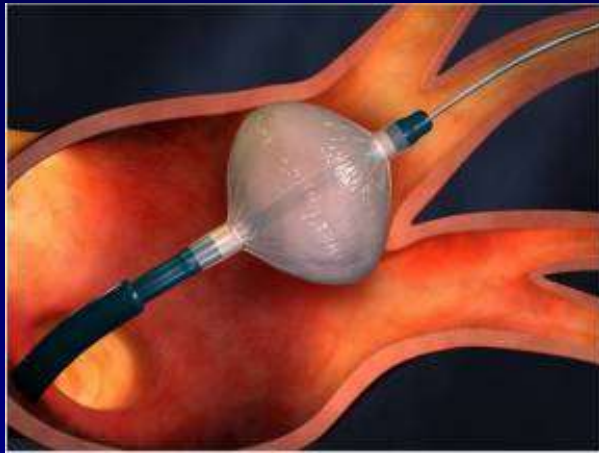




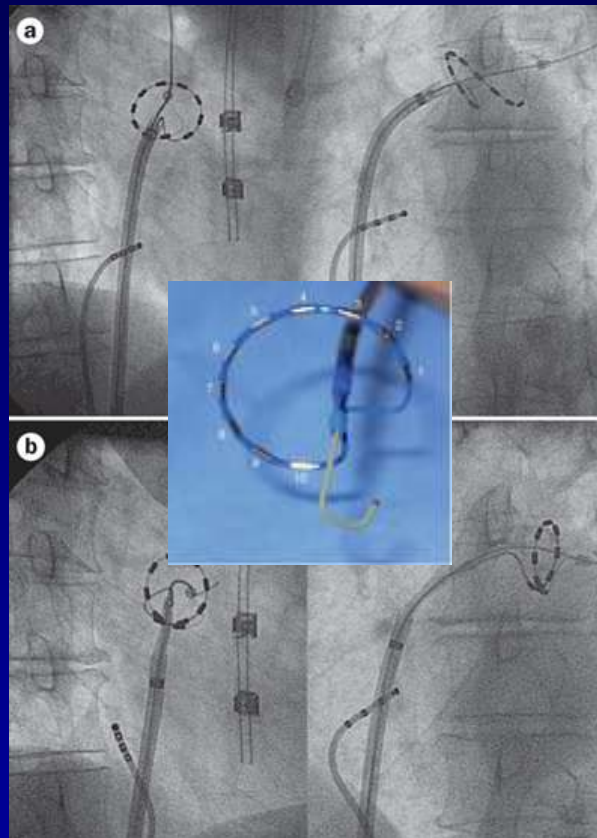
Recent Trials

Joseph de Bono
Consultant Electrophysiologist and Cardiologist
University Hospitals, Birmingham

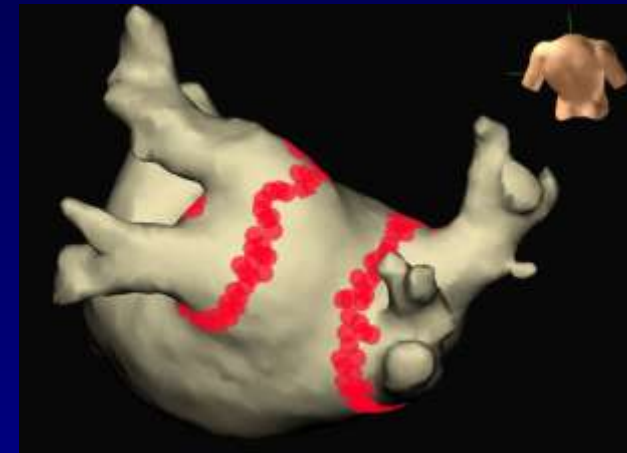
Does it matter how I ablate AF?



