

Objectives

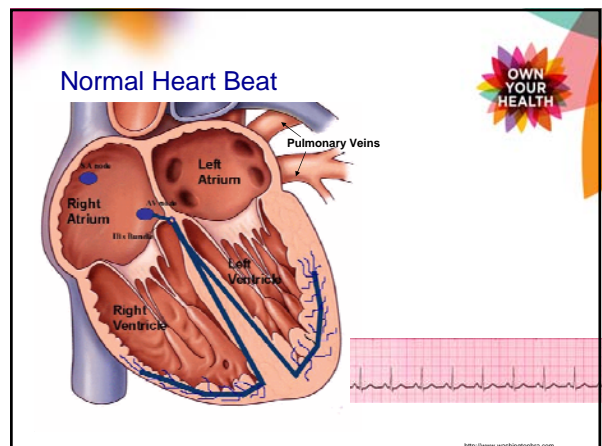
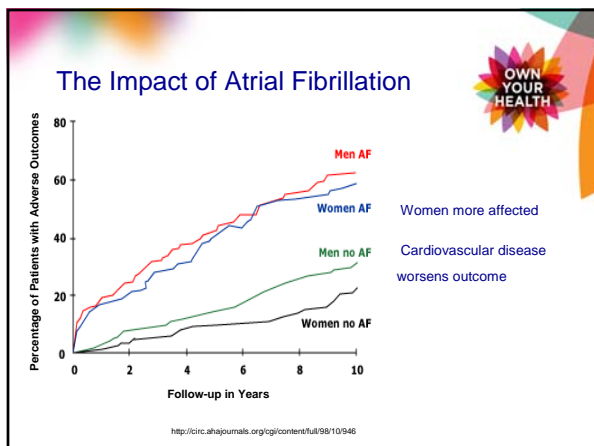
To understand and gain knowledge of:

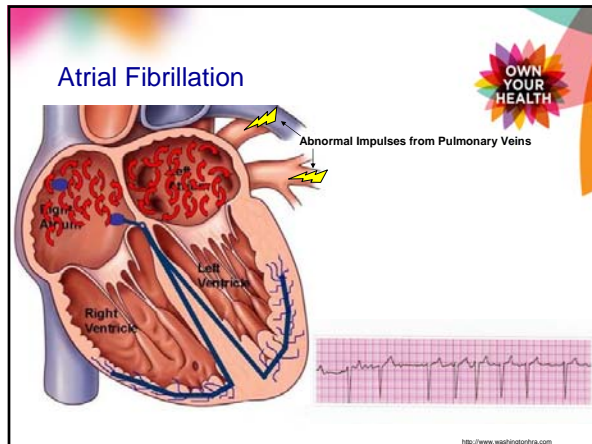
- Atrial Fibrillation
 - Impact
 - Basics
 - Management
- Stroke
 - Recognition and prevention

Statistics

- Atrial fibrillation affects
 - up to 250,000 Canadians
 - 6% population >65yr
- 15% of all strokes
- stroke risk ↑ 3 times

www.heartsandstroke.bc.ca





Types of Atrial Fibrillation

Paroxysmal

- intermittent
- lasting less than 7 days

Persistent

- lasting more than 7 days
- requires treatment to restore normal rhythm

Permanent

- failed rhythm control
- chronic and long term

Relative importance

AF duration

Trigger/initiation

Substrate/maintenance

http://www.medscape.org/viewarticle/720524_3

Symptoms of Atrial Fibrillation

- Fast or irregular pulse
- Breathlessness
- Light-headedness or fainting
- Chest discomfort
- Nausea or sweating
- No symptoms

Testing

- Electrocardiogram (ECG)
- Blood work
- Echocardiogram (ultrasound of heart)
- Holter (24 hour ECG)
 - Event monitor (2 week Holter)

Potential Causes of Atrial Fibrillation

Heart conditions

- High blood pressure, heart failure, heart attack, weak heart muscle, valve problems, heart surgery, genetic/ familial

Lung conditions

- Sleep apnea, infection, COPD, clot in lung arteries

Others

- Excessive alcohol, thyroid conditions

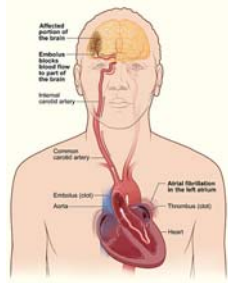
“Lone” AF

<http://www.ccsguidelineprograms.ca/index.php>

Atrial Fibrillation: Why Treat?

- ↓ symptoms
- ↓ heart failure
- ↓ stroke risk

Stroke: Why are you at risk?



