

**Abstract 97 Table 2** SVT supraventricular tachycardia

	Result:		Result:
Number of Total events	44	Number of incorrectly labeled ventricular events (no therapy delivered)	12
Number of patients (% of total)	22 (18.9)	Number of patients (% of total)	7 (6)
<b>Appropriate shocks:</b>		T wave oversensing (event number with no therapy delivered)	1
Number of events	15	Non cardiac oversensing (event number with no therapy delivered)	11
Number of patients (% of total)	7 (6)	SVT (event number with no therapy delivered)	0
<b>Inappropriate shocks:</b>		<b>Reintervention:</b>	
Number of events	12	Number of procedures	12
Number of patients (% of total)	7 (6)	Number of patients (% of total)	9 (7.8)

therefore an important aspect of care in patients with SICK implants.

**Conflict of Interest** none

### 98 SOCIOECONOMIC DEPRIVATION SCORE IMPROVES PREDICTION OF AF RECURRENCE AND RE-ADMISSION POST AF ABLATION

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10.1136/heartjnl-2021-BCS.97

**Background** Atrial fibrillation (AF) recurrence post catheter ablation can occur in up to 50% within 12 months of treatment. Previously, several novel scoring systems have been suggested, inclusive of CHADS2VASc, R2CHADS2, CHADS2 and APPLE score. Nevertheless, prediction of AF recurrence and subsequent readmission remains difficult.

**Methods and Results** 383 consecutive patients attended the Golden Jubilee National Hospital, Glasgow, to undertake cryoablation for AF. Average age 58 ( $\pm$  13), 64% male, BMI 29 ( $\pm$  4.7), 60% paroxysmal AF. Degrees of socioeconomic deprivation as per Scottish Index of Multiple Deprivations (SIMD) were recorded in deciles. Patients were followed up to at least 12 months post procedure. After initial 3-month blanking period, symptomatic recurrence of documented AF (not SVT/Atrial tachycardia/Flutter) requiring admission to hospital were observed in 86 patients (22.5%).

Individual CHADS2VASc Score, R2CHADS2 (R for renal dysfunction), APPLE Score (one point for Age >65 years, Persistent AF, imPaired eGFR (<60 ml/min/1.73m<sup>2</sup>), Left atrial diameter  $\geq$ 43 mm, left ventricular Ejection fraction <50%) were recorded and compared to Scottish Index of Multiple Deprivations (SIMD) using statistical methods to assess for AUC as per ROC Curve. In the current cohort of patients, previous scoring systems CHA2DS2-VASc score (AUC 0.5337 (95% CI 0.4336 – 0.6338,  $p$  = 0.287), R2CHADS2 score (AUC 0.5202 (95% CI 0.4201 – 0.6203,  $p$  = 0.874) and APPLE score (AUC 0.5523 (95% CI 0.4522 – 0.524,  $p$  = 0.049)) demonstrated lower predictive values, while SIMD demonstrating better prediction of AF recurrence requiring readmission (AUC 0.6145 (95% CI 0.5144 - 0.7146,  $p$ =0.001)). SIMD also demonstrated to better predicts recurrence of subjective AF recurrence (AUC 0.6096 , 0.5095 - 0.7097,  $p$  <0.001). Addition of SIMD into CHADS2VASc,

R2CHADS2 or APPLE Score through various modeling did not improve predictive value of AF recurrence or readmission.

**Conclusion** Scottish Index of Multiple Deprivation is superior to the CHA2DS2-VASc, R2CHADS2 and APPLE scores for prediction of readmission and recurrence of symptomatic AF after AF cryoablation.

