Cigarette Smoking

Cigarette smoking is <u>the most important cause of preventable morbidity and early mortality</u>. In 2000, there were an estimated <u>4.8 million premature deaths in the world attributable to smoking</u>, 2.4 million in developing countries and 2 million in industrialized countries. More than three-quarters

- 5 (3.8 million) of these deaths were in men. The leading causes of death from smoking were cardiovascular diseases, <u>chronic obstructive pulmonary disease</u> (COPD), and lung cancer. Yet there is continued use of cigarettes, cigars and smokeless tobacco (chewing tobacco and snuff), particularly among young people. Tobacco dependence may *have* a genetic component. And nicotine is highly addictive, it raises brain levels of dopamine, and produces withdrawal symptoms on discontinuation.
 - Smokers *have* twice the risk of fatal heart disease, 10 times the risk of lung cancer, and several times the risk of cancers of the mouth, throat, esophagus, pancreas, kidney, bladder, and cervix; a twofold to threefold higher incidence of stroke and peptic ulcers (which heal less well than in nonsmokers); a twofold to fourfold greater risk of fractures of the hip, wrist, and vertebrae; four
- 15 times the risk of invasive pneumococcal disease; and a twofold increase in cataracts. Both active smoking and passive smoking *have* been associated with deterioration of the elastic properties of the aorta (increasing the risk of aortic aneurysm) and with <u>progression of carotid artery</u> <u>atherosclerosis</u>. Smoking *has* also been associated with increased risks of leukemia, of colon and prostate cancers, of breast cancer among postmenopausal women, osteoporosis, and Alzheimer's
- 20 disease. In cancers of the head and neck, lung, esophagus, and bladder, smoking is linked to mutations of the P53 gene, <u>the most common genetic change in human cancer</u>. <u>Patients with head and neck cancer who continue to smoke during radiation therapy *have* lower rates of response than those who do not smoke. Olfaction and taste are impaired in smokers, and facial wrinkles are increased. Heavy smokers *have* a 2.5 greater risk of <u>age-related macular degeneration</u>. Smokers die</u>
- 25 5–8 years earlier than never-smokers. The children of smokers *have* lower birth weights, are more likely to be mentally retarded, *have* more frequent respiratory infections and less efficient pulmonary function, *have* a higher incidence of chronic ear infections than children of nonsmokers, and are more likely to become smokers themselves.
- 30 **In addition**, exposure to environmental tobacco smoke *has* been shown to increase the risk of cervical cancer, lung cancer, invasive pneumococcal disease, and heart disease; to promote endothelial damage and platelet aggregation; and to increase <u>urinary excretion of tobacco-specific</u> <u>lung carcinogens</u>. The incidence of breast cancer may be increased as well.
- Smoking cessation lessens the risks of death and of myocardial infarction in people with coronary artery disease; reduces the rate of death and acute myocardial infarction in <u>patients who *have*</u> undergone percutaneous coronary revascularization; lessens the risk of stroke; slows <u>the rate of progression of carotid atherosclerosis</u>; and is associated with improvement of COPD symptoms. On average, women smokers who quit smoking by age 35 add about 3 years to their life expectancy, and men add more than 2 years to theirs. Smoking cessation can increase life expectancy even for
- 40 those who stop after the age of 65. Pharmacotherapy to reduce cigarette consumption is ineffective in smokers who are unwilling or not ready to quit. **Conversely**, <u>all patients trying to quit</u> should be offered pharmacotherapy except those with medical contraindications, women who are pregnant or breast-feeding, and adolescents. The sustained-release antidepressant drug bupropion is an effective smoking cessation agent and is
- 45 associated with minimal weight gain. It acts by boosting <u>brain levels of dopamine and</u> <u>norepinephrine</u>, mimicking the effect of nicotine. Bupropion, either alone or in combination with a nicotine patch, *has* been shown to produce <u>significantly higher abstinence rates</u> than a nicotine patch alone or placebo.
- Clinicians should not show disapproval of <u>patients who *have* not stopped smoking</u> or who are not ready to make a quit attempt. <u>Thoughtful advice that emphasizes the benefits of cessation and</u> <u>recognizes common barriers to success</u> can increase motivation to quit and quit rates.