(LVA), defined as bipolar voltage amplitude < 0.5mV (expressed as a percentage of total atrial surface area), and the slowest conduction velocity (CV) were measured in the RA and left atrium (LA), both regionally and globally. Men and women had similar age (64±10 vs. 64±10 yrs), CHADS2 score (1.0(0-1.0) vs. 0(0-1.0)), AF duration (3.0(2.0-7.0) vs. 3.0(1.0-6.0) yrs) and persistent AF (27% vs. 29%). Compared to men, women presented with worse quality of life scores (CCS-SAF≥3: 100% vs. 53%, p=0.001). Structurally, LA size was similar between men and women (40±12 vs. 44±17ml/m2, p=0.42) as was RA size (20±4 vs. 18±4cm2, p=0.055). In the LA, women had greater global LVA than men (10.3(6.5-27.1) vs. 1.9(1.0-6.2)%, p< 0.001), with the greatest differences in the anterior wall, septum and PV antra. Likewise, women exhibited slower global LA CV than men (0.63±0.14 vs. 0.82±0.22m/s, p=0.002), with the greatest differences in the anterior wall, septum and PV antra. In the RA, women had more global LVA than men (11.9(10.0-14.6) vs. 3.4(2.6-5.3)%, p< 0.001), with the greatest differences in the inferior RA. Women and men had similar global RA CV (0.67±0.28 vs. 0.64±0.10m/s).

CONCLUSION: Despite similar age, AF duration/burden and bi-atrial size, women undergoing PVI have greater bi-atrial structural remodelling than men. The latter is characterized by 3- to 5-fold greater global bi-atrial LVA and slower LA CVs in women, which primarily affect the LA anterior wall, septum and PV antra, as well as the inferior RA. These sex differences may explain the higher risk of AF recurrence after PVI reported in women.

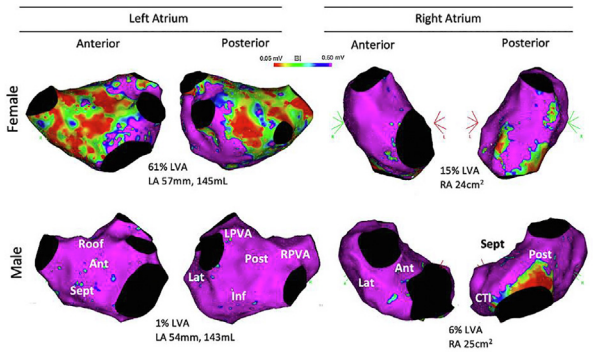


Figure. Comparison of bi-atrial Low Voltage Area (LVA) between age-matched male and female with AF
The female patient has greater bi-atrial LVA compared to the age-matched male. LA size is comparable between male and female, as is RA size. Sept=septum; Ant=anterior; LPVA=left pulmonary vein antrum; RPVA=right pulmonary vein antrum; Post=posterior; Inf=inferior; Lat=lateral, CTI=cavotricuspid isthmus

Heart and Stroke Foundation of Canada

P084
SIMPLIFIED EKG ONLY METHOD TO ACHIEVE PHYSIOLOGIC PACING

M Evans, S COTE, FAYALA VALANI, F Ayala-Paredes

Sherbrooke, Québec

BACKGROUND: His pacing (His-P) and left bundle branch pacing (LBB-P) are new modalities to obtain a more physiologic pacing (PP); they require however, new tools and new skills. We describe a simplified method to achieve LBB-P, using only a 12-lead EKG to guide lead deployment; mid septum (not too anterior close to His area or LV summit and not too posterior is sought).

METHODS AND RESULTS: From our cohort of 211 physiologic pacing attempts (2019-2022), we extracted all patients (pts) with detailed available 12 lead EKG during implant. His-P and LOT/HOT-CRT pts were excluded. We reviewed the presence of two features: inferior lead discordance (at least one lead from II, III or aVF with different polarity compared to the others) or isodiphasic QRS at the beginning of 3830 Medtronic lead screwing, and the presence of typical LBB capture morphology after final position. Leads were screwed until LBB-P morphology was obtained or bipolar and unipolar pacing produced the same QRS pacing morphology. A total of 161 pts tracings were analyzed. Pts were 56% males; median age was 79 +/- 8.5 years. Indications were: SSS 25%, AV block 41% (including 8 post TAVR), Pacemaker induced cardiomyopathy (PIMC) 27% and AV node ablation in 7%. Success (defined as a QRS shorter than 140ms and a LVAT shorter than 90ms, or 20% reduction in QRS width) was achieved in 93.2% of pts. Procedural time (pts in-out) was 88min (+/- 37min). Perforation was confirmed when aVL has the same polarity of aVR and there was a monophasic R wave in V1 (mostly when anterior orientation or apical sites were tempted). Basal versus apical positions were easily differentiated looking at normal progression of R waves in precordial leads.

