BENEFITS OF INTRACARDIAC ECHOCARDIOGRAPHY IN AF ABLATION

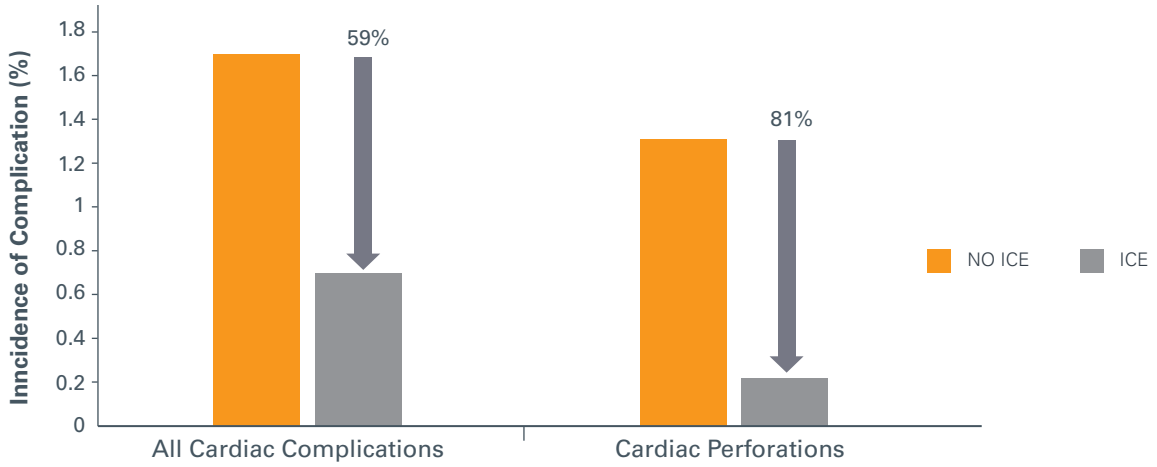
INTRACARDIAC ECHOCARDIOGRAPHY PROVIDES REAL-TIME VISUALIZATION OF CARDIAC STRUCTURES DURING CATHETER ABLATION PROCEDURES FOR ATRIAL FIBRILLATION.[1]

Use of intracardiac echocardiography (ICE) improves the efficiency and safety of catheter ablation by producing accurate procedural imaging of the cardiac anatomy, providing guidance for the trans-septal puncture, and relaying real-time feedback on catheter contact with heart tissue.[1]

Use of ICE during catheter ablation for AF may reduce health resource utilization by minimizing the rate of complications and its antecedent long term patient burden.

FEWER CARDIAC COMPLICATIONS

One retrospective study found that **ICE-guided ablation was associated with 59% fewer cardiac complications** (including thromboembolic events and cardiac tamponades) and 81% fewer cardiac perforations, as compared to ablations not guided by ICE.[4]



Aldhoon et al. 2013[A]

[A] Retrospective analysis of 1192 AF ablation procedures with ICE against non-ICE performed procedures.

Fluoroscopic x-ray imaging during ablation exposes patients and medical staff to potentially harmful ionizing radiation, which may lead to missed work, chronic musculoskeletal pain and increased likelihood of developing cancer.

UP TO 62% EXPERIENCE CHRONIC PAIN

Up to 62% of medical staff involved in radiation procedures experience chronic musculoskeletal pain from wearing heavy protective lead garments.[7,8]

EQUIVALENT TO 830 CHEST X-RAYS

Patients are exposed to a radiation dose equivalent to 830 chest x-rays during a conventional ablation procedure.[9]

