# AFIB MASTERCLASS

Jennifer Carlquist, PA-C



# OBJECTIVES

Which anticoagulant is the safest
Which patients need anticoagulation
What to do when you can't anticoagulate your patient
How to risk stratify your patient for stroke when they have AF

# AFIB DILEMMAS



Rate vs rhythm?

Why?

New vs old?

Is it ischemic?

Symptomatic?

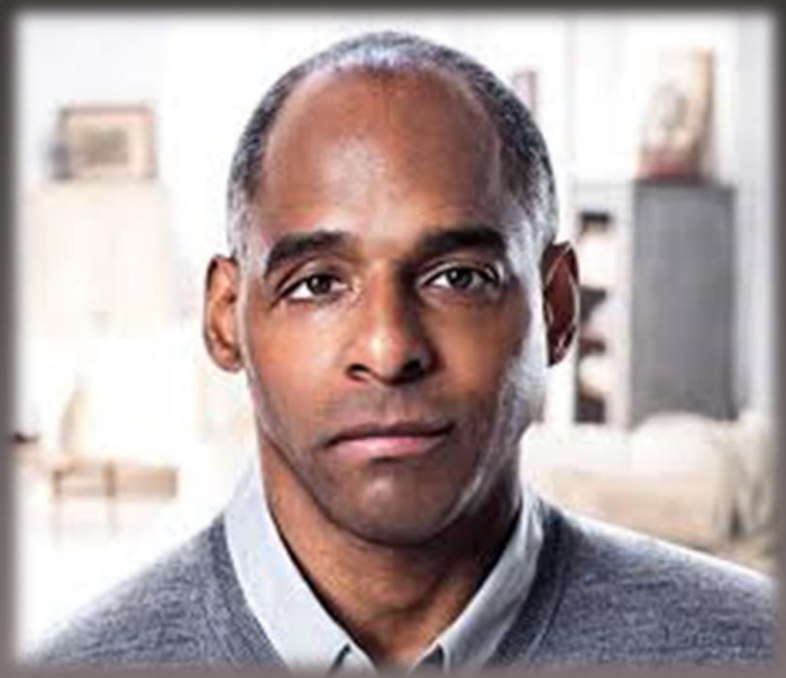
Treat or not treat?

If we treat, then what do we use?

When to refer?

# The drama and trauma of anticoagulation

How comfortable are you prescribing?







# 3 Flavors of Afib

**Paroxysmal** – starts suddenly resolves within 7 days

**Persistent** – Continuous last more than 7 days

**Long term persistent** – Unlikely to convert with cardioversion or ablation

# The Lingo



# PAST MEDICAL HISTORY:

- Most common heart rhythm in the US
- Over 80 - 10%
- 1 in 4 **strokes** caused by this
- It is estimated that between 2.7 million and 6.1 million people in the United States have AFib.

# Risk factors

- Advancing age
- HTN
- Obesity
- Diabetes
- Heart failure
- Ischemic heart disease
- Hyperthyroidism
- Chronic kidney disease
- Moderate to heavy alcohol use
- Smoking
- Atrial enlargement
- High stress



# Root causes

- **P**ost op, co**P**d, **P**artying
- **I**nfiltrative myxoma
- **R**heumatic valvular disease
- **A**cute MI
- **T**hyroid /Toxins
- **E**nergy Drinks/ETOH



# Atrial Fibrillation

**Rate:** Variable, ventricular response can be fast or slow. Atrial rate is usually over 350 BPM.

**Regularity:** Irregularly irregular

**P wave:** None; chaotic atrial activity



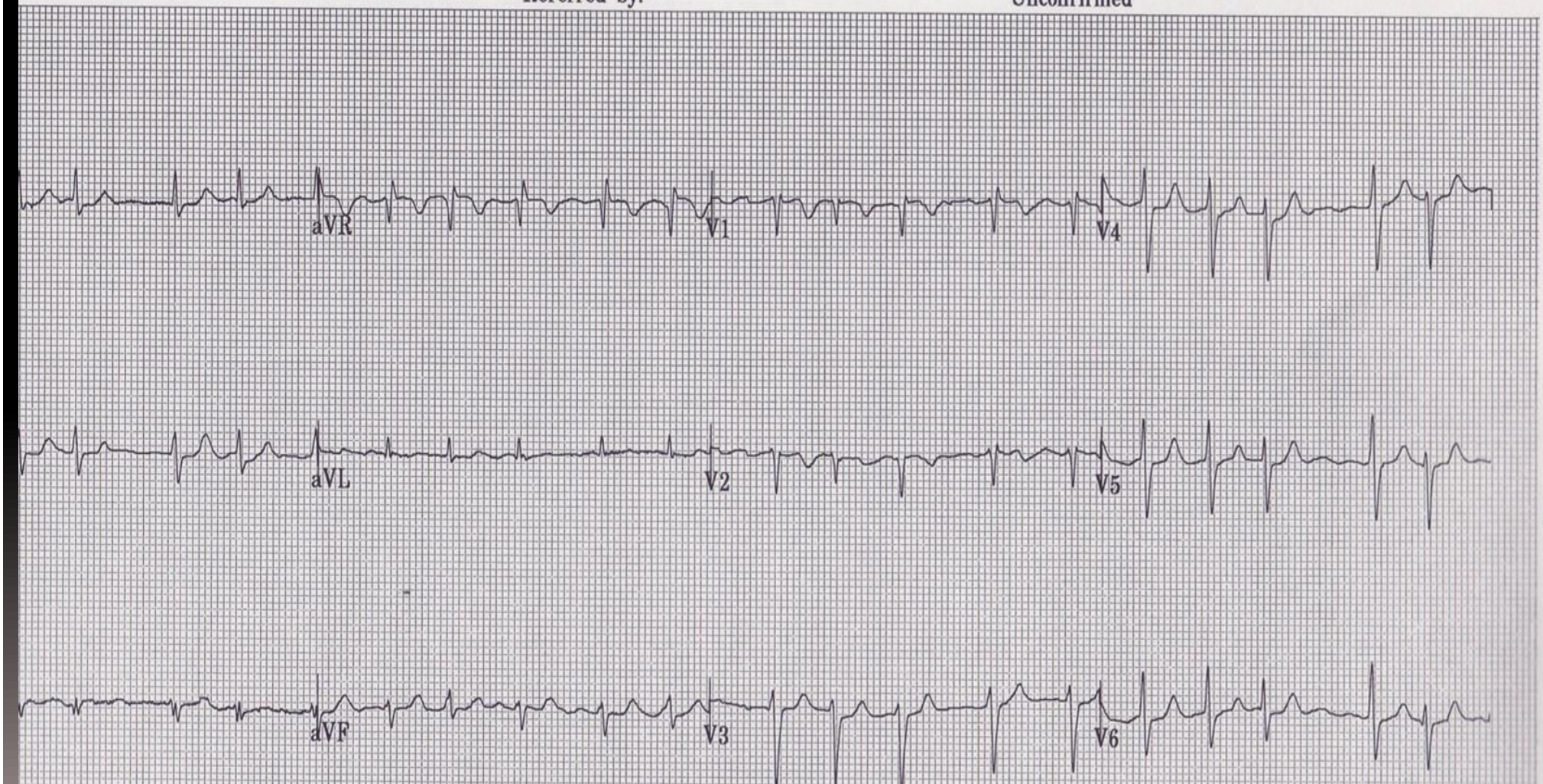
Lets do a case!


