Ventricular Arrhythmias

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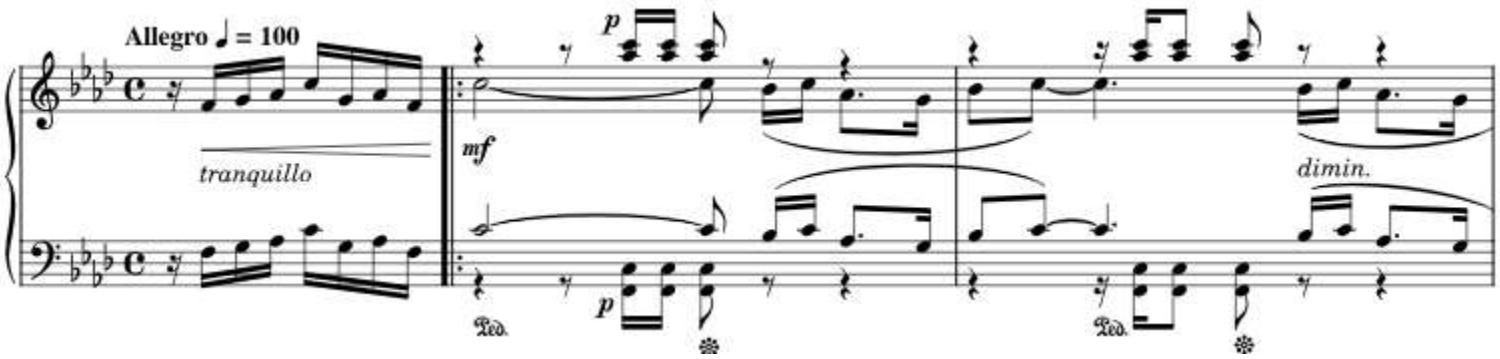
Disclosures

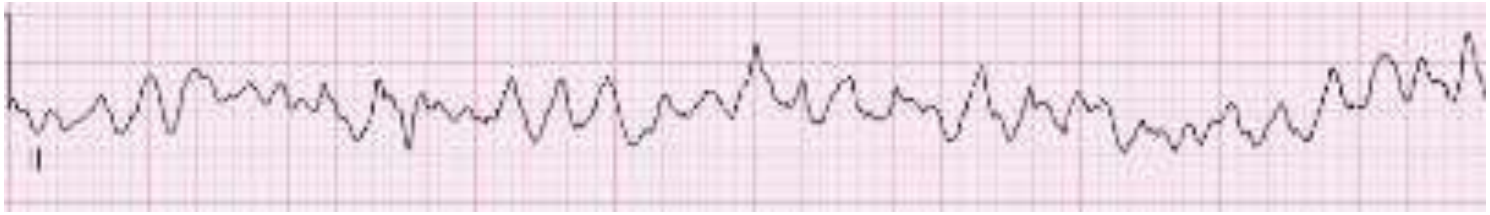
- I have no financial conflicts of interest to disclose

Learning Objectives

1. Appreciate the importance of prompt bystander resuscitation and some attitudinal barriers contributing to bystander hesitation
2. Recognize the benefits and limitations of ventricular tachycardia ablations
3. Identify the members of a multi-disciplinary team necessary to treat patients with ventricular arrhythmias



Timing Is Everything




STEINWAY & SONS


Intermission!


Largo 40-60
Larghetto 60-66
Adagio 66-76
76-108
Andante 108-120
Moderato 108-120
Allegro 120-168
Presto 168-208

