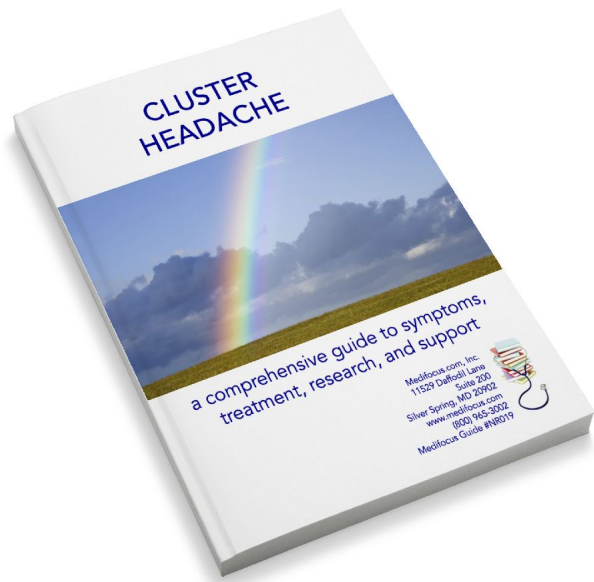


Preview of the Medifocus Guidebook on: Cluster Headache

Updated August 9, 2010



This document is only a SHORT PREVIEW of the **Medifocus Guidebook on Cluster Headache**. 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 Cluster Headache (131 pages; Updated August 9, 2010), please:

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 - 301-649-9300 (Outside the United States)
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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 professionals with expertise in diverse areas including experienced medical database researchers and practicing physicians who serve as members of the *Medifocus.com* Medical Advisory Board (MAB). 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 more meaningful discussions 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

CLUSTER HEADACHE

Introduction to Cluster Headaches

Headaches are classified as either primary or secondary. *Primary headaches* are those that are not caused by any disease or other medical condition. Examples include tension headaches, migraine headaches, and cluster headaches. *Secondary headaches* are caused by other medical conditions such as infection, neck injury, or tumor.

Cluster Headaches (CH) are primary headaches that belong to a grouping of headaches classified by the International Headache Association as *Trigeminal Autonomic Cephalgias* (TACs). The types of headache attacks included in this category are:

- Cluster Headaches
- SUNCT attacks (Short-lasting, Unilateral, Neuralgiaform headache with Conjunctival injection and Tearing)
- Chronic paroxysmal hemicrania
- Episodic paroxysmal hemicrania

Trigeminal Autonomic Cephalgias have the following features in common:

- Discrete and short-lasting headaches
- Intense, unilateral (on one side) pain in the orbital-temporal region (area surrounding the eye)
- Prominent autonomic symptoms (e.g. tearing, running eyes and nose)

The differences among the various types of TAC headaches include:

- Duration of individual attacks
- Frequency of individual attacks
- Pain pattern and intensity
- Responses to different medications

Several terms related to cluster headache are important to define, including:

- An individual cluster headache is also called a *cluster attack*.
- A *cluster period, cycle or episode* is defined as the time when cluster patients are having daily headaches.
- A *remission* period is the time during which cluster patients are experiencing no headaches.
- *Episodic* and *chronic* describe the two presentations of cluster headaches. Most patients

experience episodic cluster headaches (90%), while only a small number suffer with chronic cluster headaches.

Episodic Cluster Headaches - Episodic cluster headaches extend over a period from seven days to one year, with headache-free remissions commencing spontaneously and lasting for 14 days or more. Cluster periods typically last from two weeks to three months, during which headaches may occur every other day or as frequently as eight times per day. Individual attacks typically last between 15 minutes and 3 hours. Up to 85% of cluster patients suffer from episodic cluster headaches and they experience frequent and substantial remissions.