"My doctor
Sent me"

| | | |
|---|---|---|
| Vent. rate | 127 bpm | Atrial fibrillation with rapid ventricular response with premature aberrantly conducted complexes |
| PR interval | * ms | Nonspecific ST abnormality, probably digitalis effect |
| QRS duration | 82 ms | Abnormal ECG |
| QT/QTc | 266/386 ms | |
| P-R-T axes | * -24 52 | |

Technician:
Test ind:

Referred by: Unconfirmed



# Diagnosis: PAF

- **WHAT LABS WILL HE NEED?**

  CBC, CMP, Mag, INR, Trop x 2, TSH, if admitted lipids

- **WHAT DIAGNOSTICS WILL HE NEED?**

  CXR, stress test, echo

- **WHAT WILL HE BE DISCHARGED ON?**

  Chads Vasc will decide

- **IS HE CLEARED FOR HIS SURGERY NOW?**

  NO!



# EXAM: MORE DETAILS ✓

"I don't want to be on all this medication."

"I just want to have my eyelid surgery."

Eats the "***Window Diet***"

Works construction

Drives 1.5 hours to work

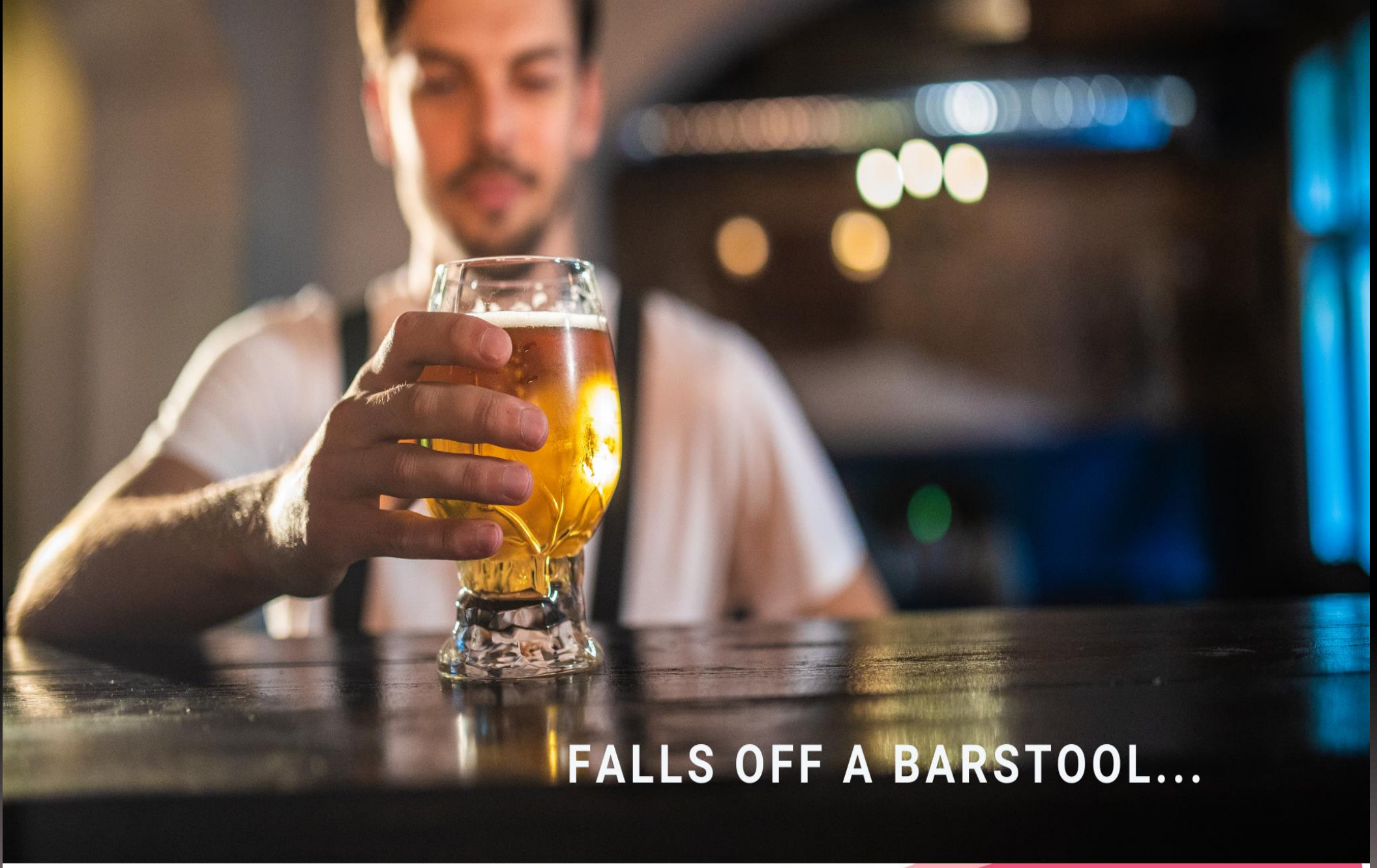
"I can barely stay awake!"

# Exam Tip!

What does he probably have!



“He fell off a barstool…”


FALLS OFF A BARSTOOL...



# WHAT HAPPENED?

GETS SLEEP STUDY - TREATED!
ECHO SHOWS MILD LAE
STOPS DRINKING
GETS ABLATION
CHANGES TO PLANT-BASED DIET
GETS HIS SURGERY

## “THANK YOU I CAN FINALLY SEE AGAIN”

Take homes:

1. Always think about sleep apnea
2. Always ask about ETOH
3. Document that you warned your PT about trauma or falls



## CHADS-VASC 2/HAS-BLED

Document these every time!



YOU MUST DEFINE STROKE RISK FIRST

AFIB
MENU

# Decisions

## STROKE RISK

**CHADS VASC 2**
Over 1 strong consideration

**HAS BLED**
Over 3 reconsider

*Atrial Fibrillation*

# WHAT TO DO?

HERE'S THE SCOOP

| RATE | RHYTHM |
| --- | --- |
| **BB**<br>**CCB**<br>**Digoxin** | **Sotolol**<br>**Amiodarone**<br>**Dronaderone**<br>**Propafenone**<br>**Dofeteilide** |

| GET THEM OUT OF IT | LEAVE THEM IN IT |
| --- | --- |
| **Cardiovert** | **Rate control** |

