APPENDICES

Appendix A

Task Force Ratings

The tables of ratings on the following pages were developed for the U.S. Preventive Services Task Force using the methodology adapted from the Canadian Task Force on the Periodic Health Examination[a] and described in Chapter ii. For this edition of the *Guide*, the Task Force developed ratings for all of the topics examined.

The Task Force graded the *strength of recommendations* for or against preventive interventions as follows.

Strength of Recommendations

- A: There is good evidence to support the recommendation that the condition be specifically considered in a periodic health examination.
- B: There is fair evidence to support the recommendation that the condition be specifically considered in a periodic health examination.
- C: There is insufficient evidence to recommend for or against the inclusion of the condition in a periodic health examination, but recommendations may be made on other grounds.
- D: There is fair evidence to support the recommendation that the condition be excluded from consideration in a periodic health examination.
- E: There is good evidence to support the recommendation that the condition be excluded from consideration in a periodic health examination.

Determination of the quality of evidence (i.e., "good," "fair," "insufficient") in the strength of recommendations was based on a systematic consideration of three criteria: the burden of suffering from the target condition, the characteristics of the intervention, and the effectiveness of the intervention as demonstrated in published clinical research. Effectiveness of the intervention received special emphasis. In reviewing clinical studies, the Task Force used strict criteria for selecting admissible evidence and placed emphasis on the quality of study designs. In grading the *quality of evidence*, the Task Force gave greater weight to those study designs that, for methodologic reasons, are less subject to bias and inferential error. The following rating system was used.

[a] Canadian Task Force on the Periodic Health Examination. The periodic health examination. Can Med Assoc J 1979;121:1193–1254.

Quality of Evidence

I: Evidence obtained from at least one properly randomized controlled trial.
II-1: Evidence obtained from well-designed controlled trials without randomization.
II-2: Evidence obtained from well-designed cohort or case-control analytic studies, preferably from more than one center or research group.
II-3: Evidence obtained from multiple time series with or without the intervention. Dramatic results in uncontrolled experiments (such as the results of the introduction of penicillin treatment in the 1940s) could also be regarded as this type of evidence.
III: Opinions of respected authorities, based on clinical experience; descriptive studies and case reports; or reports of expert committees.

Well-designed and well-conducted meta-analyses were also considered, and were graded according to the quality of the studies on which the analyses were based (e.g., Grade I if the meta-analysis pooled properly randomized controlled trials).

An exact correlation does not exist between the strength of the recommendation and the level of evidence, i.e., Level I evidence did not necessarily lead to an "A" grade, nor did an "A" grade require Level I evidence. For example, there may have been evidence of good quality that did not prove that an intervention is effective (e.g., mammography in women under age 50, which received a "C" recommendation). On the other hand, an "A" recommendation was given to screening for cervical cancer with Papanicolaou testing, based on burden of suffering and Level II evidence supporting the effectiveness of the intervention. For many preventive services, there is insufficient evidence to determine whether or not routine intervention will improve clinical outcomes ("C" recommendation). A variety of different circumstances can result in a "C" recommendation: available studies are not adequate to determine effectiveness (e.g., insufficient statistical power, unrepresentative populations, lack of clinically important endpoints, or other important design flaws); high-quality studies have produced conflicting results; evidence of significant benefits is offset by evidence of important harms from intervention; or studies of effectiveness have not been conducted. As a result, lack of evidence of effectiveness does not constitute evidence of ineffectiveness. Chapter ii provides further information about the methodology used to develop the body of this report.

Table 1.
Screening for Asymptomatic Coronary Artery Disease

Intervention	Level of Evidence	Strength of Recommendation
Routine resting, ambulatory, or exercise electrocardiography in middle-aged or older persons	II-2	C
Routine resting electrocardiography in healthy children, adolescents, or young adults, including those undergoing pre-participation sports physicals	III	D

Table 2.
Screening for High Blood Cholesterol and Other Lipid Abnormalities

Intervention	Level of Evidence	Strength of Recommendation
Routine measurement of total serum or blood cholesterol		
Men aged 35–65 yr	I, II-2	B
Women aged 45–65 yr	II-2	B
Persons aged > 65 yr	II-2	C
Children, adolescents, young adults	II-2	C
Routine measurement of HDL-C	II-2, III	C
Routine measurement of triglycerides	II-2	C

