



# FALLS

PREVENTION HANDBOOK

UNDERSTANDING THE COMPLEXITY  
OF WHY PEOPLE FALL

**HEALTHBOX**  
COMMUNITY WELLBEING SERVICES

# Welcome to Falls Prevention



Falling can be common throughout every stage of life, with variable outcomes such as grazed knees and bruised egos to broken elbows and hips. As we age, the consequences of a fall become more severe and the re-currency can increase. But often, the types of falls caused by poor balance and shaky legs, can be avoided.

Between 2017 and 2018, 220,160 admissions to English A&E Departments were due to falls. Nearly 67% of this number was in adults over 80, costing the NHS £435 million.

The affect a fall can have on an individual may come at a much bigger price.



Loss of confidence



Immobility



Low mood & mental health impairment



Loss of strength and balance



Reduced joint movement

The most important piece of information to take away from this booklet is: we certainly cannot stop aging and we can't completely stop falls, but, what we can do is make some lifestyle adjustments for ourselves and for those we care about, in order to age well and reduce the risk of falling.



*Jack*

Jack Davies, Health & Wellbeing Manager

## Marketing Studio

Written by Sian Davidson and designed by Chris Boswell of Healthbox CIC marketing team.

## Photography

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## Who is this book for?

- Resident Care Home Workers
- Community Teams
- Nurses
- Resident of Care Homes
- NHS Workers
- General Population

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# What Happens When We Age?

## Cardiovascular System

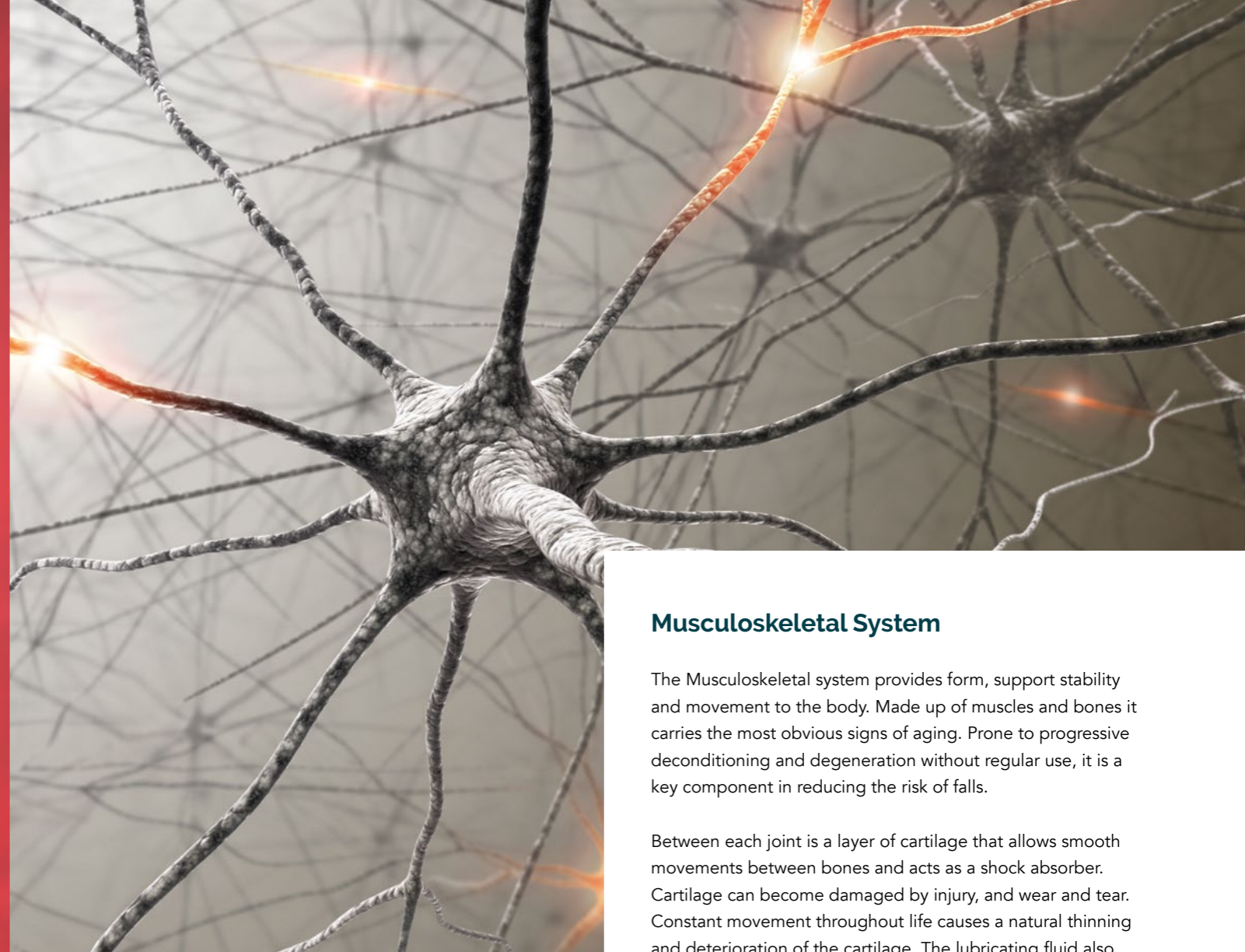
Aging carries a natural increased risk for conditions such as heart attacks, arrhythmias, heart disease and heart failure. Our hearts aren't able to beat as quickly during exercise and activity as they did when we were younger.

Just like the rest of the body, blood vessels and arteries also undergo aging, becoming thickened and stiff. Blood flow is slowed and restricted meaning the heart must work harder to produce each beat. The increased work leads to thickening of the heart muscle which can cause a resistance in the arteries as they lack the ability to expand to let the blood through. This can cause a large amount of build-up leading to hypertension – high blood pressure. Medications used to treat high blood pressure are a large contributor to falls that should always be monitored and considered in relation to falls.



### Did You Know?

For every 10 days spent in bed, patients aged over 80 suffer the equivalent of 10 years of muscle aging.



## Musculoskeletal System

The Musculoskeletal system provides form, support stability and movement to the body. Made up of muscles and bones it carries the most obvious signs of aging. Prone to progressive deconditioning and degeneration without regular use, it is a key component in reducing the risk of falls.

Between each joint is a layer of cartilage that allows smooth movements between bones and acts as a shock absorber. Cartilage can become damaged by injury, and wear and tear. Constant movement throughout life causes a natural thinning and deterioration of the cartilage. The lubricating fluid also found inside of joints, known as synovial fluid, decreases causing supporting ligaments to shorten, resulting in stiff and painful joints.

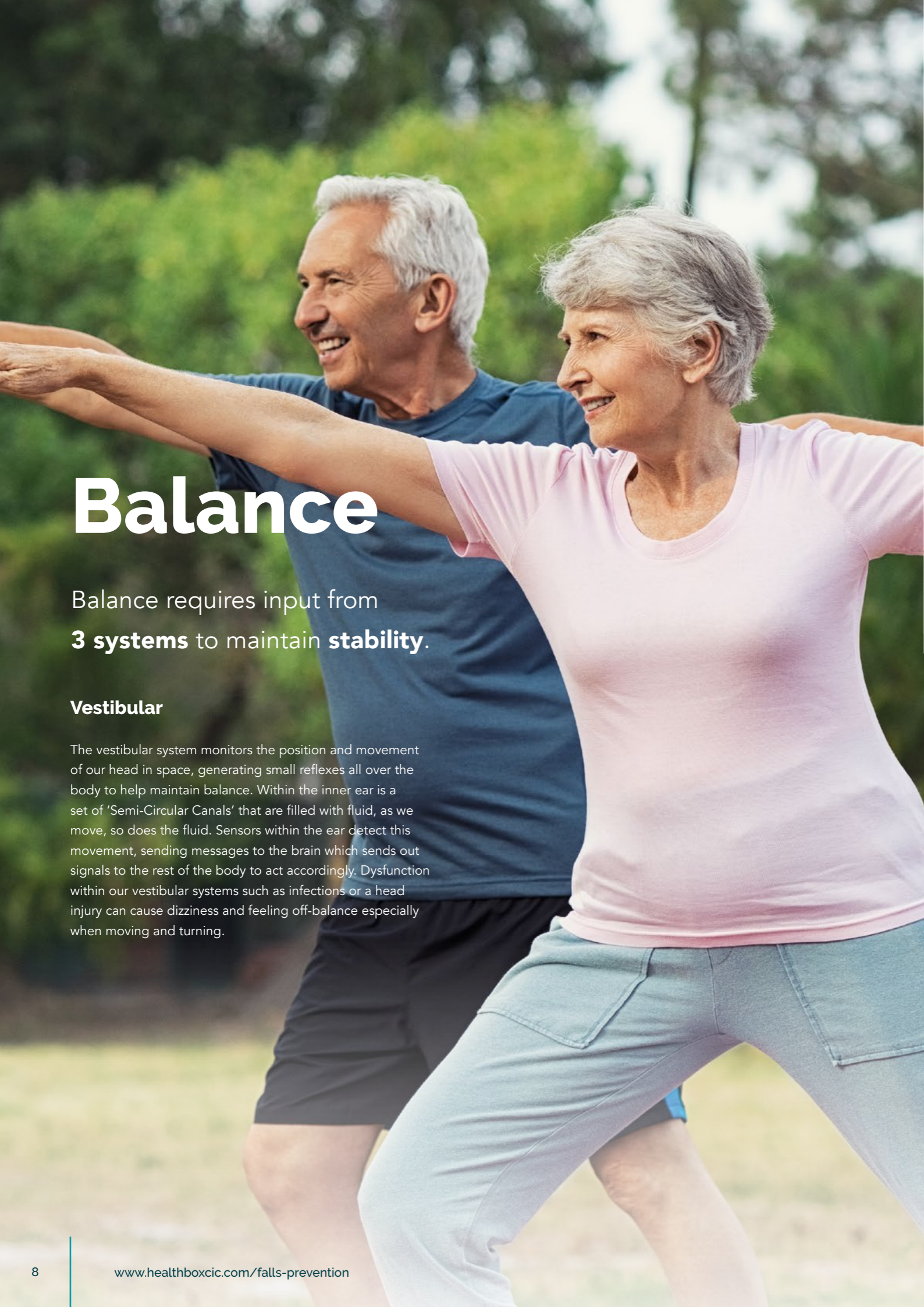
The lack of movement from painful joints can result in underused or incorrectly recruited muscles. Muscle mass and strength peaks between the ages of 20 and 30. From 60, the tissue that makes up muscle decreases, along with the hormones and fibres used to create new tissue. It is harder to create new or more muscle as we age. This loss of muscle mass affects not only our strength but reduces the support we need for our joints and our bones, contributing to poor posture and balance.



