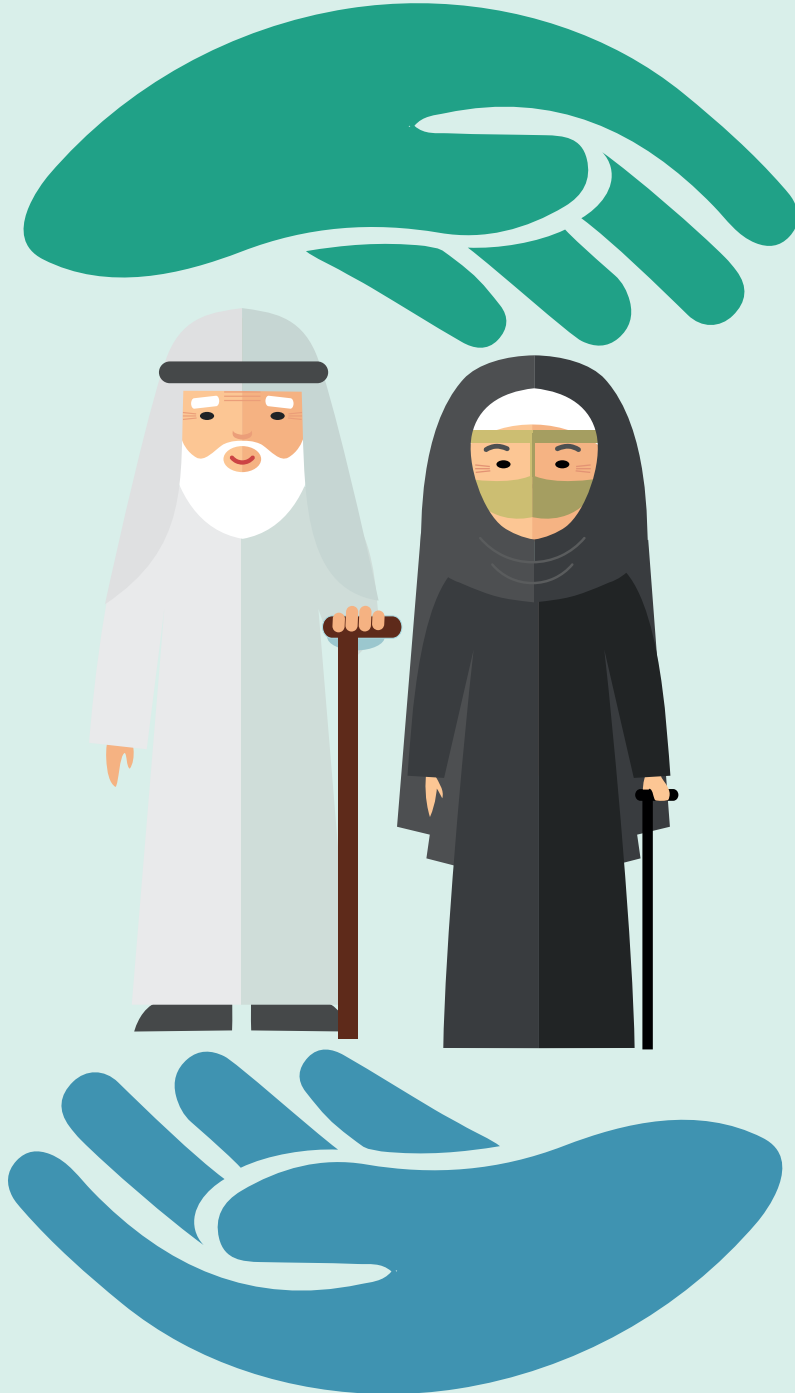




# NATIONAL PREVENTIVE GUIDELINES FOR INJURIES TO SENIOR CITIZENS

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## Foreword

Qatar National Vision 2030 categorically promotes a healthy population in the State of Qatar by effectively providing preventive and curative health care. National Health Strategy 2018 - 2022 identified Healthy Ageing as a priority with a strategic goal of increasing the 'healthy life years' of the population aged 65 years and above.

Injuries pose a hazard to global health in every nation. One out of every ten people are admitted to the emergency room each year due to injuries. Many victims who survive their traumas develop either temporary or permanent disability. The related injury death rate in Qatar was 61.8 in 2019.

Common causes of injuries in Senior Citizens include falls, traumatic brain injuries, road traffic accidents, poisoning, medications, kitchen-related injuries, burns, and neglect-related injuries. Falls may occur in up to 34% of Senior Citizens annually, increasing the risk of injury and is the second leading cause of death due to unintentional injuries.

Injuries in Senior Citizens are preventable & or abated. As a result, it is prudent to boost preventative efforts by increasing awareness of strategies for injury prevention in Senior Citizens.

As people age, their bodies become more vulnerable to injuries and accidents. This is especially true for Senior Citizens, who may experience a decline in physical abilities and cognitive function. In Qatar, as in many other countries worldwide, there is a growing need to develop preventive guidelines for Senior Citizens' injuries.

Preventive guidelines for Senior Citizens' injuries in Qatar have considered this population's unique needs and challenges. For instance, Senior Citizens may have mobility issues, vision problems, and difficulty with balance, which can increase their risk of falls and related injuries. Additionally, they may be more susceptible to chronic conditions such as osteoporosis and arthritis, which can make them more prone to fractures and other types of injuries.

To address these challenges, these preventive guidelines for Senior Citizens' injuries have focused on strategies to improve mobility, enhance balance and coordination, and promote healthy lifestyle choices. This includes recommendations for regular exercise, physical activity, and education on proper nutrition and hydration. Additionally, these guidelines address home safety, such as ensuring that living spaces are free from hazards and that assistive devices are in place to aid mobility.

By implementing preventive guidelines for Senior Citizens' injuries in Qatar, we can help reduce the risk of accidents and promote healthy aging for this important population segment.

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## Executive Summary

Injuries are a major cause of disability and death among Senior Citizens . As life expectancy continues to increase, the risk of injuries in this population is also on the rise. Injury prevention has been recognized as a critical public health issue requiring action across various sectors.

The National Preventive Guidelines for Senior Citizens Injuries provide evidence-based strategies for preventing injuries in the Senior Citizens . The guidelines identify common causes of injuries, including falls, traumatic brain injuries, road traffic accidents, poisoning, medication-related injuries, kitchen-related injuries, burns, and neglect-related injuries. The guidelines provide preventive recommendations for addressing these common causes.

We collaborated with the Strategic Planning and Performance Department at MoPH to develop these guidelines and followed international standards. We compiled existing clinical and preventive guidelines, conducted international research, established guideline governance, and proposed recommendations.

It is important to note that healthcare staff should use their professional judgment and medical knowledge to apply the guidelines appropriately and consider each patient or resident's individual circumstances and available resources. The treatment recommendations may not be suitable for all circumstances, and practitioners should decide to adopt specific recommendations based on individual patient/resident circumstances and treatment availability.

## SECTION 1: Background

### 1.1: The Serious Impact of Injuries on Senior Citizens

Injuries in Senior Citizens are a significant public health issue that can lead to serious consequences. It's important to note that injuries in Senior Citizens are not inevitable and can be prevented or managed. When injuries do occur, they pose a significant risk of disability, longer hospital stays, prolonged rehabilitation periods, higher rates of institutionalization, and even death, affecting Senior Citizens across the globe. The serious impact of injuries on Senior Citizens underscores the importance of injury prevention and management strategies in this population.

### 1.2: Overview of epidemiology of condition/disease/topic

The Senior Citizens population is growing rapidly. By 2050, globally, there will be more than 2 billion people aged 60 or above. The population aged 60+ years in Qatar increased from 3.8 thousand persons in 1971 to 102.61 thousand persons in 2020, growing at an average annual rate of 7.05% [1].

One out of every ten people are admitted to the emergency room each year due to injuries, according to the Centres for Disease Control and Prevention in USA (CDC). Across the global landscape of population health research, injuries are unique in that they are almost universally avertable yet can cause death or disability at any age. Even common injuries such as concussions resulting from falls or road injuries may cause longer-term sequelae, and injuries such as spinal cord injuries or limb amputations can cause long-term disability [2]. As a result, injuries are recognised as a source of lost health and human capital that could be avoided with improved safety and prevention programmes and by ensuring access to care resources [3]. Across geographies, certain injuries such as those occurring from adverse medical events are an increasing area of research in higher-income areas of the world [4–5].

Reducing injury burden is an important component in global efforts such as the Sustainable Development Goal 3 to 'ensure healthy lives and promote well-being for all at all ages' [6].

