



EvidenceNOW

# ABCS Aspirin Therapy

This factsheet summarizes the current main evidence-based guideline recommendations for using aspirin for secondary prevention of cardiovascular disease in adults.

For more information on EvidenceNOW and the ABCS of heart health, visit [www.ahrq.gov/EvidenceNOW](http://www.ahrq.gov/EvidenceNOW)

## Recommendations for secondary prevention of cardiovascular disease with antiplatelet agents or anticoagulants<sup>1</sup>

### CLASS I ► TREATMENT SHOULD BE ADMINISTERED

- All patients with coronary artery disease  
Start and continue aspirin 75-162 mg daily unless contraindicated. *(Level of Evidence: A)*
  - Clopidogrel 75 mg daily is recommended as an alternative for patients who are intolerant of or allergic to aspirin. *(Level of Evidence: B)*
- Patients after ACS or PCI with stent placement  
Treat with a P2Y12 receptor antagonist in combination with aspirin. *(Level of Evidence: A)*
  - For patients receiving a bare-metal stent or drug-eluting stent during PCI for ACS, prescribe clopidogrel 75 mg daily, prasugrel 10 mg daily, or ticagrelor 90 mg twice daily for at least 12 months. *(Level of Evidence: A)*
- Patients undergoing coronary artery bypass grafting  
Start aspirin within 6 hours after surgery to reduce saphenous vein graft closure. Dosing regimens ranging from 100 to 325 mg daily for 1 year appear to be efficacious. *(Level of Evidence: A)*
- Patients with extracranial carotid or vertebral atherosclerosis who have had ischemic stroke or TIA  
Start and continue treatment with aspirin alone (75-325 mg daily), clopidogrel alone (75 mg daily), or the combination of aspirin plus extended -release dipyridamole (25 mg and 200 mg twice daily, respectively). *(Level of Evidence: A)*
- Patients with symptomatic atherosclerotic peripheral artery disease of the lower extremity  
Start and continue antiplatelet therapy with aspirin (75-325 mg daily) or clopidogrel (75 mg daily). *(Level of Evidence: A)*
- Patients with atherosclerosis  
Antiplatelet therapy is recommended in preference to anticoagulant therapy with warfarin or other vitamin K antagonists. *(Level of Evidence: A)*
  - Administer warfarin if there is a compelling indication for anticoagulant therapy, such as atrial fibrillation, prosthetic heart valve, left ventricular thrombus, or concomitant venous thromboembolic disease. *(Level of Evidence: A)*  
NOTE: Patients receiving low-dose aspirin for atherosclerosis should continue to receive it.
  - Administer warfarin therapy to achieve the recommended INR for the specific condition. *(Level of Evidence: B)*
  - Closely monitor use of warfarin in conjunction with aspirin and/or clopidogrel because it is associated with increased risk of bleeding. *(Level of Evidence: A)*

### CLASS IIA ► IT IS REASONABLE TO ADMINISTER TREATMENT

- After stent implantation  
If the risk of morbidity from bleeding outweighs the anticipated benefit afforded by thienopyridine therapy, earlier discontinuation (eg, <12 months) is reasonable. *(Level of Evidence: C)*
  - NOTE: the risk for serious cardiovascular events because of early discontinuation of thienopyridines is greater for patients with drug-eluting stents than those with bare-metal stents.
- After percutaneous coronary intervention  
It is reasonable to use 81 mg of aspirin per day in preference to higher maintenance doses. *(Level of Evidence: B)*
- For patients undergoing coronary artery bypass grafting  
Clopidogrel (75 mg daily) is a reasonable alternative in patients who are intolerant of, or allergic to, aspirin. *(Level of Evidence: C)*

### CLASS IIB ► TREATMENT MAY BE CONSIDERED

- Patients with asymptomatic peripheral artery disease of the lower extremities  
The benefits of aspirin are not well established. *(Level of Evidence: B)*
- Patients with stable coronary artery disease  
Combination therapy with both aspirin 75 to 162 mg daily and clopidogrel 75 mg daily may be considered. *(Level of Evidence: B)*