Cryoablation



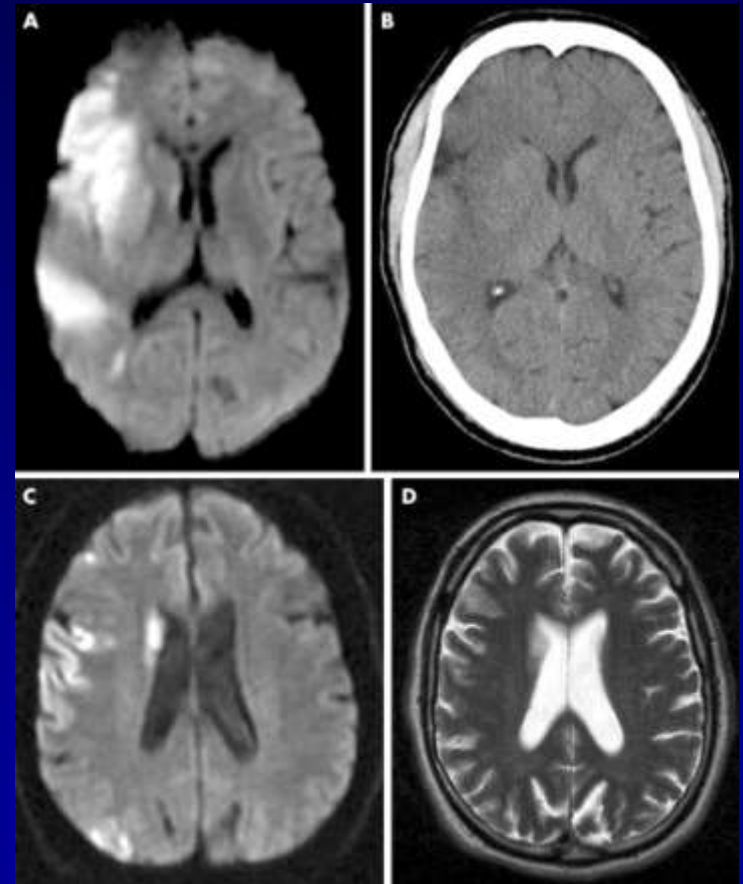
PVAC



**Irrigated RF
catheter**

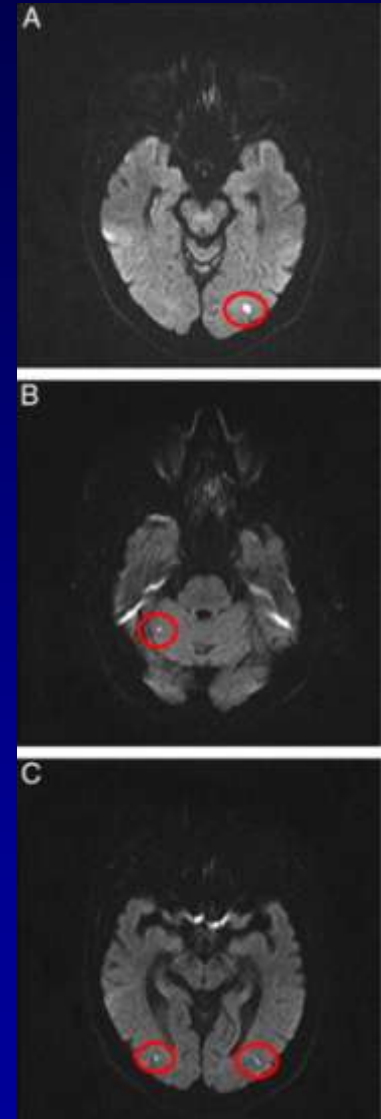
Stroke is a rare complication of AF ablation

- 1% incidence
- 2/3 resolve completely
- Reduced by
 - Keeping ACT >300
 - Doing the ablation on Warfarin
- Does technique matter?



