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PREVENTING FALLS IN OLDER ADULTS

- A fall can mean the end to independent living, or even death, for adults aged 65 years and older.
- Make annual screening for risk of falls a priority with all older patients and perform a multifactorial evaluation of those at risk.
- Use CDC's STEADI toolkit to integrate fall prevention into routine clinical care.
- Recommend regular physical activity, correction of home hazards, and medication adjustments to reduce fall risk.

INSIDE THIS ISSUE [\(Click to access\)](#)

INTRODUCTION

FALL RISK SCREENING

Risk factors for falls in adults aged 65 years and older (box)

Patient Health Questionnaire-2 (box)

Fall risk assessment and intervention (figure)

ASSESS PATIENTS AT RISK

Medications that increase fall risk (box)

Brief home safety checklist (box)

REIMBURSEMENT

Medicare reimbursement for fall-related services (table)

FALL PREVENTION STRATEGIES

Physical activity recommendations for adults aged 65 years and older (table)

SUMMARY

What you should do to prevent falls in adults aged 65 years and older (box)

Centers for Medicare and Medicaid Services incentive programs (box)

RESOURCES FOR PROVIDERS

RESOURCES FOR PATIENTS

REFERENCES

ASK CHI

Have questions or comments about Preventing Falls in Older Adults?

E-mail

AskCHI@health.nyc.gov

Falls are a major threat to older adults' health and independence. Among New Yorkers aged 65 years and older falls are the leading cause of injury-related death and hospitalization. Each year, falls lead to about 250 deaths,¹ 29,000 emergency department visits,² and 17,000 hospital admissions.³ In New York City (NYC), almost half (48%) of hospitalized fall patients have bone fractures and 13% have traumatic brain injuries.² More than half (54%) of hospitalized fall patients are discharged to skilled nursing or inpatient rehabilitation facilities; an additional 19% need home health care services.²

While falls are common, they do not need to be a part of normal aging. Help older patients maintain their independence and quality of life by routinely assessing their risk for falls and recommending a comprehensive prevention plan.^{4,5}



FALL RISK SCREENING

A patient's risk of falling increases with the number of risk factors they have (**Box 1**).^{6,7} Make annual screening and assessment for fall risk a priority with all older patients.

For patients aged 65 years and older,

- Routinely screen for and manage common conditions that increase fall risk:
- Osteoporosis (women only)
- Depression: Screen annually with the 2-question Patient Health Questionnaire-2 (**Box 2**)⁸ or the **Geriatric Depression Scale**.⁹
- *Ask these 3 screening questions*¹⁰:

1. *Have you fallen, slipped, or tripped in the past year?*
2. *Do you have trouble with your balance or with walking?*
3. *Do you avoid activities because you are afraid you might fall?*

If a patient answers "yes" to any of the above, perform gait and balance assessments.¹⁰ For those who report a fall, ask how many falls, how each fall happened, and whether the patient sought medical attention. Conduct a multifactorial fall risk assessment based on the patient's responses and performance on the gait and balance tests¹⁰ (**Figure**^{5,10}).

If a complete evaluation is not possible during one visit, assess gait, balance, and postural hypotension. If gait or balance is abnormal, assess strength and functional status. Prioritize other assessments and interventions across later visits according to each patient's personal history.

BOX 1. RISK FACTORS FOR FALLS IN ADULTS AGED 65 YEARS AND OLDER⁶

- **Previous falls**
- **Gait or balance difficulty**
- **Muscle weakness (upper or lower extremity)**
- **Certain medications or the use of ≥4 medications**
- Cognitive impairment
- Home safety hazards
- Certain chronic conditions such as diabetes, heart disease, and depression
- Problems with bones or joints, such as arthritis or osteoporosis
- Dizziness or postural hypotension
- Vision problems
- Age ≥80 years
- Problems doing activities of daily living (ADLs): bathing, dressing, toileting, and eating
- Female

Bold text indicates strongest risk factors.

ASSESS PATIENTS AT RISK

For patients who report one fall, worry about falling, or feel unsteady when walking, evaluate

- **Gait and balance:** Use the **Timed Up and Go Test** and the **4-Stage Balance Test**.

BOX 2. PATIENT HEALTH QUESTIONNAIRE-2 (PHQ-2)⁸

- Over the past 2 weeks, have you been bothered by:
 1. Little interest or pleasure in doing things?
 2. Feeling down, depressed, or hopeless?

