

AFIB MASTERCLASS

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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



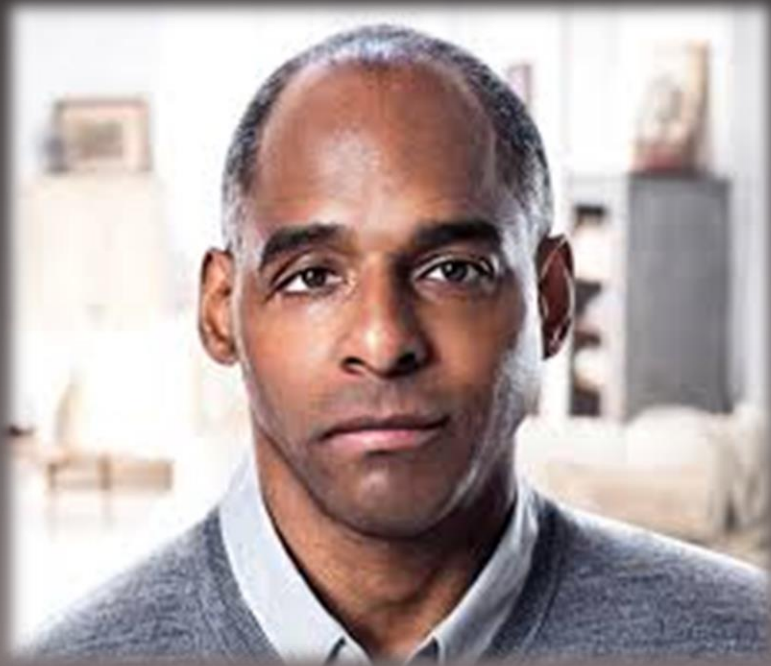
AFIB DILEMMAS



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**h thyroid /Toxins
- **E**nergy Drinks/ETOH

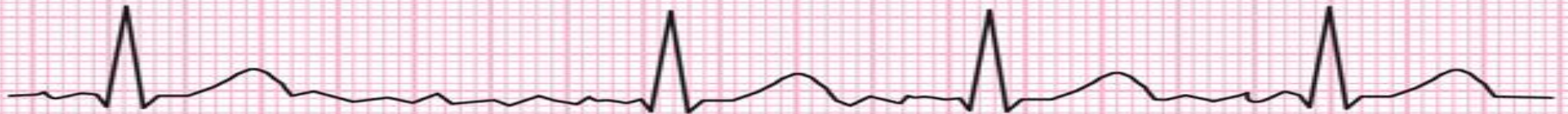


Atrial Fibrillation

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”