## LAST DITCH

**Nodal ablation**
**Watchman**

# AF CHECKLIST

## HISTORY

### MEDICAL HX CHECKLIST

- [ ] HISTORY OF SAME
- [ ] HISTORY OF AC
- [ ] RECENT BLEED/RISK OF FALLS

## MEDICATIONS

### MEDS CHECKLIST

- [ ] ON AC
- [ ] ON HERBALS
- [ ] TAKE LEVOTHYROXINE, DIG

## CAUSES

### UNDERLYING CAUSES

- [ ] ETOH/DRUGS/TSH/WPW
- [ ] SLEEP APNEA
- [ ] CAD/VALVES

# Who can hold a cardioversion….

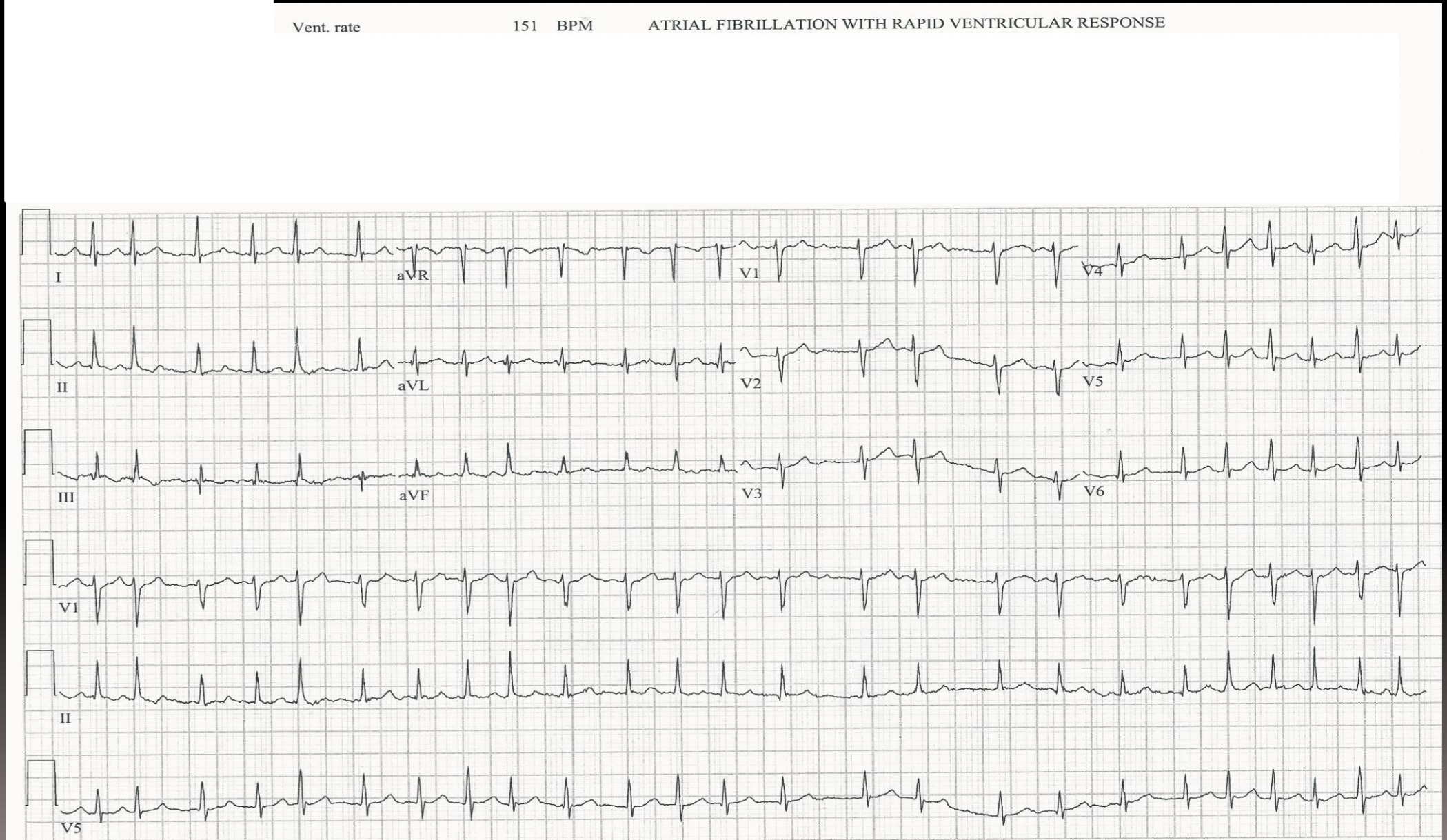


**FOR PATIENTS WITH AF OR ATRIAL FLUTTER OF 48 HOURS DURATION OR LONGER OR UNKNOWN:**

**- ANTICOAGULATION WITH WARFARIN (INR 2.0 TO 3.0)**
**- A FACTOR XA INHIBITOR**

**FOR AT LEAST 3 WEEKS BEFORE AND AT LEAST 4 WEEKS AFTER CARDIOVERSION.**

# 65 y/o M with" palpitations"



# $CHADS_2$ -> $CHA_2DS_2VASc$

| CHADS2 Risk | Score |
|---|---|
| CHF | 1 |
| Hypertension | 1 |
| Age > 75 | 1 |
| Diabetes | 1 |
| Stroke or TIA | 2 |

From ESC AF Guidelines

http://www.escardio.org/guidelines-surveys/esc-guidelines/GuidelinesDocuments/guidelines-afib-FT.pdf

| CHA2DS2-VASc Risk | Score |
|---|---|
| CHF or LVEF ≤ 40% | 1 |
| Hypertension | 1 |
| Age ≥ 75 | 2 |
| Diabetes | 1 |
| Stroke/TIA/ Thromboembolism | 2 |
| Vascular Disease | 1 |
| Age 65 - 74 | 1 |
| Female | 1 |

# "The second time you want to be a zero…"

- 1 - strong consideration for AC
- 2 and up- "No brainer"
- BUT - 1 from female (< 65 years old without other risk factors) NO AC



| HAS-BLED | Score |
|---|---|
| Hypertension i.e. uncontrolled BP | 1 |
| Abnormal renal/liver function | 1 or 2 |
| Stroke | 1 |
| Bleeding tendency or predisposition | 1 |
| Labile INR | 1 |
| Age (e.g. >65) | 1 |
| Drugs (e.g. concomitant aspirin or NSAIDSs) or alcohol | 1 |
| | 9 |

Score of 3 or more=

reconsider

# How do you choose a drug?

- How symptomatic?
- How long to stay in it – perioperative?
- Bleeder?
- How likely to stroke?
- HRTF?
- How much are they in it?

**WHAT DO THEY WANT TO DO**

# DOACS

the doacs here they are



# To bleed or not to bleed…

**Factor Xa Inhibitors (DOACS)**

- No monitoring
- Limited reversal agents
- Limited medication interactions (NSAIDS/azoles
- Can't eat grapefruit but can eat spinach

- Expensive up to $12/day
- Andexa – $12,000/dose

**Warfarin**

- Needs monitoring
- Reversal possible
- Medication interactions
- No spinach/greens
- Renal insufficiency

