اقدامات اورژانس در زمین خوردن

احسان مدیریان
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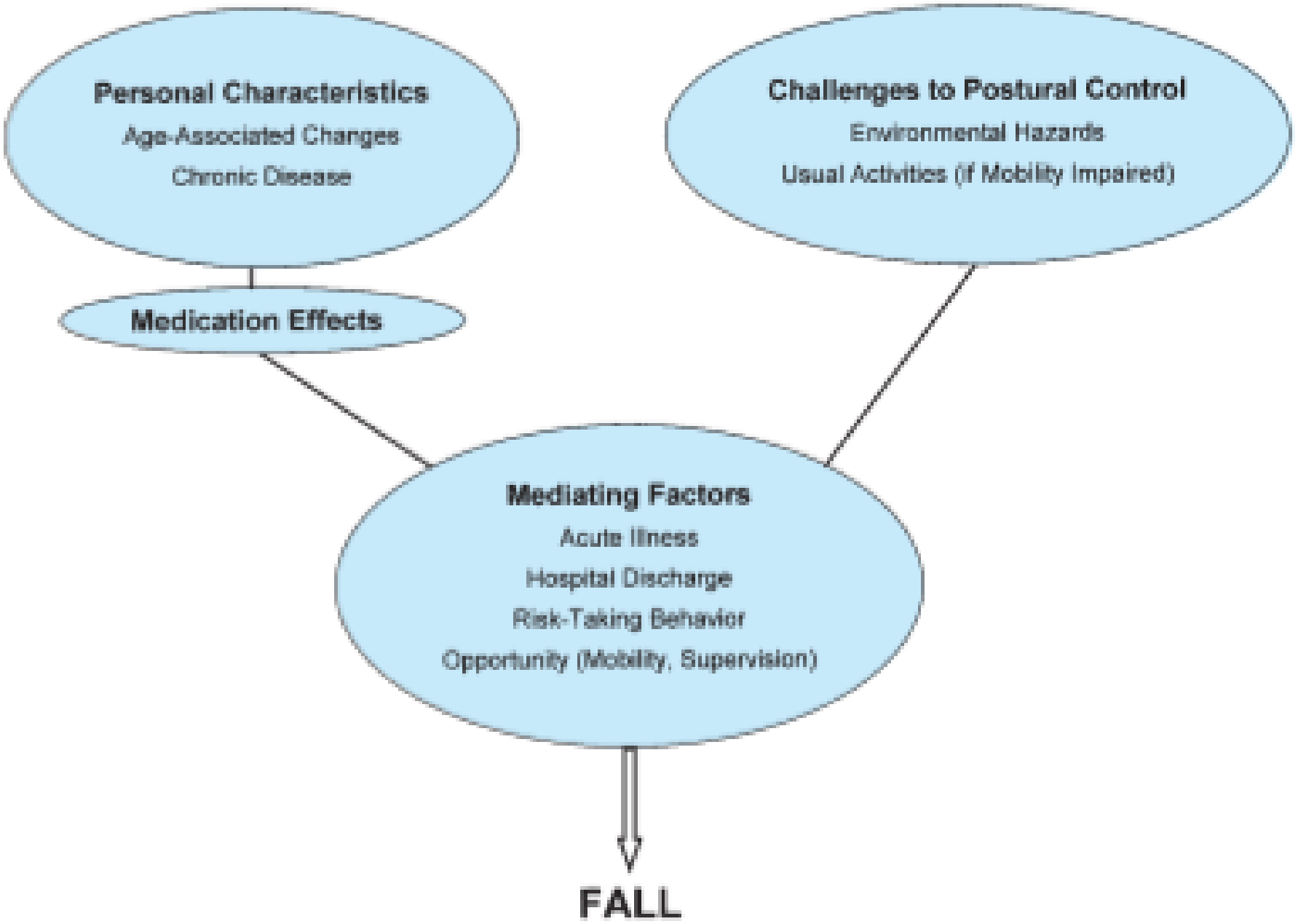
Implications of Falls

- In addition to fractures, over **50%** of falls result in at least some minor injury such as lacerations and bruises.
- Fractures are the **second-most-serious** health consequence of falls.
- Of those who fall, **20–30%** suffer moderate to severe injuries and **10–20%** experience a fracture.
- The most common fractures are of the vertebrae, hip, forearm, leg, ankle, pelvis, upper arm, and hand.
- The incidence of hip **fracture is greater in older women** but death (mortality) from hip fracture is higher among older men.
- At least **50%** of elderly persons who were ambulatory before fracturing a hip do not recover their pre-fracture level of mobility.
- About **5%** of older adults with hip fractures die while hospitalized; overall mortality in the 12 months after a hip fracture ranges from 12% to 67% .
- Falls that do not result in injury may still have serious consequences such as a fear of falling again.