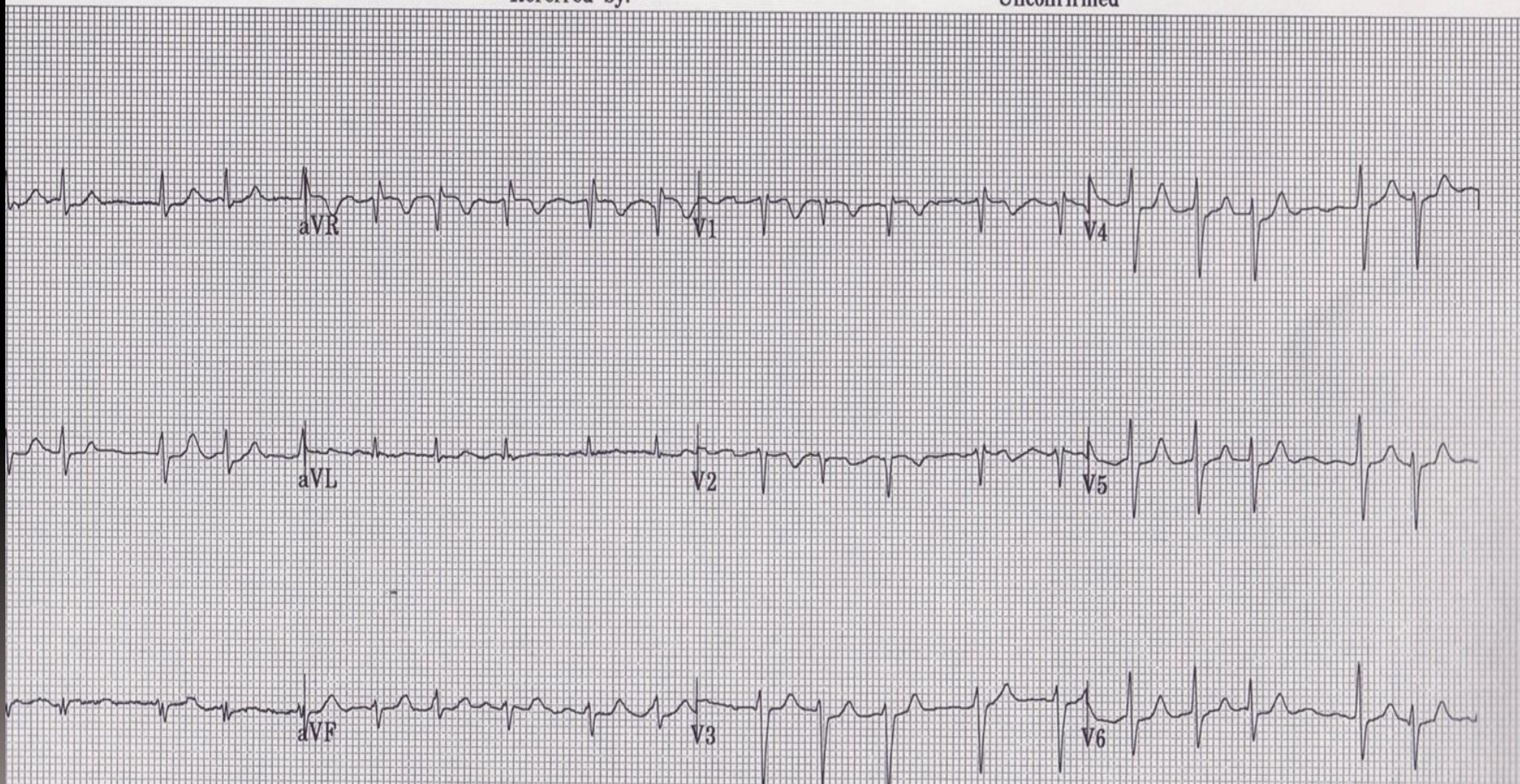
Vent. rate 127 bpm
PR interval * ms
QRS duration 82 ms
QT/QTc 266/386 ms
P-R-T axes * -24 52

Atrial fibrillation with rapid ventricular response with premature aberrantly conducted complexes
Nonspecific ST abnormality, probably digitalis effect
Abnormal ECG

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 CCB Digoxin	Sotalol Amiodarone Dronaderone Propafenone Dofeteilide	
GET THEM OUT OF IT	LEAVE THEM IN IT	
Cardiovert	Rate control	
LAST DITCH EFFORT		
	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 CARADIOVERSION.

