



Medical Diagnosis and Monitoring Protocols

Here are selected medical protocols for chronic illnesses, frequently noted in adults with serious and persistent mental illnesses, as detailed by the noted professional organizations. This guide is meant to inform community mental health staff of expected activities of medical professionals, and is not meant to be used as a training guide. For more information, check the referenced source, or contact the Ohio Coordinating Center for Integrating Care: jthom@healthfoundaiton.org or 513-458-67633.



Diabetes Diagnosis and Monitoring Protocols

Glucose Monitoring:

Self Monitoring

- 3 or more time daily for patients using multiple insulin injections or insulin pump.
- Occasionally for patients using less frequent injections or using other therapies.

Continuous Monitoring

- For patients receiving intensive insulin regimens
- May be a useful tool for patients experiencing frequent hypoglycemic episodes or who are have hypoglycemia unawareness

Assessment of psychological and social situation

- Include as part of ongoing part of medical management of disease
- Screen for psychosocial problems when adherence to medical regimen is poor.

Blood Pressure at every routine diabetes visit.

Measure fasting lipid profile annually

Coronary Heart Disease

- Evaluate risk of CHD in asymptomatic patients

Nephrology Screening

- Annual test to assess urine albumin excretion in:
 - Type 1 patients with diabetes duration of 5 or more years
 - All Type 2 patients starting at initial diagnosis of diabetes

Retinopathy Screening

- Type 1 patients – within 5 years of initial diabetes diagnosis and annually thereafter.
- Type 2 patients – shortly after initial diabetes diagnosis and annually thereafter
- Pregnant diabetes patients – 1st trimester, with close follow up during pregnancy and for one year thereafter

Neuropathy Screening

- Distal symmetric polyneuropathy screening at diagnosis and at least annually thereafter
- Cardiovascular autonomic neuropathy screening
 - Type 2 patients – begin at diagnosis
 - Type 1 patients – begin within 5 years of diagnosis

Modifications and additions to screening protocols exist for children and adolescents, women of child bearing age, older adults, and hospitalized patients.

Source:

“Executive Summary: Standards of Medical Care in Diabetes – 2009.” (2009). *Diabetes Care*, 32(Supplement 1), S6-S12.
http://care.diabetesjournals.org/content/32/Supplement_1/S6.short, accessed Oct. 26, 2009.



Heart Disease Diagnosis and Monitoring Protocols

Initial Clinical Assessment for those presenting with Heart Failure

Recommended:

- Thorough history and physical examination
- History of current and past: use of alcohol, illicit drugs, standard therapies, alternative therapies, and chemotherapy drugs
- Assessment of patients ability to perform routine and desired activities of daily living.
- Assessment of: fluid volume status, orthostatic blood pressure changes, measurement of weight and height, calculation of body mass index.
- Laboratory tests of: blood count, urinalysis, serum electrolytes (including calcium and magnesium), blood urea nitrogen, serum creatinine, fasting blood glucose (glycohemoglobin), lipid profile, liver function tests, and thyroid-stimulating hormone.
- Twelve-lead ekg and chest radiography
- Two-dimensional echocardiography with Doppler to assess LVEF, LV size, wall thickness, and valve function.
- Coronary arteriography in patients with angina or significant ischemia.

Other initial clinical assessments can be beneficial or may be considered* including for patients presenting with specific symptoms.

Serial Clinical Assessments:

Recommended each visit:

- Routine and desired activities of daily living
- Fluid volume status and weight
- History of current: use of alcohol, illicit drugs, standard therapies, alternative therapies, and chemotherapy drugs, as well as diet and sodium intake.

Can be beneficial:

- Repeat measurement of EF and severity of structural remodeling for patients who have experienced or recovered from a clinical event or received treatment that might have a significant effect on cardiac function

Source:

Hunt, S. A., Abraham, W. T., Chin, M. H., Feldman, A. M., Francis, G. S., Ganiats, T. G., et al. (2005). "ACC/AHA 2005 Guideline Update for the Diagnosis and Management of Chronic Heart Failure in the Adult: A Report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines (Writing Committee to Update the 2001 Guidelines for the Evaluation and Management of Heart Failure): Developed in Collaboration With the American College of Chest Physicians and the International Society for Heart and Lung Transplantation: Endorsed by the Heart Rhythm Society." *Circulation*, 112(12), e154-235.