- Inexpensive

# The Anticoagulants



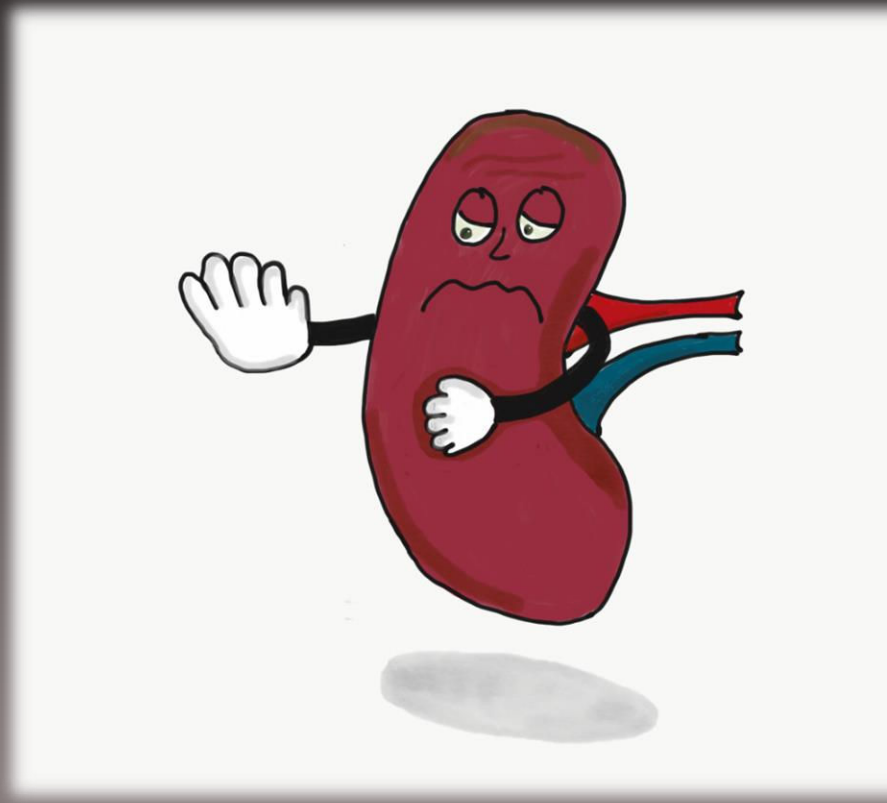

Kick in within hours. Single agent.