## Evidence and Class Definitions

	CLASS I	CLASS IIA	CLASS IIB	CLASS III No Benefit CLASS III Harm
	Procedure/ Treatment <b>IS RECOMMENDED</b>	Procedure/Treatment <b>IS REASONABLE</b> <i>Additional studies with focused objectives needed</i>	Procedure/Treatment <b>MAY BE CONSIDERED</b> <i>Additional studies with broad objectives needed; additional registry data would be helpful</i>	<b>COR III No Benefit Procedure/Test NOT HELPFUL Treatment NO PROVEN BENEFIT</b> <b>COR III Harm Procedure/Test EXCESS COST W/O BENEFIT Treatment HARMFUL TO PATIENTS</b>
<b>EVIDENCE LEVEL A</b> Multiple populations evaluated* Data derived from multiple randomized clinical trials or meta-analyses	Recommendation that procedure or treatment is useful/effective Sufficient evidence from multiple randomized trials or meta-analyses	Recommendation in favor of treatment or procedure being useful/effective Some conflicting evidence from multiple randomized trials or meta-analyses	Recommendation's usefulness/efficacy less well established Greater conflicting evidence from multiple randomized trials or meta-analyses	Recommendation that procedure or treatment is not useful/effective and may be harmful Sufficient evidence from multiple randomized trials or meta-analyses
<b>EVIDENCE LEVEL B</b> Limited populations evaluated* Data derived from a single randomized trial or nonrandomized studies	Recommendation that procedure or treatment is useful/effective Evidence from single randomized trial or nonrandomized studies	Recommendation in favor of treatment or procedure being useful/effective Some conflicting evidence from single randomized trial or nonrandomized studies	Recommendation's usefulness/efficacy less well established Greater conflicting evidence from single randomized trial or nonrandomized studies	Recommendation that procedure or treatment is not useful/effective and may be harmful Evidence from single randomized trial or nonrandomized studies
<b>EVIDENCE LEVEL C</b> Very limited populations evaluated*	Recommendation that procedure or treatment is useful/effective Only expert opinions, case studies, or standard of care	Recommendation in favor of treatment of procedure being useful/effective Only diverging expert opinion, case studies, or standard of care	Recommendation's usefulness/efficacy less well established Only diverging expert opinion, case studies, or standard of care	Recommendation that procedure or treatment is not useful/effective and may be harmful Only expert opinion, case studies, or standard of care
<b>Suggested phrases for writing recommendations</b>	should be recommended is indicated is useful/effective/beneficial	is reasonable can be useful/effective/beneficial is probably recommended or indicated	may/might be considered may/might be reasonable usefulness/effectiveness is unknown/unclear/uncertain or not well established	<b>COR III No Benefit</b> is not recommended is not indicated should not be performed/administered/other is not useful/beneficial/effective
<b>Comparative effectiveness phrases<sup>1</sup></b>	treatment/strategy A is recommended/indicated in preference to treatment B treatment A should be chosen over treatment B	treatment/strategy A is probably recommended/indicated in preference to treatment B it is reasonable to choose treatment A over treatment B		<b>COR III Harm</b> potentially harmful causes harm associated with excess morbidity/mortality should not be performed/administered/other

1. Source: American Heart Association. AHA/ACC secondary prevention and risk reduction therapy for patients with coronary and other atherosclerotic vascular disease: 2011 update – a guideline from the American Heart Association and American College of Cardiology Foundation. *Circulation* 2011;124:2458-2473; originally published online November 3, 2011. <http://circ.ahajournals.org/content/124/22/2458.full.pdf>. Accessed December 16, 2015.