## Nervous System

The nervous system is the body's command center. Originating from the brain it controls movements, thoughts and automatic responses to the world around us. When we touch something, the receptors in our skin send sensations through our nerves and our spinal cord to our brain. The brain then interprets the signal from our hands and decides how to act appropriately. If something is hot or sharp, we automatically know that is dangerous and pull our hands away quickly. When standing on something unsteady, we use proprioception – the awareness of where your body is in space. As we start to lose balance, our brain sends a signal to our muscles telling us to move quickly to prevent falling. This complex system is something that is learned and built on every day, from the day we are born.

With aging, these signals become slower due to a loss of neurons in the nerves. Neurons are essential for sending information to and from our brain quickly. This loss causes a slowing of information processing in the brain and therefore slower reaction times, increasing the risk of falls as we struggle to maintain balance and co-ordination.



# Balance

Balance requires input from **3 systems** to maintain **stability**.

## Vestibular

The vestibular system monitors the position and movement of our head in space, generating small reflexes all over the body to help maintain balance. Within the inner ear is a set of 'Semi-Circular Canals' that are filled with fluid, as we move, so does the fluid. Sensors within the ear detect this movement, sending messages to the brain which sends out signals to the rest of the body to act accordingly. Dysfunction within our vestibular systems such as infections or a head injury can cause dizziness and feeling off-balance especially when moving and turning.

## Visual

Eyesight is key to maintaining balance and is required to create reactions appropriate for spatial orientation. In order to effectively achieve this, our eyes have to be stable with a clear field of vision and an ability to detect light and colour. By the time we reach 60, our eyesight is reduced by 30% of that compared to our 20s, therefore it is essential our eyes are frequently checked.

BY THE **TIME WE REACH 60** OUR **EYESIGHT IS REDUCED BY 30%** OF THAT **COMPARED TO OUR 20s**



## Proprioception

Proprioception is the ability to detect where our body is in space by using sensory input from organs including eyes, skin and the position of joints. This input feeds information to the central nervous system before being processed in the brain. Age related changes at our muscles and joints, neurological conditions such as Parkinson's, and everyday injuries such as ankle sprains or fractures, can negatively impact our body's natural responses and cause multiple issues such as poor co-ordination, reduced balance, often appearing as clumsiness.

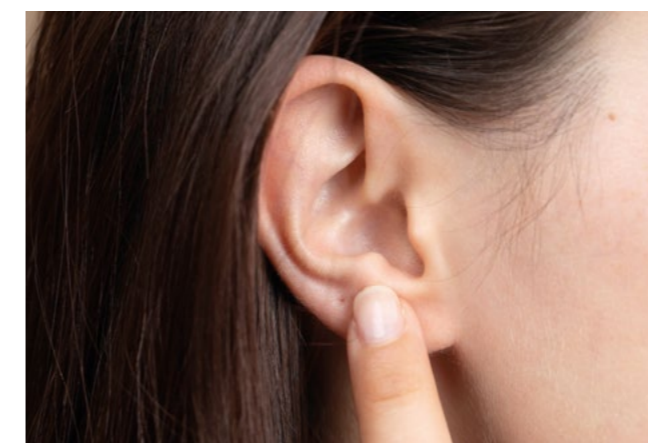
The body uses two processes to prevent falling: Balance and Postural Stability. Both involve our Centre of Mass, an exact point in our body where weight is evenly distributed, and our Base of Support, the area beneath us, be it a chair, the floor or a bed.



- Balance is the process of controlling the body's centre of mass in relation to the base of support
- Postural stability is the ability to maintain a position and the centre of mass, without having to change the base of support

Both mechanisms require the body to make subtle and continuous movements in the muscles to maintain the body's position, reacting and moving accordingly to supporting postural control. The subtle movements are contributed to by input from the eyes, the vestibular system and sensory input such as sound and touch, all which can deteriorate with age.

Postural control uses two forms of balance: **Anticipatory Balance Control** – forward planning of movements and **Reactive Balance Control** – quick unplanned reactions. Ageing can cause muscles to weaken and reaction times to slowdown, therefore affecting control of posture and balance. To maintain balance through movements, the body can develop common compensatory strategies which can also create gait abnormalities.





# Gait

The way we walk is referred to as 'Gait' and encompass all movements our body makes to allow us to mobilise. Gait can be abnormal but allow full function for the individual as the body adapts.

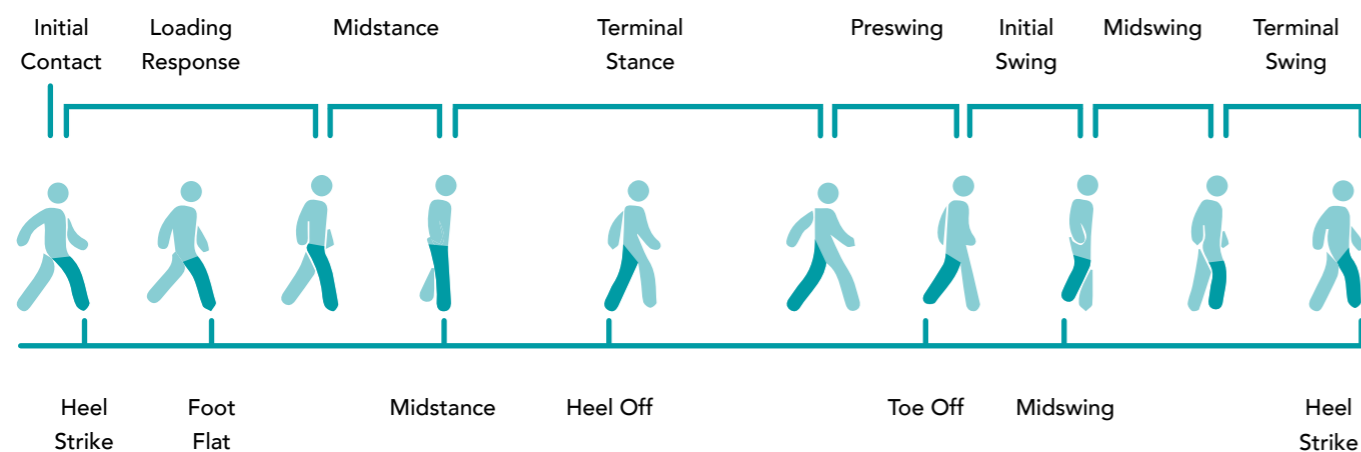
Factors affecting gait include physical deformities such as leg length discrepancies or bone malformations, weakness which can be a generalised weakness or acute following trauma or illness, pain with reluctance to weight bear as normal and progressive conditions such as Motor Neurone Disorder, Scoliosis and Parkinson's.

There are many different types of gait impairments including:

- **Antalgic Gait** – when mobilising is painful. Is often slow and uneven and may include a limp
- **Ataxic Gait** – a staggering, unsteady gait with feet wide apart that looks un-coordinated. Commonly seen in individuals who have had a stroke, MS or chronic alcohol abuse
- **Parkinsonian Gait** – stooped posture and rigid movements with occasions of freezing or festination
- **Neuropathic Gait** – large, exaggerated movement of legs with high stepping. Commonly due to foot drop

Specialists in gait laboratories can use sensor mats and pads to analyse specific points of gait, which is useful for athletes and conditions such as childhood cerebral palsy. In an older population however, function is key and no intervention is usually required as long as the individual can mobilise safely with good quality of life. When these points are affected, investigation into treatments should be considered and can be initiated with a referral to the GP.

## New Gait Terms



## Classic Gait Terms



## Issues around Foot Drop & A&E

Foot Drop is a condition where there is difficulty or inability in lifting the front part of the foot – a movement known as dorsiflexion. It results in a dragging of the affected foot due to the inability to bend the foot upwards to clear the floor. Often occurring due to muscle weakness in the lower leg, it can also be a sign of problems with the nerves and is commonly linked to diabetes. Foot Drop can also be an indicator of a sinister problem.

Under new NICE guidelines, any new and sudden onset of Foot Drop must be immediately reviewed in A&E to rule out any serious spinal problems.

## If you think you have identified Foot Drop, try the following test

When sitting, can the individual keep their heel on the floor while lifting their toes to the sky? An inability to do this is a positive test for Foot Drop.

Foot Drop is a major cause of falls as it is very difficult to make sure the foot can clear everything on the floor. This is even more difficult on uneven surfaces like gravel and over obstacles like steps. Exercises, mobility aids and gait education can help and orthotics can be very successful. Referring to a GP will help create a referral for the most appropriate treatment such as occupational therapy, physiotherapy and orthotics.





## Osteoporosis Risk Factors

Osteoporosis is a reduction in bone density and mass that causes bones to become brittle and weak – so brittle that a fall or mild stress such as a strong sneeze can cause a fracture.

Injuries are most common at the spine, wrists and hips. A fracture at the hip, known as a neck of femur fracture, has a mortality rate of 10% in the first month. 1/3 of individuals with hip fractures will die within 12 months of the initial injury. Severely reduced quality of life and long-term disability are also commonly reported side effects.

There is not a clear cause for Osteoporosis but there are many predisposing risk factors that if addressed early enough, can significantly reduce the chances of Osteoporosis developing. Here's some helpful prevention tips:

- Eliminating risk factors
- High impact weight bearing
- Eating calcium rich foods
- Increasing Vitamin D intake through diet and sunshine



### Did you know?

Likely that 1 in every 2 women and 1 in every 5 men have Osteoporosis in individuals over 65 years of age.