Personal Characteristics
Age-Associated Changes
Chronic Disease
Challenges to Postural Control
Environmental Hazards
Usual Activities (if Mobility Impaired)
Medication Effects
Mediating Factors
Acute Illness
Hospital Discharge
Risk-Taking Behavior
Opportunity (Mobility, Supervision)
FALL

The relationship of intrinsic and extrinsic risk factors to falls and fracture

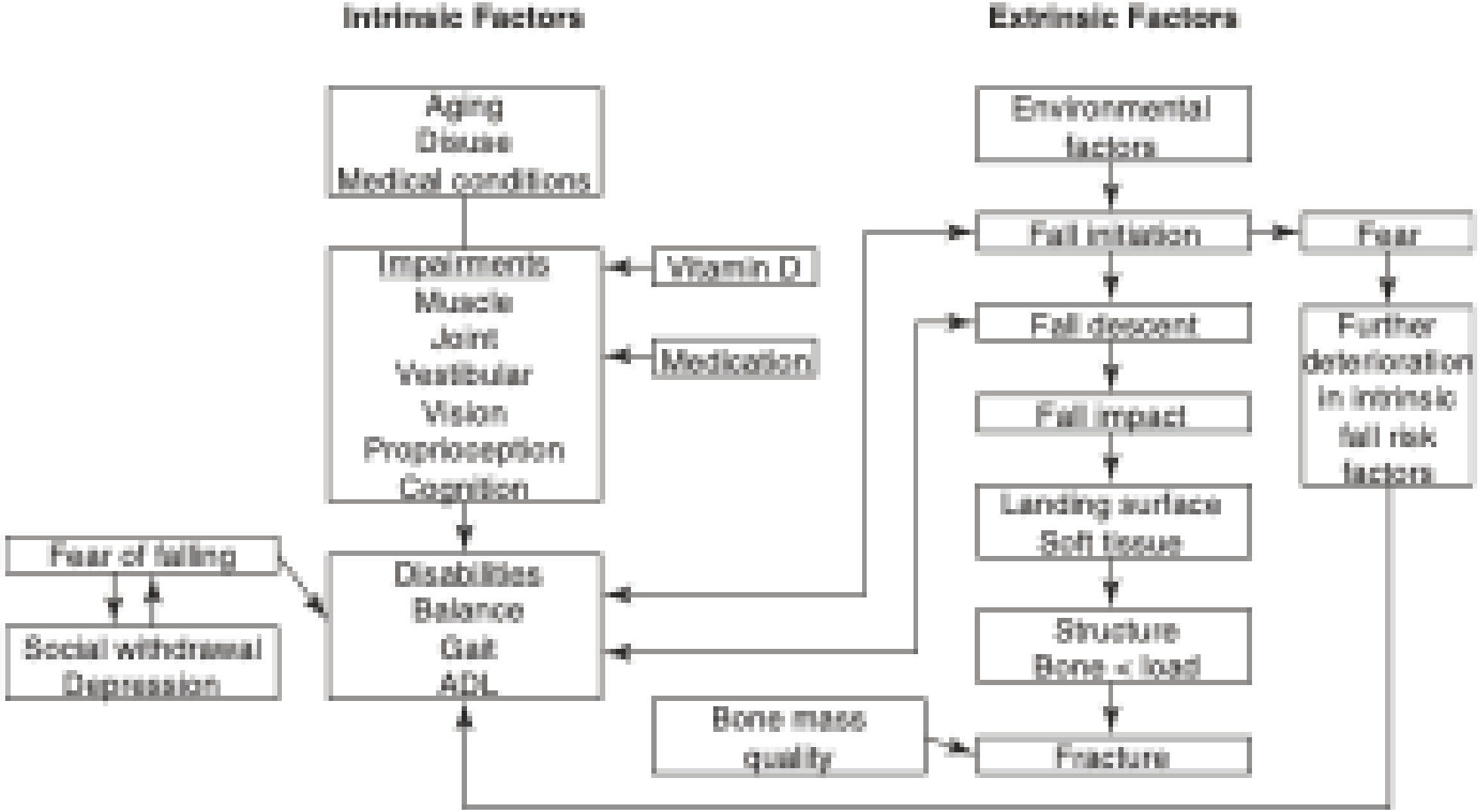


TABLE 103-1 Predisposing Risk Factors for Falls in Older Person in Three Settings*

Community Dweller	Acute Care	Chronic Care
Fall history	Gait instability	Cognitive impairment
Weakness	Agitated confusion	Visual impairment
Balance problem	Urinary incontinence and frequency	Weakness
Gait problem	Fall history	Neurologic problems
Visual problem	High-risk medications	Gait and balance problems
Mobility limitation		Cardiovascular problem
Cognitive impairment		
Decreased functional status		
Postural hypotension		