100 BPM

C & E

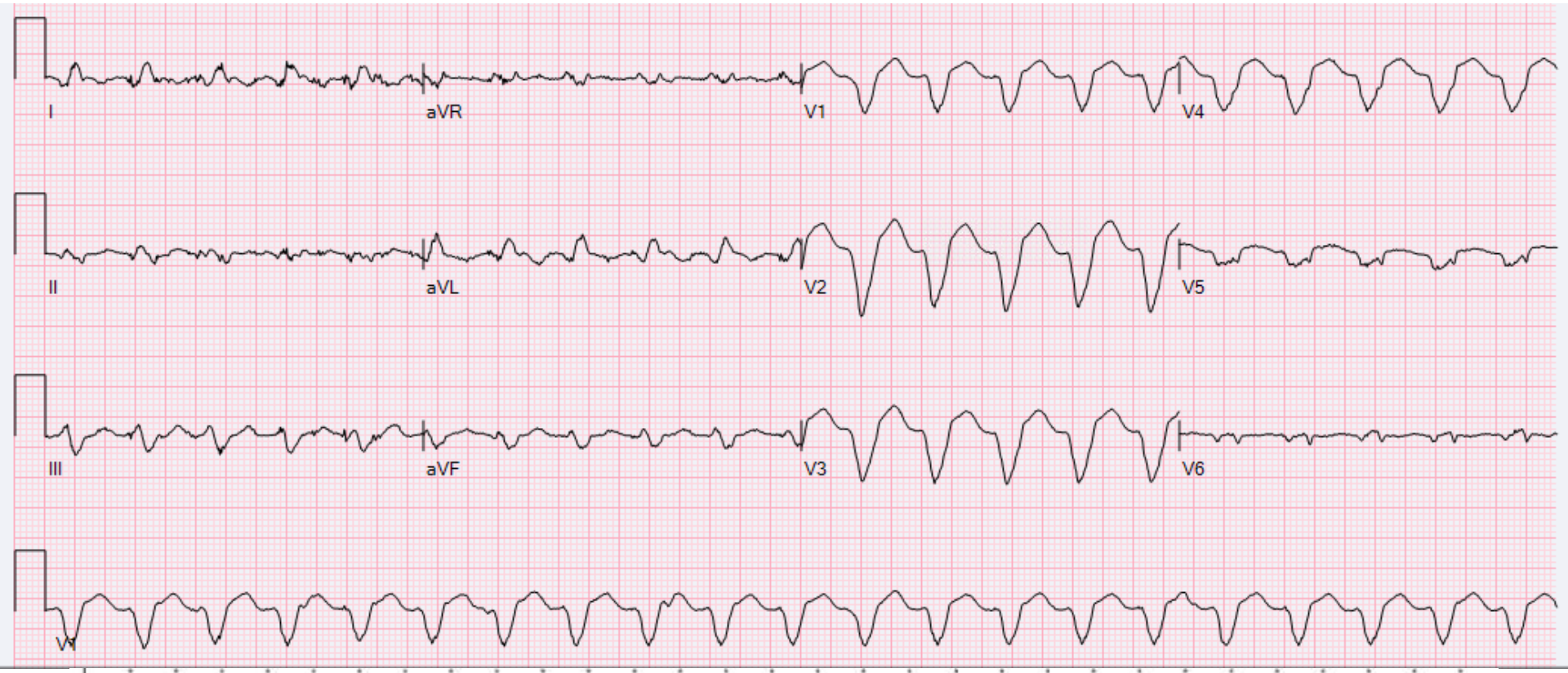

I
aVR
V1
II
aVL
V2
III
aVF
V3
V1
II
V5

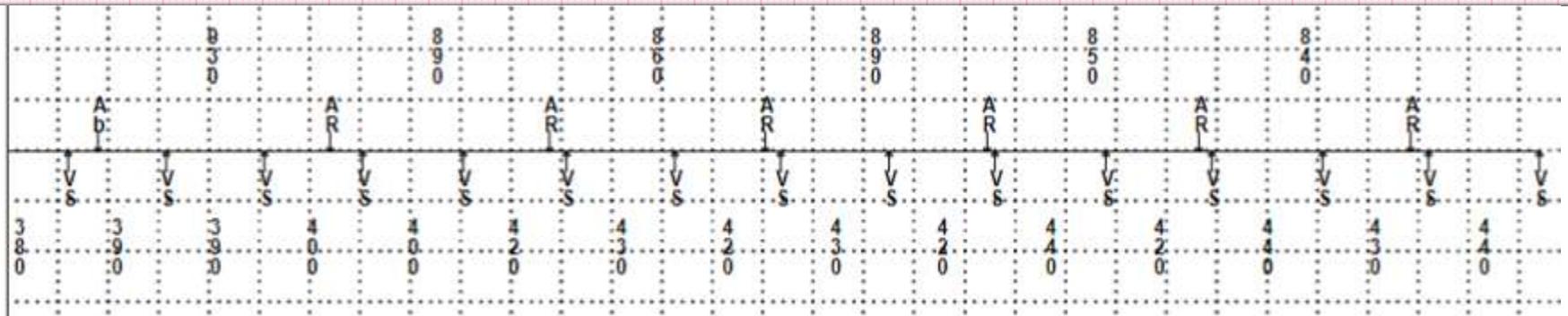
Mechanical Cardiac Support

Revascularize

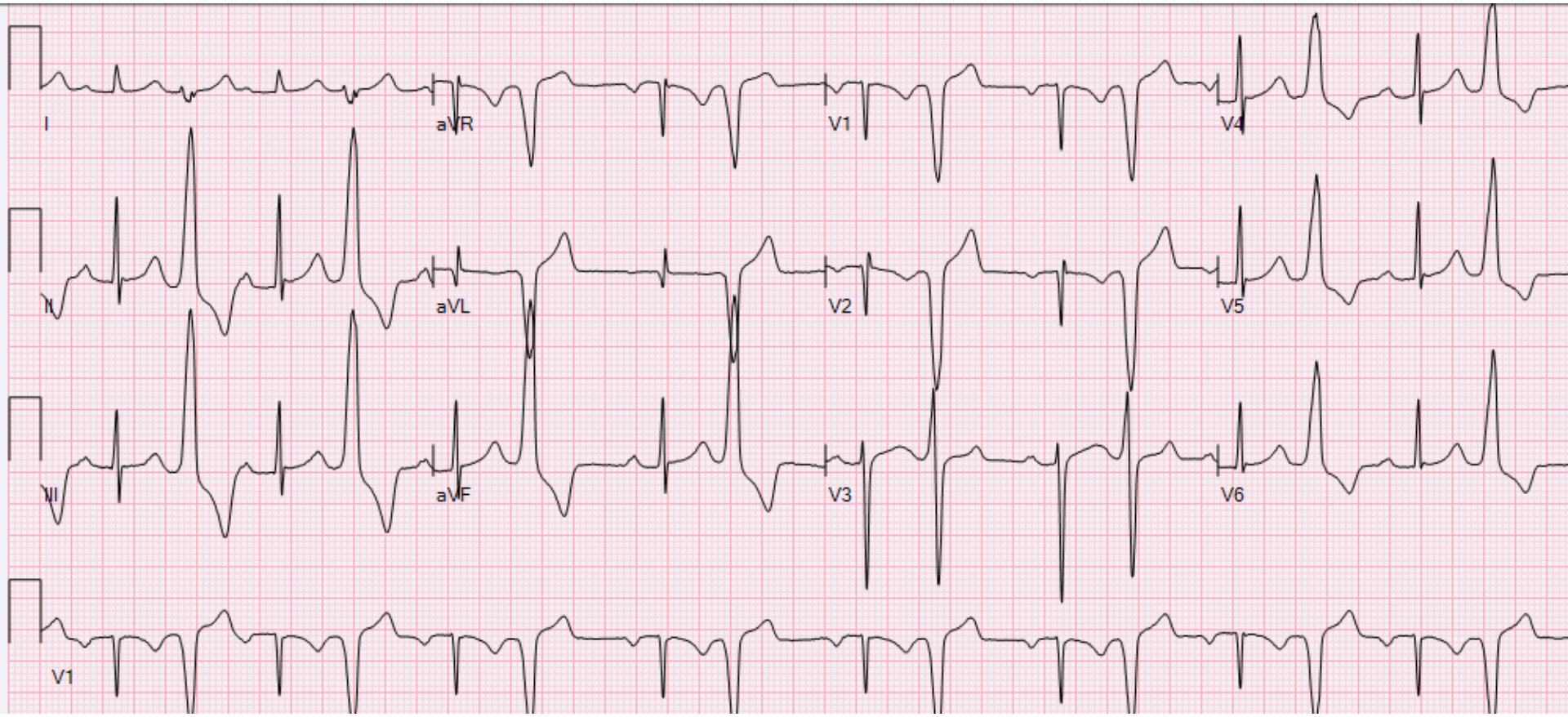
Ablation

76-year-old male, history of MI





46-year-old female, normal heart



Her Holter: 496 runs of VT, longest 748 beats

Work-Up

His