If "yes" to either question, screen with the **Patient Health Questionnaire** (PHQ-9) (**Resources**).

BOX 3. MEDICATIONS THAT INCREASE FALL RISK¹¹⁻¹³

- Psychoactive medications such as:
 - benzodiazepines
 - antidepressants
 - sedative hypnotics
 - anxiolytics
 - antipsychotics
- Anticholinergics
- Analgesics

See Medications & Older Adults at www.healthinaging.org/medications-older-adults for more information.

BOX 4. BRIEF HOME SAFETY CHECKLIST

BEDROOMS:

- ☐ There is a light that can be reached from the bed.
- ☐ The path between the bed and the bathroom is well lit.

BATHROOMS:

- ☐ The tub or shower has nonslip mats or decals.
- ☐ The bathtub has secure grab bars installed.

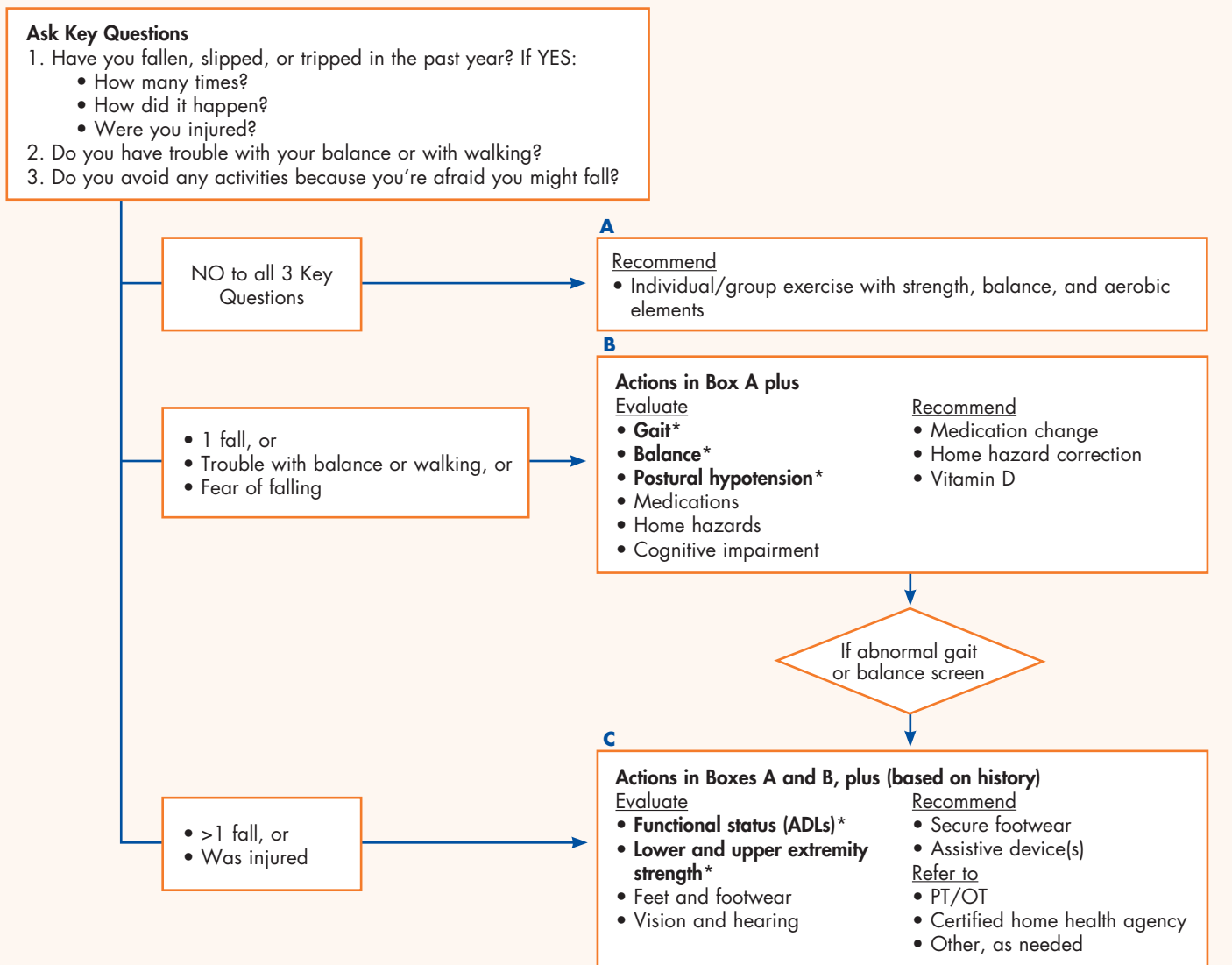
FLOORS:

- ☐ Floors are free of trip hazards like throw rugs, shoes, books, magazines, or boxes.
- ☐ There are no missing or broken floor tiles or uneven thresholds.
- ☐ Patient doesn't have to step around or over wires or electrical lamp, telephone, or extension cords.