CONCLUSION: Localizing the middle of the septum is easy, before start screwing, just looking at polarity of inferior leads, better outcomes are obtained starting at the middle of the septum (more LBB-P morphology achieved with acceptable failure rates). The anterior region seldom obtains a LBB-P morphology, but it is the second place to try as QRS are almost always the thinnest obtained.

	Failure (%)	LBB capture morphology (%)	QRS (ms) post implant	LVAT (ms) +/- STD	Threshold at implant (V@0,4-0,5ms) +/- STD	Impedance at implant (ohms) +/- STD
Anterior oriented (+ II, III, avF)	2	15	120 +/- 14	73 +/- 14	0,8 +/- 0,4	799 +/- 188
Mid septal oriented (isodiphasic or divergent II, III or aVF)	7	75	125 +/-18	75 +/- 15	0,98 +/- 0,48	699 +/-166
Posterior oriented (- II, III or aVF)	15	81	131 +/- 19	76 +/- 17	1,13 +/-0,49	782 +/- 188

P086
STROKE RISK AND ORAL ANTICOAGULATION USE WITH EXTENDED CARDIAC MONITORING FOR ATRIAL FIBRILLATION VERSUS USUAL CARE: A SYSTEMATIC REVIEW AND META-ANALYSIS

C Cheung, B MacDonald, R Turgeon, T Field, M Hill, J Andrade

San Francisco, California

BACKGROUND: Extended cardiac monitoring is used to detect atrial fibrillation (AF) in high-risk populations, including

those with a history of cryptogenic stroke. Despite demonstrated effectiveness in AF detection, randomized trials have not clearly demonstrated a reduction in stroke and systemic embolism (SSE) or transient ischemic attack (TIA). We performed a systematic review and meta-analysis of randomized trials evaluating extended monitoring versus usual care on reduction of stroke/SSE and TIA (PROSPERO #CRD42021277611).

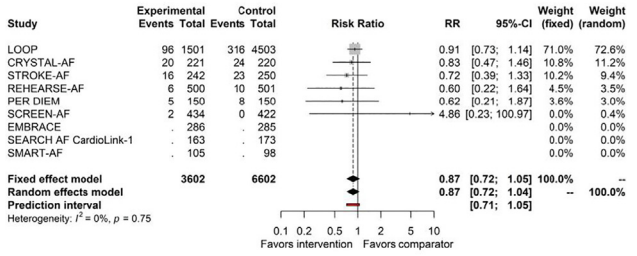
METHODS AND RESULTS: Studies were identified through CENTRAL, MEDLINE, and Embase searches using "atrial fibrillation" and separate terms for all monitoring devices. We included studies with ≥100 participants and ≥30 days follow-up. The primary outcome was a composite of SSE/TIA (or most inclusive outcome reported), with secondary outcomes including: AF incidence, oral anticoagulation (OAC) initiation, major bleeding, and adverse events. Meta-analyses were performed using R 'meta' package reporting risk ratios (RR) with 95% confidence intervals (95% CI) using a random-effects model. Risk-of-bias assessments were performed using the Cochrane Risk of Bias (RoB2) tool. From 1411 records, we included 9 RCTs (n=10,205). Mean age of was 69.5 years, 40.4% were female, and mean CHADS2 score was 4.0. Four studies used implantable cardiac monitors, 3 used external cardiac monitors, and 2 used handheld ECG devices (Table 1). Study populations included post-stroke or embolic stroke of undetermined significance (n=5), risk factors for AF or stroke (n=2), and post-cardiac surgery (n=1). Mean follow-up was 15.7 months (range 3.0-64.5). All studies had a low risk of bias or some concerns across most domains . Extended monitoring did not significantly reduce the primary outcome (Figure 1, RR 0.87, 95% CI 0.72-1.04, I2=0%, moderate certainty), or its individual components, versus usual care. Extended monitoring increased AF detection (RR 4.56, 95% CI 3.01-6.92, I2=65%, high certainty) and OAC use (RR 2.25, 95% CI 2.01-2.53, I2=0%, high certainty), but not major bleeding (RR 1.23, 95% CI 0.84-1.82, I2=0%, low certainty) or adverse events (RR 0.93, 95% CI 0.68-1.27, 1 trial, very low certainty).

