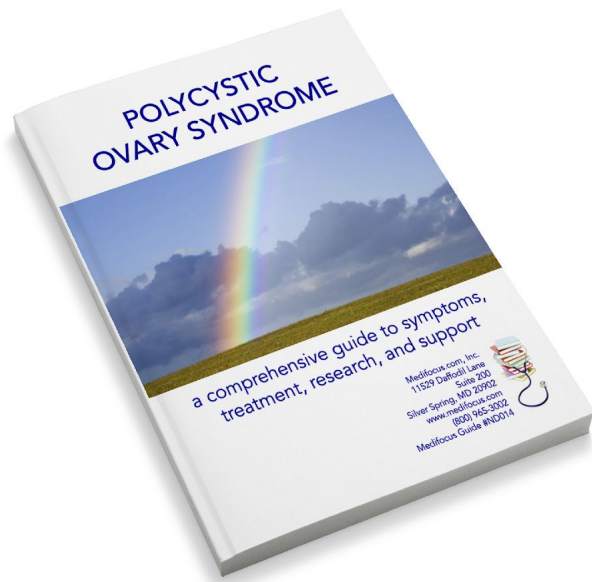


Preview of the Medifocus Guidebook on: Polycystic Ovary Syndrome

Updated June 23, 2017



This document is only a SHORT PREVIEW of the **Medifocus Guidebook on Polycystic Ovary Syndrome**. 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 Polycystic Ovary Syndrome (152 pages; Updated June 23, 2017), 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

POLYCYSTIC OVARY SYNDROME

Introduction to Polycystic Ovary Syndrome (PCOS)

Polycystic ovary syndrome (PCOS) also known as *Stein-Leventhal syndrome* or *functional ovarian hyperandrogenism*, is a complex disorder that begins during puberty and affects reproductive-age women. Polycystic ovary syndrome is characterized in most but not all cases by multiple small cysts on the ovaries caused by a hormonal imbalance as well as several additional symptoms including irregular menstrual cycles, infertility, weight gain, and prediabetes. It is related primarily to dysfunction of the *metabolic* and *endocrinologic* systems.

Metabolic Dysfunction and Polycystic Ovary Syndrome

Metabolic disorders consist of any alteration in the normal metabolism of carbohydrates, lipids, and other substances. One of the most prominent metabolic symptoms of polycystic ovary syndrome (PCOS) is *insulin resistance (IR)* which includes two conditions, hyperinsulinemia (elevated levels of insulin) and impaired glucose tolerance. The origin of most symptoms associated with PCOS is thought to be related directly or indirectly, to IR.

Insulin is a hormone that facilitates the absorption of glucose into the cells. As blood sugar (glucose) rises in the blood after a meal, the pancreas releases insulin to facilitate the absorption of glucose from the blood into the cells. In IR, the body becomes increasingly less responsive to the action of insulin. Muscle, fat, and liver cells no longer respond properly to the presence of insulin. As a result, it takes more insulin to cause cells to absorb the appropriate amount of glucose which means the pancreas has to produce additional insulin. Eventually even the overproduction of insulin may not be able to maintain the metabolism of glucose within the normal range, resulting in elevated blood glucose levels and insulin levels. High levels of insulin predispose women either directly or indirectly to polycystic ovaries.

Insulin resistance is associated with:

- Hyperinsulinemia - as the body tries to reduce the elevated blood-glucose levels, the pancreas secretes increasing amounts of insulin. Insulin-resistant persons, therefore, develop high insulin levels in relation to glucose levels. This condition is called *hyperinsulinemia*. High levels of insulin also affect many functions by causing:
 - over-stimulation of the ovaries to produce increased androgens (*hyperandrogenism*) which effects many functions, including the appearance of male-related characteristics

- (such as excess body/facial hair).
- lowering of the levels of the liver protein, *sex hormone binding globulin* (SHBG) which may exacerbate symptoms of PCOS. Circulating androgens usually bind to SHBG, which renders them inactive. Women with PCOS have reduced levels of SHBG which results in more androgen circulating freely in the blood.
- Glucose intolerance - the elevation of glucose in the blood is called *glucose intolerance* or *impaired glucose tolerance*. It results from the cells not responding to insulin which functions to facilitate the absorption of glucose into the cells. As a result, there is more circulating glucose in the blood waiting to be absorbed into the cells. The levels of blood glucose are higher than normal but not high enough to be diagnosed as diabetes, a condition known as *prediabetes*.