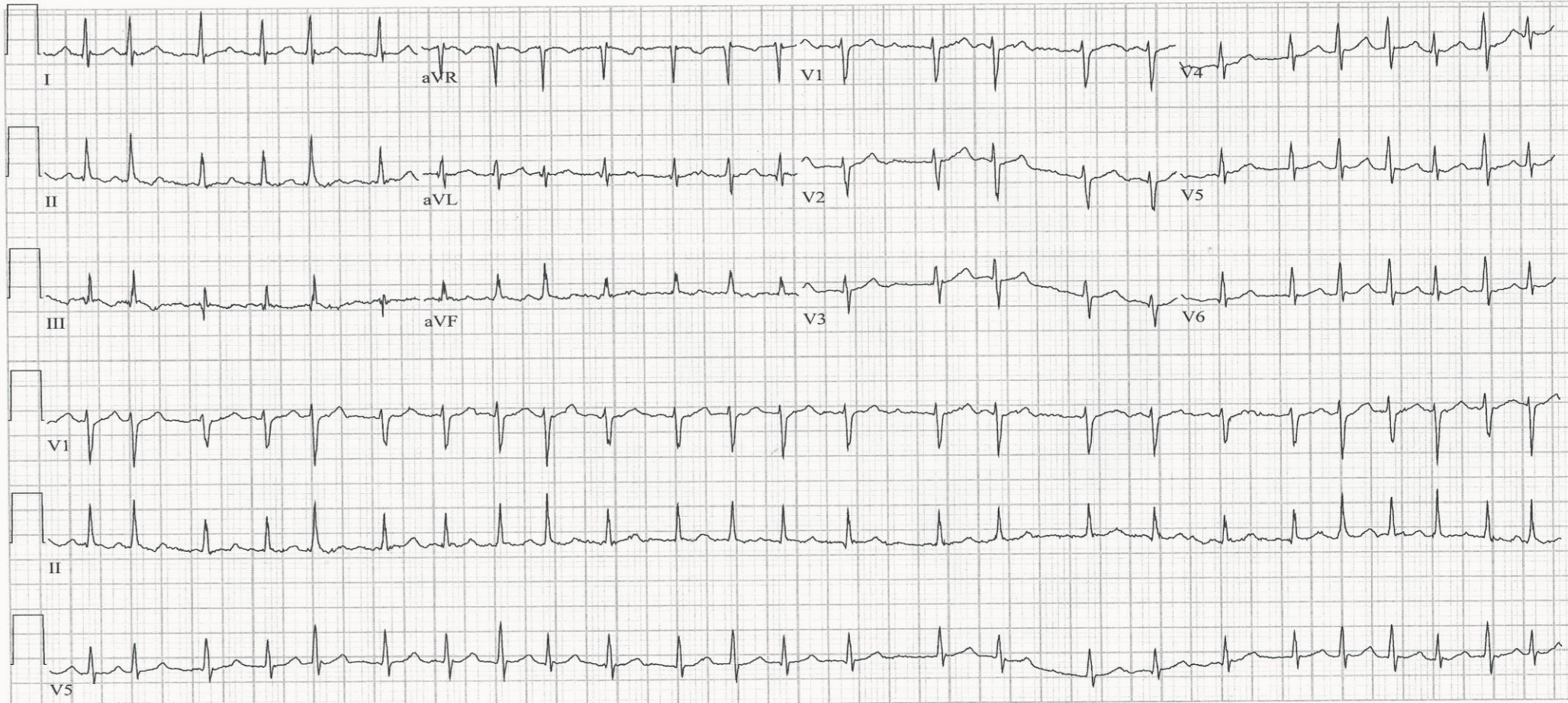


65 y/o M with "palpitations"

Vent. rate

151 BPM

ATRIAL FIBRILLATION WITH RAPID VENTRICULAR RESPONSE



CHADS₂ -> CHA₂DS₂VASc

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

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

From ESCAF Guidelines

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

“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 NSAIDs) or alcohol	1
	9

Score of 3 or more=
reconsider

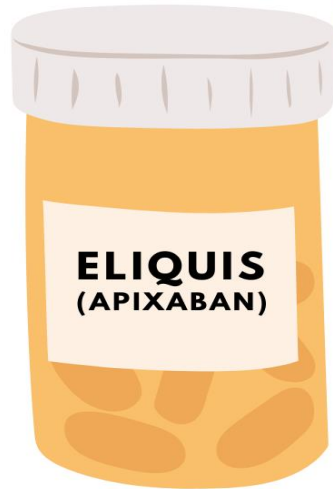
How do you choose a drug?

- 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



Inhibits Vitamin
K dependent
clotting factor

Direct thrombin
inhibitor

Xa inhibitor

Xa inhibitor

Xa inhibitor

Kick in within hours. Single agent.

