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Appendix A

Checklist for Smoking Cessation (*check the ones you will be trying!*):

- Quitline (1-800-QUIT-NOW)
 - Call the free Quitline 1-800-QUIT-NOW to be connected to a quitline coach.
 - ENROLLMENT: 5-10 minutes - super easy! They will ask about your goals and go over the different treatment options. Then they will transfer you to a quit coach
 - QUIT COACH: First session- will form a treatment plan, a targeted quit date, and connect you to additional resources.
- Visit www.smokefree.gov
 - Can connect to additional resources, provide information, and options
- Mobile phone application
 - Develop a strategy, get daily reinforcement, track progress, set goals and customize a plan
 - Examples: Computer assisted Education system (CO-ED), Smart Quit, SmokeFree28, REQ-Mobile, ACT-based cessation App, QuitNow, Smoke Free, SmokeFree, Quit Tracker, EasyQuit, Quit Genius
- Counseling
 - Smoking cessation counseling is extremely effective at improving cessation rates and also helps to manage withdrawal symptoms and cravings
 - Usually covered by insurance plans with no cost-sharing for several visits
 - Your orthopedic surgeon may help provide referrals. Can also use Quitline 1-800-QUIT-NOW to connect to free resources, reach out to primary care physician, or contact your insurance provider for cessation counselors in-network
- Medication(s)
 - Demonstrated to reduce withdrawal symptoms and alleviate urge to smoke
 - Usually covered by insurance plans with no cost-sharing for first round
 - Coordinate with your orthopedic surgeon, who may offer referrals to a psychiatrist, primary care physician, or addiction specialist for further management.
- Support Groups
 - In-person (group sessions) and online (Facebook, etc.) support programs are available and may help!
- Set a Targeted Quit Date.
 - Forming a cohesive plan with a targeted quit date is one of the most important steps to successful quit attempts. Be sure to discuss it with your doctor.

- QUIT DATE: _____

RELEVANCE: Your doctor will review why quitting is personally relevant to you.

RISK: Summarize the risks to your personal health associated with smoking.

REWARD: There are many rewards to quitting smoking (health, social, economic, etc.).

ROADBLOCKS: Quitting can be difficult- you should review your barriers to success.

REPETITION: Most smokers require multiple quit attempts before they are successful. Do not get discouraged!
Chance of success can be highly increased by seeking formal treatment.

Smoking and Orthopaedic Injuries

Why does smoking matter for orthopaedic injuries?

Cigarette smoke contains hundreds of toxic chemicals that negatively affect your ability to heal from bone and joint injuries. Smokers have an increased risk of wound problems, poor fracture healing, infection, and other complications compared to former smokers or nonsmokers. Smoking also might thicken your blood, which makes it difficult to pass through into narrow blood vessels to provide your tissues with the nutrients and oxygen they need to heal.

Will quitting now really make a difference?

In short, yes! Quitting smoking has been shown to improve orthopedic outcomes across many body parts including the spine, arms, hands, hips, legs, feet, and others. Quitting just 4 weeks before surgery is associated with a higher chance of success. Former smokers have shown improved healing, lower chance of infection, and lower chance of complications than current smokers. In some studies, people who smoke have even been shown to have increased pain after surgery when compared with people who do not.

I have tried to quit in the past and struggled. How will this time be any different?

Most people attempt to quit multiple times before they are successful. Studies have repeatedly shown that patients have a much higher chance of success at quitting if they are helped by their doctor and other professionals (rather than just doing it “on your own”). Medical professionals can coordinate a treatment plan with medications, counseling, and additional resources that have been shown to double or triple your chances of success.

How can I quit? What options do I have?

Ask your orthopedic doctor to help you form a treatment plan. They may refer to your primary care physician, a counselor, a psychiatrist, or quitline services. Several tobacco cessation treatments are covered by your insurance plan (including private insurance, Medicare, and Medicaid), with no cost-sharing to you. These are all designed to increase your chance of success. You can also call 1-800-QUIT-NOW or go to www.smokefree.gov, to get connected with a free “quit coach”, who is professionally trained to help you through this process. They will let you know of the resources available in your area.

This handout is intended for educational purposes only and is not a substitute for appropriate medical care. The content here is provided by the Journal of Bone & Joint Surgery as supplemental information. Please contact your doctor with any questions or concerns.

Appendix B. Psychosocial interventions for treatment of nicotine dependence.