EvidenceNOW

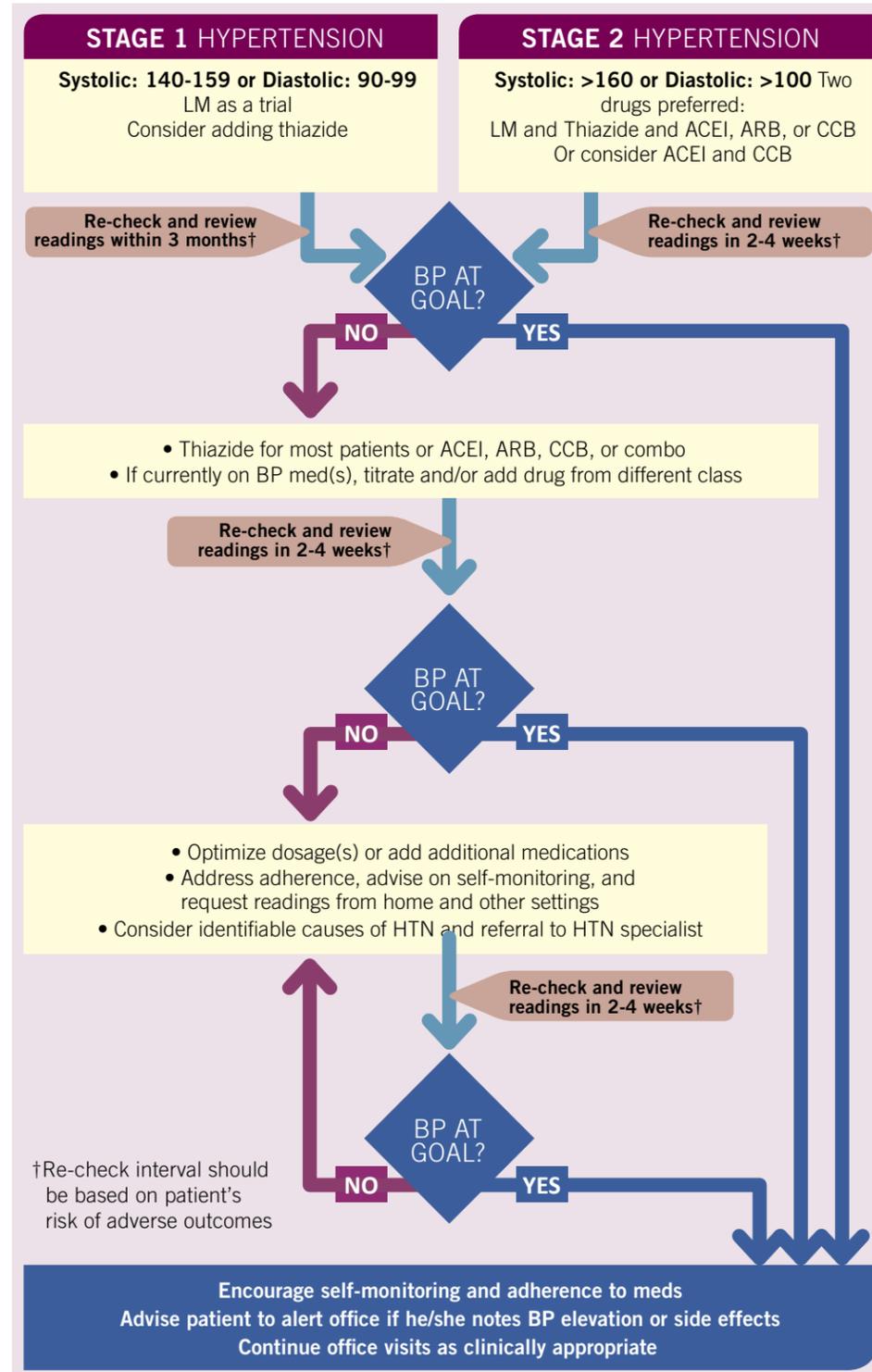
# ABCS Blood Pressure Control

1. Centers for Disease Control and Prevention. Protocol for controlling hypertension in adults. Centers for Disease Control and Prevention, 2013. <http://millionhearts.hhs.gov/Docs/Hypertension-Protocol.pdf>. Accessed December 16, 2015.  
National Heart, Lung and Blood Institute, National Institutes of Health. The Seventh Report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure – Complete Report. National Heart, Lung, and Blood Institute, National Institutes of Health; NIH Publication No. 04-5230. 2004. <http://www.nhlbi.nih.gov/files/docs/guidelines/jnc7full.pdf>  
<http://www.nhlbi.nih.gov/files/docs/guidelines/express.pdf>  
Accessed December 16, 2015.

For more information on EvidenceNOW and the ABCS of heart health, visit [www.ahrq.gov/EvidenceNOW](http://www.ahrq.gov/EvidenceNOW)

This factsheet summarizes the current main evidence-based guideline recommendations for controlling hypertension in adults.

### Protocol for Controlling Hypertension in Adults<sup>1</sup>



**Medications to consider for patients with hypertension and certain medical conditions**  
**Coronary artery disease/Post MI:** BB, ACEI • **Heart failure with reduced EF:** ACEI or ARB, BB (approved for this use), ALDO, diuretic • **Heart failure with preserved EF:** ACEI or ARB, BB (approved for this use), diuretic • **Diabetes:** ACEI or