PEOPLES HEALTH

Evidence-Based Practice Guidelines Quick Reference:

Prediabetes, Diabetes, Heart Failure, COPD, Chronic Kidney Disease, Alzheimer's and Dementia

Compiled from industry best practices for managing care for patients with these conditions.

Review the complete evidence-based practice guidelines on the Provider Portal at **http://www.providers.peopleshealth.com**, under the Policies and Guidelines tab.

PREDIABETES

DIAGNOSIS

- Screen:
  - All adults with no additional risk factors at age 45
    - If normal results, repeat at a minimum of three years or more frequently, depending on risk status or initial results
  - Adults with BMI ≥ 25 with one or more risk factors
  - Overweight children and adolescents (BMI > 85th percentile for age and sex, weight for height > 85th percentile, or weight > 120% of the ideal for height) with two or more risk factors
- One of the following must apply:
  - Impaired fasting glucose (fasting plasma glucose of 100 – 125mg/dL)
  - Impaired glucose tolerance (oral glucose tolerance of 140 – 199mg/dL)
  - A1c of 5.7 - 6.4%

TREATMENT

- Refer to:
  - Ongoing support programs, such as the YMCA Diabetes Prevention Program
  - Registered dietitian for medical nutrition therapy (Peoples Health has registered dietitians available for patients to consult)
- Monitor glycemic control annually
- Aggressively treat hypertension and dyslipidemia due to increased risk of cardiovascular disease (CVD)
- Initiate lifestyle modifications to decrease body weight by 7 percent and increase physical activity to at least 150 minutes per week

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MEDICATION

- Initiate metformin or acarbose therapy to reduce progression to type 2 diabetes, especially in those with BMI > 35, those younger than 60 years old, and women with prior gestational diabetes

DIAGNOSIS

- One of the following must apply:
  - Random glucose of ≥ 200mg/dL with symptoms of hyperglycemia or hyperglycemic crisis
  - Fasting plasma glucose ≥ 126mg/dL
  - Two-hour plasma glucose ≥ 200mg/dL during oral glucose tolerance test
  - A1c ≥ 6.5%

TREATMENT

- Annually test: lipid profile, microalbumin, serum creatinine, as well as perform dilated eye exam and comprehensive foot exam
- Test A1c twice a year or quarterly if goals are not met or if treatment changes
- Treat to a BP goal of < 140/90mmHg. Lower systolic targets, such as < 130 mmHg and lower diastolic targets, such as < 80 mmHg, may be appropriate for certain individuals—such as younger patients, those with albuminuria, or those with hypertension and one or more additional atherosclerotic cardiovascular disease risk factors—if the targets can be achieved without undue treatment burden
- Provide ongoing instruction and evaluation of technique, SMBG results and patient's ability to use SBMG data to adjust therapy
- Direct patient on frequency, timing and goals for successful patient self-monitoring of blood glucose (SMBG)
- Refer to diabetes self-management education and medical nutrition therapy

MEDICATION

- For patients with type 2 diabetes, initiate metformin therapy if not contraindicated; if glycemic goal is not met after three months of monotherapy, add a second oral agent or insulin, increasing as needed
- For patients who also have hypertension: ACE inhibitor or ARB therapy is recommended to reduce risk of cardiovascular events
- For patients ages 40 to 75 years without additional ASCVD risk factors: consider using moderate-intensity statin and lifestyle therapy
- For patients ages 40 to 75 years with additional ASCVD risk factors: consider using high-intensity statin and lifestyle therapy
- For patients older than age 75 without additional ASCVD risk factors: consider using moderate-intensity statin therapy
- For patients older than age 75 with additional ASCVD risk factors: consider using moderate- or high-intensity statin therapy and lifestyle therapy

DIAGNOSIS

- Diagnosed as either heart failure with reduced ejection fraction (HFrEF) or heart failure with preserved ejection fraction (HFpEF)