Chronic Cluster Headaches - Chronic cluster headaches are characterized by the absence of remission for one year or more, or short remissions that last fewer than 14 days; or attacks that occur for more than one year without remission, and, remissions that last fewer than 14 days. Patients with chronic cluster headaches may experience unremitting headaches for years, which is a source of severe debilitation and significant reduction in quality of life. Approximately 15% of cluster headache patients suffer from chronic cluster headaches, 5% transition from episodic to chronic, while 10% develop *primary chronic cluster headaches* right from the start.

Chronic cluster headaches may persist for years and even into old age. There is some evidence that up to 50% of individuals suffering from chronic cluster headaches may revert back to episodic headaches at some point. Chronic cluster headaches appear more likely to occur under the following circumstances:

- Onset of cluster headaches later in life
- Frequent episodic cluster headaches with very brief periods of remission
- Heavy smoking habit
- High alcohol intake
- Head trauma

Medication is effective for approximately 80% of individuals suffering from chronic cluster headaches, but up to 20% of patients do not respond to medication. Over time, some individuals who were helped by a particular drug for years may become resistant to that drug.

Characteristics of Cluster Headaches

Cluster headaches are the most severe form of headache known to humans and is sometimes referred to as "suicide headache". It earned its name from the pattern of attacks, in that individuals generally have daily attacks for weeks at a time (clustered together) and then enter into periods of remission when they have no headaches. Cluster headache has also been called the "alarm clock headache" due to the regular periodicity of the attacks.

Several characteristics are common to almost all cluster headaches:

- A cluster headache is almost always one-sided and patients typically experience cluster headaches on the same side of the head, regardless of how many years they have suffered with them. In approximately 14-18% of patients, headaches switch sides in subsequent

clusters, and rarest of all, during a single cluster cycle.

- Pain usually comes without warning and is always severe.
- Pain is described as spike-like, boring, "like a hot poker", unremitting or throbbing.
- In addition, some patients report "ice-pick", stabbing-like pains in and around the eye that last for a few seconds and may occur in rapid succession.
- Cluster headache pain typically occurs behind or around the eye, and/or in the area of the temple, but the pain can also radiate to the forehead, cheek, nose, or the back of the head.
- Some patients experience pain at the base of the neck during an attack.
- Each headache typically reaches maximum intensity within 3-5 minutes and can last anywhere from 15 minutes to 3 hours (averaging 60-90 minutes).
- Individuals typically experience one to three headaches per day or every other day, but rarely more than five to eight per day. In between the headache episodes, patients may be pain-free or may have a mild, dull ache on the same side of the head as the attack.
- Every attack is accompanied by autonomic (involuntary) symptoms on the same side of the head, such as: tearing, runny nose, nasal congestion, bloodshot eye, drooping eyelid, contraction of the pupil of the eye, and swelling of the face or the area around the eye. In some individuals, these autonomic symptoms may appear on both sides of the head, but they are felt more strongly on the affected side.
- During a cluster period (episodic or chronic) if there is one headache every 24 hours, it tends to occur at the same time each day or night for days or weeks.
- Nighttime headaches are more frequent than daytime attacks.
- Many cluster patients are woken up by a headache within 90 minutes of falling asleep (some patients believe these are the most severe headaches). This coincides with the first dream period of nighttime sleep, called *rapid eye movement* (REM) sleep. Because of this, some patients report being afraid to go to sleep at night.
- Typically there is a rapid increase of heart rate at the onset of an attack and then patients may experience bradycardia (slowing of the heart rate).
- Sometimes, individuals can feel a pulsing artery in the neck.
- Cluster headaches are not typically associated with nausea, vomiting, or reports of a visual aura, but their presence should not rule out a diagnosis of cluster headache. Interestingly, there are increasing numbers of individuals who report experiencing migraine-like symptoms, including aura, sensitivity to light (photophobia) and sound (phonophobia), and nausea before their cluster attacks.
- Approximately 50% of patients with cluster headaches and other TACs report one-sided photophobia and phonophobia (only on the side of the pain) which is distinct from a migraine pattern, where these symptoms are reported to be unilateral in only 5% of cases.
- The intensity of the headache usually causes significant agitation or restlessness in over 90% of individuals, during which they may try anything to alleviate the pain or distract themselves from the pain (e.g., pace back and forth or bang their heads on a hard surface). Many patients become aggressive during a cluster headache attack.

