

Passport Advantage Provider Manual Section 10.0 Clinical Practice Guidelines

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10.0 Clinical Practice Guidelines

10.1 Introduction

Passport Advantage's mission is to improve the health and quality of life of our members. With this in mind, Passport Advantage has adopted the enclosed Clinical Practice Guidelines. The intent of the guidelines is to support your efforts in the care and education of our members and to reduce variation in diagnosis and treatment. The Plan has made every effort to ensure that current scientific data and expert opinion is the basis for each guideline. Each guideline is evaluated as new data becomes available or at a minimum of every two years. Passport Advantage monitors provider compliance and member outcomes related to these clinical guidelines for quality improvement initiatives and recertification efforts. These guidelines are intended to assist the practitioner in clinical decision-making and attempt to define clinical practices that apply to most patients in most circumstances. The treating practitioner should make the ultimate decision regarding the care of a particular patient.

10.2 Diabetes Clinical Practice Guidelines*

This guideline is intended to assist the practitioner in clinical decision making and attempt to define clinical practices that apply to most patients in most circumstances. The treating practitioner should make the ultimate decision regarding the care of a particular patient.

SCREENING FOR DIABETES

Testing to detect pre-diabetes and type 2 diabetes should be considered in adults who have a BMI > 25 kg/m² and have one or more additional risk factors for diabetes. In those without risk factors, testing should begin at age 45. If tests are normal, repeat testing should be carried out at least every 3 years.

Criteria for Diagnosis of Diabetes

1. FPG >126 mg/dl (7.0 mmol/l). Fasting is defined as no caloric intake for at least 8h.*
OR
2. Symptoms of hyperglycemia and a casual plasma glucose >200 mg/dl (11.1 mmol/l). Casual is defined as any time of day without regard to time since last meal. The classic symptoms of hyperglycemia include polyuria, polydipsia, and unexplained weight loss.
OR
3. 2-h plasma glucose >200 mg/dl (11.1 mmol/l) during an OGTT. The test should be performed as described by the World Health Organization, using a glucose load containing the equivalent of 75 g anhydrous glucose dissolved in water.*

*In the absence of unequivocal hyperglycemia, these criteria should be confirmed by repeat testing on a different day.

PRE-DIABETES

Pre-diabetes is the state that occurs when a person's blood glucose levels are higher than normal but not high enough for a diagnosis of diabetes. Doctors sometimes refer to this state of elevated blood glucose levels as Impaired Glucose Tolerance or Impaired Fasting Glucose (IGT/IFG), depending on which test was used to detect it.

- IFG = Fasting Plasma Glucose (FPG) 100 mg/dl (5.6 mmol/l) to 125 mg/dl (6.9 mmol/l)
- IGT = 2-h plasma glucose 140 mg/dl (7.8 mmol/l) to 199 mg/dl (11.0 mmol/l)

The recently completed Diabetes Prevention Program study conclusively showed that people with pre-diabetes can prevent the development of type 2 diabetes by making changes in their diet and increasing their level of physical activity. Just 30 minutes a day of moderate physical activity, coupled with a 5-10% reduction in body weight, produced a 58% reduction in diabetes.

In addition to lifestyle counseling, metformin may be considered in those who are at very high risk (combined impaired fasting glucose [IFG] and impaired glucose tolerance [IGT] plus other risk factors) and who are obese and under 60 years of age.

OLDER POPULATION

Older individuals with diabetes have higher rates of premature death, functional disability, and coexisting illnesses such as hypertension, CHD, and stroke than those without diabetes. Older adults with diabetes are also at greater risk than other older adults for several common geriatric syndromes, such as polypharmacy, depression, cognitive impairment, urinary incontinence, injurious falls, and persistent pain. For patients with advanced diabetes complications, life limiting comorbid illness, or cognitive or functional impairment, it is reasonable to set less intensive glycemic target goals.

RECOMMENDATIONS FOR GLYCEMIC CONTROL 1

<i>Test</i>	<i>Goal</i>
A1c	<7.0%*
Preprandial capillary plasma glucose	70–130 mg/dl (3.9–7.2 mmol/l)
Peak postprandial capillary plasma glucose†	<180 mg/dl (<10.0 mmol/l)

*Referenced to a nondiabetic range of 4.0–6.0% using a DCCT-based assay.

†Postprandial glucose measurements should be made 1–2 h after the beginning of the meal, generally peak levels in patients with diabetes.

LIPID AND BLOOD PRESSURE GOALS **

Blood Pressure (mmHg)	Lipids (mg/dl)
Systolic <130	LDL-C <100 adults
Diastolic <80	HDL-C >40 in men and >50 in women
	Triglycerides <150

KEY TESTS AND EXAMS

<i>Test/Exam</i>	<i>Frequency</i>
Hemoglobin A1c (Glycated hemoglobin)	<ul style="list-style-type: none"> Quarterly if treatment changes or is not meeting goals. 2 times /year if stable.
Dilated eye exam	<p>Patients with type 1 diabetes should have an initial dilated and comprehensive eye examination by an ophthalmologist or optometrist within 3-5 years after the onset of diabetes.</p> <p>Patients with type 2 diabetes should have an initial dilated and comprehensive eye examination by an ophthalmologist or optometrist shortly after the diagnosis of diabetes.</p> <p>Annual comprehensive exam by an eye care professional thereafter for all diabetic patients.</p>
<i>Test/Exam</i>	<i>Frequency</i>
Foot exam	<p>All patients with diabetes should have an annual comprehensive foot examination to identify factors predictive of ulcers and amputations. The foot examination should include the use of a monofilament, tuning fork, palpation, and a visual examination.</p> <p>Provide general foot self-care education to all patients with diabetes.</p> <p>Provide a visual foot exam at each regular visit.</p>
Urinalysis: protein, glucose, ketones, sediment	Yearly in adults
Lipid profile ²	Yearly in adults, more often if needed to achieve goals.
Microalbuminuria ³	Perform an annual test for the presence of microalbuminuria in type 1 diabetic patients with diabetes duration of >5 years and in all type 2 diabetic patients, starting at diagnosis.
Serum Creatinine	Measure serum creatinine at least annually in all adult diabetics regardless of the degree of urine albumin excretion. The serum creatinine should be used to estimate GFR and stage the degree of Chronic Kidney Disease if present.
Blood pressure	Each regular diabetes visit.
Weight	Each regular diabetes visit.
Height	At least one time per year.

Aspirin Therapy (75-162mg/day)	<ul style="list-style-type: none"> Use aspirin therapy (75–162 mg/day) as a secondary prevention strategy in those with diabetes with a history of cardiovascular disease (CVD). Use aspirin therapy (75–162 mg/day) as a primary prevention strategy in those with type 1 or 2 diabetes at increased cardiovascular risk, including those who are < 40 years of age or who have additional risk factors (family history of CVD, hypertension, smoking, dyslipidemia, or albuminuria).
ACE Inhibitors (Angiotensin-Converting Enzyme) ARB (Angiotensin receptor blockers)	<p>In the treatment of both micro- and macroalbuminuria, either ACE inhibitors or ARBs should be used.</p> <ul style="list-style-type: none"> In patients with type 1 diabetes, with hypertension and any degree of albuminuria, ACE inhibitors have been shown to delay the progression of nephropathy. In patients with type 2 diabetes, hypertension, and microalbuminuria, ACE inhibitors and ARBs have been shown to delay the progression to macroalbuminuria. In patients with type 2 diabetes, hypertension, macroalbuminuria, and renal insufficiency (serum creatinine > 1.5 mg/dl), ARBs have been shown to delay the progression of nephropathy. If one class is not tolerated, the other should be substituted. If ACE inhibitors, ARB's or diuretics are used, monitor renal function and serum potassium levels.

NUTRITIONAL / TEACHING GOALS

Medical nutrition therapy as indicated.	Review treatment plan at each regular visit.
Balance food intake with drug therapy & exercise.	Influenza vaccine annually.
Maintain reasonable weight by monitoring calorie intake. Saturated fat intake should be <7% of total calories. Intake of trans fat should be minimized. Monitoring Carbohydrates remains a key strategy in achieving glycemia control.	At least one lifetime pneumococcal vaccine as recommended.
Diabetes self-care education as indicated. (<i>Refer to item 4 below</i>)	Advise all patients not to smoke.
Reduction of protein intake to 0.8-1.0- g/kg-body weight per day in individuals with diabetes and the earlier stages of chronic kidney disease (CKD). In later stages of CKD reducing intake to 0.8-g/kg-body weight per day is recommended and may improve measures of renal function.	150 min/week of moderate-intensity aerobic physical activity (50–70% of maximum heart rate) and/or at least 90 min/week of vigorous aerobic exercise (> 70% of maximum heart rate).

Key concepts in setting glycemic goals:***

- A1c is the primary target for glycemic control. Lowering A1C to an average of 7% has clearly been shown to reduce microvascular and neuropathic complications of diabetes and possibly macrovascular disease.
- Goals should be individualized. A1C goal for selected individual patients is as close to normal (<6%) as possible without significant hypoglycemia.
- Certain populations (children, pregnant women, and elderly) require special considerations.
- Less stringent A1C goals may be appropriate for patients with a history of severe hypoglycemia, patients with limited life expectancies, children, individuals with comorbid conditions, and those with longstanding diabetes and minimal or stable microvascular complications
- Postprandial glucose may be targeted if A1c goals are not met despite reaching preprandial glucose goals.

2. In adult with low-risk lipid values (LDL <100 mg/dl, HDL >50 mg/dl, triglycerides <150), repeat fasting lipid assessment every two years.

3. Screening for microalbuminuria can be performed by three methods:

- Measurement of the albumin to-creatinine ratio in a random, spot collection (preferred method)
- 24-h collection with creatinine, allowing the simultaneous measurement of creatinine clearance
- Timed (e.g, 4-h or overnight) collection

The analysis of a spot sample for the albumin-to-creatinine ratio is strongly encouraged. The other two alternatives are rarely necessary.

4. Perform annual reassessment of self-management skills. Assess need for knowledge and skills in the following areas:

- Diabetes disease process and progression
- Nutritional management
- Medications
- Monitoring of blood glucose and urine ketone levels
- Frequency of acute complications: Preventing, detecting, and treating
- Psychosocial adjustment
- Alcohol and tobacco use
- Dental, foot and skin care
- Importance of annual dilated retinal exam
- Physical activity and weight management
- Cognitive ability

***Referenced to a nondiabetic range of 4.0-6.0% using a DCCT-based assay.

**Values are for non-pregnant adults and children

Based on the American Diabetes Association Standards of Medical Care in Diabetes-2006, published in Diabetes Care, Volume 30, Supplement 1, January 2007.

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10.3 Adult Preventive Health Clinical Practice Guidelines

This guideline is intended to assist the practitioner in clinical decision-making and attempt to define clinical practices that apply to most patients in most circumstances. The treating practitioner should make the ultimate decision regarding the care of a particular patient.

Scope and Target Population

Nearly every patient contact for any reason should be used as a possible prevention opportunity. Relying upon routine “checkup” appointments for the delivery of these services will clearly miss many patients, especially those who may need them the most. It is also important to consider ways to remind patients of their need for these services at other times than during office visits. The focus of this guideline is to provide a comprehensive approach to the provision of preventive services, counseling, education, and disease screening for average-risk, asymptomatic adults age 21 and over. This guideline generally does not address the needs of:

- Pregnant women
- Individuals with chronic disorders
- High-risk populations

Key Implementation Recommendations

1. Develop a process that allows patients to complete a risk assessment questionnaire prior to preventive visits, and update as necessary. This questionnaire then becomes part of the medical record.
2. The results of the health risk assessment questionnaire are used to identify needs for counseling and other preventive services.
3. The provision of needed preventive services is documented in the medical record and monitored.
4. Develop a process that identifies patients (routine office visits) behind in their preventive visit schedule and create a catch-up plan.
5. Develop a risk-assessment questionnaire that allows for easy identification and monitoring of counseling needs.
6. Risk assessment questionnaires should be in a consistent and easily accessible place in the patient’s chart.

Preventive Services Worthy of Attention

Level I - Preventive services that providers and care systems must deliver based on best practice evidence. If you cannot deliver this many services in any single visit, at least have a systems in place to track whether or not patients are up-to-date with the high priority preventive services recommended for their age group.

- Alcohol abuse; hazardous and harmful drinking screening and brief counseling - Identify those with risky or hazardous drinking, as well as those who have carried that behavior to the point of meeting criteria for dependence, and then provide intervention.
- Aspirin chemoprophylaxis counseling - Discuss w/postmenopausal women, men above age 40, and younger men and women who are at increased risk of CHD.
- Breast cancer screening - Mammogram every 1-2 years for women age 40 years of age and older.
- Cervical cancer screening - Beginning at age 21 or three years after first sexual intercourse,

whichever is earlier; every 3 years after 3 consecutive normal Pap smears over 5 years. Women 65 years and older with new sexual partner should resume routine screening.

- Chlamydia screening - All sexually active women aged 25 years and younger and any women at increased risk for infection.
- Colorectal cancer screening - Ages 50 years and older or age 45 and older if African American, at appropriate intervals as determined by whichever screening method is chosen.
- Hypertension screening - BP every 2 years if less than 120/80; every year if 120-139/80-89 Hg.
- Influenza immunization - Annually throughout entire flu season for all persons who wish to decrease the likelihood of contracting influenza.
- Lipid screening - Fasting fractionated lipid screening for men age 35 and older and women age 45 every five years.
- Pneumococcal immunization - Immunize high-risk groups once. Re-immunize those at risk of losing immunity once after 5 years. Immunize at 65 if not done previously. Reimmunize once if first received more than 5 years ago and before age 65 or an appropriate immunocompromising condition is present.
- Tobacco use screening and brief intervention - Establish tobacco use status and provide ongoing cessation services to all tobacco users.
- Vision screening – Provide vision testing for older adults and make referral as appropriate.