What are the special tidbits



Can't eat greens

No high fat

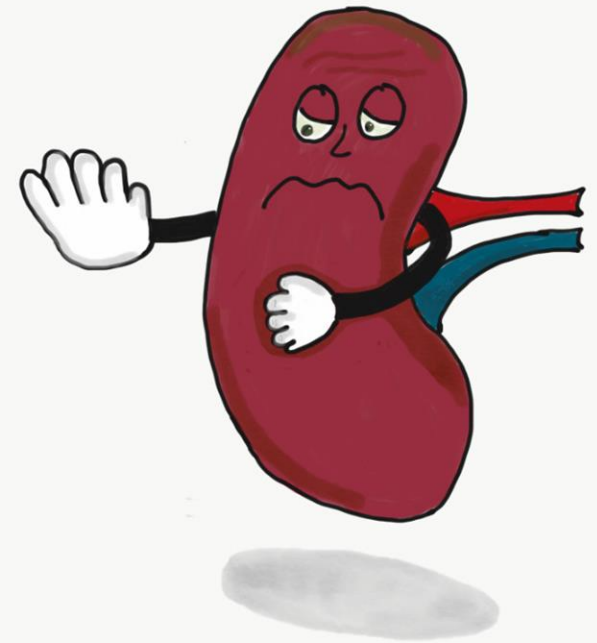
Daily

Can take with or
without food

Can't use if
CrCL > 95 or
under 30

Who can't take DOAC's

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






Say
yes!

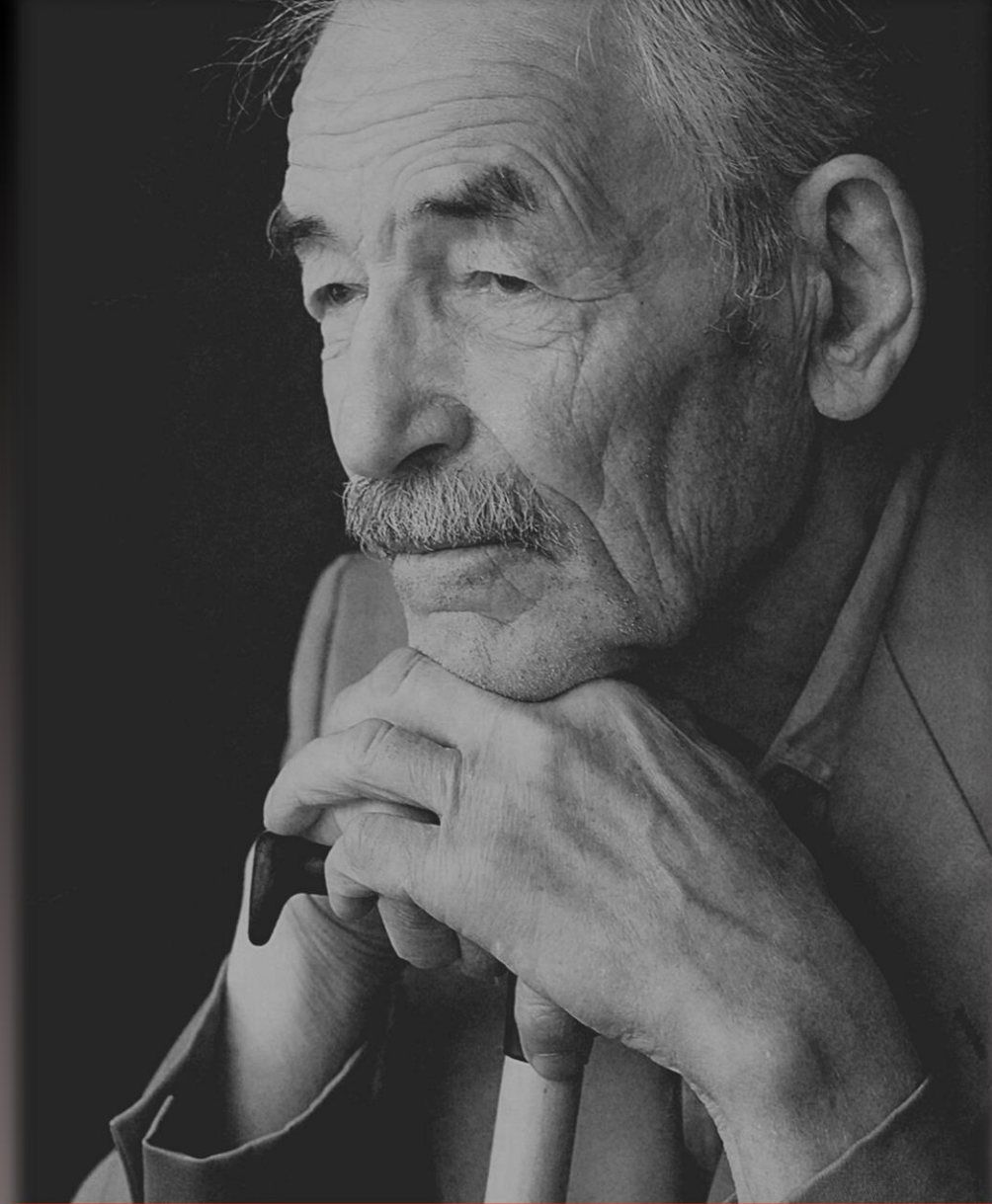
To DOACs!

