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Course Title: Cardiovascular effects from Secondhand Smoke

Summary

01: Data suggest that exposure to secondhand smoke can result in _____ in nonsmoking adults.
(A): heart disease
(B): ovarian cancer
(C): leukemia
(D): none of the above

02: In response to CDC's request, IOM convened an 11-member committee that included experts in which of the following specialty areas?
(A): secondhand-smoke exposure
(B): pharmacology and pathophysiology of secondhand smoke
(C): clinical cardiology, epidemiology & statistics
(D): all of the above

03: The results of both case–control and cohort studies carried out in multiple populations consistently indicate that exposure to secondhand
smoke increases the risk of coronary heart disease by about 25–30%.
(A): True
(B): False

04: Data from epidemiologic studies with quantitative exposure
assessment and animal studies demonstrate a _____.
(A): therapeutic index
(B): lethal dose chart
(C): dose–response relationship
(D): none of the above

05: Which of the following non-smoking factors can lead to coronary heart diseases?
(A): individual lifestyle factors
(B): community factors
(C): societal factors
(D): all of the above

06: As in the case of longer-term cardiovascular effects, experimental data have demonstrated that an association between secondhand-smoke exposure and acute coronary events is biologically **not** plausible.
(A): True
(B): False

07: There is sufficient evidence from studies to infer that acute exposure to secondhand smoke at concentrations relevant to population exposures can cause which of the following?
(A): endothelial dysfunction
(B): increase in thrombosis
(C): adverse effects on plaque stability
(D): all of the above

08: Which of the following studies support an inference of a causal relationship between exposure to secondhand smoke and acute coronary events?
(A): epidemiologic studies
(B): experimental studies
(C): particulate matter(PM)studies
(D): all of the above

09: All the studies showed a decrease in the rate of heart attacks (acute MIs) after implementation of smoking bans.
(A): True
(B): False

10: The results of a number of meta-analyses of the epidemiologic studies showed increases of _____% in the risk of cardiovascular disease caused by various secondhand-smoke exposures.
(A): 5-10
(B): 25–30
(C): 50-67
(D): 70-88

11: There is no direct evidence that a relatively brief exposure to secondhand smoke can precipitate an acute coronary event.
(A): True
(B): False

12: The key intervention studies that have evaluated the effects of _____ consistently have shown a decreased risk of heart attack.
(A): nicotine patches
(B): primary smoke inhalation
(C): indoor smoking bans
(D): none of the above

13: The committee identified which of the following gaps in the United States for improving and understanding of the effect of indoor-air policies on acute coronary events?
(A): lack of a system for surveillance of the prevalence of cardiovascular disease
(B): lack of monitoring system for incidence of acute coronary events
(C): lack of cardiovascular resuscitation equipment
(D): both A and B

Chapter 1
14: The secondhand smoke is also known as _____.
(A): environmental tobacco smoke
(B): primary smoke
(C): cancer smoke
(D): none of the above

15: The secondhand smoke is a complex mixture of gases and particles that includes which of the following?
(A): smoke from burning cigarettes
(B): smoke from burning cigars and pipe tobacco
(C): exhaled mainstream smoke
(D): all of the above

16: According to the National Toxicology Program, sidestream smoke and mainstream smoke contain "at least _____ chemicals known to be toxic or carcinogenic."
(A): 2
(B): 20
(C): 25
(D): 250

17: In _____, the U.S. Office of the Surgeon General released its first statement on the public-health hazard to people suffering from coronary heart disease posed by secondhand smoke in The Health Consequences of Smoking.
(A): 1960
(B): 1972
(C): 1980
(D): 1990

18: Smoking cessation has been associated with reduced risk of coronary heart disease.
(A): True
(B): False

19: On the basis of a systematic review of 20 cohort studies, it was estimated that there was a _____ reduction in mortality in patients with coronary heart disease who quit smoking compared with those who continued smoking.
(A): 5%
(B): 18%
(C): 36%
(D): 78%

20: According to the Third National Health and Nutrition Examination Survey (NHANES III), about ____ of nonsmoking children and 37% of nonsmoking adults are exposed to secondhand smoke in the United States.
(A): 10%
(B): 20%
(C): 43%
(D): 80%