Insulin resistance and its repercussions are suspected to be responsible for almost all aspects of PCOS, namely the metabolic, endocrine, reproductive disorders, and long-term risk factors that are seen in many women with PCOS. However, the presence of IR is not included in the current diagnostic criteria of PCOS. Evidence indicates that IR, hyperinsulinemia, and glucose intolerance, are risk factors for type 2 diabetes.

Additional information about IR:

- Conservative estimates are that 50% of women with PCOS are insulin resistant.
- Up to 60% of obese women with PCOS have IR and hyperandrogenism.
- About 40% of non-obese women with PCOS have IR and hyperandrogenism.
- Between 20-40% of obese women with PCOS have impaired glucose tolerance.
- Some 10% of normal-weight women with PCOS have impaired glucose tolerance.

An article was published in 2004 in *Human Reproduction* (vol. 19(4):760-8) entitled "Is Insulin Resistance an Essential Component of PCOS? The Influence of Confounding Factors" in which the authors noted that while insulin resistance plays a significant role in PCOS, there are many women diagnosed with PCOS whose insulin-related values are not different than age-matched women without PCOS, particularly lean women with PCOS.

The authors suggest that the reported incidence of IR in women with PCOS varies widely in the medical literature due to (in part):

- There are differing criteria for the designation of the diagnosis for PCOS and IR among studies
- Information about ethnic backgrounds of study participants is typically omitted though it may play an important role regarding the presence of IR
- Confounding factors in women with PCOS, for example heredity (immediate family members with IR, gestational diabetes, or diabetes) and acquired characteristics (such as obesity, fat distribution, and waist circumference) are not accounted for in most study participants

Thus, while IR certainly plays a major role in many women with PCOS and the presence of IR is

important in establishing optimal long-term treatment, there is a subgroup of women with PCOS for whom the levels of insulin sensitivity are comparable to those of healthy women.

For more information about this discussion regarding IR and PCOS, please click on the following link: <http://www.ncbi.nlm.nih.gov/pubmed/15033943>

Endocrine Dysfunction and Polycystic Ovary Syndrome

Endocrine disorders affect hormone production and *homeostasis* (maintaining internal equilibrium). Endocrinologic symptoms of PCOS include hyperandrogenism (elevated levels of the male sex hormones), irregular menstruation, anovulation (lack of ovulation), infertility, and ovarian cysts.

Hyperandrogenism

Hyperandrogenism is a very common symptom of PCOS. There are three primary male sex hormones produced in women, all of which may be elevated in PCOS, namely:

- *Testosterone*, which is produced by the ovaries and adrenal glands equally
- *Androstenedione*, which is produced mostly (more than 90%) in the ovaries
- *Dehydroepiandrosterone sulfate* (DHEA-S), which is produced in the adrenal gland

Approximately 70% of women with PCOS have elevated androgen levels which cause symptoms such as hirsutism (growth of body hair), acne, and alopecia (male-pattern baldness).

Menstrual Irregularities, Anovulation, and Infertility

The menstrual cycle is controlled by several hormones. When these hormones all work in coordination, the cycle works efficiently and promotes fertility. Briefly, follicle-stimulating hormone (FSH), together with luteinizing hormone (LH) stimulates the follicles in the ovary to mature. Inside each follicle is an egg. The maturing follicles release the hormone estrogen into the blood which signals the endometrium in the uterus to thicken. At one point, there is a surge of LH which causes the most mature follicle to burst open and release the egg, at which point fertilization can take place. Other less mature follicles shrink and the process starts again with the next cycle. The release of the mature egg is called *ovulation*. In PCOS, hormonal imbalance may cause dysfunction at any stage of this process: follicles may not burst, eggs may not be released (anovulation), or excess circulating hormones may cause a host of other symptoms, including infertility.

Ovarian Cysts

Due to hormonal imbalance, the ovaries may be enlarged and may contain numerous small cysts located along the outer edge. While the presence of cysts on the ovaries does not establish the diagnosis of PCOS and indeed, cysts do not occur in every case of PCOS, they are part of a constellation of signs and symptoms that together make up polycystic ovary syndrome.