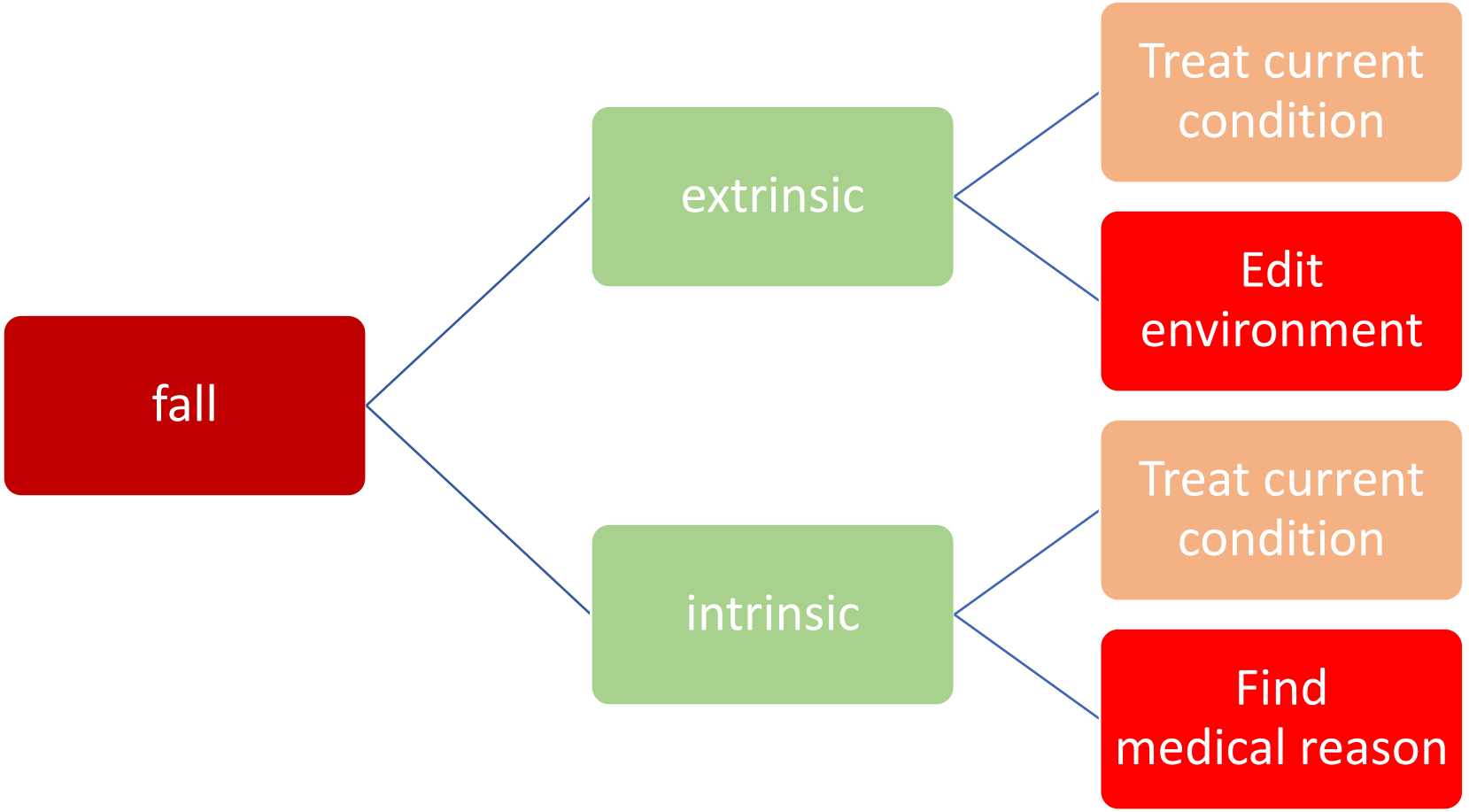
*Based on observational studies.

TABLE 103-2 Environmental Risk Factors for Falls

Indoor Falls	Outdoor Falls
Poor lighting	Uneven and broken sidewalks
Loose or absent railings	Wet surfaces
Throw rugs	Poor lighting
Trailing cords and wires	Irregular steps
Uneven transitions (e.g., level change between rooms)	Unpredictable level changes
Lack of bars in the bathroom	
Slippery floors	
Cluttered walkways	

KEY POINT: A fall can be the presentation of acute illness in an older person:

why did they fall *today*?


fall
extrinsic
intrinsic
Treat current condition
Edit environment
Treat current condition
Find medical reason

Box 8.2 Questions to ask a patient who has been found on the floor.

Before	What was the patient doing?
	How did they feel?
During	Do they remember falling through the air?
	Do they remember hitting the ground?
After	How did they feel when they were on the ground?
	What did they land on?
	Could they get up? (If not, why not?)
	How did they summon help?

