

QUESTION	ANSWER
<b>PCOS GENERAL RELATED TOPICS</b>	
What is PCOS?	Polycystic ovary syndrome (PCOS) is a hormonal disorder common among women and adolescents of reproductive age. Women and adolescents with PCOS may have infrequent or prolonged menstrual periods or excess male hormone (testosterone) levels. The ovaries may develop numerous fluid filled cysts and may fail to regularly release eggs.
<b>SIGNS &amp; SYMPTOMS RELATED TOPICS</b>	
What are PCOS signs and symptoms?	<ul style="list-style-type: none"> <li>• Amenorrhoea (missed periods) or irregular periods</li> <li>• Unwanted hair growth or male pattern hair growth(excessive facial hair)</li> <li>• Thinning hair on the head</li> <li>• Acne</li> <li>• Infertility</li> <li>• Weight gain</li> <li>• Can be associated with many non-specific symptoms such as : Fatigue, Sleep apnea, Sleep problems, Depression, Mood changes</li> </ul>
<b>DIAGNOSIS RELATED TOPICS</b>	
How is PCOS diagnosed?	<p>There's no test to definitively diagnose PCOS. It is diagnosed using a cluster of symptoms including menstrual dysfunction, signs of or blood excess testosterone and/or polycystic ovaries. Your doctor is likely to start with a discussion of your medical history, including your menstrual cycle and body weight changes. A physical exam will include checking for signs of excess male hormone testosterone such excess hair growth and acne.</p> <p>Your doctor might then recommend:</p> <ul style="list-style-type: none"> <li>• <b>Blood tests.</b> Your blood may be analyzed to measure hormone levels. This testing can exclude possible causes of menstrual abnormalities or testosterone excess that mimics PCOS. You might have additional blood testing to measure glucose, insulin, cholesterol and triglyceride levels.</li> <li>• <b>An ultrasound.</b> Your doctor checks the appearance of your ovaries and the thickness of the lining of your uterus. A wand-like device (transducer) is placed in your vagina (transvaginal ultrasound). The transducer emits sound waves that are translated into images on a computer screen.</li> </ul>
<b>CAUSES RELATED TOPICS</b>	
What causes PCOS?	<p>The exact cause of PCOS is unknown. Factors that might play a role include:</p> <ul style="list-style-type: none"> <li>• Excess androgen or testosterone: the ovaries may produce abnormally high levels of testosterone (male hormone), resulting in hirsutism (excessive facial hair) and acne.</li> <li>• Heredity: Research suggests that PCOS is heritable and certain genes might be linked to PCOS.</li> </ul>

	<ul style="list-style-type: none"> <li>• Excess insulin: Insulin is the hormone produced in the pancreas that allows cells to use glucose, the body's primary energy supply. If cells become resistant to the action of insulin, then blood sugar levels can rise and the body might produce more insulin to compensate. This can lead to pre-diabetes and diabetes. Insulin also increases body fat storage and may effect testosterone production by the ovaries.</li> <li>• Low-grade inflammation: Research has shown that women with PCOS may have low-grade inflammation that can contribute to heart and blood vessel disease.</li> </ul>
<b>PREVENTION RELATED TOPICS</b>	
Can PCOS be prevented or cured?	PCOS cannot be totally prevented or cured as it is a multifactorial disease. But early diagnosis and management of the reproductive, hormonal and metabolic symptoms may prevent long-term complications, such as infertility, pre-diabetes, obesity, diabetes, and heart disease.
<b>FISH OIL RELATED TOPICS</b>	
What brand of fish oil and how much should be taken to lower blood triglycerides?	Fish oil may help reduce blood fats or triglycerides which are a risk factor in heart disease. Fish oil contains long chain lipids or fatty acids (EPA and DHA) that help to lower blood triglycerides. The dose used in studies that lower blood triglycerides includes approximately 2.5 g EPA and 1.6 g DHA/day. This dose equals about 6g/day of fish oil and will depend on the concentration of these fatty acids in a fish oil natural health product. Webber/ Equate/NutraSea are brands that we have used in clinical studies in PCOS.
Is there a vegan alternative to fish oil?	There are algae sources of these long chain fatty acids. There is limited scientific literature on the effectiveness of these sources at the dose needed to reduce blood triglycerides.
<b>OTHER NEUTRACEUTICAL/NATURAL REMEDIES RELATED TOPICS</b>	
Other natural treatment options for PCOS?	The use of natural treatments depends on the symptoms and these treatments may have limited in scientific evidence for their use.
Does metformin cause Vitamin B12 deficiency?	There are mixed reports of metformin inducing B12 deficiency in those with and without diabetes. It may depend on the individual, dietary intake, other autoimmune disease and other factors.
<b>WEIGHT, FOOD, NUTRITION RELATED TOPICS</b>	
It has been suggested that PCOS sufferers should try gluten and dairy free diets?	The use of these dietary interventions depend on the individual. For example if the individual has a dairy or gluten allergy.
What types of strategies around weight-loss have been helpful in PCOS patients?	Weight loss of 5-10% has shown improvements in some PCOS symptoms including menstrual function, hormones and blood fats and glucose in some individuals. Strategies that include caloric restriction, healthful and mindful eating habits, physical exercise and consultation with a dietitian and lifestyle counsellor are effective. These strategies work even more effectively in combination with medications for treatment of PCOS including metformin, liraglutide and others.
Would the KETO diet be healthy for someone with PCOS?	A KETO diet may restrict carbohydrates and increase energy from fat. There are many types of KETO diets and KETO diets need to be