Silent Strokes After AF ablation

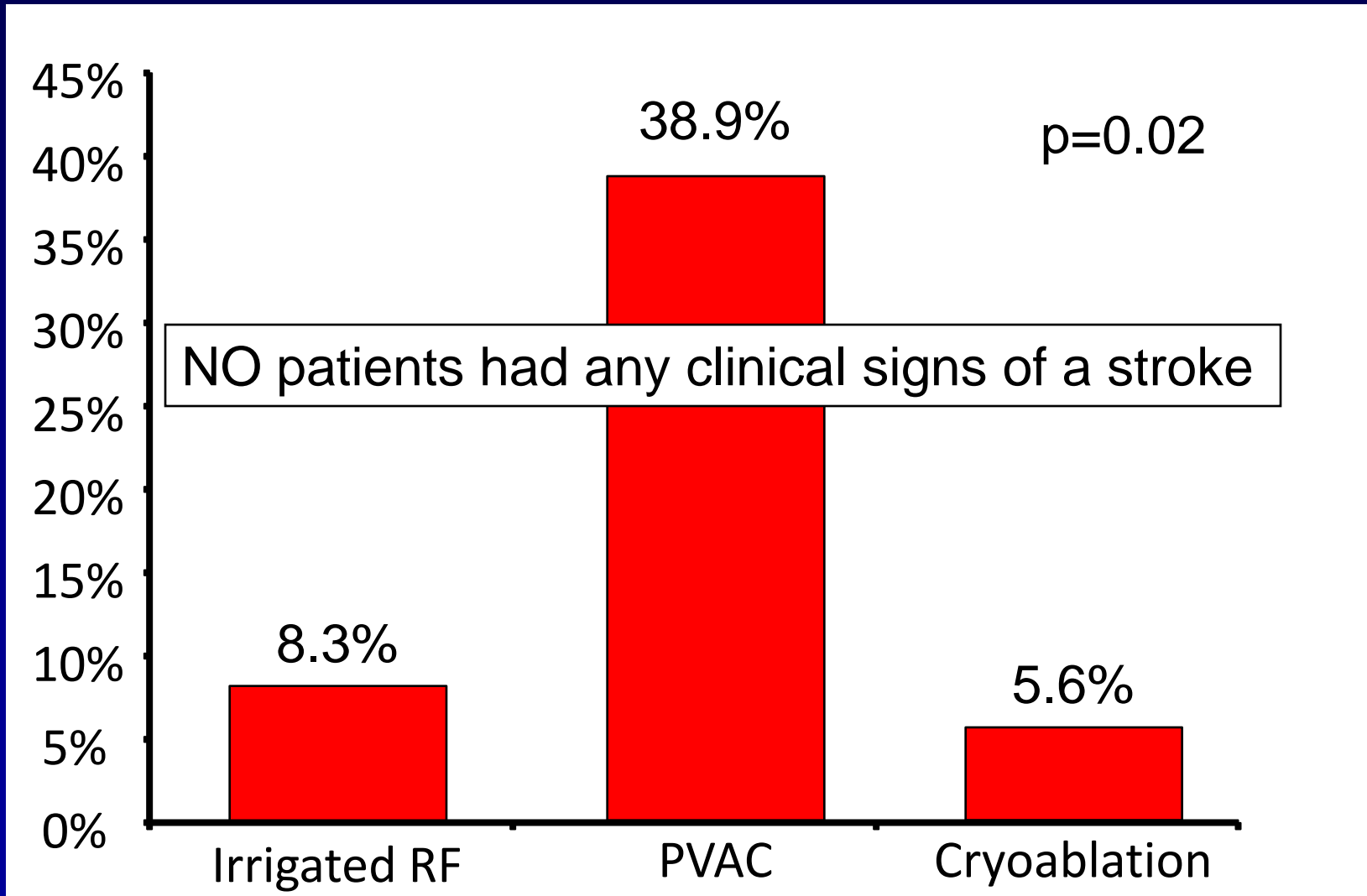
- Detected by MRI
 - No obvious clinical effect
 - Assoc Neuropsychological decline
 - ?increased risk of dementia