If they are unable to answer any of the above questions either:

(a) They have cognitive impairment or delirium (or both)

(b) They lost consciousness: this should prompt an additional work-up for transient loss of consciousness/syncope.

In any case where the patient is unable to give a complete history, a witness history from a care giver, bystander or paramedic is very important and should be obtained at the earliest opportunity.

A simple mnemonic for falls: DAME

DAME (reminds you that women fall more frequently than men):

- **D**rugs (polypharmacy, alcohol).
- **A**ge-related changes (gait, balance, sarcopenia, sensory impairment).
- **M**edical (stroke disease, heart disease, PD).
- **E**nvironmental (obstacles, trailing wires, poor lighting, etc.).

TABLE 103-6 Medications That Affect Components of Postural Control

System Affected	Examples
CNS—attention and psychomotor speed	Benzodiazepines, sedating antihistamines, narcotic analgesics, tricyclic antidepressants, SSRIs, antipsychotics, anticonvulsants, ethanol
Basal ganglia and extrapyramidal system in general	Antipsychotics, metoclopramide, phenothiazines, SSRIs
Blood pressure regulation	Antihypertensives, antianginals, Parkinson drugs, tricyclic antidepressants, antipsychotics
Muscle—myopathy	Corticosteroids, colchicine, statins, ethanol, interferon
Pupil—miosis	Some glaucoma medications, especially pilocarpine

SSRI, Selective serotonin reuptake inhibitor.

Aid to remembering what to ask: SPLATT

- **S**ymptoms: dizziness, light-headedness, chest pain, palpitations?
- **P**revious falls: is this the first fall? (acute event) or one of many? (frailty/dementia)
- **L**ocation: falls occurring outdoors have a better prognosis than those in the home.
- **A**ctivity: walking, hanging out washing, extending neck, standing on chair?
- **T**ime: getting out of bed, after taking tablets, after a meal, when coughing/straining/passing urine?
- **T**rauma sustained ((physical or psychological) resulting from the fall)?

Symptoms

- Do you ever feel dizzy or light headed?
- Do you get the sensation of the world spinning around you?
- Did you get palpitations? Were they regular/irregular, fast or slow?
- Did you get any chest pain?
- Do you think you blacked out? How long for? How did you feel afterwards?
- Did you bite your tongue? Did you lose bladder control?
- Do you have any numbness in your feet or fingers?
- Have you noticed changes in your eyesight?
- Ask about all the drugs the patient is taking; remember over-the-counter medications.

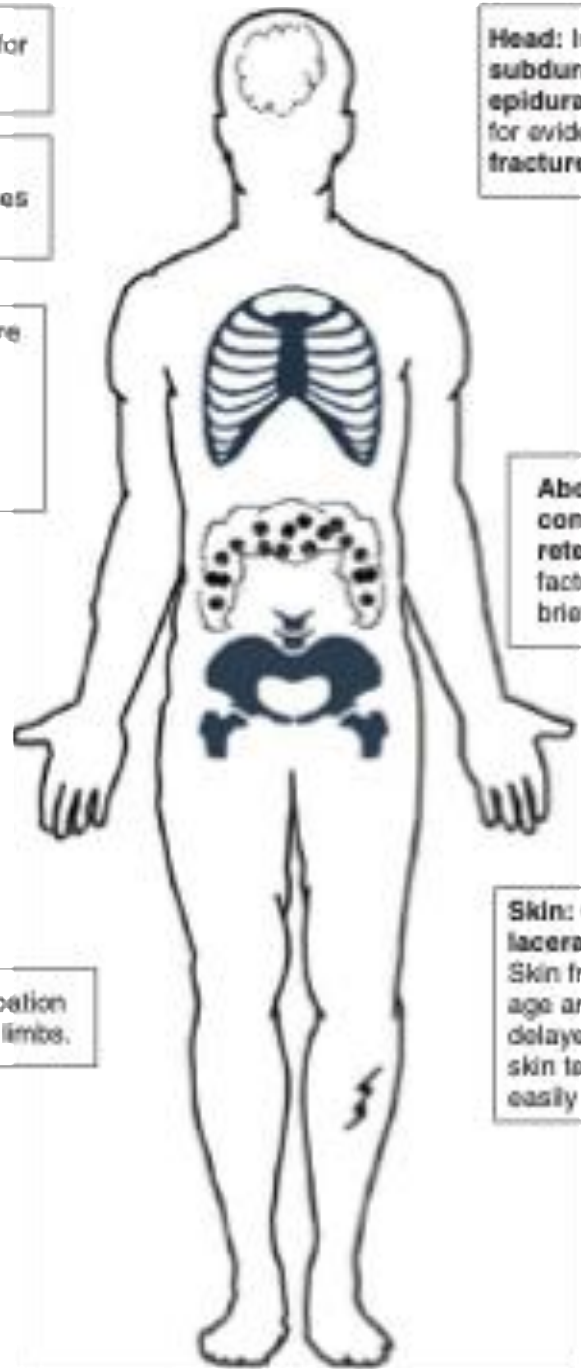
TABLE 103-6 Differential Diagnosis and Management of Dizziness

