



FALLS

PREVENTION HANDBOOK

UNDERSTANDING THE COMPLEXITY
OF WHY PEOPLE FALL

HEALTHBOX
COMMUNITY WELLBEING SERVICES

Welcome to falls



Falling is a common accident through every stage of life, each one 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.

In the UK, 50% of over 80's fall once per year. 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 comes at a much bigger price.



Loss of confidence



Immobility



Low mood & mental health impairment



Loss of strength and balance



Reduced joint movements

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, so we can age well and reduce the risk of falling.



Jack

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Marketing Studio

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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

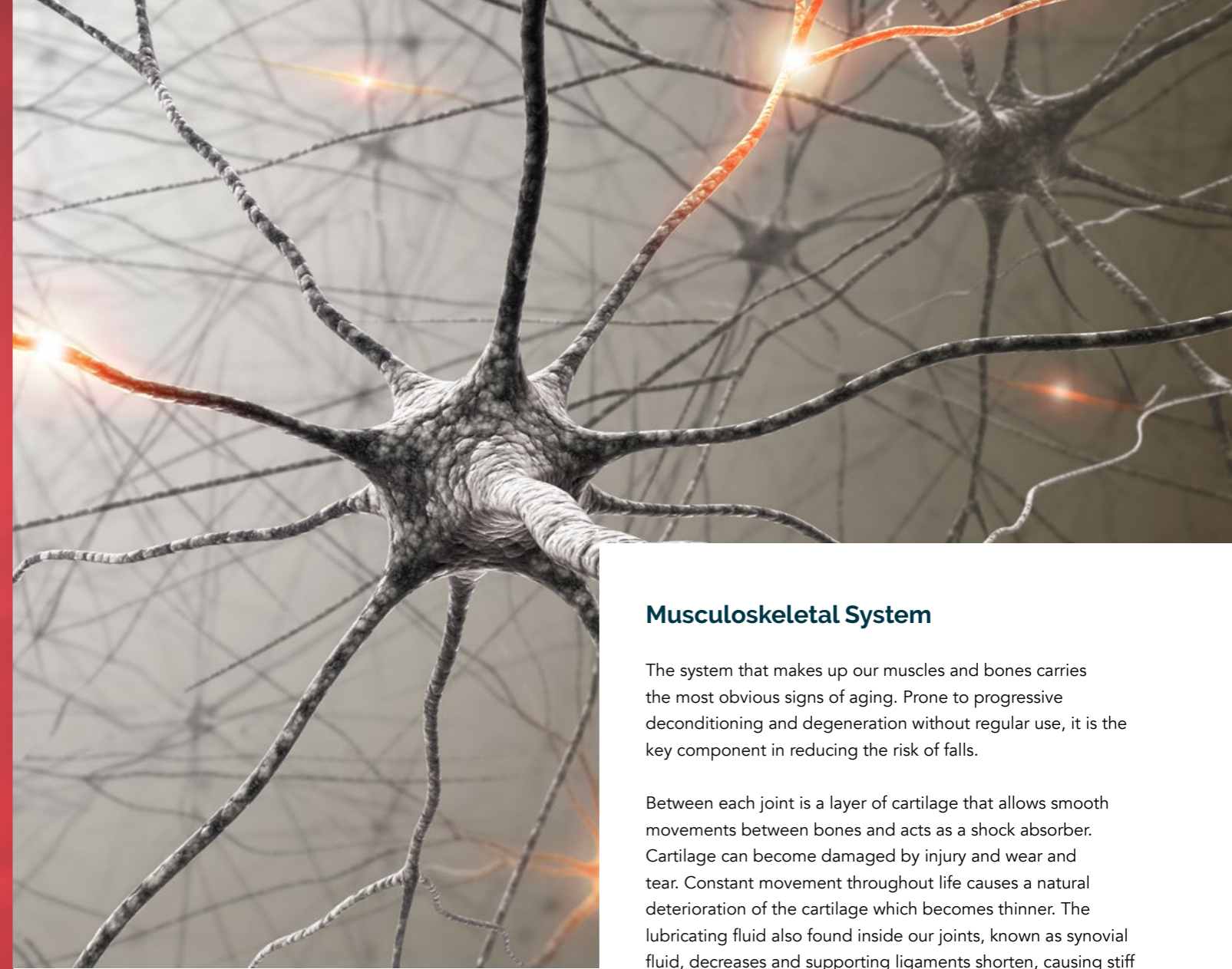
Aging carries a natural increased risk for conditions such as heart attacks, arrhythmias, heart disease and heart failure. Our hearts aren't able to beat as quickly during exercise and activity as they did when we were younger.

Just like the rest of the body, our 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 system that makes up our muscles and bones carries the most obvious signs of aging. Prone to progressive deconditioning and degeneration without regular use, it is the 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 deterioration of the cartilage which becomes thinner. The lubricating fluid also found inside our joints, known as synovial fluid, decreases and supporting ligaments shorten, causing stiff and painful joints.

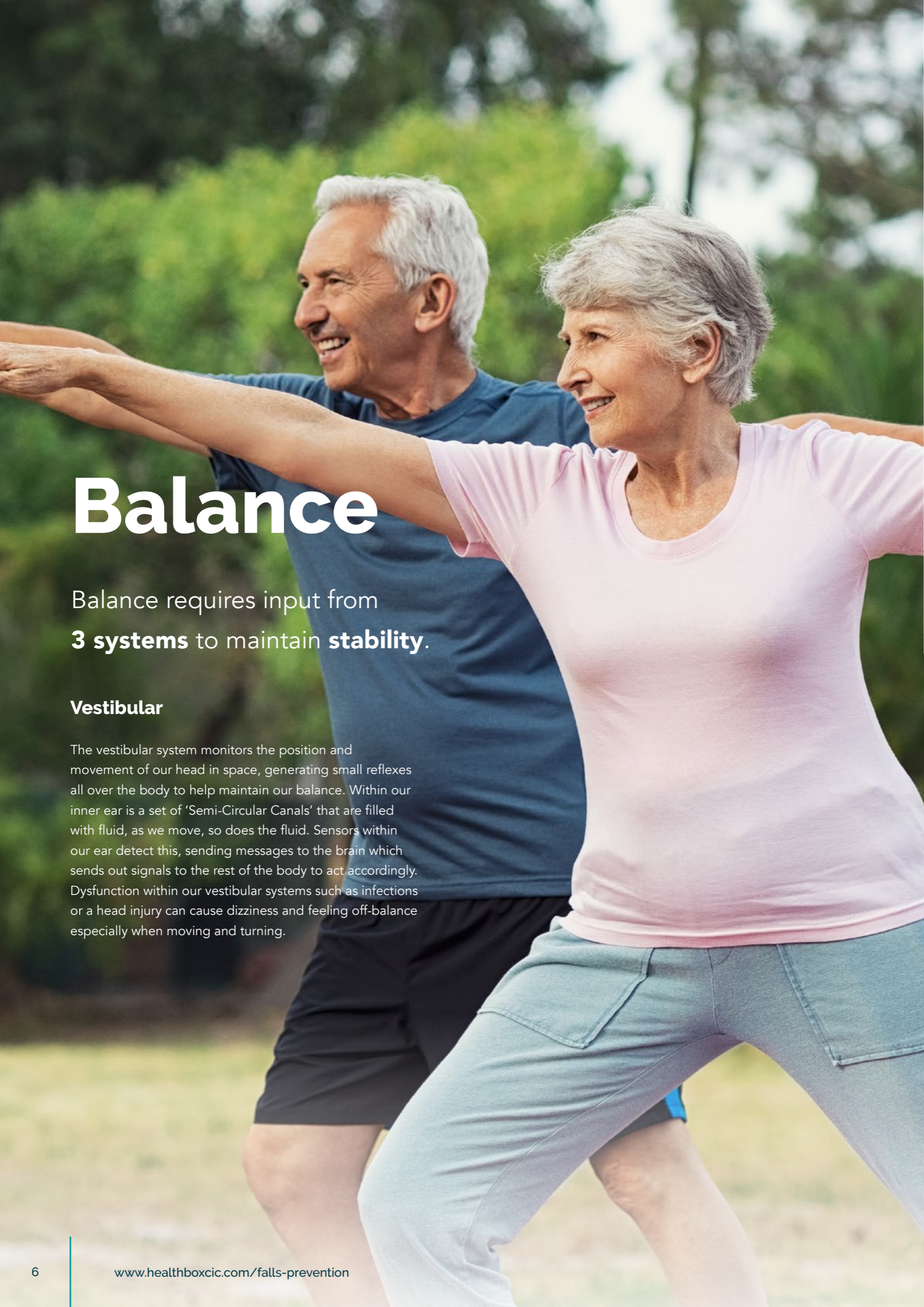
The lack of movement available at painful joints result in underused or incorrectly recruited muscles. Muscle mass and strength peaks between the ages of 20 and 30. From 60, the tissue that makes up muscle decreases along with the hormones and fibres used to create new tissue. It is harder to create 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 made up of the brain, spinal cord and nerves and controls all our organs. When we touch something, the receptors in our skin send the sensation to our brain 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 we stand on something unsteady, we use our 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 stop from falling. This complex system is something that is learned and built on every day from the day we are born.