21: _____is an acute myocardial infarction, including both "ST elevation myocardial infarction" (STEMI) and "non-ST elevation myocardial infarction" (NSTEMI).
(A): Acute coronary event
(B): Alzheimer
(C): Parkinson's diseases
(D): Dementia

22: Which of the following is a legal mandate that prohibits use of lit tobacco products in designated public or private places?
(A): designated smoking area
(B): smoking ban
(C): smoking restriction
(D): none of the above

23: _____ is a legal mandate that limits the use of lit tobacco products to specified areas in designated public or private places (such as office buildings).
(A): Smoking ban

(B): Primary smoke
(C): Cancer smoke
(D): Smoking restriction

24: Which of the following is an important consideration in evaluating the effects of secondhand smoke?
(A): magnitude of exposure
(B): how exposure can be measured
(C): how exposure changes with the implementation of smoking bans
(D): all of the above

25: Cigarette smoke is a complex aerosol[2] consisting of thousands of chemicals.
(A): True
(B): False

Chapter 2
26: The gas phase of secondhand smoke is consists of which of the following?
(A): air
(B): carbon dioxide and carbon monoxide
(C): many other chemicals including nicotine
(D): all of the above

27: Which of the following are considered as sidestream smoke?
(A): smoke from burning cigarettes
(B): smoke from burning cigars
(C): smoke from burning pipe tobacco
(D): all of the above

28: About _____ of secondhand smoke is composed of sidestream smoke emerging from the burning tip of the cigarette and the remainder is exhaled in mainstream smoke.
(A): 10%
(B): 20%
(C): 43%
(D): 85%

29: Tobacco smoke is a complex mixture of thousands of compounds.
(A): True
(B): False

30: What is the average amount (per cigarette) of carbon monoxide present in secondhand smoke?
(A): 1,000µg
(B): 2,000µg
(C): 20,000µg
(D): 90,000µg

31: What is the average amount (per cigarette) of nicotine present in secondhand smoke?
(A): 1,650µg
(B): 5,000µg
(C): 7,000µg
(D): 9,000µg

32: Nicotine and its metabolite cotinine have been widely used as tracers of secondhand

smoke.
(A): True
(B): False

33: Ambient nicotine can be measured accurately and sensitively, and cotinine can be measured in which of the following?
(A): saliva
(B): blood
(C): urine
(D): all of the above

34: Which of the following is a highly volatile gas in secondhand smoke that does not deposit on surfaces?
(A): benzene
(B): butadiene
(C): oxygen
(D): both A and B

35: Which of the following toxicants are peculiar to tobacco smoke and are known to have adverse health effects?
(A): nicotine
(B): nicotine-derived nitrosamine (NNK)
(C): oxygen
(D): A and B only

36: Nicotine is present in substantial concentrations in all tobacco products.
(A): True
(B): False

37: What is the average half-life of cotinine in plasma?
(A): 30 minutes
(B): 2 hours
(C): 16 hours
(D): 24 days

38: Which of the following factors may influence nicotine metabolism?
(A): genetic variation, race or sex
(B): use of oral contraceptives or other estrogen-containing hormones
(C): renal failure, and use of various medications
(D): all of the above

39: Because of smoking restrictions and bans in the United States in workplaces, restaurants, and other public places there is _____ decrease in serum cotinine concentrations in last 14 years.
(A): 10%
(B): 70%
(C): 90%
(D): 100%

40: According to the study _____ had the lowest cotinine concentrations initially from the secondhand smoke exposure.
(A): white-collar workers
(B): farm workers

(C): blue-collar workers
(D): service-industry workers

41: Data from three countries demonstrated that smoking bans in restaurants led to greater than 90% reductions in _____.
(A): airborne nicotine
(B): oxygen
(C): carbon dioxide
(D): nitrogen

42: In the absence of smoke-free policies, nicotine concentrations in offices can be very low.
(A): True
(B): False

