

Same-day discharge in patients after catheter ablation of AF

Richard Schilling



Barts Heart Centre

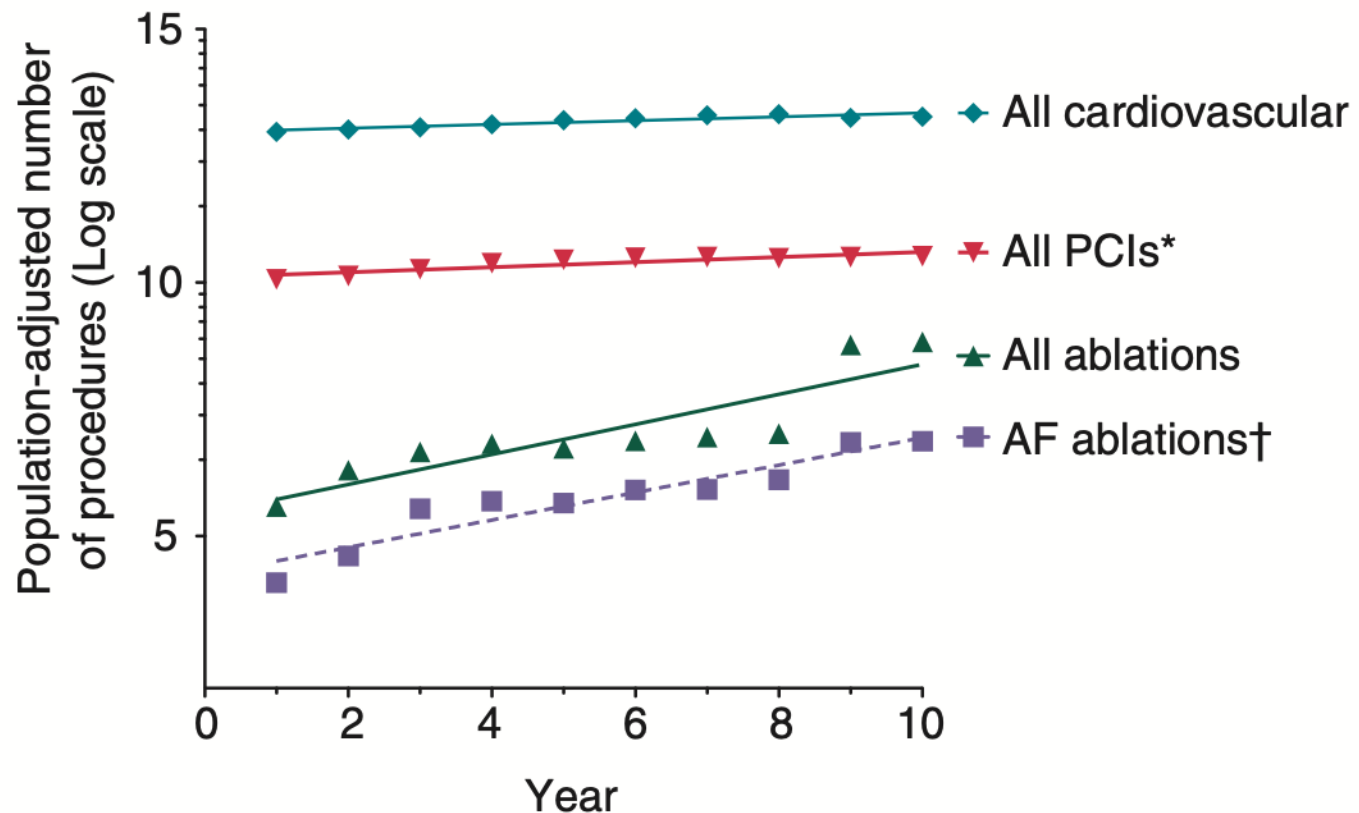
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Challenges for AF ablation

- High demand
- Limited, experienced centres
- Limited healthcare resources and overnight beds
- Low risk condition
- Procedural risk



