

Preview of the Medifocus Guidebook on: Atrial Fibrillation

Updated January 10, 2023



This document is only a SHORT PREVIEW of the **Medifocus Guidebook on Atrial Fibrillation**. It is intended primarily to give you a general overview of the **format and structure** of the Guidebook as well as select pages from each major Guidebook section listed in the Table of Contents.

To purchase the COMPLETE Medifocus Guidebook on Atrial Fibrillation (163 pages; Updated January 10, 2023), please:

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1 - Background Information

Introduction

Chronic or life-threatening illnesses can have a devastating impact on both the patient and the family. In today's new world of medicine, many consumers have come to realize that they are the ones who are primarily responsible for their own health care as well as for the health care of their loved ones.

When facing a chronic or life-threatening illness, you need to become an educated consumer in order to make an informed health care decision. Essentially that means finding out everything about the illness - the treatment options, the doctors, and the hospitals - so that you can become an educated health care consumer and make the tough decisions. In the past, consumers would go to a library and read everything available about a particular illness or medical condition. In today's world, many turn to the Internet for their medical information needs.

The first sites visited are usually the well known health "portals" or disease organizations and support groups which contain a general overview of the condition for the layperson. That's a good start but soon all of the basic information is exhausted and the need for more advanced information still exists. What are the latest "cutting-edge" treatment options? What are the results of the most up-to-date clinical trials? Who are the most notable experts? Where are the top-ranked medical institutions and hospitals?

The best source for authoritative medical information in the United States is the National Library of Medicine's medical database called PubMed®, that indexes citations and abstracts (brief summaries) of over 7 million articles from more than 3,800 medical journals published worldwide. PubMed® was developed for medical professionals and is the primary source utilized by health care providers for keeping up with the latest advances in clinical medicine.

A typical PubMed® search for a specific disease or condition, however, usually retrieves hundreds or even thousands of "hits" of journal article citations. That's an avalanche of information that needs to be evaluated and transformed into truly useful knowledge. What are the most relevant journal articles? Which ones apply to your specific situation? Which articles are considered to be the most authoritative - the ones your physician would rely on in making clinical decisions? This is where *Medifocus.com* provides an effective solution.

Medifocus.com has developed an extensive library of *MediFocus Guidebooks* covering a wide spectrum of chronic and life threatening diseases. Each *MediFocus Guidebook* is a

high quality, up- to-date digest of "professional-level" medical information consisting of the most relevant citations and abstracts of journal articles published in authoritative, trustworthy medical journals. This information represents the latest advances known to modern medicine for the treatment and management of the condition, including published results from clinical trials. Each *Guidebook* also includes a valuable index of leading authors and medical institutions as well as a directory of disease organizations and support groups. *MediFocus Guidebooks* are reviewed, revised and updated every 4-months to ensure that you receive the latest and most up-to-date information about the specific condition.

About Your MediFocus Guidebook

Introduction

Your *MediFocus Guidebook* is a valuable resource that represents a comprehensive synthesis of the most up-to-date, advanced medical information published about the condition in well-respected, trustworthy medical journals. It is the same type of professional-level information used by physicians and other health-care professionals to keep abreast of the latest developments in biomedical research and clinical medicine. The *Guidebook* is intended for patients who have a need for more advanced, in-depth medical information than is generally available to consumers from a variety of other resources. The primary goal of a *MediFocus Guidebook* is to educate patients and their families about their treatment options so that they can make informed health-care decisions and become active participants in the medical decision making process.

The *Guidebook* production process involves a team of experienced medical research professionals with vast experience in researching the published medical literature. This team approach to the development and production of the *MediFocus Guidebooks* is designed to ensure the accuracy, completeness, and clinical relevance of the information. The *Guidebook* is intended to serve as a basis for a more meaningful discussion between patients and their health-care providers in a joint effort to seek the most appropriate course of treatment for the disease.

Guidebook Organization and Content

Section 1 - Background Information

This section provides detailed information about the organization and content of the *Guidebook* including tips and suggestions for conducting additional research about the condition.