The most common symptoms that cause significant distress to women suffering from PCOS

include:

- Hyperandrogenism - related symptoms include hirsutism (up to 70% of women), acne (up to 35%), and alopecia (up to 8%)
- Menstrual irregularities (up to 90% of women by some estimates) including:
 - *amenorrhea* (absence of menses)
 - *oligomenorrhea* (absence of menses for at least three months after having experienced menses)
- Anovulatory infertility (up to 75% of women)
- Obesity (up to 70%)

Long Term Health Risks of Polycystic Ovary Syndrome

Women with polycystic ovary syndrome (PCOS) have an increased risk of developing several complications including:

- Type 2 diabetes
- Cardiovascular disease
- Metabolic syndrome
- Complications of insulin resistance
- Complications related to fertility/pregnancy
- Endometrial hyperplasia/endometrial cancer

Type 2 Diabetes Mellitus

Women with PCOS are three to six times more likely to develop type 2 diabetes in middle age than women in the general population. Studies reported that in a group of PCOS patients over the age of 30, 12% had diabetes, compared to 1.5% of the control group (women without PCOS). In the long term, diabetes is a major cause of morbidity (poor health or illness) for many women with PCOS. Approximately 3-10% of women with PCOS are reported to have undiagnosed diabetes.

It is estimated that 25-40% of obese women with PCOS develop type 2 diabetes or impaired glucose tolerance by the age of 30, and 60% of obese women with PCOS develop type 2 diabetes by the age of 50.

Cardiovascular Disease

Many women with PCOS present with cardiovascular changes that place them at high risk for cardiovascular disease. Women with PCOS have more advanced cardiovascular disease (CVD) than women with normal ovaries. Studies have suggested that women with PCOS also have a greater incidence of coronary artery calcification, which is a marker for *atherosclerosis*, than non-PCOS women. Atherosclerosis is a cardiovascular condition where fatty plaque (fat, cholesterol, calcium and other components) builds up inside the arteries. Over time, the plaque hardens and narrows the arteries, limiting the flow of blood, which can result in heart attack or stroke.

The Women's Ischemia Evaluation (WISE) study published in 2008 in the *Journal of Clinical Endocrinology and Metabolism* (vol.93(4):1276-84) reported a five-year cardiovascular event-free survival rate of 78.9% for women with PCOS vs. an 88.7% survival rate for non-PCOS women. An association was also noted between PCOS and stroke.

PCOS-related symptoms that elevate the risk for cardiovascular disease include:

- Dyslipidemia - a condition of abnormal concentrations of lipids or lipoproteins in the blood, such as elevated LDL (low-density lipoproteins), decreased HDL (high-density lipoproteins), and elevated triglycerides. Dyslipidemia is associated with insulin resistance. The prevalence of dyslipidemia in women with PCOS is reported to be approximately 70%.
- Hypertension - there is ongoing discussion regarding whether women with PCOS (particularly obese women) are at a higher risk for developing hypertension (elevated blood pressure) than age-matched women in the general population.
- Increased carotid intimal-media thickness (inner lining of the carotid artery).
- Impaired glucose tolerance - a pre-diabetic state that is associated with insulin resistance, metabolic syndrome, and increased risk of cardiovascular disease.
- Metabolic syndrome
- Dysregulation of endothelial function - dysfunction of the inner lining of the blood vessels.
- Presence of coronary artery calcification.
- Subclinical atherosclerosis - very early stage of thickening of the arterial wall with deposits of cholesterol.
- High body mass index (BMI).
- High waist:hip ratio (also called *android* or *apple* figure).
- Abnormal levels of the inflammatory marker called *C-reactive protein*, *homocysteine* which can cause damage to the lining of the arteries, and *adiponectin* which influences the body's response to insulin.
- Depression or anxiety - mood disturbances, especially severe depression, are independent risk factors for CVD and are prevalent in women with PCOS. Depressed women with PCOS have higher BMIs and greater insulin resistance, placing them at higher risk for CVD than women with PCOS who do not suffer from depression.