Condition	Symptoms	Evaluation	Management
Orthostatic hypotension	Lightheadedness with change in position	Measure blood pressure in multiple positions, both immediately after change and then again after several minutes. Clinically important systolic drop is not well defined but is more likely to be significant if >20 mm Hg or drops <100 mm Hg	Taper or eliminate medications, fluorinated corticosteroids, salt loading, lower extremity muscle contractions prior to arising, compression hose
Arrhythmia, especially tachy arrhythmia or bradyarrhythmia	Lightheadedness or syncope not associated with position, occasionally with palpitations	Rhythm monitoring—important to capture symptomatic episode so monitoring may be prolonged.	Antiarrhythmic agents, medications for heart rate control, pacemakers
Benign paroxysmal positional vertigo (BPPV)	Short periods of true vertigo with head movement, even without upright body movement such as rolling over in bed or looking up	Dix-Hallpike maneuver reproduces symptoms when in head-down position and precipitates rotatory nystagmus in direction of involved ear	Epley maneuver to reposition otolith debris; Brandt Daroff exercises
Meniere disease	Severe episodes of vertigo with perceived ear pressure, decreased hearing, nausea and vomiting	Usually diagnosed based on classic presentation, often incorrectly diagnosed when true cause is not known	Diuretics, dietary modifications to reduce salt intake
Uncompensated vestibular hypofunction	Unsteadiness that worsens when vision is reduced; blurred vision with head motion	Rotational chair testing, caloric testing, dynamic visual acuity testing	Vestibular rehabilitation, optokinetic stimulation
Multisensory dysequilibrium	Sensation of lack of confidence in body position that only occurs when upright	Decreased sensory function in more than one sensory system (e.g., vision, vestibular, and peripheral sensations)	Treat sensory disorders; carry out rehabilitation for use of sensory aids.

Examination

- The first objective of examination is to establish whether there is **significant injury or medical complication** resulting from the fall and if there is any underlying acute illness responsible.
- All patients should then receive a **general physical examination** with particular focus on the locomotor system and neurological assessment.
- A gait assessment should also take place in the ED:

  This may take the form of the **'get up and go test'**, where the patient is asked to stand up from a chair, walk a short distance, turn around, return and sit down again.



Ears and nose: Look for signs of **CSF leakage**

Neck: Cervical osteoarthritis predisposes to C1/C2 fractures

Chest: Rib fractures are more common due to calcified costo-condral joints.
Consider **traumatic pneumothorax**

Pelvis: Feel for groin or greater trochanter tenderness and assess range of movement to check for evidence of **hip or pubic ramus fracture.**

Limbs: Visual assessment, palpation and range of movement of long limbs.

Head: Increased risk of **subdural** and decreased risk of **epidural haematomas.** Check for evidence of a **depressed skull fracture.**

Abdomen: Consider **constipation** or **urinary retention** as contributing factors easily identified in a brief top to toe survery.

Skin: Check thoroughly for **lacerations** or **haematomas.** Skin fragility is increased in old age and skin healing is delayed, meaning cuts and skin tears can be acquired easily and lead to **ulceration.**

TABLE 12-2 Nursing Assessment to Identify Intrinsic Risk Factors for Falls

Physical Assessment	Problem
Pulse	Arrhythmias, bradycardia
Blood pressure	Postural hypotension Orthostatic blood pressure
Respiratory	Low oxygen saturation leads to confusion
Vision screening	Deficits in acuity, depth perception, peripheral vision and use of glasses
Muscle strength	Weakness in one or both sides
ROM in neck, spine, and extremities	Limitation in range of motion
Gait and balance	Deficits in postural control, balance, coordination, station, and gait
Pain	Limits normal function
Mental status/Level of consciousness (LOC)	Changes in thinking, attention, planning
Memory	Unable to remember safety instructions

*LOC= Alert, confused, drowsy, unresponsive

Trauma sustained

- Minor soft tissue injury in 40–60% of falls: hematoma, skin tear, laceration.
- More serious soft tissue injury in 5% of falls: but would include subdural hematoma, large hematoma requiring blood transfusion.
- Humeral fracture in 5% of falls.
- Wrist fracture.
- Vertebral fracture.
- Pelvic fracture.
- Fractured neck of femur in 2% of falls.

- **Fractures**
- Falls are the commonest cause of fractures in older people

- **Head injury**
- Many older people are on anticoagulants and this alters the management of traumatic head injury.
-

Soft tissue injury

- Thirty to fifty percent of falls result in soft tissue injuries such as lacerations and bruising. Whilst many of these injuries are relatively minor and easily managed in the ED, in some cases, skin tears can be a major cause of morbidity requiring hospital admission, plastic surgery input and prolonged follow-up by specialist tissue viability (wound care) nurses.

