CLINICAL FALLS RISK ASSESSMENT KIT

Version 3 May 2013

Neuroscience Research Australia acknowledges the work of the Australian Rural Nurses and Midwives (previously known as the Association for Australian Rural Nurses) in producing the original version of this kit, entitled "Fallsrisk", upon which this assessment kit was based.

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THE *NEURA QUICKSCREEN®* CLINICAL FALLS RISK ASSESSMENT

Since there are many risk factors for falls which vary from person to person, individualised risk factor assessment should be the first step in developing effective intervention strategies for the prevention of falls in older people.

The NEURA *QuickScreen®* Clinical Falls Risk Assessment (or *QuickScreen®* for short) was developed by researchers at Neuroscience Research Australia and is a multifactorial assessment tool which was designed specifically for use in clinical settings. It has been rigorously tested in a large sample of community-dwelling older people in which it was found that performance in the *QuickScreen®* was able to accurately predict faller status. In a sub-group of these people, the *QuickScreen®* measures exhibited good reliability, demonstrating low measurement error and a high ability to detect change in physical status over time.

The *QuickScreen®* assessment has been trialled in several clinical settings with general practitioners, practice nurses and physiotherapists, where it was found to be quick and easy to administer, taking an average of 10 minutes to complete. The clinicians reported that the assessment provided useful information about risk factors and guided the implementation of intervention strategies. The *QuickScreen®* consists of the following measures: previous falls, medication usage, vision, peripheral sensation, lower limb strength, balance and co-ordination and requires the use of minimal equipment. This makes it a portable, easy to use assessment which has a low cost yet high accuracy in determining who is at risk of falling and which particular factors contribute to that risk.

The assessment also allows the user to calculate the combined risk increase that the identified risk factors present for future falls. The inclusion of this scoring system in the *QuickScreen®* allows for the identification of people who are at a high risk of falling; in addition to its ability to determine which specific factors contribute to that risk. This information can then be used to determine which intervention strategies are likely to be most beneficial in reducing the risk of future falls[1].

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1. Lord S, Sherrington C, Menz H and Close J. Falls in older people: risk factors and strategies for prevention.2nd edition, Cambridge University Press, 2007, p244-248.

QUICKSCREEN® KIT COMPONENTS

MANUAL

This includes the *QuickScreen*® Clinical Falls Risk Assessment instructions and forms.

INTRODUCTION

The significance of falls in the Australian community and the role of risk factors is briefly described.

QUICKSCREEN® CLINICAL FALLS RISK ASSESSMENT

Assessment form and administration instructions.

MANAGEMENT PLAN

This section provides options for the clinician in implementing a person focused management plan using QuickScreen®.

QUICKSCREEN® RISK FACTORS AND PREVENTION

This section provides more information on each QuickScreen® risk factor including suggested resources and information sheets.

SUPPLEMENTARY RISK FACTORS

Further risk factors are briefly addressed to enable identification and management of broader risk factors following use of QuickScreen®.

RESOURCES

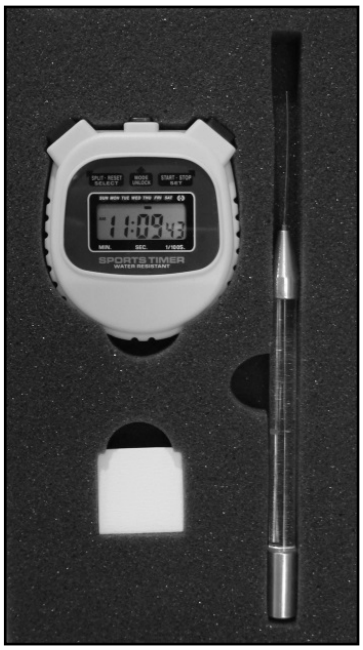
References and further contact details of organisations.

MASTER BOOKLET

Use these masters to photocopy all forms you need. Items which are provided in a Master version, display an icon in this manual's content list. See the complete list of the Masters available inside the Booklet.

QUICKSCREEN® ASSESSMENT TOOLS

This little box houses the stopwatch, monofilament and foot placement squares and 3m string for *QuickScreen*®. The eye chart is stored separately.



PREPARING TO USE *QUICKSCREEN®*

To gain the most benefit from this resource follow these few steps.

Step One

- Become familiar with what's in the kit and the resource manual.