- Gaita et al.
 - 232 patients before and after AF ablation
 - 14% incidence of new lesions



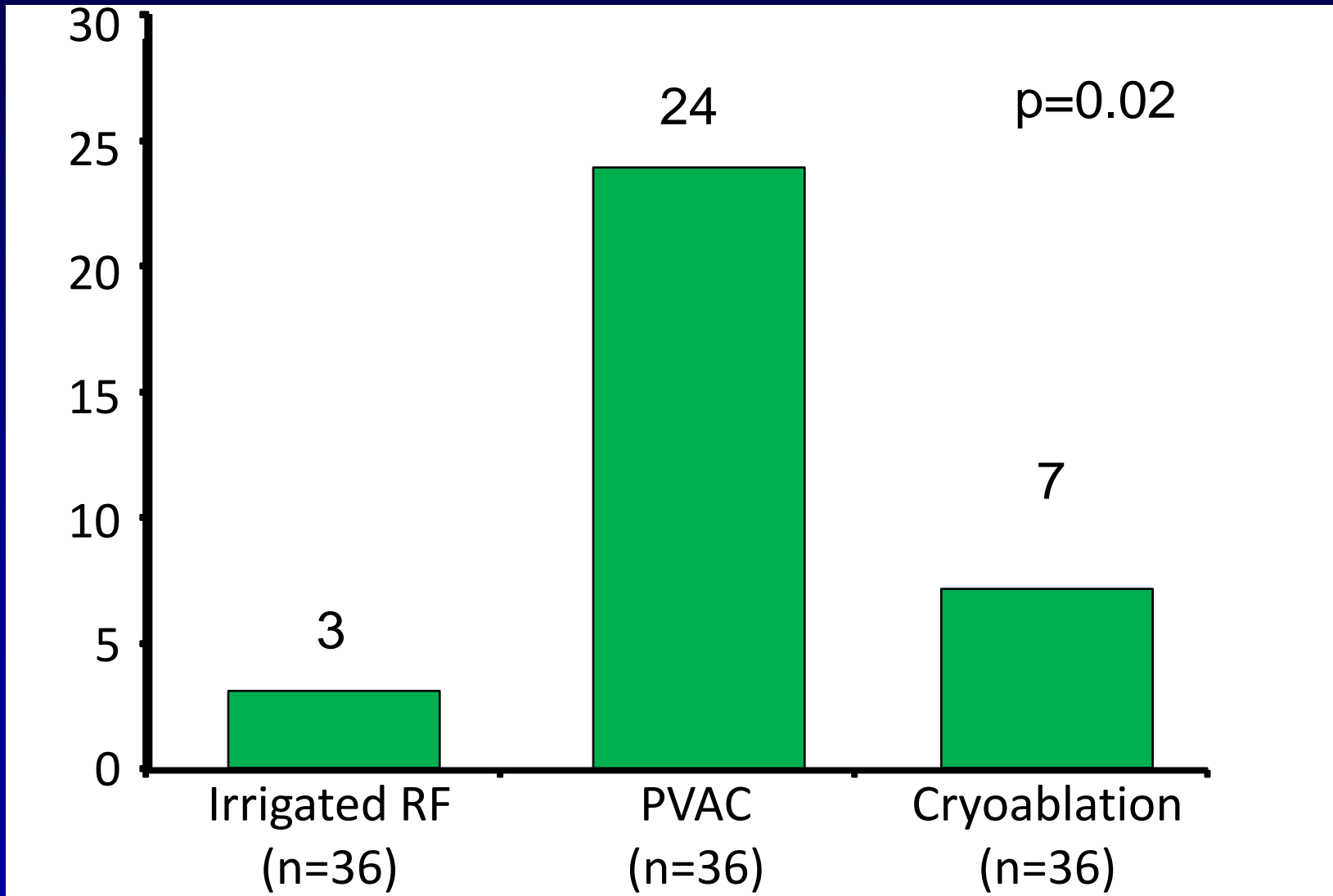
Does technique matter?