As we age, these signals become slower due to a loss of neurons in our 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 our balance. Within our inner ear is a set of 'Semi-Circular Canals' that are filled with fluid, as we move, so does the fluid. Sensors within our ear detect this, 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

Our eyesight is key to maintaining balance and is required to create reactions appropriate for our 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 so it is essential eyes are routinely checked and glasses changed according to each activity.

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 our organs including eyes, skin and the position our joints are in. The input feeds information to our central nervous system before being processed in our brains. The age related changes at our muscles and joints, neurological conditions such as Parkinson's and even everyday injuries such as ankle sprains or fractures impair any of these systems and cause multiple issues such as poor co-ordination, reduced balance and can often appear as clumsiness.

The body uses two mechanisms 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 systems require the body to make subtle and continuous movements in the muscles to maintain the bodies 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 – systems that deteriorate with age.

Postural control uses two mechanisms: **Anticipatory control**, forward planning of movements and **reactive control**, quick unplanned reactions. Ageing brings with it weak muscles and slower reaction times affecting both 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.

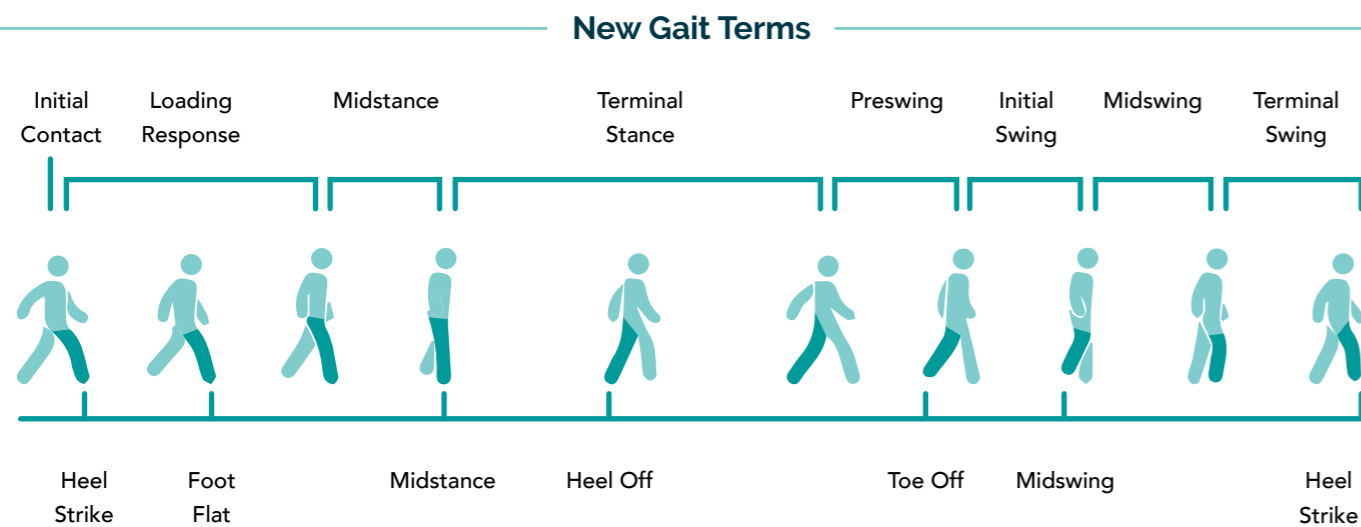
Factors affecting gait include physical deformities such as leg length discrepancies or bone malformations, weakness which can be a generalised weakness or acute following trauma or illness, pain with reluctance to weight bear as normal and progressive conditions such as Motor Neurone Disorder, Scoliosis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

Below is a textbook gait follows a constant continual pattern:



Issues around Drop Foot & A&E

Foot drop is 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. Drop Foot can also be a sign for a more sinister problem.

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

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

In sitting, can they keep their heel on the floor whilst lifting their toes to the sky? An inability to do this is a positive test for drop foot.

Foot drop is a major cause of falls in those who have the condition 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 are very successful. Referring to an individuals 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 happens as we age and currently affects over 3 million people in the UK. Our bodies become unable to form new bone tissue to replace what is lost, leaving bones fragile.

The changes caused by osteoporosis is the main cause of fragility factors in the UK and can happen with low level trauma, such as a strong sneeze, that would not ordinarily cause fractures. 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