	implemented under the supervision of a dietitian to ensure nutritional adequacy and healthful use of this dietary approach. KETO diet can increase triglyceride/fat in blood.
Does losing weight solve all health related issues with PCOS. Do we address the symptoms or body weight or the root problem?	Losing body weight if you are overweight or obese will help with metabolic, hormonal and reproductive function in some but not all women with PCOS. It does depend on the individual and the root cause of their PCOS. Multiple approaches to address symptoms and altered metabolism are required.
I eat healthy and exercise daily and my symptoms have improved with no weight loss.	This is a common observation made in PCOS. Women with PCOS are resistant to losing fat mass due to higher hormone levels of testosterone and insulin. No change in body weight may also mean a shift to higher lean-muscle mass and less fat mass. Consulting with a dietitian may help address your specific diet and exercise needs in changing your body composition.
Normal weight individuals have PCOS so it is not just about body weight?	PCOS occurs in normal healthy weight and overweight individuals. The of PCOS may be different in a normal weight vs an overweight individual. For example in a normal weight individual the ovary may overproduce testosterone whereas in an overweight individual with high insulin, the high insulin may drive increased production of ovarian testosterone.
How can I find a registered dietitian that specializes in PCOS?	A Registered Dietitian does not have to specialize in PCOS. A dietitian can give you guidance with designing a personalized diet-lifestyle intervention that meets your nutritional needs and food preferences, and personal health goals. Your family physician can refer you to a registered dietician through a primary care network.
<b>PRESCRIPTION RELATED TOPICS</b>	
What medications do PCOS patients normally take?	<ul style="list-style-type: none"> <li>• Oral Contraceptive Pills to regularize menstruation. Estrogen in these pills also helps to reduce hair growth.</li> <li>• Anti-androgens to target excess testosterone symptoms including menstrual-ovarian dysfunction, excessive hair growth and acne may include Spironolactone</li> <li>• Control blood sugar and prevent diabetes: Prescription to help control blood sugar levels and prevent diabetes can include Metformin and Liraglutide</li> </ul>
Can Metformin be taken long term and is there any side effects?	Metformin is generally well tolerated for extended periods and is used in the prevention of diabetes. Common side effects initially include diarrhea, nausea and abdominal pain. Take metformin with food-drink to help with the taste and swallowing the tablet.
Can you take fish oil with metformin in one tablet?	Metformin and fish oil are not available in one tablet. These can be taken together with food-drink.
What about the use of inositol and the 40:1 ratio of myo-inositol and D-chiro inositol.	There is limited rigorous scientific evidence for the use of inositols in PCOS. However there are reports of effects on improving menstrual cyclicity-ovarian function and hormone levels. Inositol is not approved in Canada for use in PCOS.
<b>TESTS AND BLOOD WORK RELATED TOPICS</b>	

Does a homocysteine test help?	Homocysteine is one biomarker and can be used collectively with other biomarker tests for heart and vascular disease risk. It is not used in the clinical setting in patients with PCOS.
<b>GP DOCTOR RELATED TOPICS</b>	
Is it best to start with a family doctor to diagnose PCOS?	Yes, see your family physician first and they can refer you to an endocrinologist, gynaecologist or other health professional as needed.
What questions can one ask a family physician to test for heart disease, heart function, blood vessels, blood fats and proteins markers?	Routine blood tests include testosterone, SHBG, prolactin, thyroid function, kidney and liver function, estrogen, LH, FSH, blood fats (cholesterol, LDL-C, HDL-C and triglycerides), insulin and glucose/Oral Glucose Tolerance Test. ApoB can also be tested. Blood pressure is routinely measured. Other cardiovascular risk biomarkers such as ApoB and cholesterol remnants, and heart and blood vessel function are currently not routinely measured. These may only tested in research studies (PCOS Together) and if there is symptoms, evidence or family history of altered function that may need to be investigated.
<b>SPECIALIST RELATED TOPICS</b>	
Is it important to be under the care of a specialist, such as an endocrinologist?	PCOS patients are often are referred to one and/or both of the following depending on health care needs and symptoms; <ol style="list-style-type: none"> <li>1. Endocrinologist: Specializes in the function and disorders of the endocrine system of the body.</li> <li>2. Gynecologist: Specializes in the health of the female reproductive system.</li> </ol>
Should PCOS women actually be treated by an endocrinologist or gynecologist?	If in doubt you can always ask your GP for a referral to a specialist depending on your health concerns.
Is a partial hysterectomy a treatment-therapy for PCOS?	This may depend on the severity of your PCOS symptoms and ovary-uterus health. Referral to an endocrinologist or gynecologist or fertility specialist may be necessary.
<b>PCOS TOGETHER RELATED TOPICS</b>	
How do I see my results from being in a PCOS Together study.	Go to: <a href="https://myhealth.alberta.ca/myhealthrecords">https://myhealth.alberta.ca/myhealthrecords</a> to access all your results. Your doctor or our study endocrinologist can also access your results to discuss them with you as needed. If results require medical attention you would be contacted by one of our study clinicians: endocrinologist, cardiologist.
How do I take part in research studies in PCOS Together?	Yes, please visit our website <a href="https://pcos.together.ualberta.ca/">https://pcos.together.ualberta.ca/</a>
<p style="text-align: center;"><b>If you have any other questions, please get in touch with us at <a href="mailto:PCOS.Together@ualberta.ca">PCOS.Together@ualberta.ca</a></b></p>	