Level II - Preventive services that providers and care systems should deliver based on good evidence and have been shown to be effective when provided. If practitioners are successful in keeping patients on time with high-priority services during illness and disease management visits, preventive services in the second group can be delivered at any given opportunity.

- Abdominal aortic aneurysm screening - Men ages 65-75 who have ever smoked greater than 100 cigarettes in lifetime.
- Depression screening - Routine screening if there are systems in place to ensure accurate diagnosis, effective treatment and careful follow-up.
- Folic acid chemoprophylaxis counseling - Counsel women of reproductive age to use 800 micrograms of folic acid per day from food sources or supplements.
- Hearing screening - Subjective hearing screen followed by counseling on hearing aid devices and making referrals as appropriate for older adults.
- Hepatitis B immunization - Universal immunization for young adults less than 40 years of age.
- Herpes zoster/shingles immunization - Immunize at age 60 or older in patients who have no contraindications.
- Human Papillomavirus (HPV) immunization - Catch up through age 26.
- Inactivated polio vaccine (IPV) immunization – Vaccination should occur for non-immune adults who are at greater risk of exposure to wild-type polioviruses.
- Measles, mumps, rubella (MMR) immunization - Persons born during or after 1957 should have one dose of MMR; a second dose may be required in special circumstances.
- Obesity screening - Record height, weight and BMI at least annually.
- Osteoporosis screening – Review historical risk factors for osteoporosis, and record accurate serial height measures with a stadiometer and observe posture for kyphosis. Among different bone measurement tests performed at various anatomical sites, bone density measured at the femoral neck by dual energy x-ray absorptiometry (DXA) is the best predictor of hip fracture in women age 65 and older.
- Tetanus-diphtheria immunization – All adults should have completed a primary Td series. For all adults, immunize with a booster dose of Td every 10 years thereafter.
- Varicella immunization – For all adults without evidence of immunity, a dose of varicella vaccine should be given followed by a second dose at an interval of at least 28 days. A catch-up second dose of varicella vaccine is recommended for all children, adolescents and adults who received only one dose previously.

Interventions Considered and Recommended for the Periodic Health Examination Ages 21 and Older

Most authorities recommend these visits every 1-3 years until age 65 and yearly thereafter for healthy, asymptomatic individuals.

Some patients with special risk factors may require more frequent and additional types of preventive care.

SCREENING	21	30	35	40	45	50	55	60	65	70	75	80+
Blood Pressure	X	X	X	X	X	X	X	X	X	X	X	X
Height & Weight	X	X	X	X	X	X	X	X	X	X	X	X
BMI	X	X	X	X	X	X	X	X	X	X	X	X
Total Blood Cholesterol and HDL (men)	H	H	X	X	X	X	X	X	X	X	X	X
Total Blood Cholesterol and HDL (women)	H	H	H	H	X	X	X	X	X	X	X	X
Fecal occult blood test and/or sigmoidoscopy or Colonoscopy or Double contract barium enema (DCBE)	H	H	H	H	H	X	X	X	X	X	X	X
Pap test <i>annually</i> / 3 or more normal tests, then q 1-3 years	X	X	X	X	X	X	X	X	H	H	H	H
HIV screening: all pregnant women and adults at increased risk for HIV infection	H	H	H	H	H	H	H	H	H	H	H	H
Mammogram with or w/o clinical breast exam <i>annually</i> age 40 and older				X	X	X	X	X	X	X	X	X
Osteoporosis screening (women) Bone Density Scan								H	X	X	X	X
Chlamydia Screening: all sexually active and pregnant women <i>aged 25 and younger annually</i> and for those women at high risk (multiple partners, STD hx, etc) Rescreening 3 to 4 months following treatment	X	H	H	H	H	H	H	H	H	H	H	H
Gonorrhea Screening: all pregnant women and sexually active women	X	X	X	X	H	H	H	H	H	H	H	H
Human Papillomavirus; all women who have not completed the series	X	H	H	H	H	H	H	H	H	H	H	H
Assess for problem drinking	X	X	X	X	X	X	X	X	X	X	X	X
Assess for hearing impairment	X	X	X	X	X	X	X	X	X	X	X	X
Signs and symptoms of depression	X	X	X	X	X	X	X	X	X	X	X	X
Family violence screening	X	X	X	X	X	X	X	X	X	X	X	X
Vision Screening	X	X	X	X	X	X	X	X	X	X	X	X
COUNSELING	21	30	35	40	45	50	55	60	65	70	75	80+
Tobacco cessation	X	X	X	X	X	X	X	X	X	X	X	X
Second hand smoke	X	X	X	X	X	X	X	X	X	X	X	X
Limit fat and cholesterol, maintain caloric balance; emphasize grains, fruits, vegetables	X	X	X	X	X	X	X	X	X	X	X	X
Adequate calcium intake (women)	X	X	X	X	X	X	X	X	X	X	X	X
Regular physical activity	X	X	X	X	X	X	X	X	X	X	X	X
Lap/shoulder belts	X	X	X	X	X	X	X	X	X	X	X	X
Motorcycle/bicycle/ATV helmets	X	X	X	X	X	X	X	X	X	X	X	X
Smoke detector	X	X	X	X	X	X	X	X	X	X	X	X

<i>COUNSELING Continued</i>	21	30	35	40	45	50	55	60	65	70	75	80+
Safe storage/removal of firearms	X	X	X	X	X	X	X	X	X	X	X	X
Fall prevention									X	X	X	X
Hot water heater to <120 degrees F									X	X	X	X
STD prevention: avoid high risk behavior, use condoms	X	X	X	X	X	X	X	X	X	X	X	X
Unintended pregnancy: contraception	X	X	X	X	X	X	X	X				
Regular visits to dental care provider	X	X	X	X	X	X	X	X	X	X	X	X
Floss, brush with fluoride toothpaste	X	X	X	X	X	X	X	X	X	X	X	X
Advance Directives	H	H	H	H	H	H	H	H	X	X	X	X
<i>IMMUNIZATIONS</i>	21	30	35	40	45	50	55	60	65	70	75	80+
Tetanus –diphtheria (Td) boosters ; routine boosters q 10 yrs.; Tetanus, diptheria, acellular	X	X	X	X	X	X	X	X	X	X	X	X
Pertussis (Tdap); Substitute 1 dose Tdap for Td	X	X	X	X	X	X	X	X	X			
Influenza yearly age 50 and older; recommend at earlier age for those in high risk professions and patients with chronic illnesses	H	H	H	H	H	X	X	X	X	X	X	X
Pneumococcal age 65 > and older; earlier for those patients immunocompromised, chronic CV or pulmonary disorder history	H	H	H	H	H	H	H	H	X	X	X	X
Hepatitis A and B vaccine for those not previously immunized and at high risk for infection	H	H	H	H	H	H	H	H	H	H	H	H
Varicella vaccine for those not previously immunized and at high risk for infection	H	H	H	H	H	H	H	H	H	H	H	H
MMR 1 dose if vaccination history unreliable; 2 doses for persons with occupational, geographic or other indications (ex: negative titer)	X	X	X	X	X	H	H	H				
Meningococcal	H	H	H	H	H	H	H	H	H	H	H	H
HPV	X	H	H	H	H	H	H	H	H	H	H	H
<i>CHEMOPROPHYLAXIS</i>	21	30	35	40	45	50	55	60	65	70	75	80+
ASA usage for patients at high risk for coronary heart disease. Men >40 years old and postmenopausal women	H	H	H	X	X	X	X	X	X	X	X	X
Multivitamin with folic acid (if female and planning pregnancy)	X	X	X	X	X	X	H	H	H	H	H	H
Hormone prophylaxis, peri/post menopausal women				H	H	H	H	H	H	H	H	H

Based on US Preventive Services Task Force, Guide to Clinical Preventive Services 2005.

X – To be performed

H – To be performed based on patient history and/or symptoms

Based on the U.S. Preventive Services Task Force, Guide to Clinical Preventive Services 2005, update 2008; Morbidity and Mortality Weekly Report (MMWR), Notice to Readers: Updated Recommendations of the Advisory Committee on Immunization Practices (ACIP) for the Control and Elimination of Mumps, June 1, 2006; the CDC, Recommended Adult Immunization Schedule – United States, October 2006-September 2007. MMWR 2006; 55Q1-Q4; CA A Cancer Journal for Clinicians, American Cancer Society for the Early Detection of Cancer, 2006, Volume 56, Number 1, January/February 2006; and ICSI, Institute for Clinical Systems Improvement, Preventive Services for Adults, fourteenth edition, October 2008.

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10.4 Comprehensive Risk Reduction for Patients with Coronary and Other Vascular Disease Clinical Practice Guideline

This guideline is intended to assist the practitioner in clinical decision-making and attempt to define clinical practices that apply to most patients in most circumstances. The treating practitioner should make the ultimate decision regarding the care of a particular patient

Goals	Recommendations
<p>Smoking: Goal: Complete cessation. No exposure to environmental tobacco smoke.</p>	<p>Ask about tobacco use status at every visit. In a clear, strong and personalized manner, advise every tobacco user to quit. Assess the tobacco user's willingness to quit. Provide counseling, pharmacotherapy, including nicotine replacement and bupropion, and formal smoking cessation programs. Urge avoidance of exposure to secondhand smoke at work or home.</p>
<p>BP control: Goal: <140/90 mm Hg or <130/80 mm Hg if chronic kidney disease or diabetes is present.</p>	<p>For all patients: Assess blood pressure at every visit. Promote healthy lifestyle modification: Advocate weight reduction; reduction of sodium intake; consumption of fruits, vegetables and low-fat dairy products; moderation of alcohol intake (advise against alcohol usage for those with no history of intake); and physical activity. For patients with blood pressure \geq 140/90 mm Hg (or \geq 130/80 mm Hg for individuals with chronic kidney disease or diabetes): Add blood pressure medication as tolerated, beginning with β-blockers and/or ACE inhibitors, with addition of drugs such as thiazides to achieve goal blood pressure.</p>
<p>Physical Activity: Minimum Goal: 30 minutes 5 days per week Optimal Goal: Daily</p>	<p>Assess risk, preferably with exercise test, to guide exercise prescription. Encourage minimum of 30 to 60 minutes of activity, preferably daily, 5 times weekly (walking, jogging, cycling, or other aerobic activity) supplemented by an increase in daily lifestyle activities. Advise medically supervised programs for moderate- to high-risk patients.</p>
<p>Weight Management: Goal: Body Mass Index 18.5-24.9 kg/m² Waist circumference: men <40 inches, women <35 inches</p>	<p>Calculate BMI and measure waist circumference as part of evaluation. Monitor response of BMI and waist circumference to therapy. Start weight management and physical activity as appropriate. Desirable BMI range is 18.5-24.9 kg/m². When BMI \geq25 kg/m², goal for waist circumference is \leq40 inches in men and \leq35 inches in women.</p>
<p>Lipid Management: Primary Goal: LDL <100 mg/dl</p>	<p>Initiate dietary modifications in all patients (<7% saturated fat and cholesterol <200 mg/dl) and promote weight management and physical activity. Encourage increased consumption of omega-3 fatty acids and adding plant stanol/sterols (2 g/d) and viscous fiber (>10 g/d). Assess fasting lipid profile in all patients, and within 24 hr of hospitalization for those with an acute event. If patients are hospitalized, consider adding drug therapy on discharge. Add drug therapy according to the following guide:</p> <p>LDL <100mg/dL (baseline or on-treatment)</p> <ul style="list-style-type: none"> • Further reduction of LDL-C to <70 mg/dl is reasonable. • Consider fibrate or niacin (if low HDL or high TG) <p>LDL 100-129 mg/dL (baseline or on-treatment)</p> <p>Therapeutic options:</p> <ul style="list-style-type: none"> • Intensify LDL-lowering therapy (statin or resin*) • Fibrate or niacin (if low HDL or high TG) • Consider combined drug therapy (statin+fibrate or niacin) (if low HDL or high TG) <p>LDL \geq130 mg/dL (baseline or on-treatment)</p> <ul style="list-style-type: none"> • Intensify LDL-lowering therapy (statin or resin*) • Add or increase drug therapy with lifestyle therapies

Goals	Recommendations
Lipid management: Secondary Goal: If TG \geq 200 mg/dL, then non-HDL** should be <130 mg/dL	If TG \geq 150 mg/dL or HDL <40 mg/dL: Emphasize weight management and physical activity. Advise smoking cessation. If TG 200-499 mg/dL: Consider fibrate or niacin <i>after</i> LDL-lowering therapy*. If TG \geq 500 mg/dL: Consider fibrate or niacin <i>before</i> LDL-lowering therapy*. Consider omega-3 fatty acids as adjunct for high TG.
Antithrombotic agents/ anticoagulants:	Start and continue indefinitely aspirin 75- 162 mg/d if not contraindicated. Consider antithrombotic agent or warfarin if aspirin contraindicated. Manage warfarin to international normalized ratio = 2.0-3.0 in post MI patients when clinically indicated or for those not able to take aspirin. Aspirin should be started within 48 hours after CABG in the range of 100 - 325 mg/d. Aspirin in combination with clopidogrel 75 mg/d should be given for up to 12 months in patients that have acute coronary syndrome (ACS) or percutaneous coronary intervention with stent placement (PTCA). >1 month for bare metal stent, >3 months for sirolimus-eluting stent, and >6 months for paclitaxel-eluting stent. Patients that have had PTCA should receive higher-dose aspirin at 325 mg/d for 1 month for bare metal stent, 3 months for sirolimus-eluting stent, and 6 months for paclitaxel-eluting stent. Use of warfarin with aspirin and/or clopidogrel can cause increased risk of bleeding and should be monitored closely.
Diabetes management Goal: HbA1c <7%	Appropriate hypoglycemic therapy to achieve near-normal fasting plasma glucose, as indicated by HbA1c. Treatment of other risks (eg, physical activity, weight management, blood pressure and cholesterol management).
ACE inhibitors:	Treat all patients with left ventricular ejection fraction \leq 40% indefinitely; start early in stable high-risk patients (anterior MI, previous MI, Killip class II [S ₃ gallop, rales, radiographic CHF]). Consider chronic therapy for all other patients with coronary or other vascular disease unless contraindicated.
Angiotensin Receptor Blockers (ARB):	Use in patients who are intolerant of ACE inhibitors and have heart failure or have had a MI with left ventricular ejection fraction < 40%. May consider use in combination with ACE inhibitors in systolic-dysfunction heart failure.
Beta Blockers:	Start in all post-MI and acute ischemic syndrome patient. Continue indefinitely. Observe usual contraindications. Use as needed to manage angina, rhythm, or BP in all other patients.
Influenza Vaccination	Patients with cardiovascular disease should have an influenza vaccination annually.