ARB, diuretic, BB, CCB  
**Kidney disease:** ACEI or ARB • **Stroke or TIA:** diuretic, ACEI

### Classification and Management of Blood Pressure for Adults\*

BP Classification	SBP* mmHg	DBP* mmHg	Lifestyle Modification	Initial Drug Therapy	
				With Compelling Indication	Without Compelling Indication
Normal	<120	and <80	Encourage	No antihypertensive drug indicated.	Drug(s) for compelling indications‡
Prehypertension	120-139	or 80-89	Yes	No antihypertensive drug indicated.	Drug(s) for compelling indications‡
Stage 1 Hypertension	140-159	or 90-99	Yes	Thiazide-type diuretics for most. May consider ACEI, ARB, BB, CCB or combination.	Drug(s) for compelling indications‡. Other antihypertensive drugs (diuretics, ACEI, ARB, BB, CCB) as needed.
Stage 2 Hypertension	≥160	or ≥100	Yes	Two-drug combination for most†(usually thiazide-type diuretic and ACEI or ARB or BB or CCB).	Drug(s) for compelling indications‡. Other antihypertensive drugs (diuretics, ACEI, ARB, BB, CCB) as needed.

DBP, diastolic blood pressure; SBP, systolic blood pressure.

Drug abbreviations: ACEI, angiotensin converting enzyme inhibitor; ARB, angiotensin receptor blocker; BB, beta-blocker; CCB, calcium channel blocker.

\* Treatment determined by highest BP category.

† Initial combined therapy should be used cautiously in those at risk for orthostatic hypotension.

‡ Treat patients with chronic kidney disease or diabetes to BP goal of <130/80 mmHg.