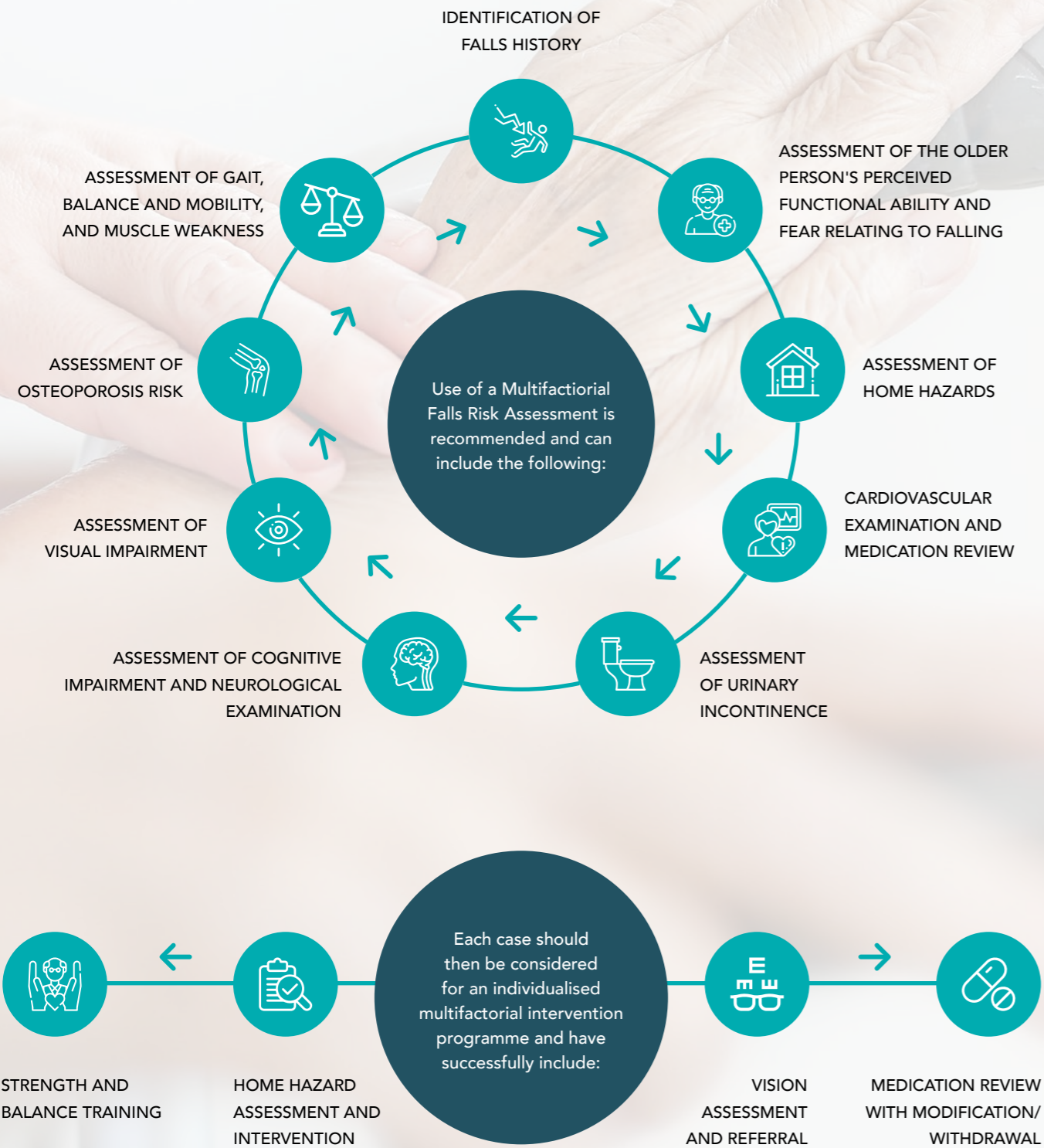
SYSTEM GLUCOCORTICIDS STEROIDS

FAMILY HISTORY OF



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 observed for gait and balance deficits. There is no evidence that it is more effective than assessment and referral.











Mobility aids

Progression of Mobility aids

A change in a walking aid can often be met with some resistance but it is important to understand a more supportive walking aid will promote ongoing independence and reduce the risk of a fall. The need for a new walking aid is also a natural part of aging and supporting the body in ways that can help.

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.

-  **Unaided**
-  **1 x Walking Stick**
-  **2 x Walking Sticks**
-  **2 x Elbow Crutches Wheeled**
-  **Wheeled Zimmer Frame**
-  **4 Wheeled Walker**
-  **Standing Hoist**
-  **Full Hoist**

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 cant see the grip indentations, the ferrals need to be replaced.

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 the lighting working? 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.

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

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.



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



Shaking

Bent knees in an attempt to increase the base of support

Increased heartrate

Nausea

Leaning back heavily in standing

Increase respiratory rate

Dizziness

Grabbing out for other people or objects

Emotional outbursts such as crying or shouting

Fear of falling

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 patient



Place one hand around the patient'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

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



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



ASK THE PATIENT 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

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.

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 and flexibility. 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.



The UK Department of Health and Social Care advise:



150 MINUTES PER WEEK OF MODERATE INTENSITY ACTIVITIES:



BRISK WALKING



75 MINUTES PER WEEK OF VIGOROUS ACTIVITY



STAIRS



SWIMMING



CYCLING



RUNNING



TENNIS



Did You Know?

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

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 **comorbidities** such as:

30%



BY **DEMENTIA**

68%



BY **HIP FRACTURES**

30%



BY **DEPRESSION**

30%



BY **COLON CANCER**

20%



BY **BREAST CANCER**

40%



BY **TYPE 2 DIABETES**

35%



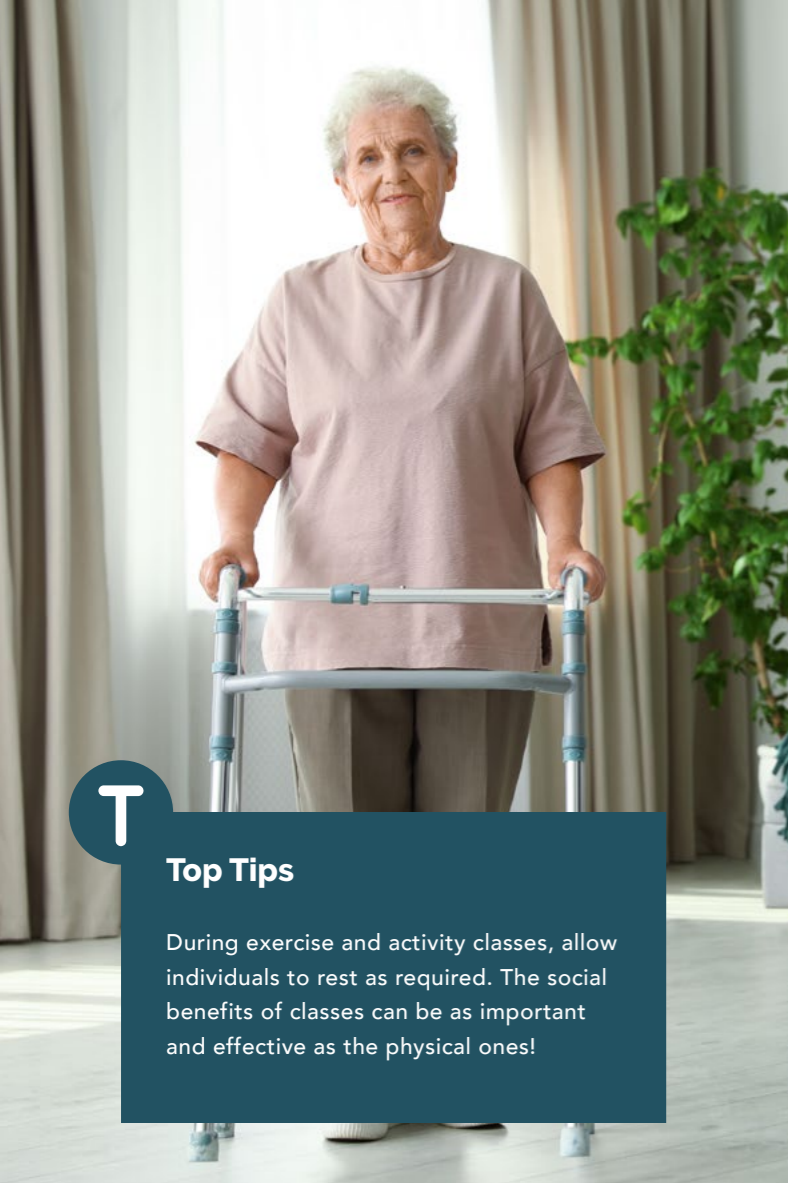
BY **HEART DISEASE**

30%



BY **MORTALITY**

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.