TREATMENT

- Refer to:
  - Cardiologist if needed
  - Cardiac rehabilitation (now an approved intervention for patients with heart failure)
- Continually address risk factors:
  - Hypertension
  - Obesity
  - Tobacco use
  - Lipid disorder
  - Diabetes
  - Unknown cardio-toxic agents (e.g., drug use, chemotherapy, etc.)
- For advanced heart failure: a heart failure multidisciplinary team, including a palliative care team, should be involved
- Enhance self-care by educating the patient on heart failure and providing guidelines for dietary restrictions and exercise

MEDICATION

- For pharmacologic treatment for Stage C heart failure with reduced ejection fraction:
  - For patients with chronic symptomatic HFrEF NYHA class II or III, who tolerate an ACE inhibitor or ARB, replace with an ARNI (sacubitril/valsartan) to further reduce morbidity and mortality
  - Inhibit the renin-angiotensin system with ACE inhibitors, ARBs or ARNI in conjunction with beta blockers and aldosterone antagonists for patients with chronic HFrEF to reduce morbidity and mortality
  - To further reduce morbidity and mortality, switch chronic HFrEF patients with mild to moderate symptoms who are otherwise tolerating an ACE inhibitor or ARB to ARNI
  - ARNI should not be administered concomitantly with ACE inhibitors or within 36 hours of last dose of an ACE inhibitor, or in patients with history of angioedema

DIAGNOSIS

- Diagnose CKD stage and determine risk using the chart below.
- Prognosis of CKD by GFR and albuminuria categories: KDIGO 2012

Prognosis of CKD by GFR and albuminuria categories: KDIGO 2012

GFR categories (mL/min/ 1.73m²) Description and range				Persistent albuminuria categories description and range		
				A1	A2	A3
				Normal to mildly increased	Moderately increased	Severely increased
				< 30mg/g < 3mg/mmol	30-300mg/g 3-30mg/mmol	> 300mg/g > 30mg/mmol
	G1	Normal or high	≥ 90			
	G2	Mildly decreased	60-89			
	G3a	Mildly to moderately decreased	45-59			
	G3b	Moderately to severely decreased	30-44			
	G4	Severely decreased	15-29			
	G5	Kidney failure	< 15			

Green:	low risk (if no other markers of kidney disease, no CKD)
Yellow:	moderately increased risk
Orange:	high risk
Red:	very high risk

Source: Kidney Disease: Improving Global Outcomes (KDIGO) CKD Work Group. KDIGO 2012 Clinical Practice Guideline for the Evaluation and Management of Chronic Kidney Disease. Kidney inter., Suppl. 2013; 3: 1-150.

TREATMENT

- With imaging studies: balance risk of acute impairment of kidney function due to contrast or preparation agent use against the diagnostic value and therapeutic implications
- Lower protein intake to 0.8mg/kg per day if GFR < 30mL/min/1.73m^2
- Limit dietary sodium to no more than 2g per day (corresponding to 5g of sodium chloride)
- Maintain weight if BMI < 25
- Develop plan for weight loss if BMI ≥ 25

STAGE-SPECIFIC TREATMENT

- **STAGE 1 (G1) GFR ≥ 90mL/min**
  - Monitor GFR annually
  - Refer to smoking cessation services: the Smoking Cessation Trust offers free nicotine replacement therapy, office visits and counseling; for more information, visit http://www.smokingcessationtrust.org/peoples
  - Evaluate if ACE inhibitor/ARB is appropriate (per KDIGO guidelines)
  - Ensure BP, LDL and A1c are within goal
- **STAGE 2 (G2) GFR 60 - 89mL/min**
  - Same as G1, plus refer to nephrologist if GFR decline > 4mL/min per year
- **STAGE 3 (G3a) GFR 45 - 59mL/min and (G3b) GFR 30 - 44 mL/min**
  - Consult nephrologist and dietitian
  - Evaluate for hyperphosphatemia, hypocalcemia and vitamin D deficiency (G3b - G5)
  - Maintain phosphorus in normal range as per lab reference values (G3b - G5)
  - Consider ESA if Hgb < 10 and iron saturation ≥ 20 and/or ferritin ≥ 100 (G3 - G5)
  - Consider renal vitamins
  - Update vaccines if clinically indicated (hepatitis B, influenza, Tdap, pneumonia) (G3 - G5)
- **STAGE 4 (G4) GFR 15 - 29mL/min**
  - Refer to nephrologist for advanced care, inclusive of renal replacement modalities and access (AVF preferred for vascular access)
  - Initiate CKD or ESRD education
- **STAGE 5 (G5) GFR < 15mL/min**
  - Renal replacement therapy (dialysis, hemo or peritoneal, or transplant) or conservative management (consider palliative care or hospice referral)