STAIRS:

- ☐ Stairs are well lit and have handrails.
- ☐ There are no objects on the steps.
- ☐ There are no loose rails or loose carpet.

- **Postural hypotension:** Use the **Measuring Orthostatic Blood Pressure** tool.
- **Medications:** Risk of falling is higher in people who take 4 or more medications or one or more of certain types of medications (**Box 3**).¹¹⁻¹³ At least once a year, conduct a "brown-bag" review of all medicines, including indications, current dosages, and any recent dosage changes. Be sure to review over-the-counter agents such as antihistamines, cough remedies, sleep aids, supplements, and herbal remedies.

FIGURE. FALL RISK ASSESSMENT AND INTERVENTION^{5,10}

*If a complete evaluation is not possible at the initial visit, assess gait and balance, postural hypotension, functional status, and strength if these assessments are indicated. Prioritize other assessments over several visits according to the patient's history.

ADLs, activities of daily living; PT, physical therapy; OT, occupational therapy.

Based on Centers for Disease Control and Prevention, Stopping Elderly Accidents, Deaths & Injuries. www.cdc.gov/steady.

- **Home hazards:** Do a quick review of home safety (**Box 4**) with older patients who have risk factors for falling. A nurse, social worker, home health aide, or other health professional can review a more comprehensive [home safety checklist](#) with patients.
- **Cognitive function:** Use the [Montreal Cognitive Assessment \(MoCA\)](#), [Mini-Cog™](#), or [Mini-Mental State Examination](#) if you suspect cognitive impairment based on observation, patient report, or concerns of family or caregivers.

For patients who report multiple falls or a fall with injury, evaluate

- **Functional status (activities of daily living):** Use the [Katz Index of Independence in Activities of Daily Living \(ADL\)](#) and the [Lawton Instrumental Activities of Daily](#)

[Living \(IADL\)](#) scales. If a patient normally uses adaptive equipment or a mobility aid, assess ADLs with the equipment or aid.

- **Lower and upper extremity muscle strength:** Use the [30-Second Chair Stand Test](#) to assess leg strength and endurance.
- **Feet and footwear:** Look for structural abnormalities and deficits in sensation or proprioception.
- **Vision and hearing.**

For more resources, visit the Centers for Disease Control and Prevention's [Stopping Elderly Accidents, Deaths & Injuries \(STEADI\)](#) website. The site offers assessment tools, instructional videos, case studies, continuing education credits, and patient education materials to help you build fall

risk assessment and prevention into routine medical practice (**Resources**). New York State physicians can earn **Part IV Maintenance of Certification credits** from the American Boards of Internal Medicine and Family Medicine for implementing STEADI (**Resources**).

REIMBURSEMENT

Medicare will reimburse providers for fall screening and prevention planning conducted during the **Welcome to Medicare examination** or the **annual wellness visit** (**Table 1**).^{14,15}

