What causes atrial fibrillation and what can I do about it?

Faisal M. Merchant, MD
What causes atrial fibrillation?
Why do some people get Afib?

http://www.learntheheart.com/cardiology-review/atrial-fibrillation-ablation/
http://www.ch.ic.ac.uk/local/projects/McIntosh/Whytakeit.html
What factors are associated with atrial fibrillation?

- Age
- Gender
- Race/ethnicity
- Family history
- Other heart conditions (heart valve problems, congestive heart failure, heart surgery...)
- High blood pressure
- Obesity
- Sleep apnea
- Alcohol consumption
- Diabetes
- Thyroid problems (high thyroid)
- Lung problems
- Infections
Atrial fibrillation prevalence: age and gender

JAMA 2001;285:2370
Race/ethnicity

Ann Epidemiol. 2015 Feb;25(2):71-6
Family history of atrial fibrillation
What factors are associated with atrial fibrillation?

- Age
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- Other heart conditions (heart valve problems, congestive heart failure, heart surgery...)
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Other heart conditions that are associated with atrial fibrillation

http://www.md-health.com/Congestive-Heart-Failure.html
Afib and congestive heart failure: which came first???
Atrial fibrillation associated with other heart conditions

Requires treating both atrial fibrillation and the other heart conditions
Hypertension (high blood pressure)

The Women's Health Study: 34,221 women were followed up for incidence of AF for a median period of 12.4 years.

Hazard Ratio (95% CI)

**Systolic blood pressure**

- 120-129
- 130-139
- 140-159
- ≥ 160

**Diastolic blood pressure**

- 65-74
- 75-84
- 85-89
- 90-94
- ≥ 95

$P$ for linear trend < .0001

Referent < 120 mm Hg

Referent < 65 mm Hg

Because of its high prevalence, hypertension is responsible for more AF in the population (14%) than any other risk factor.\(^1\)\(^2\)

http://www.medscape.org/viewarticle/712728_transcript
Obesity increases risk of atrial fibrillation

![Graph showing increased risk of atrial fibrillation with obesity](image)

Number at risk

<table>
<thead>
<tr>
<th></th>
<th>Men</th>
<th>Women</th>
</tr>
</thead>
<tbody>
<tr>
<td>Obese</td>
<td>2321</td>
<td>2220</td>
</tr>
<tr>
<td>Overweight</td>
<td>11273</td>
<td>10922</td>
</tr>
<tr>
<td>Normal</td>
<td>8088</td>
<td>7824</td>
</tr>
</tbody>
</table>

Am J Med, 2005 May;118(5):489-95
Weight loss significantly reduces the likelihood of atrial fibrillation
Sleep apnea

![Graph showing obstructive sleep apnea percentages for atrial fibrillation patients (n=151) and general cardiology patients (n=312). The graph indicates a statistically significant difference (P=0.0004).]
If I don’t snore, can I still have sleep apnea?

http://www.ericjacksondds.com/pediatric-obstructive-sleep-apnea.html
http://caard.com/about-osa/
Treatment of sleep apnea makes treatment of atrial fibrillation easier

*J Am Heart Assoc.* 2013 Nov 25;2(6):e000421

Alcohol consumption

Each drink per day increased the risk of atrial fibrillation by about 8%
“Holiday heart”

http://www.medicalnewstoday.com/articles/306733.php
Diabetes

Factors for which the association with atrial fibrillation is unclear

- Caffeine
- High intensity exercise
- Diet
What can I do to reduce my risk of having atrial fibrillation?

- Age
- Gender
- Race/ethnicity
- Family history

- Other heart conditions (heart valve problems, congestive heart failure, heart surgery...)
- High blood pressure
- Obesity
- Sleep apnea
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Aggressive treatment of modifiable risk factors can have a major impact on the likelihood of developing atrial fibrillation.