	Typical Patient	Treatment Premise	Therapy Goals
Cognitive-Behavioral Therapy (CBT)	Those seeking to quit	CBT: Problems are based on disorder of thought and learned patterns of behavior	Realign maladaptive thoughts and behaviors to promote nicotine abstinence and manage withdrawal
Behavioral Therapy (BT)	Those seeking to quit	Subset of CBT: Focus more on learned patterns of behavior than on cognitive processes	Realign maladaptive learned patterns of behavior to promote nicotine abstinence and manage withdrawal
Acceptance and Commitment Therapy (ACT)	Those seeking to quit	Subset of CBT: Focus on recognition of physical and emotional experiences and articulation of personal values	Acceptance of physical sensations, emotions, and thoughts followed by commitment to articulating important values to motivate nicotine abstinence
Incentive-Based Interventions (IBI)	Those seeking to quit who may benefit from external motivators	Contingency Management: Use of tangible rewards (cash, gift cards) as external motivation for desired intervention which may normally provide primarily longer-term benefits	Increase compliance with treatment and maintenance of abstinence by providing additional short-term benefits to encourage behavior change
Motivational Interviewing	Those ambivalent or currently uninterested in cessation	Intervention to observe then guide behavior based on personal values in order to inspire attitude and behavior changes	Resolve ambivalence about smoking cessation; promote participation in treatment.

Appendix C. Pharmacological Interventions for Smoking Cessation with FDA Approval (Drug Information Table).

	<u>Nicotine-free medications</u>		<u>Nicotine Replacement Therapy</u>				
	Varenicline	Bupropion SR	Gum*	Lozenge*	Transdermal Patch*	Nasal Spray*	Oral Inhaler*
Brand(s)	Chantix (Rx) 0.5-mg, 1-mg tablet	Zyban, Wellbutrin, Elontril, Generic (Rx) 150-mg sustained- release tablet	Nicorette, ZONNIC, Generic (OTC) 2 mg, 4 mg	Nicorette, Nicorette Mini, Generic (OTC) 2 mg, 4 mg	NicoDerm CQ, Generic (OTC/Rx) 7 mg, 14 mg, 21 mg (24-hr release)	Nicotrol NSc (Rx) Metered Spray 10 mg/ml	Nicotrol Inhaler (Rx) 10-mg cartridge with 4- mg inhaled

Standard Dosage	<p>Day 1: 0.5mg Day 4: 0.5mg bid Day 7: 1 mg bid</p> <p>Quit Day 7</p> <p>Continue for 12 weeks (up to 24 especially if doing gradual reduction instead for first 12 weeks)</p>	<p>Day 1: 150mg Day 4: 150mg bid</p> <p>If 150mg bid is not tolerated, reduce to once daily</p> <p>Quit Day 7</p> <p>Continue for 7-12 weeks (up to 6 months in resistant cases)</p>	<p>Weeks 1-6: 1 piece every 1-2hrs</p> <p>Weeks 7-9: 1 piece every 2-4hrs</p> <p>Weeks 10-12: 1 piece every 4-8hrs</p>	<p>Heavy (Light) smokers: one 4mg (2mg) lozenge</p> <p>Weeks 1-6: 1 per every 1–2hrs</p> <p>Weeks 7-9: 1x/2–4hrs</p> <p>Weeks 10-12: 1x/4–8hrs</p> <p>Max. 20/day</p> <p>Quit Day 1</p>	<p>Heavy smokers:</p> <p>Weeks 1-6: 21mg</p> <p>Weeks 7-8: 14mg</p> <p>Weeks 9-10: 7mg</p> <p>Light smokers:</p> <p>Weeks 1-6: 14mg</p> <p>Weeks 7-8: 7mg</p> <p>One patch daily</p> <p>Start night before quit date</p>	<p>1-2 sprays/hr as needed</p> <p>Maximum 40/day</p> <p>Wean as tolerated</p>	<p>6 to 16 cartridges/day as needed</p> <p>Wean as tolerated</p>
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Benefits	Simple oral dosing	Simple oral dosing	Mimics oral nature of cigarettes	Mimics oral nature of cigarettes	Simple oral dosing	Variable dosing may mitigate withdrawal symptoms or urges	Mimics oral nature of cigarettes
	High efficacy	May inhibit weight gain	May inhibit weight gain	May inhibit weight gain	Use can be concealed; may not be visible to others	Can be combined with other cessation medications**	Variable dosing may mitigate withdrawal symptoms or urges
	Can be combined with other cessation medications***	May provide anti-depressive advantages	Variable dosing may mitigate withdrawal symptoms or urges	Variable dosing may mitigate withdrawal symptoms or urges	Can be combined with other cessation medications**	Can be combined with other cessation medications**	Can be combined with other cessation medications**
		Can be combined with other cessation medications**	Can be combined with other cessation medications*	Can be combined with other cessation medications*			
			*	*			