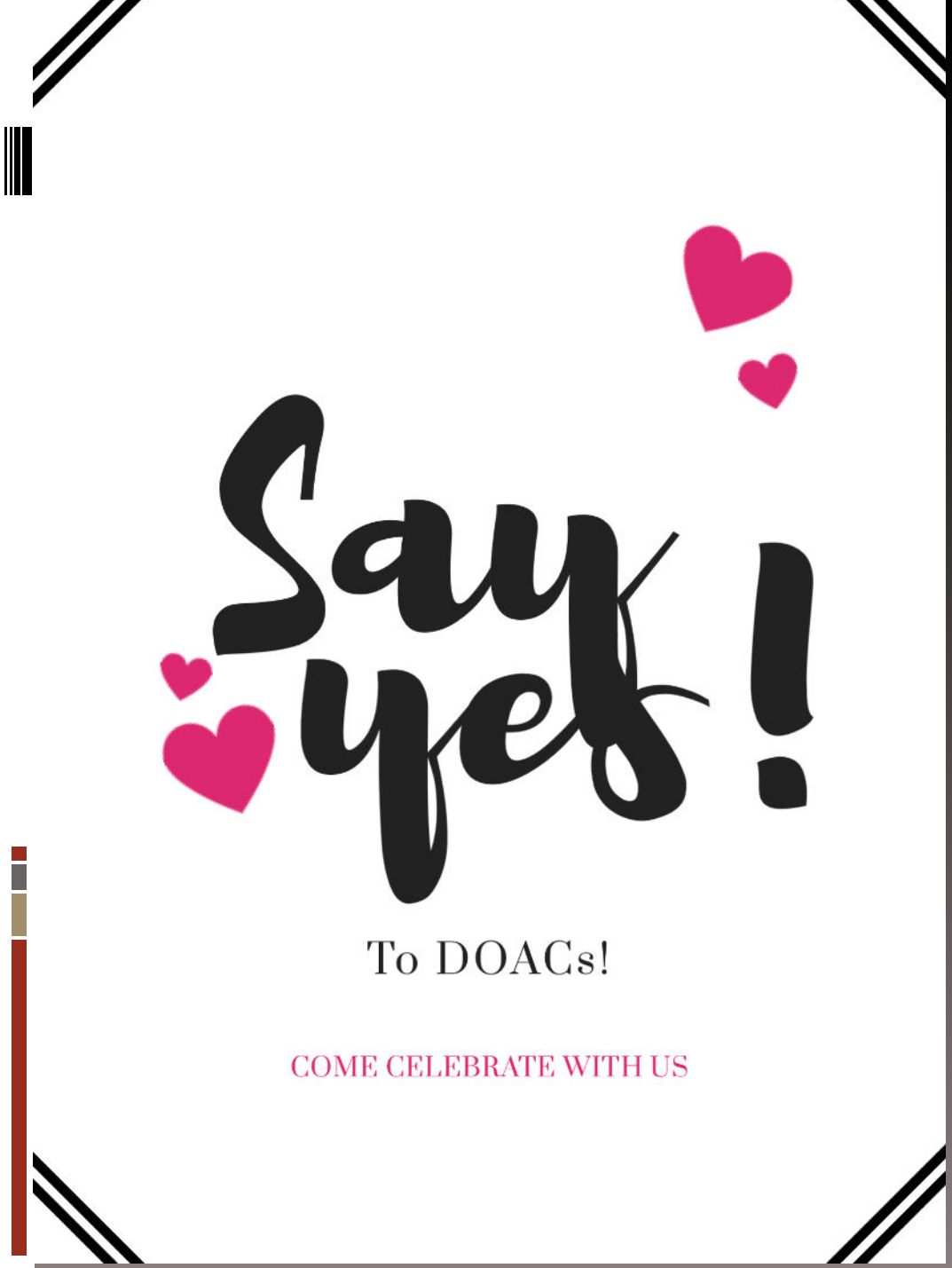
# What are the special tidbits



# Who can't take DOAC's

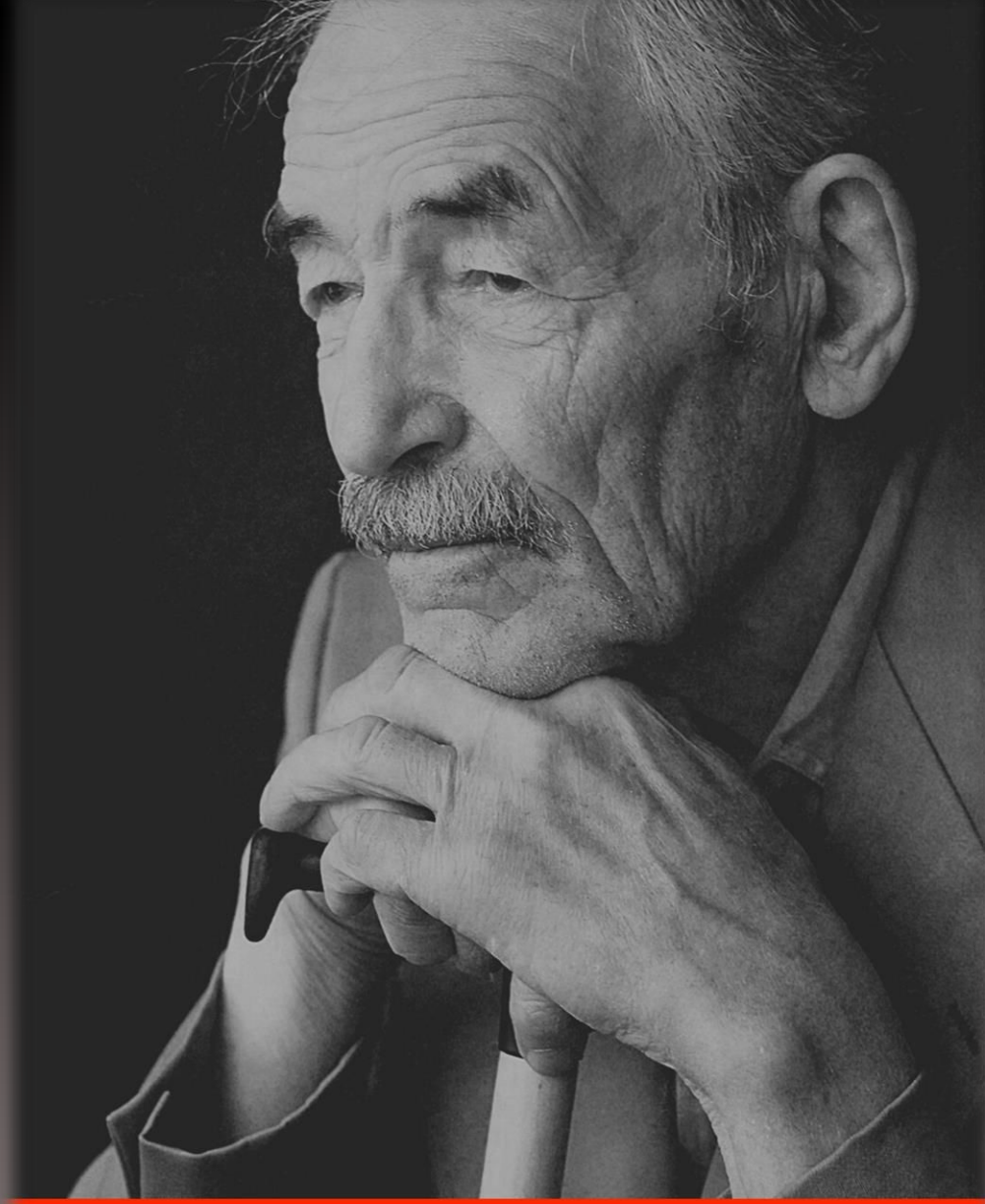
- Moderate to severe mitral stenosis
- Mechanical valve
- Pregnancy
- Mechanical heart valve
- ESRD






- If pt. has terrible INR control
- "Failed warfarin"
- Normal weight
- Good kidneys

Homebound.
But can't take
a DOAC.....

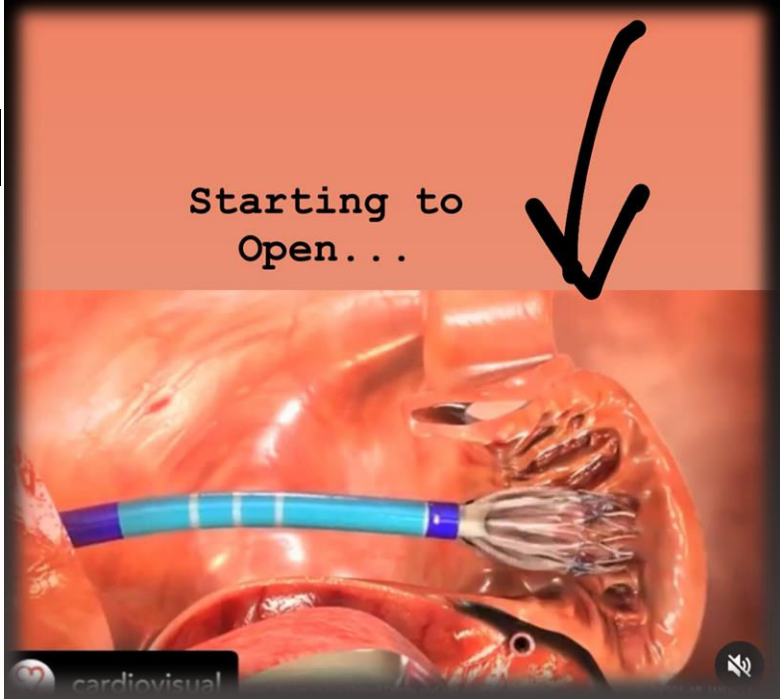


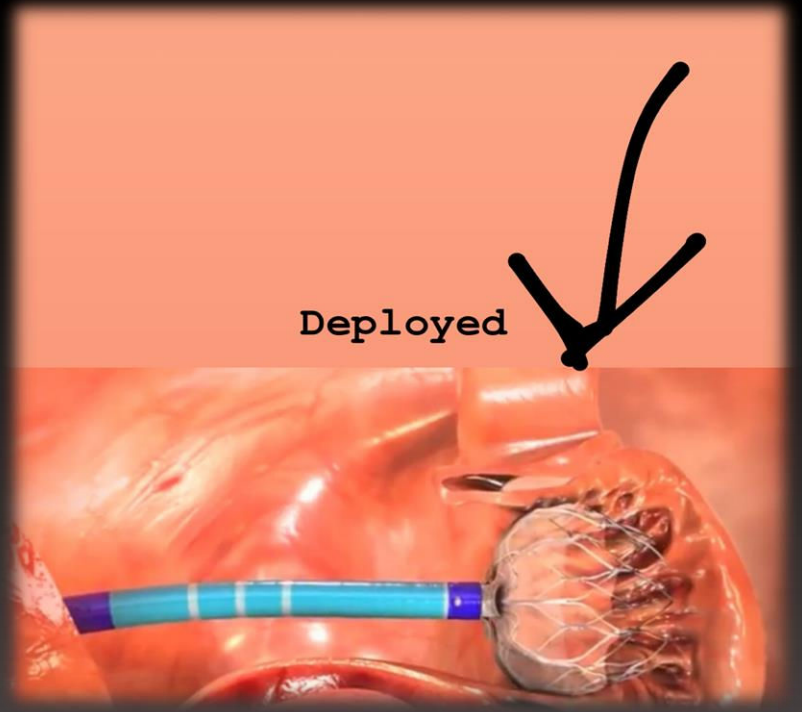
MAKE HIS LIFE EASIER

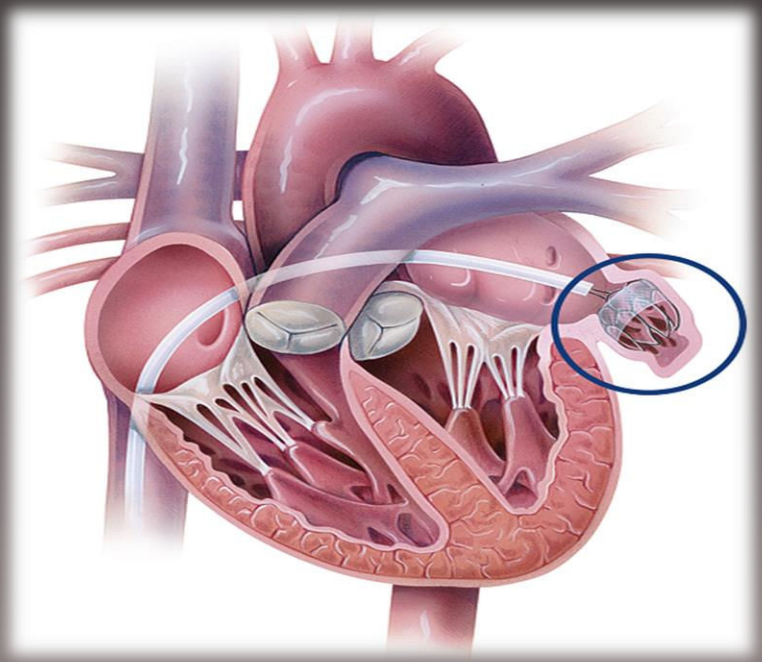
# My patient can't do AC. But they don't want to stroke.