During "active" periods, attacks may be triggered by a variety of factors including:

- Alcohol
- Stress
- High altitude
- Air travel

- Nitroglycerin tablets
- Warm weather

Many cluster patients are heavy smokers and alcohol drinkers (up to 85%), but once a cluster period starts, they immediately stop drinking because alcohol can trigger a cluster attack within minutes. During the remission periods, the same behaviors will not trigger a cluster headache.

Autonomic symptoms (involuntary responses) almost always occur on the same side of the face as the pain from the cluster attack. These symptoms may be absent in up to 3% of individuals with cluster headache. Autonomic symptoms may include:

- Lacrimation - tearing of the eye
- Conjunctival injection - reddening of the eye
- Nasal congestion
- Rhinorrhea - runny nose
- Forehead/facial sweating
- Miosis - contraction of the pupil
- Ptosis - drooping of the eyelid
- Swelling of the eyelid or face

In some patient, miosis and ptosis may persist between cluster attacks but intensify when a new attack begins. Cluster patients can also have migraine-like symptoms, (e.g., light and sound sensitivity, nausea, vomiting).

Some patients report feeling subtle changes when an attack is imminent, including:

- Excessive sweating
- Feeling of discomfort
- Mild sensation of burning on one side
- Swelling or drooping of the eye on the affected side
- Facial flushing on the affected side

Unlike migraine headaches during which patients are quiet and do not move, cluster patients become agitated and restless during an attack needing, to pace back and forth, move about, or rock back and forth while holding their heads. Sitting or lying still will worsen the cluster pain. It is not uncommon for patients, in desperation, to hit themselves on the head, bang their heads on a hard surface, or scream out in pain during a headache because the headache intensity is so severe.

Some individuals with cluster headaches find relief by doing physical exercise (e.g., sit-ups, push-ups or jogging in-place), while others prefer to be outside in cold or fresh air. Some patients try to avoid falling asleep, since cluster headaches occur soon after the onset of REM-stage (rapid eye movement) of sleep. The difficulty in this effort lies in the fact that when the individual becomes exhausted and falls asleep, REM sleep occurs much sooner than if well-rested and, this becomes a trigger for a cluster headache.

There is continuing debate regarding whether people who suffer from cluster headache have a 'typical' appearance. Some claim that there is a "leonine" appearance to many people who suffer

from cluster headache and distinct facial characteristics, (e.g., deep vertical facial creases, ruddy complexion) but it is not clear whether these features may be due to heavy tobacco or alcohol use rather than specifically to cluster headache. Some researchers have noted that individuals suffering from cluster headache tend to be the tallest members of their families, though this has not been proven.

As noted above, cluster episodes are periodic in nature and may be characterized by some of the following patterns:

- Usually cluster headaches within an episode occur at least once every 24 hours for a period of weeks.
- For the first few years following onset of cluster headaches, it is common for episodes to occur seasonally for a few years, after which episodic occurrence becomes less predictable and can happen at any time of the year.
- When exacerbations become longer, remissions become shorter, or more cluster cycles than usual occur, it is usually a sign that episodic headaches are evolving into chronic cluster headaches.
- Typically, a cluster period lasts six to twelve weeks and remissions last for an average of one year.

Circadian and Circannual Cycle in Cluster Headaches

The *circadian cycle* is the 24-hour timekeeping system present within most living organisms. This biological "clock" allows the organism to anticipate and prepare for the changes in the physical environment that are associated with day and night. It is located in the hypothalamus where it controls the internal organization of body systems and ensures that internal changes that take place are coordinated with each other. In addition, the circadian cycle is responsible for the individual responding the "right way" at the right time of day (e.g., sleepy at night, awake during the day). The hypothalamus carries out this task by regulating hormone production of various glands in the course of a 24-hour cycle.