Key: BP= blood pressure; ACE = angiotensin-converting enzyme; MI =myocardial infarction; TG = triglycerides; CHF= congestive heart failure; BMI = Body Mass Index

* The use of resin is relatively contraindicated when TG >200 mg/dL.

** Non-HDL cholesterol = total cholesterol minus HDL cholesterol.

Based on the American Heart Association/American College of Cardiology Guidelines for Preventing Heart Attack and Death in Patients with Atherosclerotic Cardiovascular Disease: 2001

AHA/ACC Guidelines for Secondary Prevention for Patients with Coronary and Other Atherosclerotic Vascular Disease: 2006 Update

Adopted by the Quality Medical Management Committee (QMMC) May 1999.

Revised and approved by the Quality Medical Management Committee (QMMC) August 2001.

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Revised and approved by the Quality Medical Management Committee June 2006.

Revised and reviewed by QMMC February 2008.

Revised and reviewed by QMMC February 2010.

10.5 Hypertension: Diagnosis and Treatment Clinical Practice Guidelines

This guideline is intended to assist the practitioner in clinical decision-making and attempt to define clinical practices that apply to most patients in most circumstances. The treating practitioner should make the ultimate decision regarding the care of a particular patient.

Treatment decisions for individual patients should not be based on blood pressure alone, but on an assessment of total cardiovascular risk. Before initiating pharmacological treatment, practitioners should consider several factors:

- the degree of blood pressure elevation
- the presence of target organ damage such as left ventricular hypertrophy, angina, prior Myocardial Infarction (MI), history of CABG/PTCA, nephropathy (proteinuria or elevated serum creatinine) peripheral vascular disease, retinopathy (generalized or focal narrowing of the retinal arteries).
- and the presence of clinical cardiovascular disease or other risk factors

Evaluation

*Classification of Blood Pressure (BP) for Adults Aged 18 Years and Older**

BP Classification	SBP* mmHg	DBP* mmHg	Lifestyle Modification	Initial Drug Therapy	
				Without Compelling Indications	With Compelling Indications
Normal	<120	and <80	Encourage	No antihypertensive drug indicated.	Drug(s) for compelling indications.‡
Prehypertension	120-139	or 80-89	Yes		
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).	

*Classification of Blood Pressure (BP) for Adults Aged 18 Years and Older**

SBP = systolic blood pressure; DBP = diastolic 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.

** Based on the average of two or more readings taken at each of two or more visits after an initial screening.

† 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.

Blood Pressure Measurement Techniques

Method	Notes
In-office	Persons should be seated quietly for 5 minutes in a chair. Confirm elevated reading in contralateral arm.
Ambulatory	Indicated for evaluation of “white-coat” hypertension. Absence of 10-20 percent BP decrease during sleep may indicate increased CVD risk.
Patient self-check	Benefits patients by providing information on response to antihypertensive medication, may help improve adherence to therapy and is useful for evaluating “white-coat” hypertension.

Diagnostic Workup of Hypertension

- Confirmation of hypertension (HTN) based on the initial visit, plus two follow-up visits with at least two blood pressure (BP) measures at each visit.
- Assess lifestyle and identify other cardiovascular risk factors or comorbidities.
- Reveal identifiable causes of hypertension.
- Assess the presence or absence of target organ damage and cardiovascular disease (CVD).
- Conduct history and physical examination.
- Obtain laboratory tests: electrocardiogram, urinalysis, blood glucose, hematocrit and lipid profile after nine to 12 hours fasting, serum potassium, creatinine, and calcium. Optional: urinary albumin/creatinine ratio.

Assess for Major Cardiovascular Disease (CVD) Risk Factors

- Hypertension
- Obesity (body mass index >30 kg/m²), waist circumference >40 inches for men and >35 inches for women.
- Dyslipidemia
- Diabetes mellitus (or impaired glucose tolerance)
- Cigarette smoking
- Physical inactivity
- Microalbuminuria, estimated glomerular filtration rate <60 mL/min
- Age (older than 55 for men, older than 65 for women)
- Family history of premature CVD (men under age 55, women under age 65)

Assess for Identifiable Causes of Hypertension

- Obstructive sleep apnea
- Drug induced or related causes
- Chronic kidney disease/obstructive uropathy
- Primary aldosteronism
- Renovascular disease
- Cushing’s syndrome or chronic steroid therapy
- Pheochromocytoma
- Coarctation of the aorta
- Thyroid or parathyroid disease
- Obesity

Causes of Resistant Hypertension

- Improper BP measurement
- Excess sodium intake
- Inadequate diuretic therapy
- Medication
 - Inadequate doses

- Drug actions and interactions (e.g., nonsteroidal anti-inflammatory drugs (NSAIDs), illicit drugs, sympathomimetics, oral contraceptives)
- Over-the-counter (OTC) drugs and herbal supplements
- Excess alcohol intake
- Identifiable causes of hypertension

Characteristics Associated with Resistant Hypertension

- Older age
- Female gender
- African American race
- Obesity
- Presence of chronic kidney disease, diabetes, or left ventricular hypertrophy

Treatment

**** Check the health plan formulary listing for currently available medications by accessing www.passporthealthplan.com or the ePocrates drug listing.***

Principles of Hypertension Treatment (See “Algorithm for Treatment of Hypertension”)

- Treat to a BP <140/90 mmHg or BP <130/80 mmHg in patients with diabetes or chronic kidney disease.
- Majority of patients will require two medications to reach goal.
- Low dose Aspirin therapy should be considered ONLY when BP is controlled due to the risk of hemorrhagic stroke in patients with uncontrolled hypertension.

Compelling Indications for Individual Drug Classes

- A thiazide-type diuretic should be considered as initial therapy in most patients with uncomplicated hypertension.
- Monotherapy starts with one drug that is long acting, at a lowest possible dose, administered once daily (when feasible). If tolerated, dose can be increased or additional medications added to achieve goal BP.
- Alpha blockers for symptomatic BPH.
- Isolated systolic hypertension (older person) Diuretics preferred. Long acting dihydropyridine calcium antagonists.

Compelling Indication	Initial Therapy Options
Heart Failure	Diuretic, BB, ACEI, ARB, Aldo ANT
Post myocardial infarction	BB, ACEI, Aldo ANT
High coronary disease risk	Diuretic, BB, ACEI, CCB
Diabetes	Diuretic, BB, ACEI, ARB, CCB
Chronic kidney disease	ACEI, ARB
Recurrent stroke prevention	Diuretic, ACEI

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

Strategies for Improving Adherence to Therapy

- Clinician empathy increases patient trust, motivation, and adherence to therapy.
- Consider the patient’s cultural beliefs and individual attitudes in formulating therapy.
- Provide education about the medication and how it fits into the treatment plan.
- Encourage accurate use of home monitoring systems for assessing BP control.

- Simplify the regimen and use patient's adherence aids (e.g. pill boxes, alarms).
- Actively involve family members and significant others.

Monitoring after Initiation of Drug Therapy

	Frequency*
Until BP goal is reached	Monthly
After BP goal is reached & stable	Every 3-6 months
Serum Potassium & Creatinine level	1-2 times a year

* Comorbidities & the need for lab tests will influence the frequency of visits

Medical Record Documentation

- Record BP, current treatment, any changes in treatment, patient counseling/education and follow-up visit instructions in the medical record for each visit.

Principles of Lifestyle Modification

- Encourage healthy lifestyles for all individuals.
- Prescribe lifestyle modifications for all patients with prehypertension and hypertension.
- Components of lifestyle modifications include weight reduction, DASH eating plan, dietary sodium reduction, aerobic physical activity, and moderation of alcohol consumption.
- Tobacco use cessation.

Lifestyle Modification Recommendations

Modification	Recommendation	Avg. SBP Reduction **
Weight reduction	Maintain normal body weight (body mass index 18.5-24.9 kg/m ²).	5-20 mmHg/10 kg weight loss
Adopt DASH eating plan	Consume a diet rich in fruits, vegetables, and low fat dairy products with reduced content of saturated and total fat.	8-14 mmHg
Dietary sodium reduction	Reduce dietary sodium intake to \leq 100 mmol per day (2.4 g sodium or 6 g sodium chloride).	2-8 mmHg
Engage in physical activity	Regular aerobic physical activity (e.g., brisk walking) at least 30 minutes per day, most days of the week.	4-9 mmHg
Moderation of alcohol consumption	Men: limit to \leq 2 drinks* per day. Women and lighter weight persons: limit to \leq 1 drink* per day.	2-4 mmHg

** Effects are dose and time dependent and could be greater for some individuals.

‡ Dietary Approaches to Stop Hypertension

Based on the 7th Report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure (JNC7), December 2003, and ICSI Hypertension Diagnosis and Treatment, Twelfth Edition, October 2008.

Adopted and approved by the Quality Medical Management Committee (QMMC) January 2001.

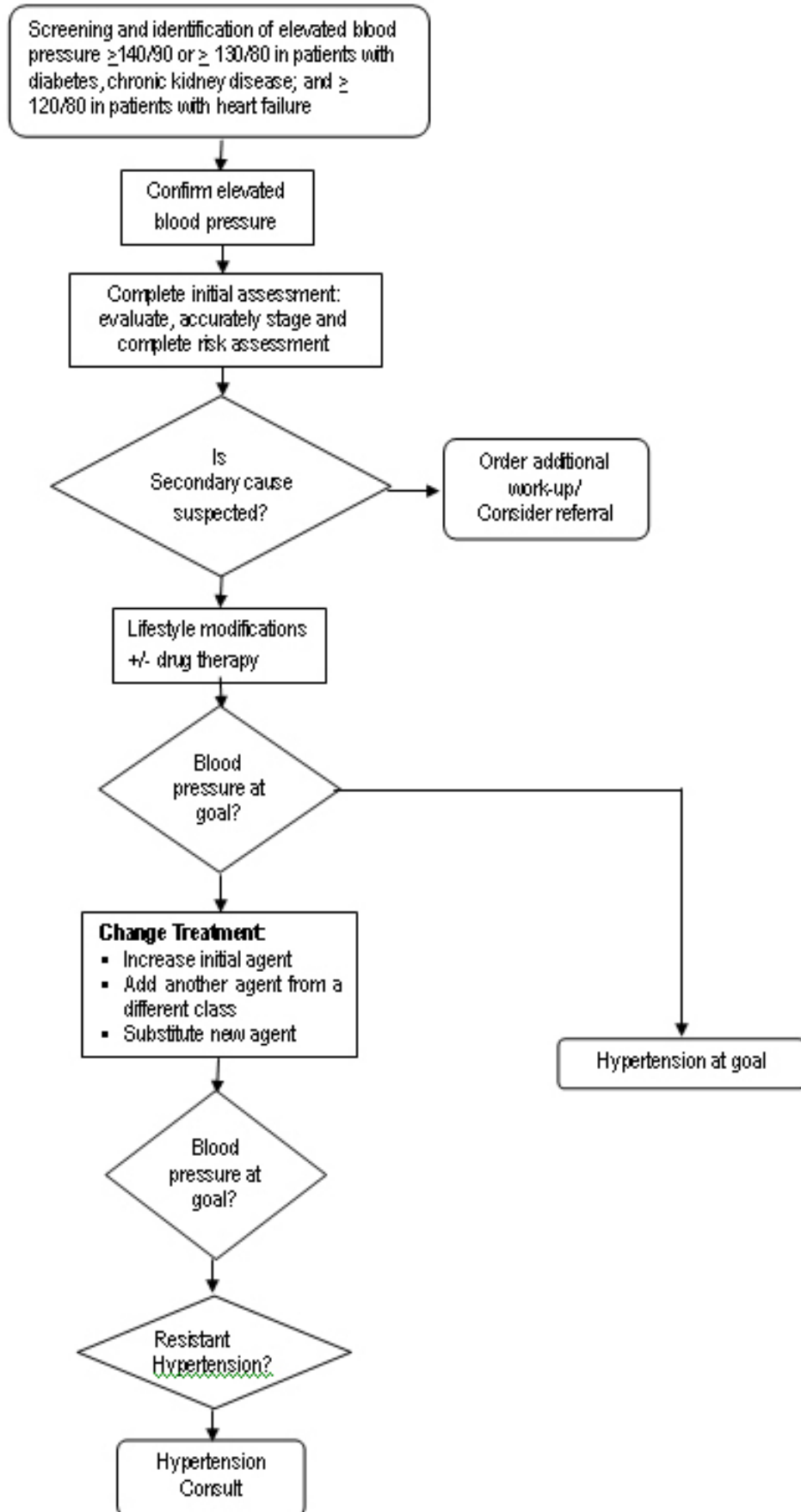
Revised and approved by the QMMC July 2003.