Injuries can be broadly categorized into

- Unintentional: Falls, Traumatic brain/spinal injuries, motor vehicle injuries, poisoning, & burns
- Intentional: Neglect

Almawlawi et al. reported that 34% of 355 Senior Citizens had fallen in the previous 12 months, with a higher fall prevalence (47.1%) in the 60-65 age group and in women (68.1%), whilst most were Qatari nationals (70%) with a greater risk amongst those using walking aids not doing exercise [7]. In the same study, 47% of Senior Citizens had single falls, and 53% had recurrent falls. Falls, regardless of the location and cause, are a leading cause of serious injury, especially for the Senior Citizens (8).

Traumatic brain injury [TBI]

TBI remains one of the most serious global public health challenges due to its high case fatality rate and long-term disability for the survivors. In the Middle East region (9), the median TBI incidence rate per capita is around 45 per 100,000 population. The overall median emergency department-based TBI mortality, which includes all age groups and all injury severities, is almost 10%. The estimated overall median mortality due to head trauma (based on emergency department admissions data) is 6% among all age groups and all injury severities. The overall TBI-related mortality in intensive care unit-based studies is 25%. Fewer than two-thirds of countries from this region publish data on TBIs in their countries.

A study (10) done in the National Trauma Centre shows that out of 2730 road traffic injury cases, 1830 (67%) sustained Motor Vehicle Crash (MVC)-related injuries, of whom nearly 5% were 60 years and above. The use of

seatbelts and airbags was documented in 26% and 2.5% of cases, respectively. Unrestrained passengers had greater injury severity scores, longer hospital stays, and higher rates of pneumonia and mortality compared to restrained passengers. There were 311(17%) ejected cases. Seatbelt use was significantly lower, and the mortality rate was 3-fold higher in the ejected as compared to the non-ejected group. The overall mortality was 8.3%.

In a study (11) from Hamad General Hospital Qatar, a total of 18,073 patients received medical care from the ED at HGH in 2010. Out of them, 599 (3.3%) adult patients were diagnosed with acute poisoning with either chemical or pharmaceutical substances. A total of 93 patients (15.5%) required admission, out of which 35 (5.8%) were admitted to ICU. The remaining 506 patients (84.5%) were treated and discharged from the emergency. The admission rate due to poisoning (prevalence rate) was 35.3/100,000 population.

Burns are one of the most devastating forms of trauma worldwide (12,13). In the Senior Citizens, flame and scald burns, or scalds alone, are the major causes of burns, most commonly occurring at home, particularly in the kitchen and bathroom(12,14). Geriatric burns are uncommon in the developing world - accounting for less than 5% of burns in Southeast Asian and Middle Eastern countries. Senior Citizens are more vulnerable to burn injury due to their limited mobility coupled with their physical inability to react rapidly and reach safety when faced with danger. Mabrouk et al.(15) reported that when caught in a fire, 23.7% of the Senior Citizens collapse, which aggravates their injuries.

Senior Citizens taking multiple high-risk medications for sleeping, pain, or incontinence are twice as likely as others to fall and break bones, with many dying within a year of their injury, new research shows. The University of Otago, Christ Church Study is the first in the world to measure the impact of taking multiple medications on fractures in the Senior Citizens. In the Senior Citizens, 90% of fractures are the result of a fall. Between 20 and 30% of Senior Citizens die within a year of suffering a fracture. People taking more than three Drug Burden Index medications (specific medications that sedate or affect a person's cognition) are twice as likely to break their hip than those taking no medications. Between 20% and 30% of Senior Citizens who broke their hip died within a year (16). Medication-related problems are common in Senior Citizens adults. Adverse drug effects are effects that are unwanted, uncomfortable, or dangerous. Common examples are oversedation, confusion, hallucinations, falls, and bleeding. Among ambulatory people  $\geq 65$ , adverse drug effects occur at a rate of about 50 events per 1000 person-years. Hospitalization rates due to adverse drug effects are 4 times higher in Senior Citizens patients (about 17%) than in younger patients (4%). And 66% of these hospitalizations in Senior Citizens patients are due to 4 drugs or drug classes—warfarin, insulin, oral antiplatelet drugs, and oral hypoglycemic drugs (17).

The abuse of Senior Citizens people, also known as Senior Citizens abuse, is an intentional act, or failure to act, by a caregiver or another person in a relationship involving an expectation of trust that causes harm to an adult 60 years and Senior Citizens. Around 1 in 6 people 60 years and Senior Citizens experienced some form of abuse in community settings during the past year. Rates in institutional settings, such as nursing homes and long-term care facilities, are higher still, with 2 in 3 staff reporting that they have committed abuse in the past year. (18)WHO

### 1.3: Burden of disease

The National Safety Council (NSC) in the USA reported in its NSC Injury Facts that in 2020, there were 200,955 avoidable fatalities, 55.4 million avoidable injuries, and \$1,158.4 billion in expenses in the US (19)

Injury death rates in Qatar were 161.1 (103.7–209.7) in 1990 compared to 86.9 (57.2–115.3) in 2010 and 61.8 (41.2–84) in 2019. In 2019, the YLL (years of life lost) rate per 100 000 population was 1960.7 (1305.9–2695.2), the YLD (years lived with disability) rate per 100 000 population was 1274.5 (883.6–1778.6), DALY (disability-adjusted life-years) rate per 100 000 population was 3235.2 (2441.1–4140.3), which shows the burden of disease (19).

Falls produce lifelong disability in the form of traumatic brain injuries or spinal cord injuries and can also cause severe injuries that necessitate advanced surgical care, such as intra-abdominal organ injury or complicated skeletal fractures [20]. In Senior Citizens, the morbidity experienced by falls may be further modulated by comorbid conditions such as osteoporosis, osteopenia, or usage of anticoagulant or antiplatelet medications [21,22]. Given that many fall incidents are preventable occur in any population, and can lead to substantial morbidity and mortality, it is surprising

that falls do not draw more attention as an important global issue.

In the Global Burden of Diseases (GBD), Injuries and Risk Factors Study 2017 (GBD 2017), global estimates of the burden of falls show that falls were ranked as the 18th leading cause of age-standardised rates of disability-adjusted life years in 2017, outranking conditions such as chronic kidney disease, Alzheimer's disease and other dementias, and asthma [23]. Additionally, falls were noted to be the second leading cause of death due to unintentional injuries in 2017, following road injuries and outranking causes such as interpersonal violence and drowning [24]. Research outside of the GBD Study on the epidemiology of falls has largely focused on Senior Citizens populations, as this is where the global burden of falls is thought to be most concentrated. The World Health Organization (WHO) reports that most deaths from falls happen in those aged 65 and Senior Citizens [25]. For those 70 years or Senior Citizens, falls are the leading category in injury-related deaths [26]. With a burden highly concentrated in Senior Citizens, many recent studies have discussed the effects of population, ageing, recognising the potential for far more incident cases and deaths from falls as people live longer [27–29]. Globally, total deaths and DALYs due to falls have increased steadily since 1990, with death counts nearly doubling by 2017.

In 2016, there were 27.08 million (95% uncertainty interval [UI] 24.30–30.30 million) new cases of TBI and 0.93 million (0.78–1.16 million) new cases of SCI, with age-standardised incidence rates of 369 (331–412) per 100 000 population for TBI and 13 (11–16) per 100 000 for SCI. In 2016, the number of prevalent cases of TBI was 55.50 million (53.40–57.62 million) and of SCI was 27.04 million (24.98–30.15 million). From 1990 to 2016, the age-standardised prevalence of TBI increased by 8.4% (95% UI 7.7 to 9.2), whereas that of SCI did not change significantly (–0.2% [–2.1 to 2.7]). Age-standardised incidence rates increased by 3.6% (1.8 to 5.5) for TBI, but did not change significantly for SCI (–3.6% [–7.4 to 4.0]). TBI caused 8.1 million (95% UI 6.0–10.4 million) YLDs and SCI caused 9.5 million (6.7–12.4 million) YLDs in 2016, corresponding to age-standardised rates of 111 (82–141) per 100 000 for TBI and 130 (90–170) per 100 000 for SCI. Falls and road injuries were the leading causes of new cases of TBI and SCI in most regions. TBI and SCI constitute a considerable portion of the global injury burden and are caused primarily by falls and road injuries. The increase in incidence of TBI over time might continue in view of increases in population density, population ageing, and increasing use of motor vehicles, motorcycles, and bicycles. The number of individuals living with SCI is expected to increase in view of population growth, which is concerning because of the specialised care that people with SCI can require [30]. According to GBD estimates there were 30692 (26304 to 35541) road injuries and 574 (462 to 704) mortalities related to it in Qatar [31]. In a study [11] from Hamad General hospital Qatar, a total of 18,073 patients received medical care from the ED at HGH during 2010. The total fatal poisoning was seven cases, which accounts for a case-fatality rate of 0.39/1000 admissions. 7.2% of them were 60 years and above. Burns are the fourth most common type of trauma worldwide, following traffic accidents, falls, and interpersonal violence [32, 33].