Chapter 3
43: Cigarette smoke, either mainstream or secondhand smoke, could produce cardiovascular disease by a number of interrelated modes of which of the following actions?
(A): oxidative stress and hyperlipidemia
(B): hemodyamic and autonomic effects
(C): endothelial dysfunction, thrombosis and inflammation
(D): all of the above

44: Which of the following is subacute and chronic effect of secondhand smoke?
(A): vasoconstriction
(B): inflammation
(C): decrease heart rate
(D): none of the above

45: Cigarette smoke could affect the cardiovascular system through the _____, associated hemodynamic effects, or both.
(A): lymphatic system
(B): digestive system
(C): autonomic nervous system
(D): reproductive system

46: Heart rate is regulated by the interaction between the _____ and parasympathetic nervous systems.
(A): lymphatic
(B): digestive
(C): sympathetic
(D): reproductive

47: Smoking can have direct effects on _____, and those effects are thought to be mediated by actions on the sympathetic component of the autonomic nervous system.
(A): heart rate
(B): liver
(C): kidneys
(D): prostate

48: Nicotine acts as a sympathomimetic drug in increasing which of the following?
(A): heart rate and blood pressure

(B): cardiac contractility
(C): constriction of some blood vessels
(D): all of the above

49: In people with coronary arterial disease, nicotine and cigarette smoke decrease _____.
(A): coronary blood flow (CBF)
(B): inflammation
(C): cancer risk
(D): asthma risk

50: Cigarette smoking is a strong risk factor for _____ vasospasm and for inadequacy of response to vasodilator medication.
(A): renal
(B): coronary
(C): hepatic
(D): cerebral

51: Endothelial dysfunction caused by cigarette smoke is one of the key early steps in the pathway to _____.
(A): diabetes
(B): prostate problems
(C): atherosclerosis
(D): none of the above

52: A _____ exposure to secondhand smoke in a smoking room significantly reduced the coronary flow-velocity reserve in nonsmokers to a level similar to that seen in smokers before and after exposure to secondhand smoke.
(A): 3 sec
(B): 30 hours
(C): 2 hours
(D): 30 min

53: According to the study, _____ interact with subendothelial connective tissue, and damage endothelial cells also play a role in plaque formation due to secondhand smoke exposure.
(A): platelets
(B): bone marrow
(C): insulin
(D): calcium

54: _____ are cell derivatives that circulate in the blood and play a role in clot formation.
(A): thrombocytes
(B): erythrocytes
(C): leukocytes
(D): none of the above

55: Coagulation of platelets increases thrombus formation that is responsible for which of the following?
(A): disrupting the coronary artery lining
(B): speeding progression of atherosclerotic lesions
(C): increasing risk of ischemic heart disease

(D): all of the above

56: The acute cardiovascular effects of cigarette smoke result to a substantial degree from thrombosis-related events.
(A): True
(B): False

57: Smoking is associated with which of the following?
(A): higher polymorphonuclear (PMN) leukocyte counts
(B): C-reactive protein (CRP)
(C): fibrinogen and other inflammatory markers
(D): all of the above

58: Cigarette-smoking is associated with low high-density lipoprotein cholesterol (HDL-C), which is a risk factor for _____.
(A): renal failure
(B): atherogenesis
(C): diabetes
(D): none of the above

59: Smoking is believed to exert effects on lipids, at least in part, by the sympathomimetic effects of _____.
(A): nicotine
(B): oxygen
(C): insulin
(D): calcium

60: Which of the following constituents of cigarette smoke has higher cardiovascular toxicity?
(A): Acetaldehyde
(B): Acetic acid
(C): Nicotine
(D): Nitrogen oxides

61: Which of the following constituents of cigarette smoke has lower cardiovascular toxicity?
(A): Acetaldehyde
(B): Crotonaldehyde
(C): Cadmium
(D): Lead

62: The lead in cigarette smoke is a risk factor for which of the following?
(A): renal failure
(B): hypertension
(C): insulin resistance
(D): thrombosis

63: _____ is a reactive component of the vapor phase of secondhand smoke and linked to cardiovascular diseases.
(A): Butadiene
(B): Nitrogen
(C): Oxygen
(D): none of the above