LOW BODY MASS INDEX (BMI) LESS THAN 18.5 KG/M2

REDUCED VERTICAL FORCE THROUGH BONE MATRIX

HISTORY OF FALLS

PREVIOUS FRAGILITY FRACTURE

SMOKING

ALCOHOL INTAKE OF MORE THAN

14 UNITS FOR WOMAN

21 UNITS FOR MEN

65 YEARS FOR WOMEN

75 YEARS FOR MEN

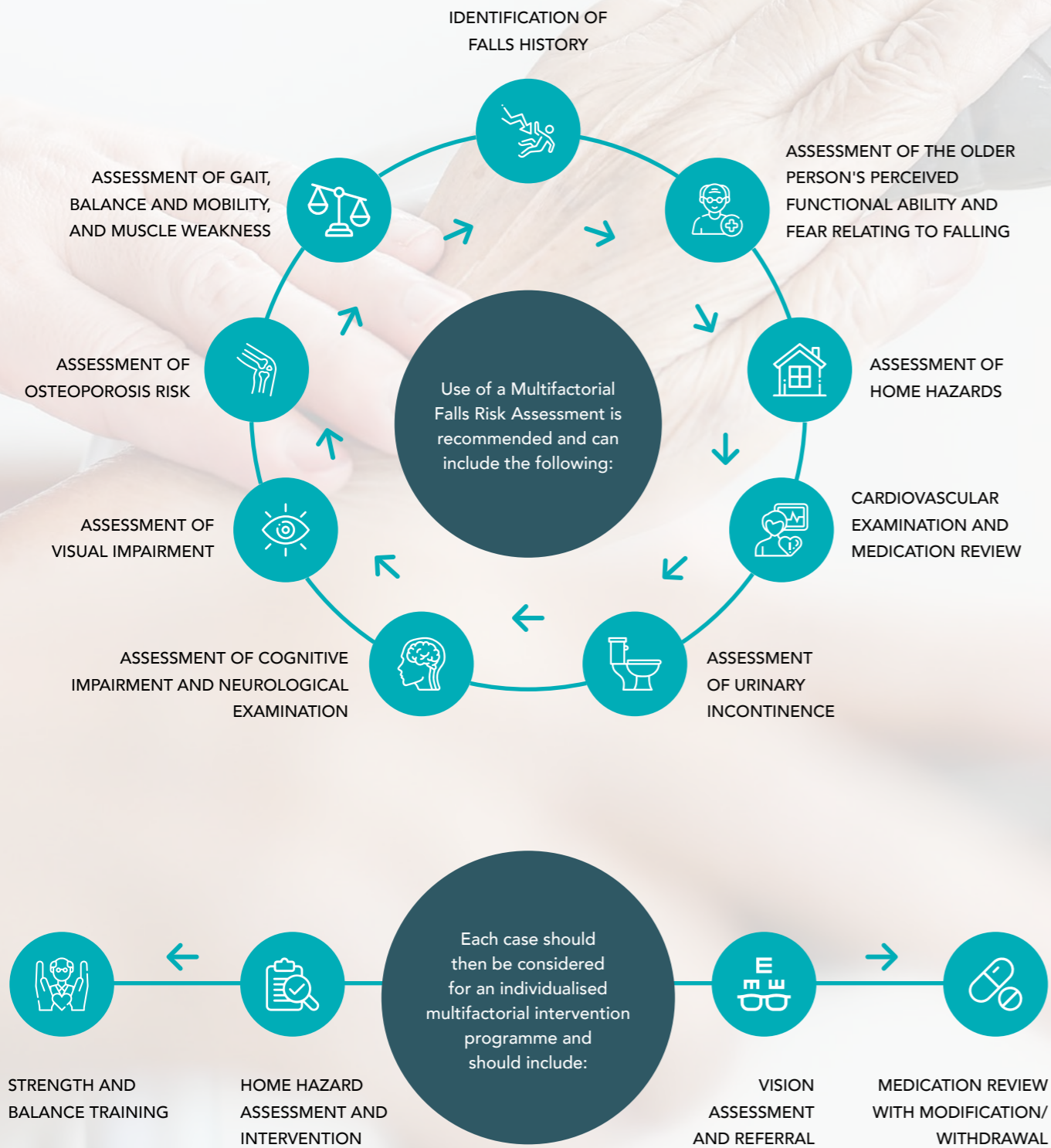
SECONDARY OSTEOPOROSIS

CURRENT USE FREQUENT USE OF ORAL SYSTEM GLUCOCORTICOID STEROIDS

FAMILY HISTORY OF HIP FRACTURES

# NICE Guidelines for Falls

NICE advise the identification of a falls risk in an individual by routinely asking about frequency, context and history of falls and observation for gait and balance deficits. There is no evidence that it is more effective than assessment and referral.



# Mobility Aids

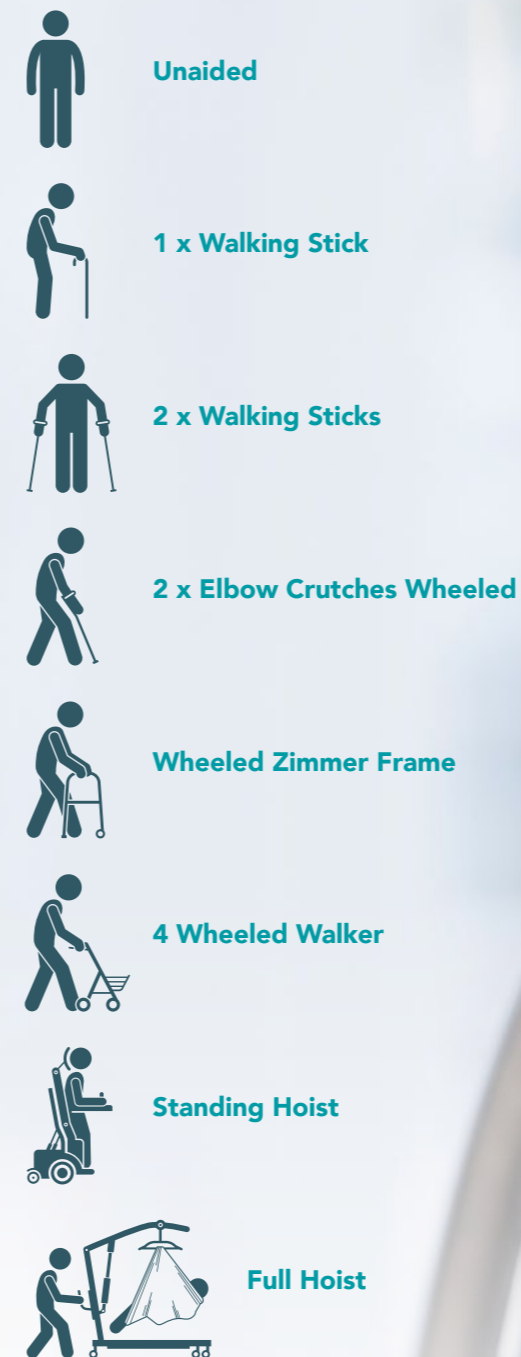
## Progression of Mobility Aids

An introduction to/or a change in a walking aid can often be met with some resistance, it is important to understand a more supportive walking aid will promote ongoing independence and reduce an individual's risk of falling.

Specialist equipment is available for impairments caused by deficits such as strokes. A Physiotherapist will help find a mobility aid that is suitable for each need.

## Why use a Walking Aid?

- Help with walking and mobilising independently
- Increase stability and confidence
- Help build endurance
- Reduce breathlessness
- Give awareness to people around you so they may slow down or help



**T Top Tips**

Ferrals, the rubber tips on frames and sticks, can wear down with use and become less supportive. Check these regularly, if you can't see the grip indentations, the ferrals need to be replaced.

# Falls

## Determining Falls

### When and where did the fall happen?

Is there a pattern? Was it during the day or the night? Are there any clear causes for the fall such as a UTI or recent change in medication?

### Was it environmental and can the trip hazard be removed?

Is there new furniture or has furniture been moved? Is there reduced lighting? Was the footwear suitable?

### Was the fall spontaneous or situational?

Was the fall on standing? Was medication due? Has there been any recent changes such as a hospital admission?

### How did the fall happen?

Was there any dizziness or loss of conscious prior to the fall? Was the fall controlled or ballistic?

There are several common questions created by vestibular specialists available that will help to decide where the fall or the symptoms alone needs to be discussed with a professional.

- Do I feel unsteady?
- Do I feel as if the room is spinning around me, even for a very brief time?
- Do I feel as if I'm moving when I know I'm sitting or standing still?
- Do I lose my balance and fall?
- Do I feel as if I'm falling?
- I feel lightheaded or as if I might faint?
- Do I have blurred vision?
- Do I ever feel disoriented—losing my sense of time or location?

If you answered yes to any of the above questions, speak with your doctor.

## Questions to ask before a GP Appointment

Answering the following questions prior to your appointment will help the professional make a diagnosis:

### 1. The best way I can describe my dizziness or balance problem is:

- Is there a spinning sensation, and if so, which way does the room spin?
- Is the dizziness/spinning caused by any specific motion or does it occur even when sitting or lying still?
- Are there any other symptoms that occur at the same time as the dizziness/spinning, such as hearing loss, tinnitus, a feeling of pressure in one or both ears, or a headache?
- Does anything seem to help the dizziness/spinning?

### 2. How often do I feel dizzy or have trouble keeping my balance? How long do the dizziness or spinning episodes last (seconds, minutes, hours, days)?

### 3. Have I ever fallen?

- When did I fall?
- Where did I fall?
- Under what conditions did I fall?
- How often have I fallen?