TABLE 1. MEDICARE REIMBURSEMENT FOR FALL-RELATED SERVICES^{14,15}

Benefit	Covered Services	Comments
"Welcome to Medicare" visit (one-time benefit)	<ul style="list-style-type: none"> Assessment of fall risk, home safety, ADLs, depression, vision, medications Personalized fall prevention plan 	<ul style="list-style-type: none"> Must be provided by MD, DO, PA, NP, or CNS
Annual wellness visit	<ul style="list-style-type: none"> Assessment of fall risk, home safety, ADLs, depression, medications, cognitive function Personalized fall prevention plan 	<ul style="list-style-type: none"> Not within the first 12 months of first Part B coverage period AND No Welcome to Medicare or annual wellness visit in past 12 months
Outpatient physical or occupational therapy services	<ul style="list-style-type: none"> Services that can only be performed by a skilled therapist AND Are expected to result in significant improvement in a reasonable time period OR are needed to establish a safe and effective maintenance program 	<ul style="list-style-type: none"> Medicare Part B covers 80% for medically reasonable and necessary services authorized by a licensed physician Must be provided by licensed physical or occupational therapist following a written plan of care Deductibles, co-pays, and therapy caps may apply
Otago fall prevention exercise program	<ul style="list-style-type: none"> Home visits and phone calls over the course of a year For seniors with strength or balance problems who can walk inside their home with or without a walking aid 	<ul style="list-style-type: none"> Must be provided by physical therapist with Otago training Medicare Part A covers 100% for homebound^a patients when services are delivered through a certified home health agency Medicare Part B covers 80% for non-homebound patients. Deductibles, co-pays, and therapy caps may apply Medicare Part C/Advantage coverage varies
Durable medical equipment (DME)	Assistive devices such as canes, walkers, and wheelchairs	<ul style="list-style-type: none"> For patients with gait abnormalities,^b balance problems, or history of falls Medicare Part B covers DME if physician or treating practitioner specifies equipment and diagnosis on a prescription and documents medical necessity in the patient's chart
Fall-related home health services	<ul style="list-style-type: none"> Home safety assessment Gait and balance training Help with assistive devices 	<ul style="list-style-type: none"> For temporarily or permanently homebound patients in need of skilled nursing care,^c physical therapy, and speech-language pathology services Must be ordered and overseen by a physician and provided by a Medicare-certified home health agency

ADLs, activities of daily living; MD, medical doctor; DO, doctor of osteopathy; PA, physician assistant; NP, nurse practitioner; CNS, clinical nurse specialist.

^a Defined as (1) leaving home is medically contraindicated; (2) leaving home is not possible without an assistive device, special transportation, or help from another person; and/or (3) leaving home takes considerable and taxing effort.

^b For example, asymmetry, decreased foot clearance, diminished gait velocity, increased or decreased step width.

^c Including blood pressure monitoring, wound care, injections.

BILLING CODES: ICD10-CM code Z91.81, defined as "history of falling," may be used for encounters where a fall or fall risk is addressed, regardless of the principal reason for the visit. Examples include visits where fall risk screening is conducted or aftercare following a fall-related injury.

FALL PREVENTION STRATEGIES

A multifactorial approach to preventing falls will be more effective than any single intervention.^{4,7} This approach might include strength and balance training, correction of home hazards, and medication adjustment. Be sure to include caregivers and family when discussing the fall prevention plan. Follow up with the patient at subsequent visits to make sure that he or she has made and maintains the recommended changes.¹⁰

Exercise. Home-based and group exercise can reduce risk.⁴ See **Table 2**¹⁶ for exercise recommendations.

Encourage patients who have not fallen and are not homebound to participate in community-based exercise programs that include muscle strengthening and gait and balance training activities like weight-bearing exercises and tai chi (**Resources**). Refer high-risk patients to a physical or occupational therapist for individually tailored strength, gait, and balance training. Encourage patients who cannot achieve recommended goals to be as physically active as possible. Any amount of physical activity offers health benefits.¹⁰

Home hazard correction. Most falls requiring hospitalization happen in the home.² Correction of hazards such as uneven or cluttered floors, inadequate lighting, and

absence of bathtub grab bars or handrails on stairs can reduce fall risk, particularly for high-risk patients.^{4,10}

- Recommend home safety modifications based on results of the [home safety checklist](#).
- Remind patients to wear secure footwear and avoid walking barefoot or in socks, loose-fitting shoes, or slippers with worn soles.
- Refer high-risk patients to a home health agency for in-home assessment and modification of identified hazards.¹⁰ Medicare covers home safety assessments for seniors who are temporarily or permanently homebound and in need of skilled care (**Table 1**).^{14,15}

NYC landlords are required to install grab bars in disabled adults' bathtubs upon request, but are not required to pay for them.¹⁷ Financial assistance may be available from private organizations such as the Metropolitan Council and the Veterans Administration. The NYC Housing Authority offers free installation of grab bars for physician-designated disabled seniors (**Resources**).