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:

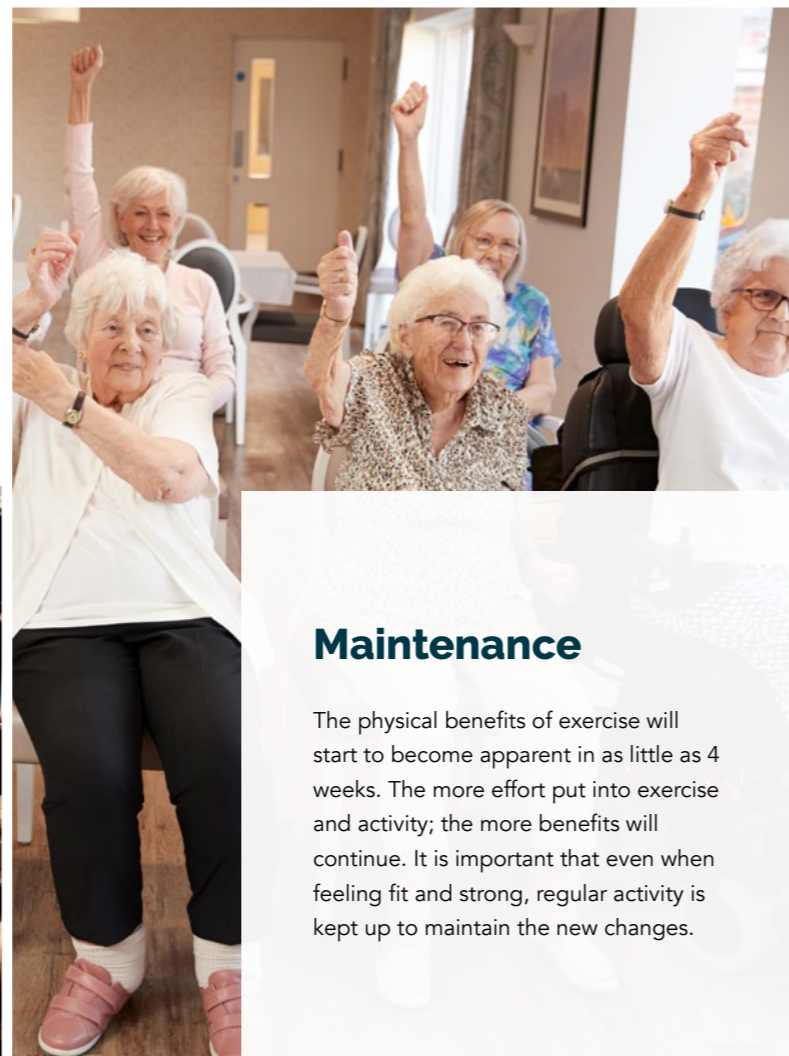
Try 15-20 minutes of moderate intensity exercise and 5-7 repetitions of strength and balance movements.

The week after that:

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

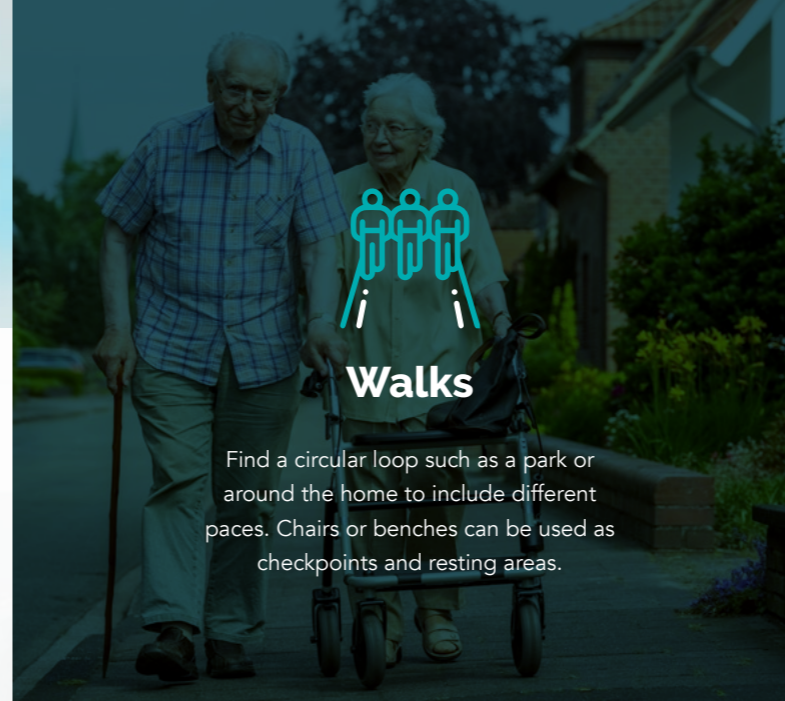
Regression

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.



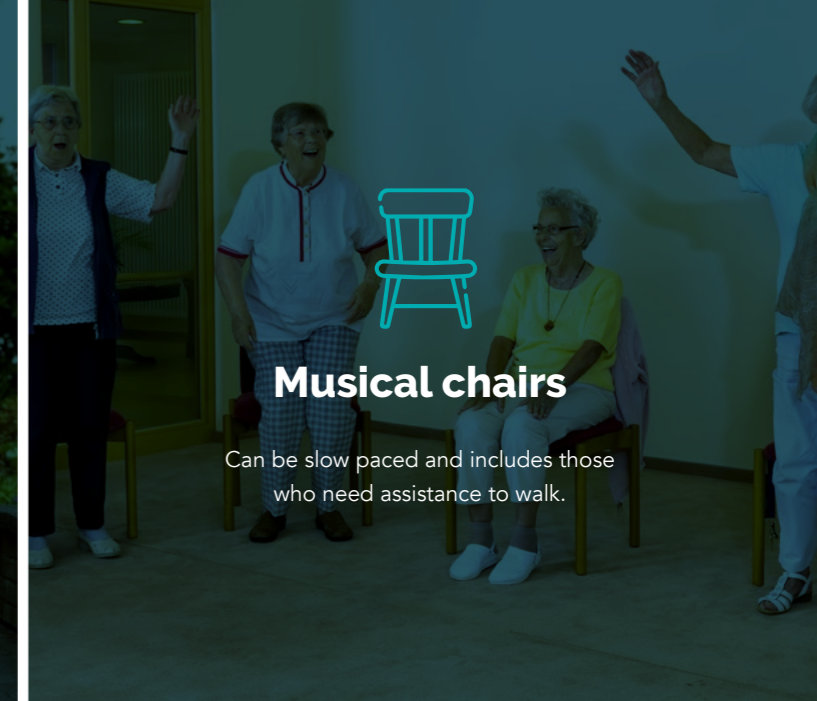
Maintenance

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.