Demand for AF ablation

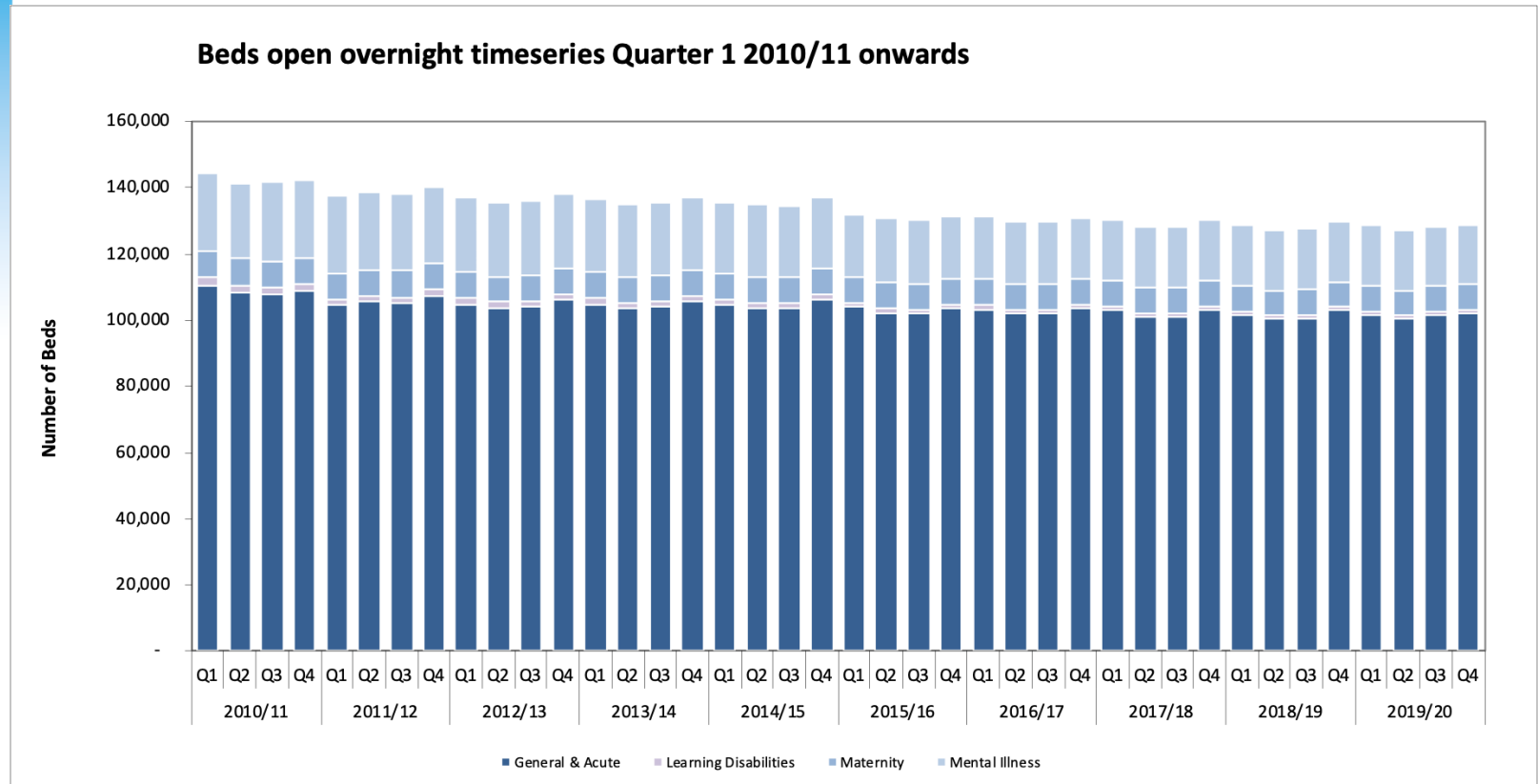


Kumar et al in Europace 2013



Why day case AF ablation

- Overnight bed availability decreasing

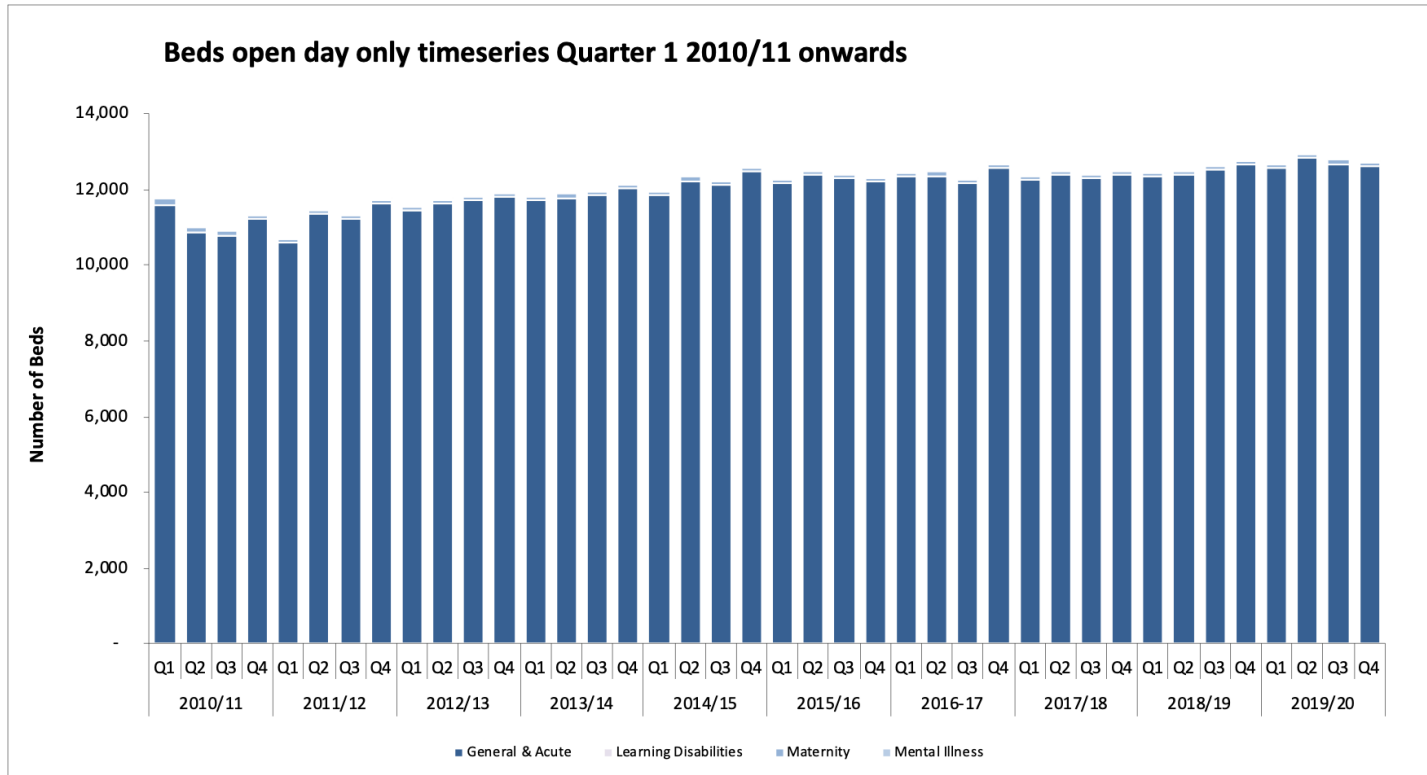


<https://www.england.nhs.uk/statistics/statistical-work-areas/bed-availability-and-occupancy/bed-data-day-only/>