AF → clots form in atrium → pumped out of the heart → stroke or mini stroke (transient ischemic attack -TIA)

http://www.nhlbi.nih.gov/health/od/images/atrial_fb_stroke.jpg

Blood Thinners: Decreasing Your Risk of Stroke



Antiplatelet

- Works against cells that clot blood
- Aspirin ↓ stroke risk by 22%
- Aspirin + clopidogrel (Plavix®) ↓ stroke risk by 44%



Oral Anticoagulant (OAC)

- Works against causing blood clots
- Warfarin (Coumadin®) ↓ stroke risk by 66%
- Dabigatran (Pradax®) ↓ stroke risk by 66% or more



Warfarin



- Increases clotting time of blood
- Blood testing required
- Dosing individualized
- Food-interactions
- Drug-interactions
- Antidote is Vitamin K
- Pennies per day



Dabigatran: New Kid on the Block



- Different mechanism than Warfarin/ Aspirin
- No blood tests
- Standard twice daily dosing
- No food-interactions
- Potential drug-interactions
- Not covered by Pharmacare
 - ~\$110/month



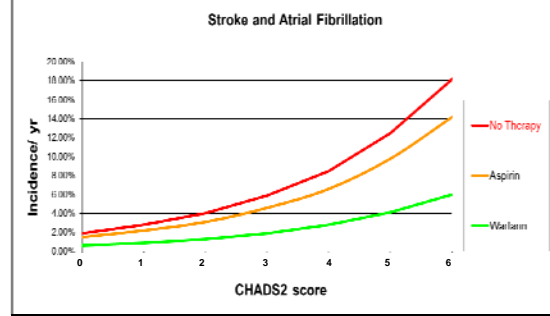
Calculating Your Risk of Stroke: CHADS2 Score



- Congestive Heart Failure- 1 point
- Hypertension- 1 point
- Age ≥ 75 years- 1 point
- Diabetes- 1 point
- Stroke / Transient Ischemic Attack- 2 points

<http://www.ccs guidelineprograms.ca/index.php>

Annual Risk of Ischemic Stroke



Calculating Risk of Bleeding: HAS-BLED Score

Hypertension (systolic ≥ 160 mmHg)= 1 point
Abnormal renal or liver function = 1 or 2 points
Stroke in past= 1 point
Bleeding= 1 point
Labile INRs= 1 point
Elderly (age > 65 years)= 1 point
Drugs or alcohol= 1 or 2 points

**caution if score ≥ 3*

Bleeds and HASBLED score

Major bleeds (%)

HASBLED score

<http://www.ccsguidelineprograms.ca/index.php>

Managing Your Risk of Stroke

Assess Thromboembolic Risk (CHADS₂) and Bleeding Risk (HAS-BLED)

CHADS₂ = 0 → aspirin
 CHADS₂ = 1 → OAC
 CHADS₂ ≥ 2 → OAC

No antithrombotic may be appropriate in selected young patients with no stroke risk factors
 Aspirin is a reasonable alternative in some as indicated by risk/benefit
 Dabigatran is preferred OAC over warfarin in most patients.

<http://www.ccsguidelineprograms.ca/index.php>

Bleeding: Signs and Symptoms

Major Bleeding → REPORT immediately

- Blood in urine or stool
- Coughing up or vomiting blood
- Sudden severe headache or weakness
 – ?Bleeding in the head
- Severe bleeding into whites eye
- Any excessive/ continuous bleeding

If unsure , REPORT it!

STROKE: Warning Signs

- WEAKNESS**
Sudden loss of strength or numbness in face, arm, or leg, even if temporary.
- TROUBLE SPEAKING**
Sudden difficulty speaking or understanding, or sudden confusion, even if temporary.
- VISION PROBLEMS**
Sudden trouble with vision, even if temporary.
- HEADACHE**
Sudden severe and unusual headache.
- DIZZINESS**
Sudden loss of balance, especially with any of the above signs.

If you experience any of these symptoms, CALL 9-1-1

http://www.heartandstroke.bc.ca/site/c:kpPKXDyFmG6_3644413k_7596/Stroke_Warning_Signs.htm

Management of Atrial Fibrillation

AF Detected → Detection and Treatment of Precipitating Causes

AF Detected → Assessment of Thromboembolic Risk (CHADS₂) → OAC Aspirin
 (No antithrombotic may be appropriate in selected young patients with no stroke risk factors)

AF Detected → Management of Arrhythmia → Rate Control ↔ Rhythm Control

<http://www.ccsguidelineprograms.ca/index.php>

Heart Rate Control: Slow it Down

- Reduces the lower chamber (ventricular) rate
- Does not convert AF to normal rhythm
- Does not prevent episodes of AF
- Usually effective and well tolerated
- Examples: Metoprolol, Bisoprolol, Atenolol, Carvedilol, Diltiazem, Verapamil, Digoxin