CONCLUSION: In this meta-analysis of RCTs, extended monitoring was associated with increased AF detection and OAC use. However, it remains unclear whether extended monitoring is associated with a reduced risk of thromboembolic events.

Table 1. Randomized Trials Included in Meta-Analysis

Trial Name	Overall Risk of Bias	Number of Participants	Risk Group	Monitoring Device
STROKE-AF. JAMA 2021.	Some concerns (domain 3)	492	Stroke attributed to large- or small-vessel disease	Implantable cardiac monitor
CRYSTAL-AF. NEJM 2014.	Some concerns (domains 2, 3, 5)	441	Cryptogenic stroke	Implantable cardiac monitor
PER DIEM. JAMA 2021.	High (domain 3)	300	Ischemic stroke or TIA	Implantable cardiac monitor
LOOP. Lancet 2021.	Low	6004	70-90 years and $CHADS_2$ risk factor	Implantable cardiac monitor
EMBRACE. NEJM 2014.	Some concerns (domain 2)	572	Cryptogenic stroke	External cardiac monitor
SCREEN-AF. JAMA Cardiol 2021.	Some concerns (domains 2, 3)	856	≥75 years old	External cardiac monitor and home BP monitor
SEARCH-AF CardioLink-1. JAMA Netw Open 2021.	Some concerns (domain 1, 3, 5)	336	Cardiac Surgery	External cardiac monitor
REHEARSE-AF. Circ 2017.	Some concerns (domain 2)	1001	≥65 years old and CHA_2DS_2-VASc ≥2	Handheld ECG device (Kardia™)
SMART-AF. Europace 2021.	High (domains 1, 2, 3)	203	Ischemic stroke or TIA	Handheld ECG device (Kardia™)

Figure 1. Forest Plot of Primary Outcome (Stroke, Transient Ischemic Attack, Systemic Embolism)



P087
STROKE, DEATH, AND ADHERENCE TO ORAL ANTICOAGULANTS IN AF: A RETROSPECTIVE OBSERVATIONAL STUDY WITH ADHERENCE AS A CONTINUOUS VARIABLE

S Salmasi, A Adelakun, A Safari, M De Vera, J Andrade, M Deyell, P Loewen

Montréal, Québec

BACKGROUND: Patients with atrial fibrillation (AF) who are prescribed oral anticoagulants (OACs) for stroke and systemic embolism (SSE) prevention are frequently nonadherent to therapy. Uncertainty remains about the association between nonadherence and the risk of SSE and death. The objective of this study was to quantify the association between nonadherence to OACs and its clinical consequences.

METHODS AND RESULTS: Using linked, population-based administrative data containing physician billing, hospitalization, and prescription records of 5 million British Columbians (1996-2020), incident adult cases of AF were studied. For each patient, proportion of days covered (PDC) was calculated from the date of their first prescription for any OAC to the end of follow-up as a continuous annual time-updated exposure of interest. The validated REWarDS method was applied to estimate PDC for warfarin. Multivariable Cox proportional hazard models were used to evaluate the primary outcome, the association between PDC and SSE or death, controlling for known confounders. Secondary analyses were done for death and SSE as discrete outcomes. The study cohort included 41,033 OAC recipients [mean age 68.4y (SD 12.7), 45% female, mean CHA2DS2-VASc score 2.25 (SD 1.46)]. The mean PDC for the cohort was 0.69 (SD 0.28) over a median follow-up of 6.7 years. Multivariate modelling showed that every 10% absolute increase in PDC was associated with a 5.3% lower hazard of SSE or death [Hazard Ratio (HR) 0.47, 95%CI 0.42 − 0.53]. This result was stable in the sensitivity analysis when the cohort was confined to those starting therapy after 2010 (when all OACs were available; n=19,588): HR 0.47 (95%CI 0.37-0.60). Secondary analyses showed that every 10% increase in PDC was also associated with a 4.8% and 5.6% lower hazard of death (HR 0.52, 95%CI 0.44 − 0.61), and SSE (HR 0.44, 95%CI 0.38-0.52), respectively.

CONCLUSION: Degree of adherence to OACs in patients with AF is strongly associated with SSE and death, with an approximate 5% reduction in hazard of these events for every 10% absolute