Revised and approved by the QMMC April 2005.

Revised and approved by the QMMC February 2007.

Revised and approved by QMMC April 2009.

Algorithm for Treatment of Hypertension



Based on the 7th Report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure (JNC7), December 2003.

10.6 Major Depression in Adults in Primary Care Clinical Practice Guideline

This guideline is intended to assist the practitioner in clinical decision-making and attempt to define clinical practices that apply to most patients in most circumstances. The treating practitioner should make the ultimate decision regarding the care of a particular patient.

Scope and Target Population

All adults greater than 18 years of age.

Goals of Treatment

A reasonable way to evaluate whether a system is successfully functioning in its diagnosis, treatment plan and follow-up of major depression is to:

- Recognize and diagnose depression;
- Educate patients about depression, assessing treatment preferences, engaging their participation and explaining the process of care;
- Use evidence-based guidelines and management tools for treating depression; and
- Monitor the patient's response to treatment.

Clinical Highlights and Recommendations

I. Recognition

- The primary care physician (PCP) suspects that a patient may be depressed.
- The patient may present with somatic complaints.
- Patient surveys utilized as an aid in self-reporting symptoms of depression.

II. Diagnosis

- The PCP may use screening tools followed by formal assessment to confirm diagnosis.

III. Patient Education

- If diagnosis is confirmed, the PCP and staff educate the patient about depression and the care process.
- Engage the patient and determine his/her preference for treatment.

IV. Treatment

- The PCP and patient select a management approach for treating depression:
 - 1) Watchful waiting, with supportive counseling
 - 2) Antidepressant medications
 - 3) Mental health referral for psychological counseling

V. Monitoring

- The PCP and support staff monitor for compliance with the plan and improvements in symptoms/function
- Modify treatment plan as appropriate

Annotations and Algorithms

1. Recognition

Presentations for major depression include:

- Multiple (>5/year) medical visits
- Multiple unexplained symptoms
- Work or relationship problems
- Dampened affect

- Poor behavioral follow-through with activities of daily living or prior treatment recommendations
- Weight gain/loss
- Sleep disturbance
- Fatigue
- Dementia
- Irritable bowel syndrome
- Volunteered complaints of stress or mood disturbance

Risk Factors for Major Depression Include:

- Family or personal history of major depression and/or substance abuse
- Recent loss
- Chronic medical illness
- Dysthymia
- Stressful life events that include loss (death of a loved one, divorce)
- Domestic abuse/violence
- Traumatic events (car accident)
- Major life change (job change)
- Emotional and behavioral reactions to these social stressors can include symptoms of major depression

Two Question Screen

Over the past month, have you been bothered by:

1. Little interest or pleasure in doing things?
2. Feeling down, depressed or hopeless?

If the patients’ response to both questions is “no”, the screen is negative.

If the patient responded “yes” to either question, consider asking more detailed questions or using the Hamilton Rating Scale for Depression.

Interview Questions

Using open-ended questions, addressing emotional issues in some way at each visit (how are things at home?), and having a high index of suspicion for depression when patients present with certain complaints (headache, fatigue, nonspecific aches) are all effective. Consider also asking these questions during your interview with patients whom you suspect are depressed.

- **Depressed Mood**
How’s your mood been lately?
- **Anhedonia**
What have you enjoyed doing lately?
- **Physical Symptoms**
How have you been sleeping?
What about your appetite?
- **Effects of Symptoms on Function**
How are things at home/work?
How’s your energy?
How have (the symptoms) affected your home or work life?
- **Psychological Symptoms/Suicidal Ideations**
How’s your concentration?
Do you feel like life is not worth living?
Have you been feeling down on yourself?
Do you have any plans to hurt yourself?
How does the future look to you?

2. **Diagnosis**

Diagnostic Tools - Appendix I

- Hamilton Rating Scale for Depression (HAM-D) is used to assess the severity of depression in patients already diagnosed with an affective disorder. There are two versions of the scale using either 21 or 17 items (HAM-D21 and HAM-D17); the 17-item scale uses the first 17 questions on the full scale. Items are scored from 0 to 4, the higher the score, the more severe the depression. Questions are related to symptoms such as depressed mood, guilty feelings, suicide, sleep disturbances, anxiety levels and weight loss.
- Geriatric Depression Scale is ideal for evaluating the clinical severity of depression in the elderly, can be used at initial and follow-up visits, and therefore for monitoring treatment.

DSM-IV Diagnostic Criteria

For major depressive disorder, at least five of the following symptoms must be present most of the day, nearly every day, for at least two weeks. At least **two bolded** symptoms must be present.

- **Depressed Mood**
- **Markedly diminished interest in usual activities**
- Significant increase/loss in appetite/weight
- Insomnia/hypersomnia
- Psychomotor agitation/retardation
- Fatigue or loss of energy
- Feelings of worthlessness or guilt
- Difficulty with thinking, concentrating, or making decisions
- Recurrent thoughts of death or suicide

Assessment Check List

- Quantify Severity of Depression
- Assess and Document Impairment of Function
- Evaluate Pertinent History/Comorbid Conditions
 - Past history of depression
 - Past history of other mental health problems
 - Past history of mental health treatment
 - History of suicide attempt (Patient or Family)
 - Family history of depression and other mental health problems (especially bipolar)
 - Stressful life events
 - Substance abuse
 - Bipolar illness
 - Current medications
- Evaluate Suicide Risk
 - High Risk/Suicide Risk Assessment Guidelines (Appendix II) identifies risk levels, description and actions to consider for the suicidal patient.

Suicide Screening Questions

- Have these symptoms/feelings we've been talking about led you to think you might be better off dead?
- This past week, have you had any thoughts that life is not worth living or that you'd be better off dead?
- What about thoughts about hurting or even killing yourself? If YES, what have you thought about? Have you actually done anything to hurt yourself?

Assessing Alternative Sources

- **Concurrent Medications** (*Appendix II*)
Idiosyncratic reactions to other medications can occur and if possible, a medication should be stopped or changed if depression develops after beginning its use. If symptoms persist after stopping or changing medication, re-evaluate for a primary mood or anxiety disorder.
- **Alcohol** Asking a few questions that can be easily integrated into a clinical interview serves as a screening of current alcohol or other drug problems. A common screening tool is the CAGE screen. (*Appendix II*)
- **Mania (R/O Bipolar Disorder)** Some patients presenting with a major depressive episode have a bipolar disorder, for which effective treatment may differ significantly from other depressed patients. When assessing a patient, consider asking about manic or hypomanic episode. (*Appendix II*)
- **Grief reaction** is a normal and natural consequence of personal or collective loss. Grief might last up to 12 weeks or less depending upon the severity and scale of the tragic event. However, if such grief reaction persists beyond three months it is called depression. (*Appendix II*)
- Always consider the possibility of a differential diagnosis such as; bipolar disorder (and Bipolar Type II), psychotic depression, and chronic depression as being important diagnosis which lead to different types of treatment selection.

3. Depression & Mental Health Education Material

External Resources

Several agencies provide information on depression, its causes, symptoms, methods for screening, treatment options, professionals who treat the disease, and how antidepressants are selected and common side effects. Information can be found at the following websites.

- Agency for Health Care Policy and Research <http://www.AHRQ.gov/consumer>
- American Academy of Family Physicians <http://familydoctor.org/handouts/587.html>
- American Psychiatric Association http://www.psych.org/public_info/depression.cfm
- National Alliance on Mental Illness <http://www.nami.org/index.html>
- Mental Health America <http://www.nmha.org>

Tools for Patient Education

Patients' compliance depends on physician's support. Several resources are available to provide guidance for discussing patient lifestyle issues that impact treatment of depression including exercise, psychotherapy, pregnancy, age, and over-the-counter treatments.

- U.S. Department of Health and Human Services Public Health Service. Depression in Primary Care, Volume 2. Treatment of Major Depression. Pp. 43-44, 1993 (Class R).
- U.S. Department of Health and Human Services Public Health Service. Quick Reference Guide for Clinicians. Depression in Primary Care: Detection, Diagnosis and Treatment. P. 10, 1993 (Class R).
- Artal M, Sherman C. "Exercise Against Depression." The Physician and Sports Med available at: <http://www.physsportsmed.com/issues/1998/10Oct/aratl.htm>

4. Special Populations and Considerations

Pregnancy

Because depression during pregnancy entails a risk to the newborn, the risk-benefit ratio of continuing SSRI treatment should be assessed. Maternal depression and other stress states have been associated with lower birth weight and gestational age of infant offspring, delivery by cesarean section, and admittance to neonatal care units. The use of selective serotonin reuptake inhibitors (SSRIs) during pregnancy has been associated with an increased risk

of neonatal abstinence syndrome, a type of withdrawal with symptoms that include high-pitched crying, tremors, and disturbed sleep. It is suggested that SSRI-exposed infants be monitored for at least 48 hours after birth. Also note that the long-term effects of in utero exposure to SSRIs have not been determined. Patients with a history of mood disorders are at increased risk of postpartum depression. Several depressive conditions may follow childbirth. “Postpartum Blues” affects 50%-85% of mothers in the first two weeks after delivery. If the patient remains significantly depressed 3-4 weeks following delivery, it should be considered serious and treated including eliminating medical causes of depressive symptoms such as postpartum thyroid disorders or anemia. The first two to three months postpartum is the period of greatest risk for the development of major depression.

Elderly

Major depression is also seen in elderly patients with comorbid illnesses, such as CVA, cancer, dementia or disabilities.

5. Treatment Options

Supportive Counseling Clinical Approach

- Active Listening
- Advice giving
- Add perspective
- Confirm appropriateness of patient concerns

Process for Developing/Monitoring Coping Strategies

- Identify two or three coping strategies that may be helpful for the patient and clarify if the strategies will be consistent with their personality and lifestyle.
- Create a list of these coping strategies, giving one to the patient and the other to keep in the medical record.
- Have the patient keep track of both the problems and coping strategies that occur over the next week/couple of weeks. Have patient bring a summary to the next office visit.
- Assess coping strategies that patient used, reinforcing strategies that are effective and making suggestions when improvements are needed.

Focus on Coping Strategies

- Problem Focused
 - Identify situations that can be changed
 - Gather facts
 - Use problem-solving techniques
 - Replace negative thoughts
- Emotion Focused
 - Identify situations that cannot be changed
 - Discuss participation in Pleasurable activities
 - Encourage activities that boost self-esteem
 - Encourage activities that relax
- Focus on Solutions
 - Empathize with the patient
 - Construct clear, simple, specific behavioral change plans:
 - Work
 - Home
 - Finances
 - Health

Antidepressant Treatment

Recommended Guidelines for Treatment of Depression

EPISODE	PHARMACOLOGIC TREATMENT DURATION
First	6-12 months
Second	3 years
Second with complicating factors*	Lifetime
Third	Lifetime

*Complicating factors are those situations where evidence either shows or suggests higher rates of recurrence after stopping antidepressants and include:

- Pre-existing dysthymia
- Inability to achieve remission
- Recurrence of symptoms in response to previously attempted lowering dose or discontinuation

Continuation/Maintenance Treatment – Preventing Relapse/Recurrence

Type of Patient	Continuation Treatment	Maintenance Treatment
Initial Episode	4 to 9 months after return to well state	Discuss with patient the Pros/Cons of continuing antidepressant therapy based on severity of episode
Recurrent Episode (2 or more episodes of depression in a 5 year period)	At least 9 months	Continue long-term maintenance therapy. Consult AHCP (AHRQ) guidelines for details about maintenance treatment.

Herbal and Dietary Supplements

Caution: Many drugs interact with St. John's wort, including other antidepressants, warfarin, oral contraceptives, antiviral, anti-cancer, and anti-rejection drugs. Care should be taken to ask all patients what medications they are taking, including over-the-counter and supplements, to avoid these interactions. Other herbal remedies and dietary supplements, such as kava-kava, Omega-3 fatty acid (docosahexaenoic acid) and valerian root, have not been proven effective for the treatment of depression and may or may not be safe. Herbal products and nutritional supplements are not evaluated or regulated by the U.S. Food and Drug Administration for safety, efficacy, or bioavailability.