Why day case AF ablation

- Day only bed availability increasing



<https://www.england.nhs.uk/statistics/statistical-work-areas/bed-availability-and-occupancy/bed-data-day-only/>



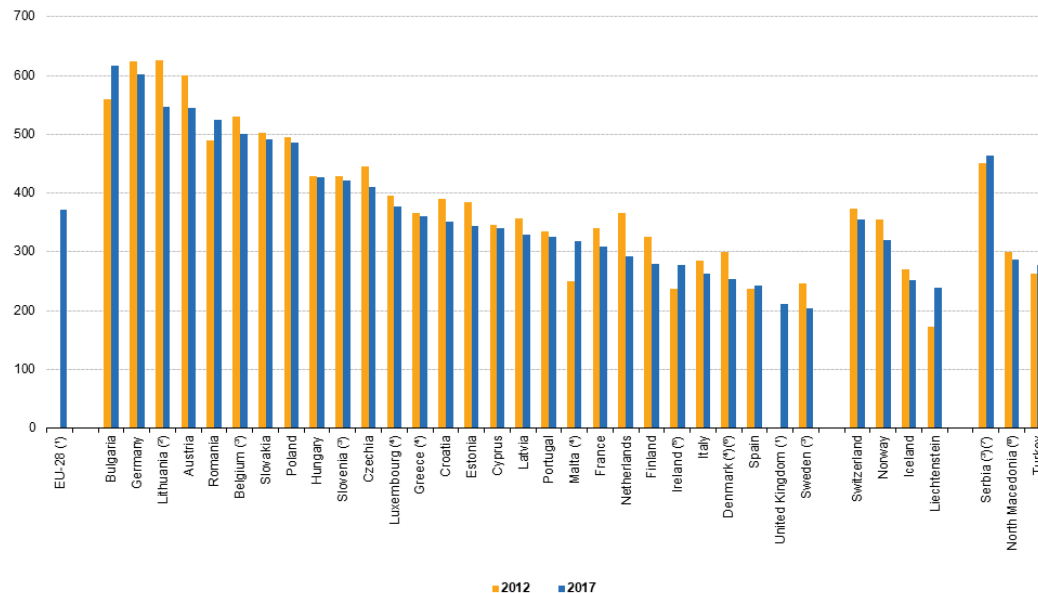
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Why day case AF ablation