- Echo unchanged
  - LVEF 30%
  - Apical aneurysm
- LHC no new stenoses

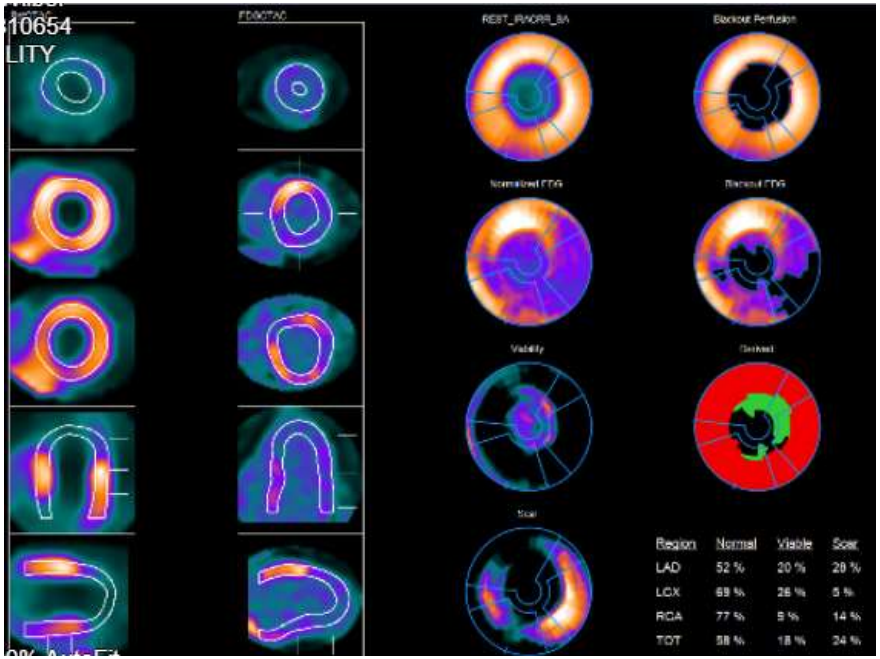
Hers

- Echo = normal

Work-Up

- Echo – always
- Left heart cath – rule out CAD
- Right heart cath - hemodynamics
- MRI – cardiomyopathies
- PET - sarcoidosis

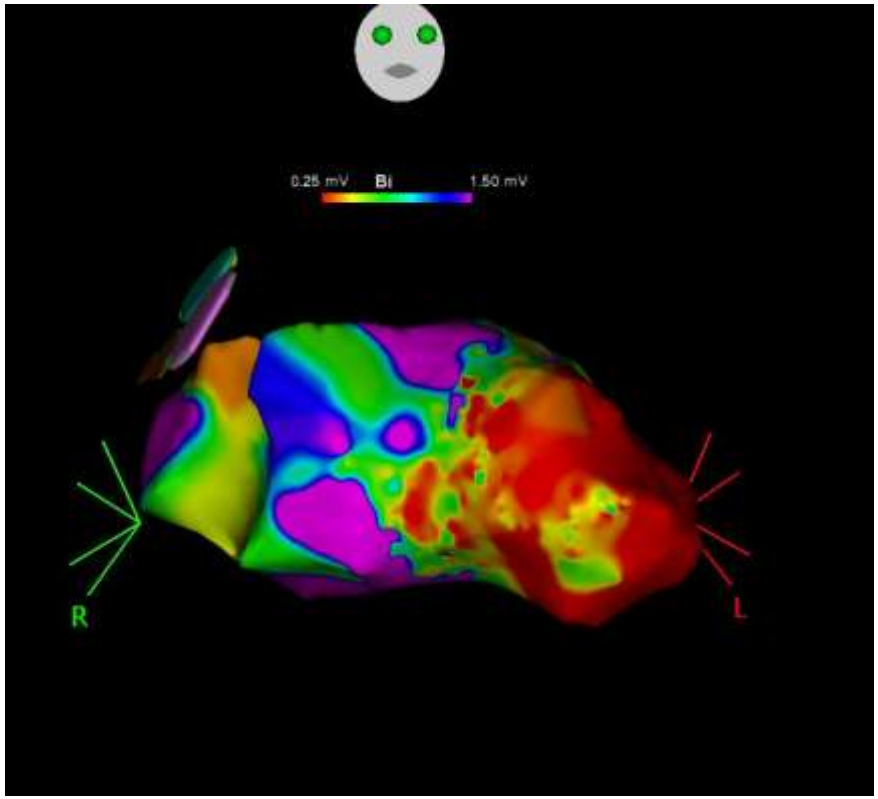
VT + structural heart disease: Scar is present = ICD

