



### Elevated Blood Pressure

<b>DEFINITION</b>	For female and male clients, providers should screen for hypertension in accordance with the USPSTF’s recommendation that blood pressure be measured routinely among adults and the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure’s recommendation that persons with blood pressure less than 120/80 be screened every 2 years, and every year if pre-hypertensive according to nationally recognized standards of care. Elevation of blood pressure while using estrogen-containing (COC) contraceptives may be related to the effects of estrogen or it may be due to other reasons. A clinically significant increase in blood pressure is seen in about 41.5 cases per 10,000 users of low-dose OCs. The risk may increase with duration of use. In these settings, estrogen must be discontinued because of the increased risk of stroke. COC-induced blood pressure changes are reversible but may persist for 3-6 months after COC discontinuation. Past hormonal contraceptive use and duration of use are not associated with high blood pressure in postmenopausal women.
<b>SUBJECTIVE</b>	<p>May include:</p> <ol style="list-style-type: none"> <li>1. No symptoms</li> <li>2. C/O new onset headaches, nosebleed, blurred vision, dizziness, tinnitus, chest pain, shortness of breath, nausea, edema and/or anxiety</li> <li>3. Past history of:             <ol style="list-style-type: none"> <li>a. Elevated blood pressure</li> <li>b. Cardiac or renal disease</li> <li>c. Obesity, diabetes, and hypercholesterolemia</li> <li>d. Oral contraceptive use</li> <li>e. Gestational hypertension</li> </ol> </li> <li>4. Medication history of (especially those which can elevate blood pressure):             <ol style="list-style-type: none"> <li>a. Oral contraceptives</li> <li>b. Steroids</li> <li>c. Nonsteroidal anti-inflammatory drugs (NSAIDS)</li> <li>d. Decongestants</li> <li>e. Appetite suppressants</li> <li>f. Tricyclic antidepressants</li> <li>g. Cocaine</li> <li>h. Amphetamines</li> </ol> </li> <li>5. Family history of hypertension, stroke, premature cardiovascular disease, and/or diabetes</li> <li>6. Use of nicotine products, alcohol, caffeine, drug misuse and recreational drugs</li> <li>7. Foods that may increase BP (black licorice), high sodium intake</li> <li>8. Recent psychosocial or environmental stresses</li> <li>9. Over the counter supplements</li> </ol>
<b>OBJECTIVE</b>	<p>Should include:</p> <ol style="list-style-type: none"> <li>1. Blood pressure, New categories for hypertension screening include:             <ol style="list-style-type: none"> <li>a. Normal &lt;120 mm Hg and &lt;80 mm Hg</li> <li>b. Elevated 120–129 mm Hg and &lt;80 mm Hg</li> <li>c. Hypertension</li> <li>d. Stage 1 130–139 mm Hg or 80–89 mm Hg</li> <li>e. Stage 2 ≥140 mm Hg or ≥90 mm Hg</li> <li>f. Hypertensive crisis &gt;180 mm Hg and/or &gt;120 mm Hg</li> </ol> </li> <li>2. Blood pressure BPs greater than or equal to 140/90 verified on 3 occasions, at least one week apart, with no nicotine, caffeine or other stimulants used for 30 minutes prior to measurement (unless initial measurement greater to or equal to systolic greater than 180 and diastolic greater than 120 which would prompt more immediate action).</li> </ol>