- this trend is mirrored across Europe

Curative care beds in hospitals, 2012 and 2017
(per 100 000 inhabitants)



(*) 2012: not available.

(†) All long-term care beds in psychiatric hospitals are included in curative care beds.

(‡) Includes all beds for psychiatric care.

(§) Break in series.

(¶) Other than psychiatric care beds, excludes beds in the private health sector.

(*) 2013 instead of 2012.

(†) Excludes beds in the private health sector.

(‡) 2014 instead of 2012.

Source: Eurostat (online data code: hlth_rs_bds)

https://ec.europa.eu/eurostat/cache/metadata/Annexes/hlth_res_esms_a_n7.pdf

eurostat 



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Advantages of day case ablation

- Easier to staff (no overnight shifts)
- Cheaper to run (day case vs overnight)
- Predictable - beds “ring-fenced” not occupied by emergency admissions
- Team “ring-fenced” and may perform better



Disadvantages of day case AF ablation

- Late complications
- Finding beds for early complications
- Use of operating room limited by recovery time
- Greater burden on community care
- Perverse financial incentives to keep patients overnight



Minimising complications

- Technique
- Consistency of approach
- Staff experience
- Patient selection



Technique

- Point by point - with skill can achieve great results
 - Cavitation possible, catheter/sheath perforation possible
- Balloon - less dependent on skill and experience
 - mapping wire perforation possible, sheath perforation possible