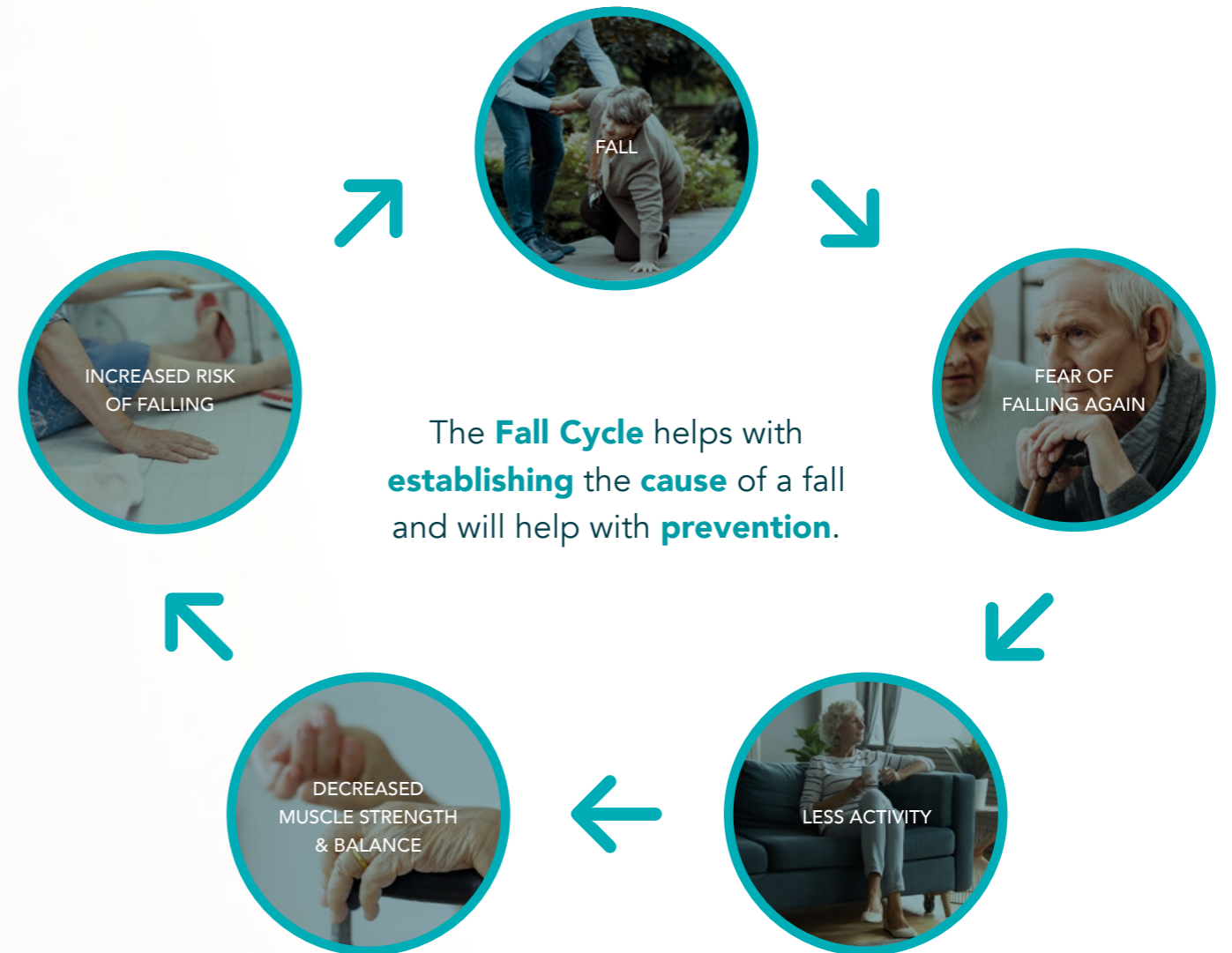
### 4. These are the medicines I take. Include all prescription medications; all over-the-counter medicine, such as aspirin, antihistamines, or sleep aids; and all vitamin supplements and alternative or homeopathic remedies:

Name of medicine or supplement:

How much (milligrams):

How often (times per day):

The condition I take this medicine for is:





## Fear of Falling

A fear of falling is common but can be very distressing whether the individual has fallen or not. These feelings can be debilitating and prevent enjoyment from normal activities. Avoiding the activities that cause the anxiety can be a coping strategy that can cause more problems than it solves as quite commonly the activity is walking.

**Fear of falling** during **movement** can be displayed in **many ways**:



The response an individual receives when they are in a **state of panic** will guide how the movement continues.

**Rushing** and **multiple instructions** will likely contribute to the **anxiety**.

Instead, the following **points** may help:



Provide **confidence** with your **handling**, be as **close** as possible: ↓



Stand hip to hip with the person's



Place one hand around the person's waist



Use your other hand to hold their hand or guide the mobility aid



Use a second person



One person either side of the individual with your arms crossed at their back



One person at the side and one in front or behind



One person assisting the walk and one following with a chair

It is important to respond to a fear of falling in a calm and reassuring way. Let the individual know that the feelings they have are valid and natural. Often, the anxieties are usually irrational and can be solved through mediation and discussing prevention plans.

Individuals suffering with depression and anxiety, may not be motivated to move around and exercise, negatively impacting physical strength causing weakness and contributing further to poor balance and an increased risk of falling.

Exercise has been proven to increase serotonin, improving mood and mental wellbeing. Group classes with a friendly environment can help encourage participation.

Consider the following points when it is **time to reattempt** the **movement**:



ASK THE PERSON IF THEY WOULD LIKE TO TRY AGAIN. IF NOT, REVISIT LATER



ASK THE PERSON WHAT IS CAUSING THE ANXIETY AND PROVIDE REASSURANCE



TRY TO RATIONALISE THE MOVEMENT WITH THE INDIVIDUAL – HAVE THEY DONE THIS BEFORE? IS THIS NEW? CAN YOU DEMONSTRATE WHAT IS REQUIRED FOR THE MOVEMENT TO THE INDIVIDUAL?



SEEK FURTHER ASSISTANCE FROM ANOTHER PERSON TO INCREASE THE INDIVIDUALS CONFIDENCE



BREAK DOWN THE MOVEMENT STEP BY STEP, RESTING BETWEEN EACH MOVE



TRY AN EASIER PIECE OF EQUIPMENT SHORT TERM



DURING THE MOVEMENT, USE CALM POSITIVE WORDS THROUGHOUT. LET THEM KNOW HOW MUCH FURTHER THEY HAVE TO GO



PROVIDE PRAISE AND EMPATHY



**Common factors** for **poor mental health** in an **aging** population can **include**:



GRIEF AND BEREAVEMENT



LONELINESS



DIFFICULTY ACCEPTING GENERAL AGING



LARGE CHANGES IN MOBILITY



LOSS OF INDEPENDENCE



HOSPITAL ADMISSIONS AND DISCHARGES



TRAUMATIC EXPERIENCES SUCH AS FALLS



WITNESSING A FALL



FEAR OF FALLING



**40%**   
OF CARE **HOMES**  
**RESIDENTS**  
 IN THE **UK** ARE  
**AFFECTED**  
BY **DEPRESSION**

The hormones used to improve mood such as serotonin and dopamine reduce as we age although it is unclear if this is part of a normal aging process.



THE FALLS EFFICACY SCALE

Please scan this QR code to download **The Falls Efficacy Scale**. This will help you identify a fear of falling.



## Exercise and Activity

The majority of falls are influenced by many contributing factors, but impaired balance and muscle weakness is often the most common cause. Strength and balance training is highly recommended by NICE to maintain muscle mass, bone density and flexibility.

Muscles require oxygen to contract and produce energy. As we exercise, our respiratory rate and heart rate increases. We take on new oxygen which is pumped quickly around our bodies by the heart, delivering nutrients to our muscles. Overtime with consistent exercising, our bodies are trained to become more efficient and use less effort to run, diverting energy to other systems making us feel less tired and more alert.

Before starting exercise, consideration towards current and historical medical requirements should be noted. Any concerns or questions can be discussed with a GP or healthcare professional, and exercises can be modified to meet those needs.



**Exercise** and **activity** provide more than just **physical benefits**. It can improve **sleep** and **quality** of life, help to maintain a **healthy weight**, and manage **low moods** and **stress** whilst dramatically reducing the risk of developing **comorbidities** such as:



RISK OF **HIP FRACTURES**



RISK OF **COLON CANCER**



RISK OF **TYPE 2 DIABETES**



RISK OF **MORTALITY**



RISK OF **DEMENTIA**



RISK OF **DEPRESSION**



RISK OF **BREAST CANCER**



RISK OF **HEART DISEASE**

### ? Did You Know?

Two days per week should focus on strength and balance training and the amount of time spent sedentary should be limited.

## The UK Department of Health and Social Care advise

Physical activity for adults and older adults.

Benefits health

Improves sleep

Maintains healthy weight

Manages stress

Improves quality of life

Reduces your chance of

Type II Diabetes **-40%**

Cardiovascular disease **-35%**

Falls, depression etc **-30%**

Joint and back pain **-25%**

Cancers (colon and breast) **-20%**

At least  
**150**  
minutes

**Moderate intensity per week.**

Increased breathing able to talk.

Swim 

Brisk walk 

Cycle 

Make a start **today:** it's never **too late**

Every minute **counts**

At least  
**75**  
minutes

**Vigorous intensity per week.**

Breathing fast difficulty talking.

Run 

Stairs 

Sport 

**Be Active**

**OR**

a combination of both.

To keep muscles, bones and joints strong.

**Build Strength**

On at least

**2**  
days a week

Yoga 

Gym 

Carry Heavy Bags 

**Minimise Sedentary Time**

Break up periods of inactivity.