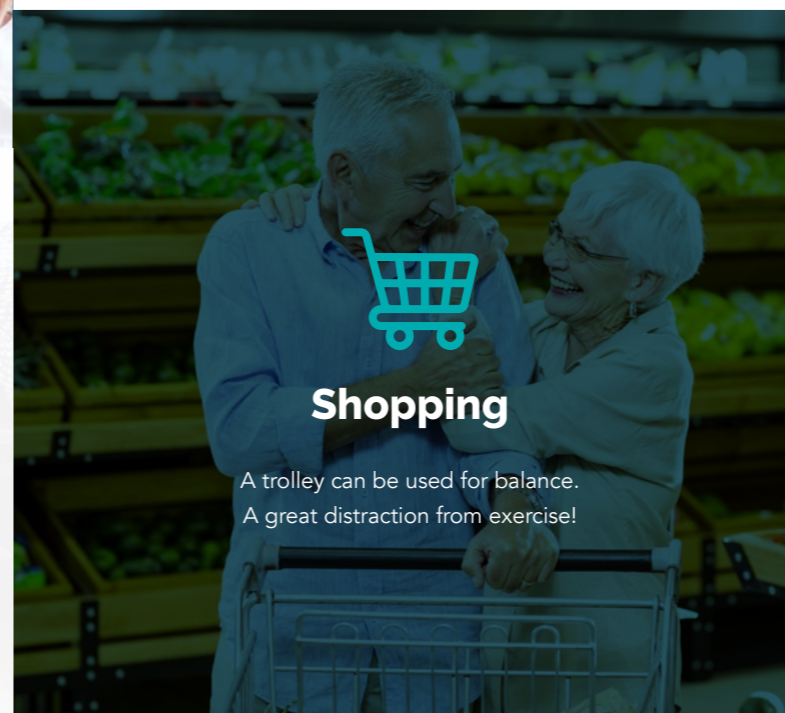


Exercise ideas – Moderate Intensity



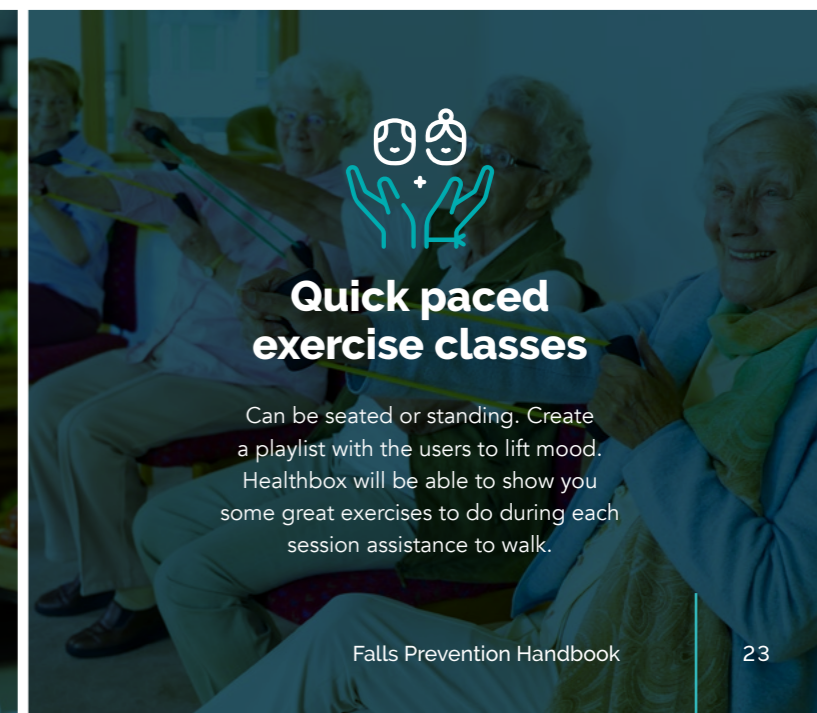
Water Aerobics and Swimming

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. A great distraction from exercise!



Quick paced exercise classes

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

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'.



Beachball Football/Volleyball

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



Strength focused exercise classes

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



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 bodies 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



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...

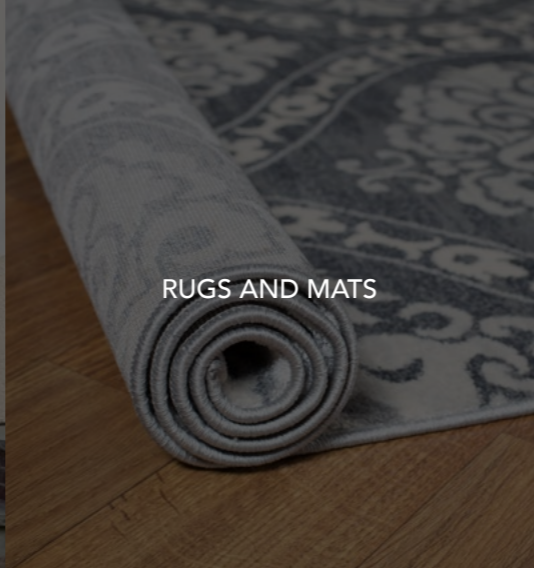
20% of water in our diet comes from food, the remaining 80% comes from drinks. Six to eight cups of fluid is the current guidelines and can include milk, tea, coffee and fruit juice. It is important to replenish the fluid in our body throughout the day whether we feel thirsty or not and is particularly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