Metabolic Syndrome

Studies have shown that women with PCOS are at an elevated risk for developing *metabolic syndrome*, which refers to a group of conditions that appear together and are a source of morbidity and mortality. According to the American Heart Association metabolic syndrome is characterized by:

- Elevated blood glucose after fasting (greater than or equal to 100 mg/dl) indicating insulin resistance or glucose intolerance
- Abdominal adiposity - increased waist circumference (greater than 35 inches for women and 40 inches for men)
- Dyslipidemia - including low HDL (less than to equal to 50 mg/dl), and high triglycerides (greater than 150 mg/dl)
- Hypertension (blood pressure greater than or equal to 130/85 mm Hg)
- Elevated serum C-reactive protein - a marker for inflammation

- Prothrombotic state - predisposition to clot formation in blood vessels that is measured by high fibrinogen in the blood

Women with PCOS and increased abdominal adiposity are at a higher risk for type 2 diabetes, stroke, and CVD. The estimated prevalence of metabolic syndrome in women with PCOS in the U.S. is estimated to be 33-47% which is two-three times higher than in age-matched women who do not have PCOS.

Complications of Insulin Resistance

Women with PCOS are also at higher risk for developing medical conditions related to insulin resistance such as:

- Non-alcoholic fatty liver disease
- Obesity
- Obesity-related disorders such as obstructive sleep apnea syndrome
- Metabolic syndrome
- Diabetes
- Cardiovascular disease

Complications Related to Fertility

Fertility problems related to PCOS that women experience in their childbearing years include:

- Infertility
- Ovarian hyperstimulation syndrome
- Multifetal pregnancies
- Increased risk of complications during pregnancy
- Gestational diabetes
- Increased risk of hypertensive disorders related to fertility treatments

Endometrial Hyperplasia

One of the consequences of the hormonal imbalance associated with PCOS is elevated levels of estrogen. Prolonged exposure to elevated estrogen levels results in increased risk for developing endometrial hyperplasia. *Endometrial hyperplasia* (thickening of the endometrial lining) is a precancerous condition that increases the risk for developing endometrial cancer. In the course of the normal menstrual cycle, if there is no conception, the level of estrogen falls, causing the endometrium to slough off its lining in a menstrual flow. This process is crucial for the health of the endometrium, but is missing in some women with PCOS. If the estrogen levels remain high, the endometrial lining continues to thicken beyond normal limits, elevating the risk of abnormal cell development and endometrial cancer.

Other long term health risks for women with PCOS include skin disorders, mood disturbances, and depression.

The relationship, if any, between PCOS and breast cancer remains unclear, with most evidence indicating little or no association, but investigation continues.

Due to the increased risk of the significant conditions listed, it is important for women with PCOS to be followed regularly by a health professional. Yearly visits should include tests for blood sugar, insulin, cholesterol, triglycerides as well as gynecological checkups even into menopausal years.

Risk Factors for Polycystic Ovary Syndrome

Some risk factors for polycystic ovary syndrome (PCOS) that have been identified include:

- *Premature pubarche* (the appearance of pubic hair before the age of 8) - caused by early hyperandrogenism and may be a precursor to PCOS. Some girls with premature pubarche may already display mild hyperinsulinemia which may intensify significantly after the beginning of puberty and increase their risk for developing PCOS.
- *Ethnicity* - certain Native American groups have over a 20% incidence of PCOS and Latino and Greek women may have a higher incidence (approximately 9%) than Caucasians and African Americans (approximately 4%).
- *Positive family history* of any of the following:
 - diabetes
 - insulin resistance
 - hyperinsulinemia
 - irregular menses or anovulation
 - cardiovascular disease

Causes of Polycystic Ovary Syndrome

Although the exact cause of polycystic ovary syndrome (PCOS) is unclear, researchers believe that both genetic factors and insulin resistance (IR) play a role in the pathogenesis of PCOS.

Genetic Factors

Some researchers have suggested a genetic link in PCOS since it appears to be more prevalent in some families. Studies indicate that approximately 45% of siblings of women with PCOS have hyperandrogenism which increases the risk for PCOS three-fold. Other studies have found that first-degree relatives of girls with premature pubarche have higher rates of gestational diabetes, abnormal glucose tolerance, and type 2 diabetes, all of which can be related to PCOS. The possibility arises that there may be a genetic predisposition to PCOS that when combined with unknown other factors, causes the development of PCOS in some women.