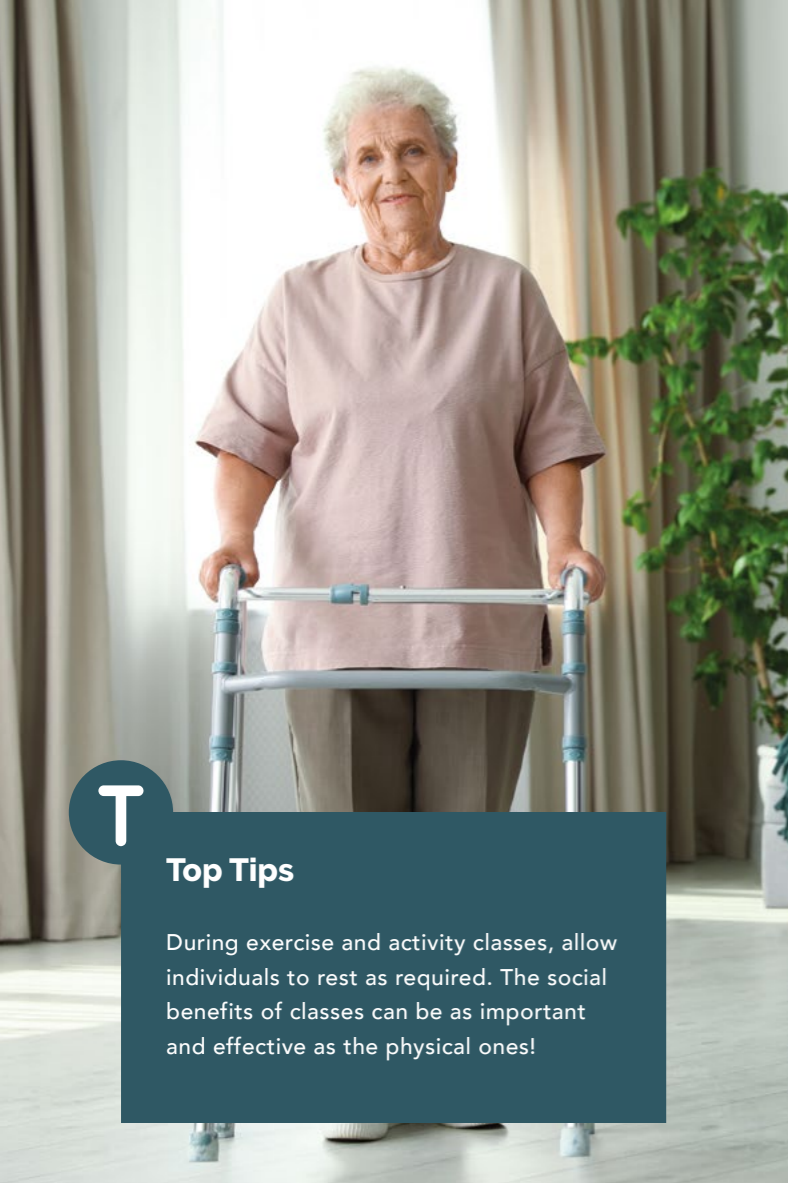
Sofa  → Desk  → Get up and walk 

**Improve Balance**

For older adults, to reduce the chance of frailty and falls.

Two days a week.

Dance  → Bowls  → Tai Chi 



T

### Top Tips

During exercise and activity classes, allow individuals to rest as required. The social benefits of classes can be as important and effective as the physical ones!

## Progression

It would be unrealistic to expect anyone who does not exercise regularly to be able to meet the current standards of exercise prescription. Instead, build up tolerance by slowly increasing duration and repetitions.

### Example:

For 1 week, try 10-15 minutes of moderate intensity exercise and 3-5 repetitions of strength or balance movement.

### The following week:

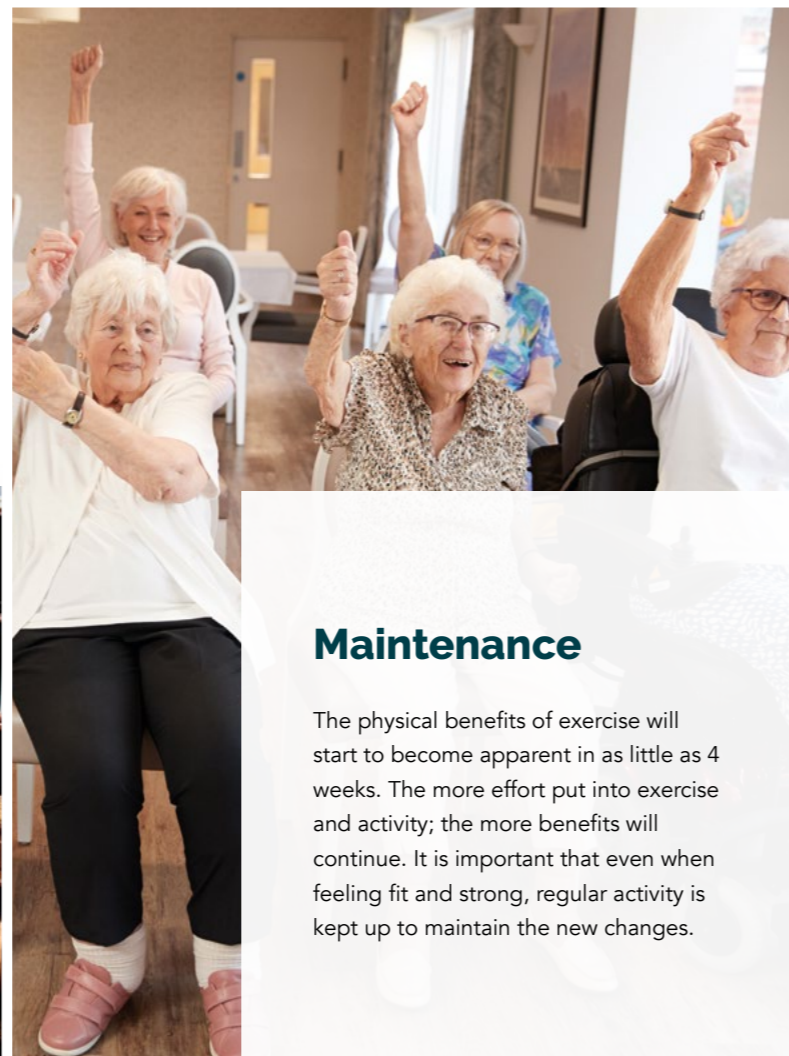
Try 15-20 minutes of moderate intensity exercise and 5-7 repetitions of strength and balance movements.

### The week after that:

Try 20-30 minutes of moderate intensity exercise and 7-10 repetitions of strength and balance movements.

## Regression

Following a period of illness, a hospital admission or operation, levels of exercise may fluctuate and even reduce. This is normal as our bodies naturally take longer to recover as we age. Simply reduce the number of minutes or repetitions for a week or so and build back up over time.



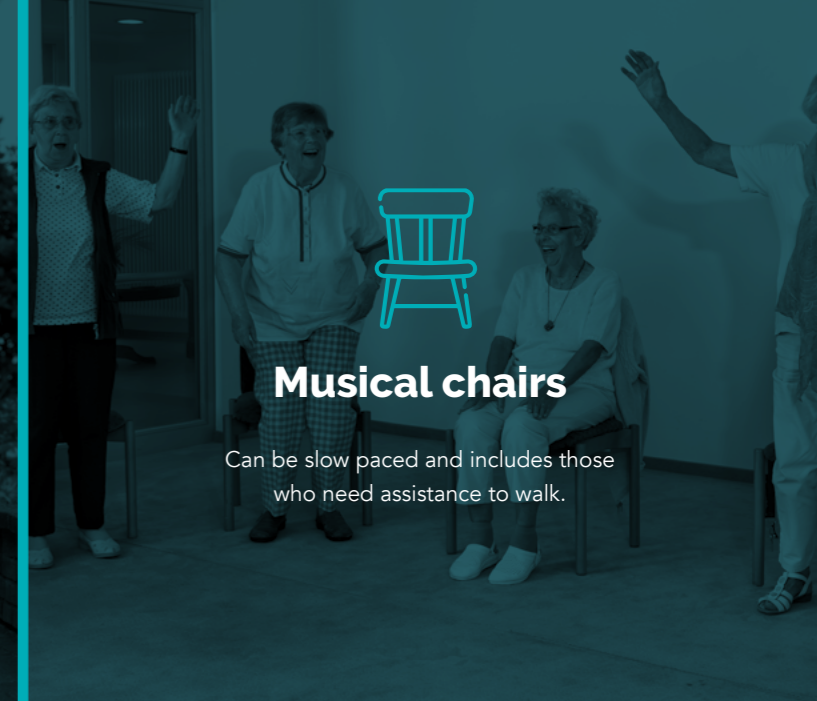
## Maintenance

The physical benefits of exercise will start to become apparent in as little as 4 weeks. The more effort put into exercise and activity; the more benefits will continue. It is important that even when feeling fit and strong, regular activity is kept up to maintain the new changes.



## Walks

Find a circular loop such as a park or around the home to include different paces. Chairs or benches can be used as checkpoints and resting areas.



## Musical chairs

Can be slow paced and includes those who need assistance to walk.

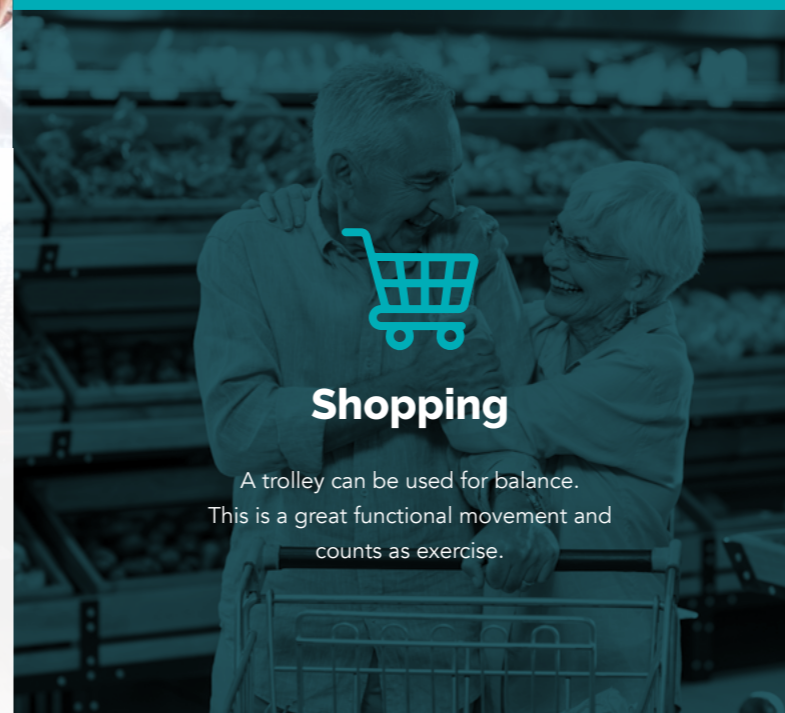


## Exercise Ideas – Moderate Intensity



## Water Aerobics and Swimming

Group sessions can be organised at a local swimming pool. Walking around in water will also include strength work.



## Shopping

A trolley can be used for balance. This is a great functional movement and counts as exercise.