COME CELEBRATE WITH US

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



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



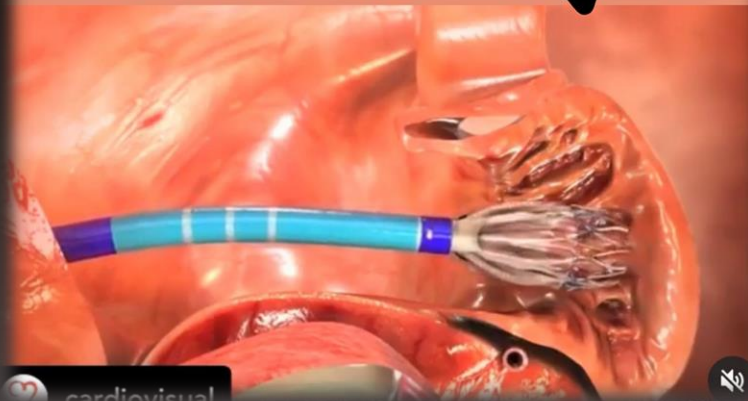
MAKE HIS LIFE EASIER

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

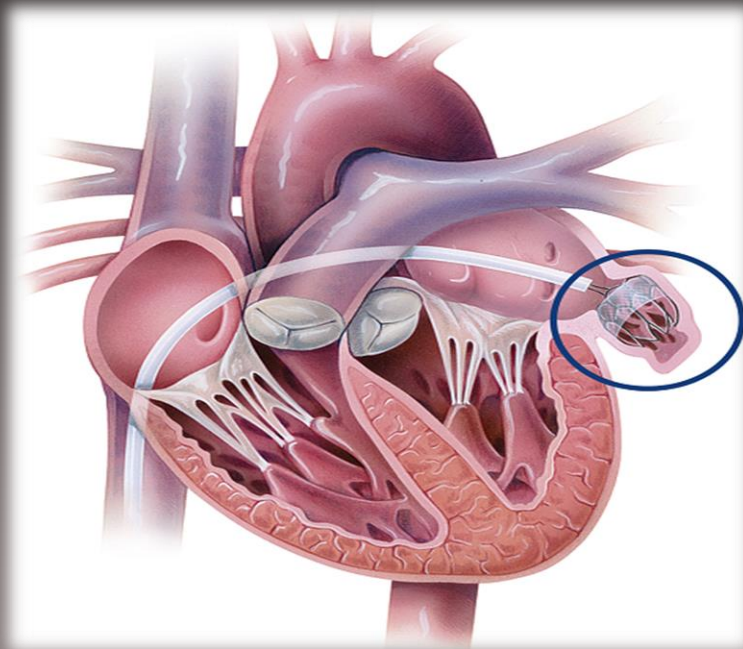
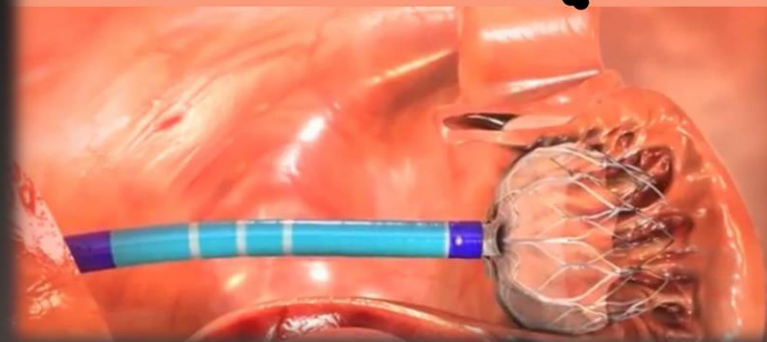
- Falls a lot
- Decreased GFR
- Bleeds on AC