Table 3.
Screening for Hypertension

Intervention	Level of Evidence	Strength of Recommendation
Periodic blood pressure measurement in persons aged ≥ 21 yr	I	A
Measurement of blood pressure in children and adolescents during office visits	II-2, II-3, III	B

Table 4.
Screening for Asymptomatic Carotid Artery Stenosis

Intervention	Level of Evidence	Strength of Recommendation
Routine carotid ultrasound or auscultation for carotid bruits in older persons	I, II-2	C

Table 5.
Screening for Peripheral Arterial Disease

Intervention	Level of Evidence	Strength of Recommendation
Routine history-taking for classic claudication, palpation of peripheral pulses, ultrasound, or other noninvasive tests in older persons	III	D

Table 6.
Screening for Abdominal Aortic Aneurysm

Intervention	Level of Evidence	Strength of Recommendation
Routine abdominal palpation	II-2	C
Routine abdominal ultrasound	II-2	C

Table 7.
Screening for Breast Cancer

Intervention	Level of Evidence	Strength of Recommendation
Routine mammogram every 1-2 yr with or without annual clinical breast exam		
Women aged 40–49 yr	I	C
50–69 yr	I, II-2	A
70–74 yr	I, II-3	C
≥ 75 yr	III	C
Annual clinical breast exam without periodic mammograms		
Women aged 40–49 yr	III	C
50–59 yr	I	C
≥ 60 yr	III	C
Routine breast self-exam	I, II-2, III	C

Table 8.
Screening for Colorectal Cancer

Intervention	Level of Evidence	Strength of Recommendation
Annual fecal occult blood testing of persons aged 50 yr and older	I, II-1, II-2	B
Routine sigmoidoscopy in persons aged 50 yr and older	II-2, II-3	B
Routine digital rectal exam	III	C
Routine barium enema	III	C
Routine colonoscopy	III	C

Table 9.
Screening for Cervical Cancer

Intervention	Level of Evidence	Strength of Recommendation
Regular Pap testing in women who are or have been sexually active and who have a cervix	II-2, II-3	A
Discontinuation of regular Pap testing in women aged >65 yr	III	C
Routine cervicography or colposcopy	III	C
Routine testing for HPV infection	III	C

Table 10.
Screening for Prostate Cancer

Intervention	Level of Evidence	Strength of Recommendation
Routine digital rectal exam	II-2	D
Routine prostate-specific antigen or other serum tumor markers	I, II-2, III	D
Routine transrectal ultrasound	II-2, III	D

Table 11.
Screening for Lung Cancer

Intervention	Level of Evidence	Strength of Recommendation
Routine chest x-ray or sputum cytology	I, II-1, II-2	D

Table 12.
Screening for Skin Cancer---Including Counseling to Prevent Skin Cancer

Intervention	Level of Evidence	Strength of Recommendation
Screening		
Total body skin exam by primary care clinicians	II-3, III	C
Periodic skin self-exam	II-3, III	C
Primary Prevention		
Sun avoidance or use of protective clothing by high-risk* persons	II-2	B
Routine use of sunscreens	I, II-2	C
Clinician counseling to increase the use of sun protection measures	III	C

*See relevant chapter for definition of high risk.

Table 13.
Screening for Testicular Cancer

Intervention	Level of Evidence	Strength of Recommendation
Routine self-exam or physician exam of the testes in men	III	C

Table 14.
Screening for Ovarian Cancer

Intervention	Level of Evidence	Strength of Recommendation
Routine pelvic exam, ultrasound, or serum tumor markers		
General female population	II-3, III	D
High-risk* women	III	C

Table 15.
Screening for Pancreatic Cancer

Intervention	Level of Evidence	Strength of Recommendation
Routine abdominal palpation, ultrasound, or serum tumor markers	III	D

Table 16.
Screening for Oral Cancer

Intervention	Level of Evidence	Strength of Recommendation
Routine oral exam by primary care clinicians	III	C

Table 17.
Screening for Bladder Cancer

Intervention	Level of Evidence	Strength of Recommendation
Routine urine dipstick or microscopy	II-2, III	D
Routine urine cytology	III	D

*See relevant chapter for definition of high risk.