Medication modification. Weigh the benefits of medications against the potential risk of falls and withdraw medications or reduce the dosage where possible (**Box 3**).¹⁰

TABLE 2. PHYSICAL ACTIVITY RECOMMENDATIONS FOR ADULTS AGED 65 YEARS AND OLDER¹⁶

Type of Activity	Examples	Recommended Amount per Week	Comments
Aerobic (moderate or vigorous)^a	<ul style="list-style-type: none"> • Walking • Dancing • Swimming • Water aerobics • Jogging • Aerobic exercise classes • Bicycle riding (stationary or on a path) • Golf (no cart) • Some gardening activities (raking, pushing a lawn mower) 	<ul style="list-style-type: none"> • 2 hours and 30 minutes for moderate-intensity, or • 1 hour and 15 minutes for vigorous, or • an equivalent combination^b 	In increments of at least 10 minutes, spread across at least 3 days each week
Muscle strengthening	<ul style="list-style-type: none"> • Working with exercise bands or handheld weights • Resistance exercises (pull-ups, push-ups, sit-ups, working with resistance bands) • Carrying groceries • Digging, lifting, and carrying as part of gardening 	2 or more days	Exercise until it would be difficult to continue without help. Target legs, hips, back, abdomen, chest, shoulders, and arms
Balance activities	<ul style="list-style-type: none"> • Backward walking • Sideways walking • Heel walking • Toe walking • Standing from a sitting position • Tai chi 	3 or more days	

For detailed guidance, see [The Physical Activity Guidelines for Americans \(Resources for Patients\)](#).

^a Moderate-intensity activity: 5 or 6 on a scale from 0 (sitting) to 10 (greatest effort possible); vigorous-intensity activity: 7 or 8 on this scale and producing large increases in breathing and heart rate.

^b Two minutes of moderate-intensity activity generally counts the same as 1 minute of vigorous-intensity activity.

Adapted from US Department of Health and Human Services, Office of Disease Prevention and Health Promotion. *2008 Physical Activity Guidelines for Americans*.

Vitamin D. Recommend at least 800 IU vitamin D daily to patients at risk for falls.⁵ Women with osteoporosis should get adequate dietary calcium and, when appropriate, pharmacotherapy.¹⁸

Assistive devices. Medicare and Medicaid will cover medically necessary assistive devices including canes, walkers, and wheelchairs—even for patients without a history of falls (Table 1). Ambulatory patients can pick up their device from a medical supply store, certified home health agency, or pharmacy of their choice and see an office-based physical or occupational therapist for proper fitting and training.

Referrals. Refer patients with risk factors such as vision problems; postural hypotension; neurologic, cognitive, or cardiovascular disorders; or unexplained recurrent falls to specialists. When needed, refer patients to certified home health agencies for support services to help them age in place.

SUMMARY

Falls can be debilitating and even fatal, but in most cases, it is possible to identify and address the risks. Reduce fall risk in your older patients by conducting an annual assessment and recommending multifactorial interventions, such as regular exercise, home hazard modification, and medication adjustment (Resources—STEADI Toolkit). Conduct risk factor assessment and intervention over several routine office visits if needed and refer to specialists and community resources when appropriate. ♦

WHAT YOU SHOULD DO TO PREVENT FALLS IN ADULTS AGED 65 YEARS AND OLDER

- Recommend physical activity.
- Screen for fall risk annually.
- Conduct multifactorial risk assessment for those at high risk.
- Recommend correction of home hazards and medication adjustments to reduce risk.

CENTERS FOR MEDICARE AND MEDICAID SERVICES INCENTIVE PROGRAMS

- **Physician Quality Reporting System (PQRS):** You may receive incentive payments for reporting quality measures through Medicare claims submissions.
 - Fall Risk Assessment—Percentage of patients aged 65 years and older with a history of falls who had a fall risk assessment within 12 months;
 - Fall Plan of Care—Percentage of patients aged 65 years and older who had a plan of care for falls documented within 12 months.
- **Electronic Health Records Incentive Program**
 - Screening for Future Fall Risk is an optional (non-core) clinical quality measure that can be reported to help meet meaningful use criteria.