Psychiatric Emergency and Referral

Sequence in Referral Process

1. Once the PCP determines the diagnosis of depression, he/she should also discuss the need for mental health referral and emphasize the importance of utilizing individual therapy.
 - Psychological counseling may be used alone (if the patient prefers this to medication) in cases of mild to moderate depression. Initiate referral as soon as the patient agrees to counseling.
 - In more severe depression, psychological counseling should be used in conjunction with antidepressants.
 - Consideration for inpatient psychiatric admission process should be initiated with the help of a behavioral health specialist, if the patient is:
 - Suicidal with a plan
 - Homicidal with intent
 - Gravely psychotic

2. PCP explains reasons for mental health referral and recommends appropriate level of care and type of psychological counseling services (i.e., counselor, psychologist, psychiatrist).
3. Patient may not agree to seek help from a mental health specialist. If patient resists, PCP and/or office staff provides education, support and counseling, and reinforce need for mental health referral.
4. Referral is completed once the mental health specialist is selected. The PCP includes his/her office information, such as address, phone and fax numbers on the form, to facilitate communication.
5. Mental health specialist begins treating the patient and communicates response and recommendations back to the PCP.
6. PCP and mental health specialist should continue to communicate and coordinate patient treatment, until problems are resolved.

Exercise

Evidence suggests that physical activity might be a useful tool for easing major depression symptoms. When prescribing exercise as an adjunct to medication and psychotherapy, the complexity and the individual circumstances of each patient must be considered. Several caveats apply:

- Anticipate barriers – hopelessness and fatigue can make physical exertion difficult.
- Keep expectations realistic – some patients are vulnerable to guilt and self blame if they fail to carry out the regime.
- Introduce a feasible plan – walking, alone or in a group, is often a good option.
- Accentuate pleasurable aspects – the specific choice of exercise should be guided by the patient’s preferences, and must be pleasurable.
- State specifics – a goal of 30 minutes of moderate-intense exercise, 3-5 days a week is reasonable for otherwise healthy adults.
- Encourage adherence – greater antidepressant effects are seen when training continues beyond 16 weeks.

Referral and Follow Up with Behavioral Health

- If possible an appointment with a behavioral health specialist should be made prior to the patient leaving the PCP’s office.
- The patient should always be given the name, address and phone number of the behavioral health specialist.
- The PCP should follow up with the behavioral health specialist in 6-8 weeks.

6. Monitoring

Once treatment is initiated, the patient should be contacted by phone or office visit within 1-2 weeks of diagnosis as a first step, regardless of severity.

Scheduling Follow-up Appointments after Initial Treatment

Minor	Watchful waiting, with a re-evaluation in 4-8 weeks
Mild	Visit or phone contact <u>every month</u>
Moderate	Visit or phone contact <u>every 2 weeks. Initiate referral to behavioral health specialist at first visit/contact.</u>
Severe	Visit or phone contact at least <u>every week.</u> Immediate referral to behavioral health specialist.

Monitoring tools could include but are not limited to:

A. Depression Monitoring Flow Sheet

B. Processing Referrals for Psychological Services

C. Referral to Mental Health Services Form

D. Model Communication Form

(Mental Health Specialist – PCP)

*Available from: The MacArthur Initiative on Depression & Primary Care
www.depression-primarycare.org*

Based on The MacArthur Initiative on Depression & Primary Care at Dartmouth & Duke, Depression Management Tool Kit, Version 9.11 May 2006 and the Institute for Clinical Systems Improvement Health Care Guideline: Major Depression in Adults in Primary Care, Eleventh Edition, May 2008.

Approved and adopted by the Quality Medical Management Committee (QMMC) June 2007.

Reviewed and revised by QMMC June 2009.

Appendix I

Diagnostic Tools

1. Hamilton Rating Scale
2. Geriatric Depression Scale

Hamilton Rating Scale for Depression

Patient Name: _____

Rater Name: _____

Date: _____

Activity _____ Score _____

- 1. Depressed mood** _____
Sad, hopeless, helpless, worthless
0 = Absent
1 = Gloomy attitude, pessimism, hopelessness
2 = Occasional weeping
3 = Frequent weeping
4 = Patient reports highlight these feelings states in his/her spontaneous verbal and non-verbal communication.
- 2. Feelings of Guilt** _____
0 = Absent
1 = Self-reproach, feels he she has let people down
2 = Ideas of guilt or rumination over past errors or sinful deeds
3 = Present illness is punishment
4 = Hears accusatory or denunciatory voices and/or experiences threatening visual hallucinations. Delusions of guilt.
- 3. Suicide** _____
0 = Absent
1 = Feels life is not worth living
2 = Wishes he/she were dead, or any thoughts of possible death to self
3 = Suicide, ideas or half-hearted attempt
4 = Attempts at suicide (any serious attempt rates 4)
- 4. Insomnia, early** _____
0 = No difficulty
1 = Complaints of occasional difficulty in falling asleep i.e. more than half-hour
2 = Complaints of nightly difficulty falling asleep
- 5. Insomnia, middle** _____
0 = No difficulty
1 = Patient complains of being restless and disturbed during the night
2 = Walking during the night – any getting out of bed rates 2
(Except voiding bladder)
- 6. Insomnia, late** _____
0 = No difficulty
1 = Waking in the early hours of the morning but goes back to sleep
2 = Unable to fall asleep again if he/she gets out of bed

Page 1 Score _____

7. **Work and activities** _____
0 = No difficulty
1 = Thoughts and feelings of incapacity related to activities:
work or hobbies
2 = Loss of interest in activity – hobbies or work – either directly
reported by patient or indirectly seen in listlessness, in
decisions and vacillation (feels he/she has to push self to
work or activities)
3 = Decrease in actual time spent in activities or decrease in productivity.
In hospital, rate 3 if patient does not spend at least three hours a day
In activities.
4 = Stopped working because of present illness. In hospital rate 4 if
patient engages in no activities except supervised ward chores.
8. **Retardation** _____
Slowness of thought and speech; impaired ability to concentrate;
Decreased motor activity
0 = Normal speech and thoughts
1 = Slight retardation at interview
2 = Obvious retardation at interview
3 = Interview difficult
4 = Interview impossible
9. **Agitation** _____
0 = None
1 = Fidgetiness
2 = Playing with hands, hair, obvious restlessness
3 = Moving about; can't sit still
4 = Hand wringing, nail biting, hair pulling, biting of lips, patient is on the run
10. **Anxiety, psychic** _____
Demonstrated by:
• Subjective tension and irritability, loss of concentration
• Worrying about minor matters
• Apprehension
• Fears expressed without questioning
• Feelings of panic
• Feeling jumpy
0 = Absent
1 = Mild
2 = Moderate
3 = Severe
4 = incapacitating

Page 2 Score _____

11. **Anxiety, somatic** _____
Physiological concomitants of anxiety such as:
- Gastrointestinal: dry mouth, wind, indigestion, diarrhea, cramps, belching
 - Cardiovascular: palpitations, headaches
 - Respiratory: hyperventilation, sighing
 - Urinary frequency
 - Sweating
 - Giddiness, blurred vision
 - Tinnitus
- 0 = Absent
1 = Mild
2 = Moderate
3 = Severe
4 = Incapacitating
12. **Somatic symptoms: gastrointestinal** _____
0 = None
1 = Loss of appetite but eating without encouragement
2 = Difficulty eating without urging. Requests or requires laxatives or medication for GI symptoms
13. **Somatic symptoms: general** _____
0 = None
1 = Heaviness in limbs, back or head; backaches, headaches, muscle aches, loss of energy, fatigability
2 = Any clear symptom rates 2
14. **Genital Symptoms** _____
Symptoms such as: loss of libido, menstrual disturbances
0 = Absent
1 = Mild
2 = Severe
15. **Hypochondriasis** _____
0 – Not present
1 = Self-absorption (bodily)
2 = Preoccupation with health
3 = Strong conviction of some bodily illness
4 = Hypochondrial delusions
16. **Loss of Weight** _____
Rate either 'A' or 'B':
A When rating by History:
0 = No weight loss
1 = Probably weigh loss associated with present illness
2 = Definite (according to patient) weigh loss
B Actual Weigh changes (weekly):
0 = Less than 1 lb. (0.5 kg) weigh loss in one week
1 = 1-2 lb. (0.5-1.0 kg) weight loss in week
2 = Greater than 2 lb. (1 kg) weigh loss in week
3 = Not assessed

17. **Insight** _____
 0 = Acknowledges being depressed and ill
 1 = Acknowledges illness but attributes cause to bad food, overwork, virus, need for rest, etc.
 2 = Denies ill at all
18. **Diurnal Variation** _____
 A Note whether symptoms are worse in morning or evening. If NO diurnal variation, mark none.
 0 = No variation
 1 = Worse in A.M.
 2 = Worse in P.M.
- B When present, mark the severity of the variation. If NO variation, mark none.
 0 = None
 1 = Mild
 2 = Severe
19. **Depersonalization and Derealization** _____
 (Such as: Feelings of unreality, Nihilistic ideas)
 0 = Absent
 1 = Mild
 2 = Moderate
 3 = Severe
 4 = Incapacitating
20. **Paranoid Symptoms** _____
 0 = None
 1 = Suspicious
 2 = Ideas of reference
 3 = Delusions of reference and persecution
21. **Obsess ional and Compulsive Symptoms** _____
 0 = Absent
 1 = Mild
 2 = Severe

Page 4 Score _____

TOTAL Score _____

Score for level of depression: 10 - 13 mild; 14-17 mild to moderate; >17 moderate to severe.

Reference:

Hamilton M. "Development of a rating scale for primary depressive illness."
Br J Soc Clint Psycho. 1967; 6:278-296

Geriatric Depression Scale

Patient _____

Examiner _____ Date _____

Directions to Patient: Please choose the best answer for how you have felt over the past week.

Directions to Examiner: Present questions VERBALLY. Circle answer given by patient. Do not show to patient.

- | | | |
|---|----------------|---------------|
| 1. Are you basically satisfied with your life? | Yes | No (1) |
| 2. Have you dropped many of your activities and interests? | Yes (1) | No |
| 3. Do you feel that your life is empty? | Yes (1) | No |
| 4. Do you often get bored? | Yes (1) | No |
| 5. Are you hopeful about the future? | Yes | No (1) |
| 6. Are you bothered by thoughts you can't get out of your head? | Yes (1) | No |
| 7. Are you in good spirits most of the time? | Yes | No (1) |
| 8. Are you afraid that something bad is going to happen to you? | Yes (1) | No |
| 9. Do you feel happy most of the time? | Yes | No (1) |
| 10. Do you often feel helpless? | Yes (1) | No |
| 11. Do you often get restless and fidgety? | Yes (1) | No |
| 12. Do you prefer to stay at home rather than go out and do things? | Yes (1) | No |
| 13. Do you frequently worry about the future? | Yes (1) | No |
| 14. Do you feel you have more problems with memory than most? | Yes (1) | No |
| 15. Do you think it is wonderful to be alive now? | Yes | No (1) |
| 16. Do you feel downhearted and blue? | Yes (1) | No |
| 17. Do you feel pretty worthless the way you are now? | Yes (1) | No |
| 18. Do you worry a lot about the past? | Yes (1) | No |
| 19. Do you find life very exciting? | Yes | No (1) |
| 20. Is it hard for you to get started on new projects? | Yes (1) | No |
| 21. Do you feel full of energy | Yes | No (1) |

22. Do you feel that your situation is hopeless?	Yes (1)	No
23. Do you think that most people are better off than you are?	Yes (1)	No
24. Do you frequently get upset over little things?	Yes (1)	No
25. Do you frequently feel like crying?	Yes (1)	No
26. Do you have trouble concentrating?	Yes (1)	No
27. Do you enjoy getting up in the morning?	Yes	No (1)
28. Do you prefer to avoid social occasions?	Yes (1)	No
29. Is it easy for you to make decisions?	Yes	No (1)
30. Is your mind as clear as it used to be?	Yes	No (1)

TOTAL:

Please sum all bolded answers that are circled (worth one point) for a total score. _____

Scores: 0 - 9 Normal 10 - 19 Mild Depressive 20 - 30 Severe Depressive

Source: www.stanford.edu/yesavage

A series provided by The Hartford Institute for Geriatric Nursing (hartford.ign@nyu.edu)

www.hartfordign.org

APPENDIX II

Assessment Tools

1. Suicide Risk Assessment
2. Medications and Depression
3. Alcohol CAGE Score
4. Bipolar Disorder Symptomatology
5. Grief Reaction Identification

1. Suicide Risk Assessment

Risk	Description	Action
Low	No current thoughts, no major risk factors.	Continue follow-up visits and monitor.
Intermediate	Current thoughts, but no plans, with or without risk factors	Assess suicide risk carefully at each visit and contract with patient to call you if suicidal thoughts become more prominent; consult with an expert if needed.
High	Current thoughts with plan	Emergency management by qualified expert.

2. Concurrent Medications

The drugs listed below have been implicated in the development of depression.

Antihypertensive and cardiovascular drugs	Methyldopa, reserpine, clonidine, beta-blockers, digoxin, diuretics (hypokalemia or hyponatremia)
Sedative-hypnotic agents	Alcohol, benzodiazepines, barbiturates, chloral hydrate, meprobamate
Anti-inflammatory agents and analgesics	Opioid (narcotic) agents
Hormones	Corticosteroids, oral contraceptives, estrogen withdrawal, anabolic steroids

3. CAGE Questionnaire

Have you ever felt you ought to Cut down on your drinking?

Have people Annoyed you by criticizing your drinking?

Have you ever-felt bad or Guilty about your drinking?

Have you ever had a drink first thing in the morning to steady your nerves or get rid of a hangover (Eye-opener)?