Step Two

- Using the Master Booklet make copies of the QuickScreen® Clinical Falls Risk Assessment forms, QuickScreen® Falls Risk Assessment Summary / Referral letter, Information Letter and My Falls Prevention Plan and also, the Personal Health Contacts and community resources forms.
- Add details of any useful local community organisations as required.
- Also copy the information sheets so they are on hand.

Tip

- When copying the 'Exercise program for prevention of falls' be sure to include at least six (6) pages of the 'Exercise Note Book' at the end of the program so there is sufficient space for the person to record.

Step Three

- Store all copies of forms and information in the kit.

Step Four

- QuickScreen® is easy to learn to administer and use. You may find it useful to practice several times before using. Organise a step stool (approximate height should be 18cm). A quick reference guide to using QuickScreen® is on the back of the assessment form for easy access.

LIMITATIONS OF *QUICKSCREEN®*

This resource has been developed to help 'bridge some of the gaps' that may be experienced in linking falls risk and prevention research into clinical practice. This kit does not profess to encompass all resources or approaches to falls risk identification or prevention in the community. Its focus is primarily on *early identification and prevention* within clinical practice.

INTRODUCTION

THE SIGNIFICANCE OF FALLS IN THE AUSTRALIAN COMMUNITY

Falls related injuries have a significant impact upon the health and well being of our community's older members. One in three persons living at home and aged over 65 years is likely to experience at least one fall over a twelve month period. 10% of falls result in injury requiring medical intervention[1].

Costs associated with medical management of injurious falls are expected to increase substantially as our population becomes older. It is projected by 2051 that the total health cost of falls related injuries in older persons will increase almost three fold to $1,375 million per annum, unless effective falls prevention strategies are established[2].

Falls that do not result in injury requiring medical attention frequently occur. These are often not seen by health professionals until there is a significant health event requiring services. Falling can have substantial emotional, social and functional impact on an older person's ability to maintain independent living[1]. More hidden than physical injury is fear of falling, choosing not to pursue physical activity perceived as too risky, and loss of confidence in doing everyday activities.

These consequences if not addressed may lead to reduced activity levels and greater dependence on supports. This can potentially lead to a greater exposure to falls risk[3]. Hidden outcomes from falls impact upon the faller's partner, support networks and the community in which the older person is a valued member.

THE MULTIFACTORIAL NATURE OF FALLS

A fall is defined as an 'unintentionally coming to the ground or some lower level and other than as a consequence of sustaining a violent blow, loss of consciousness, sudden onset of paralysis as in stroke or an epileptic seizure'[4].

Some people are more likely to fall than others. Numerous factors have been identified as contributing to falling and it is often a combination of factors which render a person more at risk[5]. Contributing factors are those that are *intrinsic* to the person such as medical conditions, balance or vision. Others are *extrinsic* to the person and may involve factors such as environmental hazards or poorly fitting footwear.

Some of the intrinsic factors identified as contributing to falls risk in the literature are: [1, 3]

- History of previous falls
- Age
- Gender – a woman is more likely to fall than a man of the same age
- Frailty
- Polypharmacy
- Medical diagnosis for example, stroke, musculoskeletal disorders, arthritis, Parkinson's disease
- Sensory factors such as visual, vestibular or peripheral sensation deficits
- Muscular factors such as impaired strength, impaired balance, and poor reaction time
- Cognitive impairment
- Depression
- Fear of falling
- Inactivity – limited mobility or capacity to carry out activities of daily living
- Incontinence
- Recent acute illness episode or post discharge

Some of the extrinsic factors identified as contributing to falls risk in the community are:

- Pavement, curb adjustments
- Dimly lit walkways and steps
- Home environmental hazards such as slippery floor surfaces, inadequate use of lighting
- Poorly fitting footwear
- Poorly maintained or inappropriate use of mobility aids or furniture

The research literature recommends that falls prevention programs address the issues identified as falls risk for that person rather than being globally focused. Differences in settings, communities and in the level of falls risks identified will alter the requirements for prevention programs. Research indicates that prevention programs which address numerous intrinsic and extrinsic factors and which actively engage the person in prevention strategies are more likely to be effective[1].