RESOURCES FOR PROVIDERS

Fall Prevention Clinical Guidelines and Recommendations

- American Geriatrics Society/British Geriatrics Society Clinical Practice Guideline: Prevention of Falls in Older Persons: www.americangeriatrics.org/health_care_professionals/clinical_practice/clinical_guidelines_recommendations/prevention_of_falls_summary_of_recommendations
- US Preventive Services Task Force: Prevention of Falls in Community-Dwelling Older Adults: www.uspreventiveservicestaskforce.org/uspstf/uspfalls.htm
- Physician Quality Reporting System (PQRS): www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/PQRS

Fall Prevention Tools

- Centers for Disease Control and Prevention (CDC)
 - Stopping Elderly Accidents, Deaths & Injuries (STEADI) Toolkit: www.cdc.gov/steadi
 - Older Adult Falls Home Page: www.cdc.gov/HomeandRecreationalSafety/Falls/index.html
 - Falls Prevention Checklist: www.cdc.gov/homeandrecreationalafety/pdf/steadi-2015.04/Check_for_Safety_brochure-a.pdf
- New York City (NYC) Health Department. How to Prevent Falls: A Brief Home Safety Checklist: nyc.gov/html/doh/downloads/pdf/public/home-safety-checklist.pdf

- NYC REACH Fall Prevention: Burden of Injury, Tools & Best Practices webinar: nyc-reach.webex.com/nyc-reach/lsr.php?RCID=8befde1e7282ac9adb2102c4f8ca5fb8
- National Council on Aging Fall Prevention Resource Center: www.ncoa.org/improve-health/center-for-healthy-aging/falls-prevention
- The Portal of Geriatrics Online Education: www.pogoe.org

Mental Status Assessment

- Mini-Cog™ assessment instrument: consultgerirn.org/uploads/File/trythis/try_this_3.pdf
- Montreal Cognitive Assessment (MoCA): www.mocatest.org
- Mini-Mental Status Examination, available for purchase: www.minimental.com

Depression Screening

- Patient Health Questionnaire (PHQ-9): www.integration.samhsa.gov/images/res/PHQ%20-%20Questions.pdf

NYC Health Department City Health Information archives: nyc.gov/html/doh/html/data/chi1.shtml

- Age-Friendly Primary Care
- Detecting and Treating Depression in Adults

RESOURCES FOR PATIENTS

Fall Prevention Information

- NYC Health Department Health Bulletin. How to Prevent Falls: A Guide for Older Adults: nyc.gov/html/doh/downloads/pdf/public/dohmhnews9-04.pdf
- CDC
 - Check for Safety. Home Fall Prevention Checklist (English, Spanish, Chinese): www.cdc.gov/HomeandRecreationalSafety/Falls/CheckListForSafety.html
 - Stay Independent brochure: www.cdc.gov/homeandrecreationalafety/pdf/steady-2015.04/Stay_Independent_brochure-a.pdf

Exercise

- NYC Department for the Aging. Stay Well Exercise Manual for Seniors: nyc.gov/html/dfta/downloads/pdf/health/stay_well_look.pdf
- US Department of Health and Human Services. 2008 *Physical Activity Guidelines for Americans*: www.health.gov/paguidelines
- National Institute on Aging. Exercise & Physical Activity: Your Everyday Guide: www.nia.nih.gov/healthinformation/publications/exerciseguide
- CDC Chair Rise Exercise: www.cdc.gov/homeandrecreationalafety/pdf/steady-2015.04/Chair_Rise_Exercise-a.pdf

Community Exercise and Gait, Balance, and Strength Training

- NYC Department of Parks & Recreation
 - Be Fit NYC: nycgovparks.org/befitnyc

- Events Calendar (includes walking programs): nycgovparks.org/events/all
- Indoor Recreation Centers: nycgovparks.org/facilities/recreationcenters
- NYC Department for the Aging community senior centers, including centers located at NYC Housing Authority sites: nyc.gov/html/dfta/html/services/centers.shtml
- NYC YMCA Active Older Adults Program: www.ymcanyc.org/association/classes/active-older-adults or 212-630-9600

Home Services/Assistive Devices

- NYC Medicare/Medicaid-Certified Home Care Agencies: www.medicare.gov or 800-MEDICARE
- American Academy of Orthopaedic Surgeons. How to Use Crutches, Canes, and Walkers: orthoinfo.aaos.org/topic.cfm?topic=a00181

Home Modification Assistance

- Metropolitan Council Project Metropair (free grab bars and minor repairs for low-income seniors aged ≥60 years): www.metcouncil.org/site/PageServer?pagename=Programs_Home_Services; homeservices@metcouncil.org; or 212-453-9542
- New York Foundation for Senior Citizens free home repair services and safety audits: www.nyfsc.org/services/repair.html
- NYC Housing Authority (for residents of NYCHA housing) Customer Contact Center: 718-707-7771
Equal Opportunity Services for People with Disabilities Unit: 212-306-4652 (TTY: 212-306-4845)

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(Continued from page 52)

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