Two or more "Yes" responses yield a positive screen test for alcohol.

4. Mania or Bipolar Symptomology

Has there ever been a period of at least four days when you were so happy or excited that you got into trouble, or your family or friends worried about you, or a clinician said you were manic?

A "Yes" response indicates potential bipolar disorder. Assess further for mania. Diagnostic criteria for mania include the concurrent presence of at least four of the following symptoms, one of which must be the first symptom listed (bolded).

- **A distinct period of abnormal, persistently elevated, expansive, or irritable mood.**
- Less need for sleep.
- Inflated self-esteem/grandiosity.
- More talkative (pressured speech) than usual.
- Distractibility.

- Increased goal-directed activity or psychomotor agitation.
- Excessive involvement in pleasurable activities without regard for negative consequences (e.g., buying sprees, sexual indiscretions, foolish ventures).

5. Grief Reaction?

Did your most recent period of feeling depressed or sad begin just after someone close to you died?

If YES TO QUESTION 1, ASK: Did the death occur more than two months ago?

If 'No' to first question, or if 'Yes' to both questions, treat the patient for depression.

10.7 Anxiety Disorders in Adults in Primary Care Clinical Practice Guideline

This guideline is intended to assist the practitioner in clinical decision-making and attempt to define clinical practices that apply to most patients in most circumstances. The treating practitioner should make the ultimate decision regarding the care of a particular patient.

Goals of Treatment

Key priorities for implementation of a successful treatment plan for anxiety disorders include:

- Recognition and diagnosis of appropriate type of anxiety disorder.
- Utilization of diagnostic tools for anxiety symptom identification.
- Incorporating shared decision making between patient/caregiver and provider.
- Providing pharmacological management specific for anxiety type.
- Monitoring the patients' response to treatment and stabilization of symptoms.
- Reviewing and offering alternative treatments to include referral to mental health services.

Clinical Highlights and Some Common Recommendations

I. Diagnosing and Defining Anxiety Disorders

Everyone experiences anxiety at one time or another – “butterflies in the stomach” before giving a speech or sweaty palms during a job interview are common symptoms. Other symptoms include irritability, uneasiness, jumpiness, feelings of apprehension, rapid or irregular heartbeat, stomachache, nausea, faintness, and breathing problems. Anxiety is often manageable and mild, but sometimes it can present serious problems. A high level or prolonged state of anxiety can make the activities of daily life difficult or impossible. The diagnostic process should elicit necessary relevant information such as symptoms, personal history, self-medication, and cultural or other individual characteristics that may be important considerations in subsequent care. Patients may have generalized anxiety disorder (GAD) or more specific anxiety disorders such as panic, phobias, obsessive-compulsive disorder (OCD), or post-traumatic stress disorder (PTSD).

- **Generalized Anxiety Disorder (GAD)** is ongoing, excessive worry or fear that is not related to a particular event or situation. It is out of proportion to what would be expected. If a patient has GAD, they worry so much that it interferes with day-to-day life, and is accompanied by tense feelings and worrying more days than not.

Symptoms

- Exaggerated worry
- Tension
- Anticipating disaster
- Irritability
- Trouble concentrating
- Restlessness, or feeling keyed up or on edge
- Physical symptoms
 - Fatigue
 - Headaches
 - Muscle tension
 - Muscle aches
 - Difficulty swallowing
 - Trembling and/or twitching

- Shortness of breath (SOB)
- Pounding heartbeat
- **Panic Disorder** is characterized by unexpected and repeated episodes of intense fear accompanied by physical symptoms.

Symptoms

- Feelings of terror that strike suddenly and repeatedly with no warning
- Heart pounding with palpitations
- Sweating
- Feeling weak, faint, or dizzy
- Tingling or numbness in hands
- Feeling flushed or chilled
- Chest pain or smothering sensation
- Sense of unreality
- Fear of impending doom or loss of control
- **Obsessive Compulsive Disorder (OCD)** is characterized by the presence of obsessions (unwanted compulsive thoughts, images, or urges, which repeatedly enter the person's mind) and/or compulsions (unwanted, unnecessary behaviors such as repeated hand washing or cleaning, counting, checking electrical appliances or locks, etc.).

Symptoms

- Recurrent, unwanted, anxious thoughts
- Persistent, unwelcome thoughts or images
- Urgent need to engage in certain rituals that provide temporary relief, and not performing them markedly increases anxiety
- Rituals that cannot be controlled
- **Post Traumatic Stress Disorder (PTSD)** can develop after exposure to a terrifying event or ordeal in which grave physical harm occurred or was threatened. Traumatic events that may trigger PTSD include violent personal assaults, natural or human-caused disasters, accidents, or military combat.

Symptoms

- Persistent frightening thoughts
- Memories of tragic, violent acts or trauma
- Feeling emotionally numb or detached
- Easily startled
- May experience sleep problems
- **Social Anxiety Disorder**, also known as **Social Phobia**, refers to excessive long-lasting social anxiety causing relatively extreme distress and impaired ability to function in at least some areas of daily life. The diagnosis can be a 'specific' disorder (when only some particular situations are feared) or a generalized disorder.

Symptoms

- Excessive self-consciousness
- Persistent, intense, and chronic fear of being watched and judged by others
- Being embarrassed or humiliated by one's own actions
- Physical symptoms

- Excessive blushing
- Sweating (hyperhidrosis)
- Trembling
- Nausea
- Difficulty talking or stammering

Hamilton Rating Scale for Anxiety (HAMA) is a rating scale developed to quantify the severity of anxiety symptomatology. It consists of 14 items, each defined by a series of symptoms. Each item is rated on a 5-point scale, ranging from 0 (not present) to 4 (incapacitating). (*See attachment*)

II. Shared Decision Making

Shared decision-making between the individual/caregiver and healthcare professionals should take place during the process of diagnosis and in all phases of care. There should be accurate and effective communication between all healthcare professions involved in the care of the patient.

- Provide information on the nature, course and treatment of anxiety disorder
- Present information in clear and understandable language
- Discuss possible options of treatment
- Consider patient preference and the outcomes of previous experiences
- Encourage patient to take medication as prescribed
- Provide information on psychopharmacology
- Provide phone numbers for support and self-help groups
- Make appointments with mental health professionals before patient leaves the office

III. Psychotherapy Treatment Options

Psychotherapy involves talking with a trained mental health professional, such as a psychiatrist, licensed clinical psychologist, licensed clinical social worker (LCSW), or advanced practice psychiatric nurse (APPN), to discover what caused an anxiety disorder and how to deal with its symptoms. Patients much learn new ways to cope with anxiety and worry.

- **Cognitive Behavioral Therapy (CBT)** is very useful in treating anxiety disorders. The cognitive part helps patients change the thinking patterns that support their fears, and the behavioral part help patients change the way they react to anxiety-provoking situations. When patients are ready to confront their fears, they are shown how to use exposure techniques to desensitize themselves to situations that trigger their anxieties.
- **Exposure Based Behavioral Therapy** has been used for many years to treat specific phobias. The person gradually encounters the object or situation that is feared, perhaps at first only through pictures or tapes, then later face-to-face. Often the therapist will accompany the patient to a feared situation to provide support and guidance.
- **Self-help (bibliotherapy)** consists of the selection of reading material with special relevance to that patient's life situation. The use of written material is to help the patient understand their psychological problems and identify with ways to overcome them by changing their behavior.
- **Support group** information should be available and offered to all patients. Support groups may provide face-to-face meetings, telephone conference support groups, or additional information on all aspects of anxiety disorders plus other source help.

IV. Medication Treatment Options

Although medications cannot cure an anxiety disorder, they can keep the symptoms under

control and enable the patient to lead a normal, fulfilling life. Medication must be prescribed by physicians, usually psychiatrists, who can either offer psychotherapy themselves, or work as a team with psychologists, social workers, or counselors who can provide psychotherapy. The principal medications used for anxiety disorders are antidepressants, anti-anxiety drugs, and beta-blockers to control some of the physical symptoms.

- **Antidepressants** were developed to treat depression but are also effective for anxiety disorders. Although these medications begin to alter brain chemistry after the very first dose, their full effect requires a series of changes to occur; it is usually 4 to 6 weeks before symptoms start to fade. It is important to continue taking these medications long enough to let them work.

Selective Serotonin Reuptake Inhibitors (SSRIs) alter the levels of the neurotransmitter serotonin in the brain, which, like other neurotransmitters, helps brain cells communicate with one another. Fluoxetine, sertraline, escitalopram, paroxetine, and citalopram are some of the SSRIs commonly prescribed for panic disorder, OCD, PTSD, and social phobia. SSRIs are also used to treat panic disorder when it occurs in combination with OCD, social phobia, or depression. These medications are started at low doses and gradually increased until they have a beneficial effect. SSRIs have fewer side effects than older antidepressants, but they sometimes produce slight nausea or jitters when people first start to take them. These symptoms fade with time. Some patients experience sexual dysfunction with SSRIs, which may be helped by adjusting the dosage or switching to another SSRI.

Tricyclics are older than SSRIs and work as well for anxiety disorders other than OCD. They are also started at low doses that are gradually increased. They sometimes cause dizziness, drowsiness, dry mouth, and weight gain, which can usually be corrected by changing the dosage or switching to another tricyclic medication. Tricyclics include imipramine, which is prescribed for panic disorder and GAD, and clomipramine, which is the only tricyclic antidepressant useful in treating OCD.

- **Monoamine Oxidase Inhibitors (MAOIs)** are the oldest class of antidepressant medications. The MAOIs most commonly prescribed for anxiety disorders are phenelzine, followed by tranylcypromine, and isocarboxazid, which are useful in treating panic disorder and social phobia. Patients who take MAOIs cannot eat a variety of foods and beverages (including cheese and red wine) that contain tyramine or take certain medications, including some types of birth control pills, over the counter (OTC) pain relievers, cold and allergy medications, and herbal supplements. These substances can interact with MAOIs to cause dangerous increases in blood pressure. The development of a new MAOI skin patch may help lessen these risks. MAOIs can also interact with SSRIs to produce a serious condition called “serotonin syndrome”, which can cause confusion, hallucinations, increased sweating, muscle stiffness, seizures, changes in blood pressure or heart rhythm, and other potentially life-threatening conditions.
- **Anti-Anxiety Drugs**
High-potency benzodiazepines combat anxiety and have few side effects other than drowsiness.

Benzodiazepines can relieve symptoms within a short time and vary in duration of action in different patients. They may be taken two or three times a day, sometimes only once a day, or just on an as needed (PRN) basis. Dosage is generally started at a low level and gradually raised until symptoms are diminished or removed. The dosage will vary a great deal depending on the symptoms and the individual’s body chemistry. It is wise to abstain from alcohol when taking benzodiazepines, because the interaction between benzodiazepines and alcohol can lead to serious and possibly life threatening complications. It is also

important that the physician is informed of other medications being taken. Patients taking benzodiazepines for weeks or months may develop tolerance for and dependence on these drugs. Abuse and withdrawal reactions are also possible. **For these reasons, the medications are generally prescribed for brief periods of time - days or weeks – and sometimes just for stressful situations or anxiety attacks.** However, some patients may need long-term treatment. Clonazepam is used for social phobia and GAD, lorazepam is helpful for panic disorder, and alprazolam is useful for both panic disorder and GAD. Some patients may experience withdrawal symptoms if they stop taking benzodiazepines abruptly instead of tapering off, and anxiety can return once the medication is stopped. These potential problems have led some physicians to shy away from using these drugs or to use them in inadequate doses.

Buspirone, an azapirone, is a newer anti-anxiety medication used to treat GAD. Possible side effects include dizziness, headaches, and nausea. Unlike benzodiazepines, buspirone must be taken consistently for at least 2 weeks to achieve an anti-anxiety effect.

- **Beta-Blockers** are medications often used to treat heart conditions and high blood pressure but are also used to control “performance anxiety” when the individual must face a specific stressful situation.

Propranolol, which is used to treat heart conditions, can prevent the physical symptoms that accompany certain anxiety disorders, particularly social phobia. When a feared situation can be predicted (such as public speaking), a doctor may prescribe a beta-blocker to keep physical symptoms of anxiety under control.

V. **Monitoring and Follow Up**

Contact with the PCP is essential during treatment so that progress can be monitored and alternative interventions considered. In general, anxiety disorders are treated with medication, psychotherapy, or both. Communication between all healthcare professionals involved in the care of the patient is essential, especially if there exist physical health conditions that also require active management.

- **In some instances, referral is indicated upon identification of anxiety disorder regardless of severity level, but only after all medical issues and/or etiology are resolved.**
- Follow up within 2 weeks after new medications are started and again on 4, 6, and 8 weeks.
- At 8 weeks assess the efficacy of treatment and decide if continuation of treatment is warranted or if alternative interventions are needed.
- Benzodiazepines should not be used beyond 2-4 weeks.
- Consider referral/hospitalization for the following:
 - Comorbid depression
 - Comorbid substance abuse
 - Member requests specialized care
 - Member unresponsive to treatment

Based on National Institute of Clinical Excellence, Anxiety, management of anxiety (panic disorder, with or without agoraphobia, and generalized anxiety disorder) in adults in primary, secondary, and community care, Clinical Guideline 22, December 2004; National Institute of Mental Health, Anxiety Disorders, NIH Publication No. 02-3879, Reprinted 2002; Va/Dod Clinical Practice Guideline for the Management of Post Traumatic Stress, December 2003; National Institute of Mental Health (NIMH) Anxiety Disorders, website www.nimh.nih.gov; and Hamilton Anxiety Rating Scale (HAM-A) at www.cnsforum.com.