### Lifestyle Modifications

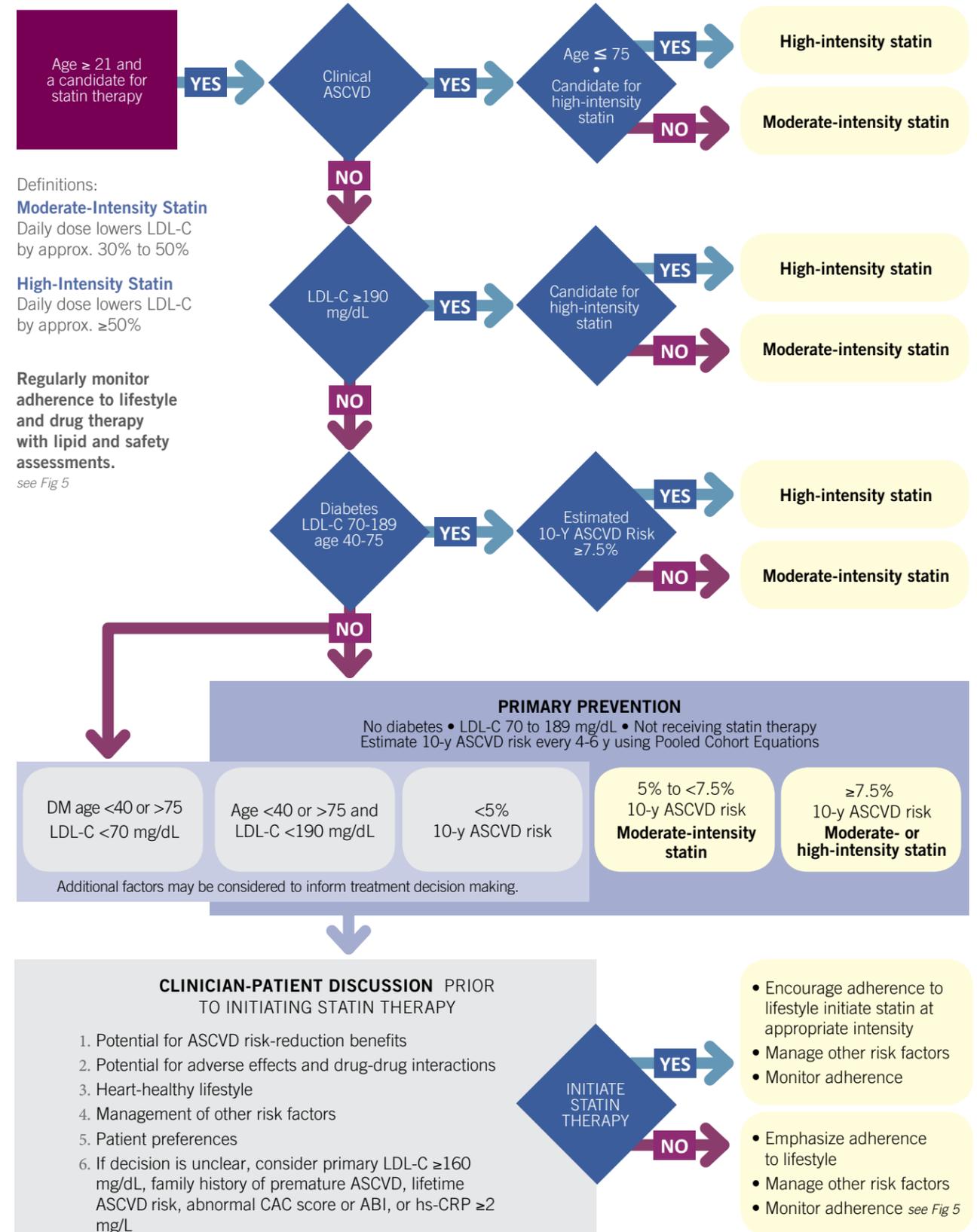
Modification	Recommendation	Approximate SBP* Reduction (Range)†
Weight reduction	Maintain normal body weight (body mass index 18.5-24.9 kg/m <sup>2</sup> )	5-20 mm Hg/10kg
Adopt DASH‡ eating plan	Consume a diet rich in fruits, vegetables, and lowfat dairy products with a reduced content of saturated and total fat	8-14 mm Hg
Dietary sodium reduction	Reduce dietary sodium intake to no more than 100 mmol per day (2.4 g sodium or 6 g sodium chloride)	2-8 mm Hg
Physical activity	Engage in regular aerobic physical activity such as brisk walking (at least 30 min per day, most days of the week which may be broken into shorter time intervals such as 10 minutes each of moderate or vigorous effort)	4-9 mm Hg
Moderation of alcohol consumption	Limit consumption to no more than 2 drinks (e.g. 24 oz beer, 10 oz wine, or 3 oz. 80-proof whiskey) per day in most men, and to no more than 1 drink per day in women and lighter weight persons	2-4 mm Hg