Table 18.
Screening for Thyroid Cancer

Intervention	Level of Evidence	Strength of Recommendation
Routine neck palpation or ultrasound		
General population	II-2, III	D
High-risk* adults or children	III	C

Table 19.
Screening for Diabetes Mellitus

Intervention	Level of Evidence	Strength of Recommendation
Non-insulin-dependent		
Routine measurement of plasma glucose, glycosylated hemoglobin, or urine glucose	II-2	C
Gestational		
Routine oral 1-hr glucose challenge test, glycosolated hemoglobin, fasting or random plasma glucose, or urine glucose	I, II-2	C
Insulin-dependent		
Routine measurement of serum auto-antibodies in the general population	III	D

Table 20.
Screening for Thyroid Disease

Intervention	Level of Evidence	Strength of Recommendation
Routine thyroid function tests		
General population	III	D
High-risk* persons	I, II-3	C

Table 21.
Screening for Obesity

Intervention	Level of Evidence	Strength of Recommendation
Periodic height and weight measurements	I, II-2, II-3	B
Routine determination of the waist/hip ratio	II-2	C

*See relevant chapter for definition of high risk.

Table 22.
Screening for Iron Deficiency Anemia—Including Iron Prophylaxis

Intervention	Level of Evidence	Strength of Recommendation
Screening		
Routine hemoglobin / hematocrit		
Pregnant women at first prenatal visit	II-1, II-2	B
High-risk* infants	I	B
High-risk* children	I	C
General population	I, II-1, II-2	C
Repeat hemoglobin / hematocrit in pregnant women or high-risk* infants not anemic at initial testing	III	C
Primary Prevention		
Breastfeeding and use of iron-enriched formula or food for all infants and toddlers	I, II-1, II-2, II-3	B
Routine use of iron supplements		
Healthy pregnant women	I, II-1, II-2	C
Healthy infants	I, III	C

Table 23.
Screening for Elevated Lead Levels in Childhood and Pregnancy

Intervention	Level of Evidence	Strength of Recommendation
Screening		
Routine blood lead measurement		
High-risk* children	II-1, II-2, II-3	B
Pregnant women	III	C
Primary Prevention		
Routinely counseling families to control lead dust by repeated household cleaning, or to optimize caloric, iron, and calcium intake specifically to reduce lead absorption	II-2, III	C

Table 24.
Screening for Hepatitis B Virus Infection

Intervention	Level of Evidence	Strength of Recommendation
Routine measurement of HBsAg		
Pregnant women	I, II-1, II-2, II-3	A
High-risk* persons (to assess eligibility for vaccination)	III	C
General population	III	D

*See relevant chapter for definition of high risk.

Table 25.
Screening for Tuberculous Infection—Including BCG Immunization

Intervention	Level of Evidence	Strength of Recommendation
Tuberculin skin testing of high-risk* persons	I	A
BCG vaccination of selected high-risk* infants and children	I, II-2	B

Table 26.
Screening for Syphilis

Intervention	Level of Evidence	Strength of Recommendation
Routine serologic testing		
High-risk* persons	II-3	A
Pregnant women	II-3	A

Table 27.
Screening for Gonorrhea—Including Ocular Prophylaxis in Newborns

Intervention	Level of Evidence	Strength of Recommendation
Screening		
Routine gonorrhea culture or nonculture screening test		
High-risk* women	II-2, III	B
High-risk* pregnant women	II-2	B
Other pregnant women	III	C
High-risk* men	II-3, III	C
General population	III	D
Primary Prevention of Gonococcal Ophthalmia Neonatorum		
Routine ophthalmic antibiotic in newborns	II-3, III	A

Table 28.
Screening for Human Immunodeficiency Virus Infection

Intervention	Level of Evidence	Strength of Recommendation
Enzyme immunoassay, with confirmatory test for positive results		
High-risk* adolescents and adults	I, II-2	A
High-risk* pregnant women	I, II-2	A
High-risk* infants	II-2	B
Low-risk pregnant women, adolescents, and adults	III	C

*See relevant chapter for definition of high risk.

