table 1]. AFB correlated well with LAV (R=0.505, p=0.003), E/A (R=0.545, p=0.002) and inversely correlated with Septal A' (R=0.548, p=0.001). Stepwise regression analysis demonstrated that percentage atrial pacing (OR 2.28, p=0.032) and E/A ratio (OR 4.14, p<0.01) were independently predictive of greater AF burden. On linear regression analysis, E/A, Sep A', AF burden remained predictive of changes in LA volume (all p<0.05).

Abstract 058 Table 1

Variables	Baseline	Follow-up	p Value
Indexed LAV, ml/m^2	33.2±10.1	37.9±8.4	0.014
Septal A', cm/s	8.1±2.7	6.9±2.1	0.034
Ejection Fraction (Simpson), %	52.7±12.5	50.8±10.4	0.511
E/A	0.79 (0.66–0.86)	0.90 (0.78–1.40)	0.022
Septal S, cm/s	6.45±1.56	5.69±1.58	0.009
TAPSE, cm	2.20±0.46	1.97±0.58	0.039
Atrial pacing (%)	52.0 (4.9–94.8)	65.0 (3.6–91.0)	0.559
Ventricular pacing (%)	59.0 (11.0–99.8)	89.0 (12.3–100.0)	0.090

Conclusion Reverse LA remodelling (increased LA volume and decreased global LA function) is evident in patients with AHREs despite similar cumulative atrial and ventricular pacing. This increased AF burden was associated with reverse LA remodelling, as was cumulative AP and diastolic parameters. These structural and functional changes within the LA may predispose individuals to develop AHREs and increased AF burden.

059 PACEMAKER IMPLANTATION USING REAL-TIME ULTRASOUND GUIDANCE FOR SUBCLAVIAN VEIN ACCESS

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Background Subclavian vein access using anatomical landmarks for guidance is widely used and is known to carry risks of serious complications. While the use of ultrasound imaging in cannulating the internal jugular vein is well established, there is currently no similar recommendation for subclavian vein puncture. This study evaluates the use of real-time ultrasound imaging for cannulating the subclavian vein over the first rib during pacemaker implantation.
Methods Over a 2-year period, 112 consecutive patients were studied prospectively using the ultrasound technique. They were compared with 100 consecutive patients in whom the anatomical landmark technique had been used. The same standard equipment for venous cannulation and pacemaker implantation was used by a single operator in both groups. The subclavian vein and artery were imaged in cross-section over the first rib using a portable ultrasound machine (sonosite MicroMaxx) equipped with a vascular transducer. The vein was identified by its medical location and its deformation to digital compression. Its diameter (d) and distance (s) from the skin surface were measured. The puncture technique is as shown.
Results There were no significant differences between the two groups (ultrasound vs anatomical landmark) with respect to age (77±10 vs 78±9 years,) sex (61% vs 65% male), body mass index (26±5 vs 26±4 kg/m^2) or history of hypertension (46% vs 49%), ischaemic heart disease (37% vs 41%), heart failure (21% vs 26%), diabetes (15% vs 17%) or dual chamber pacemakers (59% vs 47%). Median d was 0.9 cm (range 0.4–1.5) and s 1.8 cm (range 0.9–3.2). The subclavian vein was successfully punctured with ultrasound guidance in all patients and there was no pneumothorax. In contrast subclavian vein access failed in seven patients (p=0.004) and pneumothorax occurred in four patients (p=0.03) in the anatomical landmark group. Further advantages of the ultrasound technique were speed of access, minimal discomfort to patients, smooth passage of introducer and multiple leads under the clavicle and identification of patients at risk of air embolism. There was no death, haematoma or wound infection in either group.
Conclusions Puncture of the subclavian vein using ultrasound guidance is superior to the anatomical landmark technique. It eliminates the risk of pneumothorax and failure of access. It should be used routinely in patients undergoing implantation of pacemakers and other rhythm devices.

Abstract 059 Figure 1

060 THE PRACTICE AND PERCEPTION OF TRANSVENOUS LEAD EXTRACTION IN THE UK: LESSONS FROM A NATIONWIDE SURVEY

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Introduction The rate of cardiac implantable electronic device (CIED) implantation in the UK has been rising consistently and this trend is likely to continue. We sought to establish the nature of lead extraction practice in the UK.
Methods The Heart Rhythm UK (HRUK) directory of members was used to compile a list of potential respondents for the survey. A link to the Survey Monkey online tool was sent with HRUK administrative support and responses were collated prior to analysis. The survey consisted of 21 questions and all results were anonymous.
Results In total, 29 responses were received and of these 24 (82.8%) regularly performed trasnvenous lead extractions. The vast majority (82.8%) were electrophysiologists. Most operators performed up to 25 procedures per year (Abstract 060 figure 1A). Most procedures were performed in the EP lab with on-site surgical cover present at all but one site. The nature of surgical cover was generally informal (Abstract 060 figure 1B). The perceived commonest reason for extraction was a combination of infection/erosion and sepsis (93.1%). After a failed attempt at manual traction the most widely used method of extraction was to use a mechanical dissection sheath (65.5%) followed by the use of a laser sheath (21.1%). Peri- and post-procedure temporary pacing mostly utilised either a standard temporary pacing wire or an externalised permanent pacemaker device. Active fixation endocardial pace/sense leads were generally perceived the easiest and safest leads to extract while dual coil defibrillator leads and active fixation coronary sinus leads were perceived the most difficult and associated with the greatest risk (Abstract 060 figure 2A,B). The perception of minor and major complication rates and the risk of death increased with device