Baseline tests

- Blood tests: Full blood count, urea and electrolytes, glucose
- Thyroid stimulating hormone
- ECG: 12 lead ECG
- Imaging: will be directed by the history and presentation but a low threshold for chest, hip and pelvic radiographs should be adopted, in addition to plain films of any area that is significantly bruised or tender.

Further investigations

- Holter monitor
- echocardiography
- Tilt table
- CT scan if multi-infarct disease suspected.
- If seizures are suspected, consider EEG and CT
- Cardiac workup if symptoms of syncope or presyncope

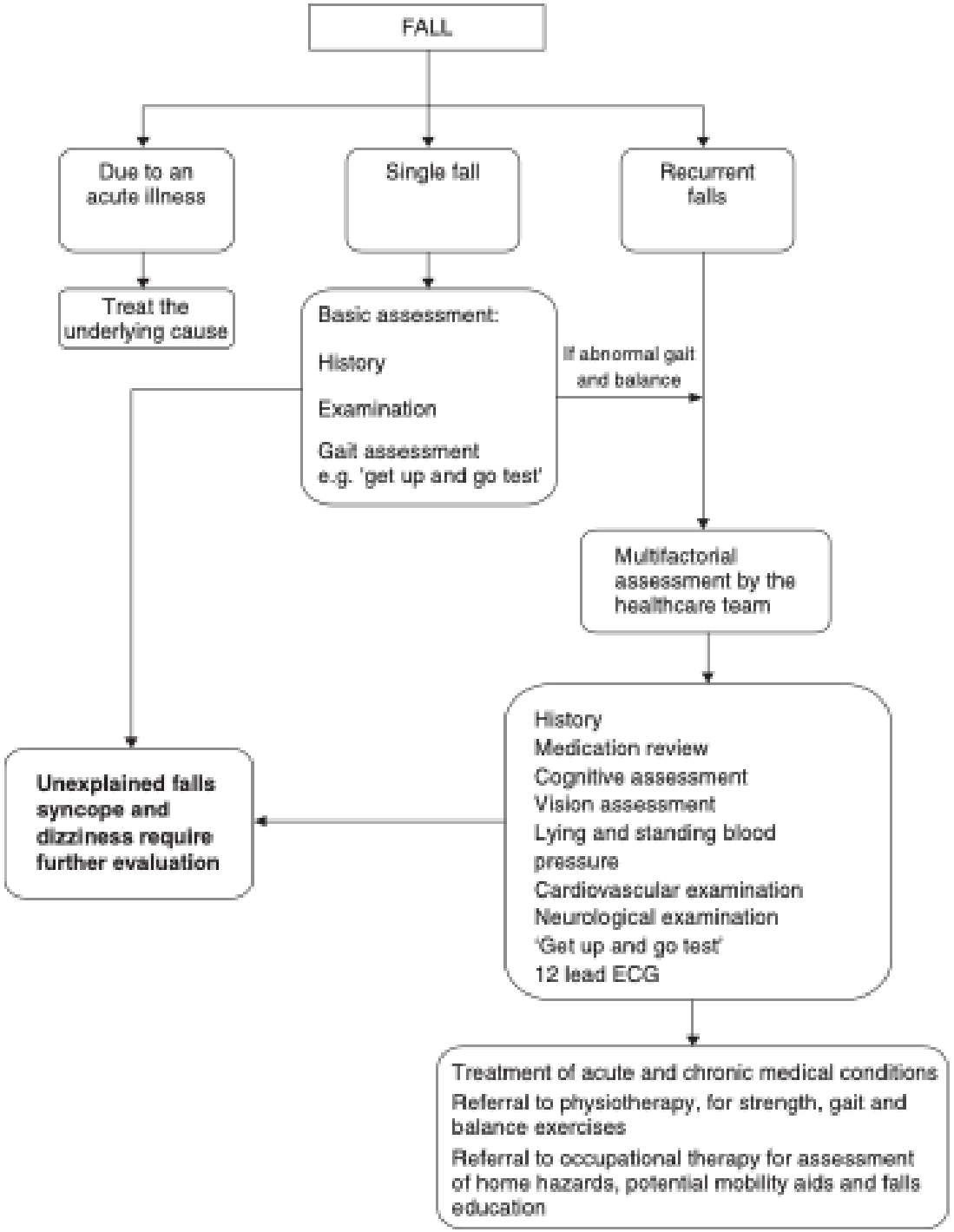
- Consider CT head and neck in patients with suspected head injury.
- In patients with severe hip or groin pain and normal plain films, consider CT or MR hip to identify more subtle fractures;