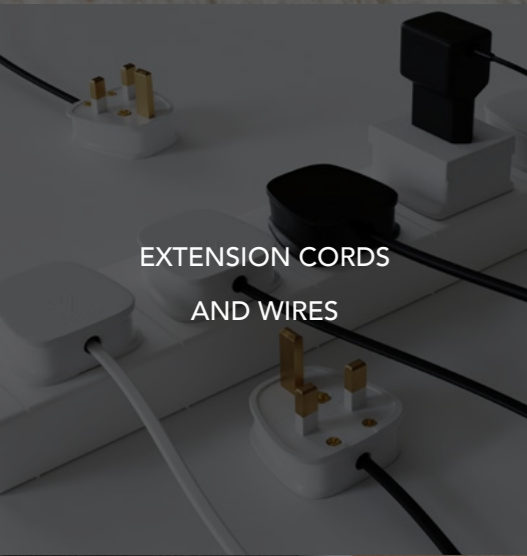
CLEANLINESS



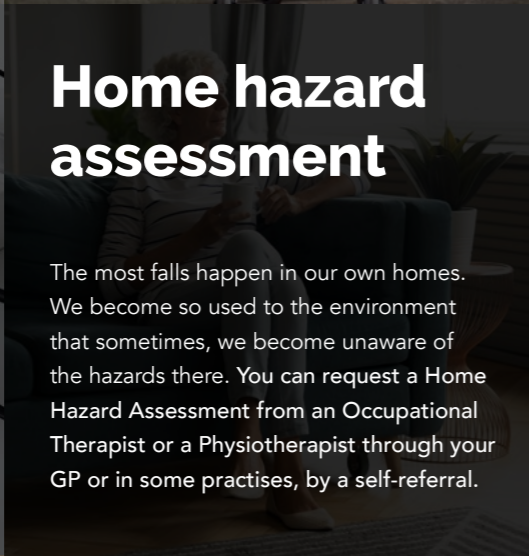
ACCESS TO PROPERTY



RUGS AND MATS

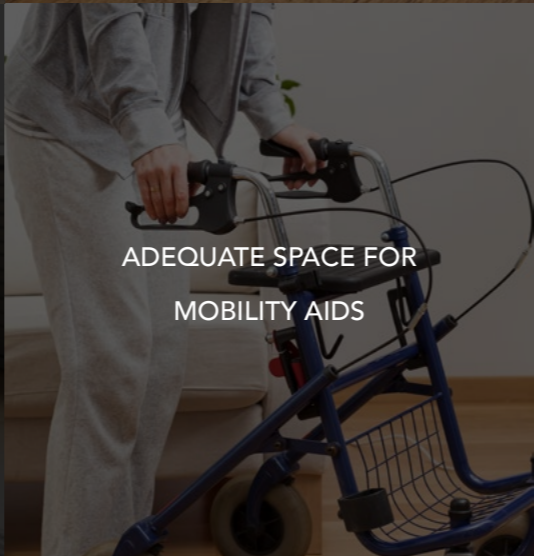


EXTENSION CORDS AND WIRES



Home hazard assessment

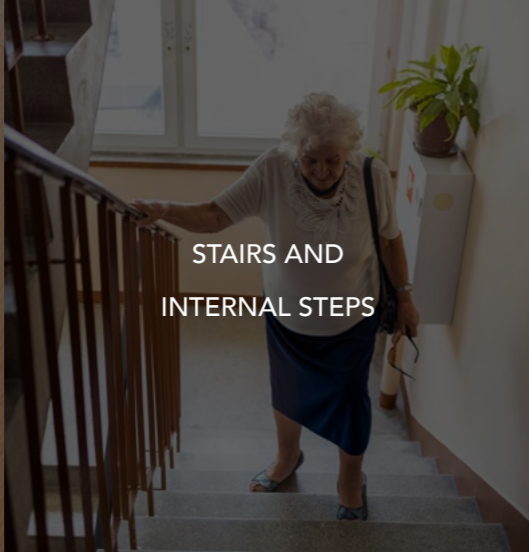
The most falls happen in our own homes. We become so used to the environment that sometimes, we become unaware of the hazards there. You can request a Home Hazard Assessment from an Occupational Therapist or a Physiotherapist through your GP or in some practises, by a self-referral.



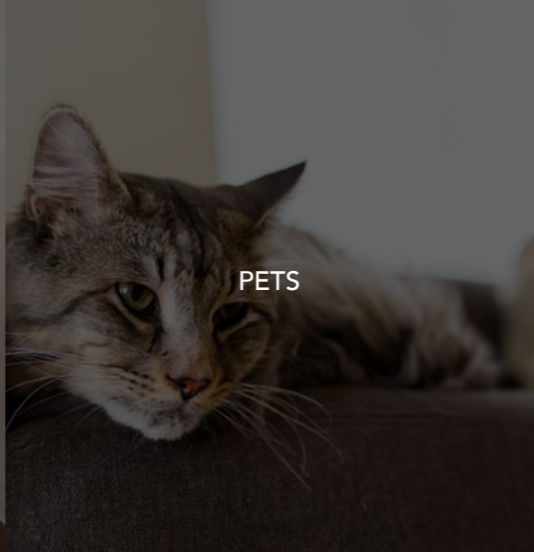
ADEQUATE SPACE FOR MOBILITY AIDS



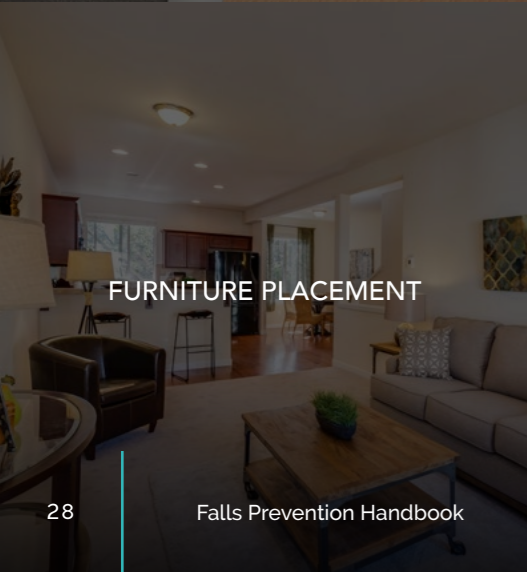
DOOR FRAMES AND FLOOR JOINTS



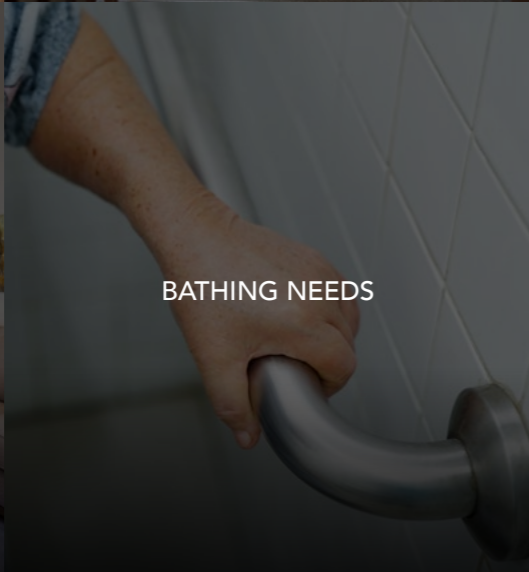
STAIRS AND INTERNAL STEPS



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 checklists:



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?



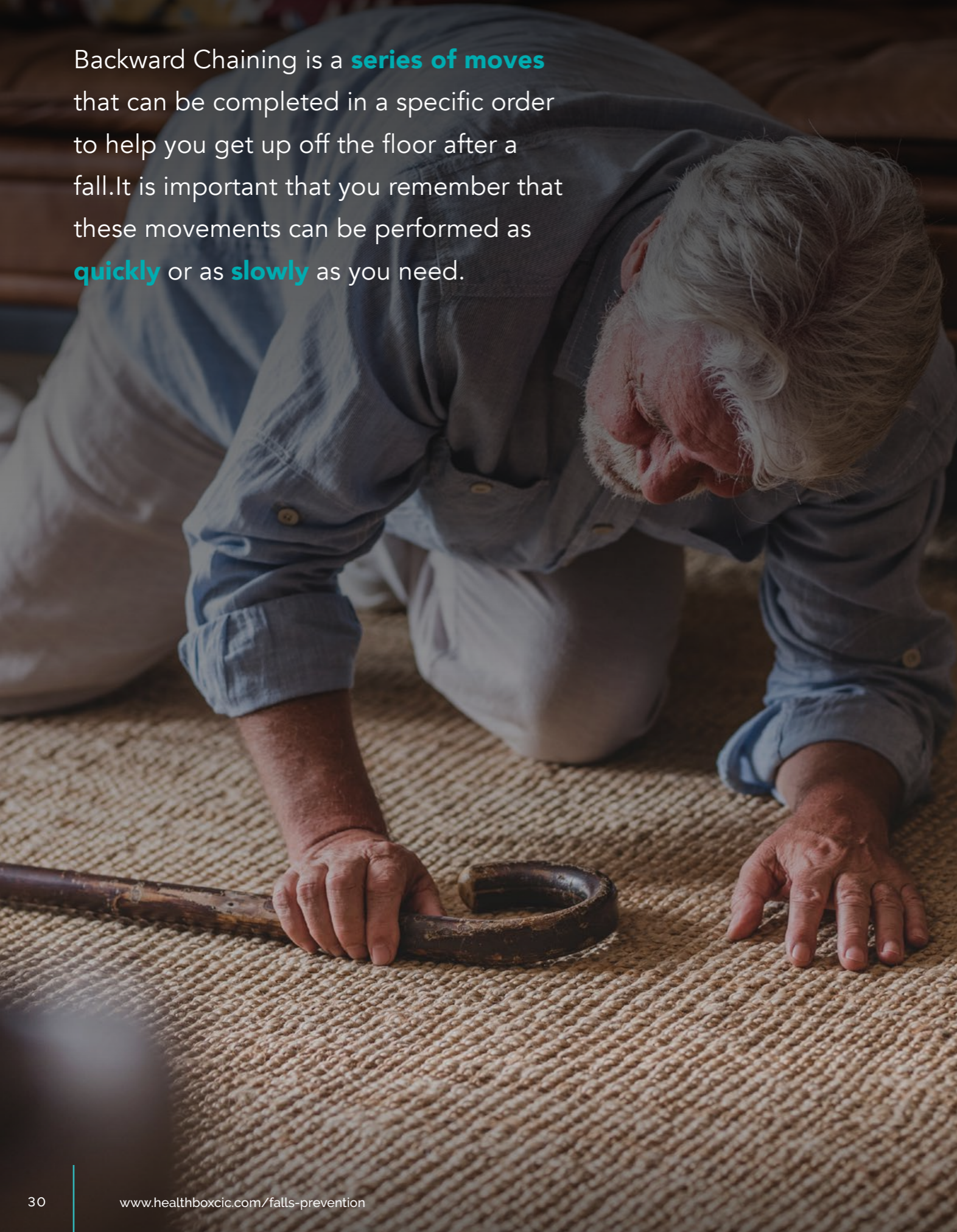
Do I have my glasses and hearing aids?