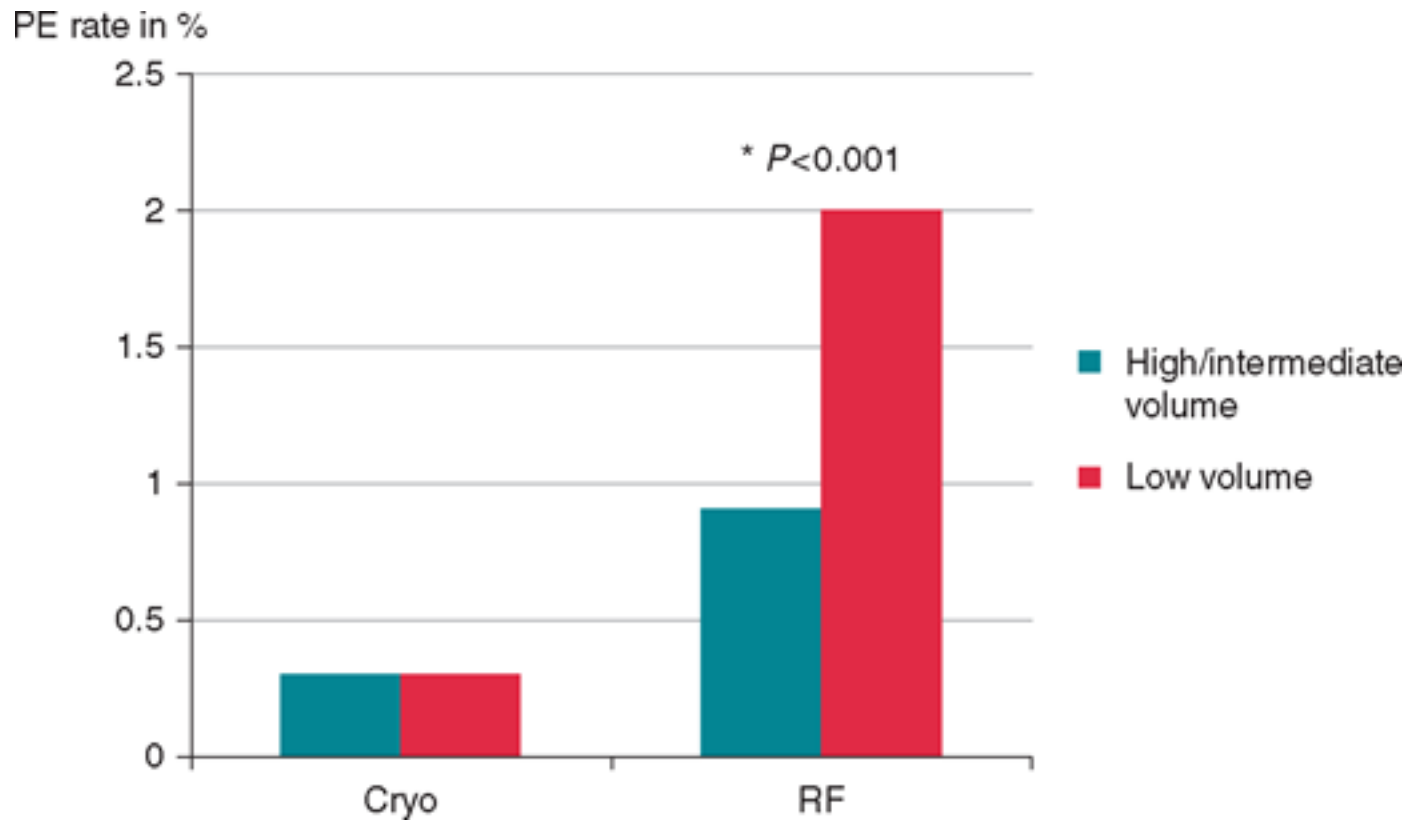
Technology options

- RF point by point
- Q-dot high power, short duration
- Cryoballoon
- RF balloon



Technique

- n-21,141 procedures in Helios registry



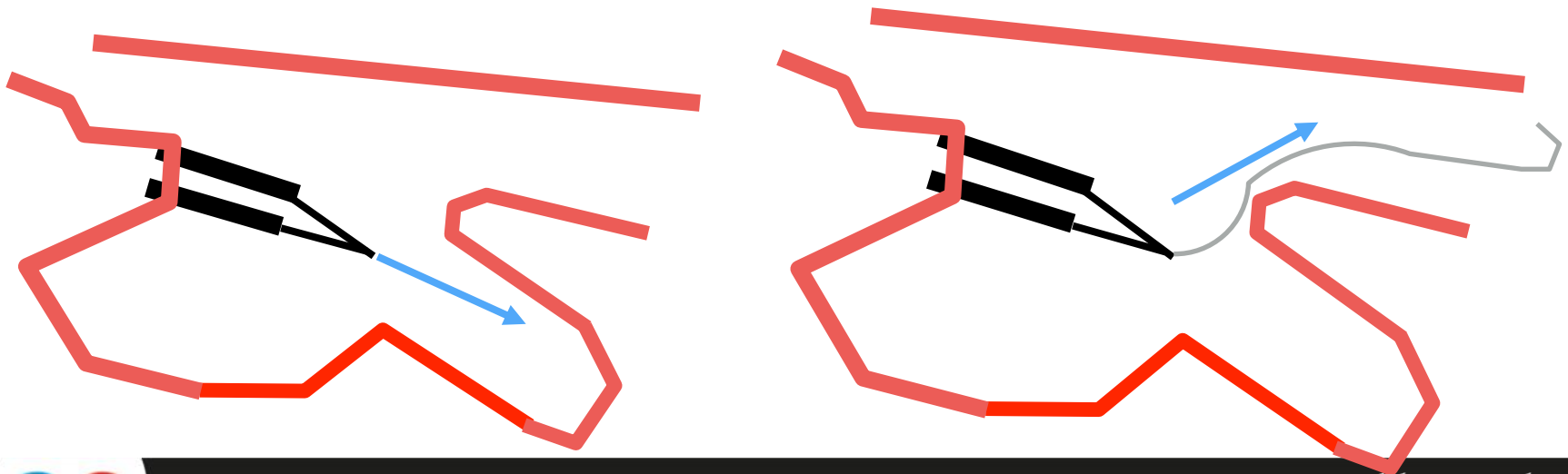
Technique

- Whatever you do make sure you are good at it and focused on:
 - prevention of tamponade
 - avoiding stroke - uninterrupted anticoagulation