## Quick paced exercise classes

Can be seated or standing. Create a playlist to lift mood. Healthbox will be able to show you some great exercises to do during each session.

# Strength and Balance



## Yoga or Thai Chi

Can be seated or standing. Great for mindfulness.



## Pass the parcel

Use different sized and weighted objects. Can be seated or standing. Space out individuals at an arms width to encourage reaching when passing and receiving. Increase the pace with 'Danger Pass the Parcel!' – the final parcel unwrapped will include a task such as 'Make a cup of tea for everyone' or 'Give out a biscuit to everyone'.



## Strength focused exercise classes

Healthbox can show you the equipment and exercise that will challenge appropriate muscles.



## Football / Volleyball / Throwing and Catching

Can be seated or standing but is best played in seated to encouraging reaching beyond their base of support.



## Gardening

Can be seated or standing and help with grip and hand mobility.



## Bowls

Can be seated or standing.

**T**

## Top Tips

Make it competitive! During a walk, record how many laps each person can do – can they beat it? Musical Chairs – who wins? Can they be beaten? Bowls – Organise a tournament!

# The Importance of Keeping Hydrated

Many studies have identified that as we age, we have a reduced sensation of thirst which is the body's biggest driving for fluid intake. This alone increases the risk of dehydration but combined with many factors of aging such as reduced mobility and poor memory, the risk becomes greater.

Medications such as diuretics and laxatives can increase dehydration as they pull excess water from the body, increasing the need to urinate. Individuals who suffer from incontinence or who struggle to make it to the toilet in time may limit their fluid intake. It is therefore important to establish and manage urinary incontinence quickly. The bladder is a sac muscle and just like the other muscles in our body, it also goes through an aging process, becoming weaker and less easily controlled.

Embarrassment, distress, and fear of incontinence is a common driver in reduced fluid intake but can be easily managed through aids such as incontinence pads and access to toileting facilities. Having a safety net to prevent accidents can prevent rushing when trying to reach a toilet. Individuals at high risk of frequent incontinence can be referred to the incontinence team for further support and may require a catheter for long term management. Identifying whether the problem happens during the day, night or both will help find suitable requirements whilst maintaining independence, dignity and quality of life.



## Find out more...

Medication drugs acting on the heart and circulation. A medication review should be done by your GP every 12 months particularly when taking psychotropic drugs. For more information, please visit: [www.nhs.uk/conditions/dehydration](http://www.nhs.uk/conditions/dehydration)



FIND OUT MORE

## Symptoms of dehydration include:



DIZZINESS



CONFUSION



FATIGUE



DRY MOUTH AND LIPS



HEADACHES



DARK AND STRONG-SMELLING URINE

## Risks associated with dehydration include:



LOW BLOOD PRESSURE



HIGHER RISK OF FALLING



BLADDER OR KIDNEY INJURY



FAINTING



SEIZURES FROM PROLONGED ELECTROLYTE IMBALANCE



INCREASED PRESSURE ON THE HEART



## Did you know?

20% of water in our diet comes from food, the remaining 80% comes from drinks. Six to eight cups of fluid is the current guidelines and can include milk, tea, coffee and juice. It is important to replenish the fluid in our body throughout the day whether we feel thirsty or not and is particularly important for individuals who have vomited or had diarrhoea, are diabetic or are on diuretic medications.



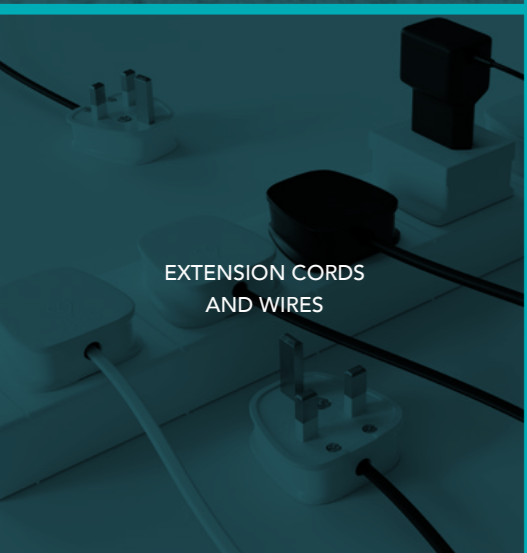
CLEANLINESS



ACCESS TO PROPERTY



RUGS AND MATS



EXTENSION CORDS AND WIRES



## Home Hazard Assessment

The most falls happen in our own homes. We become so used to the environment that sometimes, we become unaware of the hazards there. You can request a Home Hazard Assessment from an Occupational Therapist or a Physiotherapist through your GP or in some practises, by a self-referral.



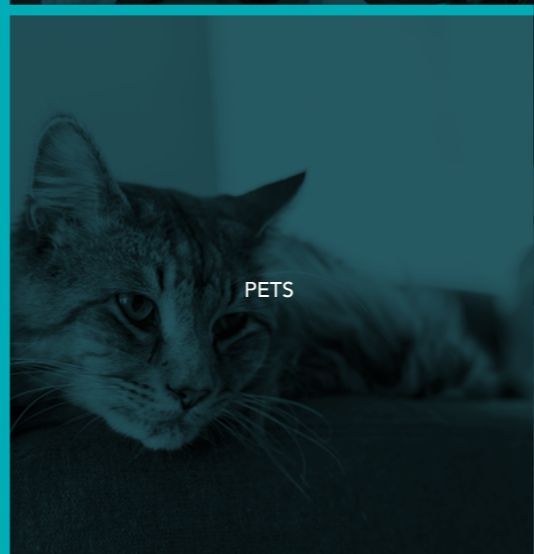
ADEQUATE SPACE FOR MOBILITY AIDS



DOOR FRAMES AND FLOOR JOINTS



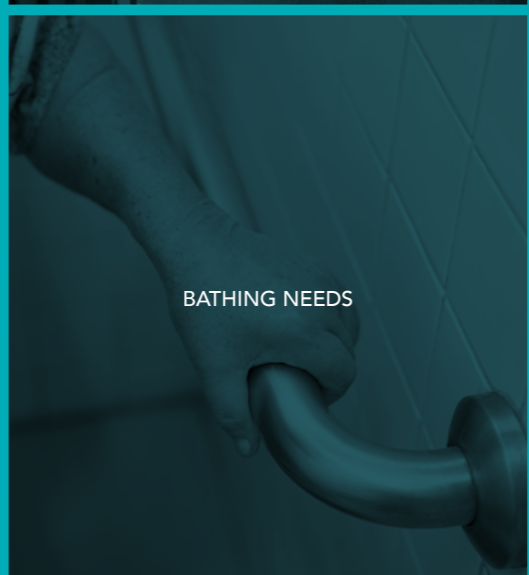
STAIRS AND INTERNAL STEPS



PETS



FURNITURE PLACEMENT



BATHING NEEDS



LIGHTING



## Risk Outside of The Home

There are many obstacles which should be looked out for when out and about. Listed below is our outdoor checklist:



Is my outfit weather appropriate?



Do I need to let someone know where I'm going?



Do I have my emergency contact number with me?



Do I have my mobility aid?



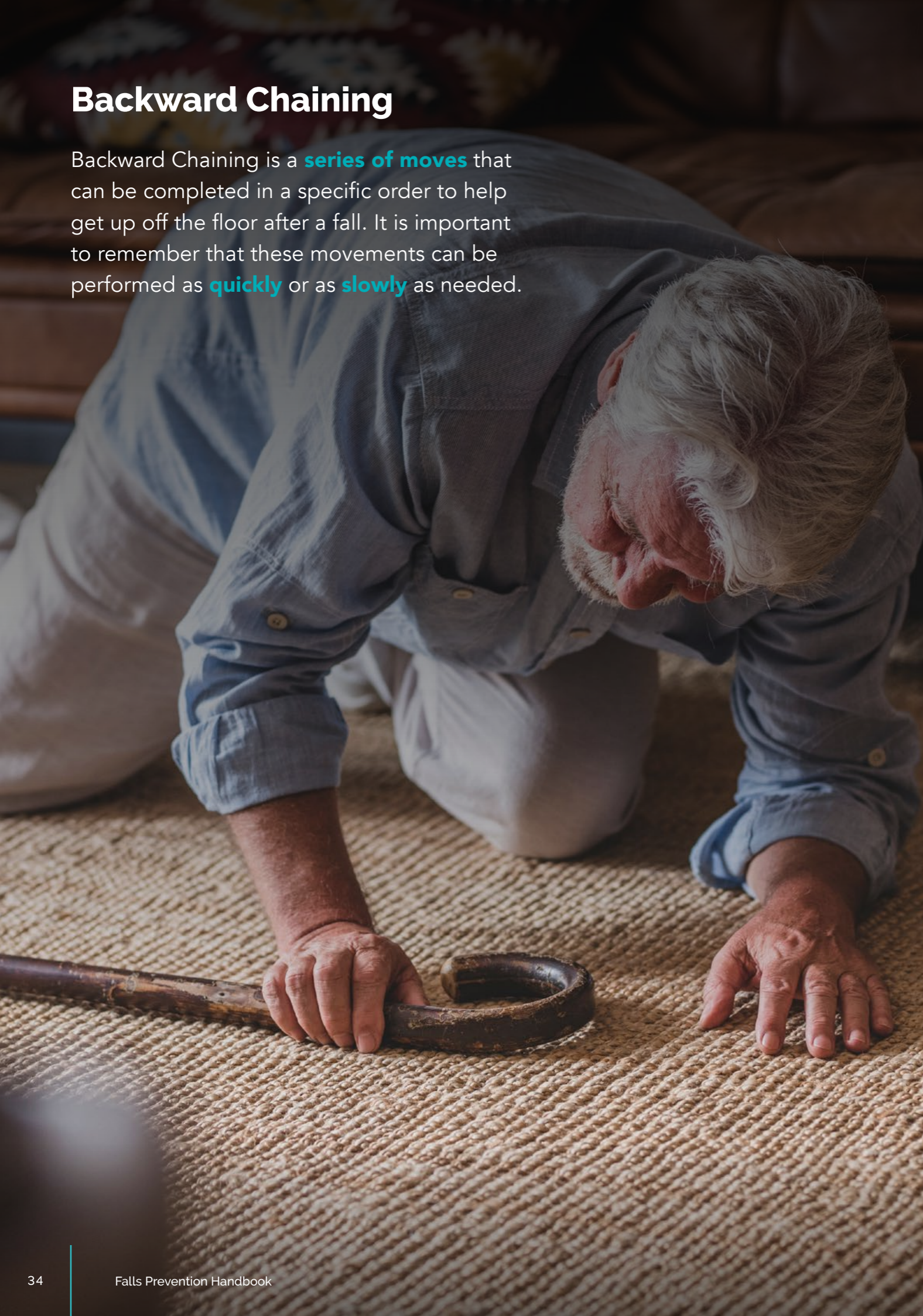
Do I have my glasses and hearing aids?