The worldwide incidence of fire-related injuries in 2004 was estimated to be 1.1 per 100,000 population [32]. In high income countries, 40 to 50 percent of burn injuries are seen in adults [32]. Senior Citizens adults, as defined by age greater than 60 years, suffer a disproportionately higher percent of hospitalizations due to burns in comparison with the general population [33].

Medication errors are a leading cause of injury and avoidable harm in health care systems: globally, the cost associated with medication errors has been estimated at US\$ 42 billion annually [34].

Abuse of Senior Citizens can lead to serious physical injuries and long-term psychological consequences, increased risk of nursing home placement, use of emergency services, hospitalization, and premature death [18].

## SECTION 2. National Preventive Guidelines recommendations

### 2.1 Genral preventive guidelines Recommendations (35-36)

1. **Fall prevention:** Engage in physical activity to improve balance and strength, remove hazards in the home environment, wear proper footwear, and have regular vision and hearing checks.
2. **Medication management:** Consult with a healthcare provider about the risks and benefits of medications, potential interactions, and adverse effects, such as dizziness and confusion.
3. **Safe driving:** Undergo regular vision and hearing checks, adjust driving habits to abilities, and avoid driving in adverse weather conditions or at night.
4. **Prevention of abuse and neglect:** Promote education, awareness, and support to prevent Senior Citizens abuse and neglect, which can result in physical injuries and psychological harm.
5. **Home safety:** Install grab bars and handrails in bathrooms and on stairs, use non-slip mats, and keep pathways clear of clutter.
6. **Regular health check-ups:** Have regular vision and hearing checks, screenings for chronic diseases, and immunizations to identify potential risks and prevent injuries.
7. **Stay physically active:** Engage in regular physical activity to maintain strength, balance, and overall well-being.
8. **Maintain independence:** Take steps to preserve independence by utilizing assistive devices, seeking assistance when needed, and maintaining physical and cognitive health.
9. **Ensure proper sleep:** Establish a regular sleep routine and create a comfortable sleeping environment to promote restful sleep and reduce the risk of fatigue-related injuries.
10. **Follow a balanced diet:** Eat a nutritious, well-balanced diet that includes fruits, vegetables, whole grains, lean proteins, and adequate hydration to maintain overall health and prevent nutritional deficiencies.
11. **Stay hydrated:** Drink enough water throughout the day to maintain proper hydration and support overall health and well-being.
12. **Attend regular medical appointments:** Keep regular appointments to manage underlying health conditions and receive necessary medical care.
13. **Seek timely medical advice:** Consult a healthcare professional promptly when experiencing any health-related symptoms or concerns.
14. **Attend health screening appointments:** Participate in recommended health screenings to detect and prevent potential health issues.
15. **Stay up to date with immunizations:** Receive recommended vaccines to protect against infectious diseases and maintain optimal health.
16. **Maintain social interaction:** Engage in regular social activities and maintain connections with friends, family, and community to promote mental well-being and prevent social isolation.
17. **Follow safety precautions during religious practices:** Adhere to safety guidelines and take necessary precautions to prevent injuries while performing prayers or engaging in religious activities.

These recommendations can help prevent injuries in the Senior Citizens and improve their overall quality of life. However, it's important to note that individual circumstances may vary, and people should consult with their healthcare provider to determine the best strategies to prevent injuries based on their specific needs and health conditions.

## 2.2 Falls Prevention Recommendations

### 2.2.1 Falls prevention recommendations at home<sup>(37,38)</sup>

1. Consider living on the ground floor to avoid the use of staircases.
2. Regularly inspect and repair any loose or broken stairs, handrails, or other potential hazards to maintain the home in good condition.
3. Eliminate tripping hazards and keep walkways and stairways clear of clutter, loose rugs, and other potential obstructions.
4. Inspect each room and area of the house for potential fall risks, such as loose cords, throw rugs, and carpets, and address them promptly.
5. Place nonslip mats in bathrooms, kitchens, and outdoor areas to prevent slips.
6. Make purposeful movements and avoid rushing. Pause briefly before starting to get up from bed or performing any physical activity.
7. Keep frequently used items within easy reach and store items at reachable heights to avoid the need for climbing or reaching.
8. If necessary, utilize assistive devices such as walkers, canes, or wheelchairs to aid with mobility.
9. Keep important phone numbers, including those of emergency services and healthcare providers, easily accessible in case of an emergency.
10. Wear properly fitting clothing to minimize the risk of tripping.
11. Wear shoes instead of socks, as shoes provide better traction. Non-slip socks can be used as an alternative, particularly if wearing shoes is difficult, but shoes are generally safer overall.
12. Install handrails and grab bars in spaces like bathrooms and staircases to make them safer to navigate. This applies to both indoor and outdoor staircases.
13. Use nightlights in restrooms and bedrooms to provide sufficient visibility during night-time.
14. Ensure proper and adequate lighting throughout the home to help prevent falls and accidents. Install nightlights in hallways and bathrooms for additional safety.
15. Secure loose carpets and rugs by using double-sided tape or non-slip pads to keep them firmly in place.
16. Consider avoiding pets like kittens and puppies or non-trained pets at home to minimize the risk of tripping or falls.

**By following these recommendations, the home environment can be made safer for Senior Citizens, reducing the risk of injuries, and improving their overall quality of life.**

### 2.2.2 Falls prevention recommendations during adverse weather conditions:<sup>(39)</sup>

1. Wear warm and weather-appropriate clothing, including non-slip footwear with good traction.
2. Use assistive devices such as canes or walkers if needed to assist with balance and mobility on slippery or uneven surfaces.
3. Keep walkways, steps, and driveways clear to prevent slips and falls.
4. Plan outings carefully, considering weather and road conditions, and allow extra time to reach your destination safely.

5. Be cautious when entering and exiting vehicles, using handrails or other supports if available.
6. Stay indoors during severe weather conditions, such as extreme cold or heat, to avoid the risk of injury.
7. Ensure that shoes have uneven sole textures for better traction.
8. Leave early when going out to avoid rushing.
9. Stay home if there isn't an urgent need to go out when the weather is unacceptable.
10. Keep hands free and avoid carrying objects while walking.
11. Evaluate available walking routes to find the safest one.
12. Regularly inspect canes and walkers to ensure they are in good condition from top to bottom.

**By following these recommendations, the risk of injury can be reduced during adverse weather conditions allowing Senior Citizens to maintain their mobility and independence while staying safe.**

### **2.3 Fall prevention recommendations for visually impaired Senior Citizens <sup>(40)</sup>**

1. Use the type of lens one is accustomed to. For example, if accustomed to single-vision glasses, avoid bifocals.
2. Schedule annual eye checks to identify refractive errors, visual deficits, or other irreversible visual impairments.
3. Ensure all rooms and hallways are well-lit and have accessible light switches.
4. Ensure adequate lighting in all areas of the home, especially in hallways, stairways, and other potential tripping or falling areas.
5. Use contrasting colours to highlight changes in floor surfaces, such as steps or thresholds, making them more visible.
6. Label household items, including medications, with large print or Braille labels to aid visually impaired individuals in identifying them.
7. Seek professional assistance from a low-vision specialist to obtain advice on improving lighting and making necessary modifications to the home, reducing the risk of injury.

**By following these recommendations, visually impaired Senior Citizens can reduce their risk of injury and maintain their independence and mobility.**



## 2.2.4 Fall prevention recommendations from Medications <sup>(41)</sup>

1. Keep a list of all medications, including prescription drugs, over the counter, and herbal supplements, and share it with all healthcare providers.
2. Follow medication instructions carefully, including the dosage, timing, and frequency of administration.
3. Avoid mixing medications unless directed to do so by a healthcare provider.
4. Store medications safely in a cool, dry place, and keep them out of reach of children.
5. Use a pill organizer to help track medications and ensure that they are taken on schedule.
6. Dispose of expired or unused medications properly, following local guidelines.
7. Ask healthcare providers about potential side effects of medications and report any unusual symptoms immediately.
8. Review all medications regularly with healthcare providers to ensure that they are still needed and that they are not interacting with each other in harmful ways.