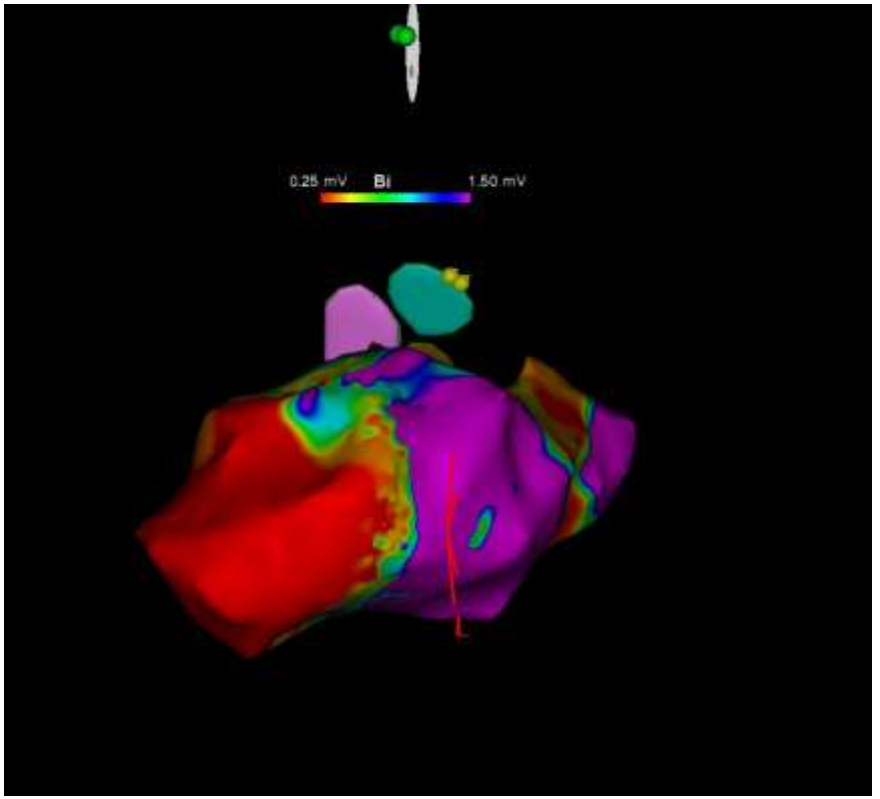


ICD **28%** Risk Reduction in mortality

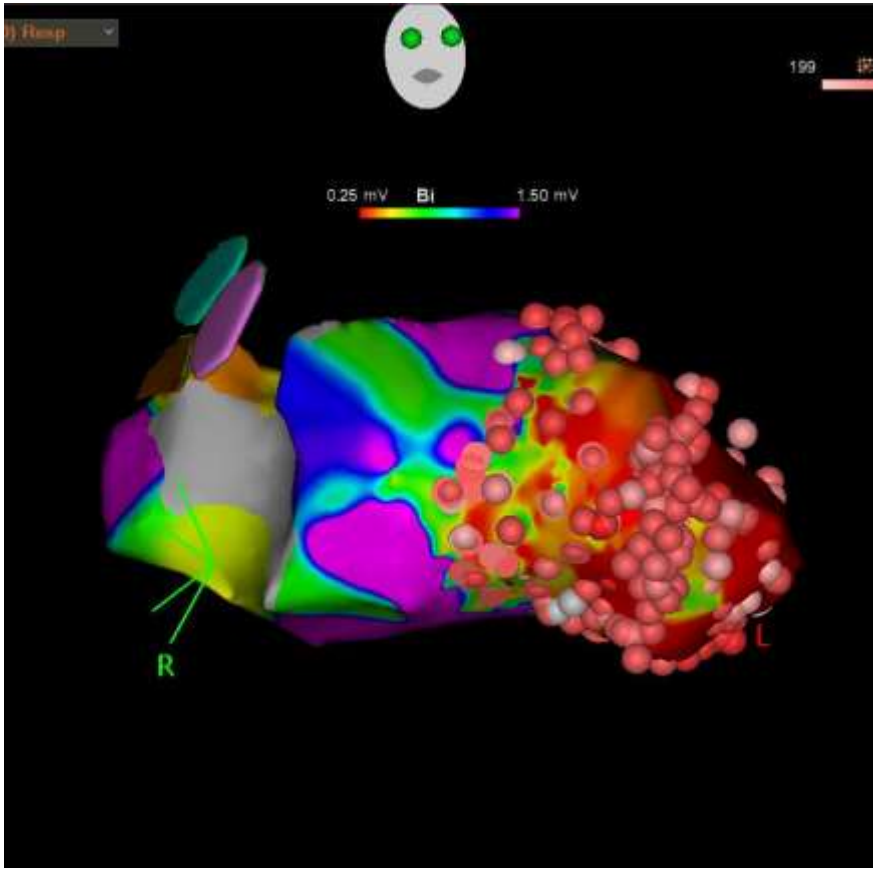
Oseroff O, et al. Subanalyses of secondary prevention implantable cardioverter-defibrillator trials: antiarrhythmics versus implantable defibrillators (AVID), Canadian Implantable Defibrillator Study (CIDS), and Cardiac Arrest Study Hamburg (CASH). Curr Opin Cardiol. 2004 Jan;19(1):26-30.