It's difficult to be **100% safe** all of the time, but being more **conscious** and **aware** can help to **reduce** the chance of **falling**, and maybe something more **severe**.



# Backward Chaining

Backward Chaining is a **series of moves** that can be completed in a specific order to help get up off the floor after a fall. It is important to remember that these movements can be performed as **quickly** or as **slowly** as needed.



## Things to remember

It is important to assess yourself for any injuries before you try to get up of the floor. This is especially important if you think you may have injured your spine.

Take time to come to terms with the accident and allow for any shock, nausea or dizziness to settle.

Do not attempt backward chaining if you think you may have a fracture.

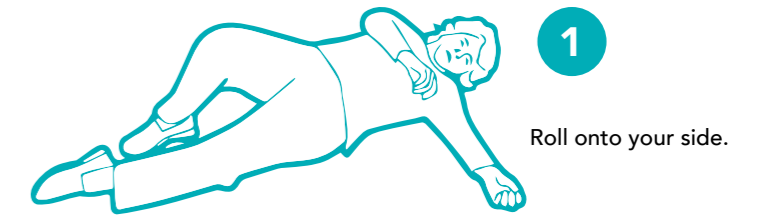
Movement may displace the fracture, causing further injury.

## Signs and symptoms of a fracture

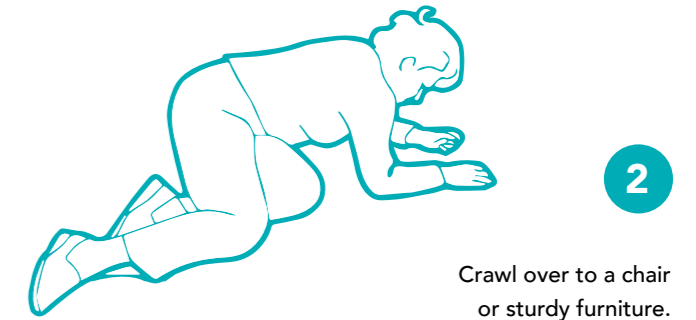
SEVERE SHOOTING PAIN ON TOUCH AND MOVEMENT

DEFORMITY OF THE AREA

SWELLING OF THE AREA



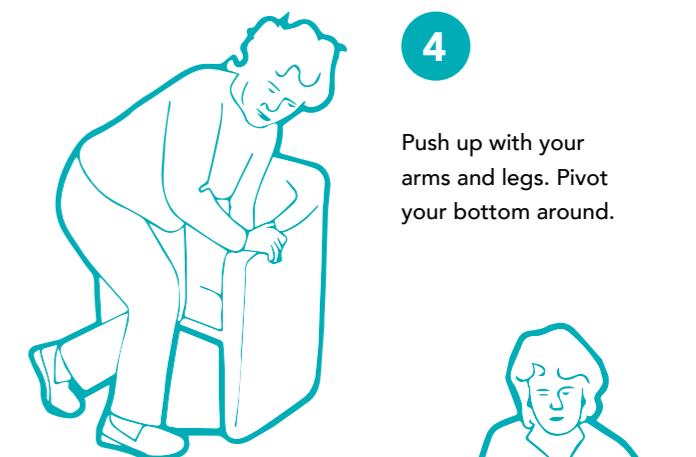
Roll onto your side.



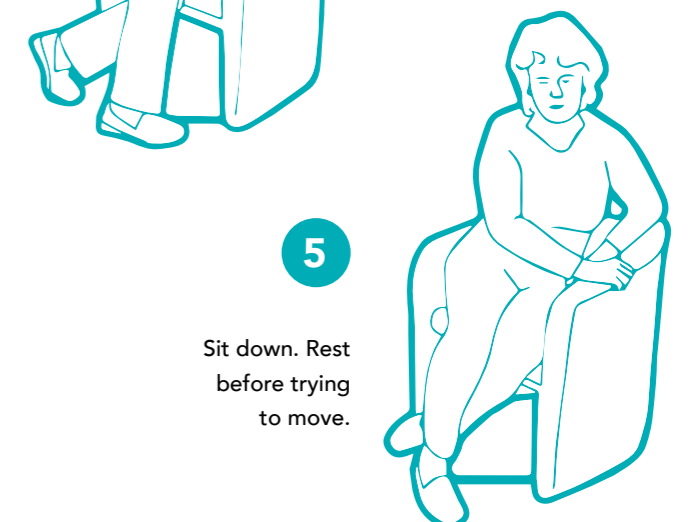
Crawl over to a chair or sturdy furniture.



From a kneeling position, put your arms up onto the seat of the chair.



Push up with your arms and legs. Pivot your bottom around.



Sit down. Rest before trying to move.

Images courtesy of CSP, 2019.

# Medications

There are **4 categories** of medications that can commonly **contribute** to **falls**.



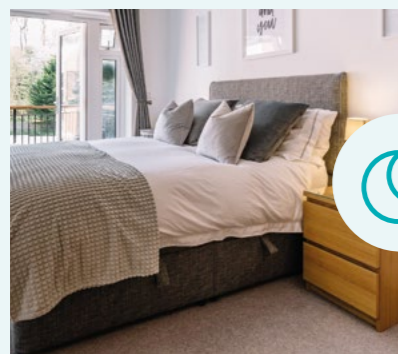
## Medication that affect mood

Medications that affect mood such as sedatives or anti-depressants – “psychotropics” – they affect the hormones causing a slight imbalance. This imbalance can cause dizziness or drowsiness.



## Medications that affect blood pressure “antihypertensives”

These can cause blood pressure to drop creating a ‘postural hypotension’ – the feeling of light-headedness when you stand up.



## Medications taken to help with sleep

These can alter the chemicals that send messages between your brain and the rest of the body, this chemical alteration can cause dizziness and slow reaction rates.



## Medications taken for epilepsy “anticonvulsants”

Help to calm hyperactivity in the brain, in doing so, this can cause drowsiness and slow reaction rates.

Always make sure you drink a large glass of water with all medication and ensure your diet is not counteractive with your medications. For instance, grapefruit and grapefruit juice need to be avoided with many medications.



If pills are hard to **swallow**, consider a **pill crusher** or a **pill cutter** which can be purchased from the **pharmacy**.

To help reduce the risk of falls, it is important to have medication regularly reviewed. Aging results in the body become more sensitive to medication. Most GPs will let you know when a review is due, but you can request a medication review if you are concerned.

If any of the following points apply to you, consider requesting a medication review:

- If you feel your health is worsening
- If you notice any symptoms that are unusual for you
- If you are aged 75 or over
- If you are taking medications for a long-term condition such as diabetes or arthritis
- If you have recently left hospital and have started taking a new medication

## At Home

Keep an up-to-date list of prescriptions at home and provide copies for family members. This is great in case of an emergency.

Note any potential side effects of medication and inform your GP practice.

A pill organiser can help with your medication routine. Other strategies include linking your medication routine to something you do every day or using checklists.



If you decide to take any **over-the-counter medications** or any **herbal medications** or **vitamins**, please inform you GP before you start taking them.

## Multifactorial – Psychotropic drugs

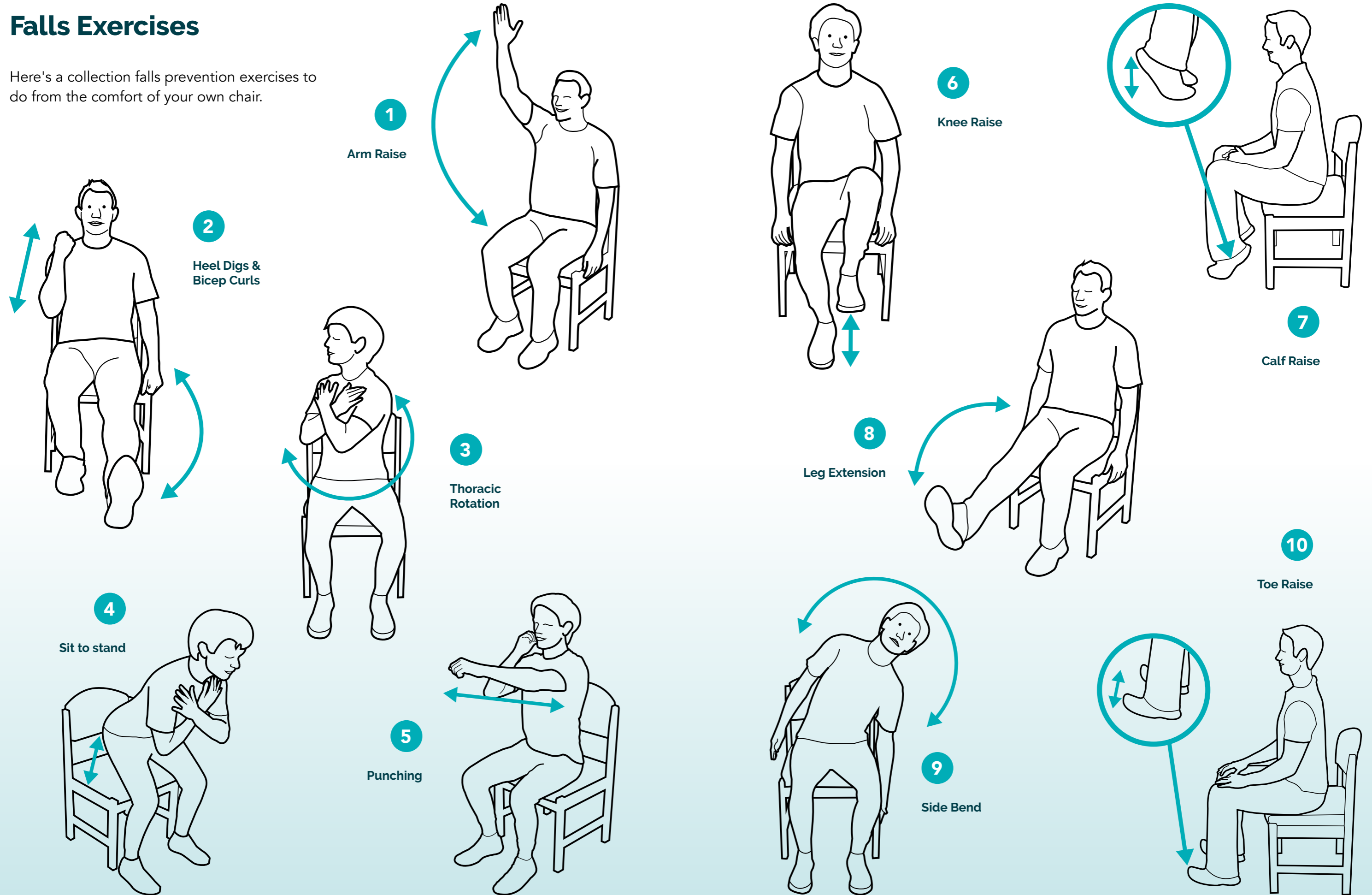
## Multifactorial – Drugs acting on the heart and circulation