	<ol style="list-style-type: none"><li>3. Height, weight &amp; BMI</li><li>4. Documentation of correct size blood pressure cuff</li></ol> <p>May include:</p> <ol style="list-style-type: none"><li>1. Physical exam to assess for signs of hypertension such as thyroid enlargement, jugular vein distention, carotid bruits, tachycardia, murmurs, arrhythmia, extremity edema, and/or absence of peripheral pulses</li></ol> <p>Must exclude:</p> <ol style="list-style-type: none"><li>1. Any focal weakness or paresthesia</li><li>2. Any other signs of stroke</li></ol>
<b>LABORATORY</b>	<p>May include:</p> <ol style="list-style-type: none"><li>1. Urinalysis for protein.</li></ol>
<b>ASSESSMENT</b>	Elevated blood pressure - prehypertension
<b>PLAN</b>	<ol style="list-style-type: none"><li>1. If patient is currently symptomatic (severe headache, chest pain, or blurred vision) or BP greater than or equal to 180/120, refer to ER. In female patients using COC, advise her to immediately discontinue estrogen-containing contraceptives. Provide alternative method of birth control that does not contain estrogen. Progestin-only pills may be a good choice.</li><li>2. If asymptomatic patient is already under treatment and usually has controlled hypertension, verify that medications have been taken today.</li><li>3. If taking oral contraceptives:<ol style="list-style-type: none"><li>a. Mild increases in blood pressure may be treated initially by switching to a combined contraceptive with lower progestin or estrogen activity. Should allow three months for return to normal BP. If elevated BP continues combined method should be stopped.</li><li>b. If blood pressure is greater than 159/99 (either systolic or diastolic), Discontinue estrogen-containing contraceptives immediately and offer effective methods without estrogen. Recommend recheck blood pressure 3 times within 48-72 hours. If all repeat BP measurements are less than 140/90, offer patient opportunity to continue estrogen-containing contraceptives and repeat BP every month for 2 months. If BP remains elevated, consult with MD and/or refer for evaluation of hypertension.</li><li>c. Discontinue combined contraceptives at the end of the present cycle if blood pressure is less than 150/100 mm Hg. but greater than 140/90 mm Hg. Recheck blood pressure 1-4 weeks after discontinuing oral contraceptives.</li><li>d. Provide with an interim contraception. Progestin only methods or non-hormonal method preferred.</li><li>e. Antihypertensive medications along with use of combined contraceptives might result in unpredictable change of blood pressure if either is discontinued.</li></ol></li><li>4. For COC, POP, LARC, or non-hormonal contraceptives (See U.S. Medical Eligibility Criteria for Contraceptive USE, 2016)</li><li>5. Antihypertensive medication as indicated (Monitor B/P carefully, if not consistent in taking prescribed medication, may become ineligible for COC use). Medication may be indicated with lower blood pressures of 130/80 if 10-year CVD risk is greater or equal to 10% according to the American Heart Association and American College of Cardiology.</li><li>6. Lifestyle modifications outlined below should be discussed with any elevation in blood pressure.</li></ol>
<b>CLIENT EDUCATION</b>	<ol style="list-style-type: none"><li>1. Provide client with education on ways to lower blood pressure and review possible causes for hypertension to include but not limited to:<ol style="list-style-type: none"><li>a. Weight loss to include low calorie diet and moderate exercise plan 150min/week.</li><li>b. Reduce sodium through no salt added to food, avoidance of high sodium drinks and heavily processed foods; recommend DASH diet</li></ol></li></ol>



	<ul style="list-style-type: none"> <li>c. Decrease alcohol consumption and/or avoidance of stimulant drugs. Limit to one alcoholic beverage per day in women and 2 per day in men. Refer for drug/alcohol evaluation as needed.</li> <li>d. Cessation of tobacco products</li> <li>e. Stress reduction techniques</li> </ul> <ul style="list-style-type: none"> <li>2. Discuss client's concerns regarding findings.</li> <li>3. Recommend client RTC for recheck B/P as indicated, annually or PRN for problems.</li> </ul>
<b>CONSULT/ REFER TO PHYSICIAN</b>	<ul style="list-style-type: none"> <li>1. As needed for evaluation and treatment</li> <li>2. For additional lab work up as needed</li> <li>3. If secondary cause of hypertension is suspected and/or if organ damage is suspected.</li> <li>4. Immediate referral for hypertensive emergency (Blood pressure 180/120 or symptomatic)</li> </ul>

**References:**

1. Centers for Disease Control and Prevention. US Medical Eligibility Criteria for Contraceptive Use. MMWR 2016;65(3):1-104. [www.cdc.gov/reproductivehealth/unintendedpregnancy/USMEC.htm](http://www.cdc.gov/reproductivehealth/unintendedpregnancy/USMEC.htm) (Retrieved 4/2/2020)
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3. Hatcher RA, Nelson A, Trussell J, Cwiak C, Cason P, Policar MS, Edelman A, Aiken ARA, Marrazzo J, Kowel D, eds. Contraceptive Technology. 21 edition. New York, NY: Ayer Company Publishers, Inc., 2018. pp. 279, 280 (t), 284-285.
5. <http://www.acc.org/latest-in-cardiology/articles/2017/11/08/11/47/mon-5pm-bp-guideline-aha-2017> (Retrieved 4/2/2020)
6. [https://professional.heart.org/professional/ScienceNews/UCM\\_496965\\_2017-Hypertension-Clinical-Guidelines.jsp](https://professional.heart.org/professional/ScienceNews/UCM_496965_2017-Hypertension-Clinical-Guidelines.jsp) (Retrieved 4/2/2020)