

## Rate vs. Rhythm: Patient Selection and Engagement



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Intermountain Medical Center Heart Institute

## Disclosures

- None related to topic
- Consultant: St. Jude Medical, Boston Scientific, and Biotronik

## Disclosures



## HeartRhythm

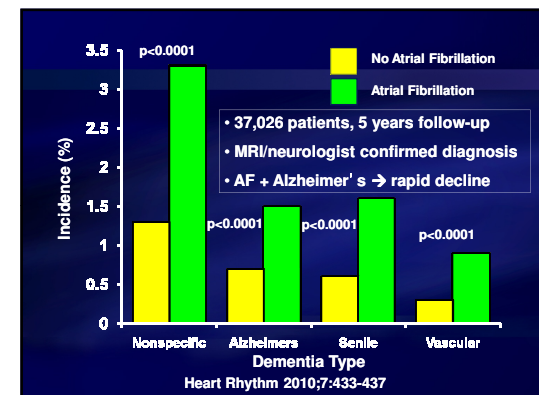
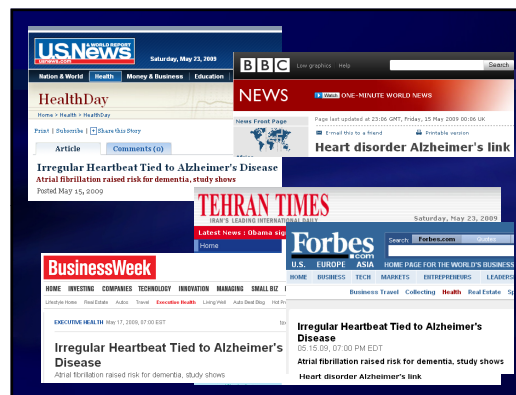
The Official Journal of the Heart Rhythm Society

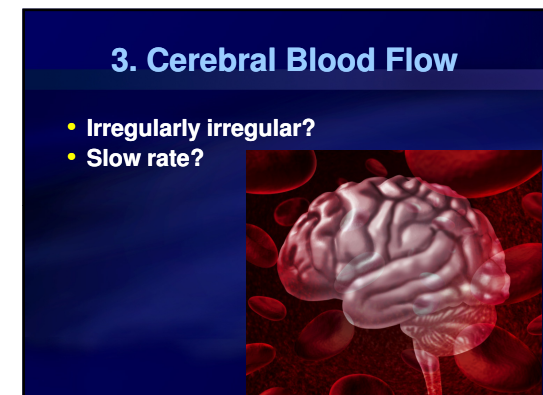
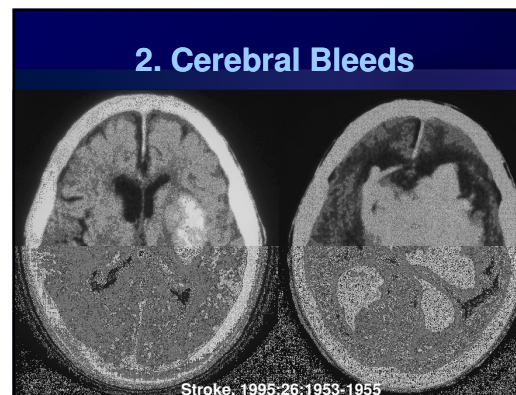
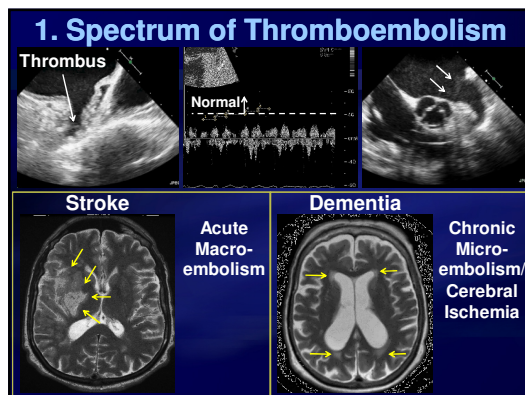
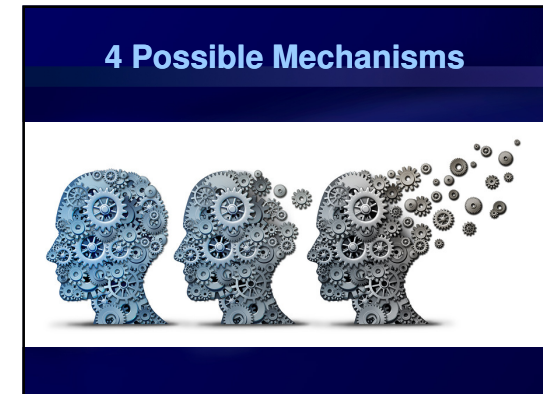
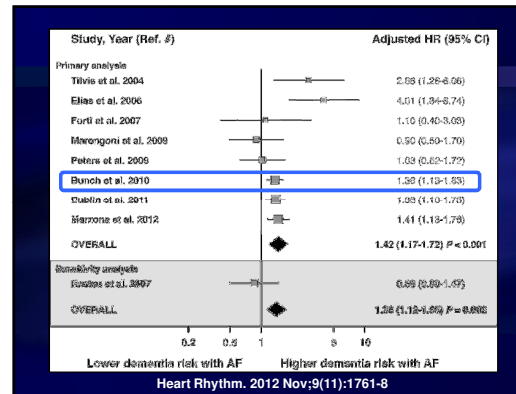
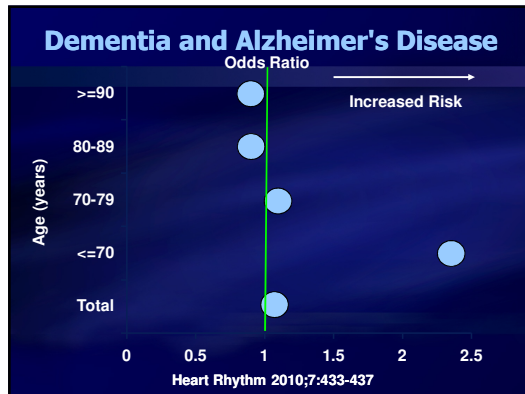
**Atrial fibrillation is independently associated with senile, vascular, and Alzheimer's dementia**