- 108 patients paroxysmal AF
 - Allocated to either
 - Cryoablation
 - PVAC (nonirrigated multipolar mapping and ablating catheter)
 - Irrigated tip RF ablation
 - Warfarin stopped 5 days prior to ablation
 - LMWH bridging
 - ACT >300 during procedure
 - MRI before and after

Patients with New Brain Lesions



Total number of New Brain Lesions

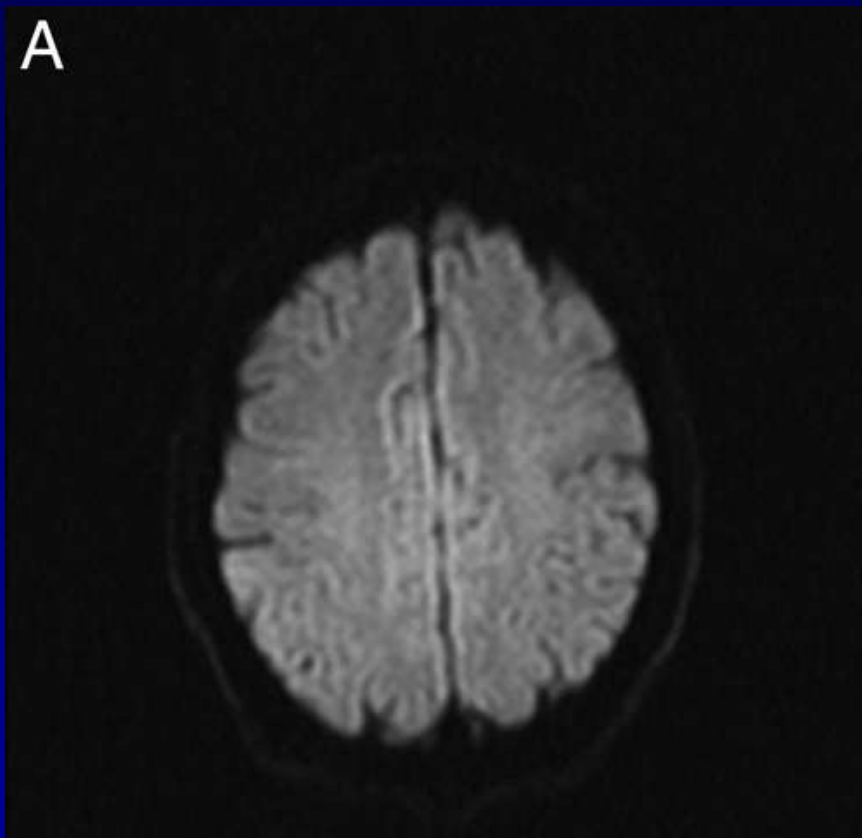


Not just one Study

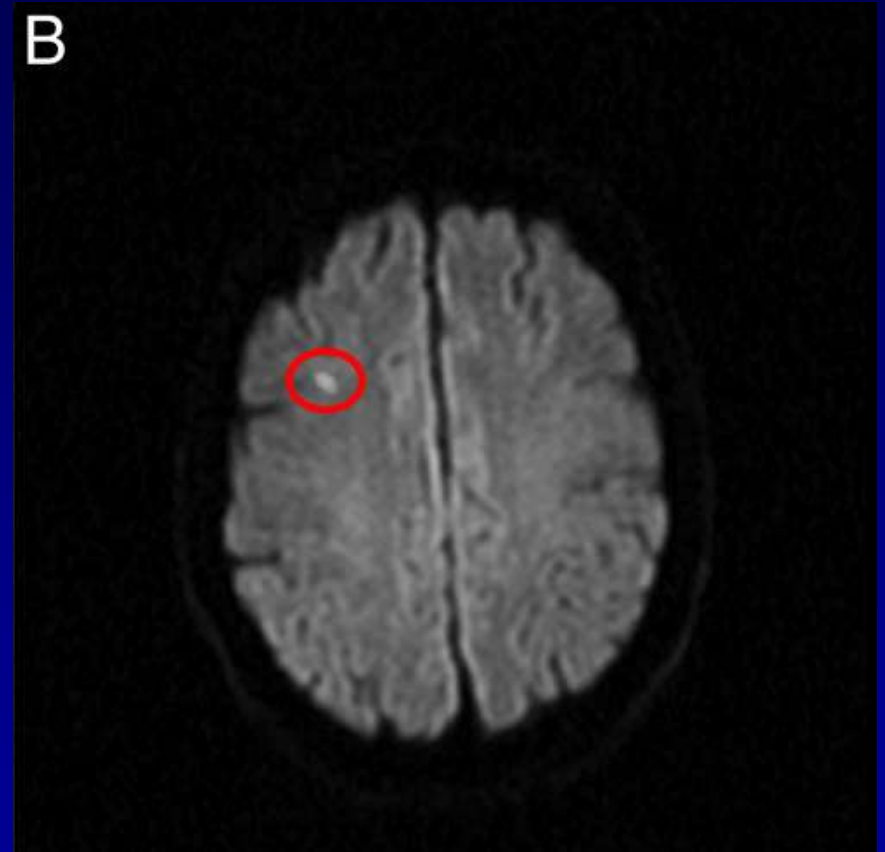
- 74 Patients paroxysmal or persistent AF
- Anticoagulation stopped 2-3 days before ablation
- Bridging Heparin
- TOE prior to procedure
- MRI before and after
- **NOT RANDOMISED**