Some characteristics of cluster headache are indicative of a circadian-pattern involvement including:

- Attacks usually occur at night during the first REM cycle of sleep
- Attacks usually occur at the same time of day, although there may be other random attacks in the course of the day

There are also indications that the attacks of cluster headache are associated with the number of daylight hours, and the periodicity may follow a *circannual cycle* which describes the adaptation of an organism or an individual to seasonal changes in the year. Circannual patterns of cluster headache include:

- Cycle frequency tends to increase within two weeks following the winter or summer solstices and decrease within two weeks of onset and offset of daylight savings time.
- Episodes for some patients regularly begin in the spring or fall.

Individuals may have their own pattern and each pattern has its own cyclic schedule.

To read more about cluster headache, please click on the following link:

<http://www.ncbi.nlm.nih.gov/pubmed/20352587>

Etiology of Cluster Headache

Although cluster headache was identified as a medical condition more than a century ago, knowledge about the cause and pathophysiology of cluster headache and the mechanisms that are responsible for triggering the headaches remained elusive until now. Historically, there have been two theories regarding the etiology of cluster headache, namely the *vascular theory* and the *neurologic theory*. It now appears that both systems are involved in the development of cluster headache and that a *neurovascular* origin appears to provide the most comprehensive understanding of the etiology of cluster headache.

Vascular Theory

The theory that cluster headache has a vascular origin is based on the presence of inflammation of the walls of the *cavernous sinus* during an attack. The cavernous sinus is a large channel of venous blood in the head and is important because of its location relative to several cranial nerves, including the *trigeminal nerve* (fifth cranial nerve) and the *oculomotor nerve* (third cranial nerve) both of which are involved in cluster headache. Angiographic (blood vessel) imaging studies have also revealed that during an attack, a section of the *internal carotid artery* and of the *ophthalmic artery* on the painful side of the head is dilated, indicating a loss of vascular tone. Related to vascular irregularity during an attack is the fact that during cluster headache episodes there is a marked increase in sensitivity to substances which cause vasodilation (widening of the blood vessels), such as alcohol, histamines, and nitroglycerin. Based on this information, cluster headaches used to be incorrectly referred to as "vascular headaches".

Neurologic Theory

The theory of the neurologic origin of cluster headache evolves from activation of the *trigeminal nerve* and *autonomic nervous system*. When the trigeminal nerve is activated, it causes pain in and around the eye. When the autonomic nervous system is activated, this produces the associated symptoms that accompany cluster headache (eye tearing, nasal discharge, etc.). The *hypothalamus* (the part of the brain that regulates the sleep/wake cycle) is thought to be the trigger that activates the trigeminal nerve and the autonomic nervous system, and has recently become a new target in the treatment of cluster headache.

Neurovascular Origin

It has become increasingly clear that both the vascular and neurologic systems are involved in cluster headache. Several aspects of cluster headache, such as the circadian regularity, seasonal relationship, and relapsing/remitting nature of the episodes, all point to the involvement of the hypothalamus. Recently, in addition to the vascular involvement described above, imaging studies with Positron Emission Topography (PET) scans have shown that during a cluster attack, an area within the hypothalamus on the same side as the headache is active and there are signs of increased blood flow to that location. In the absence of a cluster episode, this area is normally

quiet. Thus it appears that there is a neurovascular episode relating to the circadian cycle that seems to be fundamental to the development of cluster headache.