T. Jared Bunch, MD,\*† J. Peter Weiss, MD,\*† Brian G. Crandall, MD,\*† Heidi T. May, PhD, MSPH,† Tami L. Bair, RM,† Jeffrey S. Osborn, MD,\*† Jeffrey L. Anderson, MD,† Joseph B. Muhlestein, MD,† Benjamin D. Home, PhD, MSPH,† Donald L. Lappe, MD,† John D. Day, MD, FHRS\*†

From the \*Intermountain Heart Rhythm Specialists, Intermountain Medical Center, Murray, Utah; †Department of Cardiology, Intermountain Medical Center, Murray, Utah.

Heart Rhythm 2010;7:433-437





## 4. Inflammation?

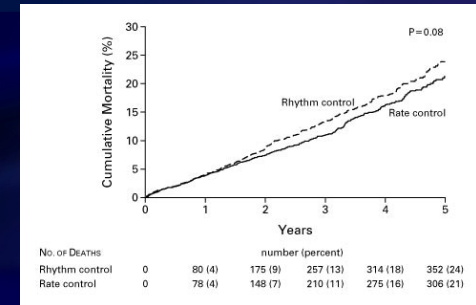


## No Long-Term Safety Data...

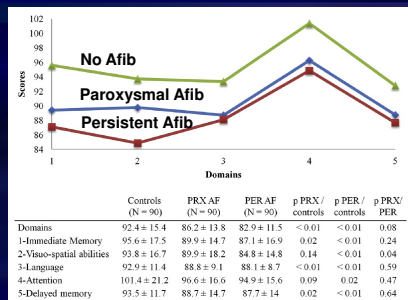


- Warfarin/AV node agent vs. antiarrhythmic
- Ablation not studied...

## Cognition After 5 Years???



## Before we ever get to dementia...



J Am Coll Cardiol 2013;62:1990-7

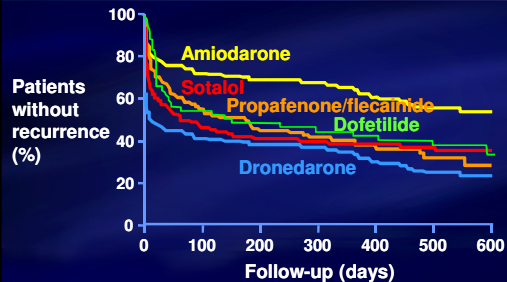
## Other Long-Term AF Risks...