**Conflict of Interest** No

### 99 PULMONARY VEIN ISOLATION FOR ATRIAL FIBRILLATION: ICE 'BLOCK' VS RING OF FIRE

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10.1136/heartjnl-2021-BCS.98

**Background** Over the last 20 years various techniques have been developed striving for safer and more durable pulmonary vein isolation (PVI). The popularity and uptake of 'single-shot' strategies, which by their nature are simpler and quicker, has risen in line with the growing worldwide prevalence of AF and the concomitant requirement to simplify and streamline AF ablation service delivery. The most commonly used single-shot techniques are pulmonary vein ablation catheter (PVAC) and cryoballoon. Head-to-head assessment of outcomes of new-generation cryoballoon vs PVAC gold has never before been performed.

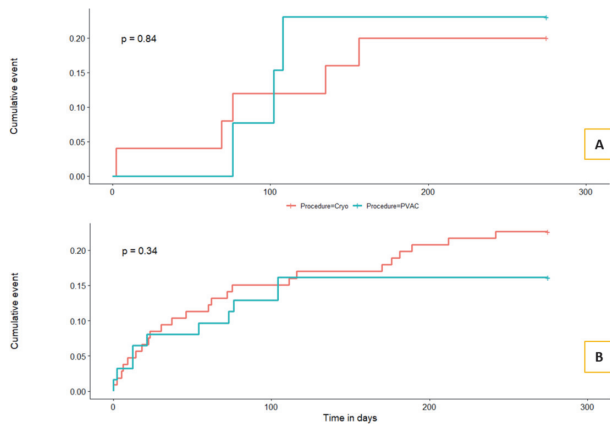
**Objective** Evaluate the safety and efficacy of PVAC gold vs cryoballoon in an unselected population undergoing de-novo ablation for persistent or paroxysmal atrial fibrillation (AF) at Royal Papworth Hospital (RPH).

**Method** Retrospective, single-centre study of consecutive AF ablations at RPH over a one year period. Demographic, procedural and outcome data were analysed. Complications were defined as any adverse procedure-related event. Success was defined as freedom from symptoms or demonstrable arrhythmia after 12 months following an initial 3-month blanking period. The consultant performing the procedure determined the ablation method used. Cases performed using point-by-point techniques or AcQMap were excluded from analysis.

Analysis of parametric continuous data were performed using Student's t-tests, whilst categorical data were compared using the  $\chi^2$  test. A two-tailed probability level of <0.05 was considered significant. Paroxysmal and persistent AF groups were examined separately due to the well-recognised differences in long-term outcome between the two entities.

**Results** Over the study period 329 first-time PVI procedures were performed. 131 (39.8%) were performed using cryoballoon (106 [78.6%] of which were for pAF) and 75 (22.8%) using PVAC (62 [82.7%] for pAF). The average age was 60.4  $\pm$  10 years and 69.6% of patients were male. There was no significant difference in age, sex, left atrial diameter or cardiovascular co-morbidity profile between different ablation technique groups (table 1). Procedure times were similar between interventions (127 vs 117 mins,  $p$ =0.79). Acute vein isolation was achieved in 96.9% of cryoballoon patients and 98.7% of PVAC patients ( $p$ =0.88). 12-month freedom from symptomatic AF was not significantly different between cryoballoon and PVAC (75.7 vs 78.6%,  $p$ =0.99 for paroxysmal AF; 75.0% vs 83.3%,  $p$ =0.80 for persistent AF) (figure 1).

Overall complication rate was 1.9%, and similar between groups (table 2). A pseudoaneurysm occurred following a



**Abstract 99 Figure 1** Kaplan-Meier plots showing arrhythmia recurrence following ablation for persistent AF (panel A) and paroxysmal AF (panel B) with cryoballoon and PVAC after a 90-day blanking period

**Abstract 99 Table 1** Patient demographics, procedural characteristics and outcomes for cryoballoon and PVAC cases. Values presented as mean ± SD or n (%). PVI= pulmonary vein isolation