Table 29.
Screening for Chlamydial Infection—Including Ocular Prophylaxis in Newborns

Intervention	Level of Evidence	Strength of Recommendation
Screening		
Routine culture or nonculture screening test		
Sexually active female adolescents and other high-risk* women	I, II-2, III	B
High-risk* pregnant women	II-2	B
Other pregnant women	III	C
High-risk* men	II-3, III	C
General population	III	D
Primary Prevention of Chlamydial Ophthalmia Neonatorum		
Routine ophthalmic antibiotic in newborns	I, II-2, III	C

Table 30.
Screening for Genital Herpes Simplex

Intervention	Level of Evidence	Strength of Recommendation
Screening		
Routine viral culture, serology, or other tests		
General population	II-3, III	D
Pregnant women	II-2, II-3, III	D
Examination of pregnant women in labor for signs of active genital HSV lesions	II-2, III	C
Primary Prevention of Neonatal Herpes Infection		
Routine use of systemic acyclovir in pregnant women with recurrent herpes	III	C
Counseling uninfected women with infected partners to use condoms or abstain from intercourse during pregnancy	III	C

Table 31.
Screening for Asymptomatic Bacteriuria

Intervention	Level of Evidence	Strength of Recommendation
Routine urine culture in pregnant women at 12-16 weeks' gestation	I	A
Routine urine dipstick for leukocyte esterase / nitrites		
Pregnant women	II-2	D
Diabetic women	III	C
Noninstitutionalized elderly women	I, II-1, II-2	C
Institutionalized elders	I	E
School-aged girls	I	E
Other persons	I, II-2, III	D
Routine urine microscopy	II-2	D

*See relevant chapter for definition of high risk.

Table 32.
Screening for Rubella—Including Immunization of Adolescents and Adults

Intervention	Level of Evidence	Strength of Recommendation
Routine rubella serology or vaccination history		
Women of childbearing age (including pregnant women)	II-2, II-3, III	B
Young men in high-risk* settings	II-3, III	C
Other men and postmenopausal women	III	D
Routine rubella vaccination without screening		
Children	I, II-1, II-2, II-3	A
Nonpregnant women of childbearing age	II-2, III	B
Young men in high-risk* settings	II-2, III	C
Other men and postmenopausal women	III	D

Table 33.
Screening for Visual Impairment

Intervention	Level of Evidence	Strength of Recommendation
Routine testing for amblyopia and strabismus in preschool children	II-1, II-2	B
Routine Snellen acuity testing in elderly persons	II-3	B
Routine ophthalmoscopy by primary care clinicians in elderly persons	III	C
Routine vision screening in other children, adolescents, and adults	III	C

Table 34.
Screening for Glaucoma

Intervention	Level of Evidence	Strength of Recommendation
Routine tonometry	I, II-2, III	C
Routine ophthalmoscopy by primary care clinicians	III	C

*See relevant chapter for definition of high risk.

Table 35.
Screening for Hearing Impairment

Intervention	Level of Evidence	Strength of Recommendation
Periodically questioning older adults about their hearing	I, III	B
Routine audiometric testing in older adults	I, III	C
Routine hearing testing in adolescents and working-age adults[1]	III	C
Routine evoked otoacoustic emission testing or auditory brainstem response in newborns	II-2, III	C
Routine hearing testing in children aged >3 yr	II-2	D

[1]Screening of workers for noise-induced hearing loss should be performed in the context of existing work-site programs and occupational medicine guidelines.

Table 36.
Screening Ultrasonography in Pregnancy

Intervention	Level of Evidence	Strength of Recommendation
Routine midtrimester ultrasound in pregnant women	I	C
Routine third-trimester ultrasound in pregnant women	I	D

Table 37.
Screening for Preeclampsia

Intervention	Level of Evidence	Strength of Recommendation
Periodic blood pressure measurement during pregnancy, as part of routine prenatal care	II-3, III	B

Table 38.
Screening for D (Rh) Incompatibility

Intervention	Level of Evidence	Strength of Recommendation
Routine D (Rh) blood typing and antibody testing of pregnant women at the first visit	I, II-1, II-3	A
Repeat antibody testing of all unsensitized D-negative pregnant women at 24-28 weeks' gestation	II-1	B
Routine administration of D immunoglobulin to unsensitized D-negative women		
Postpartum	I, II-1	A
At 24-28 weeks' gestation	II-1	B
After amniocentesis or induced abortion	II-1, II-3	B
After CVS, other high-risk* obstetric procedures or complications	I, III	C

Table 39.
Intrapartum Electronic Fetal Monitoring

Intervention	Level of Evidence	Strength of Recommendation
Routine intrapartum electronic fetal monitoring		
Low-risk pregnancies	I	D
High-risk* pregnancies	I	C

Table 40.
Home Uterine Activity Monitoring

Intervention	Level of Evidence	Strength of Recommendation
Home uterine activity monitoring		
Normal risk pregnancies	III	D
High-risk* pregnancies	I, II-2	C

*See relevant chapter for definition of high risk.