- Strokes
- Anticoagulation bleeds
- Heart failure
- Renal failure

## The Dilemma

- No debate if we had good drugs

## How good are antiarrhythmics?

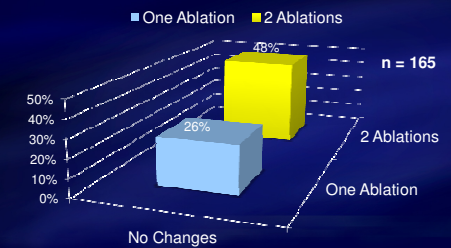


Circulation 2000; 102:2385-2390, J Cardiovasc Electrophysiol, 2010; Vol. 21, pp. 597-605

## The Dilemma

- No debate if we had good drugs
- No debate if ablation alone was curative

## Lifestyle Medicine and Ablation



Sanders, et al. Heart Rhythm Society Annual Scientific Sessions

## Rate vs. Rhythm: Patient Selection and Engagement



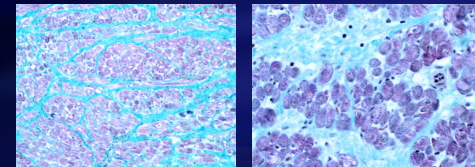
John D. Day, MD  
Intermountain Medical Center Heart Institute

## Top 3 Cases for Rate Control

1. Too far gone...
2. Advanced age...
3. Poor lifestyle choices...

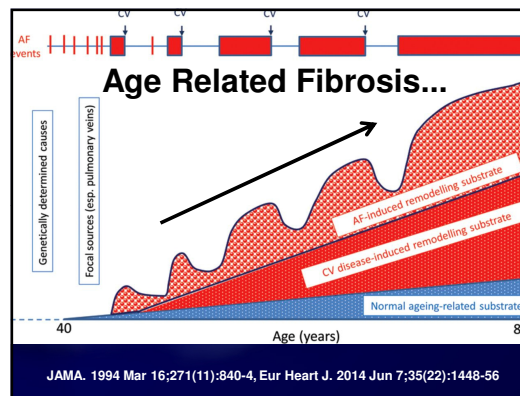
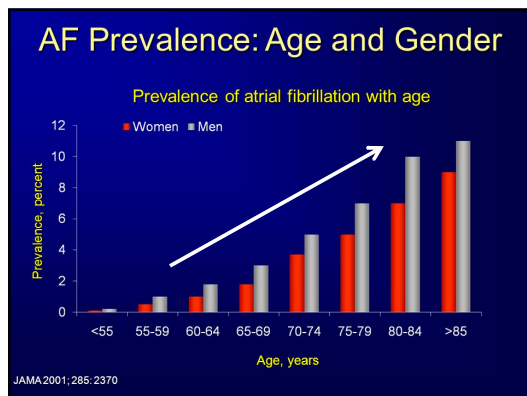
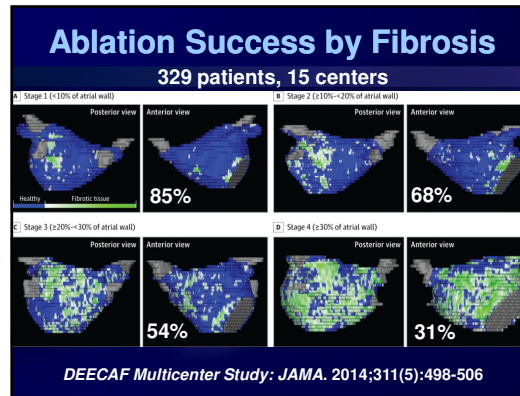
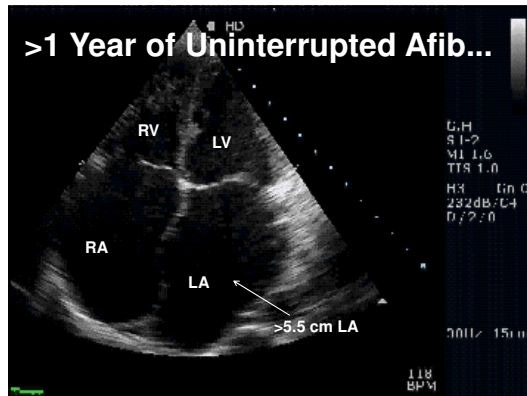
## 1. Too Far Gone: Tipping Point

- Electrical remodeling within 30 minutes
- Fibrosis within 5 weeks



Circulation 1996;94:2968-74, Circulation 1999;100:87-95, J Cardiovasc Electrophysiol. 2015 Apr 1. doi: 10.1111/jce.12678.