RESOURCES

Useful website links
Active and Healthy
http://www.activeandhealthy.nsw.gov.au

Australian and New Zealand Falls Prevention Society
http://www.anzfallsprevention.org/

Australian Commission on Safety and Quality in Health Care (ACSQHC) 2009**,** *Preventing Falls and harm from Falls in Older People: Best Practice Guidelines for Australian Community Care*.
http://www.safetyandquality.gov.au/our-work/falls-prevention/

NSW Falls Prevention Network
http://www.fallsnetwork.neura.edu.au

NSW Ministry of Health
Falls – Prevention of Falls and Harm from Falls Among Older People 2011 – 2015 Policy Directive
http://www0.health.nsw.gov.au/policies/pd/2011/PD2011_029.html

1. Hill K, Ringsides F, Haralambous B, Fearn M, Smith R, Murray K, Sims J and Dorevitch M. An analysis of research on preventing falls and falls injury in older people: community, residential care and hospital settings. Report to the Australian Government, Department of Health and Ageing, Injury Prevention Section. National Ageing Research Institute. Commonwealth, 2004.
2. Moller J. *Projected costs of fall related injury to older persons due to demographic change in Australia,* Report to the Commonwealth Department of Health and Ageing under the National Falls Prevention for Older People Initiative. Commonwealth, 2003.
3. Lord S, Sherrington C, Menz H and Close J. *Falls in older people: risk factors and strategies for prevention.* 2nd edition, Cambridge University Press, 2007.
4. Gibson MJ, Andres RO, Isaacs B, Radebaugh T,Worm-Petersen J. The prevention of falls in later life. A report of the Kellogg International Work Group on the prevention of falls by the elderly. *Danish Medical Bulletin* 1987; 34 (Suppl 4)1–24

5. Tinetti M, Speechley M, and Ginter S. Risk factors for falls among elderly persons living in the community. *New England Journal of Medicine*, 1988; 319:1701-7.

CLINICAL FALLS RISK ASSESSMENT

PHYSICAL MEASURES INCLUDED IN QUICKSCREEN®

LOW CONTRAST VISUAL ACUITY TEST

Visual acuity is measured using a chart with low-contrast (10%) letters (similar to a Snellen scale). Equipment provided is a low-contrast visual chart and 3 metres of string to measure the distance of the person from the chart.

TACTILE SENSITIVITY TEST

This test assesses peripheral sensation and involves the use of a pressure aesthesiometer placed on the lateral malleolus of the ankle of the dominant side. Equipment provided is the aesthesiometer.

NEAR TANDEM STAND TEST

This is a measure of balance and ankle strength and involves testing whether the can stand with feet in a near tandem position for a period of 10 seconds with eyes closed. Equipment provided is a stopwatch and 2.5cm square cardboard template for foot positioning.

ALTERNATE STEP TEST

This is a measure of strength, balance and co-ordination. Equipment required is a stopwatch and an 18cm high step or footstool (not provided).

SIT TO STAND TEST

This test is a measure of strength and balance. It involves timing how long it takes the person to stand up and sit down five times from a seated position. Equipment is a stopwatch (provided) and a 45cm high, straight-backed chair (not provided).

QUICKSCREEN® ASSESSMENT INSTRUCTIONS

COMPLETING THE ASSESSMENT FORM

Step 1

- Carry out the test / assess whether the risk factor is present or not.

Step 2

- Circle Yes or No in column 2 according to whether the person demonstrates

the risk factor. That is:
Circling 'Yes' records that the person does demonstrate the risk factor
E.g. 'Yes' (the person was unable to see all of line 12)
Circling 'No' records that the person does not demonstrate the risk factor
E.g. 'No' (the person was able to complete task in 12 secs.)

Step 3

- If you circled Yes, refer to the intervention recommendation for that factor.

Step 4

- In column 3 write down what action needs to be taken to reduce/remove the risk factor.

Step 5

- Add up the number of risk factors present and refer to the table at the bottom of the page to calculate the probability of falling.

Step 6

- Give the person feedback about their probability of falling and which interventions are appropriate to reduce that risk.

NB: The section on previous falls contains no recommendation, however if this is the only risk factor that a person displays, you should consider investigating other factors not covered by this assessment, such as lower limb arthritis, postural hypotension and the need for home modifications.

HOW TO CARRY OUT THE ASSESSMENT

Previous falls

Prevention of Falls Network Europe (ProFaNE) definition '*an unexpected event in which the participant comes to rest on the ground, floor, or lower level*' or "*any fall, including a slip or trip, in which you lost your balance and landed on the floor or ground or lower level?*" [1]

The person is asked if they have fallen in the last 12 months.