**By following these recommendations, older adults can reduce their risk of medication-related injuries and ensure that they are using medications safely and effectively.**

## 2.2.5 Fall prevention recommendations on physical fitness <sup>(42)</sup>

1. Consult a healthcare provider before beginning any exercise program, especially if underlying health conditions exist.
2. Start slowly with low-intensity exercises and gradually increase the intensity and duration over time.
3. Choose the right activities and exercises that are appropriate for the age, fitness level, and interests. Activities that improve strength, balance, and flexibility are particularly important for Senior Citizens.
4. Always warm up before exercising and cool down after exercising to reduce the risk of injury.
5. Use appropriate equipment and attire, such as comfortable shoes with good support, to reduce the risk of falls and other injuries.
6. To prevent dehydration, stay hydrated by drinking plenty of fluids before, during, and after exercise.
7. Monitor the environment and be aware of the environment when exercising, including uneven surfaces, obstacles, and inclement weather.
8. Incorporate rest days into the exercise routine to allow the body time to recover

**By following these recommendations, Senior Citizens can maintain physical fitness while reducing their risk of injury. It is also important to listen to the body and adjust the exercise program as needed to prevent injury.**

## 2.2.6 Fall prevention recommendations on nutrition and hydration <sup>(43-45)</sup>

1. Eat a balanced diet is essential for overall health and can help prevent conditions such as osteoporosis, which can increase the risk of fractures.
2. Ensure adequate protein intake as it is important for maintaining muscle mass and strength, which can help prevent falls and injuries.
3. Stay hydrated and drink plenty of fluids, especially in hot weather or during physical activity.
4. Monitor alcohol intake as excessive alcohol consumption can increase the risk of falls and injuries, so it is important to monitor alcohol intake and avoid drinking too much.
5. Be mindful of medication interactions with certain foods or supplements, so it is important to discuss any changes in diet or supplements with a healthcare provider.
6. Consider supplements as Senior Citizens may have difficulty getting enough nutrients from their diet alone, so supplements may be necessary to ensure adequate intake of essential nutrients.

7. Be aware of food safety as Senior Citizens may be more susceptible to foodborne illnesses, so it is important to follow safe food handling practices, such as washing hands and cooking foods to the appropriate temperature.

**By following these recommendations, Senior Citizens can maintain good nutrition and hydration, which can help prevent injuries and promote overall health and well-being. Discussing any dietary concerns or changes with a healthcare provider is also important..**

### 2.2.7 Fall prevention recommendations on foot care and appropriate footwear <sup>(46,47)</sup>

1. Senior Citizens should inspect their feet regularly for any cuts, blisters, or sores. They should also wash their feet with soap and warm water and dry them thoroughly.
2. They should trim their toenails straight across and not too short. They should avoid cutting the corners of the nails, as this can lead to ingrown toenails.
3. Moisturize feet to prevent dry skin, cracking, and injury.
4. Senior Citizens should wear appropriate footwear that fits well, provides support and is comfortable. Shoes should have a non-slip sole and a low heel.
5. Replace shoes regularly as shoes that are worn out or no longer fit properly can increase the risk of falls and injuries. Therefore, Senior Citizens should replace their shoes regularly, preferably every six months.
6. Avoid walking barefoot: Senior Citizens should avoid walking barefoot, especially on hard surfaces or outdoors.
7. Consult a healthcare professional: Senior Citizens with foot problems, such as bunions, hammertoes, or diabetes, should consult a healthcare professional for proper foot care and advice on appropriate footwear..

**By following these recommendations, Senior Citizens can prevent injuries. It is also important to discuss recommendations with a healthcare provider.**

### 2.2.8 Fall prevention recommendations on use of mobility aids <sup>(48)</sup>

1. Ensure the mobility aid, such as a cane or walker, fits properly and is adjusted to the appropriate height.
2. Follow the manufacturer's instructions on how to use the mobility aid safely and effectively.
3. Keep the mobility aid in good working condition by regularly checking for any damage or wear and tear.
4. Ensure that the environment is safe using mobility aids, such as ensuring that walkways are clear of tripping hazards and that there is adequate lighting.
5. If a healthcare professional prescribes a mobility aid, ensure that the Senior Citizens is trained in its proper use and has an opportunity to practice.
6. Senior Citizens may need time to adjust to using a mobility aid and should gradually increase the duration and intensity of use over time.
7. Reassess the need for a mobility aid periodically, as the Senior Citizens condition may improve or worsen over time.
8. Consult healthcare professional: If the Senior Citizens experiences any pain or discomfort while using a mobility aid, or if there are concerns about its use, consult a healthcare professional for advice.

**By following these recommendations, Senior Citizens can prevent injuries due to the use of mobility aids. It is also important to discuss recommendations with a healthcare provider.**

## 2.2.9 Fall prevention recommendations in hospital setting<sup>(49,50)</sup>

### Recommendations to Patients:

1. Orientate yourself to the hospital environment and familiarize yourself with the hospital layout and orientation.
2. Keep beds in a low position with brakes on.
3. Make sure the hospital bed is in a low position while resting.
4. Adjust the hospital bed to a comfortable height when transferring out of bed.
5. Be aware of the functionality and location of grab rails and if appropriate, use bed rails.
6. Keep personal possessions within safe reach.
7. Ensure the call bell is within reach and understand how to use it.
8. Use your call bell if you need help to move, such as going to the toilet.
9. Keep floors clear of clutter, including equipment.
10. Ensure there are no hazards, such as loose cables or furniture, in your room.
11. Utilize the grab bars in the restroom and use them to sit down and stand up from the toilet.
12. Maintain adequate lighting in your room.
13. Avoid moving around in the dark and turn on the lights when needed.
14. Wear glasses and hearing aids if needed and ask for assistance if you are having trouble seeing.
15. Use your usual walking aid and keep it nearby. Be cautious when using hospital furniture with wheels.
16. When rising from a hospital bed, sit up straight on the edge for a few seconds before standing. Get up carefully and ensure you feel stable before walking.
17. Perform quick leg exercises before rising from a chair or bed, such as tensing and relaxing the muscles in your calves.
18. Ensure your slippers or shoes fit comfortably and avoid backless footwear. Wear non-skid footwear like rubber slippers.
19. If you are confused, always be under the immediate and direct supervision of a staff member or caregiver.
20. Accept assistance from staff when ambulating if you feel unsteady.
21. Ask to be referred to an occupational therapist if you need advice on appropriate walking aids.
22. Be aware that sedation or general anaesthesia may cause unsteadiness and require supervision.
23. Make sure necessary equipment like wheelchairs, commodes, and walkers are available, well-maintained, and serviced appropriately.
24. Report any concerns about medications and have them reviewed or adjusted if necessary.
25. Have your blood pressure checked while lying down and standing up if you experience dizziness.
26. If you experience an altered mental state, request testing for dementia or delirium.
27. Ensure a unique care plan is in place if you have dementia or delirium.
28. If you have continence issues, request a continence care plan and ask for assistance to move safely to the toilet.
29. Allow caregivers/staff to be within arm's reach when assisting you to the bathroom.
30. If you have fallen in the past year, are concerned about falling, or have a history of falling, inform the nurse or doctor caring for you.

31. Follow the instructions provided by caregivers/healthcare staff.
32. Complete falls risk assessments as soon as possible after admission, following a fall incident, or when transferred between wards/departments.

### Recommendations for Healthcare practitioners:

1. **Conduct falls risk assessments:** Perform comprehensive evaluations to identify patients at high risk of falling. Consider factors such as age, medical history, mobility, cognitive function, and medication use.
2. **Regularly update patient information:** Keep accurate and up-to-date records of patients' fall risks, mobility status, and cognitive abilities. Ensure that this information is readily available to the healthcare team.
3. **Adequate staffing and supervision:** Ensure sufficient staff members are available to provide supervision and assistance to Senior Citizens patients, particularly those at high risk of falling. Regularly monitor patients, especially those who are disoriented or have impaired mobility.
4. **Clear communication:** Encourage open communication between patients, family members, and healthcare providers. Make sure patients and their families understand the potential risks and precautions to prevent falls.
5. **Optimize the hospital environment:**
  - a. **Adequate lighting:** Ensure that all areas are well-lit, including hallways, patient rooms, and bathrooms. Use night lights or motion sensor lights to aid visibility during the night.
  - b. **Clear pathways:** Keep hallways and patient rooms free of clutter and obstacles that may impede mobility. Ensure that cables, cords, and equipment are properly managed and secured.
  - c. **Slip-resistant flooring:** Use slip-resistant flooring surfaces to reduce the risk of slips and falls. Consider using rugs with non-slip backing or removing them altogether.
  - d. **Handrails and grab bars:** Install handrails and grab bars in bathrooms, hallways, and other areas where support is needed. These assistive devices can improve stability and provide patients with something to hold onto.
  - e. **Bedside safety measures:** Implement bed alarms or pressure-sensitive mats that alert staff when patients attempt to get out of bed unsafely. Use bed rails when appropriate, but ensure they are properly adjusted and do not pose a risk of entrapment..
6. **Mobility aids and assistive devices:** Provide patients with appropriate assistive devices such as canes, walkers, or wheelchairs, as needed. Ensure these devices are properly fitted and regularly maintained.
7. **Medication management:** Review and assess medications that may increase the risk of falls, such as sedatives, tranquilizers, or medications that affect blood pressure. Adjust dosages or schedules when appropriate, in consultation with the prescribing physician.
8. **Regular exercise and physical therapy:** Encourage patients to engage in appropriate exercises and physical therapy to improve strength, balance, and mobility. This can help reduce the risk of falls and improve overall physical function.
9. **Patient and family education:** Educate patients and their families about fall prevention strategies, including proper use of assistive devices, safe transfers, and awareness of environmental hazards.
10. **Post-fall assessments and feedback:** If a fall occurs, conduct a thorough assessment to identify contributing factors and take appropriate measures to prevent future falls. Share the incident with the patient and their family and provide feedback on preventive actions taken.