<http://www.ccsguidelineprograms.ca/index.php>

Rhythm Control



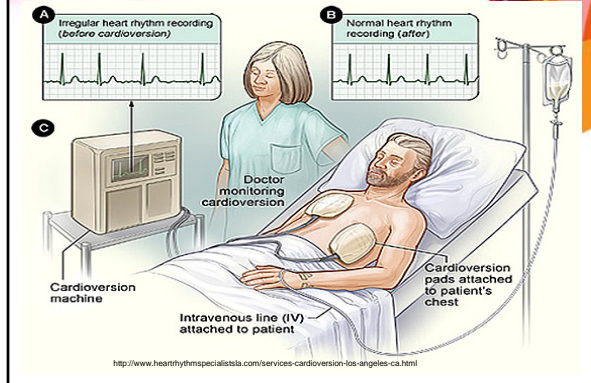
- Aims to convert AF to normal rhythm
- Helps prevent AF recurrence
- Examples: Propafenone, Sotalol, Amiodarone, Dronedarone, Flecainide, Disopyramide
 - Choice of drug depends on other medical conditions
 - May be used with rate controlling drugs

General Tips on Medications

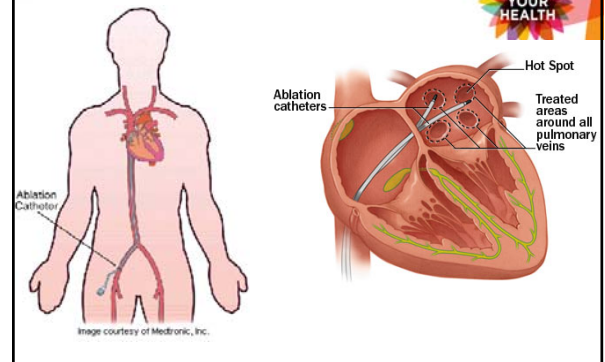


- Medications help control your condition and symptoms but **do not** provide a cure
- Medications chosen are **individualized** for you
- **Do not** stop taking your medications without first talking to your doctor

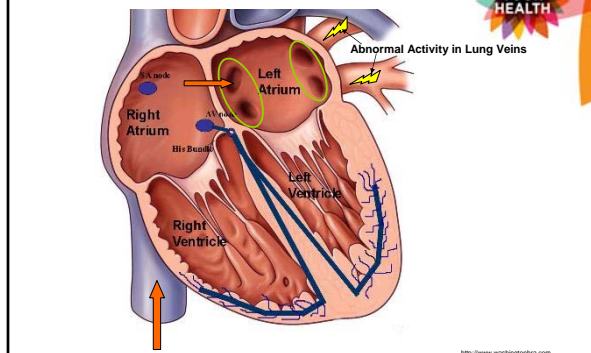
Restoring Normal Rhythm: Cardioversion



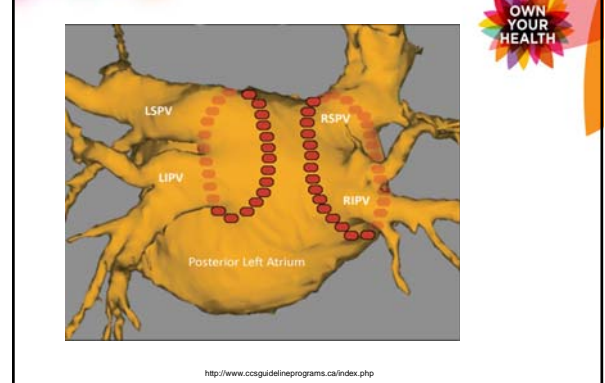
Catheter Ablation for AF



Atrial Fibrillation Ablation



AF Ablation Using NavX Mapping System



Goals of AF Ablation

- Decrease symptom burden
- Improve quality of life
- Improve exercise tolerance
- Minimize drug therapy
 - ALWAYS require "blood thinner" medication



Factors to Consider About Ablation

- Factors associated with better outcomes
- Success rates ~ 70%
 - 20% repeat procedures
 - May take up to 3 months for stability
- Definition of success



Pacemaker and AV Node Ablation



St. Paul's Hospital Experience

- First AF Clinic in BC
 - Opened Nov, 2009
- Multidisciplinary team
 - Patient Educator/ Nurse, Nurse Practitioner, Pharmacist, Receptionist, Physician
- 900 enrolled patients
 - Age at referral 19 –89 yr
 - Ablation: 350 pts (age 26-78 yr)



Take Home Messages

- Patient and medical team partnership
- Stroke prevention
- Ablation
 - option for failed rhythm control drug
 - option for highly symptomatic



Questions



St. Paul's Hospital
Atrial Fibrillation Clinic
604-806-9475



Internet and Phone Resources



Canadian Cardiovascular Society

- www.ccsguidelineprograms.ca

Heart Rhythm Society

- www.hrsonline.org

Heart and Stroke Foundation

- www.heartandstroke.bc.ca

Atrial Fibrillation Clinic, St. Paul's Hospital 604-806-9475

B.C. Nurse Line 1-800-215-4700