A typical new brain lesion

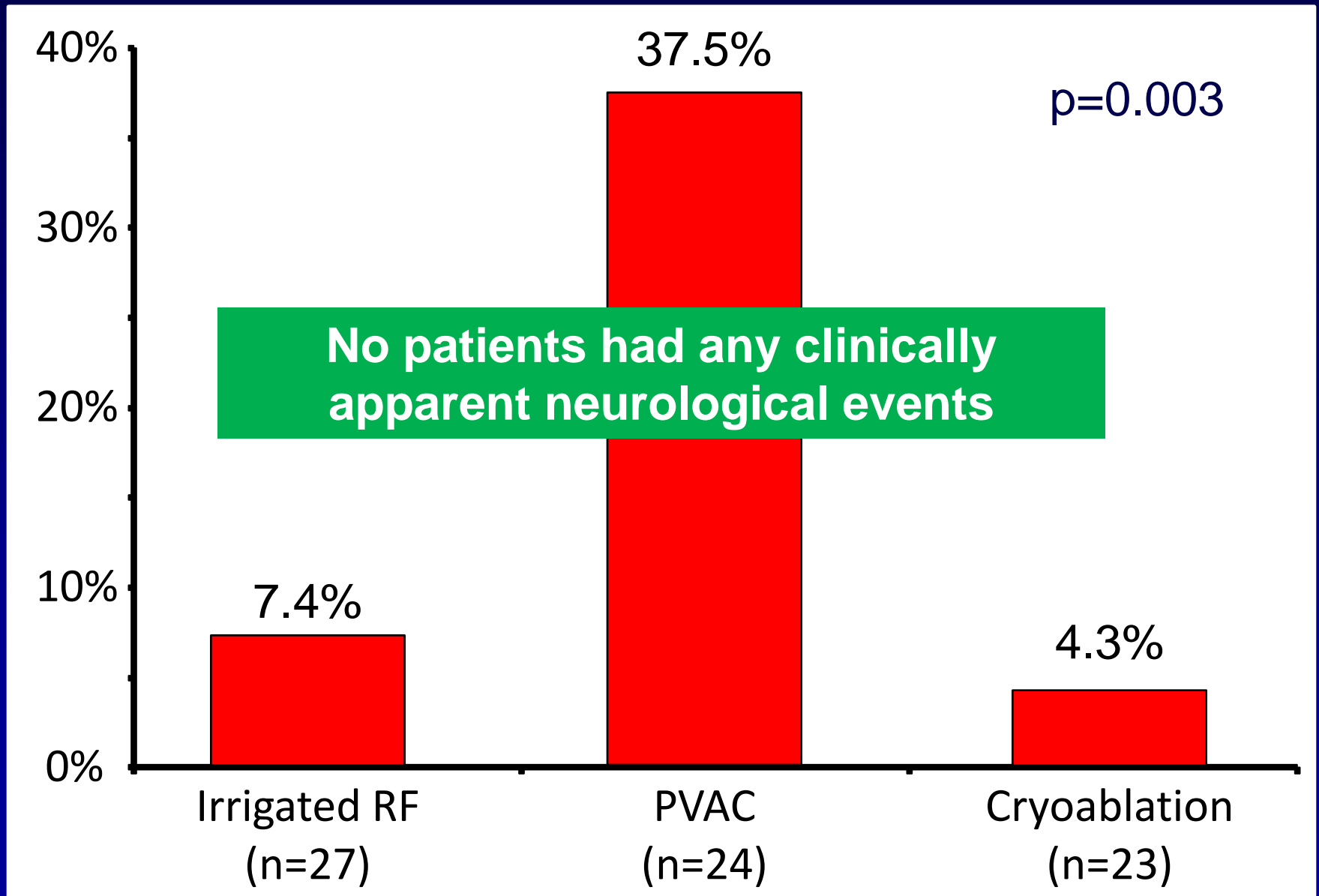


Before



After

Patients with new brain lesions





Conclusions

- Use of the multipolar ablation and mapping catheter was associated with a high incidence of silent emboli
- But
 - None of the studies was randomised
 - None of the studies continued warfarin through the ablation period
 - Do silent infarcts matter?

How do we treat this?



Do I need to do mouth to mouth?



- Observational study
- All witnessed arrests in Japan between 2005-2007
- Bystander CPR
- Compared
 - Conventional CPR (n=20707)
 - Chest Compression only CPR



Outcome

- Conventional CPR associated with better
 - 1 Month survival OR 1.17 (1.06-1.29)
 - 1 Month neurologically favourable survival OR 1.17 (1.01-1.35)



But!

- Only included 40000 arrests out of a total of 318141
- Benefits only seen in
 - 1) Young patients with non cardiac arrests
 - 2) Patients with a delay of more than 10 minutes before CPR was started



Can we improve CPR by paramedics



Can we improve CPR by paramedics?

- New defibrillator
 - Incorporates a pressure sensor
 - Can monitor adequacy of CPR
 - Can Provide feedback to paramedic about quality of CPR (compared to ideal guidelines)
- Randomised Paramedic teams
 - Feedback ON v feedback OFF**



Feedback was associated with better quality CPR

Average Compression rate (per minute)

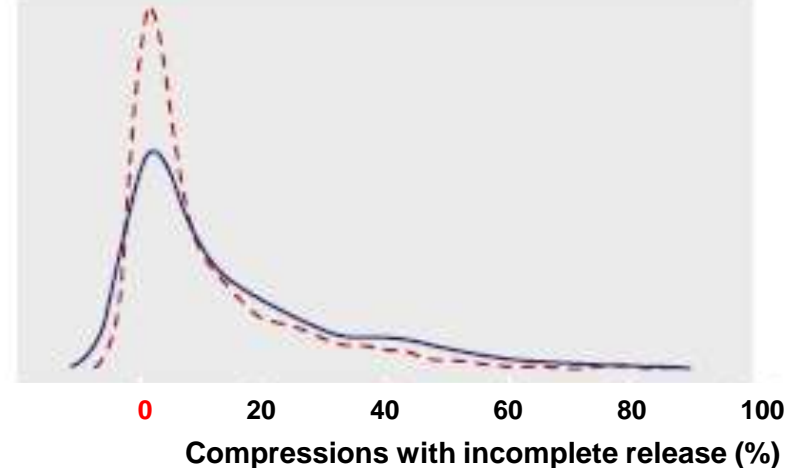
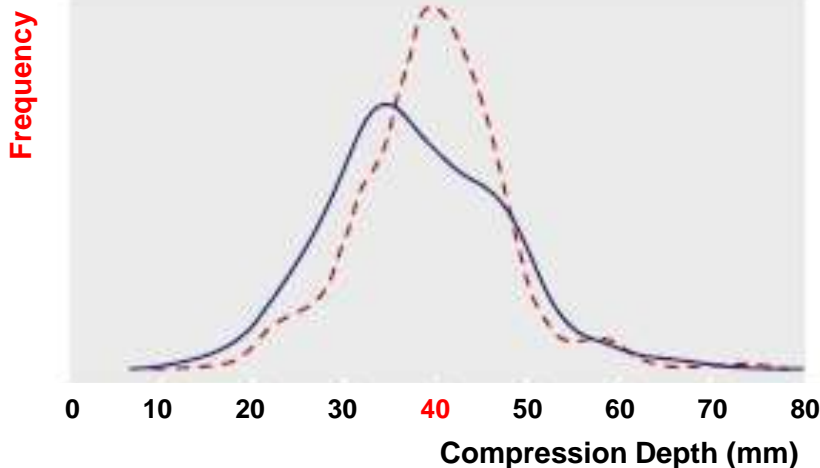