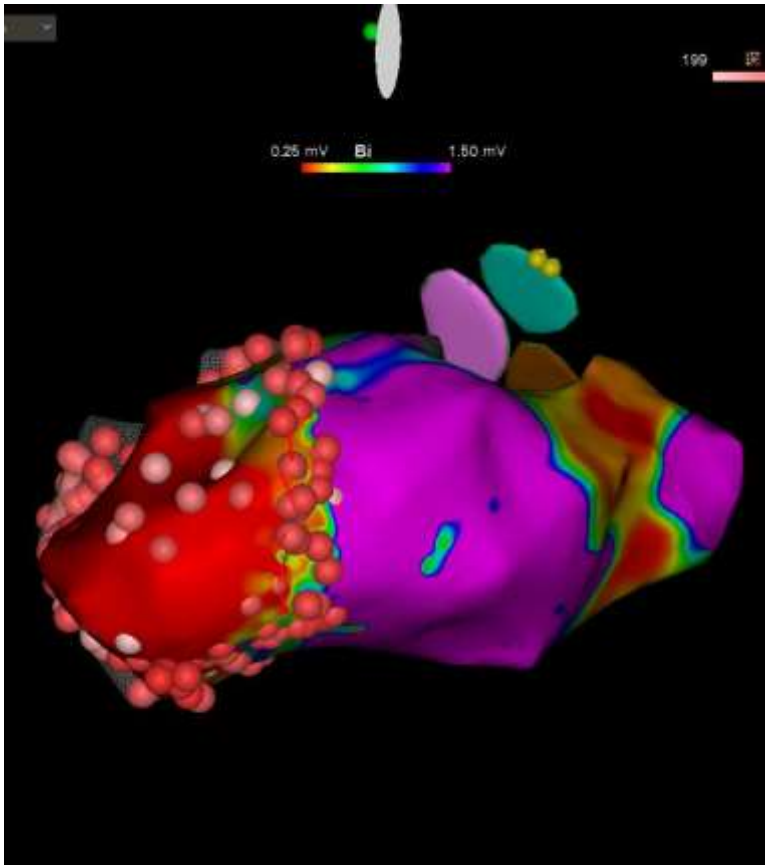
Substrate Ablation: Burn the Scar





Substrate Ablation: Burn the Scar





Substrate Ablation Efficacy

SURVIVE-VT = 144 pts

Substrate Ablation vs. AAD

Composite Endpoint

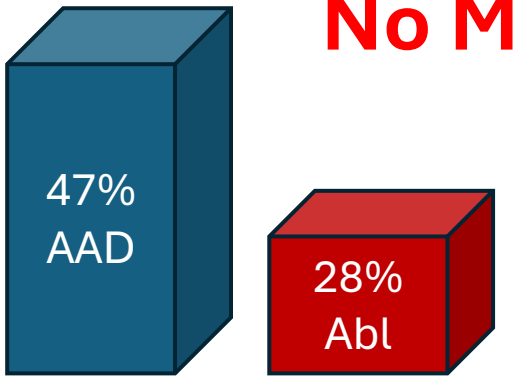
- Severe treatment-related complications
- Cardiac Hospitalization
- Electrical Storm

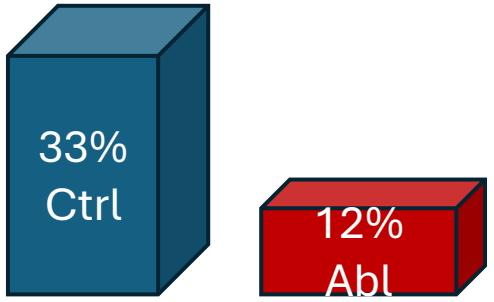
SMASH-VT = 128 pts

Substrate Ablation vs. Control

- Appropriate ICD therapies (ATP + Shocks)

No Mortality Difference





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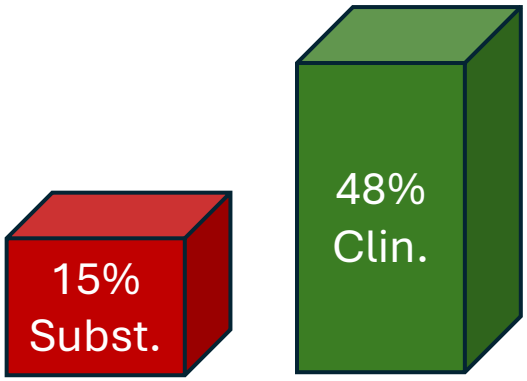
Substrate Ablation Efficacy

VISTA = 144 pts
Substrate Ablation vs. Clinical VT

AAD: 12% Substrate; 58% Clinical



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So I do both:

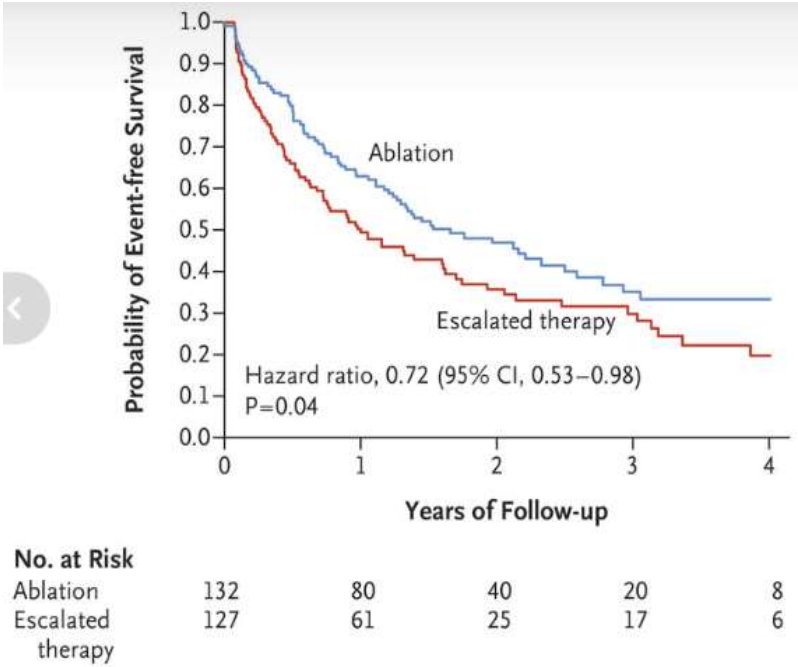
- induce clinical VT

- extensive substrate modification

Ablation vs. Escalated AAD

VANISH Trial – 259 patients

40% Lower Shock Burden



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Timing of First Ablation

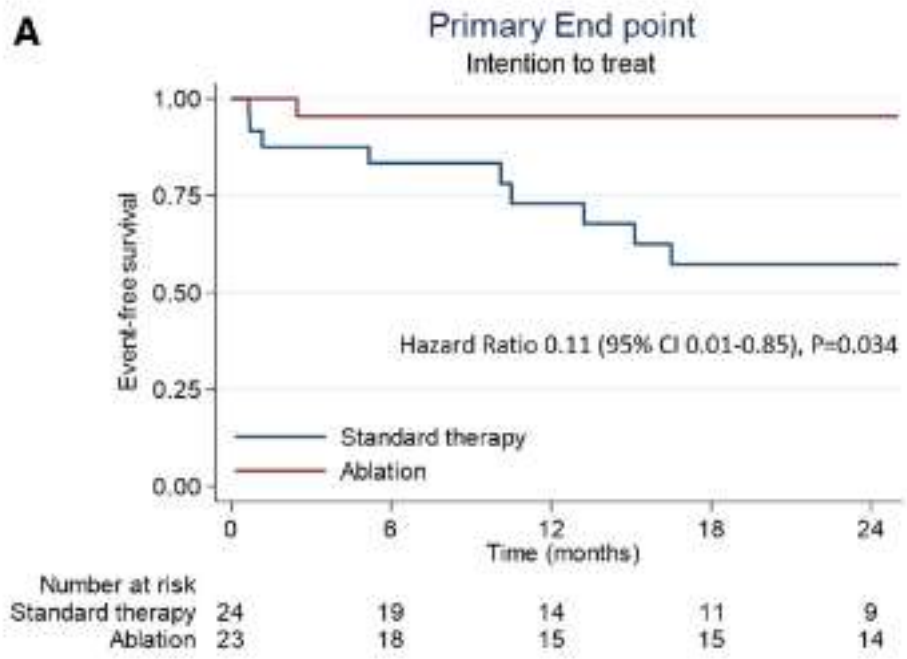
PARTITA Trial

– 517 patients x 2.4 years

– 56 patients shocked