### AF Ablation in Octogenarians

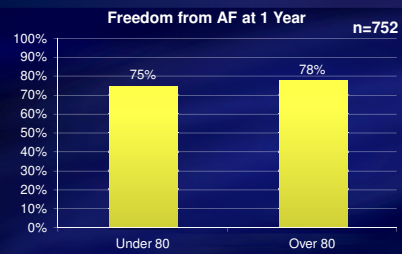
**PACE**  
Pacing And Clinical Electrophysiology

Long-Term Clinical Efficacy and Risk of Catheter Ablation for Atrial Fibrillation in Octogenarians

T. JARED BUNCH M.D., J. PETER WEISS, BRIAN G. CRANDALL M.D.,  
HEIDI T. MAY Ph.D., TAMI L. BAIR, JEFFREY S. OSBORN M.D.,  
JEFFREY L. ANDERSON M.D., DONALD L. LAPPE M.D.,  
J. BRENT MUHLESTEIN M.D., JENNIFER NELSON R.N., JOHN D. DAY M.D.

Pacing Clin Electrophysiol. 2010 Feb;33(2):146-52

## AF Ablation in Octogenarians



Pacing Clin Electrophysiol. 2010 Feb;33(2):146-52

## AF Ablation in Octogenarians

1. One extra day in hospital to recover
2. Trend toward more tamponade
3. Trend toward more groin complications
4. Trend toward more urinary tract infections



## Impact of Age on 5-year Outcomes

### Journal of Cardiovascular Electrophysiology

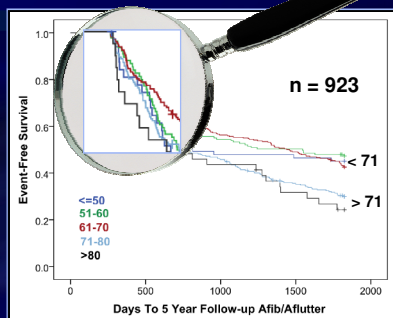
#### The Impact of Age on 5-Year Outcomes After Atrial Fibrillation Catheter Ablation

T. JARED BUNCH, M.D.,<sup>†</sup> HEIDI T. MAY, Ph.D., M.S.P.H.,<sup>\*</sup> TAMI L. BAIR, B.S.,<sup>\*</sup> VICTORIA JACOBS, N.P.,<sup>\*</sup> BRIAN G. CRANDALL, M.D.,<sup>\*</sup> MICHAEL CUTLER, D.O., Ph.D.,<sup>\*</sup> J. PETER WEISS, M.D.,<sup>\*</sup> CHARLES MALLENDER, M.D.,<sup>\*</sup> JEFFREY S. OSBORN, M.D.,<sup>\*</sup> JEFFREY L. ANDERSON, M.D.,<sup>\*</sup> and JOHN D. DAY, M.D.,<sup>\*</sup>

From the <sup>\*</sup>Intermountain Medical Center Heart Institute, Intermountain Medical Center, Salt Lake City, Utah; and <sup>†</sup>Stanford University, Palo Alto, California, USA

J Cardiovasc Electrophysiol. 2016 Feb;27(2):141-6

## Freedom from AF at 5 Years



J Cardiovasc Electrophysiol. 2016 Feb;27(2):141-6

## AF Ablation in Octogenarians

1. Good 1-year success, especially in fit.
2. Can be done safely.
3. Most recur without lifestyle medicine...



## 3. Poor Lifestyle?



**JACC**  
JOURNAL OF THE AMERICAN COLLEGE OF CARDIOLOGY

Home Current Issue All Issues Just Accepted Online Before Print

Original Investigations | March 2015


**Long-Term Effect of Goal Directed Weight Management in an Atrial Fibrillation Cohort: A Long-term Follow-Up Study (LEGACY Study)**

Rajeev K. Pathak, MBBS<sup>1</sup>; Melissa E. Middeldorp<sup>1</sup>; Megan Meredith<sup>1</sup>; Abhinav B. Mehta, M Act Sc<sup>2</sup>; Rajiv Mahajan, MD, PhD<sup>1</sup>; Christopher X. Wong, MBBS<sup>1</sup>; Daragh Twomey, MBBS<sup>1</sup>; Adrian D. Elliott, PhD<sup>1</sup>; Jonathan M. Kalman, MBBS, PhD<sup>2</sup>; Walter P. Abhayaratna, MBBS, PhD<sup>1</sup>; Dennis H. Lau, MBBS, PhD<sup>1</sup>; Prashanthan Sanders, MBBS, PhD<sup>1</sup>

- Half will go into remission!
- Average weight loss → 35 pounds!