Approved and adopted by the Quality Medical Management Committee (QMMC) July 2006.

Reviewed and approved by QMMC June 2007.

Reviewed and approved by QMMC June 2009.

HAMILTON ANXIETY RATING SCALE (HAM-A)

Classification of Symptoms: 0 - absent; 1 - mild; 2 - moderate; 3 - severe; 4 - incapacitating
 HAM-A score level of Anxiety: < 17 mild; 18-24 mild to moderate; 25-30 moderate to severe

Patient: _____

Date : _____

- | | |
|---|---|
| <p>1. Anxious mood 0 1 2 3 4</p> <ul style="list-style-type: none"> • worries • anticipates worst <p>2. Tension 0 1 2 3 4</p> <ul style="list-style-type: none"> • startles • cries easily • restless • trembling <p>3. Fears 0 1 2 3 4</p> <ul style="list-style-type: none"> • fear of the dark • fear of strangers • fear of being alone • fear of animal <p>4. Insomnia 0 1 2 3 4</p> <ul style="list-style-type: none"> • difficulty falling asleep or staying asleep • difficulty with nightmares <p>5. Intellectual 0 1 2 3 4</p> <ul style="list-style-type: none"> • poor concentration • memory impairment <p>6. Depressed Mood 0 1 2 3 4</p> <ul style="list-style-type: none"> • decreased interest in activities • anhedonia • insomnia <p>7. Somatic complaints - Muscular 0 1 2 3 4</p> <ul style="list-style-type: none"> • muscle aches or pains • bruxism <p>8. Somatic complaints - Sensory 0 1 2 3 4</p> <ul style="list-style-type: none"> • tinnitus • blurred vision <p>9. Cardiovascular Symptoms 0 1 2 3 4</p> <ul style="list-style-type: none"> • tachycardia • palpitations • chest pain • sensory of feeling faint | <p>10. Respiratory Symptoms 0 1 2 3 4</p> <ul style="list-style-type: none"> • chest pressure • choking sensation • shortness of breath <p>11. Gastrointestinal Symptoms 0 1 2 3 4</p> <ul style="list-style-type: none"> • dysphagia • nausea or vomiting • constipation • weight loss <p>12. Genitourinary Symptoms 0 1 2 3 4</p> <ul style="list-style-type: none"> • urinary frequency or urgency • dysmenorrhea • impotence <p>13. Autonomic Symptoms 0 1 2 3 4</p> <ul style="list-style-type: none"> • dry mouth • flushing • pallor • sweating <p>14. Behavior at Interview 0 1 2 3 4</p> <ul style="list-style-type: none"> • fidgets • tremor • paces |
|---|---|

Column 1 Totals

Column 2 Totals

Total Score

Rater's Signature _____

10.8 COPD Clinical Practice Guideline

This guideline is intended to assist the practitioner in clinical decision-making and attempt to define clinical practices that apply to most patients in most circumstances. The treating practitioner should make the ultimate decision regarding the care of a particular patient.

Scope and Target Population

All Adults greater than 18 years of age.

Priority Aims

1. Increase the use of spirometry in the diagnosis of patients with COPD.
2. Increase the number of patients with COPD who receive information on the options for tobacco cessation and information on the risks of continued smoking.
3. Increase the appropriate use of pharmacotherapy prescribed for patients with COPD.
4. Increase education and management skills for patients with COPD.
5. Reduce COPD exacerbation requiring Emergency Department (ED) evaluation or hospital admission.
6. Increase the number of patients with COPD presenting with an acute exacerbation that have an oxymetric evaluation.

Clinical Recommendations

A. Establish diagnosis and severity of COPD through spirometry, pre- and post- bronchodilator and chest radiograph in addition to history and physical examination.

COPD is a preventable and treatable disease with some significant extra pulmonary effects that may contribute to the severity in individual patients. Its pulmonary component is characterized by airflow limitation that is not fully reversible. The airflow limitation is usually both progressive and associated with an abnormal inflammation response of the lungs to noxious particles or gases.

Chronic bronchitis is defined as the presence of chronic productive cough for 3 months in each of two successive years in a patient in whom other causes of chronic cough have been excluded.

Emphysema is defined as an abnormal permanent enlargement of the air spaces distal to the terminal bronchioles, accompanied by destruction of their walls and without obvious fibrosis.

COPD should be considered in any patient who has dyspnea, chronic cough or sputum production, and/or a history of exposure to risk factors for the disease. The diagnosis should be confirmed by spirometry.

Signs/symptoms for which COPD may be suspected:

- Wheezing, prolonged expiratory phase of respiration, rhonchi, and cough
- Dyspnea (exertional or at rest)
- Chronic cough (duration greater than 3 months) with or without sputum production.
- Hyperinflation of the chest with increased anterior-posterior (A-P) diameter
- Use of accessory muscles of respiration
- Pursed-lip breathing
- Signs of cor pulmonale
- Increased pulmonic component of the second heart sound
- Neck vein distention
- Lower extremity edema
- Hepatomegaly

Differential Diagnosis

Possible diagnoses for symptoms that are not COPD include asthma, bronchiectasis, cystic fibrosis, obliterative bronchiolitis, congestive heart failure, and upper airway lesions.

NOTE: Finger clubbing is NOT characteristic of COPD and should alert the clinician to another condition such as idiopathic pulmonary fibrosis (IPF), cystic fibrosis, lung cancer, or asbestosis.

Spirometry

Spirometry is an established and important method of measuring lung function for the diagnosis of patients with COPD. It is recommended for symptomatic patients at risk of COPD, particularly smokers greater than 40 years of age, and for regular follow-up of patients with documented COPD.

Pre- and Post-bronchodilator FEV₁

Measurement of pre- and post-bronchodilator FEV₁ is important to distinguish COPD from asthma, as treatment and prognosis differ. Factors commonly used to distinguish COPD from asthma include:

- Age of onset
- Smoking history
- Triggering factors
- Occupational history

Chest Radiograph

A chest radiograph is recommended at the time of diagnosis to exclude other causes. The chest radiograph in COPD is often normal but may show signs of hyperinflation, a flattened diaphragm, or bullae.

- B. After establishing severity, assess patient needs for pharmacological and non-pharmacological treatment to help improve and prevent symptoms, reduce frequency and severity of exacerbations, improve health status, and improve exercise tolerance.

Stage and Severity of COPD may be categorized according to the following table:

STAGE	Category of COPD	Typical Symptoms and Signs
I	Mild	No abnormal signs Cough ± sputum Little or no dyspnea
II	Moderate	Breathlessness (± wheeze on moderate exertion) Cough (± sputum) Variable abnormal signs (general reduction in breath sounds, presence of wheezes) Hypoxemia may be present
III	Severe	Dyspnea with any exertion or at rest Wheeze and cough often prominent
IV	Very Severe	Lung hyperinflation usual; Cyanosis, peripheral edema and polycythemia in advanced disease Hypoxemia and hypercapnia are common

I: Mild	II: Moderate	III: Severe	IV: Very Severe
<ul style="list-style-type: none"> • FEV₁/FVC < 0.70 • FEV₁ > 80% predicted 	<ul style="list-style-type: none"> • FEV₁/FVC < 0.70 • 50% < FEV₁/ 80% predicted 	<ul style="list-style-type: none"> • FEV₁/FVC < 0.70 • 30% < FEV₁ 50% predicted 	<ul style="list-style-type: none"> • FEV₁/FVC < 0.70 • 30% < FEV₁ 50% predicted plus respiratory failure
Active reduction of risk factor(s): influenza vaccination ----->			
Add short-acting bronchodilator (when needed) ----->			
Add regular treatment with one or more long-acting bronchodilators (when needed), Add rehabilitation			
Add inhaled Glucocorticosteroids if repeated exacerbations *			
Add long-term oxygen if chronic respiratory failure. Consider surgical treatments			

* Long-term treatment with oral glucocorticosteroids is not recommended. The most appropriate dosing is the clinician's judgment of the patient's response to therapy. Once control of COPD is achieved, the dose of medication should be carefully titrated to the minimum dose required to maintain control.

Bronchodilators

Albuterol is the preferred bronchodilator in the setting of an acute exacerbation of COPD because of its rapid onset of action.

Ipratropium may be added to produce additive bronchodilation and allow the use of lower doses of albuterol.

Albuterol and ipratropium are equipotent as bronchodilators, improving dyspnea and exercise tolerance equally well.

Salmeterol is a long-acting bronchodilator, which is a suitable agent for scheduled administration. As a scheduled bronchodilator, salmeterol has the main advantage of requiring only twice-daily dosing, and therefore may improve compliance.

Other Pharmacologic Treatment

Anticholinergics and Beta-2 Agonists

Regular use of a long-acting Beta-2 agonist or anticholinergic can improve health status. Combining drugs with different mechanisms and durations of action might increase the degree of bronchodilation for equivalent or lesser side effects.

Antibiotics

The use of antibiotics is not recommended except for treatment of bacterial exacerbations of COPD.

Antitussives

Regular use of antitussives is not recommended in COPD since cough can have a significant protective effect.

Antiviral Agents

Treatments other than vaccination are available to treat influenza, but are not a substitute for vaccination unless it is contraindicated.

Leukotriene Modifiers

This drug class has not been adequately tested in COPD patients and its use cannot be recommended until additional evidence relative to its efficacy is available.

Mucolytics

In theory, reducing mucus viscosity and enhancing cough clearance or mucociliary clearance of mucus could improve pulmonary function and reduce the incidence of respiratory infections in individuals with COPD. Ideally, treatment would result in both objective (increase in FEV₁) and subjective (better sense of well-being) improvement for those individuals.

Oral Beta-Agonists

Inhaled bronchodilator therapy is preferred.

C. Management of COPD should include an education plan suited to the patient's specific needs, encouragement of exercise, tobacco use cessation and other behavioral changes, and monitoring of immunization status.

COPD should be considered if the patient has one or more of the following risk factors:

- History of tobacco use or prolonged exposure to second-hand or environmental smoke
- Asthma
- Environmental exposure to occupational dust and chemicals (e.g., cadmium)
- Alpha I – antitrypsin deficiency
- Chronic respiratory infections

Non-Pharmacologic Treatment

Rehabilitation

The principal goals of pulmonary rehabilitation are to reduce symptoms, improve quality of life, and increase physical and emotional participation in everyday activities. Benefit does wane after a rehabilitation program ends, but if exercise training is maintained at home the patient's health status remains above pre-rehabilitation levels.

Benefits of Pulmonary Rehabilitation in COPD include:

- Improves exercise capacity
- Reduces the perceived intensity of breathlessness
- Improves health-related quality of life
- Reduces the number of hospitalizations and days in the hospital
- Reduces anxiety and depression associated with COPD
- Strength and endurance training of the upper limbs improves arm function
- Benefits extend well beyond the immediate point of training
- Improves survival
- Respiratory muscle training is beneficial, especially when combined with general exercise training
- Psychosocial intervention is helpful

Important points to consider in choosing patients:

- Functional Status
- Severity of dyspnea

- Motivation
- Smoking status

Comprehensive Pulmonary rehabilitation program components:

- Exercise Training ranges in frequency from daily to weekly, in duration from 10 minutes to 45 minutes per session, and in intensity from 50% peak oxygen consumption (VO₂ Max) to maximum tolerated. The minimum length of an effective pulmonary rehabilitation program is 6 weeks.
- Nutritional Counseling is important to nutritional state, which is an important determinant of symptoms, disability, and prognosis in COPD; both overweight and underweight can be a problem. Health care workers should identify and correct the reasons for reduced calorie intake in COPD patients.
- Education methods aimed at continuous improvement should be incorporated into educational strategies that take the long-term relationships between patients and health care professionals into account. It is important to develop a plan that includes the educator, patient, and family. Learning assessment and feedback tools should:
 - Incorporate COPD needs and interventions within a conceptual behavior change model.
 - Be flexible enough to fit the various office practice models (step-care model with stages of change).
 - Include Core Learning needs/objectives:
 - Knowledge of Basic facts about COPD
 - Skills
 - Attitude
 - Partnership in Care

Tobacco

Tobacco cessation and oxygen therapy are the only interventions proven to prolong survival of patients with COPD.

The National Cancer Institute, which is the primary federal agency for tobacco control, states that the keys to patient awareness and education about tobacco cessation in a clinical setting are:

1.	ASK	about tobacco use at every visit
2.	ADVISE	all users to stop
3.	ASSESS	users' willingness to make an attempt to quit
4.	ASSIST	users' efforts to quit
5.	ARRANGE	follow-up

Consider prescription nicotine agents with a plan for smoking cessation.

Vaccines

Influenza and pneumococcal pneumonia together are the 6th leading cause of death in the U.S. among persons 65 years of age and older. Immunization with **Pneumococcal** and **influenza vaccines** are recommended by the U.S. Public Health Service's Advisory Committee on Immunization Practices to reduce infectious complications involving the respiratory tract.