– 47 randomized, ablation vs. Meds

– Outcome: Death or Hospitalization : 4% vs. 42%



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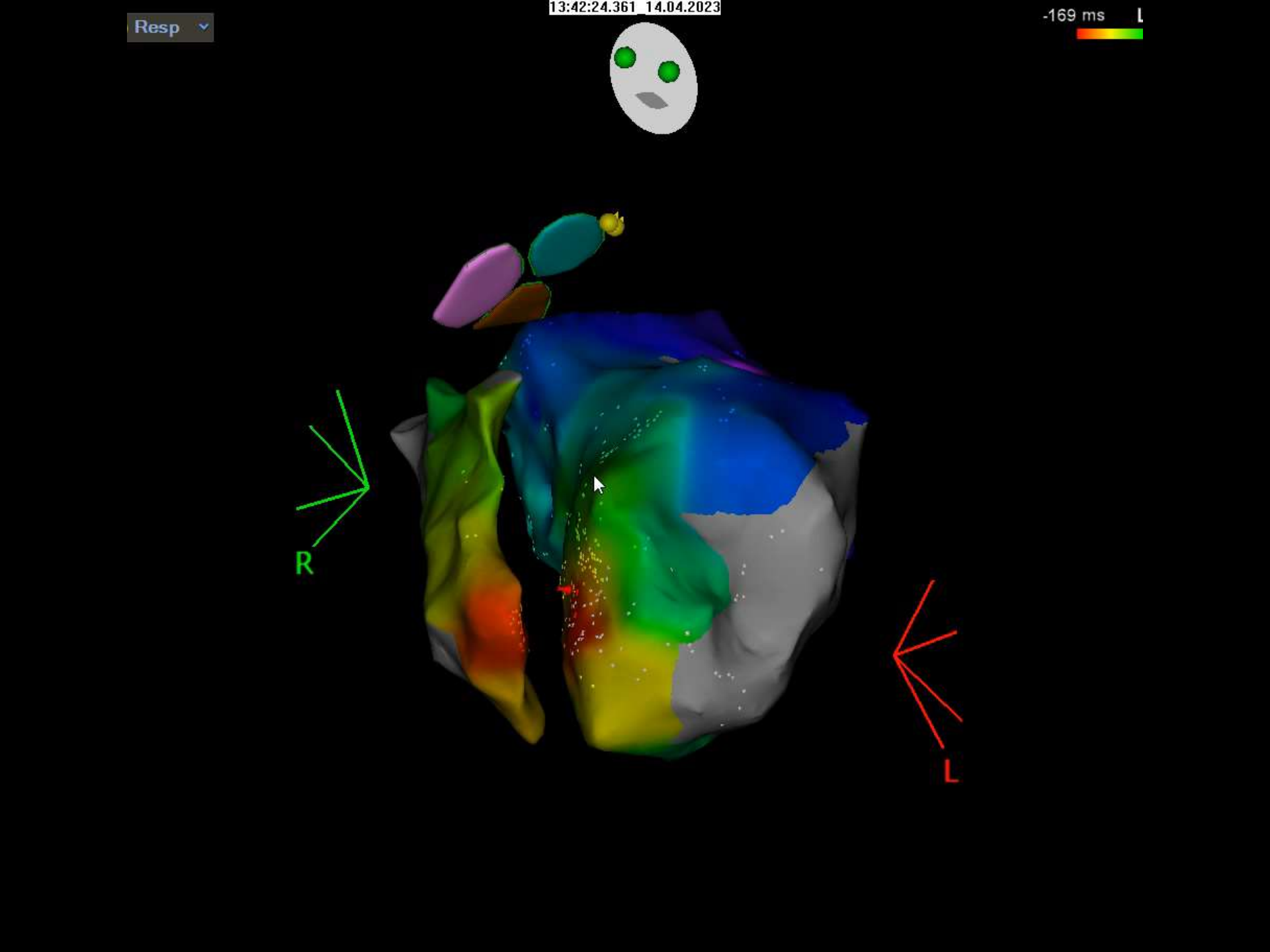
Resp
13:42:24.361 14.04.2023
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L
R
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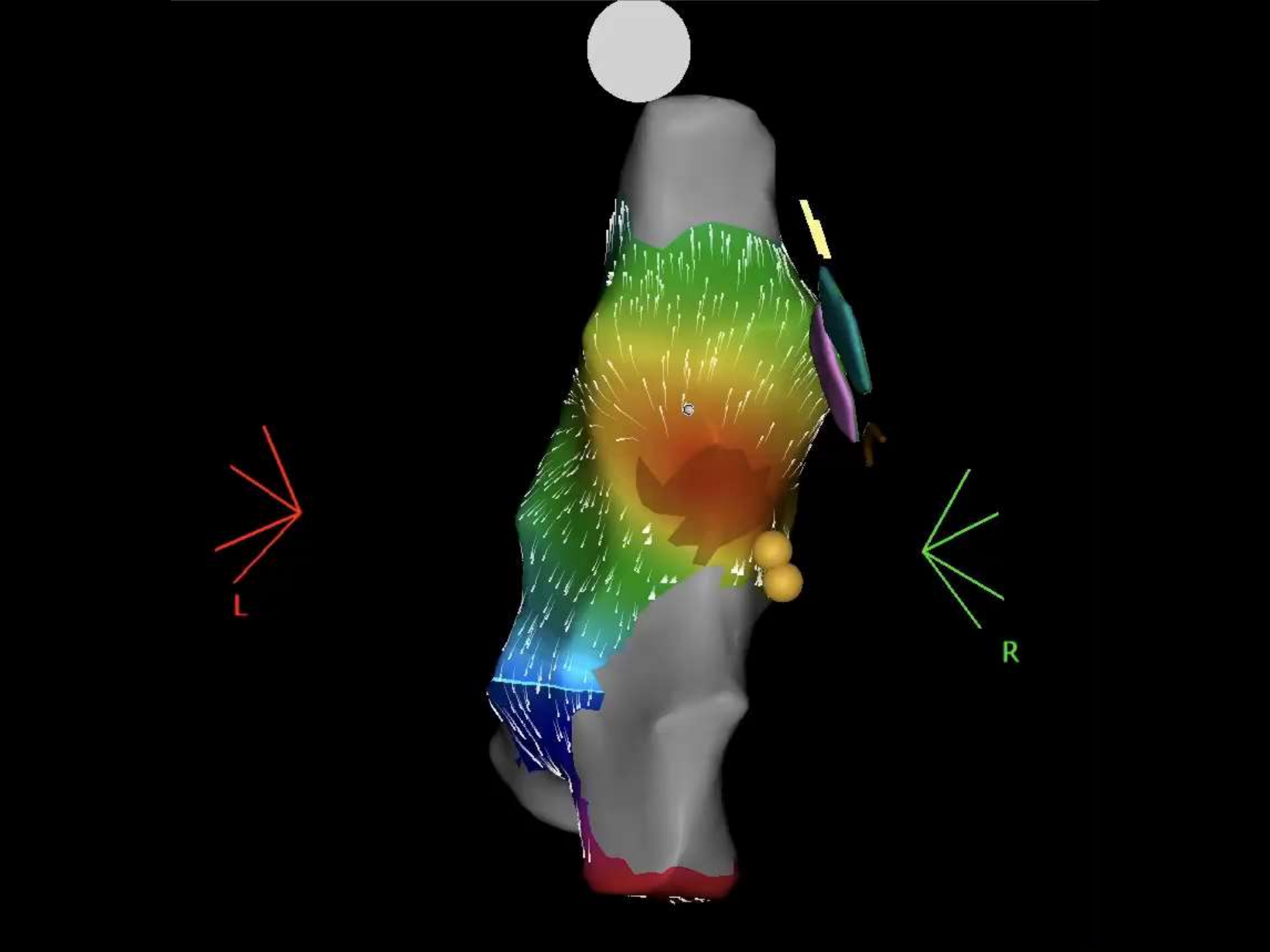