MEDICATION GROUP	OVERALL RISK CATEGORY	COMMONLY USED MEDICATIONS	EFFECTS ON RISK	MEDICATION GROUP	OVERALL RISK CATEGORY	COMMONLY USED MEDICATIONS	EFFECTS ON RISK
<b>Sedatives</b>	<b>HIGH RISK</b> Can cause falls alone	Lorazepam, Temazepam, Nitrazepam similar – Epamsuffix	Drowsiness, slows reactions, impaired balance	<b>Alpha Receptor blockers</b>	<b>HIGH RISK</b>	Doxazosin, Tamsulosin, Indoramin	Severe orthostatic hypotension, urinary retention
<b>Sedating Antidepressants</b>	<b>HIGH RISK</b> Can cause falls alone	Amitriptyline, Nortriptyline	Orthostatic hypotension, drowsiness, slow reactions. Double the rate of falls	<b>Centrally Acting Alpha-2-Receptor Agonists</b>	<b>HIGH RISK</b>	Clonidine, Moxonidine	Severe orthostatic hypotension, sedating
<b>Monoamine Oxidase Inhibitors</b>	<b>HIGH RISK</b> Can cause falls alone	Phenelzine, Moclobemide	Severe orthostatic hypotension	<b>Thiazide Diuretics</b>	<b>HIGH RISK</b>	Bendroflumethiazide, Metolazone	Weakness due to low potassium, hyponatraemia and orthostatic hypotension
<b>For Psychosis Agitation</b>	<b>HIGH RISK</b> Can cause falls alone	Haloperidol, Chlorpromazine, Olanzapine	Orthostatic hypotension, slow reflexes, loss of balance	<b>Loop Diuretic</b>	<b>MODERATE RISK</b>	Furosemide, Bumetanide	Dehydration, hypotension, low potassium and sodium
<b>Selective Serotonin Reuptake Inhibitors (SSRI), Serotonin &amp; Noradrenaline Reuptake Inhibitor SNRI)</b>	<b>MODERATE RISK</b> Can cause falls in combination	Fluoxetine, Sertaline, Paroxetine, Venlafaxine, Duloetine	Increased risk of falls with fractures, orthostatic hypotension, bradycardia, impaired sleep quality	<b>Angiotensin Converting Enzyme Inhibitors (ACEIs)</b>	<b>HIGH RISK</b>	Lisinopril, Ramipril -opril	Rely upon kidney elimination and accumulate can cause failure, dehydration
<b>Opiate Analgesics</b>	<b>HIGH RISK</b> Can cause falls alone	Codeine, Morphine, Tramadol	Sedates, slows reactions, impairs balance, delirium	<b>Angiotensin Receptor Blockers (ARBs)</b>	<b>MODERATE RISK</b>	Losartan or similar -tan	Hypotension
<b>Anti Epileptics</b>	<b>HIGH RISK</b> <b>MODERATE RISK</b>	Phenytoin, Carbamazepine, Phenobarbitone Sodium Valporate, Gabapentin	Cerebellar damage, ataxia, slowed reactions Some association with falls risk	<b>Beta Blockers</b>	<b>HIGH RISK</b>	Atenolol, Propranolol, Sotalol	Bradycardia, hypotension, carotid sinus hypersensitivity, vasovagal syndrome
<b>Parkinson's – Dopamine Agonists</b>	<b>HIGH RISK</b>	Roprinerole, Pramipexole	Delirium, orthostatic hypotension	<b>Antianginals</b>	<b>HIGH RISK</b>	Glyceryl Trinitrate (GTN), Isosorbide Mononitrate	Sudden hypotension
<b>Parkinson's – MAOI-B Inhibitors</b>	<b>HIGH RISK</b>	Selegiline	Orthostatic hypotension (difficult to assess due to high falls risk in Parkinson's as the disease process)	<b>Calcium Channel Blockers</b>	<b>MODERATE RISK</b>	Amlodipine, Felodipine, Diltiazem, Verapamil	Hypotension, bradycardia
<b>Muscle Relaxant</b>	<b>MODERATE RISK</b>	Baclofen	Reduced muscle tone, sedative	<b>Other Antidysrhythmics</b>	<b>MODERATE RISK</b>	Digoxin, Flecainide, Amiodarone	Bradycardia and arrhythmias
<b>Vestibular Sedative</b>	<b>POSSIBLE CAUSES</b>	Prochlorperazine, Cinnarazine, Betahistine	Prochlor – Dopamine agonist which may cause movement disorder in long term, sedating	<b>Acetylcholinesterase Inhibitors (For Dementia)</b>	<b>POSSIBLE CAUSES</b>	Rivastigmine, Donepezil, galantamine	Bradycardia and arrhythmias
<b>Anticholinergics acting on Bladder</b>	<b>POSSIBLE CAUSES</b>	Oxybutinin, Solifenacin, Tolterodine, Solifenacin	Known CNS effects				



# Falls Exercises

Here's a collection falls prevention exercises to do from the comfort of your own chair.

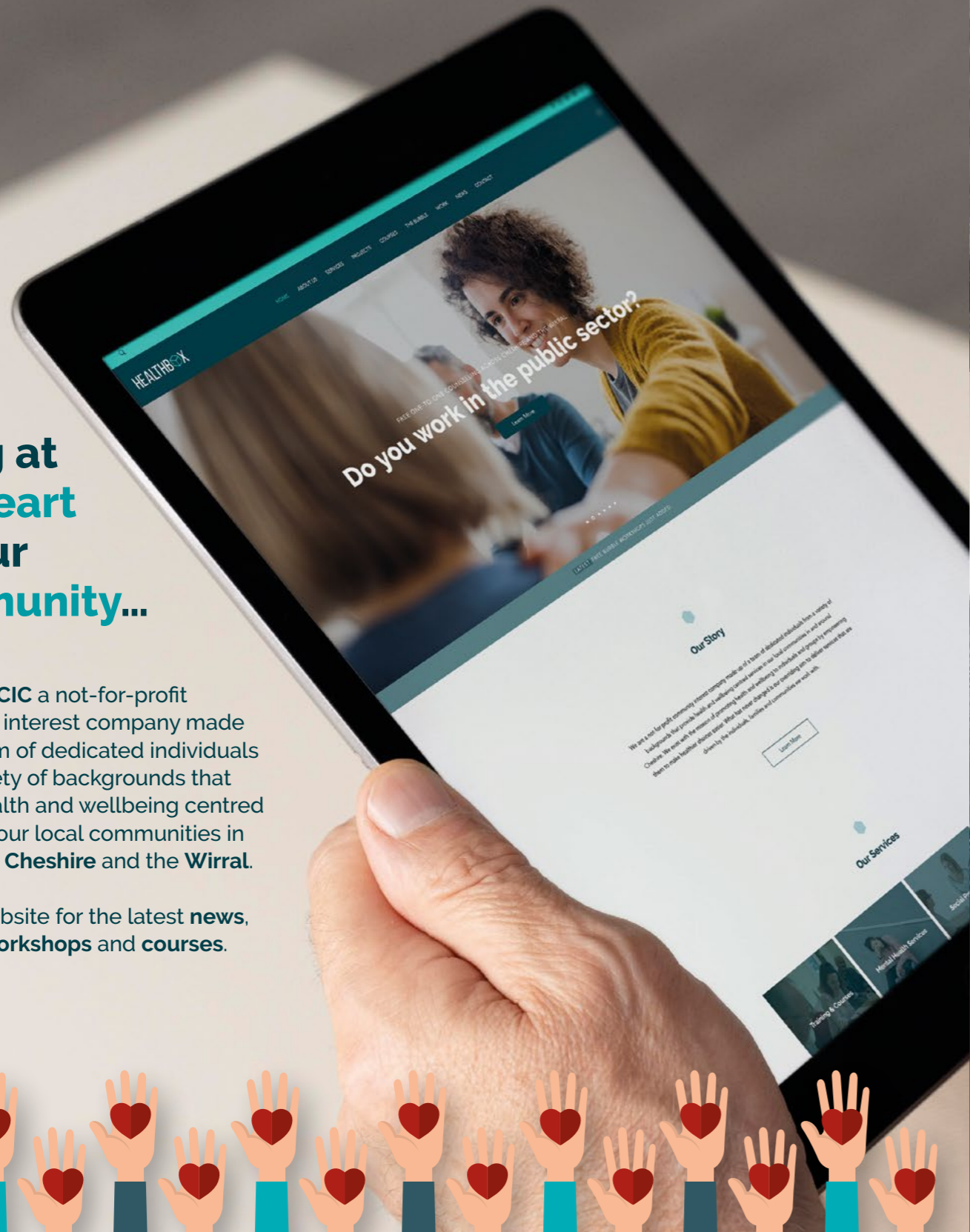




# Being at the heart of your community...

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