It's important to note that these recommendations should be implemented in conjunction with the hospital's fall prevention program and tailored to the individual needs and capabilities of each patient.

### 3. Traumatic Brain (& Spinal Cord) Injuries <sup>(51-53)</sup>

#### Brain injuries:

**Preventing brain injuries in the Senior Citizens is crucial for maintaining their cognitive function and overall well-being. Here are some recommendations to help minimize the risk of brain injuries:**

1. **Fall prevention:** Falls are a common cause of brain injuries in the Senior Citizens . Implement measures to prevent falls, such as removing tripping hazards, improving lighting, installing grab bars in bathrooms, and encouraging the use of mobility aids if needed.
2. **Home safety:** Conduct a home safety assessment to identify potential hazards that may increase the risk of falls or accidents. Ensure that the environment is well-maintained, with clear pathways, secure handrails, and adequate lighting.
3. **Assistive devices:** Encourage the use of assistive devices such as canes, walkers, or stair lifts to enhance mobility and stability, reducing the risk of falls and subsequent brain injuries.
4. **Vision and hearing checks:** Regularly assess and address vision and hearing impairments in the Senior Citizens . Poor vision or hearing can increase the risk of accidents and falls, leading to brain injuries.
5. **Medication management:** Follow the recommendations provided earlier for preventing medication-related injuries. Proper management of medications can help avoid adverse drug reactions, which may contribute to falls or other accidents.
6. **Exercise and physical activity:** Encourage regular exercise and physical activity appropriate for the individual's abilities. Exercise programs that focus on balance, strength, and flexibility can help improve stability and reduce the risk of falls.
7. **Nutrition and hydration:** Promote a healthy diet and adequate hydration to maintain overall health and reduce the risk of conditions that could contribute to brain injuries, such as dizziness or dehydration.
8. **Helmet use:** Encourage the use of appropriate helmets when participating in activities that pose a risk of head injury, such as cycling, skating, or certain sports. Ensure that helmets fit properly and are worn consistently.
9. **Cognitive stimulation:** Engage in activities that provide cognitive stimulation, such as puzzles, reading, social interactions, and learning new skills. Keeping the brain active can help maintain cognitive function and reduce the risk of certain types of brain injuries, such as those related to cognitive decline.
10. **Regular medical check-ups:** Ensure regular medical check-ups to assess overall health, detect any underlying conditions that may increase the risk of brain injuries, and address any concerns related to brain health.

**By implementing these recommendations, we can help reduce the risk of brain injuries in the Senior Citizens and promote their overall well-being. It is important to create a safe and supportive environment that considers the unique needs and vulnerabilities of Senior Citizens adults.**

## Spinal Cord injuries:

Preventing spinal cord injuries in the Senior Citizens is crucial for their overall well-being and quality of life. Here are some recommendations to help minimize the risk of spinal cord injuries:

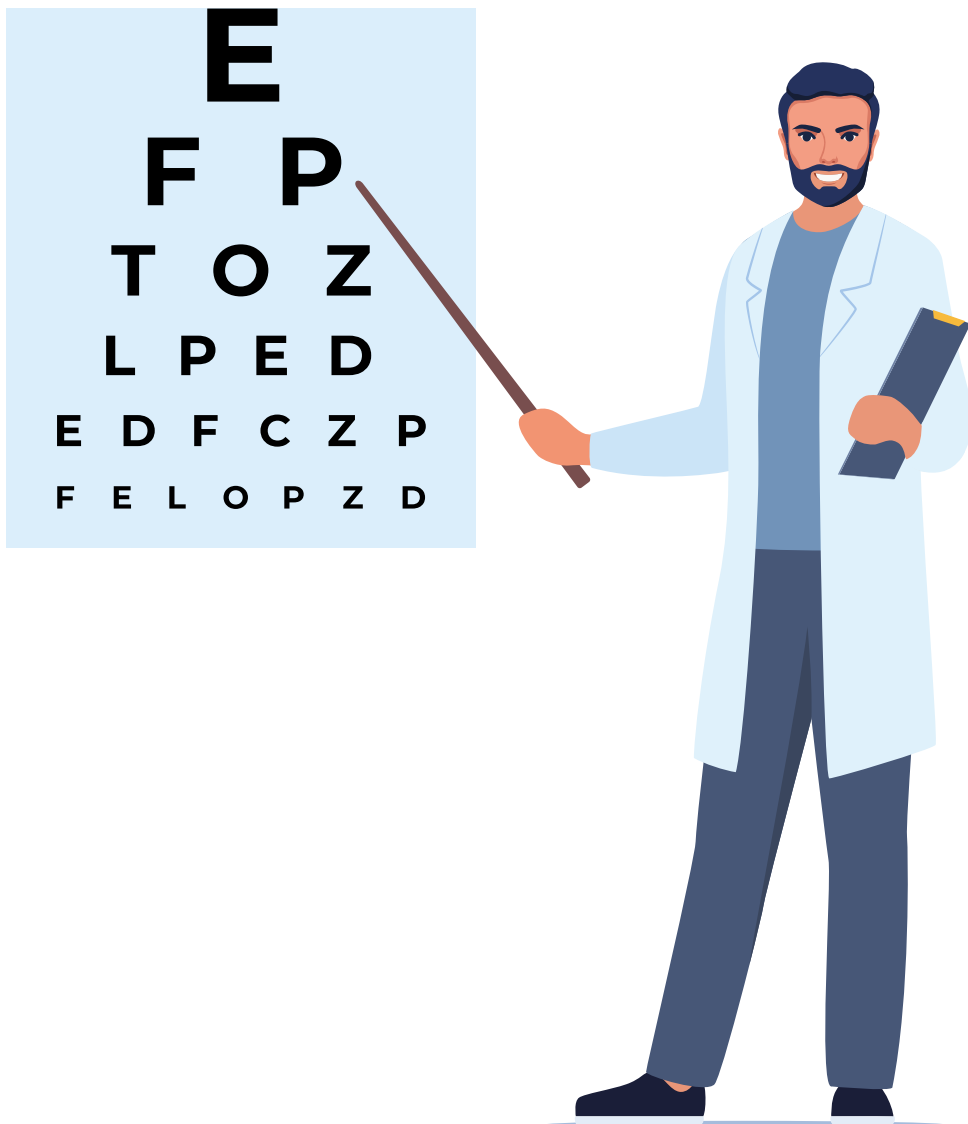
1. Fall prevention:
  - Falls are a common cause of spinal cord injuries in the Senior Citizens .
  - Implement measures to prevent falls, such as removing tripping hazards, improving lighting, installing grab bars in bathrooms, and encouraging the use of mobility aids if needed.
2. Home safety:
  - Conduct a home safety assessment to identify potential hazards that may increase the risk of falls or accidents leading to spinal cord injuries.
  - Ensure that the environment is well-maintained, with clear pathways, secure handrails, and adequate lighting.
3. Assistive devices:
  - Encourage the use of assistive devices such as canes, walkers, or stair lifts to enhance mobility and stability, reducing the risk of falls and subsequent spinal cord injuries..
4. Exercise and physical activity:
  - Encourage regular exercise and physical activity appropriate for the individual's abilities.
  - Exercise programs that focus on strength, balance, and flexibility can help improve stability and reduce the risk of falls and spinal cord injuries.
5. Proper lifting techniques:
  - Educate the Senior Citizens on proper lifting techniques to prevent strain and injury to the back. Encourage them to use their legs instead of their back when lifting heavy objects and to seek assistance if needed.
6. Safe transportation:
  - Ensure that the Senior Citizens have safe transportation options and use appropriate seat belts or restraints when traveling in vehicles.
7. Home modification:
  - Make necessary modifications to the home to improve accessibility and reduce the risk of accidents. This may include installing ramps, widening doorways, and adding handrails or grab bars in critical areas.
8. Proper nutrition and hydration:
  - Promote a healthy diet and adequate hydration to maintain overall health and reduce the risk of conditions that could contribute to falls or accidents leading to spinal cord injuries.
9. Regular medical check-ups:
  - Ensure regular medical check-ups to assess overall health, detect any underlying conditions that may increase the risk of spinal cord injuries, and address any concerns related to mobility or balance.
10. Education and awareness:
  - Provide education and raise awareness among the Senior Citizens about the importance of spinal cord injury prevention. This can include information on fall prevention strategies, safe lifting techniques, and other relevant safety measures.