D. A trial of inhaled steroids is indicated for symptoms not controlled by scheduled bronchodilators.

Method of Drug Delivery

Metered Dose Inhaler (MDI) with spacer
Some studies support the use of spacers to obtain effective MDI drug delivery. The increased distance slows the velocity of the fine particles, increasing their chances of reaching the bronchial tree. It is of utmost importance to train and re-train patients, nurses, physicians, and pharmacists in proper inhaler techniques for optimal drug delivery. Evidence of the effectiveness of one type of spacer over another is variable and controversial.
Dry Powder Inhaler (DPI)
DPIs are an alternative to MDIs that are strongly supported by study data. DPIs deliver drugs in dry-powder form without the use of propellants. In addition, DPIs are breath-activated, eliminating the need to synchronize inhalation with actuation. Newer DPI products deliver pure drug from self-enclosed, multiple-dose devices that help avoid the potential adverse effects of additives used in MDIs.
Nebulizers
Aerosol particle diameters range from 1-5um in SVN (small volume nebulizer), which are comparable with MDI or DPI. Studies have shown no difference in the efficacy of the delivery methods. Reports suggest that between 47% and 89% of adults may have unacceptable inhaler technique. Clinical studies in which nebulized therapy is preferable to either MDI or DPI include: – Patients incapable of performing MDI or DPI maneuver – Adults who have a vital capacity less than 1.5 times their predicted tidal volume (7mL/kg)

E. A course of systemic steroids is beneficial for acute COPD exacerbations.

Doses of oral prednisone 30-60 mg per day should be used for 10 to 14 days. If longer durations are needed, consider a tapering schedule. There is no need to discontinue inhaled steroids while the patient is taking oral prednisone. In fact, the inhaled steroid may serve as a “systemic-steroid-sparing-agent” and the concomitant use may minimize the dose of systemic steroids needed to diminish airway inflammation.

F. Patients should be regularly assessed for hypoxemia; appropriate oxygen therapy should be prescribed accordingly. Consider assessment for hypercapnia.

Hypoxemia

Progressive hypoxemia is commonly associated with COPD patients. Hypoxemia can rapidly lead to clinical deterioration. By preventing or correcting cellular hypoxemia, the treatment of hypoxemia can be life preserving. Long-term oxygen supplementation has been demonstrated to improve survival in hypoxemic patients with COPD. However, tissue hypoxemia may not always be adequately prevented or treated by simply addressing the hypoxemia. Rather, the physician must carefully evaluate the full scope of the oxygen transport and delivery.

The evaluation of gas exchange status by arterial blood gas (ABG) measurement is recommended for initiation of oxygen therapy as well as determines PCO_2 and acid-base status. Assessment for long-term oxygen needs by ABG analysis should be considered for stable outpatients with:

- Severe airflow obstruction
- Symptomatic dyspnea with polycythemia, pulmonary hypertension (by ECG or echo), or altered mental status
- Problematic heart failure
- Severe symptoms out of proportion to the degree of airway obstruction

Nocturnal Hypoxia

During sleep, even in individuals without COPD, minute ventilation decreases. In patients with COPD whose O₂ saturation is already low or borderline, this hypoventilation resulting in hypoxia or sleep apnea can induce daytime hypersomnolence and may worsen symptoms of COPD.

Risk factors for Hypoxia During Sleep:

- Severe COPD, especially with resting O₂ Sat < 88% or exercise-induced hypoxia
- Evidence of cor pulmonale
- Daytime hypersomnolence in the absence of sleep deprivation
- Polycythemia

Screening for Nocturnal Hypoxia

Screening can be done easily and inexpensively with overnight pulse oximetry in the home. The oximeter is returned to the clinic, where the overnight oximetry and heart rate are downloaded.

Hypercapnia

In an ambulatory, stable patient with COPD, assessment for hypercapnia by arterial blood gases (ABGs) should be considered in the following circumstances:

- Clinical suspicion of hypercapnia (asterixis, headache, hypersomnolence, altered mental status)
- FEV₁ less than 1.0
- Upon initiation of oxygen
- Morbid obesity
- Excessive daytime somnolence
- Problematic right heart failure/cor pulmonale
- Severe airflow obstruction

Oxygen Therapy

- Long Term Oxygen therapy (more than 15 hours per day) improves survival and quality of life in hypoxemic patients.
- ABG measurement is recommended for initiation of oxygen therapy as well as to determine PaCO₂ and acid-base status.
- Pulse Oximetry is a good method for monitoring oxygen saturation and can be used in adjusting the oxygen flow setting.
- Medicare has adopted indications for long-term oxygen therapy as reimbursement criteria.
- Patients considered for long-term therapy may benefit from assessment by a pulmonologist.
- Supplemental long-term oxygen therapy should be provided at a flow rate sufficient to produce a resting PaCO₂ of >55 mm Hg, or SaO₂ greater than 89%.
- Titrate liter-flow to goal at rest: add 1 L/min during exercise or sleep or titrate during exercise to goal of SaO₂ greater than 89%. Titrate sleep liter-flow to 8-hour sleep of SaO₂ greater than 89%.
- Consider referral for sleep evaluation if patient experiences cyclic desaturation during sleep but is normoxemic at rest.
- Recheck SaO₂ in 1-3 months if hypoxia developed during an acute exacerbation. Rechecks should be performed annually if hypoxia is discovered in an outpatient with stable COPD.

G. For patients with severe symptoms, despite maximal medical therapy, lung volume reduction surgery (LVRS) and transplantation may be an option.

LVRS

The goal of LVRS is to relieve disabling dyspnea in patients in whom emphysema has limited activities of daily living (ADLs) and has proved refractory to optimal medical management. Following LVRS improvement has been noted in:

- Lung elastic recoil
- Respiratory function
- Ventilation/perfusion matching
- Cardiovascular function

Lung Transplantation

Unilateral and bilateral lung transplantation is a treatment option in highly selected patients with severe COPD. A few studies show improvement in quality of life parameters but no increase of survivability.

H. Physicians should discuss advance directives/health care directives and goals as early as possible.

For the patient with moderate to severe COPD, at a routine office visit ask the question,

“Do you have a living will?”

If the answer is **“yes”** ask:

- What it consists of
- Whether there is a designated power of attorney
- Request a copy to place in the patient’s chart.

If the answer is **“no”**:

- Offer the patient written information on health care directives.
- Encourage the patient to fill it out and include the power of attorney
- Offer to discuss any questions at the next office visit

For a patient with severe COPD, at a routine office visit ask,

“What are your treatment preferences in regards to hospitalization, life support (including CPR, endotracheal intubation and non-invasive ventilation), and end-of-life care?”

- Encourage the patient to discuss these options with family or health care surrogate and record them in a health care directive.
- Document the treatment preferences in the patients medical record
- Place a copy of the health care directive in the patient’s chart.

Based on Global Initiative for Chronic Obstructive Lung Disease, Executive Summary, Updated 2006 and Institute for Clinical Systems Improvement, Chronic Obstructive Pulmonary Disease, Sixth Edition January 2007.

Adopted by the Quality Medical Management Committee (QMMC) June 2006.

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10.9 Chronic Kidney Disease (CKD) in Adults Clinical Practice Guideline

This guideline is intended to assist the practitioner in clinical decision-making and attempt to define clinical practices that apply to most patients in most circumstances. The treating practitioner should make the ultimate decision regarding the care of a particular patient.

Goals

1. Evaluate all individuals during health encounters to determine whether they are at increased risk of having or of developing CKD.
2. Provide clinical evaluation of patients at increased risk of CKD.
3. Treat reversible factors through improving cardiovascular outcomes.

Clinical Highlights and Recommendations

A. Definition

CKD can be defined as:

1. Kidney damage for > 3 months, as defined by structural or functional abnormalities of the kidney, with or without glomerular filtration rate (GFR), manifest by either:
 - Pathological abnormalities; or
 - Markers of kidney damage, including abnormalities in the composition of the blood, urine, and abnormalities in imaging tests.
2. GRF <60 mL/min/1.73m² for > 3 months, with or without kidney damage.

B. Causes and Risk Factors

The most common cause of renal failure is diabetes.

Individuals at increased risk of CKD include:

- Aged > 60
- African Americans, Native Americans, Asian-Americans
- Patients with diabetes or hypertension
- Family history of kidney disease

Disease Risk for Chronic Kidney Disease (CKD)

Type of Risk Factor	Definition	Examples
Susceptibility Factors	Increased susceptibility to kidney damage	Older age, family history of CKD, reduction in kidney mass, low birth weight, racial or ethnic minority status and low income/education
Initiation Factors	Directly initiate kidney damage	Diabetes, high blood pressure, autoimmune diseases, systemic infections, urinary tract infections, urinary stones, lower urinary tract obstruction, drug toxicity and hereditary diseases

Progression Factors	Causing worsening kidney damage and faster decline in kidney function after initiation of kidney damage	Higher levels of Proteinuria, higher blood pressure level, poor glycemic, possible dyslipidemia and smoking
End-stage factors	Increase morbidity and mortality in kidney failure	Lower dialysis dose (kt/V), temporary vascular access, anemia, low serum albumin, high serum phosphorus and late referral

C. Stages of CKD

The presence of CKD should be established, based on presence of kidney damage and level of kidney function (glomerular filtration rate (GFR), irrespective of diagnosis. Among patients with CKD, the stage of disease should be assigned based on the level of kidney function.

Stage	Description	GFR (mL/min/1.73m ²)
1	Kidney damage with normal or high GFR	≥90
2	Kidney damage with mild GFR	60 - 89
3	Moderate GFR	35 - 59
4	Severe GFR	15 - 29
5	Kidney Failure	<15 (or dialysis)

D. Clinical Evaluation

Laboratory testing is essential in detecting early stages of CKD. Treatment of earlier stages of CKD is effective in slowing the progression toward kidney failure.

End-stage Renal Disease (ESRD) occurs when the kidneys are no longer able to function at a level that is necessary for day to day life. Chronic renal failure usually worsens to the point where kidney function is less than 10% of normal. By this time kidney function is so low that without dialysis or kidney transplant, complications are multiple and severe. Death will occur from accumulation of fluids and waste products in the body.

1. Glomerular Filtration Rate (GFR)

Estimates of glomerular filtration rate (GFR) are the best overall indices of the level of kidney function. Obtain at least yearly measurements of serum creatinine for estimation of GFR. The serum creatinine concentration alone should not be used to assess the level of kidney function. The rate of GFR decline should be assessed to predict the interval until the onset of kidney failure.

The level of GFR should be estimated from prediction equations that take into account the serum creatinine concentration and some or all of the following variables: age, gender, race, and body size. The following equations provide useful estimates of GFR:

- In adults, the modification of diet in renal disease (MDRD) Study and Cockcroft-Gault equations.
- Clinical laboratories should report an estimate of GFR using a prediction equation, in addition to reporting the serum creatinine measurement.
- Autoanalyzer manufacturers and clinical laboratories should calibrate serum assays using an international standard.

2. Proteinuria

Normal individuals usually excrete very small amounts of protein in the urine. Persistently increased protein excretion is usually a marker of kidney damage. Guidelines for detection and monitoring of proteinuria in adults and children differ because of differences in the prevalence and type of chronic kidney disease.

Guidelines for Adults

- When screening adults at increased risk for chronic kidney disease, albumin should be measured in a spot urine sample using either:
 - Albumin-specific dipstick;
 - Albumin-to-creatinine ratio.
- When monitoring proteinuria in adults with chronic kidney disease, the protein-to-creatinine ratio in spot urine samples should be measured using:
 - Albumin-to-creatinine ratio;
 - Total protein-to-creatinine ratio is acceptable if albumin-to-creatinine ratio is high (>500 to 1,000 mg/g).

Guidelines for Patient with CKD

- Serum creatinine to establish GFR.
- Protein-to-creatinine ratio or albumin-to-creatinine ratio in a first morning or random untimed “spot” urine specimen.
- Examinations of the urine sediment or dip stick for red blood cells and white blood cells.
- Imaging of the kidneys usually by ultrasound.
- Serum electrolytes (sodium, potassium, chloride, and bicarbonate).

E. Prevention

Historically, the evaluation and management of chronic kidney disease has focused on diagnosis and treatment of specific kidney diseases and dialysis or transplantation for kidney failure. Both type 1 and type 2 diabetes cause chronic kidney disease. Because of the higher prevalence of type 2 diabetes, it is the more common cause of diabetic kidney disease. Diabetic kidney disease usually follows a characteristic clinical course after the onset of diabetes, first manifested by microalbuminuria, then clinical proteinuria, hypertension, and declining GFR. An action plan for patients with chronic kidney disease also requires interventions during the earlier stages of kidney disease, irrespective of the cause of kidney disease. This includes evaluation and management of comorbid conditions, slowing progression of kidney disease, cardiovascular disease risk reduction, preventing and treating complications of chronic kidney disease, and preparation for kidney replacement therapy.

Interventions proven to be effective include:

1. Strict glucose control in diabetes.
2. Strict blood pressure control.
3. Angiotensin-converting enzyme inhibition (ACE) and angiotensin-2 receptor blockade (ARB) therapy.
4. Periodically assessment of central and peripheral neurologic involvement.
5. Evaluation for anemia which should include measurement of hemoglobin level.
6. Assessment of dietary protein, nutritional status and energy balance (amount of energy ingested related to the amount of energy expended).
7. Evaluation for bone disease and disorders of calcium and phosphorus metabolism.
8. Establish a baseline and monitor changes in function and well-being.
9. Over time establish interventions and assess their effectiveness.

Based on:

National Kidney Foundation Kidney Disease Outcomes Quality Initiative (NKF KDOQI TM) or KDOQI TM Executive Summary

The guideline in its entirety can be found at:

<http://www.kidney.org/professionals/kdoqi/guidelines.cfm>

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