64: Sidestream tobacco smoke contains traces of metals including which of the following?
(A): cadmium
(B): chromium
(C): lead and nickel
(D): all of the above

65: Cadmium has been reported to be highly toxic to _____.
(A): cardiovascular tissue
(B): bones
(C): erythrocytes
(D): none of the above

66: Nicotine in amounts delivered in cigarette smoke acts as a sympathomimetic drug in increasing which of the following?
(A): heart rate and blood pressure
(B): cardiac contractility
(C): constriction of some blood vessels
(D): all of the above

67: Indoor particles due to secondhand smoke have been categorized as respirable, or "fine" particles that can be inhaled into the _____ and pose health concerns.
(A): lungs
(B): bones
(C): throat
(D): cardiovascular tissue

68: Acute cardiovascular effects of_____ in low concentrations are mild, and most data indicate that concentrations present in secondhand smoke do not affect cardiovascular function in healthy young adults.
(A): carbon Monoxide
(B): nicotine
(C): lead
(D): cadmium

69: The pathophysiology of induction of cardiovascular disease by cigarette smoking is complex and undoubtedly involves multiple chemical agents that are present in tobacco smoke.
(A): True
(B): False

70: Overall, data on the pathophysiology of secondhand smoke exposure in humans, animals, and cells are consistent with a role as a potential causative trigger for _____.
(A): renal failure
(B): acute coronary events
(C): brain tumors
(D): none of the above

Chapter 4
71: Extensive analyses of large cohorts show that the major risk factors for heart disease are which of the following?
(A): smoking and diabetes
(B): total cholesterol concentration

(C): hypertension
(D): all of the above

72: Which of the following are additional risk factors for cardiovascular disease?
(A): obesity
(B): family history of heart disease at an early age
(C): left ventricular hypertrophy and C-reactive protein (CRP)
(D): all of the above

73: The INTERHEART study examined the relationship between secondhand smoke exposure and acute_____.
(A): renal failure
(B): prostate cancer
(C): myocardial infarction (MI)
(D): none of the above

74: The results of case–control and cohort studies carried out in multiple populations consistently indicate exposure to secondhand smoke poses about a _____ increase in risk of coronary heart disease.
(A): 1-5%
(B): 5-7%
(C): 25–30%
(D): 60-70%

75: The excess risk is unlikely to be explained by misclassification bias, uncontrolled confounding effects, or publication bias.
(A): True
(B): False

Chapter 5
76: The first law in the United States requiring the labeling of cigarette packages with health warnings was passed in _____.
(A): 1955
(B): 1965
(C): 1975
(D): 1985

77: The 1969 Public Health Cigarette Smoking Act banned cigarette advertising on _____.
(A): television
(B): radio
(C): internet
(D): A and B only

78: In which of the following year, a congressionally mandated smoking ban took an effect on all domestic airline flights of 6 hours or less?
(A): 1970
(B): 1980
(C): 1990
(D): 2000

79: In 1993, which of the following city passed a ban on smoking in all restaurants?
(A): Los Angeles

(B): Dallas
(C): New York city
(D): Las Vegas

80: In 1997, president _____ signs an executive order establishing a smoke-free environment for federal employees and all members of the public visiting federally owned facilities.
(A): Kennedy
(B): Bush
(C): Clinton
(D): Obama

81: EPA concluded that environmental tobacco smoke (ETS) is "a human lung carcinogen, responsible for approximately 3,000 _____deaths annually in U.S. nonsmokers."
(A): kidney cancer
(B): lung cancer
(C): breast cancer
(D): thyroid cancer

82: The growing global support for reducing tobacco use and secondhand smoke exposure is evident from the _____ Framework Convention on Tobacco Control.
(A): World Health Organization (WHO)
(B): EPA
(C): NASA
(D): CDC

83: According to WHO report on the Global Tobacco Epidemic, 2008—The MPOWER Package, more than 8 million people a year will die from tobacco use by year _____.
(A): 2020
(B): 2025
(C): 2030
(D): 2070