Starting to
Open...



Deployed

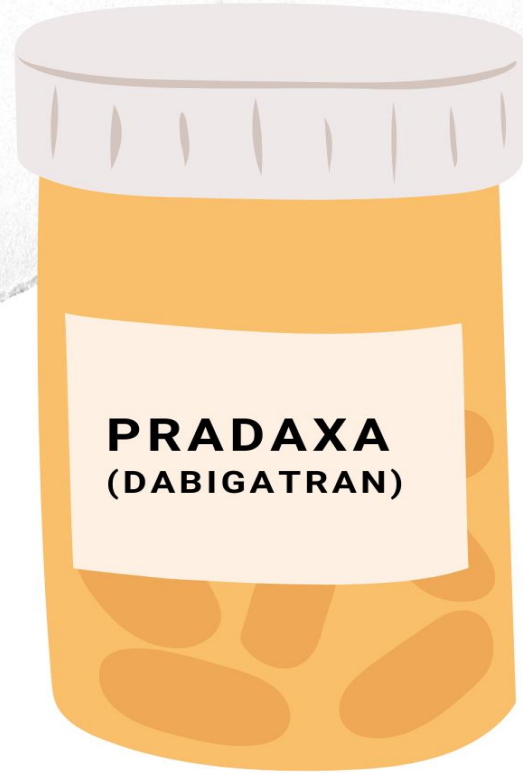


Loop Recorders

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

Dabigatran 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



The doacs here they are

DOACS



XARELTO
(RIVAROXABAN)



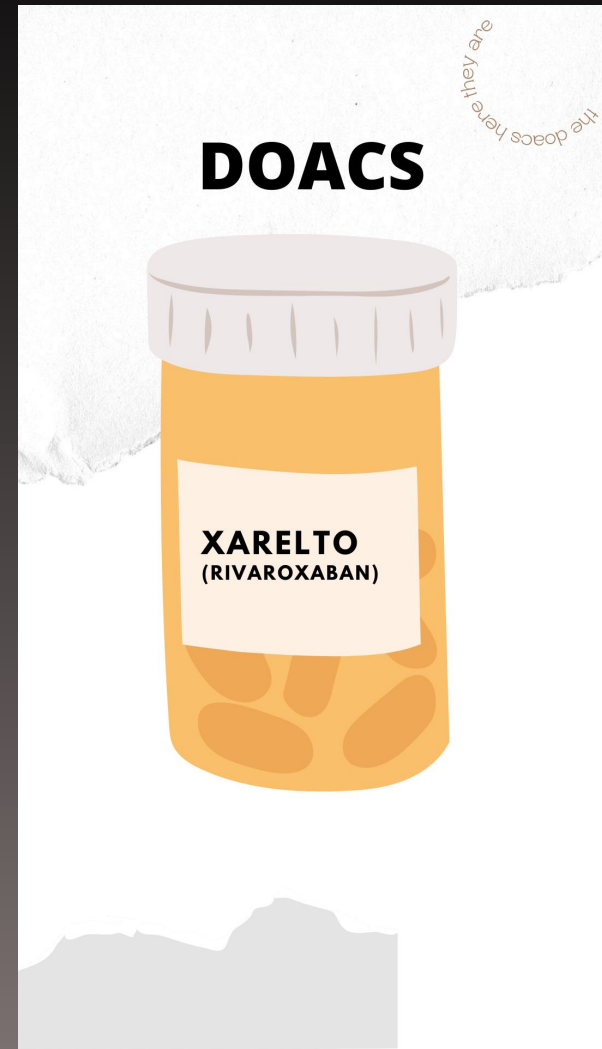
Why: DVT, CVA, AF

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 HIP: 35 days 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 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



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

DOACS



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?