<http://circ.ahajournals.org/cgi/content/full/112/12/e154>, accessed Oct. 29, 2009

* Recommended, can be beneficial, and may be considered are terms representing assessments of decreasing levels of benefits versus risks for that protocol and how well the research supports the risk/benefit assessments. Hunt, et.al. 2005, p. e159



Hypertension Diagnosis and Monitoring Protocols

Diagnostic Workup of Hypertension:

- Assess risk factors and comorbidities
- Reveal identifiable causes of hypertension
- Assess presence of target organ damage
- Conduct history and physical examination
- Obtain laboratory tests:
 - Urinalysis
 - Blood glucose
 - Hematocrit and lipid panel
 - Serum potassium
 - Creatinine
 - Calcium
 - Urinary albumin/creatinine ratio, optional

Assess for Major Cardiovascular Disease Risk Factors:

- Hypertension
- Obesity (body mass index equal to or greater than 30 kg/m²)
- Dyslipidemia
- Diabetes mellitus
- Cigarette smoking
- Physical inactivity
- Microalbuminuria, estimated glomerular filtration rate <60 ml/min
- Age (>55 for men, >65 for women)
- Family history of premature CVD (men age <55, women age <65)

Assess for Identifiable Causes of Hypertension:

- Sleep apnea
- Drug induced/related
- Chronic kidney disease
- Primary aldosteronism
- Renovascular disease
- Cushing's syndrome or steroid therapy
- Pheochromocytoma
- Coarctation of aorta
- Thyroid/parathyroid disease

Sources:

Joint National Committee on Prevention Detection Evaluation and Treatment of High Blood Pressure. (2003). *The Seventh Report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure: JNC 7 Express*. [Bethesda, MD]: U.S. Department of Health and Human Services, National Institutes of Health.

Joint National Committee on Prevention, D., Evaluation, and Treatment of High Blood Pressure,. (2003). *Reference Card from the Seventh Report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure (JNC 7)* (No. NIH Publication No.03-5231). [Bethesda, MD]: U.S. Department of Health and Human Services, National Institutes of Health.



Chronic Obstructive Pulmonary Disease Diagnosis and Monitoring Protocols

Assess and Monitor Disease:

Spirometry

- Forced Vital Capacity (FVC)
- Forced Expiratory Volume in one second (FEV₁)
- Calculate FEV₁/FVC ratio

Take a detailed medical history of a new patient known or thought to have COPD including:

- Exposure to risk factors, including intensity and duration.
- Past medical history, including asthma, allergy, sinusitis or nasal polyps, respirator infections in childhood, and other respiratory diseases.
- Family history of COPD or other chronic respiratory disease.
- Pattern of symptom development.
- History of exacerbations or previous hospitalizations for respiratory disorder.
- Presence of comorbidities, such as heart disease, malignancies, osteoporosis, and musculoskeletal disorders, which may also contribute to restriction of activity.
- Appropriateness of current medical treatments.
- Impact of disease on patient's life, including limitation of activity; missed work and economic impact; effect on family routines; and feelings of depression or anxiety.
- Social and family support available to the patient.
- Possibilities for reducing risk factors, especially smoking cessation.

Additional tests for patients with moderate to severe COPD:

- Bronchodilator reversibility testing to rule out asthma
- Chest X-ray to exclude other diseases and identify comorbidities such as cardiac failure.
- Arterial blood gas measurement for patients with FEV₁ <50% predicted or with clinical respiratory or right heart failure.
- Alpha-1 Antitrypsin deficiency screening for Caucasian patients under 45 years or with strong family history of COPD

Source: Global Initiative for Chronic Obstructive Lung Disease. (2008). *Pocket Guide to COPD Diagnosis, Management, and Prevention: A Guide for Health Professionals*: Medical Communications Resources. <http://www.goldcopd.com/Guidelineitem.asp?l1=2&l2=1&intId=2002>

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Stroke Diagnosis and Monitoring Protocols

Focused medical history to identify risk factors including:

Atherosclerotic and cardiac disease such as hypertension, diabetes mellitus, tobacco use, high cholesterol, a history of coronary artery disease, coronary artery bypass, or atrial fibrillation.

Common signs of stroke:

Acute hemiparesis or hemiplegia

Complete or partial homonymous hemianopia, monocular or binocular visual loss or diplopia

Dysarthria or aphasia

Ataxia, vertigo, or nystagmus

Sudden decrease in consciousness

In younger patients, elicit history of recent trauma, coagulopathies, illicit drug use, migraines, or use of oral contraceptives.

Physical examination

Airway, breathing, circulation

Vital signs

Head, ears, eyes, nose, and throat to look for trauma as a cause

Asculation of the neck to look for carotid disease

Cardiac

Extremities

Neurological Examination using the NIH Stroke Scale

Level of Consciousness

Visual Function

Motor Function

Sensation and Neglect

Cerebellar Function

Language

Imaging Studies

CT Scan

MRI with Magnetic Resonance Angiography

Digital Subtraction Angiography

MR Spectroscopy (experimental, may be useful)

Carotid Duplex Scanning

Transcranial Doppler Ultrasonography