You can't 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 you get up off the floor after a fall. It is important that you remember that these movements can be performed as **quickly** or as **slowly** as you need.



Things to remember

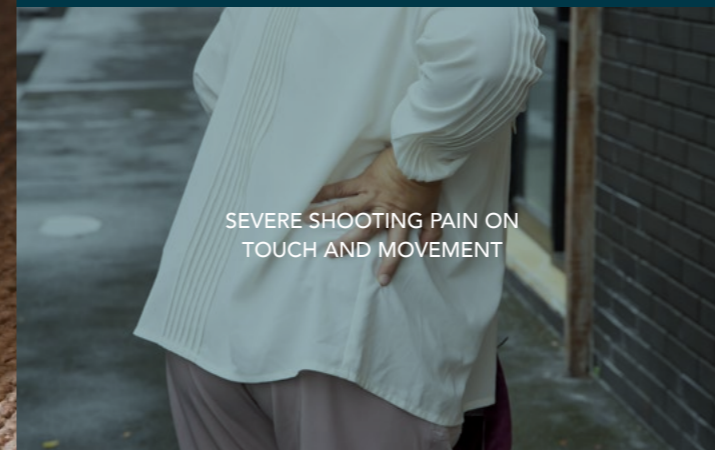
It is important to assess yourself for any injuries before you try to get up of the floor. This is especially important if you think you may have injured your spine.

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

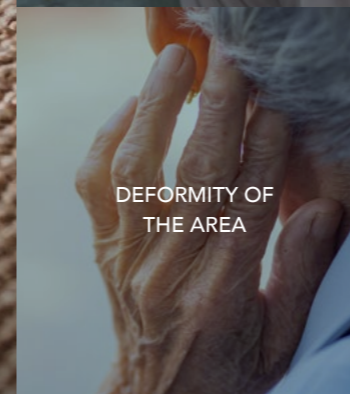
Do not attempt backward chaining if you think you may have a fracture.

Movement may displace the fracture, causing further injury.

Signs and symptoms of a fracture



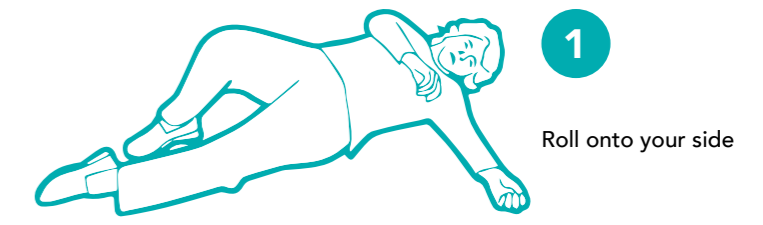
SEVERE SHOOTING PAIN ON TOUCH AND MOVEMENT



DEFORMITY OF THE AREA



SWELLING OF THE AREA



1

Roll onto your side



2

Crawl over to a chair or sturdy furniture

3

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



4

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



5

Sit down. Rest before trying to move



Images courtesy of CSP, 2019.

Medication

There are 4 categories of medications that more commonly cause falls. 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.

Medicines that can **contribute** to falls risk are called **culprit drugs**.



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



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.



To help reduce the risk of falls, it is important to have your medication regularly reviewed. As you age, your body becomes more sensitive to medication. Most GP's will let you know when a review is due, but you can request a medication review if you are concerned.

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

- 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 your prescription at home and give a copy to your family members. This is great in case of an emergency.

Note any potential side effects your medication may have given you and let your GP know, you may benefit from a different dose.

A pill organiser to track whether you have taken your medication. Other strategies include linking your medication routine to something you do every day or using checklists.

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

Multifactorial – Assessment for falls

MULTIFACTORIAL ISSUES	THINGS TO CONSIDER
Falls history	<input type="checkbox"/> One or more falls in the past 12 months <input type="checkbox"/> Simple vs Complex cause <input type="checkbox"/> Pattern, medication related
Gait, balance, mobility and muscle strength	<input type="checkbox"/> Mobility aids <input type="checkbox"/> Balance testing <input type="checkbox"/> Functional strength
Osteoporosis risk	<input type="checkbox"/> Increased risk of complicated fractures, prolonged hospital stays and further reduction in mobility
Fear of falling & perceived functional ability	<input type="checkbox"/> Reduction in wanting to go out due to increase anxiety of falling
Cognitive & Neurological examination	<input type="checkbox"/> Reduced ability to process information <input type="checkbox"/> Neurological conditions such as Parkinson's diseases
Urinary incontinence	<input type="checkbox"/> Getting up in the night
Cardiovascular examination & Medication	<input type="checkbox"/> Any cardiovascular issues such as postural hypotension issues <input type="checkbox"/> On 3 or more medication due to possible negative interactions
Home hazards	<input type="checkbox"/> Slip, trip and fall hazards
Visual impairment	<input type="checkbox"/> Bifocal eye wear <input type="checkbox"/> Last eye test

Weekly planner

WEEK OF

MON	
TUE	
WED	
THU	
FRI	
SAT	
SUN	

PRIORITIES

TO DO LIST

- _____
- _____
- _____
- _____
- _____
- _____
- _____
- _____
- _____
- _____



Why not try...

Use the tick boxes to assess your Multifactorial Falls. This will provide a clear breakdown to the level you currently at within the Falls Prevention.