	Cryoballoon n= 131	PVAC n=75	p-value
Age/years	59.5 ± 10.6	61.7 ± 9.7	0.64
Male	88 (67.2)	49 (61.3)	0.80
Paroxysmal AF	106 (78.6)	62 (82.7)	0.34
<b>Cardiovascular risk factors</b>			
Hypertension	79 (60.3)	43 (57.3)	0.58
Diabetes	19 (14.5)	16 (21.3)	0.24
Ischaemic heart disease	45 (34.4)	22 (29.3)	0.62
Cerebrovascular disease	0 (0)	1 (1.3)	-
Heart failure	1 (0.8)	0 (0)	-
Dyslipidaemia	16 (12.2)	10 (13.3)	0.71
Left atrial diameter/cm	4.1 ± 0.7	3.9 ± 1.0	0.69
Procedure time/mins	126.7 ± 24	117.4 ± 30	0.79
PVI success	127 (96.9)	74 (98.7)	0.88
<b>12 month success</b>			
Paroxysmal	78/103 (75.7)	48/61 (78.6)	0.99
Persistent	18/24 (75.0)	10/12 (83.3)	0.80

**Abstract 99 Table 2** Observed complications for cryoballoon and PVAC cases. CVA = cerebrovascular accident. Values presented as n (%)

Complications	Cryoballoon n= 131	PVAC n=75	p-value
<b>Total</b>	3 (2.3)	1 (1.3)	<b>0.84</b>
Vascular	0	1	
Pericardial effusion	0	0	
Air embolus	1	0	
Phrenic palsy	1	0	
Migraine	0	0	
CVA	0	0	
Pulmonary oedema	0	0	
Leg numbness	1	0	
Death	0	0	

PVAC case requiring surgical intervention. One case each of phrenic nerve palsy, right leg numbness (due to local infiltration of local anaesthetic around the femoral nerve) and air embolism were associated with cryoablation. All resolved within hours, did not require intervention and did not delay discharge. No long-term sequelae were seen.

**Conclusions** PVAC and cryoballoon AF ablation appear equally efficacious with similar procedure times in an unselected population. Both were associated with a low adverse event rate.

**Conflict of Interest** nil

**100 DRIVE-BY PHYSIOLOGY SERVICES: A NOVEL MODEL FOR THE COVID-19 ERA**

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10.1136/heartjnl-2021-BCS.99

The COVID-19 pandemic has led to unprecedented challenges for cardiac diagnostics and follow-up. Whilst the BHRS recommended remote device follow-up wherever possible, this is not always feasible. In addition, continuing diagnostic services including Holter monitoring was necessary to support the telephone-clinic based outpatient Cardiology service operating at the height of the pandemic. The physiology service at our district general hospital carried out 3494 device checks and 2762 ambulatory Holter monitors last year. We describe a novel model implemented here to continue providing essential cardiac investigations and device follow-up whilst minimising risk of COVID transmission.

A drive-by unit was set up within the hospital car park and specifically delineated parking spaces were allocated for patients to park with the patient remaining in the vehicle at all times. At the appointment time, they are called forward. To fit ambulatory Holter monitors, a PPE-donned physiologist passes over the Holter pack containing both the monitor and visual instructions on applying it. Assistance is provided via telephone if necessary. Return of the monitor is performed in a similar manner.

For device checks, the header is passed over to the patient suitably protected. The patient places the header over the site of the device for the duration of the check following which it is returned via the window. The device site is inspected visually where appropriate through the window. Our experience suggests that the diagnostic value of self-applied Holter monitors have been comparable to that of physiologist-applied monitors. To the end of August 2020, 850 device checks had been carried out and 557 Holter monitors had been dispensed. Dispensing the Holter monitors in this manner has resulted in a very high diagnostic accuracy with very few non diagnostic recordings on patient-applied Holters. Patient feedback in comparing experiences to the in-hospital pacing clinic have been very positive. This demonstrates that such a model is feasible without compromising clinical care whilst reducing face to face patient contact and subsequent likelihood of COVID-19 transmission.

**Conflict of Interest** Nil