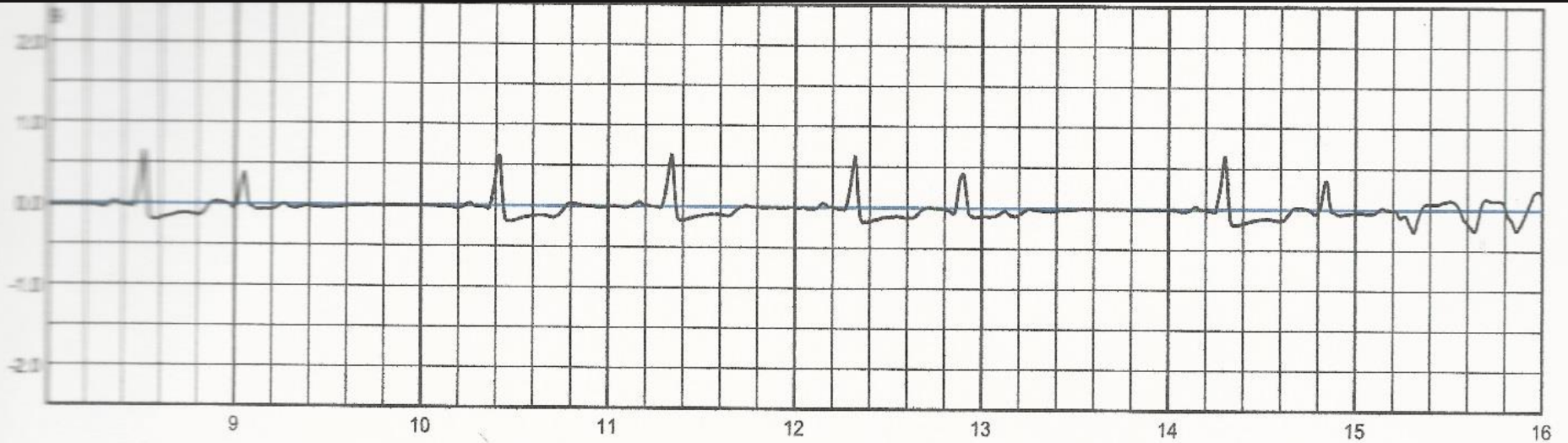
Case 2: “I was walking on a grassy knoll...”

- 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%.

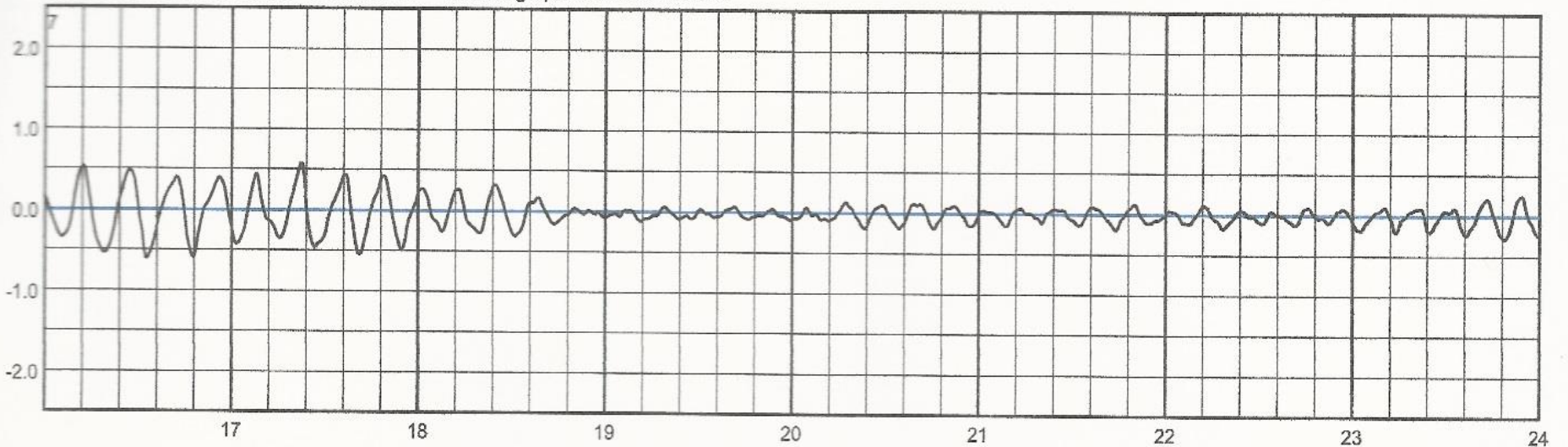
“You need a bypass.”