Section 2 - The Intelligent Patient Overview

This section of your *MediFocus Guidebook* represents a detailed overview of the disease or condition specifically written from the patient's perspective. It is designed to satisfy the basic informational needs of consumers and their families who are confronted with the illness and are facing difficult choices. Important aspects which are addressed in "The Intelligent Patient" section include:

- The etiology or cause of the disease
- Signs and symptoms
- How the condition is diagnosed
- The current standard of care for the disease
- Treatment options

- New developments
- Important questions to ask your health care provider

Section 3 - Guide to the Medical Literature

This is a roadmap to important and up-to-date medical literature published about the condition from authoritative, trustworthy medical journals. This is the same information that is used by physicians and researchers to keep up with the latest developments and breakthroughs in clinical medicine and biomedical research. A broad spectrum of articles is included in each *MediFocus Guidebook* to provide information about standard treatments, treatment options, new clinical developments, and advances in research. To facilitate your review and analysis of this information, the articles are grouped by specific categories. A typical *MediFocus Guidebook* usually contains one or more of the following article groupings:

- *Review Articles*: Articles included in this category are broad in scope and are intended to provide the reader with a detailed overview of the condition including such important aspects as its cause, diagnosis, treatment, and new advances.
- *General Interest Articles*: These articles are broad in scope and contain supplementary information about the condition that may be of interest to select groups of patients.
- *Drug Therapy*: Articles that provide information about the effectiveness of specific drugs or other biological agents for the treatment of the condition.
- *Surgical Therapy*: Articles that provide information about specific surgical treatments for the condition.
- *Clinical Trials*: Articles in this category summarize studies which compare the safety and efficacy of a new, experimental treatment modality to currently available standard treatments for the condition. In many cases, clinical trials represent the latest advances in the field and may be considered as being on the "cutting edge" of medicine. Some of these experimental treatments may have already been incorporated into clinical practice.

The following information is provided for each of the articles referenced in this section of your *MediFocus Guidebook*:

- Article title
- Author Name(s)
- Institution where the study was done
- Journal reference (Volume, page numbers, year of publication)

- Link to Abstract (brief summary of the actual article)

Linking to Abstracts: Most of the medical journal articles referenced in this section of your *MediFocus Guidebook* include an abstract (brief summary of the actual article) that can be accessed online via the National Library of Medicine's PubMed® database. You can easily access the individual abstracts online via PubMed® from the "electronic" format of your *MediFocus Guidebook* by clicking on the corresponding URL address that is provided for each cited article. If you purchased a printed copy of a *MediFocus Guidebook*, you can still access the article abstracts online by entering the individual URL address for a particular article into your web browser.

Section 4 - Centers of Research

We've compiled a unique directory of doctors, researchers, medical centers, and research institutions with specialized research interest, and in many cases, clinical expertise in the management of the specific medical condition. The "Centers of Research" directory is a valuable resource for quickly identifying and locating leading medical authorities and medical institutions within the United States and other countries that are considered to be at the forefront in clinical research and treatment of the condition.

Inclusion of the names of specific doctors, researchers, hospitals, medical centers, or research institutions in this *Guidebook* does not imply endorsement by Medifocus.com, Inc. or any of its affiliates. Consumers are encouraged to conduct additional research to identify health-care professionals, hospitals, and medical institutions with expertise in providing specific medical advice, guidance, and treatment for this condition.

Section 5 - Tips on Finding and Choosing a Doctor

One of the most important decisions confronting patients who have been diagnosed with a serious medical condition is finding and choosing a qualified physician who will deliver high-level, quality medical care in accordance with currently accepted guidelines and standards of care. Finding the "best" doctor to manage your condition, however, can be a frustrating and time-consuming experience unless you know what you are looking for and how to go about finding it. This section of your *Guidebook* offers important tips for how to find physicians as well as suggestions for how to make informed choices about choosing a doctor who is right for you.

Section 6 - Directory of Organizations

This section of your *Guidebook* is a directory of select disease organizations and support groups that are in the business of helping patients and their families by providing access to information, resources, and services. Many of these organizations can answer your questions, enable you to network with other patients, and help you find a doctor in your geographical area who specializes in managing your condition.

2 - The Intelligent Patient Overview

ATRIAL FIBRILLATION

Introduction to Atrial Fibrillation

What is Atrial Fibrillation?

The heart is a muscle that functions as a double-sided pump and consists of four chambers. The two upper chambers are called the left and the right *atria* and the two lower chambers called the right and left *ventricles*. The right side of the heart pumps blood to the lungs to pick up oxygen, while the left side of the heart pumps blood rich in oxygen to all parts of the body. The left ventricle has to pump in a strong and effective manner to pump the blood to the farthest parts of the body.

The pumping of the heart is regulated by electrical current that originates in the right atrium at the sinoatrial node (SA node) and then travels to both the left atrium and the *atrioventricular node* (AV node) which coordinates the pumping of the ventricles. This is called *normal sinus rhythm* (NSR).

Atrial fibrillation (AF) is characterized by an irregular and rapid beating of the heart's atrial chambers and results when the normal electrical conduction system of the atria is not functioning properly. In atrial fibrillation, there is a storm of electrical activity across both atria causing them to fibrillate (quiver) 300-600 times per minute.