Trigger questions which may clarify severity and nature of falls:

- How many times have you fallen in the last 12 months?
- Did you injure yourself?
- Where did you fall?
- When you have fallen have you been able to get up on your own?

SCORE

The person must not have fallen in the last 12 months to score a 'NO'.

'NO' indicates that the person has experienced no falls in the last 12 months.

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1. Lamb, S. E., Jorstad-Stein, E. C., Hauer, K. and Becker, C. (2005). Development of a Common Outcome Data Set for Injury Prevention Trials: The Prevention of Falls Network Europe Consensus. *Journal of the American Geriatrics Society*, 53, 1618-1622.

MEDICATIONS

Many older persons may not know whether their medication is classed as a psychotropic medication or not, a table of psychotropic medications is on page 23.

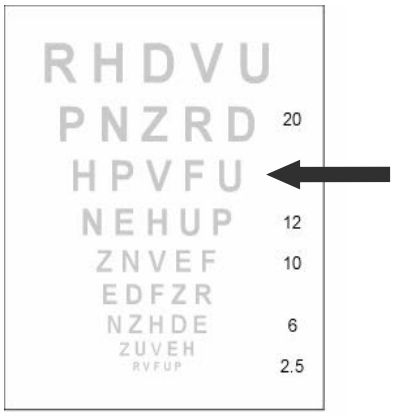
To obtain accurate information about whether the person is taking central nervous system or cardio-vascular altering medications exploratory questions may include one or more of:

- Have you had your medications reviewed during the last 12 months?
- Can you tell me or show me what medications are you taking?
- Are you taking anything for: epilepsy, nerves, depression or sleeping?
- Do you take any multivitamins or herbal remedies?

LOW CONTRAST VISUAL ACUITY TEST

Visual acuity is measured using a chart with low-contrast (10%) letters (similar to a Snellen scale).

PROCEDURE



The person is seated at a distance of three metres from the visual acuity chart which is mounted on the wall at eye height, under a good source of light. They wear the glasses they would normally wear for distance vision. Ask them to read out the lowest line of letters they can read easily on the chart. Point to the next line down and ask them to read out the letters. Continue to move down the chart until they cannot see the next line or until they score all errors.

SCORE

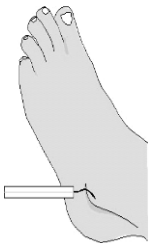
The person must be able to correctly identify all of the letters on line 16 (third line down) to score a 'No.' A correction of one further line 20 (second line down) could be made if lighting is poor (i.e. testing a person in a poorly lit room at home etc). 'No' indicates the person does not demonstrate the risk factor. Score 'Yes' for all other responses.

For the remaining tests, the person needs to remove their shoes and socks. Be ready to support the person doing standing tests.

TACTILE SENSITIVITY TEST

This test involves the use of a pressure aesthesiometer placed on the lateral malleolus of the ankle of the dominant side. The person is seated.

PROCEDURE



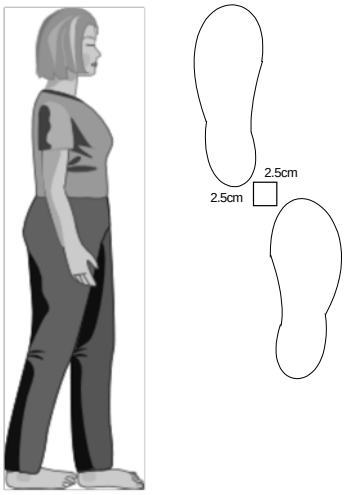
The patient is asked to keep their eyes closed throughout the test and indicate to the tester (by saying "yes") if they can feel the monofilament being placed on the lateral malleolus of the ankle. The filament is applied for 1 second and pressure applied until it bends. If the filament "flicks off" the trial should be repeated. One practice trial and three test trials are given.

The person must be able to feel at least two of the three test trials to score a 'No'. 'No' indicates that the person does not exhibit the risk factor. Score 'Yes' for all other responses.

NEAR TANDEM STAND TEST

This is a measure of balance and ankle strength and involves testing whether the person can stand with feet in a near tandem position for a period of 10 seconds with their eyes closed. Equipment required is a stopwatch and 2.5cm square cardboard template for foot positioning.