Table 41.
Screening for Down Syndrome

Intervention	Level of Evidence	Strength of Recommendation
Offering amniocentesis or CVS to high-risk* pregnant women	II-2	B
Offering maternal serum multiple-marker testing to all pregnant women	II-2	B
Offering maternal serum individual marker testing to pregnant women	II-2	C
Offering midtrimester ultrasound to pregnant women	II-2, III	C

Table 42.
Screening for Neural Tube Defects—Including Folate Prophylaxis

Intervention	Level of Evidence	Strength of Recommendation
Screening		
Offering maternal serum a-fetoprotein measurement to all pregnant women	II-2	B
Offering midtrimester ultrasound to all pregnant women	I, II-2, III	C
Primary Prevention		
Periconceptional folic acid 4.0 mg daily for women with previous affected pregnancy	I	A
Daily multivitamin or multivitamin/multimineral containing 0.4–0.8 mg folic acid for women planning pregnancy	I, II-2	A
Daily multivitamin containing 0.4 mg folic acid for women capable of pregnancy	II-2	B
Dietary folate intake of 0.4 mg/day for women capable of pregnancy	II-2	C

Table 43.
Screening for Hemoglobinopathies

Intervention	Level of Evidence	Strength of Recommendation
Testing for hemoglobinopathies in newborns	I, II-2	A
Offering testing for hemoglobinopathies with counseling		
Pregnant women at first prenatal visit	II-2, II-3, III	B
High-risk* adolescents and young adults	II-1, III	C

*See relevant chapter for definition of high risk.

Table 44.
Screening for Phenylketonuria

Intervention	Level of Evidence	Strength of Recommendation
Routine measurement of phenylalanine level on dried-blood spot specimens in newborns	II-3	A
Routine measurement of blood phenylalanine level in pregnant women	II-2, III	C

Table 45.
Screening for Congenital Hypothyroidism

Intervention	Level of Evidence	Strength of Recommendation
Routine measurement of T_4 and/or TSH on dried-blood spot specimens in newborns	II-3	A

Table 46.
Screening for Postmenopausal Osteoporosis

Intervention	Level of Evidence	Strength of Recommendation
Routine bone densitometry in postmenopausal women	II-2, III	C

Table 47.
Screening for Adolescent Idiopathic Scoliosis

Intervention	Level of Evidence	Strength of Recommendation
Routine forward-bending test, visual inspection of the back, inclinometer, or other tests in adolescents	II-3, III	C

Table 48.
Screening for Dementia

Intervention	Level of Evidence	Strength of Recommendation
Routine use of standardized screening tests in elderly persons	III	C

Table 49.
Screening for Depression

Intervention	Level of Evidence	Strength of Recommendation
Routine use of standardized screening tests in primary care patients	I, II-1	C

Table 50.
Screening for Suicide Risk

Intervention	Level of Evidence	Strength of Recommendation
Screening		
Routine use by primary care clinicians of direct questions or standardized screening tests in the general population	I, II-2, II-3	C
Primary Prevention		
Training primary care clinicians to recognize and treat affective disorders	II-3	B

Table 51.
Screening for Family Violence

Intervention	Level of Evidence	Strength of Recommendation
Routine standardized interview or physical exam to detect child abuse	III	C
Routine standardized interview to detect elder abuse	III	C
Routine standardized questionnaire to detect domestic violence	II-3, III	C

Table 52.
Screening for Problem Drinking

Intervention	Level of Evidence	Strength of Recommendation
Routine interview or standardized questionnaire to detect problem drinking		
Adolescents and adults	I, II-2	B
Pregnant women	II-2	B

Table 53.
Screening for Drug Abuse

Intervention	Level of Evidence	Strength of Recommendation
Routine screening with standardized questionnaires or biologic assays	III	C