**By implementing these recommendations, we can help reduce the risk of spinal cord injuries in the Senior Citizens and promote their overall well-being. It is important to create a safe and supportive environment that considers the unique needs and vulnerabilities of Senior Citizens adults.**

## 4. Driving (including Pedestrian) related injury preventive Strategies <sup>(54-55)</sup>

Preventing driving-related injuries in the Senior Citizens is crucial for their safety and the safety of others on the road. Here are some recommendations to help minimize the risk of driving injuries:

1. Regular driver assessments:
  - Encourage the Senior Citizens to undergo regular driver assessments or evaluations to assess their driving abilities. These assessments can identify any physical or cognitive limitations that may affect safe driving.
2. Vision and hearing checks:
  - Regularly assess and address vision and hearing impairments in the Senior Citizens. Clear vision and hearing are essential for safe driving. Ensure that eyeglass or hearing aid prescriptions are up to date and being used appropriately.



3. Medication review:
  - Regularly review medications with healthcare providers to assess their potential impact on driving abilities. Some medications can cause drowsiness, dizziness, or other side effects that may impair driving skills.
  - Adjustments to medications or dosages may be necessary.
4. Physical fitness and mobility:
  - Encourage the Senior Citizens to maintain physical fitness and mobility through regular exercise.
  - Physical fitness contributes to better reaction times, coordination, and overall driving abilities.
5. Driver education and training:
  - Provide access to driver education and training programs specifically designed for Senior Citizens. These programs can offer helpful tips, strategies, and refresher courses to enhance driving skills and awareness of changing road conditions.
6. Consider adaptive equipment:
  - Explore the use of adaptive equipment or vehicle modifications that can improve safety and comfort for Senior Citizens' drivers. Examples include hand controls, pedal extensions, or steering wheel grips.
7. Plan driving routes:
  - Help Senior Citizens' drivers plan their routes in advance, avoiding complex intersections, heavy traffic areas, or unfamiliar roadways.
  - Encourage the use of GPS navigation systems or mobile applications that provide real-time traffic updates.
8. Encourage self-awareness:
  - Encourage Senior Citizens' drivers to regularly assess their own driving abilities and recognize any changes or limitations. It's important for them to seek alternatives, if necessary, such as recruiting a driver.
9. Stay updated on road rules:
  - Remind Senior Citizens drivers to stay updated on current road rules and regulations.
  - Encourage them to refresh their knowledge through reading materials, driver's manuals, or online resources.
10. Foster open communication:
  - Maintain open communication with Senior Citizens' drivers, their families, and healthcare providers about any concerns regarding their driving abilities. Encourage dialogue and support decision-making processes that prioritize safety.


**It's important to approach the topic of driving safety with empathy and respect, recognizing that driving cessation can have significant emotional and practical implications for the Senior Citizens . Encourage alternative transportation options and help them explore transportation services tailored to the needs of Senior Citizens adults..**

## For the Senior Citizens pedestrian::

Preventing pedestrian injuries in the Senior Citizens is crucial for their safety when navigating the streets and sidewalks. Here are some recommendations to help minimize the risk of pedestrian injuries:

1. Enhance visibility:
  - Encourage the use of reflective or brightly colored clothing, especially during low-light conditions, to enhance visibility to motorists. Wearing reflective accessories or using a reflective cane can make the Senior Citizens more noticeable to drivers.
2. Crosswalks and pedestrian signals:
  - Encourage the use of designated crosswalks and pedestrian signals when crossing the street. Remind the Senior Citizens to wait for the “walk” signal and to be mindful of oncoming traffic even when the signal indicates it’s safe to cross.
3. Road awareness:
  - Promote Road awareness among the Senior Citizens by reminding them to pay attention to their surroundings when walking. Encourage them to look both ways before crossing, be cautious at intersections, and make eye contact with drivers to ensure they are seen.



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4. Walking aids:
    - Encourage the use of walking aids, such as canes or walkers, if needed. These aids provide stability and support while walking, reducing the risk of falls, and improving overall safety.
  5. Sidewalk conditions:
    - Advocate for well-maintained sidewalks and pathways in the community. Report any hazards, such as cracks, uneven surfaces, or obstacles, to the relevant authorities for prompt repair.
  6. Avoid distractions:
    - Remind the Senior Citizens to avoid distractions while walking, such as using electronic devices or listening to loud music. Distractions can impair situational awareness and increase the risk of accidents.
  7. Community support:
    - Create and support community programs that cater to the needs of Senior Citizens pedestrians, such as safe walking groups or volunteer assistance for crossing busy intersections.
  8. Traffic education:
    - Promote education on pedestrian safety, especially for the Senior Citizens. This can include workshops, seminars, or informational materials emphasizing safe walking practices and following traffic rules.
  9. Interventions for cognitive decline:
    - Address cognitive decline through appropriate interventions and support. Cognitive impairments can affect judgment and decision-making while walking, increasing the risk of pedestrian accidents.

**It's important to work together as a community to create pedestrian-friendly environments that prioritize the safety of Senior Citizens . By implementing these recommendations, we can help reduce the risk of pedestrian injuries and ensure the Senior Citizens can safely navigate their surroundings.**

## 5. Medication Related injury preventive strategies <sup>(56,57)</sup>

**Preventing medication-related injuries in the Senior Citizens is crucial for their safety and well-being. Here are some recommendations to help minimize the risk of medication-related injuries:**

1. Medication management:
  - Establish a system for medication management. Ensure that medications are taken as prescribed, in the correct dosage, and at the appropriate times. Consider using pill organizers or automated medication dispensers to assist with organization and adherence..
2. Review medications with healthcare providers:
  - Regularly review all medications with healthcare providers, including prescriptions, over-the-counter medications, herbal supplements, and vitamins. Discuss potential side effects, drug interactions, and any concerns or questions about the medications.
3. Simplify medication regimen:
  - Work with healthcare providers to simplify the medication regimen, if possible. Reducing the number of medications or adjusting dosages can help minimize the risk of medication errors or adverse reactions.
4. Clearly label medications:
  - Ensure that medications are clearly labeled with the name, dosage, and instructions. Use large, easy-to-read labels and consider color-coding or organizing medications by time of day to avoid confusion.
5. Medication education:
  - Educate the Senior Citizens on their medications, including the purpose, dosage, and potential side effects. Provide written information and encourage them to ask questions and seek clarification from healthcare providers or pharmacists.
6. Use a single pharmacy:
  - Encourage the Senior Citizens to use a single pharmacy for all their medication needs. This allows pharmacists to monitor potential drug interactions and identify any duplications or errors.
7. Keep a medication list:
  - Maintain an up-to-date list of all medications, including the name, dosage, frequency, and prescribing healthcare provider. Include any allergies or sensitivities to medications on the list.
  - Carry a copy of this list when visiting healthcare providers or in case of emergencies.
8. Avoid sharing medications:
  - Advise against sharing medications with others or using medications prescribed for someone else. Each individual's medical condition and response to medications are unique, and sharing can lead to adverse reactions or complications.
9. Adverse effects reporting:
  - Encourage reporting any adverse effects or concerns about medications to healthcare providers. Timely reporting can help identify and address medication-related issues promptly.
10. Medication storage and disposal:
  - Properly store medications in a cool, dry place, away from direct sunlight and moisture.
  - Follow proper disposal guidelines for expired or unused medications, such as utilizing drug take-back programs or specific disposal instructions.

caution safety are essential in preventing medication-related injuries in the Senior Citizens . By implementing these recommendations, we can help ensure that medications are used safely and effectively, reducing the risk of adverse reactions or medication errors.