Only a small number of these electrical impulses are picked up by the ventricles, but the ventricular rate can approach 180 or higher. Whether at high or low heart rates, the irregular rhythm renders the ventricle unable to pump efficiently. This leads to pooling of the blood within the heart and insufficient amounts of blood being supplied to the body. This can result in a variety of symptoms and problems.

It has been estimated that atrial fibrillation occurs in about 4% of the general adult population and affects approximately 2.2 million people in the United States. About 160,000 new cases of atrial fibrillation are diagnosed each year. Atrial fibrillation occurs about 1.5 times more frequently in males than in females. It is estimated that atrial fibrillation is responsible for over 60,000 strokes each year in the United States.

The prevalence of atrial fibrillation increases with advancing age:

- 2-5% of persons aged 60-69
- 5-14% of persons aged 70-79
- 9-13% of persons aged 80-89

- 22% of persons aged 91 and older

Mechanisms of Atrial Fibrillation

Several mechanisms have been proposed to explain the disorganized electrical activity that precedes atrial fibrillation. These mechanisms include:

- Atrial fibrillation occurs when a single electrical wave, known as the "mother" wave, is fractionated into multiple "daughter" wavelets resulting in a short refractory period and slow conduction which then precipitates atrial fibrillation.
- Atrial fibrillation can occur as a result of a single, rapidly-firing focus of electrical impulses within the atria. These electrical impulses can be discharged either continuously or in intermittent, short bursts.
- In some cases, atrial fibrillation can occur as a result of ectopic (premature) beats that arise from the ostium (opening) of the pulmonary vein in the left atrium.

Irrespective of the specific mechanism involved, atrial fibrillation reduces the efficiency of contraction of the heart leading to pooling of blood within the heart's chambers and the formation of blood clots that can lead to stroke and other potentially serious complications.

Classification of Atrial Fibrillation

The 2001 American College of Cardiology (ACC)/American Heart Association (AHA) guidelines for the management of patients with atrial fibrillation classifies atrial fibrillation into the following types:

- **Secondary Atrial Fibrillation** - This type of atrial fibrillation occurs as a consequence of another underlying condition that is reversible if treated. Examples of underlying conditions that may lead to secondary atrial fibrillation include:
 - coronary artery disease
 - heart valve diseases (e.g., rheumatic heart disease)
 - hypertension (high blood pressure)
 - pericarditis (inflammation of the lining of the heart)
 - heart attack
 - cardiac surgery (e.g., coronary artery bypass graft surgery)
 - pulmonary embolism (blood clot to the lungs)
 - hyperthyroidism (overactive thyroid gland)
- **First Detected Atrial Fibrillation** - The first time the patient's atrial fibrillation comes to the attention of a health care provider.
- **Recurrent Atrial Fibrillation** - Refers to patients who have experienced a recurrence (2 or

more episodes) of atrial fibrillation. Two types of recurrent atrial fibrillation are recognized:

- Paroxysmal Atrial Fibrillation
 - intermittent episodes of atrial fibrillation lasting from minutes to hours
 - usually terminates spontaneously (self-limited)
- Persistent Atrial Fibrillation
 - a sustained pattern of atrial fibrillation that does not terminate spontaneously
 - in some patients, recurrent episodes of paroxysmal atrial fibrillation can lead to persistent atrial fibrillation
- **Permanent Atrial Fibrillation** - Atrial fibrillation that cannot be successfully reverted back to normal sinus rhythm with cardioversion (pharmacological or electrical).
- **Lone Atrial Fibrillation** - Atrial fibrillation in a patient younger than 60 years of age who does not have any evidence of underlying heart disease. Patients with lone atrial fibrillation usually have a favorable prognosis and are unlikely to develop serious complications such as blood clots or stroke. Lone atrial fibrillation may be triggered by:
 - hyperthyroidism (overactive thyroid gland)
 - hypoglycemia (low blood sugar)
 - alcohol consumption (particularly "binge" drinking)
 - nicotine
 - caffeine

What Causes Atrial Fibrillation?