Insulin Resistance

There is a hypothesis that attributes the cause of PCOS to the body's inability to process insulin (insulin resistance). Moreover, several symptoms associated with insulin resistance are also prominent in PCOS, including hyperandrogenism, obesity, distribution of body fat, *acanthosis nigricans* (dark, velvety patches of skin), cardiovascular disease, and type 2 diabetes. It is thought

that for some unknown reasons (possibly due to a genetic defect) the body does not use insulin efficiently, leading to insulin resistance and hyperinsulinemia, which increase androgen production and results in PCOS.

Incidence of Polycystic Ovary Syndrome

- Approximately 5-10% of women of childbearing age (15-45) in the U.S. have polycystic ovary syndrome (PCOS) which translates into five to seven million women.
- PCOS can occur in girls as young as 11 years old.
- PCOS is the most common hormonal disorder of reproductive age and is the most common cause of infertility.
- According to some estimates, up to 10% of women with amenorrhea and approximately 75% of women with oligomenorrhea may be diagnosed with PCOS.
- Because PCOS may present with varied and seemingly unrelated symptoms, diagnosis is often delayed or it may go undiagnosed in many women.

The **Intelligent Patient Overview** in the complete **Medifocus Guidebook on Polycystic Ovary Syndrome** also includes the following additional sections:

- **Diagnosis of Polycystic Ovary Syndrome**
- **Treatment Options for Polycystic Ovary Syndrome**
- **Psychosocial Considerations and Quality of Life Issues in Polycystic Ovary Syndrome**
- **New Developments in Polycystic Ovary Syndrome**
- **Questions to Ask Your Health Care Provider About Polycystic Ovary Syndrome**

To Order the Complete **Guidebook on Polycystic Ovary Syndrome** [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 - 47 Articles
- General Interest Articles - 46 Articles
- Drug Therapy Articles - 2 Articles
- Clinical Trials Articles - 26 Articles
- Fertility Treatment Articles - 10 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 <January 2013 to June 2017 >

Review Articles

1.

The Effect of Vitamin D Supplementation on the Androgenic Profile in Patients with Polycystic Ovary Syndrome: A Systematic Review and Meta-Analysis of Clinical Trials.

Authors: Azadi-Yazdi M; Nadjarzadeh A; Khosravi-Boroujeni H; Salehi-Abargouei A
Institution: Nutrition and Food Security Research Center, Shahid Sadoughi University of Medical Sciences, Yazd, Iran. Medical Sciences, Yazd, Iran. Queensland, Australia. Medical Sciences, Yazd, Iran.
Journal: Horm Metab Res. 2017 Mar;49(3):174-179. doi: 10.1055/s-0043-103573. Epub 2017 Mar 28.
Abstract Link: <http://www.medifocus.com/abstracts.php?gid=ND014&ID=28351084>

2.

Metformin during ovulation induction with gonadotrophins followed by timed intercourse or intrauterine insemination for subfertility associated with polycystic ovary syndrome.

Authors: Bordewijk EM; Nahuis M; Costello MF; Van der Veen F; Tso LO; Mol BW; van Wely M
Institution: University of Amsterdam, Amsterdam, Netherlands, 1105 AZ. Royal Hospital for Women and IVF Australia, Barker Street, Randwick, Sydney, Australia, NSW 2031. Amsterdam, Meibergdreef 9, Amsterdam, Netherlands, 1105 AZ. Almeida, 86 - AP. 71, Sao Paulo, Sao Paulo, Brazil, 04042-034. Institute, The University of Adelaide, Level 3, Medical School South Building, Frome Road, Adelaide, South Australia, Australia, SA 5005. Amsterdam, Meibergdreef 9, Amsterdam, Netherlands, 1105 AZ.
Journal: Cochrane Database Syst Rev. 2017 Jan 24;1:CD009090. doi: 10.1002/14651858.CD009090.pub2.
Abstract Link: <http://www.medifocus.com/abstracts.php?gid=ND014&ID=28118681>

The **Guide to the Medical Literature** in the complete **Medifocus Guidebook on Polycystic Ovary Syndrome** includes the following sections:

- Review Articles - 47 Articles
- General Interest Articles - 46 Articles
- Drug Therapy Articles - 2 Articles
- Clinical Trials Articles - 26 Articles
- Fertility Treatment Articles - 10 Articles

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

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

AL - Alabama

Name of Author

Bates GW

Institutional Affiliation

University of Alabama at Birmingham, Obstetrics and Gynecology, 10390 Women and Infants Center, Birmingham, AL 35249-7333, United States. gwbatema@pol.net

Legro RS

University of Alabama at Birmingham, Obstetrics and Gynecology, 10390 Women and Infants Center, Birmingham, AL 35249-7333, United States. gwbatema@pol.net

CA - California

Name of Author

Azziz R

Institutional Affiliation

Cedars-Sinai Medical Center, Los Angeles, CA 90048, USA. Augusta, GA 30912, USA. Electronic address: razziz@gru.edu.

Dumesic DA

Department of Obstetrics and Gynecology, David Geffen School of Medicine at UCLA, Los Angeles, CA 90095, United States. ddumesic@mednet.ucla.edu

Goodarzi MO

Cedars-Sinai Medical Center, Los Angeles, CA 90048, USA. Augusta, GA 30912, USA. Electronic address: razziz@gru.edu.

Lobo RA

Department of Obstetrics and Gynecology, David Geffen School of Medicine at UCLA, Los Angeles, CA 90095, United States. ddumesic@mednet.ucla.edu

FL - Florida

Name of Author

Bird ST

Institutional Affiliation

College of Pharmacy and Epidemiology, Pharmaceutical Outcomes & Policy, University of Florida, Newell Drive (HPNP), Gainesville, FL, USA. bird.steven@gmail.com

Delaney JA

College of Pharmacy and Epidemiology, Pharmaceutical Outcomes & Policy, University of Florida, Newell Drive (HPNP), Gainesville, FL, USA. bird.steven@gmail.com

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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 Polycystic Ovary Syndrome** 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 Association of Clinical Endocrinologists

245 Riverside Ave, Suite 200 Jacksonville, FL 32202

904.353.7878

www.aace.com

American College of Obstetricians and Gynecologists

409 12th Street, S.W.; Washington, DC 20024-2188

202.638.5577

adolhlth@acog.org

www.acog.org

American Diabetes Society

1701 N. Beauregard Street Alexandria, VA 22311

800.342.2383

www.diabetes.org

American Pregnancy Association

1425 Greenway Drive Suite 440 Irving, TX 75038

972-550-0140

info@americanpregnancy.org

www.americanpregnancy.org

American Society for Reproductive Medicine (ASRM)

1209 Montgomery Highway; Birmingham, AL 35216-2809

205.978.5000

asrm@asrm.org

www.asrm.com

Androgen Excess & PCOS Society

www.ae-society.org

Center for Polycystic Ovary Syndrome; University of Chicago Hospital

5841 S. Maryland Avenue Chicago, IL 60637

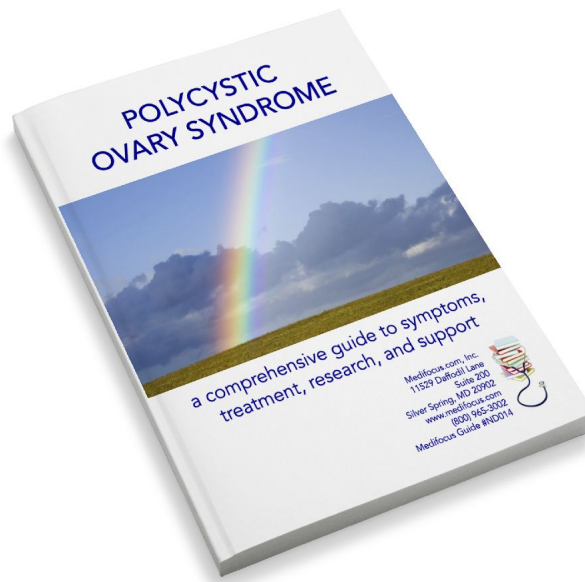
773.702.4295

pcos@medicine.bsd.uchicago.edu

centerforpcos.bsd.uchicago.edu

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

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This document is only a SHORT PREVIEW of the **Medifocus Guidebook on Polycystic Ovary Syndrome**. 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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