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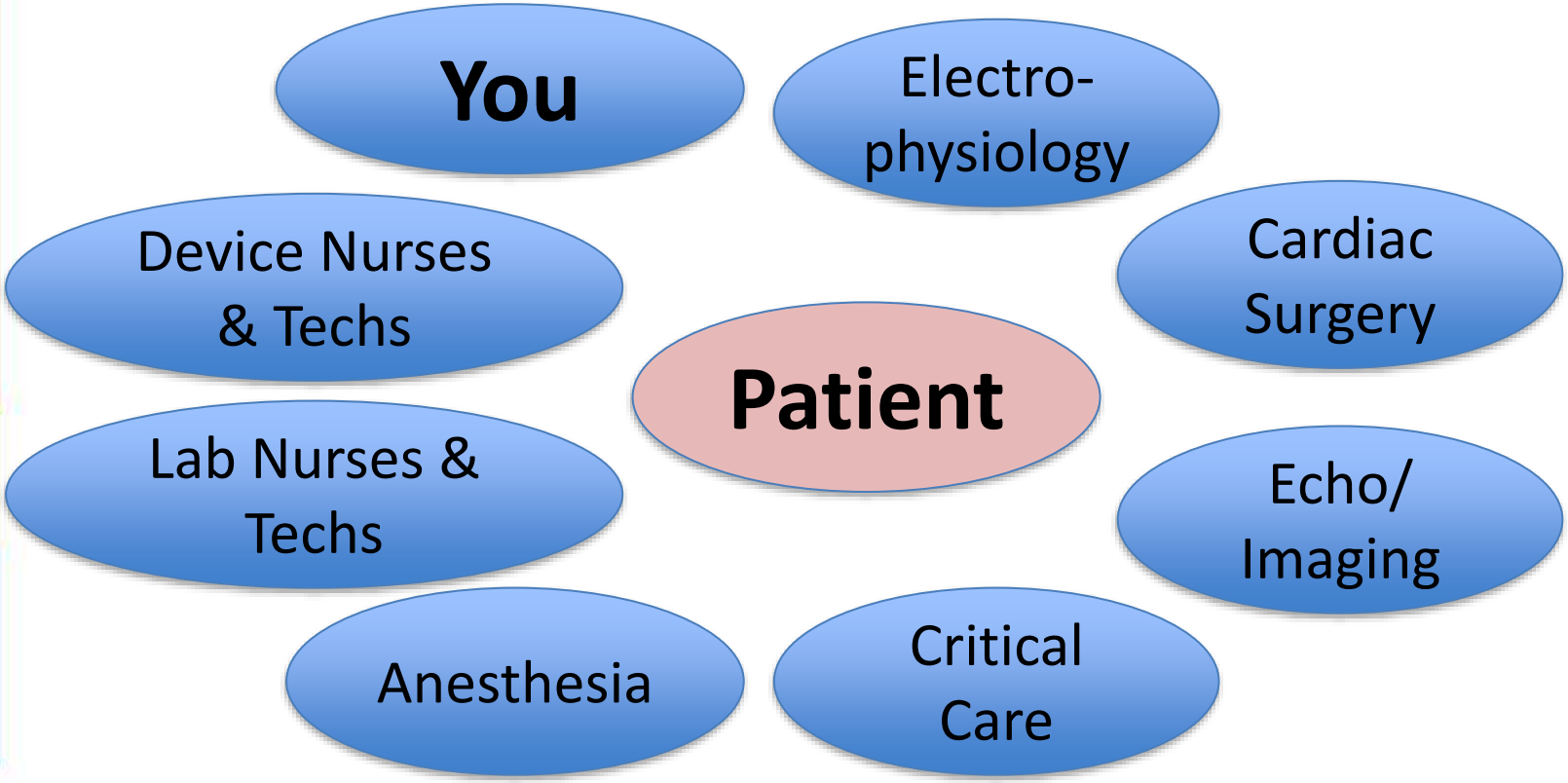
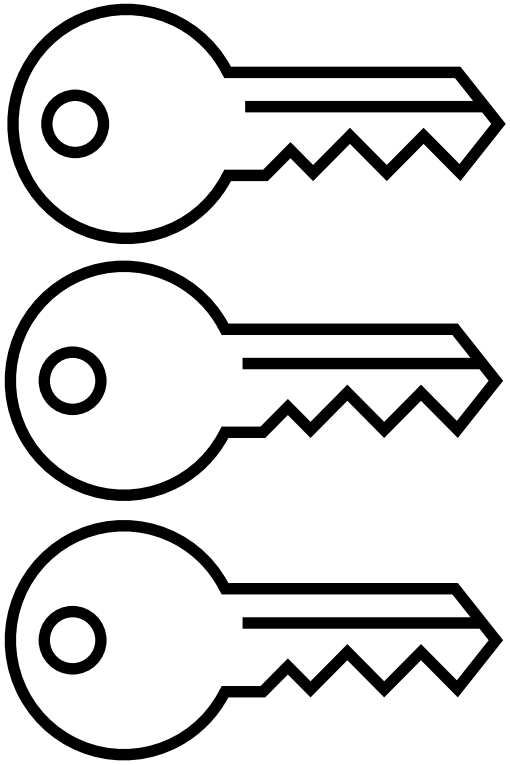
Team


You
Electro-physiology
Device Nurses & Techs
Cardiac Surgery
Patient
Lab Nurses & Techs
Echo/ Imaging
Anesthesia
Critical Care

Keys to Survival



Promptly Initiate Resuscitation

Timely Referral

Coordinating Care