84: All the epidemiologic studies being reviewed should be evaluated in light of the amount of contextual data that are taken into account, including measurements both before and after bans and measurements comparing locales with and without bans.
(A): True
(B): False

Chapter 6
85: Which of the following are addressed from key studies by the committee in this article?
(A): The association between secondhand-smoke exposure and acute coronary events
(B): The association between smoking bans and acute coronary events
(C): Diabetes and life styles
(D): A and B only

86: _____enacted and enforced legislation requiring smoke free workplaces and public places for the period June 5–December 3, 2002.
(A): Dallas, Texas
(B): Helena, Montana
(C): Las Vegas, Nevada
(D): Tampa, Florida

87: The study was done on the effect of the smoking-ban legislation on _____ for acute myocardial infarction (MI) in Helena, Montana.
(A): hospital admissions
(B): lung cancer
(C): diabetes outcomes
(D): asthma cases

88: On January 10, 2005, _____ implemented a nationwide smoking ban in all indoor public places, including offices, retail shops, cafés, bars, restaurants, and discotheques.
(A): India
(B): Greece
(C): Italy
(D): China

89: The city of Pueblo, Colorado, implemented a smoking ordinance, effective July 1, _____, that prohibited smoking in workplaces and all public buildings.
(A): 2000
(B): 2001
(C): 2003
(D): 2006

90: According to the data from Pueblo, Colorado study, hospitalizations for acute myocardial infarction (MI) _____ after smoking ban.
(A): increased
(B): decreased
(C): no change
(D): none of the above

91: Monroe County, Indiana, implemented a ban on smoking in all restaurants, retail stores, and workplaces effective August 1, 2003.
(A): True
(B): False

92: The committee was able to find any published information on decreased concentrations of secondhand-smoke components or compliance with the Monroe County ban.
(A): True
(B): False

93: The city of Bowling Green, Ohio, implemented a clean-indoor-air ordinance in March 2002 that banned smoking in all public places in the city **EXCEPT**:
(A): bars
(B): restaurants with bars in isolated areas
(C): bowling alleys
(D): all of the above

94: On July 24, 2003, New York implemented a _____ ban on smoking in all workplaces, including restaurants, bars, and gaming establishments.
(A): citywide
(B): countywide
(C): statewide
(D): none of the above

95: _____ measured indoor-air quality in hospitality venues in western New York before

and after implementation of the 2003 ban.
(A): CDC
(B): EPA
(C): FDA
(D): AHA

96: Saskatoon, Saskatchewan, Canada implemented a smoking ban on July 1, _____.
(A): 2000
(B): 2001
(C): 2004
(D): 2006

97: Smoking prevalence in Saskatoon decreased from 24.1% in 2003 to _____ in 2005 but was unchanged in the province of Saskatchewan after the ban.
(A): 18.2%
(B): 5%
(C): 3%
(D): 1%

98: Scotland prohibited smoking in March 2006 in enclosed public places and workplaces including bars, restaurants, and cafes **EXCEPT**:
(A): residential accommodation
(B): designated rooms in hotels
(C): care homes, hospices and psychiatric units
(D): all of the above

99: In Scotland study, the number of never-smokers who reported no exposure to smoke increased from 57% before the ban to _____ after implementation.
(A): 58%
(B): 60%
(C): 78%
(D): 95%

100: The number of admissions for acute coronary syndrome decreased by 17% in Scotland and only a 4% reduction occurred during the same period in England where no ban was in place.
(A): True
(B): False

Chapter 7
101: Which of the following are some of the limitations and sources of uncertainty in key studies?
(A): potential for publication bias
(B): use of less-than-perfect comparison groups
(C): lack of closed study populations
(D): all of the above

102: Which of the following are some of the characteristics in smoking-ban study design?
(A): Study population
(B): Smoking-ban intervention
(C): Exposure assessment and Outcome
(D): all of the above

103: Which of the following is research challenge for investigators in smoking-ban intervention?
(A): control over terms or timing of smoking-ban legislation
(B): implementation
(C): enforcement
(D): all of the above