Prolonged immobility

- *A ‘long lie’* can lead to multiple complications associated with prolonged immobility; these include
  - **rhabdomyolysis,**
  - **dehydration,**
  - **pneumonia and**
  - **pressure ulcers.**

Approach to a patient with a fall

- If major injury and medical complications have been excluded, a decision should be made regarding the need for discharge or follow-up; this will often depend on a number of factors including mental state, ability to walk safely and social circumstances


FALL
Due to an acute illness
Single fall
Recurrent falls
Treat the underlying cause
Basic assessment:
History
Examination
Gait assessment e.g. 'get up and go test'
If abnormal gait and balance
Multifactorial assessment by the healthcare team
Unexplained falls syncope and dizziness require further evaluation
History
Medication review
Cognitive assessment
Vision assessment
Lying and standing blood pressure
Cardiovascular examination
Neurological examination
'Get up and go test'
12 lead ECG
Treatment of acute and chronic medical conditions
Referral to physiotherapy, for strength, gait and balance exercises
Referral to occupational therapy for assessment of home hazards, potential mobility aids and falls education

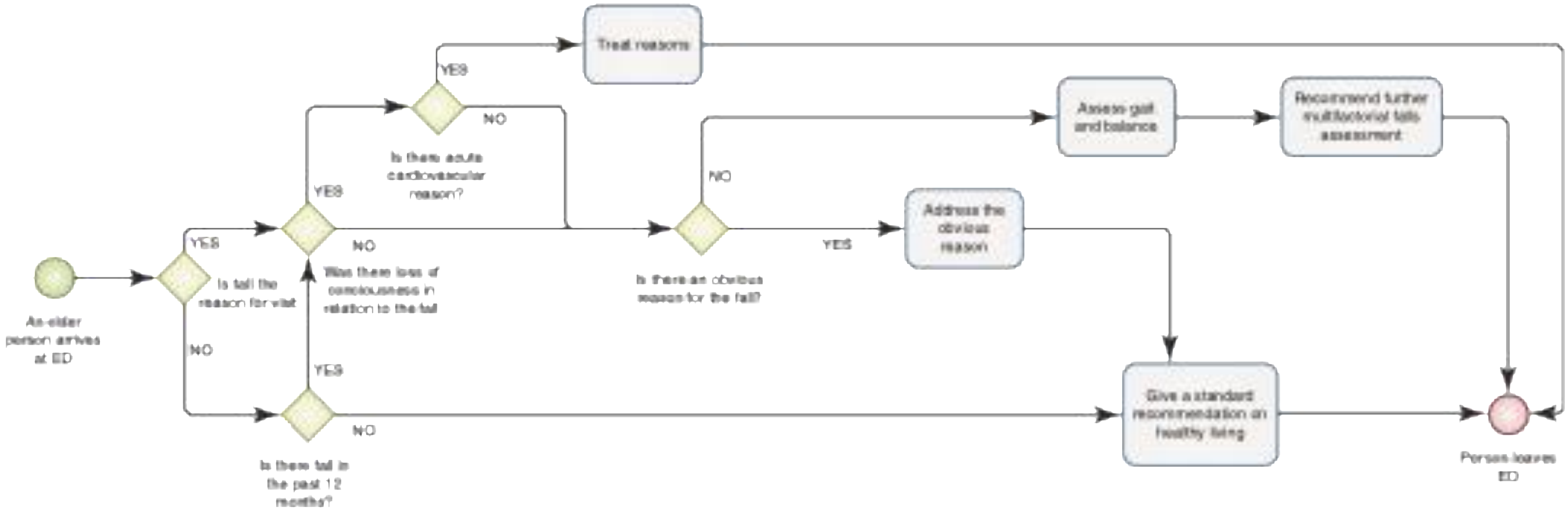


Fig. 9.3 Scheme for management of a fall patient in the ED

Remember:

60% of over 60-year-olds taking four or more medications will fall in a year.

Management

- Identify and treat all contributing causes and risk factors.
- Refer patients with significant bradycardia, heart block and cardioinhibitory disease for pacing.
- Refer patients with significant aortic stenosis for cardiological evaluation.
- Stop unnecessary drugs; the strongest evidence is the risk reduction achieved by stopping antipsychotics.
- Remember osteoporosis prevention and treatment
- Refer for physiotherapy.
  - Correct prescription and use of walking aids.
  - Improve gait pattern
  - Teach the patient how to getup from the floor.
  - individually tailored exercise plans for strength, balance, flexibility and endurance

If falls cannot be prevented, reduce their consequences

- Prescribe calcium and vitamin D and bisphosphonates if osteoporosis is present.
- Recommend maintaining an adequate environmental temperature.
- Soften floor coverings, i.e. carpet rooms.
- Remove obstacles and dangers, e.g. guard fire.
- Place emergency bedding where it can be reached from the floor.
- Arrange for a personally worn alarm system or for frequent visitors.
- Educate the patient and their relatives about safety in the home and the risk of falls.