In general, the causes of atrial fibrillation (AF) may be grouped into the following broad categories:

- Cardiovascular causes
- Metabolic causes
- Respiratory causes
- Lifestyle factors

Cardiovascular Causes

Atrial fibrillation may be precipitated by a variety of underlying cardiovascular disturbances including:

- Congestive heart failure
- Hypertension
- Ischemic heart disease

- Sick sinus syndrome
- Mitral stenosis
- Mitral regurgitation
- Aortic stenosis
- Congenital heart defects (particularly atrial-septal defect)
- Pericarditis
- Endocarditis
- Myocarditis
- Wolf-Parkinson-White syndrome
- Supraventricular arrhythmia
- Cardiomyopathy

Metabolic Causes

A variety of underlying metabolic disturbances may trigger atrial fibrillation including:

- Hyperthyroidism (particularly thyrotoxicosis)
- Sympathomimetic medications (e.g., albuterol, epinephrine, terbutaline)
- Low levels of potassium, magnesium, or calcium
- Pheochromocytoma

Respiratory Causes

In some cases, atrial fibrillation may occur as a result of an underlying respiratory problem including:

- Lung infection (e.g., pneumonia)
- Lung cancer
- Blood clot in the lungs (pulmonary embolism)
- Surgery involving the chest (e.g., coronary artery bypass surgery)

Lifestyle Factors

Certain lifestyle factors may precipitate atrial fibrillation including

- Alcohol abuse
- Excessive consumption of caffeine
- Drug abuse (e.g., cocaine)

Risk of Stroke in Atrial Fibrillation

Previously thought to be an insignificant arrhythmia, the potential complications of atrial fibrillation (AF) have just been recognized in the past few years. The irregular beating of the atrial chambers that is characteristic of atrial fibrillation results in stagnation and pooling of blood in the heart that can lead to blood clot formation, particularly in the left atrium. These blood clots can travel via the circulatory system and lodge in the brain, thereby, cutting-off the blood supply to a region of the brain (stroke). In fact, stroke represents the most common devastating consequence of atrial fibrillation.

Atrial fibrillation is recognized as an independent risk factor for stroke and patients with atrial fibrillation are about 5-times more likely to suffer a stroke than people without atrial fibrillation. Other factors that increase the risk of stroke in people with atrial fibrillation include:

- History of previous stroke or "mini-strokes" known as *transient ischemic attacks* (TIAs)
- Hypertension (high blood pressure)
- Congestive heart failure
- Advancing age (particularly age 75 or older)
- Coronary artery disease
- Diabetes

Based on the presence or absence of these risk factors, doctors can better determine which patients with atrial fibrillation are at high risk for stroke and initiate appropriate treatment with anticoagulant medications to reduce the likelihood of a stroke.

The **Intelligent Patient Overview** in the complete **Medifocus Guidebook on Atrial Fibrillation** also includes the following additional sections:

- **Diagnosis of Atrial Fibrillation**
- **Treatment Options for Atrial Fibrillation**
- **Quality of Life in Patients with Atrial Fibrillation**
- **Questions to Ask Your Health Care Provider About Atrial Fibrillation**

To Order the Complete **Guidebook on Atrial Fibrillation** [Click Here](#)
Or Call 800-965-3002 (USA) or 301-649-9300 (Outside USA)

3 - Guide to the Medical Literature

Introduction

This section of your *MediFocus Guidebook* is a comprehensive bibliography of important recent medical literature published about the condition from authoritative, trustworthy medical journals. This is the same information that is used by physicians and researchers to keep up with the latest advances in clinical medicine and biomedical research. A broad spectrum of articles is included in each *MediFocus Guidebook* to provide information about standard treatments, treatment options, new developments, and advances in research.

To facilitate your review and analysis of this information, the articles in this *MediFocus Guidebook* are grouped in the following categories:

- Review Articles - 137 Articles
- General Interest Articles - 9 Articles
- Clinical Trials Articles - 12 Articles
- Stroke Prevention Articles - 10 Articles
- Ablation Therapy Articles - 3 Articles

The following information is provided for each of the articles referenced in this section of your *MediFocus Guidebook*:

- Title of the article
- Name of the authors
- Institution where the study was done
- Journal reference (Volume, page numbers, year of publication)
- Link to Abstract (brief summary of the actual article)

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4 - Centers of Research

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Use the *Centers of Research* directory to contact, consult, or network with leading experts in the field and to locate a hospital or medical center that can help you.

The following information is provided in the *Centers of Research* directory:

- **Geographic Location**

- United States: the information is divided by individual states listed in alphabetical order. Not all states may be included.
- Other Countries: information is presented for select countries worldwide listed in alphabetical order. Not all countries may be included.

- **Names of Authors**

- Select names of individual authors (doctors, researchers, or other health-care professionals) with specialized research interest, and in many cases, clinical expertise in the management of this specific medical condition, who have recently published articles in leading medical journals about the condition.
- E-mail addresses for individual authors, if listed on their specific publications, is also provided.

- **Institutional Affiliations**

- Next to each individual author's name is their **institutional affiliation** (hospital, medical center, or research institution) where the study was conducted as listed in their publication(s).
- In many cases, information about the specific **department** within the medical institution where the individual author was located at the time the study was conducted is also provided.



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