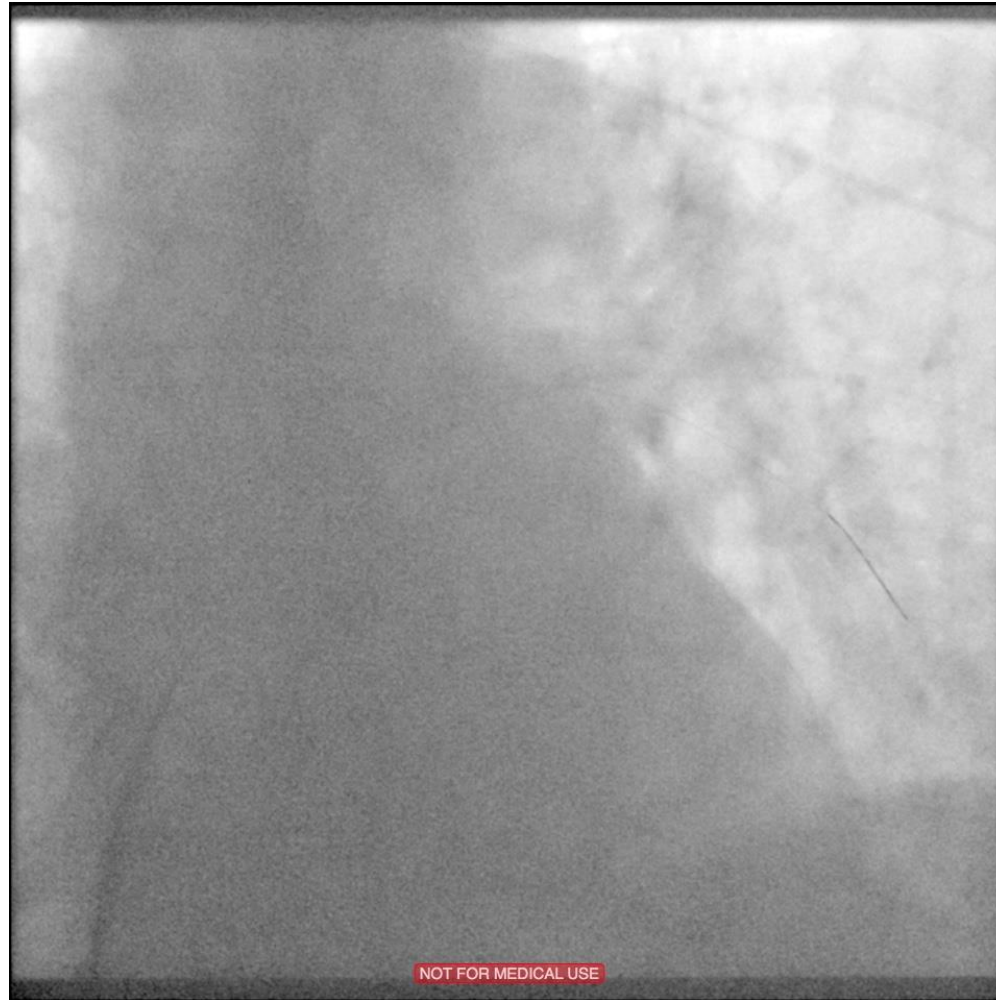


Technique - transeptal puncture

- Ultrasound guidance (ICE/TOE)
- Safesept guide wire avoids LAA perforation
- RF needle prevents tenting but not over advancing the sheath