Average Compression Fraction



NO EFFECT ON SURVIVAL

NO EFFECT ON RETURN OF SPONTANEOUS CIRCULATION



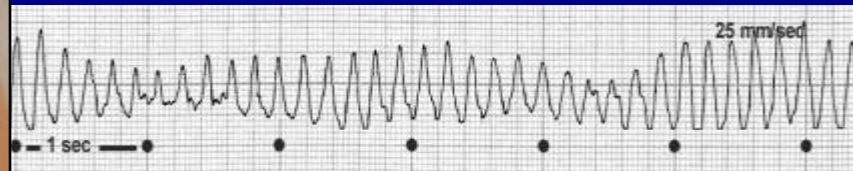


Conclusion



- Active feedback improves “quality” of CPR
- Improving “quality” has no effect on survival
- We don't know how to do the best CPR
- The Paramedics were already good
- We need more basic research

What to do first? CPR or Check the Rhythm



What to do first?

CPR **or** Check the Rhythm

- Cluster randomised trial
- Out of hospital arrests

30-60s CPR **v** **180s CPR**

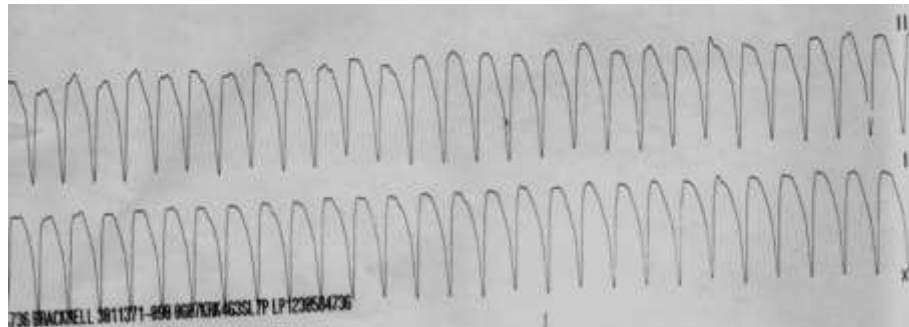
Prior to checking rhythm

What to do first? CPR **or** Check the Rhythm

Survival with good neurological outcome

Early Rhythm Check 5.9%

Late Rhythm Check 5.9%



Does it matter where I have my arrest?



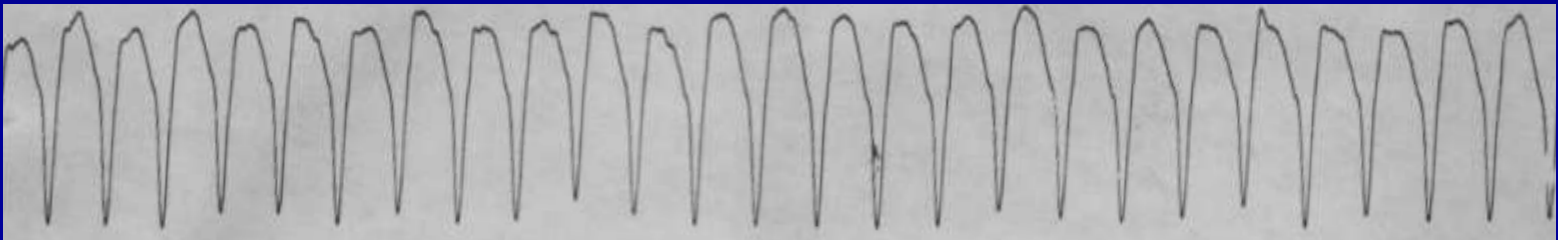
*ROC investigators N Engl
J Med 2011;364:313-21.*

Does it matter where I have my arrest?