- Falls a lot
- Decreased GFR
- Bleeds on AC




Starting to
Open...
cardiovisual


Deployed

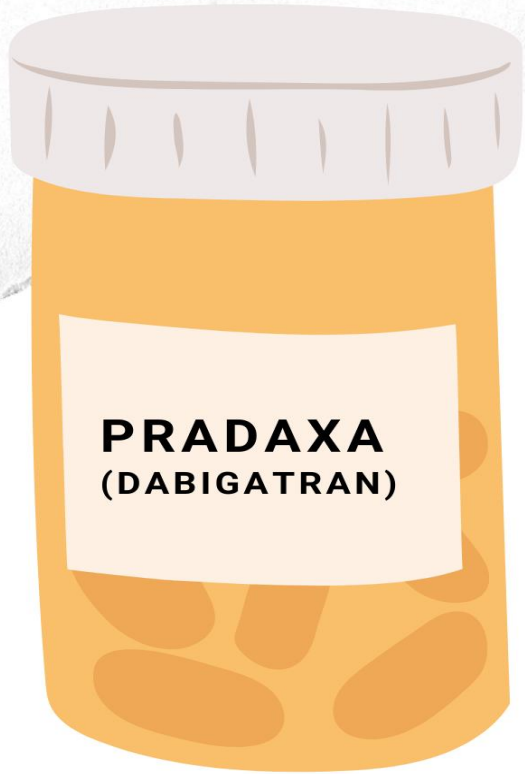


# Loop Recorders

In patients with cryptogenic stroke in whom long-term external ambulatory monitoring is inconclusive implantation of a cardiac monitor is reasonable to detect silent AF.



# DOACS




THE OG OF AC

# Dabigatran – direct thrombin inhibitor

- Pro drug – has to be hydrolyzed to be active
- 5% gets absorbed
- A lot of "active drug left in the gut"
- Highest rate of GI bleed
- Drug is unstable (no pill minders, 120 days)
- Needs heparin first if using for DVT

- Free 30-day supply at (www.pradaxa.com.)

# Dabigatran

- Why: DVT, CVA, AF
- Who: Under 80
- Dosing: 150 mg bid
- Renal Dosing: 75 mg BID if CrCl 15 to 30 mL/min
- Just say no: Valves, valvular AF

# Dabigitran strengths

- Prevents about five more strokes per 1000 patients per year than warfarin. Lower rate of hemorrhagic and ischemic stroke
- BUT - higher rate of major GI bleed

- BUT – Praxbind is an antidote, approved 10/15 by FDA

# DOACS

the doacs here they are



Why: DVT, CVA, AF
Who: Under 80
Dosing: 10, 15, 20 mg **qd**
Renal dosing: <30
Just say no: Valves, <15



# Rivaroxiban dosing:

| | | |
|---|---|---|
| Reduce stroke risk in NONVALVULAR AF |  **20 mg ONCE DAILY** | **Patients with CrCl >50 mL/min:** with the evening meal |
| | ▲ OR ▼ | |
| |  **15 mg ONCE DAILY** | **Patients with CrCl 15 to 50 mL/min:** with the evening meal |
| Treatment of DVT and PE |  **15 mg TWICE DAILY** | with food for first 21 days |
| | ▼ ON DAY 22 TRANSITION TO ▼ | |
| |  **20 mg ONCE DAILY** | with food, at approximately the same time each day for remaining treatment |
| Reduce risk of recurrent DVT and PE |  **20 mg ONCE DAILY** | with food, at approximately the same time each day |
| Prophylaxis of DVT which may lead to PE after KNEE or HIP replacement surgery |  **10 mg ONCE DAILY** | **KNEE: 12 days**<br>**HIP: 35 days**<br>The initial dose should be taken 6 to 10 hours after surgery provided that hemostasis has been established |

Tablets shown not actual size. CrCl = creatinine clearance.

# DOACS

the doacs here they are




"THE FAVORITE"

# Eliquis (Apixiban)

- Why: AF
  Who: Under 80
  Dosing: 5 mg bid



# Who needs dose reduction? 2 out of 3!

- Cr of 1.5 and up
- Age over 80
- Under 60 KG



# DOACS

Why: DVT, stroke, AF
Who: Under 80
Dosing: 60 mg qd
Renal dosing: <30
Just say no:
Valves, <15
hepatic impairment
Mostly excreted by kidneys
Don't use if CR over GFR over 95



# Edoxaban Pearls

- 60 mg or 30 mg once daily. U.S.: $277.20
- *Savaysa* savings card can reduce out-of-pocket cost to patients with private insurance to $4 per month (Savaysa.com)
- Discontinue at least 24 hours before invasive procedures/surgery
- Vs. Warfarin: as effective as warfarin, +18 fewer bleeds per 1000 patients per year.

# ANTICOAGULATION NIGHTMARES




To bleed or not to bleed?

# Case 1: "I just read the side effects."

- 50 y/o male who has severe AF who just got cardioverted, planned ablation.
- Had a DES one month prior.
- "Why am I on so much medication?"
- Isn't it dangerous?

# Case 2: "I was walking on a grassy knoll…"

- 56 y/o female with a hx of IDDM, renal insufficiency collapses
- CPR done by ex husband for 3 minutes
- EMS resuscitates
- Lexiscan abnormal
- Cath done: RCA severely diseased with poor targets, CX 95% and LAD 90%.
- EF: 20%.

# "You need a bypass."

- Declines.
- Stent to circumflex before DC.
- EF still 20%
- Lifevest ordered.
- Lifevest initially declined.
- Cardiac rehab declined.

# Second cardiac arrest 2 weeks later.



# Gets ICD.

- Starts dialysis.
- Develops atrial mural thrombus
- “The pharmacist won’t give me the warfarin.”