Table 54.
Counseling to Prevent Tobacco Use

Intervention	Level of Evidence	Strength of Recommendation
Efficacy of Risk Reduction		
Avoidance or cessation of tobacco use to reduce the risk of cancer, cardiovascular and respiratory diseases, adverse pregnancy and neonatal outcomes, and effects of passive smoking	II-2	A
Effectiveness of Counseling and Other Clinical Interventions		
Clinician counseling of all patients, including pregnant women, who use tobacco to reduce or stop use	I	A
Nicotine patches or gum as an adjunct to counseling	I	A
Clonidine as an adjunct to counseling	I	C
Clinician counseling of school-aged children and adolescents to avoid tobacco use	III[1]	C

[1]Controlled trials have demonstrated the ability of school-based intervention programs to delay the initiation of tobacco use in children and adolescents.

Table 55.
Counseling to Promote Physical Activity

Intervention	Level of Evidence	Strength of Recommendation
Efficacy of Risk Reduction		
Regular physical activity to prevent coronary heart disease, hypertension, obesity, and other diseases	II-2	A
Effectiveness of Counseling		
Counseling patients to incorporate regular physical activity into their daily routines	I, II-2	C

Table 56.
Counseling to Promote a Healthy Diet

Intervention	Level of Evidence	Strength of Recommendation
Efficacy of Risk Reduction in the General Population		
Limiting intake of dietary fat (especially saturated fat)	I, II-2, II-3	A
Limiting intake of dietary cholesterol	II-2	B
Emphasizing fruits, vegetables and grain products containing fiber	II-2, II-3	B
Maintaining caloric balance through diet and exercise	II-2	B
Maintaining adequate intake of dietary calcium in women	I, II-1, II-2, II-3	B
Reducing intake of dietary sodium	II-3	C
Increasing intake of dietary iron	II-2, II-3, III	C
Increasing intake of beta-carotene and other antioxidants	II-2, II-3	C
Breastfeeding infants	I, II-2	A
Effectiveness of Counseling		
Counseling to change dietary habits		
Specially trained educators	I[1]	B
Primary care clinicians	III	C

[1]These trials generally involved specially trained educators such as dieticians delivering intensive interventions (e.g., multiple sessions, tailored materials) to selected patients with known risk factors.

Table 57.
Counseling to Prevent Motor Vehicle Injuries

Intervention	Level of Evidence	Strength of Recommendation
Efficacy of Risk Reduction		
Child safety seats, lap/shoulder belts, and motorcycle helmets	II-2, II-3	A
Avoidance of driving while impaired by alcohol or other drugs	II-2, II-3	A
Driver- and passenger-side air bags	II-2	A
Alteration of pedestrian behavior	II-1, II-2, II-3	C
Effectiveness of Counseling		
Counseling parents to have their children use car safety seats or seat belts as appropriate for age	I, II-1, II-2	B
Counseling adolescent and adult patients to use lap/shoulder belts	II-1, II-3	B
Counseling patients to use motorcycle helmets	III	C
Counseling problem drinkers to reduce their alcohol consumption (see Ch. 52)	I	B
Counseling patients to avoid driving while impaired by alcohol or other drugs	III	C
Counseling patients and parents of child patients on safe pedestrian behavior	III	C

Table 58.
Counseling to Prevent Household and Recreational Injuries

Intervention	Level of Evidence	Strength of Recommendation
Efficacy of Risk Reduction		
Fires and Burns		
Properly installed/tested smoke detectors	II-2	B
Smoking cessation (see Ch. 54)	II-2	A
Flame-retardant sleepwear for children	II-3	A
Hot water heaters set to <120–130° F	II-3	A
Drowning		
Four-foot, four-sided isolation fences with self-latching gates	II-2	B
Cardiopulmonary resuscitation (CPR) training	II-2, III	B
Poisonings		
Child-proof containers for medications	II-3	A
Limitation of number of tablets packaged	II-3	A
Poison-warning stickers designed for children (e.g., "Mr. Yuk" stickers)	II-1	D
Bicycling and ATV Injuries		
Approved bicycle and ATV helmets	II-2, II-3	A
Avoidance of bicycling near traffic	II-2, III	B
ATVs with smaller engines and 4 wheels	II-2	B
Training in safe bicycling behavior	I, III	C
Alcohol-Related Injuries		
Avoidance of swimming, boating, bicycling, hunting, or smoking while intoxicated	II-2	B
Falls in Children		
Window guards in high-risk* buildings	II-3	A
Falls in Elderly Persons		
Exercise, especially balance training	I, II-1, II-2	B
Home-based multifactorial fall prevention interventions in high-risk* elders	I, II-2	B
External hip protectors in institutionalized elderly persons	II-1	C
Other Injury Prevention Measures		
(see Ch. 58 for details)	III	C
Effectiveness of Counseling		
Counseling parents of young children on measures to reduce injury risk	I, II-1, II-2, II-3	B
Counseling adolescents and adults on measures to reduce injury risk	I, III	C
Counseling problem drinkers to reduce alcohol consumption (see Ch. 52)	I	B
Counseling elderly patients to address risk factors for falls	I	C

