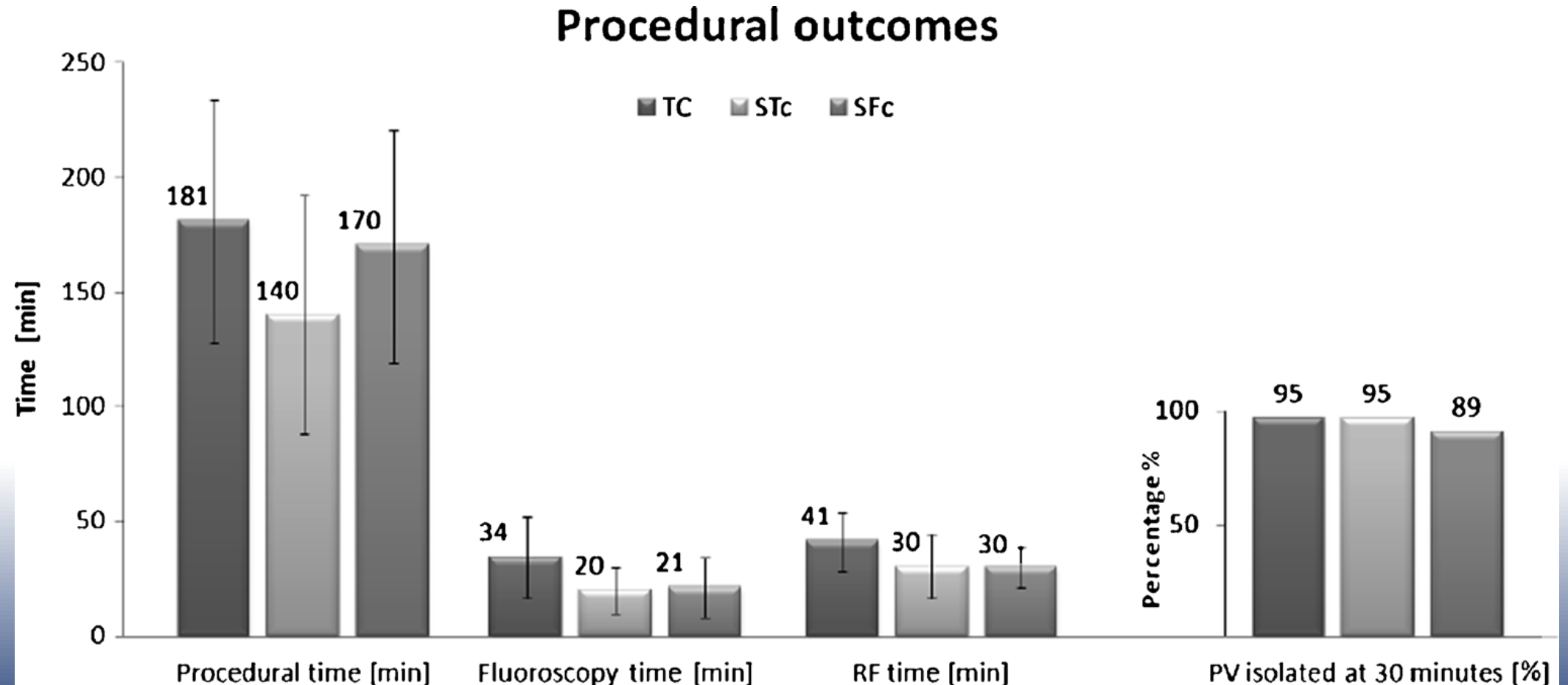
Torino 14 ottobre 2016

THERMOCOOL SMARTTOUCH[®] SF

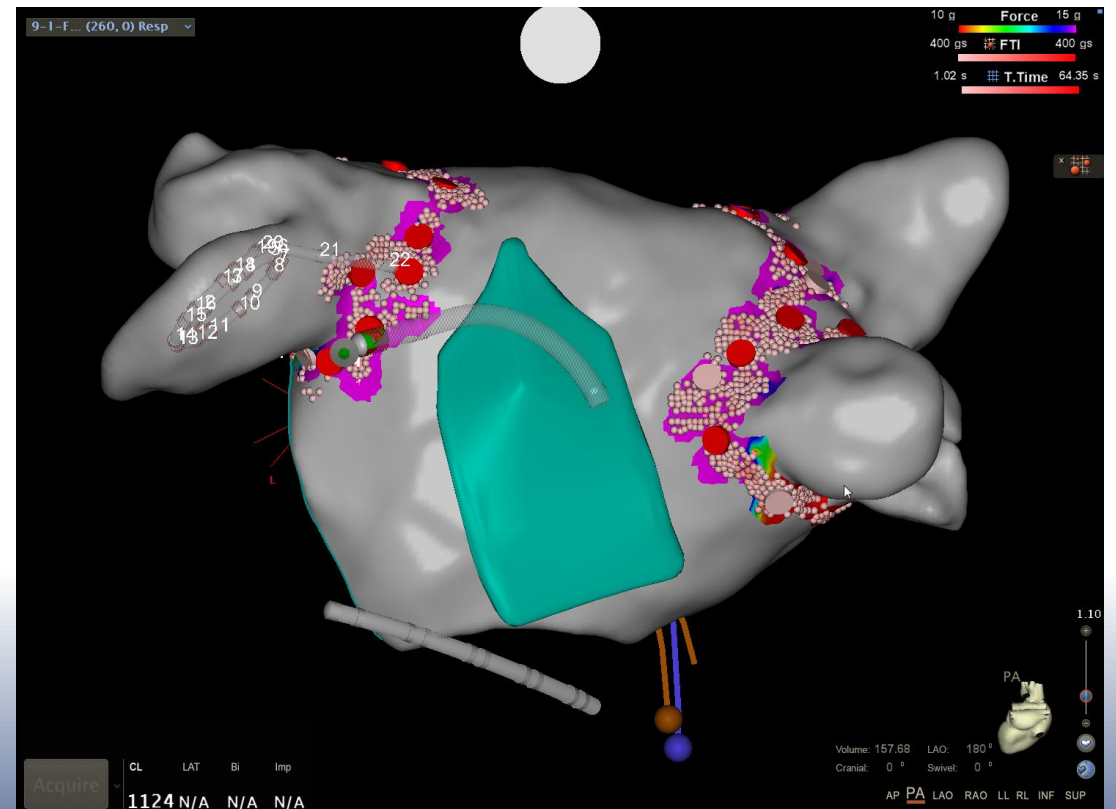
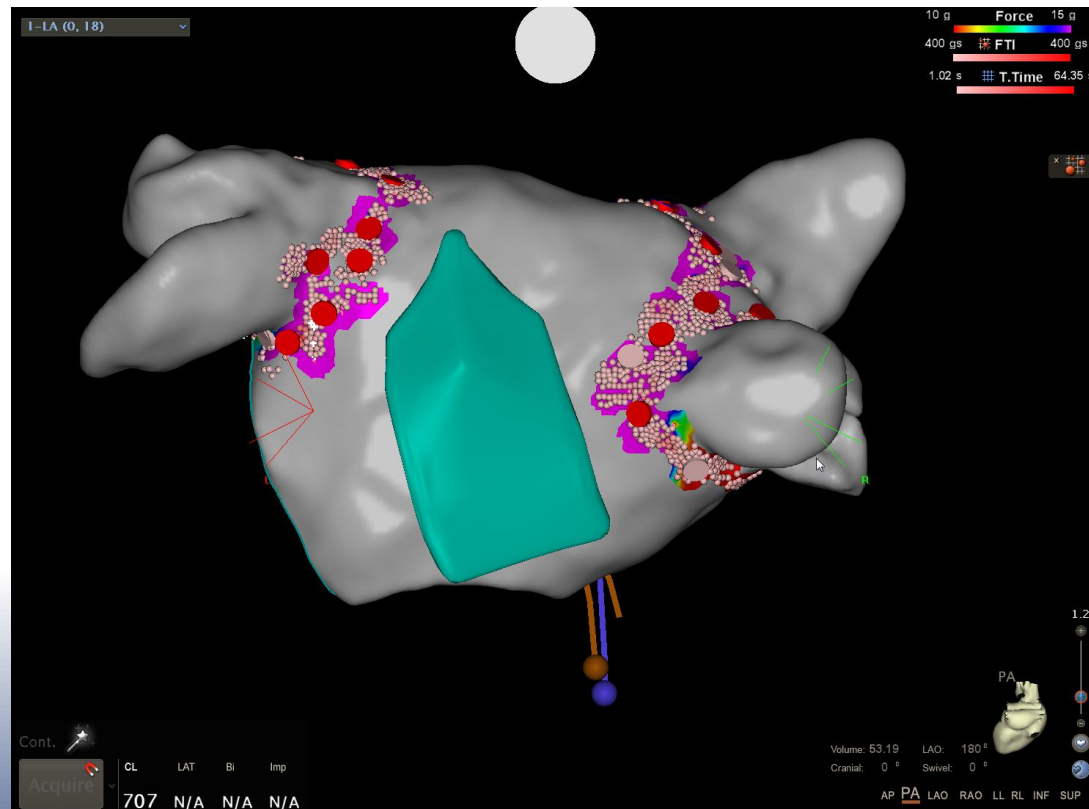


Which is the best catheter to perform atrial fibrillation ablation?

A comparison between standard ThermoCool, SmartTouch, and Surround Flow catheters



THERMOCOOL SMARTTOUCH[®] SF and Visitag



Conclusions

“Hope or Hype”

Can the combination of contact force technology and SF tip improve efficiency of ablation procedures ?

An aerial photograph of Torino, Italy, showing the city's dense urban landscape. In the background, the majestic, snow-capped peaks of the Alps rise against a clear sky. The city below is a mix of historic architecture, including the prominent Spina Gloriosa with its tall spire, and modern buildings. A large, modern stadium with a distinctive white, ribbed roof is visible in the middle ground. The foreground shows a mix of residential buildings and green spaces.

*There are many ways of going forward,
but only one way of standing still*

Frankling D.Roosevelt