As mentioned above, the hypothalamus regulates the internal 24-hour cycle which governs daily life. It is believed that there is a defect in the regulating center of the hypothalamus resulting in an alteration in the biological rhythms of hormone secretions. This is clear since levels of *melatonin* (a hormone which influences fatigue and sleep-patterns) are abnormal in patients with cluster headache. Melatonin level is also a highly reliable biological marker of hypothalamic function and of the integrity of the circadian system. Individuals in the active phase of cluster headaches produce less nighttime melatonin than individuals in remission, and even during remission, the levels of melatonin are lower than in the average individual who does not suffer from cluster headache.

The onset of cluster headache pain seems to be related to the activation of a nerve pathway at the base of the brain, called the *trigeminal-autonomic reflex pathway*. In addition, it is known that the fibers of the *sphenopalatine ganglion*, a group of nerve cells, located behind the jaw and near the mandibular nerve, supplies several glands related to the autonomic symptoms of cluster headache and appears to be involved in the pathophysiology of cluster attacks. Activation of the nearby trigeminal nerve stimulates related nerves that cause eye tearing and nasal congestion as well as other autonomic symptoms. It is thought that a neurovascular event, apparently originating in the hypothalamus, for unknown reasons causes inflammation of the walls of the cavernous sinus and also involves the sphenopalatine ganglion. These events then may trigger trigeminal nerve stimulation, which is the basis for the excruciating pain that ensues in a cluster headache attack, as well as the associated autonomic symptoms (such as tearing and rhinorrhea).

Thus, it seems clear that the trigger for cluster headache is in the hypothalamus and that the vascular changes (e.g., increased blood flow of the internal carotid artery and dilation of the ophthalmic artery) are related to the headache, but are not the cause. This approach accounts for the prevailing view of cluster headaches as "neurovascular" headaches. Cluster headaches are not caused by tumors or aneurysms, although lesions of the brain may present as cluster-like headaches.

Incidence of Cluster Headaches

Cluster headaches are rare and affects approximately 0.1-0.9% of the general population. This is much less frequent than the incidence of migraine headache which affects about 6% of the population. Cluster headache appears to be primarily a disorder of Caucasians, although it can occur in any racial group. It has been called a "headache of men", since many more men than women are affected. However, the pattern appears to be changing and, while in the 1960's the ratio of men to women was approximately 6:1, it is now closer to 2:1.

Most people will develop cluster headaches in their 20s or 30s although the headaches can start at any age. Even so, it is rare for the first event to occur in childhood or adolescence. For reasons not well understood, women tend to develop their first cluster attack over 50 years of age. This does not typically happen in men. The incidence of cluster headache declines after the age of 50 and is rarely seen in adults over 70.

Risk Factors for Cluster Headaches

Cluster headache, unlike migraine headache, is not generally considered to be an inherited condition, but there are documented cases in the literature of families with cluster headache. It appears that first-degree relatives of cluster patients have a 14-fold increased risk of developing cluster headache, while there is a two-fold increased risk of second-degree relatives developing cluster headaches. Recent studies suggest that there may be an autosomal dominant gene that plays a role in some families with cluster headaches. It is estimated that the gene occurs in up to 4% of men with cluster headache and in up to 10% of women who suffer from cluster headache. Cluster headache has also been noted in some sets of monozygotic twins who share the same genetic makeup.

While the specific risk factors for developing cluster headache are presently unknown, there are some common traits among many patients who have cluster headache, though a direct cause-and-effect has not been established. These include:

- **Smoking** - There is a very high association between smoking and cluster headache. Many physicians feel that you almost have to be a cigarette smoker to develop cluster headache, since up to 85% of patients with cluster headache are cigarette smokers. Unfortunately, cessation of smoking has no beneficial effects for those already suffering from cluster headache.
- **Alcohol consumption** - Cluster headache has also been strongly tied to a history of alcohol consumption.
- **Brain concussion following trauma.**
- **First-degree relatives with cluster headache.**
- **Family history of migraine headaches.** Approximately 51% of individuals with cluster headache have a personal history or family history of migraine headaches.
- **Menses** - Although cluster headache does not appear to be directly linked to menses, headaches tend to stop during pregnancy.