\*SBP = systolic blood pressure

†The effects of implementing these modifications are dose and time dependent, and could be greater for some individuals

‡DASH – Dietary Approaches to Stop Hypertension

## Protocol for Treating High Blood Cholesterol in Adults



Definitions:  
**Moderate-Intensity Statin**  
 Daily dose lowers LDL-C by approx. 30% to 50%  
**High-Intensity Statin**  
 Daily dose lowers LDL-C by approx.  $\geq 50\%$   
 Regularly monitor adherence to lifestyle and drug therapy with lipid and safety assessments.  
*see Fig 5*

This factsheet summarizes the current main evidence-based guideline recommendations for using statins to treat high blood cholesterol in adults.

For more information on EvidenceNOW and the ABCS of heart health, visit [www.ahrq.gov/EvidenceNOW](http://www.ahrq.gov/EvidenceNOW)



EvidenceNOW

# ABCs Smoking Cessation

This factsheet summarizes the current main evidence-based guideline recommendations on behavioral and pharmacotherapy interventions for tobacco smoking cessation in adults, including pregnant women.

## Summary of U.S. Preventive Services Task Force Recommendation Statement on Behavioral and Pharmacotherapy Interventions for Smoking Cessation in Adults

Population	Pharmacotherapy	Behavioral Interventions	Balance of Benefits & Harms
Nonpregnant adults age ≥18 y	<p><b>Provide pharmacotherapy and behavioral interventions for cessation.</b> <b>Grade: A</b></p> <p>Pharmacotherapy interventions, including nicotine replacement therapy (NRT), bupropion sustained release (SR), and varenicline—with or without behavioral counseling interventions—substantially improve achievement of tobacco cessation.</p>	<p><b>Provide behavioral interventions for cessation.</b> <b>Grade: A</b></p> <p>Behavioral interventions alone (in-person behavioral support and counseling, telephone counseling, and self-help materials) or combined with pharmacotherapy substantially improve achievement of tobacco cessation.</p>	<p>The USPSTF concludes with high certainty that the net benefit of behavioral interventions and FDA-approved pharmacotherapy for tobacco cessation, alone or in combination, is substantial.</p>
Pregnant women age ≥18 y	<p><b>No recommendation on pharmacotherapy interventions.</b> <b>I Statement</b></p> <p>There is inadequate or no evidence on the benefits of NRT, bupropion SR, or varenicline to achieve tobacco cessation in pregnant women or improve perinatal outcomes in infants.</p>	<p><b>Provide behavioral interventions for cessation.</b> <b>Grade: A</b></p> <p>Behavioral interventions substantially improve achievement of tobacco smoking abstinence, increase infant birthweight, and reduce risk for preterm birth.</p>	<p>The USPSTF concludes with high certainty that the net benefit of behavioral interventions for tobacco cessation on perinatal outcomes and smoking abstinence is substantial.</p> <p>The USPSTF concludes that the evidence on pharmacotherapy interventions for tobacco cessation is insufficient because of a lack of studies, and the balance of benefits and harms cannot be determined.</p>

Source: U.S. Preventive Services Task Force. Clinical Summary: Tobacco Smoking Cessation in Adults, Including Pregnant Women: Behavioral and Pharmacotherapy Interventions. U.S. Preventive Services Task Force, September 2015. <http://www.uspreventiveservicestaskforce.org/Page/Document/ClinicalSummaryFinal/tobacco-use-in-adults-and-pregnant-women-counseling-and-interventions1>. Accessed December 16, 2015

Disclaimer: Recommendations made by the USPSTF are independent of the U.S. government. They should not be construed as an official position of the Agency for Healthcare Research and Quality or the U.S. Department of Health and Human Services.

For more information on EvidenceNOW and the ABCs of heart health, visit [www.ahrq.gov/EvidenceNOW](http://www.ahrq.gov/EvidenceNOW)