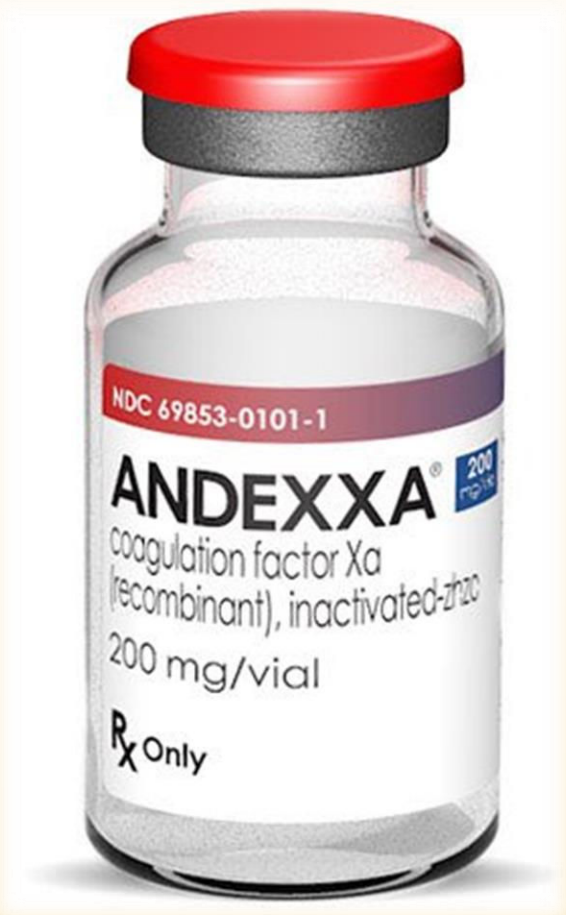


# Take home points

- Don't get AFIB.
- DOACs are superior to warfarin (Coumadin) but more expensive.
- Sometimes there is no GOOD choice, just make the best choice in each case.



# Summary




- Know their risk (of AF and of fall)
- No missed doses
- Make sure right dose
- XA – Apixiban Superior
- Warfarin for Cr Cl below 30


ThankYOU!



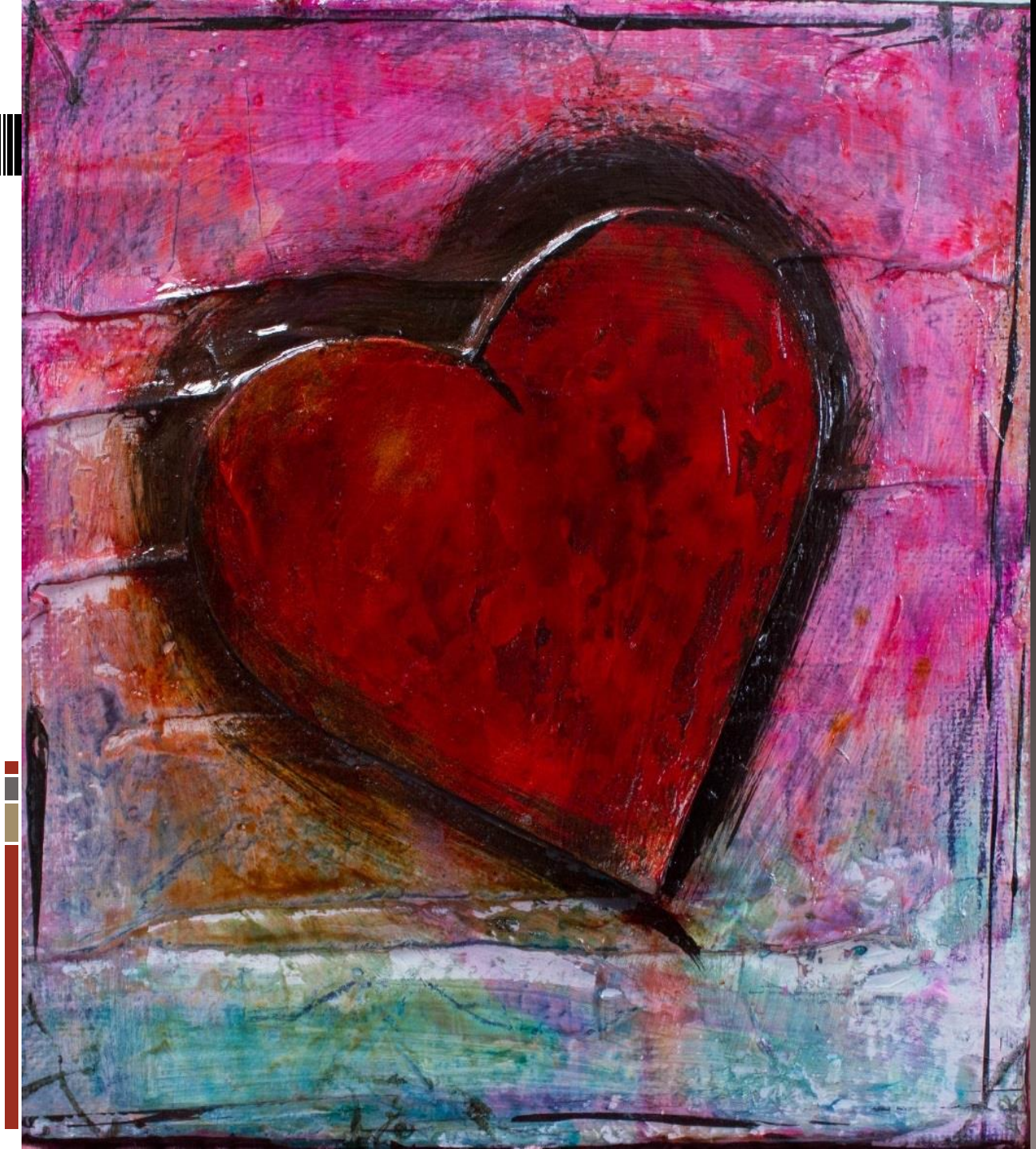

# ADDITIONAL PEARLS

# How often should I get labs

- Renal function and hepatic function should be evaluated before initiation of a DOAC and should be reevaluated at least annually.

# Bonus tip!

If triple therapy is prescribed post-stent placement, clopidogrel is preferred over prasugrel.