PROCEDURE



Demonstrate the position of the feet first and explain that the test involves standing in this position for 10 seconds with eyes closed. Allow the patient to choose which foot they place in the forward position for the test. Use the square template to separate the feet laterally by 2.5cm and the heel of the front foot 2.5cm anterior to the great toe of the back foot (see diagram at left). If the patient is unsteady, support them as they assume the test position. When they are in position and steady, remove your support and ask them to close their eyes and balance in that position without moving their feet, until you say "stop". Start timing from when they close their eyes. If a time of 5 seconds or less is obtained, a second trial is allowed and the better result is used as the final score.

SCORE

The person must be able to balance in this position for at least 10 seconds to score a 'No'. 'No' indicates the person does not demonstrate the risk factor. Score 'Yes' for all other responses.

ALTERNATE STEP TEST

This is a measure of strength, balance and co-ordination. Equipment required includes a stopwatch and 18cm high step.

PROCEDURE

Demonstrate the task first: place the right foot onto the step, supporting the body weight with the left, then place the right foot back on the ground and place the left foot onto the step. Emphasise that the whole foot should be placed onto the step, but the body weight remains supported by the grounded leg (i.e. the person is not required to actually step onto the step). The task is to be completed as quickly as possible, 4 repetitions
per foot, alternating right and left. Start timing from when the first foot is lifted off the ground and count aloud each of the 8 foot taps. Stop timing when both feet are back on the floor.

SCORE

The person must complete the task in less than 10 seconds to score a 'No'. 'No' indicates the person does not demonstrate the risk factor. Score 'Yes' for all other responses.

SIT TO STAND TEST

This test involves timing how long it takes the person to stand up and sit down five times from a seated position. Equipment required includes a 45cm high, straight-backed chair and a stopwatch.

PROCEDURE

The person is asked to perform the movements as quickly as possible with both arms folded in front. Demonstrate the test procedure first, emphasising the need to stand all of the way up until both knees and hips are fully extended and to sit all of the way down for each repetition. Ask the person to place their feet directly below their knees at the start of the test and keep their arms folded across their chest for the duration of the test. Ask if they are ready and signal the start of the test by saying, "Go". Start timing from when the shoulders first move forwards and count aloud each repetition. Stop timing when they have completed five repetitions and are seated.

Safety: Make sure the chair doesn't move back when the person sits down by steadying it against a wall or with your hand.

SCORE

The person must complete the task in less than 12 seconds to score a 'No'. 'No' indicates the person does not demonstrate the risk factor. Score 'Yes' for all other responses.

CLINICAL FALLS RISK ASSESSMENT FORM

CLIENT NAME_____ DATE_____

For the following risk factors score **'YES'** if risk factor is present, score **'NO'** if risk factor is not present

MEASURE	RISK FACTOR PRESENT? (please circle)	ACTION

Previous Falls

One/more in previous year	Yes/No	

Medications

Four or more (excluding vitamins)	Yes/No	
Any psychotropic	Yes/No	

Recommendation: Review current medications.

Vision

Low contrast visual acuity test Unable to see all of line 16	Yes/No	

Recommendation: Give vision information sheet. Examine for glaucoma, cataracts and suitability of spectacles. Refer if necessary.

Peripheral Sensation

Tactile sensitivity test Unable to feel 2 out of 3 trials	Yes/No	

Recommendation: Give sensation loss information sheet. Check for diabetes.

Strength / Reaction Time / Balance

Near tandem stand test Unable to stand for 10 secs	Yes/No	
Alternate step test Unable to complete in 10 secs	Yes/No	
Sit to stand test Unable to complete in 12 secs	Yes/No	

Recommendation: Give strength/balance information sheet. Refer to community exercise class or home exercise program if appropriate to individual level of functioning.

Number of risk factors	**0-1**	**2-3**	**4-5**	**6+**
Probability of falling	**7%**	**13%**	**27%**	**49%**

Probability score: The patient has a _____% probability of falling in the next 12 months.

QUICKSCREEN® BRIEF GUIDE TO ASSESSMENT

LOW CONTRAST VISUAL ACUITY

- **Position** the eye chart 3 metres from the person at eye level
- **Instructions:** ask them to read from left to right, continue through the chart until no letter can be correctly identified
- Score **'Yes'** the risk factor is present if unable to read all of line 16 (third line from top) correctly and a correction of one further line 20 (second line from top) could be made if lighting is poor (i.e. testing a person in a poorly lit room at home etc).