104: Which of the following is difficult to establish because intervention does not occur at clearly defined time (because of other activities concurrent with smoking ban)?
(A): Time between implementation and effect
(B): Smoking-ban intervention
(C): Exposure assessment and Outcome
(D): all of the above

105: The key studies discussed in this report are of necessity _____ and they are observational or surveillance studies that looked at the effects of a smoking ban on hospital outcomes.
(A): nonexperimental
(B): experimental
(C): lab based
(D): none of the above

106: The differences in the_____ limit the ability to quantitatively compare the changes in risk across the studies and, in some cases, limit the confidence in those studies.
(A): experimental group
(B): lab group
(C): study populations
(D): none of the above

107: _____ group is used to compare acute cardiovascular events in a given population before and during smoking bans.
(A): internal control
(B): experimental
(C): lab based
(D): external control

108: Some of the study selected _____ group from an area that did not implement a ban, but otherwise was similar to the population where the intervention occurred.
(A): internal control
(B): experimental
(C): lab based
(D): external control

109: In order to do an exposure assessment, which of the following must be considered?
(A): effects of smoking bans
(B): effects of decreases in secondhand-smoke exposure
(C): diabetes and life styles
(D): A and B only

110: After a smoking ban is implemented, many smokers quit or decrease the number of cigarettes they smoke.
(A): True
(B): False

111: Which of the following from acute coronary events should be used as outcomes in considering the effect of a smoking ban?
(A): Morbidity
(B): Mortality
(C): Animal testing
(D): A and B only

112: _____ is the most common analytic approaches that divide an admission rate after implementation of a smoking ban by the admission rate before the ban.
(A): Estimating rate ratios
(B): Graphs
(C): Charts
(D): Tables & Figures

113: The committee constructed a data set for smoking ban by using Medicare billing claims data for a population of _____.
(A): children
(B): young adults
(C): elderly people
(D): teenagers

114: The 11 studies reviewed in this chapter were observational studies that used different analyses and showed decreases in the rate of acute MI after implementation of eight smoking bans.
(A): True
(B): False

115: The strongest data on reduction in secondhand smoke and a decrease in acute cardiovascular events in non smoker came from which of the following?
(A): Monroe, Indiana
(B): Scotland
(C): Animal testing
(D): A and B only

Chapter 8
116: To determine the effect of changes in exposure to secondhand smoke it is necessary to quantify changes in _____ studies.
(A): epidemiologic
(B): economical
(C): psychological
(D): sociological

117: Airborne concentration of _____ is a specific tracer for secondhand smoke.
(A): oxygen
(B): nicotine
(C): lead
(D): cadmium

118: The concentration of cotinine in which of the following is a specific indicator of integrated exposure to secondhand smoke?
(A): saliva
(B): serum
(C): urine
(D): all of the above

119: Experimental studies in humans, animals, and cell cultures have demonstrated effects of secondhand smoke and/or its components on the cardiovascular system.
(A): True
(B): False

120: Which of the following is a major constituent of secondhand smoke and coronary heart disease?
(A): oxygen
(B): particulate matter (PM)
(C): diet
(D): not exercising

121: Epidemiologic studies using serum cotinine concentration as a biomarker of overall exposure to secondhand smoke indicated that the relative risk (RR) of coronary heart disease associated with secondhand smoke is even greater than those estimates.
(A): True
(B): False

122: Taking all that evidence together, the committee concurs with the conclusions in the 2006 surgeon general's report that "the evidence is sufficient to infer a causal relationship between exposure to secondhand smoke and increased risks of coronary heart disease morbidity and mortality among both men and women."
(A): True
(B): False

123: Which of the following factors are likely to influence the effect of a smoking ban on the incidence and prevalence of acute coronary events in a population?
(A): age, sex and diet
(B): background risk factors
(C): environmental factors
(D): all of the above

124: The key intervention studies that have evaluated the effects of indoor smoking bans consistently have shown a decreased risk of _____.
(A): cirrhosis
(B): heart attack
(C): cancer
(D): tumor

125: Which of the following are other risk factors for acute coronary events?
(A): obesity
(B): diabetes
(C): age
(D): all of the above