**CARDIO-FIT Study**

- 2 MET gain decreased AF by 2x!



Journal of the American College of Cardiology. 2015;66(9):985-96

**The Lower the Better for AF**

J Interv Card Electrophysiol  
DOI: 10.1007/s10840-016-0142-5

**Long-term influence of body mass index on cardiovascular events after atrial fibrillation ablation**

T. Jared Bunch<sup>1,2,3</sup> · Heidi T. May<sup>1</sup> · Tami L. Bair<sup>1</sup> · Brian G. Crandall<sup>1</sup> · Michael J. Cutler<sup>1</sup> · Victoria Jacobs<sup>1</sup> · Charles Mallender<sup>2</sup> · Joseph B. Muhlestein<sup>1</sup> · Jeffrey S. Osborn<sup>1</sup> · J. Peter Weiss<sup>1</sup> · John D. Day<sup>1</sup>

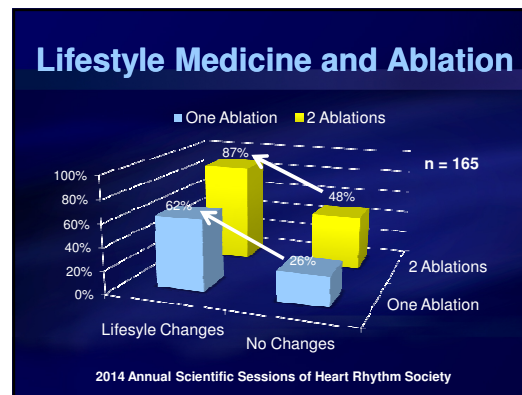
J Interv Card Electrophysiol. 2016 Sep;46(3):259-65

**BMI and Long-term Success**


1. Optimal BMI was 21-25
2. Any weight loss improves success
3. Most recur without lifestyle modification



J Interv Card Electrophysiol. 2016 Sep;46(3):259-65



**Rate vs. Rhythm: Patient Selection and Engagement**



**John D. Day, MD**  
Intermountain Medical Center Heart Institute





## Brief Physician Advice Increases Success by 66%

- 42 studies
- 31,000 smokers

Cochrane Database Syst Rev. 2013 May 31;5:CD000165. doi:  
10.1002/14651858.CD000165.pub4.

## Brief advice for AF???

Research

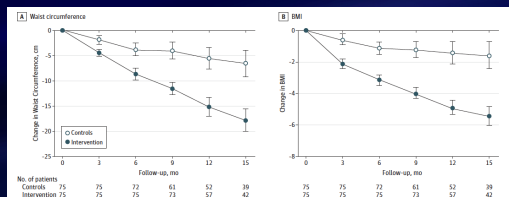
Original Investigation

# Effect of Weight Reduction and Cardiometabolic Risk Factor Management on Symptom Burden and Severity in Patients With Atrial Fibrillation

Hany S. Abed, BPharm, MBBS; Gary A. Wittert, MBBCh, MD; Darryl P. Leong, MBBS, MPH, PhD; Masoumeh G. Shirazi, MD; Bobak Bahrami, MBBS; Melissa E. Middeldorp; Michelle F. Lorimer, BSc; Dennis H. Lau, MBBS, PhD; Nicholas A. Antic, MBBS, PhD; Anthony G. Brooks, PhD; Walter P. Abhayaratna, MBBS, PhD; Jonathan M. Kalman, MBBS, PhD; Prashanthan Sanders, MBBS, PhD

JAMA. 2013 Nov 20;310(19):2050-60

## Brief Advice: Some Weight Loss



**JAMA. 2013 Nov 20;310(19):2050-60**

## Afib Episodes per 7-day Holter



**JAMA. 2013 Nov 20;310(19):2050-60**

## The 3 Levels of Engagement

1. Brief physician advice
2. Refer to dietician, cardiac rehab, sleep lab...
3. NP/PA/nurse led AF lifestyle modification



## Questions?

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