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

- **Diagnosis of Cluster Headaches**
- **Treatment Options for Cluster Headaches**
- **Quality of Life Issues for Cluster Headaches**
- **New Developments in Cluster Headache**
- **Questions to Ask Your Health Care Provider about Cluster Headaches**

To Order the Complete **Guidebook on Cluster Headache** [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 - 53 Articles
- General Interest Articles - 41 Articles
- Surgical Therapy Articles - 9 Articles
- Clinical Trials Articles - 12 Articles
- Deep Brain Stimulation Articles - 17 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)

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 URI that is provided for each cited article. If you purchased a printed copy of the *MediFocus Guidebook*, you can still access the abstracts online by entering the individual URI for a particular abstract into your computer's web browser.

Recent Literature: What Your Doctor Reads

Database: PubMed <April 2006 to July 2010>

Review Articles

1.

Cluster headache: diagnosis and treatment.

Authors: Halker R; Vargas B; Dodick DW
Institution: Department of Neurology, Mayo Clinic Arizona, Phoenix, Arizona, USA.
Journal: Semin Neurol. 2010 Apr;30(2):175-85. Epub 2010 Mar 29.
Abstract Link: <http://www.medifocus.com/abstracts.php?gid=NR019&ID=20352587>

2.

Triptans for acute cluster headache.

Authors: Law S; Derry S; Moore RA
Institution: Pain Research and Nuffield Department of Anaesthetics, University of Oxford, West Wing (Level 6), John Radcliffe Hospital, Oxford, Oxfordshire, UK, OX3 9DU.
Journal: Cochrane Database Syst Rev. 2010 Apr 14;4:CD008042.
Abstract Link: <http://www.medifocus.com/abstracts.php?gid=NR019&ID=20393964>

3.

The role of nerve blocks and botulinum toxin injections in the management of cluster headaches.

Authors: Ailani J; Young WB
Institution: Jefferson Headache Center, Gibbon Building, 111 South 11th Street, Suite 8130, Philadelphia, PA 19107, USA. jessica.ailani@gmail.com
Journal: Curr Pain Headache Rep. 2009 Apr;13(2):164-7.
Abstract Link: <http://www.medifocus.com/abstracts.php?gid=NR019&ID=19272284>

The **Guide to the Medical Literature** in the complete **Medifocus Guidebook on Cluster Headache** includes the following sections:

- Review Articles - 53 Articles
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- Surgical Therapy Articles - 9 Articles
- Clinical Trials Articles - 12 Articles
- Deep Brain Stimulation Articles - 17 Articles

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4 - Centers of Research

This section of your *MediFocus Guidebook* is 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 this 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 this disorder.

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.

Centers of Research

United States

AZ - Arizona

| <u>Name of Author</u> | <u>Institutional Affiliation</u> |
|-----------------------|---|
| Dodick DW | Department of Neurology, Mayo Clinic Arizona, Phoenix, Arizona, USA. |
| Halker R | Department of Neurology, Mayo Clinic Arizona, Phoenix, Arizona, USA. |
| Schwedt TJ | Mayo Clinic College of Medicine, Scottsdale, AZ 85259, USA. |
| Trentman TL | Department of Anesthesiology, Mayo Clinic, Phoenix, AZ 85054, USA. trentman.terrence@mayo.edu |
| Vargas BB | Department of Anesthesiology, Mayo Clinic, Phoenix, AZ 85054, USA. trentman.terrence@mayo.edu |
| Walker RW | Barrow Neurological Institute, 350 West Thomas Road, Phoenix, AZ 85013, USA. r2walker@chw.edu |
| Zimmerman RS | Mayo Clinic College of Medicine, Scottsdale, AZ 85259, USA. |