- Observational study
- Arrests

HOME v PUBLIC Places

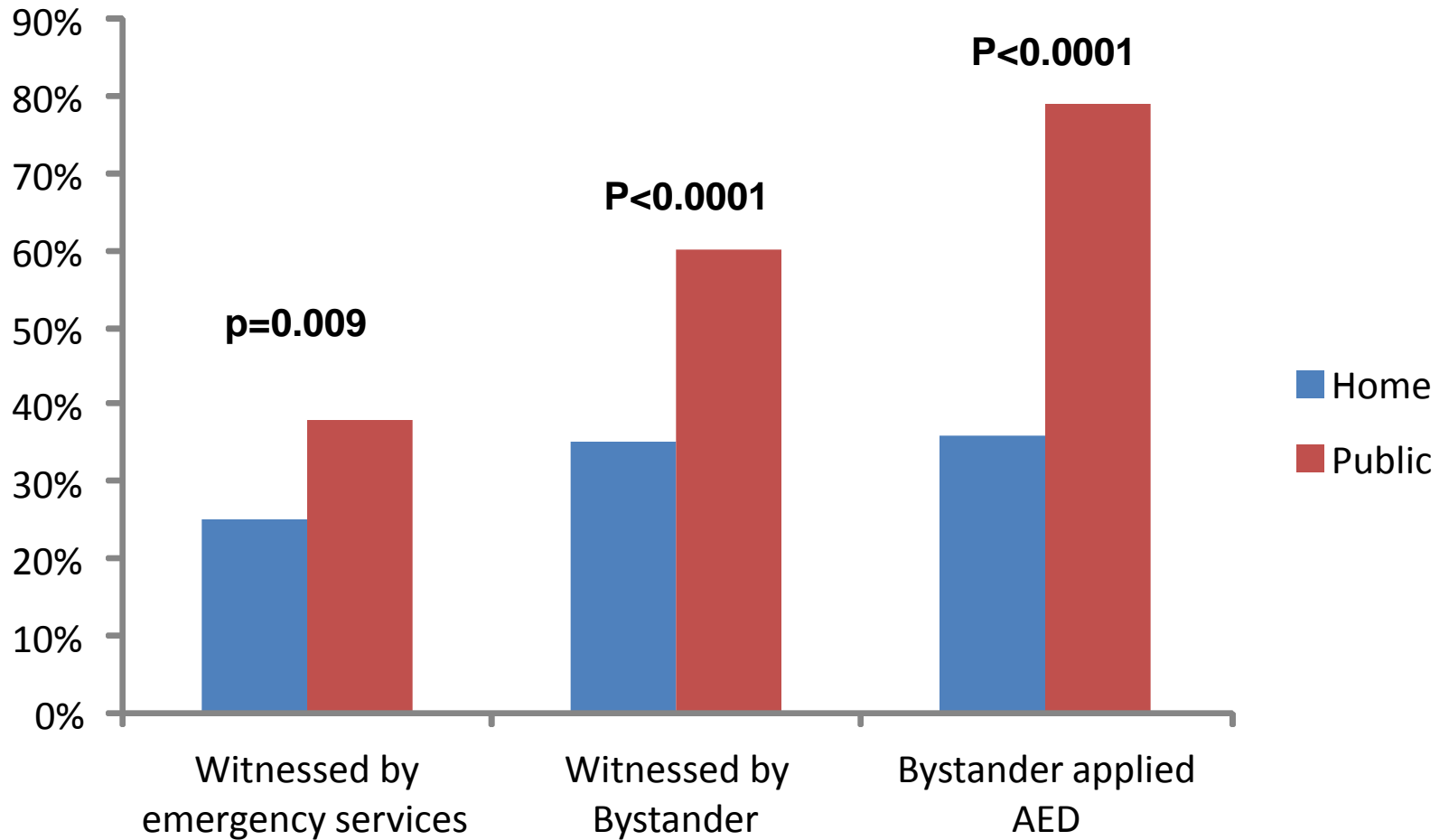
- 12930 out of hospital cardiac arrests
- 2042 Public 9564 at Home
- Assessed the first recorded rhythm



Does it matter where I have my arrest?

- Overall Survival 7%
- 5090 arrests were not witnessed
 - **Survival 2%**
- 1003 arrests were in public and witnessed by a bystander
 - **Survival 20%**
- 159 arrests were in public and an Automated external defibrillator was applied
 - **Survival 32%**

Incidence of ventricular fibrillation or tachycardia





Survival



- Arrest where bystander uses AED

In Public 34%

At Home 12%

Odds ratio 2.4 (1.03-5.99 p=0.04)

Rhythm much more likely to be
non-shockable at home



Conclusion



- Arrests in public places are more likely to be due to VT or VF

It is better to arrest in public

or

If you are well enough to go out, you are more likely to survive your arrest

- Automated external defibrillators should be targeted to public places

The Best Study of the Year



The Best Study of the Year