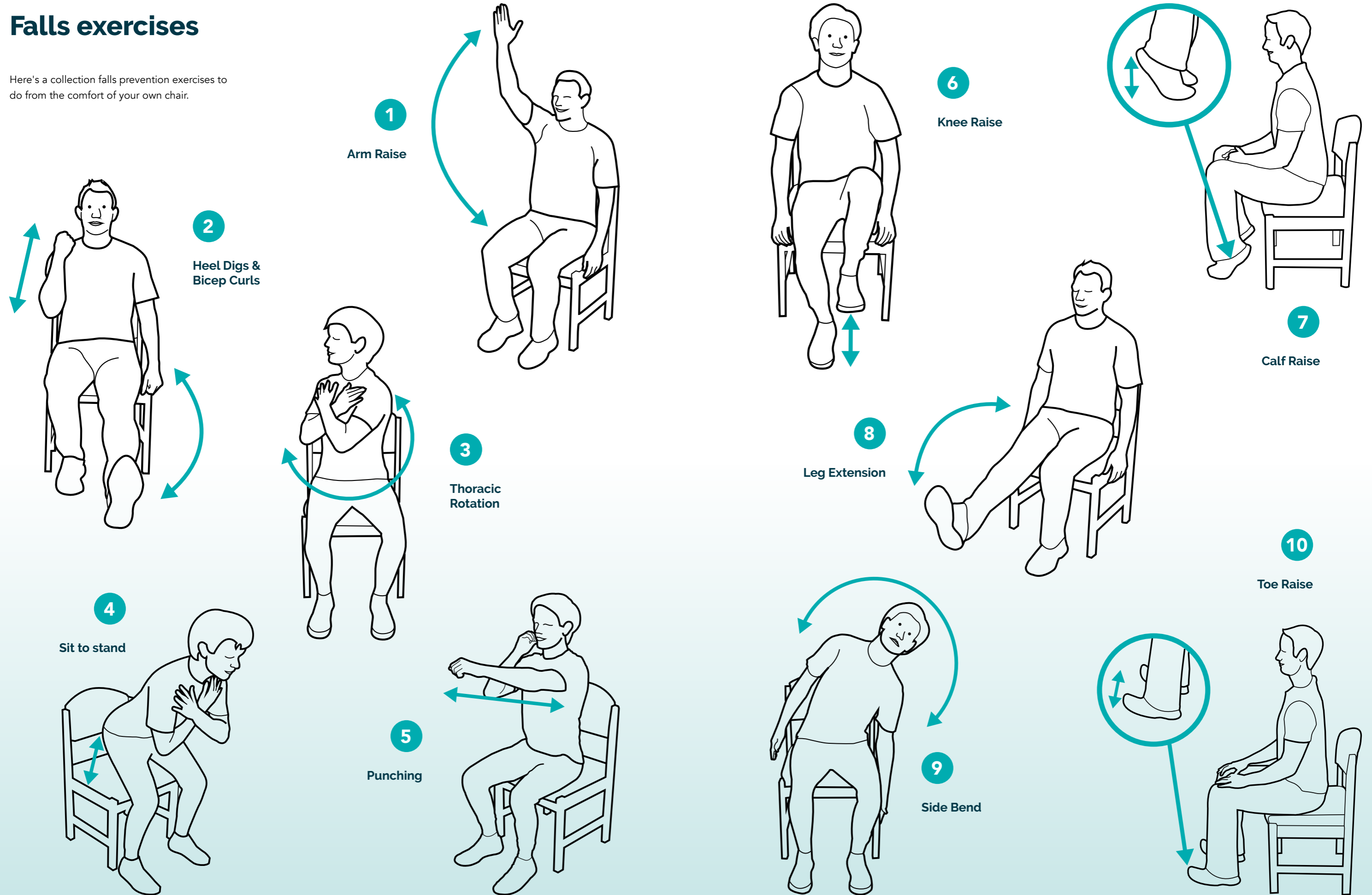
Why not try...

Please use this diary on the opposite page to plan your main goal's, priorities, to-do lists, weekly reflection and habit tracker.



Falls exercises

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



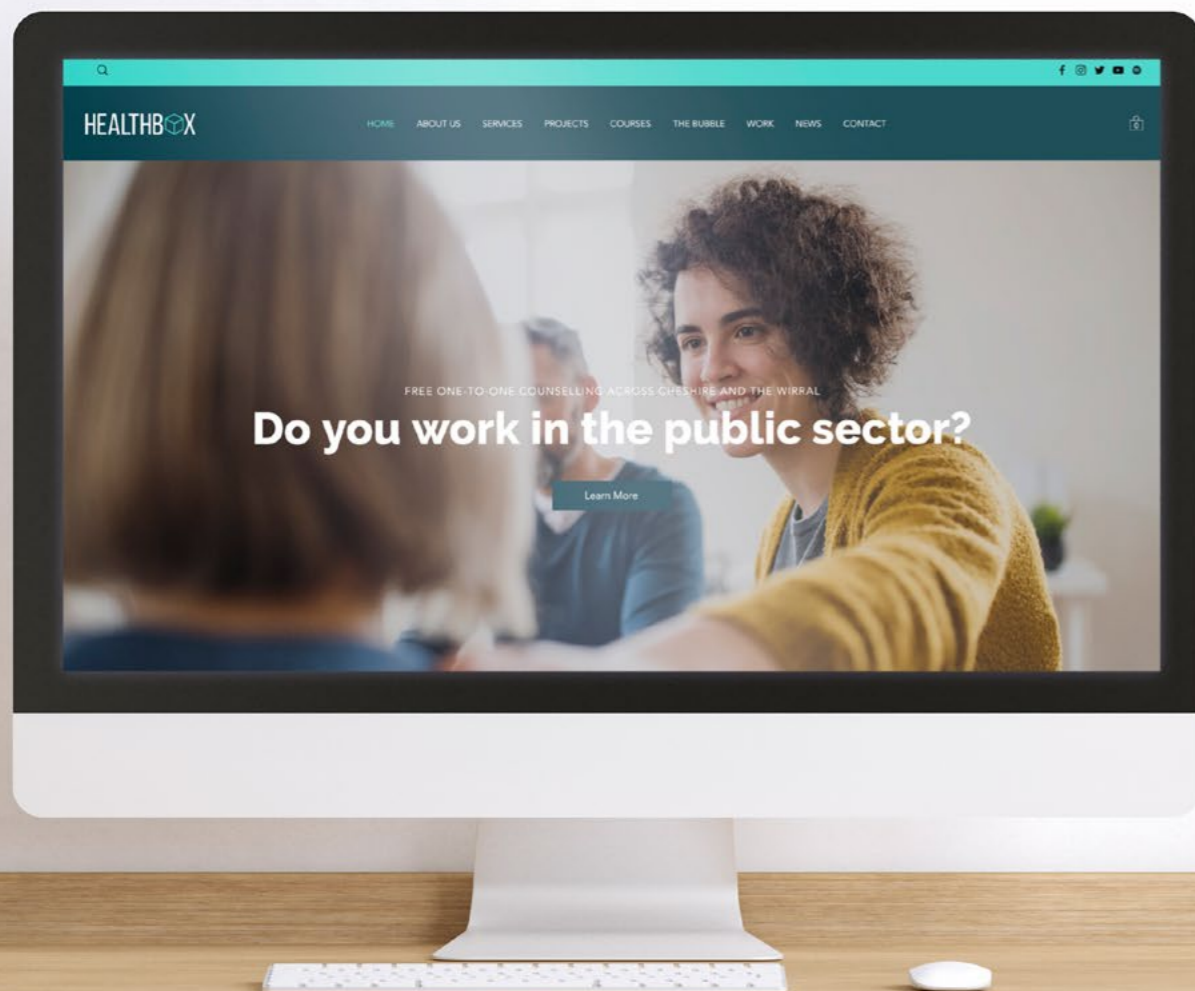


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