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- Geriatric Emergent Urgent and Ambulatory Care, 1e.
- Geriatrics At Your Fingertips 2016, 18th Edition.

معرفی کیس

مشخصات بیمار

- خانم مریم نوروزی، ۷۸ ساله
- سابقه بیماری‌های مزمن: پرفشاری خون، دیابت نوع دوم و استئواستئوآرتریت مفصلی
- زندگی به تنهایی و با کمک خانواده (فرزند نزدیک)؛ با وجود حمایت خانوادگی، بیمار احساس نگرانی از سقوط‌های پیشین داشته است.

حادثه سقوط و شرایط وقوع آن

- در یک صبح بارانی، خانم مریم در حین رفتن به مسجد برای نماز صبح هنگام بیرون آوردن چتر در ورودی منزل خود، سقوط کرده است.

- چه عواملی در برخورد با این بیمار باید مورد بررسی قرار گیرد؟

معرفی کیس

- خانم ۷۸ ساله
- سابقه پرفشاری خون، دیابت نوع دوم و استئوآرتریت مفصلی
- زندگی به تنهایی و با کمک خانواده (فرزند نزدیک)
- در یک صبح بارانی، در حین رفتن به مسجد برای نماز صبح، هنگام بیرون آوردن چتر در ورودی منزل خود، سقوط کرده است.

- **چه عواملی در برخورد با این بیمار باید مورد بررسی قرار گیرد؟**

(در یک برگه ثبت کنید و مهمترین نکته را کامنت کنید)

عوامل محیطی

- سطح مرطوب و لغزنده جلوی درب منزل
- نورپردازی ناکافی در ورودی منزل
- عدم نصب دستگیره‌های حمایتی

عوامل درونی

- عدم صرف صبحانه منجر به افت قند خون شده باشد.
- ادامه اثر قرص خواب اور مصرفی باعث گیجی و عدم تعادل شده باشد.
- سرگیجه وضعیتی یا دیزینس بدنبال بیدار شدن ؟؟؟
- سکته قلبی و آریتمی ها ؟؟؟
- اختلال تعادلی و درد مفصلی به دلیل استئوآرتریت ؟؟؟

اقدامات اولیه و ارزیابی در بیمارستان

- **معاینات و اقدامات اولیه:**
- بیمار به سرعت به اورژانس منتقل شده و معاینات بالینی و تصویربرداری (از جمله گرافی و سی‌تی اسکن) انجام شده است.
- تشخیص شکستگی دیستال ساعد و خراش‌های جزئی؛ به علاوه علائم شروعی از اختلال تعادلی و درد مفصلی به دلیل استئوآرتریت

- **مدیریت دارویی و توانبخشی اولیه:**
- تنظیم مجدد داروهای کنترل فشار و دیابت
- شروع جلسات فیزیوتراپی جهت تقویت عضلات پا و بهبود تعادل

برنامه‌های پس از ترخیص

- توصیه به پیگیری منظم جلسات توانبخشی
- ارائه مشاوره‌های محیطی برای ایجاد تغییرات لازم در منزل
- هماهنگی با خانواده برای نظارت بر وضعیت بیمار و آموزش روش‌های پیشگیری از سقوط‌های مجدد

راهکارهای پیشنهادی برای جلوگیری از سقوط‌های مجدد

- **تقویت ارزیابی جامع:**
- انجام ارزیابی‌های دقیق‌تر چند بعدی (فیزیکی، روانی، دارویی و محیطی) از بیمار پیش از ترخیص
- بکارگیری الگوریتم‌های جامع تشخیص خطر سقوط به همراه تست‌های استاندارد تعادل
- **بهبود هماهنگی بین تیم‌های مراقبتی:**
- تشکیل تیم چند رشته‌ای (فیزیوتراپیست، داروساز، پزشک معالج، پرستار و مشاور محیطی) برای برنامه‌ریزی و پیگیری مراقبت‌های بعد از ترخیص
- **اصلاح محیط زندگی:**
- اجرای کامل توصیه‌های محیطی با همکاری خانواده و متخصصین محیط زیست و منزل
- نظارت دوره‌ای بر محیط زندگی بیمار به منظور اطمینان از عدم وجود عوامل خطر
- **پیگیری دقیق و توانبخشی مستمر:**
- تداوم جلسات فیزیوتراپی با ارزیابی‌های دوره‌ای جهت بهبود تعادل و قدرت عضلانی
- ارائه برنامه‌های آموزشی به بیمار و خانواده در خصوص تکنیک‌های پیشگیری از سقوط
- **مدیریت دقیق دارویی:**
- بازبینی منظم لیست دارویی و توجه ویژه به داروهایی که ممکن است اثرات منفی بر تعادل بیمار داشته باشند

همه با هم به سوی

سالمندی سالم