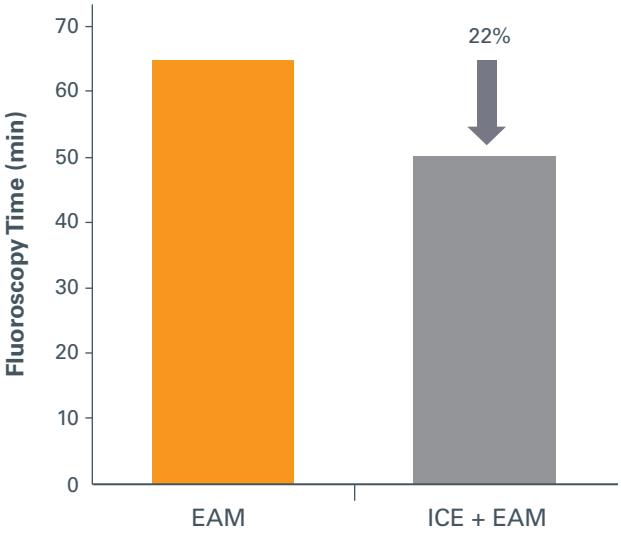
1 IN 100 WILL DEVELOP CANCER

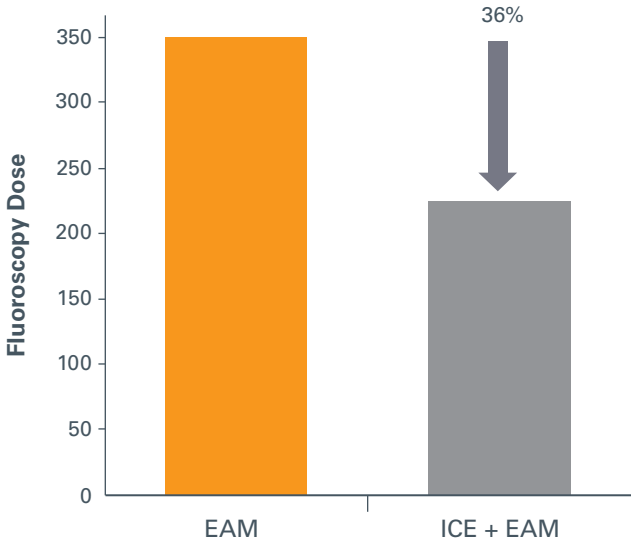
Even with appropriate protective measures, experienced cardiac electrophysiologists have high rates of cumulative radiation exposure: an estimated 1 in 100 will likely develop cancer from this exposure during their lifetime.[9]

1/3 REPORTED MISSING WORK

Over one-third of interventional cardiologists with spinal complaints reported missing work due to spine problems; this may lead to substantial losses in hospital revenue.[7,8]

When ICE is used in conjunction with an electroanatomic mapping system, fluoroscopy is significantly reduced without compromising procedural efficacy.[10]





Brooks et al. (2013) Prospective, randomized study of 60 patients with AF

Pre-procedural imaging utilizing ICE provides more accurate visualization of the left atrium and atrial appendages compared with transesophageal echocardiography, resulting in superior diagnostic capability[2,3].

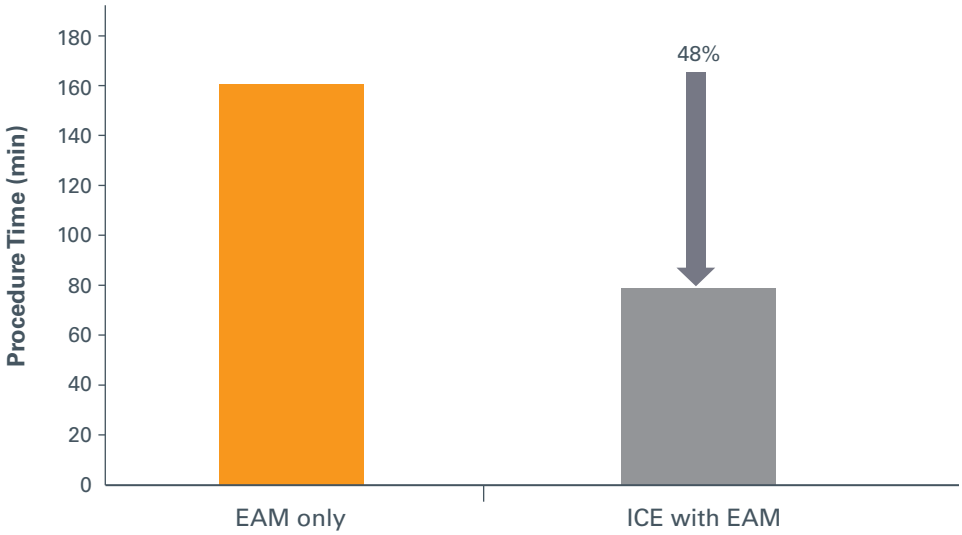
GREATER DETECTION OF THROMBI

Undetected thrombi may result in severe procedural complications. In a prospective, blinded study of 71 AF ablation procedures where 4 total thrombi were detected, **all thrombi were detected by ICE but only one was detected by TEE.[3]**

Use of ICE improves procedural efficiency by significantly reducing procedure time.

48%
REDUCTION IN PROCEDURE TIME

In one prospective study of AF patients receiving ablation, **total procedure time was reduced by 48% when ablation was guided by ICE** with electroanatomical mapping (EAM) compared to electroanatomical mapping alone.[6]



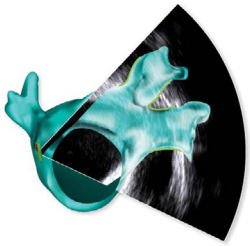
Russo et al. 2015
Prospective study of 37 AF patients

ICE may provide cost-savings by reducing the need for repeat ablations.

32%
REDUCTION IN REPEAT ABLATION

In a retrospective analysis of 11,525 patients receiving ablation for AF, use of **ICE imaging during ablation procedures was associated with 32% lower rates of repeat ablation** at 6 months.[5]

Biosense Webster, Inc. technology seamlessly integrates intracardiac echocardiography into ablation procedures.



The **SOUNDSTAR® 3D Catheter** and **CARTOSOUND® Module** enable the addition of ultrasound imaging in electrophysiology procedures, reducing the need for fluoroscopy and enabling safe and efficient AF ablation procedures.

The **SOUNDSTAR® 3D Catheter** and **CARTOSOUND® Module** integrate real-time intracardiac echocardiography imaging in the proven accuracy of the **CARTO® 3 System** environment, enhancing visualization and navigational confidence.

Integration of ultrasound with **CARTO® 3 System** technology streamlines procedural efficiency, contributes to safety, and enhances the clarity of anatomical images.

REFERENCES

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