*See relevant chapter for definition of high risk.

Table 59.
Counseling to Prevent Youth Violence

Intervention	Level of Evidence	Strength of Recommendation
Efficacy of Risk Reduction		
Removal or safe storage of firearms in the home	II-2, II-3, III	B
Acquisition of interpersonal - problem solving skills	II-2, III	C
Reduction of heavy or problem drinking	II-2, II-3, III	B
Reduction of illicit drug use or drug trafficking	II-2, III	C
Effectiveness of Counseling		
Counseling problem drinkers to reduce alcohol consumption (see Ch. 52)	I	B
Counseling on measures to reduce violence risk	III	C

Table 60.
Counseling to Prevent Low Back Pain

Intervention	Level of Evidence	Strength of Recommendation
Efficacy of Risk Reduction		
Exercise to strengthen back or abdominal muscles or to improve overall fitness	I, II-1, II-2	C
Corsets/back belts	I, II-2	C
Modification of risk factors (smoking, obesity, psychological factors)	II-2, III	C
Effectiveness of Counseling		
Back pain prevention education		
Workplace	I, II-1, II-2	C
Pregnant women	II-1	C
Primary care patients	III	C

Table 61.
Counseling to Prevent Dental and Periodontal Disease

Intervention	Level of Evidence	Strength of Recommendation
Efficacy of Risk Reduction		
Regular visits to dental care provider (for services such as professionally applied topical fluorides, sealants)	I	B
Toothbrushing with fluoride-containing toothpaste	I, III	B
Dental flossing	II-1	B
Avoidance of putting infants and children to bed with a bottle	II-2, III	B
Reduced and less frequent intake of sugary foods	II-2	C
Fluoride supplementation of persons aged ≤16 yr, in areas with inadequate water fluoridation	II-1	A
Effectiveness of Counseling		
Counseling patients (parents) to follow measures to reduce their (their children's) risk of oral disease	II-2, II-3	C

Table 62.
Counseling to Prevent HIV Infection and Other Sexually Transmitted Diseases

Intervention	Level of Evidence	Strength of Recommendation
Efficacy of Risk Reduction		
Sexual abstinence or maintenance of mutually faithful monogamous sexual relationship	II-2	A
Regular use of condoms	II-2, II-3	A
Regular use of female barrier contraceptives and spermicides	I[1], II-2	B
Avoidance of contaminated injection equipment	II-2	A
Effectiveness of Counseling		
Counseling by primary care clinicians to reduce high-risk* sexual behavior or injection drug use	I, II-2	C

[1]Benefit demonstrated for gonorrhea and chlamydia, but effects on HIV infection uncertain.

*See relevant chapter for definition of high risk.

Table 63.
Counseling to Prevent Unintended Pregnancy

Intervention	Level of Evidence	Strength of Recommendation
Efficacy of Risk Reduction		
Sexual abstinence or regular use of contraceptives	II-2	A
Effectiveness of Counseling		
Clinician counseling to improve the effective use of contraceptives	II-3	B
Clinician counseling to promote sexual abstinence among adolescents	III	C

Table 64.
Counseling to Prevent Gynecologic Cancers

Intervention	Level of Evidence	Strength of Recommendation
Efficacy of Risk Reduction		
Oral contraceptives to prevent ovarian and endometrial cancer	II-2	B
Avoidance of high-risk* sexual activity, use of barrier contraceptives and spermicides to prevent cervical cancer	II-2	A
Tubal sterilization to prevent ovarian cancer	II-2	B
Effectiveness of Counseling		
Counseling about measures to reduce risk of gynecologic cancers	III	C

*See relevant chapter for definition of high risk.