CA - California

| <u>Name of Author</u> | <u>Institutional Affiliation</u> |
|-----------------------|---|
| Bigal ME | Department of Neurology, David Geffen School of Medicine at UCLA, Los Angeles, CA, USA. alanrapoport@gmail.com |
| Boutros NN | Department of Psychiatry and Human Behavior, University of California, CA, USA. |
| Burns B | Headache Group, Department of Neurology, University of California San Francisco, San Francisco, CA 19143-0114, USA. |
| Casale MS | Department of Psychiatry and Human Behavior, University of California, CA, USA. |
| Goadsby PJ | Headache Research Group, Department of Neurology, University of California, San Francisco, Box 0114, 505 Parnassus Avenue, San Francisco, CA 94143, USA. philip.holland@headache.ucsf.edu |
| Graff-Radford SB | The Pain Center, Cedars-Sinai Medical Center, 444 South San Vicente, #1101, Los Angeles, CA 90048, USA. graffs@cshs.org |

The **Centers of Research** in the complete **Medifocus Guidebook on Cluster Headache** includes the following sections:

- Centers of Research for relevant states in the United States
- Centers of Research listed for relevant countries outside the United States

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5 - Tips on Finding and Choosing a Doctor

Introduction

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 a high level and quality of 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.

The process of finding and choosing a physician to manage your specific illness or condition is, in some respects, analogous to the process of making a decision about whether or not to invest in a particular stock or mutual fund. After all, you wouldn't invest your hard earned money in a stock or mutual fund without first doing exhaustive research about the stock or fund's past performance, current financial status, and projected future earnings. More than likely you would spend a considerable amount of time and energy doing your own research and consulting with your stock broker before making an informed decision about investing. The same general principle applies to the process of finding and choosing a physician. Although the process requires a considerable investment in terms of both time and energy, the potential payoff can be well worth it--after all, what can be more important than your health and well-being?

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.

Tips for Finding Physicians

Finding a highly qualified, competent, and compassionate physician to manage your specific illness or condition takes a lot of hard work and energy but is an investment that is well-worth the effort. It is important to keep in mind that you are not looking for just any general physician but rather for a physician who has expertise in the treatment and management of your specific illness or condition. Here are some suggestions for where you can turn to identify and locate physicians who specialize in managing your disorder:

- **Your Doctor** - Your family physician (family medicine or internal medicine specialist) is a good starting point for finding a physician who specializes in your illness. Chances are that your doctor already knows several specialists in your geographic area who specialize in your illness and can recommend several names to you. Your doctor can also provide you with information about their qualifications, training, and hospital affiliations.

The **Tips on Finding and Choosing a Doctor** in the complete **Medifocus Guidebook on Cluster Headache** includes additional information that will assist you in locating a highly qualified and competent physician to manage your specific illness.

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6 - Directory of Organizations

American Academy of Neurology

1080 Montreal Avenue; St. Paul MN 55116

800.879.1960; 651.695.2717

memberservices@aan.com

www.aan.com

American Academy of Orofacial Pain

19 Mantua Road; Mt. Royal, NJ 08061

856.423.3629

aaopco@talley.com

www.aaop.org

American Chronic Pain Association

POB 850; Rocklin, CA 95677

800.553.3231

acpa@pacbell.net

theacpa.org

American Council for Headache Education

19 Mantua Road; Mt. Royal, NJ 08061

800-255-2243

achehq@talley.com

www.achenet.org

American Pain Foundation

201 North Charles Street; Suite 710; Baltimore, MD 21201-4111

888.615.7246

info@painfoundation.org

www.painfoundation.org

Cluster Headache Help

256.525.0380

bennie@chhelp.org

www.chhelp.org

The **Directory of Organizations** in the complete **Medifocus Guidebook on Cluster Headache** includes a list of selected disease organizations and support groups that are helping people diagnosed with Cluster Headache.

To Order the Complete **Guidebook on Cluster Headache** [Click Here](#)
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This document is only a SHORT PREVIEW of the **Medifocus Guidebook on Cluster Headache**. 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.

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