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

Second cardiac arrest 2 weeks later.



SS Channel: Amplitude Scale = 1 mv/10 mm Recording Speed - 25 mm/Second



Gets ICD.

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

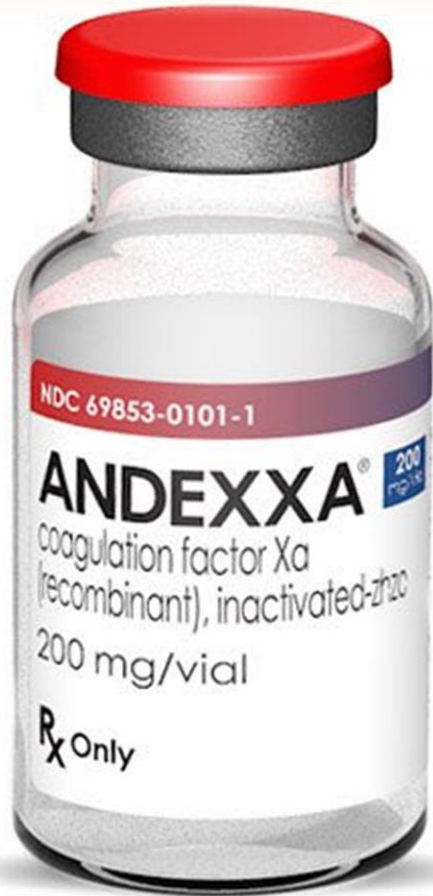


Take **home** points

- 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



Thank YOU!




***Don't let
Afib burn you...***

**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/>



Sometimes we all need insight
from people who understand.
Join our AFib Community.

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)

THESE FOODS ARE HIGH IN VITAMIN K

- | | |
|---|---|
|  Amaranth leaves |  Kiwifruit (1 cup) |
|  Asparagus (canned, 1 cup) |  Lettuce (Radicchio) |
|  Broccoli |  Mustard greens |
|  Brussels sprouts |  Soybeans |
|  Coleslaw (fast food) |  Spinach (Including items with spinach like pasta or souffle) |
|  Collard greens |  Swiss chard |
|  Canned beef stroganoff soup |  Tuna fish in oil |
|  Endive (1+ cup) |  Turnip greens |
|  Garden Cress (1 cup) |  Vegetable drinks (Juiced with greens)
<i>Examples: Green Machine, Green Goodness, Original Superfood</i> |
|  Kale | |



Foods on this list contain 60+ mcg per serving. People on Warfarin need consistent amounts of vitamin K, so these foods are more likely to affect your medication results when eaten inconsistently or in larger portion sizes.

Source: USDA Nutrient Database, V. 27

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



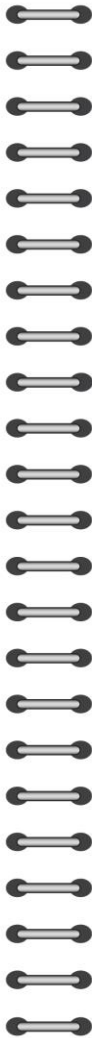
Food Diary



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			