Table 65.
Childhood Immunizations[1]

Intervention	Level of Evidence	Strength of Recommendation
Routine Childhood Immunizations		
Diphtheria, Pertussis, Tetanus, Poliomyelitis, Measles, Rubella, Mumps	I, II-3	A
H. influenzae type b conjugate	I, II-1, II-2, II-3	A
Hepatitis B	I, II-2, II-3	A
Varicella	I, II-3	A
Immunizations for High-Risk Children*		
Hepatitis A (age ≥2 yr)	I, II-3	A
Influenza (age ≥6 mo) (see Ch. 66)	II-2	B
Pneumococcus (age ≥2 yr) (see Ch. 66)		
Immunocompetent	I, II-2	B
Immunocompromised	I, II-2	C
Healthy persons living in epidemic conditions	I	A
Chemoprophylaxis Against Influenza A		
Amantadine/rimantadine - for high risk* children (see Ch. 66)	I	B

[1]See Ch. 25 for recommendations on the use of BCG vaccine against tuberculosis.

*See relevant chapter for definition of high risk.

Table 66.
Adult Immunizations—Including Chemoprophylaxis Against Influenza A

Intervention	Level of Evidence	Strength of Recommendation
Routine Adult Immunizations		
Influenza (age ≥65 yr)	I, II-2	B
Pneumococcus (age ≥65 yr)	II-2	B
Tetanus-diphtheria	I, II-3	A
Hepatitis B (young adults)	I, II-3	A
Immunizations for High-Risk Adults*		
Influenza	II-2	B
Pneumococcus		
Immunocompetent	I, II-2	B
Immunocompromised	I, II-2	C
Healthy young adults living in epidemic conditions	I	A
Hepatitis B	I, II-3	A
Hepatitis A	I	B
Measles-mumps-rubella	I	A
Measles-mumps-rubella (second dose)	II-2, II-3	B
Varicella (see Ch. 65)	I, II-3	B
Chemoprophylaxis Against Influenza A		
Amantadine/rimantadine for high-risk* adults	I	B

Table 67.
Postexposure Prophylaxis for Selected Infectious Diseases

Disease	Intervention	Level of Evidence	Strength of Recommendation
H. influenzae type b	Rifampin	I, II-3	A
Hepatitis A	Immune globulin	II-1	A
Hepatitis B	Immune globulin/vaccine	I	A
N. meningitidis	Rifampin	I, II-1	A
	Vaccine[1]	I, II-1, II-3	A
	Ceftriaxone	I	C[2]
Rabies	Immune globulin/postexposure vaccine	I, II-3	A
	Preexposure vaccine in high-risk* persons	II-1	A
Tetanus	Vaccine/immune globulin	II-1, II-2, II-3	A

[1]Persons ≥3 mo in serogroup A outbreaks; persons ≥2 yr in serogroup C, Y, and W135 outbreaks.

[2]The efficacy of ceftriaxone in eliminating pharyngeal carriage of meningococcus has been confirmed only for serogroup A strains.

*See relevant chapter for definition of high risk.

Table 68.
Postmenopausal Hormone Prophylaxis

Intervention	Level of Evidence	Strength of Recommendation
Routinely counseling peri- and postmenopausal women about the risks and benefits[1] of hormone prophylaxis	I, II-2	B

[1]Hormone prophylaxis reduces the risk of osteoporosis and coronary heart disease, but may increase the risk of endometrial and breast cancer.

Table 69.
Aspirin Prophylaxis for the Primary Prevention of Myocardial Infarction

Intervention	Level of Evidence	Strength of Recommendation
Routine aspirin prophylaxis		
Middle-aged or older men	I	C
Middle-aged women	II-2	C

Table 70.
Aspirin Prophylaxis in Pregnancy

Intervention	Level of Evidence	Strength of Recommendation
Routine aspirin prophylaxis to prevent preeclampsia		
Pregnant women	I	C
High-risk* pregnant women	I	C
Routine aspirin prophylaxis to prevent intrauterine growth retardation in high-risk* pregnant women	I, II-1	C

*See relevant chapter for definition of high risk.