## 6. Poisoning-injury preventive strategies<sup>(58)</sup>

**Preventing poisoning-related injuries in the Senior Citizens is crucial for their safety and well-being. Here are some recommendations to help minimize the risk of poisoning:**

1. Medication management:
  - Properly manage medications by following prescribed dosages and schedules.
  - Store medications in their original containers and label them clearly.
  - Dispose of expired or unused medications safely. Consider using pill organizers to help with medication adherence.
2. Communication with healthcare providers:
  - Ensure open communication with healthcare providers regarding medication regimens, potential side effects, and drug interactions. Inform them about any over-the-counter medications, herbal supplements, or vitamins being taken.
3. Medication reviews:
  - Regularly review medications with healthcare providers to assess their necessity and potential risks. This can help identify any medications that may no longer be needed or could be causing adverse effects.
4. Safe storage:
  - Store medications, cleaning products, and other potentially toxic substances in locked cabinets or areas that are inaccessible to the Senior Citizens.
  - Keep them out of reach and sight to prevent accidental ingestion.
5. Proper labelling:
  - Clearly label any toxic substances or cleaning products with warning signs and instructions. Use large, easy-to-read labels to prevent confusion or accidental misuse.
6. Education on poison prevention:
  - Educate the Senior Citizens on the dangers of accidental poisoning and the importance of keeping toxic substances out of reach.
  - Provide information on common household hazards and strategies for prevention.
7. Food safety:
  - Educate the Senior Citizens on safe food handling and storage practices to prevent foodborne illnesses.
  - Emphasize the importance of proper cooking temperatures, refrigeration, and avoiding expired or spoiled food.
8. Emergency preparedness:
  - Have emergency contact numbers readily available. Educate the Senior Citizens on the steps to take in case of a poisoning emergency, such as calling for help and providing necessary information.

**Regularly reassessing the home environment, promoting awareness, and providing education on poison prevention are essential steps in reducing the risk of poisoning-related injuries in the Senior Citizens . By implementing these recommendations, we can help create a safer living environment for the Senior Citizens and prevent accidental poisonings.**

## 7. Burns-related injury preventive strategies <sup>(59,60)</sup>

**Preventing burns in the Senior Citizens is crucial for their safety and well-being. Here are some recommendations to help minimize the risk of burns:**

1. Temperature regulation:
  - Set water heaters to a maximum temperature of 49°C to prevent scalding burns. Test the water temperature before use, especially for bathing or showering.
  - Install safety devices:
  - Install anti-scald devices on faucets and showerheads to regulate water temperature and prevent burns. Consider using temperature-limiting devices on stovetops or ovens to prevent accidental burns from hot surfaces.
2. Ensure proper clothing:
  - Promote the use of safe kitchen clothing, such as snug-fitting garments that won't dangle or have long sleeves that could catch fire or touch hot surfaces.
3. Safe handling of hot items:
  - Remind Senior Citizens individuals to use oven mitts or heat-resistant gloves when handling hot pots, pans, or dishes.
  - Caution should be exercised when transferring hot items from stoves, ovens, or microwaves.
4. Fire safety:
  - Ensure smoke detectors and fire extinguishers are present and functioning properly in the living areas. Educate Senior Citizens individuals on fire safety practices, such as avoiding smoking in bed, using caution with portable heaters, and keeping flammable items away from heat sources.
5. Kitchen safety:
  - Follow the earlier recommendations for preventing kitchen-related injuries, such as maintaining a safe kitchen layout, using anti-scald devices, and promoting safe handling of hot items.
6. Electric appliances:
  - Inspect electrical appliances regularly for any frayed cords or malfunctioning parts. Encourage Senior Citizens individuals to unplug appliances when not in use and avoid overloading electrical outlets..
7. Smoking safety:
  - If the Senior Citizens person smokes, encourage them to quit smoking or provide resources to reduce smoking risks. If smoking cannot be stopped, ensure proper use and disposal of smoking materials, and avoid smoking in bed or when drowsy.
8. Medication safety:
  - Ensure Senior Citizens individuals are aware of the potential side effects of medications that could impair their coordination or judgment. Follow medication instructions carefully and store medications safely, away from heat sources.
9. Education and awareness:
  - Provide education on burn prevention, including identifying potential burn hazards and appropriate responses to burns. Encourage Senior Citizens to seek medical attention for burns, even minor ones, to prevent complications.

**Regular home assessments, promoting awareness, and providing educating on burn prevention are essential steps in reducing the risk of burns in the Senior Citizens . By implementing these recommendations, we can help create a safer environment for the Senior Citizens and reduce the incidence of burn-related injuries.**

## 8. Kitchen related injury preventive strategies <sup>(61,62)</sup>

**Preventing kitchen-related injuries in the Senior Citizens is crucial for their safety and well-being. Here are some recommendations to help minimize the risk of kitchen accidents:**

1. Improve kitchen layout and accessibility:
  - Ensure that the kitchen is designed to be easily accessible and user-friendly for Senior Citizens individuals. Consider installing non-slip flooring, grab bars near countertops and stoves, and adjustable height countertops to accommodate different mobility levels.
2. Adequate lighting:
  - Ensure proper lighting in the kitchen area to enhance visibility and reduce the risk of accidents. Install bright, glare-free lighting fixtures above workspaces, countertops, and stoves, and consider motion-activated lights for added convenience.
3. Remove tripping hazards:
  - Keep the kitchen floor clear of clutter, rugs, and loose wires that can pose tripping hazards. Secure any floor coverings to prevent slipping or stumbling accidents
4. Use anti-scald devices:
  - Install anti-scald devices on faucets and appliances to regulate water temperature and prevent burns. These devices can help maintain a safe water temperature and reduce the risk of scalding accidents.
5. Safe handling of hot items:
  - Encourage the use of oven mitts or heat-resistant gloves when handling hot pots, pans, or dishes. Remind Senior Citizens individuals to use caution and take their time when transferring hot items from stoves or ovens.
6. Promote fire safety:
  - Ensure that smoke detectors and fire extinguishers are present and function properly in the kitchen area. Educate individuals on fire safety practices, such as never leaving cooking unattended and keeping flammable items away from heat sources.
7. Provide kitchen safety tools:
  - Equip the kitchen with safety tools such as non-slip mats, jar openers, ergonomic utensils with larger handles for better grip, and reaches or grabbers to avoid straining or reaching for items.
8. Safe storage of items:
  - Store frequently used items within easy reach, avoiding the need for Senior Citizens individuals to climb or use step stools. Heavier items should be stored on lower shelves or drawers to prevent strain or accidents when reaching for them.
9. Encourage proper clothing:
  - Advise Senior Citizens individuals to wear appropriate clothing in the kitchen, such as fitted garments that do not hang loosely or have long, flowing sleeves that can catch fire or get caught in appliances.



10. Education and supervision:

- Provide educational materials or training sessions on kitchen safety for Senior Citizens individuals, emphasizing potential risks and preventive measures. Encourage supervision or assistance during meal preparation, especially for individuals with cognitive impairments or physical limitations.

**It is essential to regularly assess the kitchen environment for potential hazards and make necessary modifications to ensure the safety of Senior Citizens. By implementing these recommendations, the risk of kitchen-related injuries can be significantly reduced, promoting a safe and enjoyable cooking experience for the Senior Citizens.**

## 9. Senior Citizens Abuse/Neglect related injury preventive strategies <sup>(63)</sup>

**Preventing abuse and neglect-related injuries in the Senior Citizens is a critical concern. Here are some recommendations to help address and prevent such issues:**

1. Raise awareness:
  - Educate the public, caregivers, and healthcare professionals about the signs, risk factors, and consequences of Senior Citizens abuse and neglect.
  - Encourage community discussions and awareness campaigns to promote understanding and recognition of the problem.
2. Strengthen support networks:
  - Establish support networks for Senior Citizens, including family, friends, and neighbors, to create a sense of community and reduce isolation.
  - Encouraging regular check-ins and fostering social connections can help identify potential issues and provide support.
3. Improve caregiver training:
  - Enhance the training and education programs for both professional and informal caregivers. Training should include proper techniques for handling and caring for the Senior Citizens, recognizing signs of abuse or neglect, and promoting empathy and compassion.
4. Implement screening and reporting mechanisms:
  - Establish protocols for healthcare professionals, social workers, and others who interact with the Senior Citizens to regularly screen for signs of abuse and neglect.
  - Encourage reporting of suspected cases to appropriate authorities, such as adult protective services or law enforcement.
5. Enhance legal and regulatory frameworks:
  - Strengthen laws and regulations related to Senior Citizens abuse and neglect, ensuring swift and appropriate legal action against perpetrators.
  - Advocate for the protection of Senior Citizens rights and the provision of resources to address their needs.
6. Promote financial literacy:
  - Educate Senior Citizens about financial management, fraud prevention, and their rights regarding financial matters. This can help protect them from exploitation and financial abuse.
7. Improve healthcare coordination:
  - Enhance communication and coordination among healthcare providers, social services, and law enforcement agencies to identify and respond to cases of Senior Citizens abuse and neglect promptly.
  - Encourage multidisciplinary collaboration to ensure comprehensive care and support for victims.
8. Foster age-friendly environments:
  - Create age-friendly communities that provide safe, accessible environments for the Senior Citizens. This includes proper infrastructure, public transportation, and accessible housing, reducing physical and environmental risks.
9. Encourage self-advocacy:
  - Empower Senior Citizens to assert their rights and seek help when needed.
  - Provide them with information on available resources, helplines, and support services that can assist in addressing abuse and neglect.

