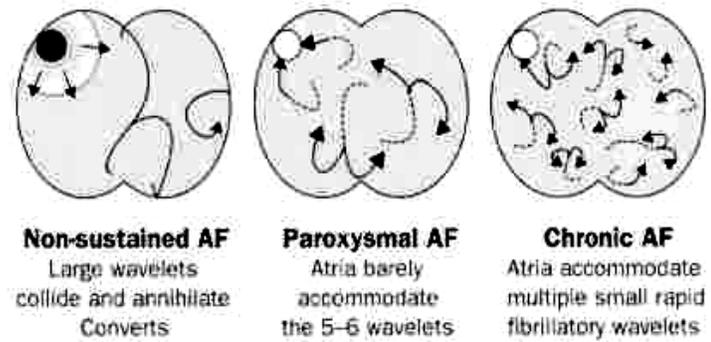


# 21. Atrial Fibrillation



2.2 million Americans, most common significant arrhythmia.

Age is biggest predictor:

- 0.5% prevalence in those 50-59 years
- 2.3% incidence, 8.8% prevalence in those >80 years

**Atrial fibrillation** is not a completely chaotic unorganized electrical impulses bouncing around the atria randomly. Most have at least six different locations in the left and right atria where large circular waves creating a pattern of continuous electrical activity is characteristic of complex AF. (Atrial modification maybe an option.)

**Atrial Flutter:** Type I : Negative Inferior F waves. EP modification for macro-reentrant in lower RA.

Type II: Positive Inferior F waves. Not EF modifiable.

Left Atrial Flutter: (Flat Inferior F waves, +P waves in V1)

**Afib begets Afib:** decreased likelihood of success in maintaining NSR if AF > one year.

Uncontrolled rates result in hemodynamic instability and tachycardia-induced cardiomyopathy.

Antiarrhythmic Therapies

**Class IA:** Quinidine, Procainamide

30-40% success rate for maintaining NSR. Increased mortality when used in LV dysfunction

Adverse effects: prolonged QT,

Quinidine: tinnitus, headache, diarrhea, N/V "cinchonism"

Procainamide: hypotension w/ IV administration. Lupus-like syndrome

**Class IC:** Propafenone, Flecainide

Efficacy better than 1A and much better tolerated.

Some used as PRN: Propafenone 600 mg or Flecainide 300 mg

Adverse effect: Not recommended Ischemic cardiomyopathy.

**Class III:** Ibutilide-IV, Dofetilide-PO.

Ibutilide 50-70% conversion rate for Afib, esp if recent onset. 4% incidence of Torsades. Dofetilide requires a 72 hour hospitalization, QTc < 500 ms

Adverse effects: Arrhythmia with long QT, well tolerated maybe headaches and dizziness?

**Class III+:** Amiodarone: IV and oral forms. Some class I and beta blocker action. May help prevent post-cardiac surgery afib.

Adverse effects: Prolonged QT. Potential lung, liver, eye and thyroid toxicities.

**Class III+:** Sotalol has beta blocker effects, but Long QT and at best fair efficacy.

## Most Patients Will Tolerate Chronic Atrial Fibrillation

- Met-analysis suggests benefit to cardioversion and antiarrhythmia
- Treating with Coumadin & rate control
- First line rate control is with beta blockers

## Anticoagulation of Paroxysmal Atrial Fib : Controversial-(Just MAMC Opinion)

- PAF without underlying heart disease that does not require anticoagulation:  
Frequent short episodes less than 30 seconds on Holter, rare episode less than 24 hour that spontaneous convert, or post op episode

## Methods under development for atrial fibrillation management:

- I. AV node ablation (requires permanent pacer)
- II. Atrial pacing and atrial defibrillators
- III. Atrial surgery (Maze Procedure)
- IV. EP modification of L atrial pulmonary veins (NEJM 1998)