MEDICATION

- Review all medications for dose adjustment, therapeutic levels, drug interactions and adverse effects, and consider GFR when dosing

DIAGNOSIS

- The diagnosis of Alzheimer's disease and other dementias is a process of "ruling out" other brain diseases. After other causes of dementia have been definitively ruled out, a diagnosis of Alzheimer's disease can be considered.
- For all patients:
  - General cognitive screening instrument:
    - Mini mental state exam (adjusted for age and education level)
  - Neuropsychological batteries
  - Depression screening
  - Structural neuroimaging for brain lesions
  - Labs:
    - Complete blood cell count
    - Glucose
    - Thyroid function tests
    - Serum electrolytes
    - BUN/creatinine
    - Serum B12 levels
    - Liver function tests
- Diagnostic tests to consider based on patient's risk and history:
  - PET scan
  - Genetic markers for Alzheimer's disease
  - CSF/other biomarkers for Alzheimer's disease
  - Alzheimer's disease gene mutations/tau mutations

TREATMENT

- Refer to neurologist
- Refer caregivers to educational classes and support groups
- Monitor for other referral needs such as social services
- Utilize outside agencies as part of the overall treatment plan
- Rescreen for further cognitive decline every six months and as needed
- Use both non-pharmacologic and pharmacologic therapy for cognitive issues

NON-PHARMACOLOGIC TREATMENT

- Reality orientation
- Art therapy
- Music therapy
- Complementary therapy
- Aromatherapy
- Bright-light therapy
- Cognitive behavioral therapy

Non-pharmacologic interventions can overlap and are recommended as the most appropriate initial strategy for managing inappropriate behaviors and can overlap each other.

MEDICATION

- Three ChEI's are available for the treatment of mild to moderate cases
  - (Donezepil; ARICEPT)
  - (Rivastigmine; EXELON)
  - (Galantamine; RAZADYNE)
- Anticholinergics (oxybutynin/VESICARE, etc.) must be discontinued before starting ChEI's
- An NMDA receptor antagonist (memantine [NAMENDA]) can be used alone or in combination with a CHEI's for moderate to severe cases
- May help attenuate cognitive decline over time in some patients for up to 18 months; Results may vary.
- Treat agitation, psychosis, and other comorbidities as needed
- Antipsychotics can be considered on a case-by-case basis
- Treat for depression as needed

DIAGNOSIS

- Spirometry result of $FEV_1/FVC < 0.70$ is required within six months of a new diagnosis or an exacerbation of an existing diagnosis

TREATMENT

- Best predictor of frequent exacerbations (≥ 2 per year): history of previously treated events
- Refer to:
  - Pulmonary rehabilitation, which benefits patients at all stages
  - Smoking cessation services: the Smoking Cessation Trust offers free nicotine replacement therapy, office visits and counseling; for more information, visit *http://www.smokingcessationtrust.org/peoples*
- Update vaccines (influenza, pneumonia)
- For advanced COPD: consider palliative care, end-of-life care and hospice care

MEDICATION

- For acute exacerbations: consider antibiotics
- Antibiotics are not recommended except for treatment of infectious exacerbations due to bacterial infections
- For symptom management: short and long-term bronchodilators, which may be combined with inhaled corticosteroids
- When prescribing, educating patient on the correct use of inhalers, spacers and air-driven nebulizers is key to adherence
- NOT recommended:
  - Oral corticosteroids as long-term treatment
  - Long-term monotherapy with inhaled corticosteroids

Notes:

These guidelines have been reviewed and approved by the Center for Healthcare Advancement Advisory Council.

PEOPLES HEALTH

*Your **Medicare Health** Team*

Three Lakeway Center
3838 N. Causeway Blvd., Suite 2200
Metairie, LA 70002

www.peopleshealth.com