10. Support research and data collection:

- Invest in research to better understand the causes, prevalence, and impact of Senior Citizens abuse and neglect. Collect data on incidents and outcomes to inform policy decisions and intervention strategies.

**Preventing abuse and neglect requires a collaborative effort involving individuals, communities, healthcare providers, social services, and policymakers. By implementing these recommendations, we can work towards creating a safer and more supportive environment for the Senior Citizens .**



## SECTION 3: METHODOLOGY AND REVIEW

### 3.1 Preventive Guideline Development Group:

Terms of Reference of the Guideline Developing Group for Injuries in the Senior Citizens

#### **Objective:**

The objective of the Group is to develop comprehensive preventive guidelines for reducing the incidence of injuries among the Senior Citizens population. These guidelines cover various aspects, including environmental factors, lifestyle recommendations, medical interventions, and community support.

#### **Scope:**

The Group's scope includes, but not be limited to, the following areas:

- a. Identifying common types of injuries experienced by the Senior Citizens population, such as falls, fractures, burns, and medication-related incidents.
- b. Assessing the risk factors associated with these injuries, including physical, cognitive, and sensory impairments, environmental hazards, and social factors.
- c. Review existing literature, research, and best practices in the field of injury prevention for the Senior Citizens
- d. Examining successful preventive programs and initiatives implemented in other jurisdictions or organizations.
- e. Considering the unique needs and challenges faced by diverse Senior Citizens populations, including those with disabilities, chronic illnesses, or living in long-term care facilities.
- f. Developing evidence-based guidelines and recommendations that can be easily understood and implemented by various stake Senior Citizens s, including healthcare professionals, caregivers, community organizations, and policymakers.
- g. Outlining strategies to promote awareness, education, and training on injury prevention among the Senior Citizens. Providing guidance on implementing and evaluating of the preventive guidelines, including monitoring and reporting mechanisms..

#### **Composition:**

The Group consists of multidisciplinary experts with relevant knowledge, skills, and experience in the following areas:

- a. Geriatric medicine and healthcare
- b. Injury prevention and public health
- c. Occupational therapy and physical therapy
- d. Environmental and architectural design
- e. Rehabilitation and mobility assistance
- f. Social work and community support
- g. Pharmacology and medication safety
- h. Gerontology and aging researchh

### **Tasks and Responsibilities:**

The committee undertakes the following tasks and responsibilities:

- a. Conduct a comprehensive review of literature, research, and best practices related to injury prevention in the Senior Citizens.
- b. Identify and evaluate the effectiveness of existing preventive programs and initiatives.
- c. Collect and analyse data on the incidence and causes of injuries among the Senior Citizens.
- d. Develop evidence-based guidelines and recommendations for injury prevention, considering the identified risk factors.
- e. Determine strategies for promoting awareness and education about injury prevention among various stake Senior Citizens s.
- f. Propose measures to enhance environmental safety and reduce hazards for the Senior Citizens.
- g. Provide guidance on appropriate assistive devices, rehabilitation programs, and mobility aids.
- h. Develop strategies to support community organizations and caregivers in implementing preventive measures.
- i. Establish monitoring and evaluation frameworks to assess the impact and effectiveness of the preventive guidelines.
- j. Prepare a final report summarizing the Group's findings, recommendations, and guidelines.

### **Reporting and Accountability:**

The Group reports its progress regularly. The chairperson is responsible for providing updates and ensuring that the Group's work aligns with the established terms of reference. The final report has been submitted for review and approval. It will be disseminated to relevant stake Senior Citizens.

#### **Chair:**

- Sheikh Dr Mohammed Hamad J Al Thani
- Dr Mounir Soussi
- Dr Hanadi Khamis Mubarak Al Hamad

#### **Members:**

- Dr Essa Al Sulaiti
- Dr Shafi Hashmath Ulla Khan
- Dr Jorge Passarelli
- Dr Brijesh Sathian

## **3.2 Timeline for future review/update**

2 years

## **3.3 KPIs for Implementation of National Preventive Guidelines for elderly injuries**

The Key Performance Indicators (KPIs) for Monitoring the Implementation of Preventive Guidelines for Senior Citizens Injuries could be as follows:

#### **Compliance Rate:**

1. Percentage of healthcare professionals, caregivers, and relevant stake Senior Citizens s following the preventive guidelines.
2. Percentage of healthcare facilities or organizations implementing the recommended preventive measures.

### **Awareness and Education:**

1. Number of educational campaigns or programs conducted to raise awareness about Senior Citizens injury prevention.
2. Number of individuals reached through awareness campaigns, including caregivers, Senior Citizens and community members.
3. Level of knowledge improvement among target audiences regarding injury prevention.

### **Environmental Safety:**

1. Number of environmental modifications implemented to reduce hazards in living spaces, public areas, and long-term care facilities.
2. Percentage of identified hazards addressed according to the guidelines.
3. Assessment of the physical environment's compliance with safety standards.

### **Risk Assessment and Intervention:**

1. Percentage of Senior Citizens undergoing comprehensive risk assessments for falls, fractures, and other common injuries.
2. Percentage of high-risk individuals receiving appropriate interventions, such as exercise programs, medication reviews, or assistive devices.
3. Number of healthcare professionals trained in conducting risk assessments and providing interventions.

### **Healthcare Provider Adherence:**

1. Percentage of healthcare providers who consistently follow the preventive guidelines during patient care.
2. Adherence to medication safety protocols, including appropriate prescribing, monitoring, and patient education.
3. Documentation of injury prevention measures in medical records.

### **Incident Reporting and Analysis:**

1. Number of reported incidents or injuries among Senior Citizens.
2. Timeliness and completeness of incident reporting and investigation.
3. Analysis of incidents to identify trends, root causes, and opportunities for improvement.

### **Patient and Caregiver Satisfaction:**

1. Surveys or feedback mechanisms to assess patient and caregiver satisfaction with the implemented preventive measures.
2. Feedback on the effectiveness and practicality of the guidelines in improving safety and reducing injuries.

### **Outcome Measures:**

1. Reduction in the overall incidence rate of injuries among the Senior Citizens.
1. Decrease in the number of falls, fractures, burns, and other specific types of injuries.
1. Improved quality of life indicators for Senior Citizens, such as functional independence and mobility.

It is essential to establish baseline measurements for each KPI at the beginning of the implementation and regularly track progress against these indicators to assess the effectiveness of the preventive guidelines for Senior Citizens injuries.

## SECTION 4: APPENDICES AND REFERENCES

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## **Appendix 2: Glossary of terms and abbreviations**

Definitions within the context of this document

Injury prevention is defined as “activities to prevent, ameliorate, treat, and/or reduce injury-related disability and death.”

### **Abbreviations**

CDC	–	Centres for Disease Control and Prevention
DALY	–	Disability-Adjusted Life-Years
GBD	–	Global Burden of Diseases
MVC	–	Motor Vehicle Crash
NSC	–	National Safety Council
TBI	–	Traumatic brain injury
WHO	–	World Health Organization
YLL	–	Years of Life Lost
YLD	–	Years Lived with Disability

### **Appendix 3: Summary of methodology**

This guideline document has been developed over a procedure which bring into line with international best practice in guideline development and localisation.

The following crucial phases were part of the editorial technique that was utilized to construct this guideline:

- Comprehensive literature search for credible published evidence on the subject.
- Analysis of the literature critically.
- Creation of a preliminary summary guideline.
- A Guideline Development Group made up of working healthcare professionals and subject matter experts from Qatar reviewed the summary guideline.

Using precisely created, modified, and tested search terms; the scientific literature has been methodically queried. Search strategies are created to maximize the retrieval of articles with specific desired features relevant to a guideline and to allow efficient but thorough study of relevant publications for a given topic.

For each guideline, team members have been individually reviewed all retrieved publications/ guidelines and assessed in terms of relevance, utility, and quality. Importance is given to publications / guidelines that:

1. high quality scientific methodology
2. Reputed journals/ authority
3. Relevant content of specific importance to the guideline development

The recommendations in this guideline are based on the data from the medical literature, and if possible, the most reliable sources were used when developing it. Most of the recommendations were adopted from high graded international guidelines.







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