Cautions/Risk Factors	Kidney dysfunction	Avoid with comorbid elevated seizure risk	Recent heart attack				
	Discontinue with development of psychiatric symptoms (depression, anxiety, hostility, mania, suicidal ideation, psychosis, etc.)	Liver dysfunction	Heart arrhythmias				
	Pregnancy/breastfeeding mothers	Discontinue with development of psychiatric symptoms (depression, anxiety, hostility, mania, suicidal ideation, psychosis, etc.)	Serious chest pain or coronary heart disease				
	Children <18 years old	Anorexia nervosa or bulimia	Children <18 years old	Children <18 years old	Pregnancy/breastfeeding	Pregnancy/breastfeeding	Pregnancy/breastfeeding
			Temporomandibular Joint Dysfunction	Temporomandibular Joint Dysfunction	Children <18 years old	Children <18 years old	Children <18 years old
					Nasal disease or dysfunction	Bronchospastic disease	
					Airway disease or dysfunction		

		Recent cessation of alcohol consumption					
		Concurrent monoamine oxidase inhibitor medication					
		Pregnancy/breastfeeding					
		Children <18 years old					

Drug Interactions	Cimetidine	Aripiprazole	Aripiprazole	Aripiprazole	Aripiprazole	Aripiprazole	Aripiprazole	
	Dolutegravir	Amphetamine / Dextroamphetamine						
	Ethanol				Ethanol	Ethanol	Ethanol	
	Lamotrigine	Aspirin	Ethanol	Ethanol	Diphenhydramine	Diphenhydramine	Diphenhydramine	
	Ranolazine	Duloxetine	Diphenhydramine	Diphenhydramine	Duloxetine	Duloxetine	Duloxetine	
	Vandetanib	Fish Oil	Duloxetine	Duloxetine	Fish Oil	Fish Oil	Fish Oil	
	Also: Nicotine (coordinate with PCP or specialist for combination drug therapy)	Escitalopram	Pregabalin	Fish Oil	Fish Oil	Clonazepam	Clonazepam	Clonazepam
		Metoprolol	Metoprolol	Clonazepam	Clonazepam	Lamotrigine	Lamotrigine	Lamotrigine
		Esomeprazole	Esomeprazole	Lamotrigine	Lamotrigine	Escitalopram	Escitalopram	Escitalopram
		Acetaminophen / hydrocodone	Acetaminophen / hydrocodone	Escitalopram	Escitalopram	Pregabalin	Pregabalin	Pregabalin
		Albuterol	Albuterol	Pregabalin	Pregabalin	Fluoxetine	Fluoxetine	Fluoxetine
		Levothyroxine	Levothyroxine	Fluoxetine	Fluoxetine	Quetiapine	Quetiapine	Quetiapine
		Vitamin B12	Vitamin B12	Quetiapine	Quetiapine	Tiotropium	Tiotropium	Tiotropium
		Vitamin C	Vitamin C	Tiotropium	Tiotropium	Acetaminophen	Acetaminophen	Acetaminophen
		Vitamin D2	Vitamin D2	Acetaminophen	Acetaminophen	Vitamin B12	Vitamin B12	Vitamin B12
		Vitamin D3	Vitamin D3	Vitamin B12	Vitamin B12	Vitamin C	Vitamin C	Vitamin C
	Lisdexamfetamine	Lisdexamfetamine	Vitamin C	Vitamin C	Vitamin D3	Vitamin D3	Vitamin D3	

		Alprazolam Cetirizine	Vitamin D3 Lisdexamfetamine Alprazolam Sertraline	Vitamin D3 Lisdexamfetamine Alprazolam Sertraline	Lisdexamfetamine Alprazolam Sertraline	Lisdexamfetamine Alprazolam Sertraline	Lisdexamfetamine Alprazolam Sertraline
FDA Approval	2006	1997	1984, 1996 (OTC)	2002, 2009 (mini)	1992, 2002 (OTC)	1996	1997
<p>*Contains nicotine</p> <p>**Combination drug therapy, usually initiated after failure of monotherapy, is available and in some studies has been more effective than monotherapy, including varenicline+bupropion (generally favorable support), varenicline+NRT (generally favorable), bupropion+NRT (mixed), and dual NRT (generally favorable). Due to additional challenges with management it is recommended to refer to PCP or specialist for combination therapy.</p> <p>BID: twice daily, OTC: Over the Counter, Rx: Prescription, SR: Sustained Release</p>							