# RESOURCES

# Awesome Patient Education!

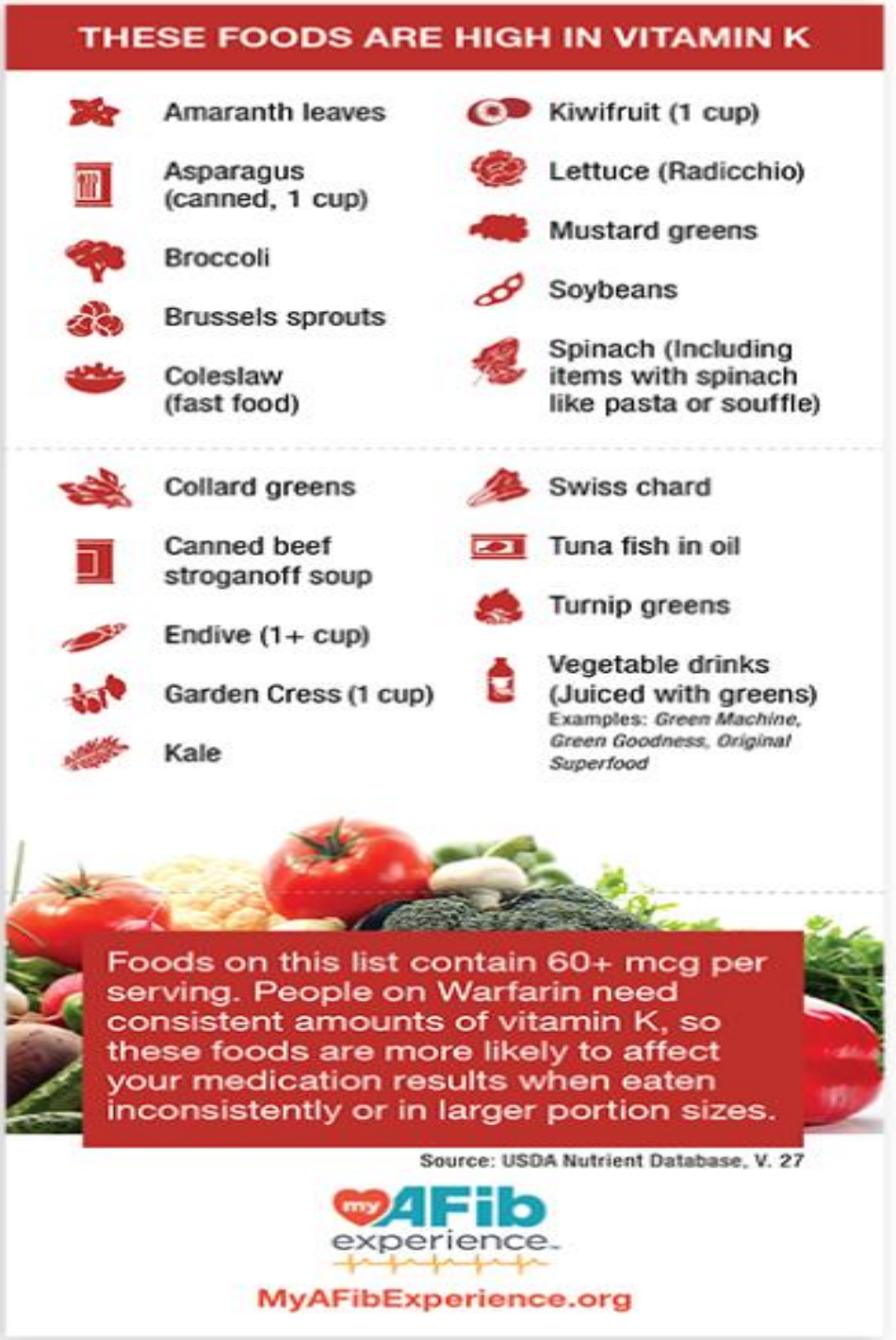
https://myafibexperience.org/resources/searchable-resource/



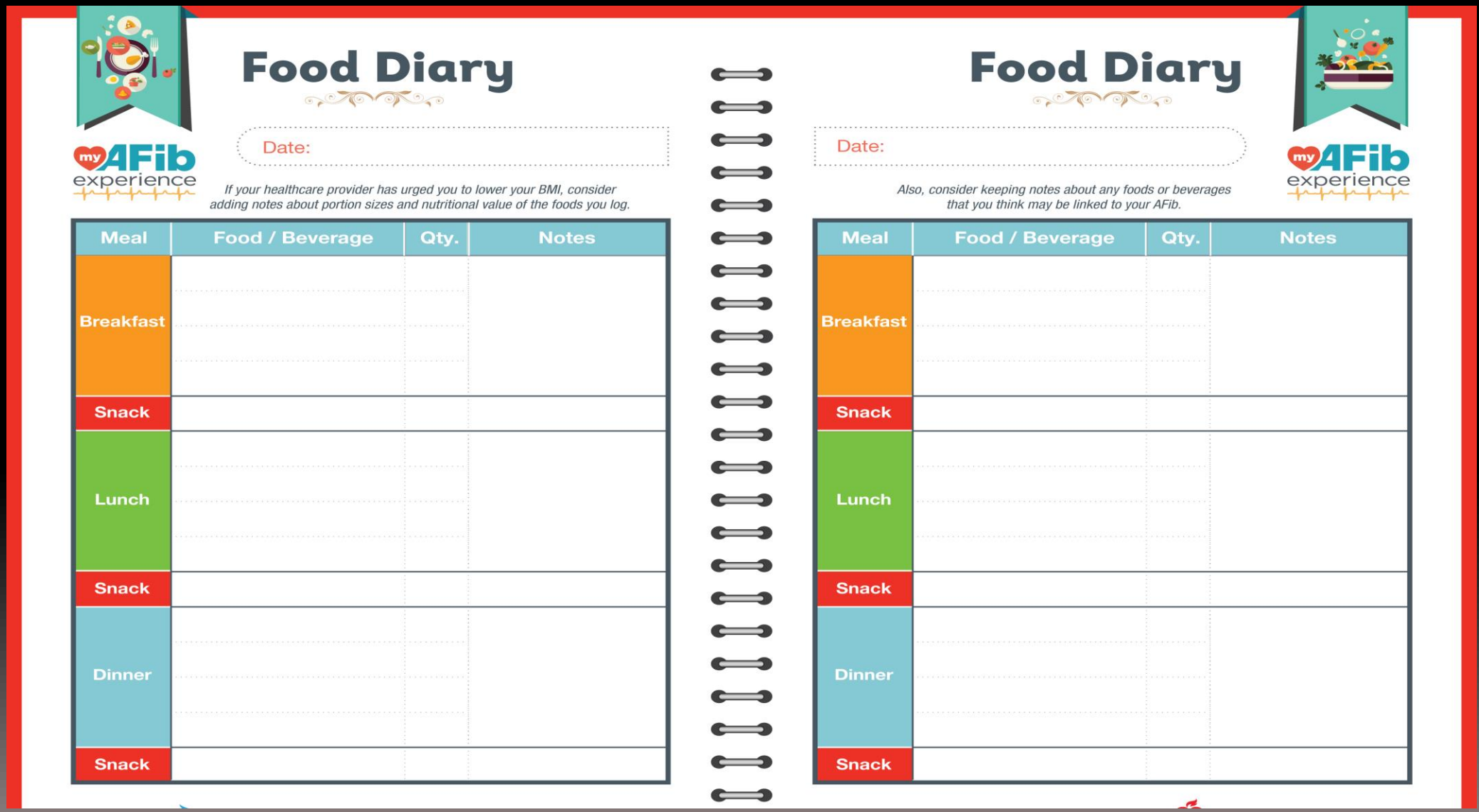

1. Food guides and trackers
2. Symptom tracker logs
3. Medication adherence worksheet (in Spanish too)
4. FAQ/info sheets about tests and AF
5. "Learn about AF" video

- http://myafibexperience.org/forms/item/13/55

(foods high in Vitamin K)



http://myafibexperience.org/forms/item/13/123



# Food Diary

Date:

*If your healthcare provider has urged you to lower your BMI, consider adding notes about portion sizes and nutritional value of the foods you log.*

| Meal | Food / Beverage | Qty. | Notes |
|---|---|---|---|
| Breakfast | | | |
| Snack | | | |
| Lunch | | | |
| Snack | | | |
| Dinner | | | |
| Snack | | | |

# Food Diary

Date:

*Also, consider keeping notes about any foods or beverages that you think may be linked to your AFib.*

| Meal | Food / Beverage | Qty. | Notes |
|---|---|---|---|
| Breakfast | | | |
| Snack | | | |
| Lunch | | | |
| Snack | | | |
| Dinner | | | |
| Snack | | | |