Transeptal safesept wire



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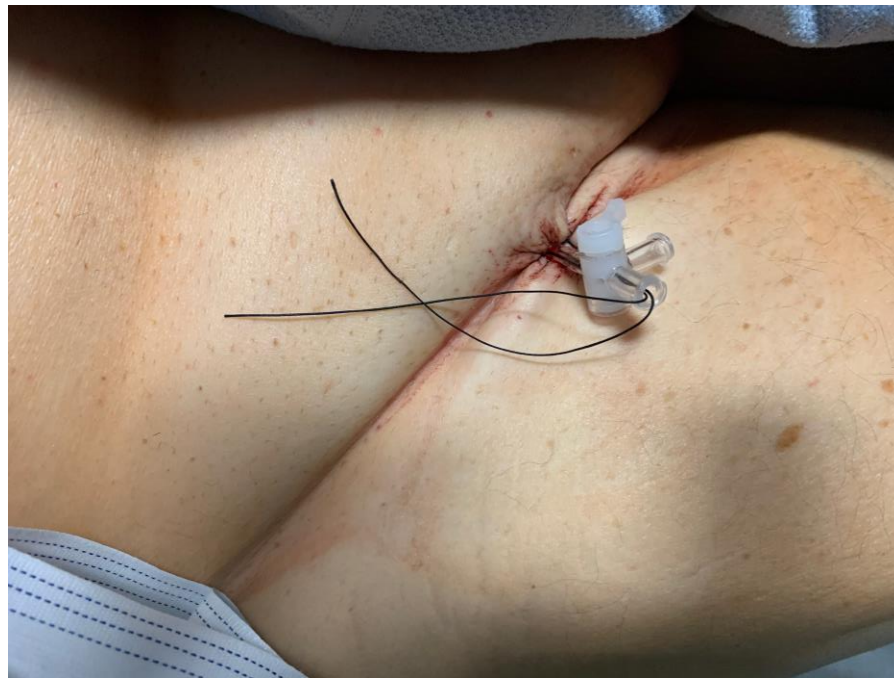
Consistency of approach

- Femoral access - always ultrasound guided
- No subclavian lines
- No arterial lines



Early mobilisation

- Z-suture with 3 way tap
 - More comfortable for patient
 - Can be retightened if needed



Staff experience

- Experienced staff are not required
- Well trained and rehearsed staff are critical
- Elements to consider when training:
 - Normal procedure - same every time
 - Emergencies - tamponade
 - Femoral problems and mobilisation
 - Patient concerns - chest pain, early AF recurrence



Patient selection

- Low risk of post-op respiratory problems
- Someone at home
- Someone to take them home

- Not a contraindication:
 - Obesity
 - Frailty
 - Underlying structural heart disease



Patient selection

- When starting your program:
 - Patients complaint with risk reduction
 - Paroxysmal AF
 - Patients with high symptoms and low risk
 - Patients able to comply with instructions
- Consider engaging and involving your referrers



Data from non-surgical centre

	Local	Regional cardiac	p value
N	276 pts	276 pts	
Male(%)	61	60	ns
age	61±0.7	60±0.8	ns
PAF (%)	79	81	ns
Warfarin (%)	36	53	0.02 Opel et al Europace 2018



Data from non-surgical centre

	Local	Regional cardiac	p value
Procedure time (mins)	63.5±1.1	101.7±2.9	<0.0001
Fluoroscopy time (mins)	5.5±0.2	12.6±30.6	<0.0001
Fluoroscopy dose (mGy)	17.2±2.1	97.6±14.6	<0.0001
Complications (%)	15 (5.4)	17 (6.2)	ns

4 (1.2%) admissions overnight

Opel et al Europace 2018



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Data from day surgery centre

	Local
N	56 pts
age	60±0.7
age range	33-86
PAF (%)	64
Admissions	4%

1 pt admitted for chest infection, 1 for bed rest for persistent groin bleeding



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Data from day surgery centre

- Challenges - groin management and mobilisation
 - antiplatelet and NOAC
 - Obesity
 - suture overnight and removed the next morning



Other things to consider

- Anaesthetic:
 - Short acting IV anaesthetics ideal, if not delivered by anaesthesiologist then trained anaesthetic nurse
 - Local delivered on puncture needle with ultrasound down to vein
- Procedure simplification
 - No ACT
 - Consistent anticoagulation policy (uninterrupted)



Other concerns about day case AF ablation

- What about late tamponade?
 - a 12 hour overnight stay won't mitigate
- Femoral re-bleeds
 - Possible but good patient and family instructions to self compress will mitigate
 - Told not to call an ambulance but be patient and call us
- Cardiac surgery cover
 - Most centres have no formal cover and many now operate away from surgical centres



Conclusions

- Day case AF ablation is feasible and safe
- It is a necessity we need to adopt:
 - Increasing demand
 - Decreasing resources
 - Need to separate patients from inpatient facilities - COVID
- Particular attention to standardisation, training and elimination of minor inefficiencies will get the best out of this approach