TACTILE SENSITIVITY

- Show the monofilament and explain the test, allowing the person to feel it with their finger
- Instructions: ask the person to close their eyes and say "yes" if they feel the monofilament on their lateral malleolus. Repeat three times
- Repeat any trials which "flick off"
- Score 'Yes' the risk factor is present if unable to feel at least 2 of the 3 trials

NEAR TANDEM STAND TEST

- **Demonstrate first** – show foot position – eyes closed for 10 seconds without moving feet
- **Support** the person as they assume the near tandem stance and use the template to ensure correct positioning of feet
- When they are steady, remove support and ask them to close eyes
- **Start timing** when eyes are closed, **stop** when eyes are opened or feet move
- Score **'Yes'** the risk factor is present if unable to stand for 10 seconds

ALTERNATE STEP TEST

- **Demonstrate first** – whole foot should be placed on the step– only a foot tap NOT a full step up
- **Stand** near the person to ensure they do not fall
- Task is to be completed as fast as possible
- Count aloud each repetition
- **Time** four repetitions per foot, alternating right and left
- **Stop timing** when the last repetition is complete and both feet are on the floor
- Score **'Yes'** the risk factor is present if unable to complete in 10 seconds

SIT TO STAND TEST

- **Demonstrate first** – remember to stand all of the way up
  - knees and hips should be fully extended
  - sit all of the way down
- Person starts with feet in line with knees and arms folded
- **Start timing** from the first movement of the shoulders
- Count aloud each of the five repetitions
- **Stop timing** when the person has completed 5 repetitions and is seated
- Score **'Yes'** the risk factor is present when unable to complete in 12 seconds.

MANAGEMENT PLAN

WHEN TO USE THE QUICKSCREEN® KIT

This kit provides resources to identify and address levels of falls risk in the well but possibly at risk older person living in the community. It is also applicable for older persons who are currently receiving community health care services or support in the home. It is anticipated that health professionals will apply their professional judgment in determining the most beneficial approach. The kit can be used in a number of stages. It is designed to be flexible so health professionals can choose the best way to integrate it into current practice. Some suitable applications for this resource are:

- Opportunistic screening within the community for example, at clubs, or within groups
- Screening upon entry into community nursing or other health services
- Regular screening for falls risk within current caseload
- Identification of physiological factors affecting falls risk as part of comprehensive assessment
- Discharge planning

BEST PRACTICE IN FALLS PREVENTION

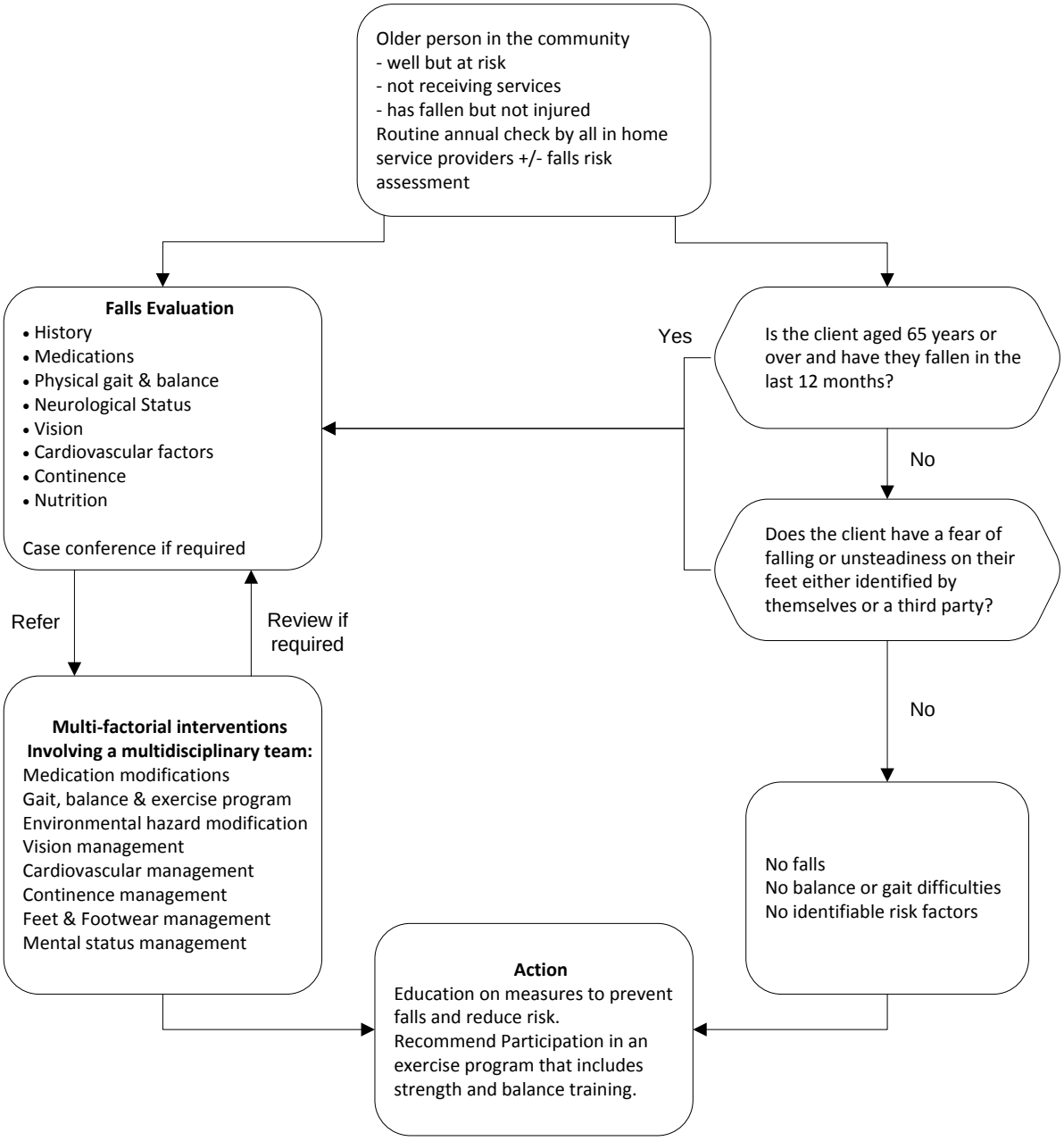
Best practice in falls prevention based on the Australian Commission on Safety and Quality in Health Care 2009, Preventing Falls and harm from Falls in Older People: Best Practice Guidelines for Australian Community Care [1] that describes a minimum standard of practice when addressing falls. This standard includes:

- identification of falls risk
- performance of a falls risk assessment
- action based on the results of the assessment;

The following chart *Falls assessment and management guideline* details the process of identification of falls risk through to management of prevention strategies. Suitable stages for using the resource kit are marked on the chart.

1. Australian Commission on Safety and Quality in Health Care (ACSQHC) 2009**,** *Preventing Falls and harm from Falls in Older People: Best Practice Guidelines for Australian Community Care*. http://www.safetyandquality.gov.au/our-work/falls-prevention/

FALLS ASSESSMENT AND MANAGEMENT GUIDELINES FOR QUICKSCREEN®



Adapted from Queensland Health, Stay on Your Feet®, Community Good Practice Guidelines 2008, available at http://www.health.qld.gov.au/stayonyourfeet/for-professionals/resources-prof.asp

RESOURCES

Australian Commission on Safety and Quality in Health Care (ACSQHC) 2009**,** *Preventing Falls and harm from Falls in Older People: Best Practice Guidelines for Australian Community Care*. http://www.safetyandquality.gov.au/our-work/falls-prevention/

Queensland Stay on Your Feet® Falls Prevention Guidelines
www.health.qld.gov.au/stayonyourfeet/for-professionals/resources-prof.asp

DEVELOPING THE PERSON'S CAPACITY

One of the biggest differences between managing falls risk in the community compared to in residential or acute care settings is the extent of person's role in reducing their own level of risk. People living at home on their own or with a support person are their own 'agent of change'. Health professionals can play a key role in encouraging an older person to address the falls risks identified but ultimately follow through or compliance is left to the person themselves. Compliance remains a significant issue in reducing falls in the community.

Some people will be more interested than others in knowing about their risk of falling and therefore more motivated to participate in prevention. Other people may feel that falling is a part of growing older and that there is little that they can do which is likely to prevent a fall. People who believe that their own change in behavior can help reduce the possibility of falling are more likely to follow through with suggestions from health professionals or others.

There are several ways of supporting a person to gain greater understanding of why they are at risk of falling and how important their actions and choices are in preventing future falls.

- Involve the person during the falls risk identification process by explaining why each aspect of the screen is important.
- Discuss the outcome from the screen and become aware of the issues that the person views as significant.
- Jointly develop a management plan which engages the person as the primary 'agent of change' enabling options and choices.
- Encourage self-identification and problem solving of possible triggers for falls.
- Develop collaborative links with local community resources and encourage their use.

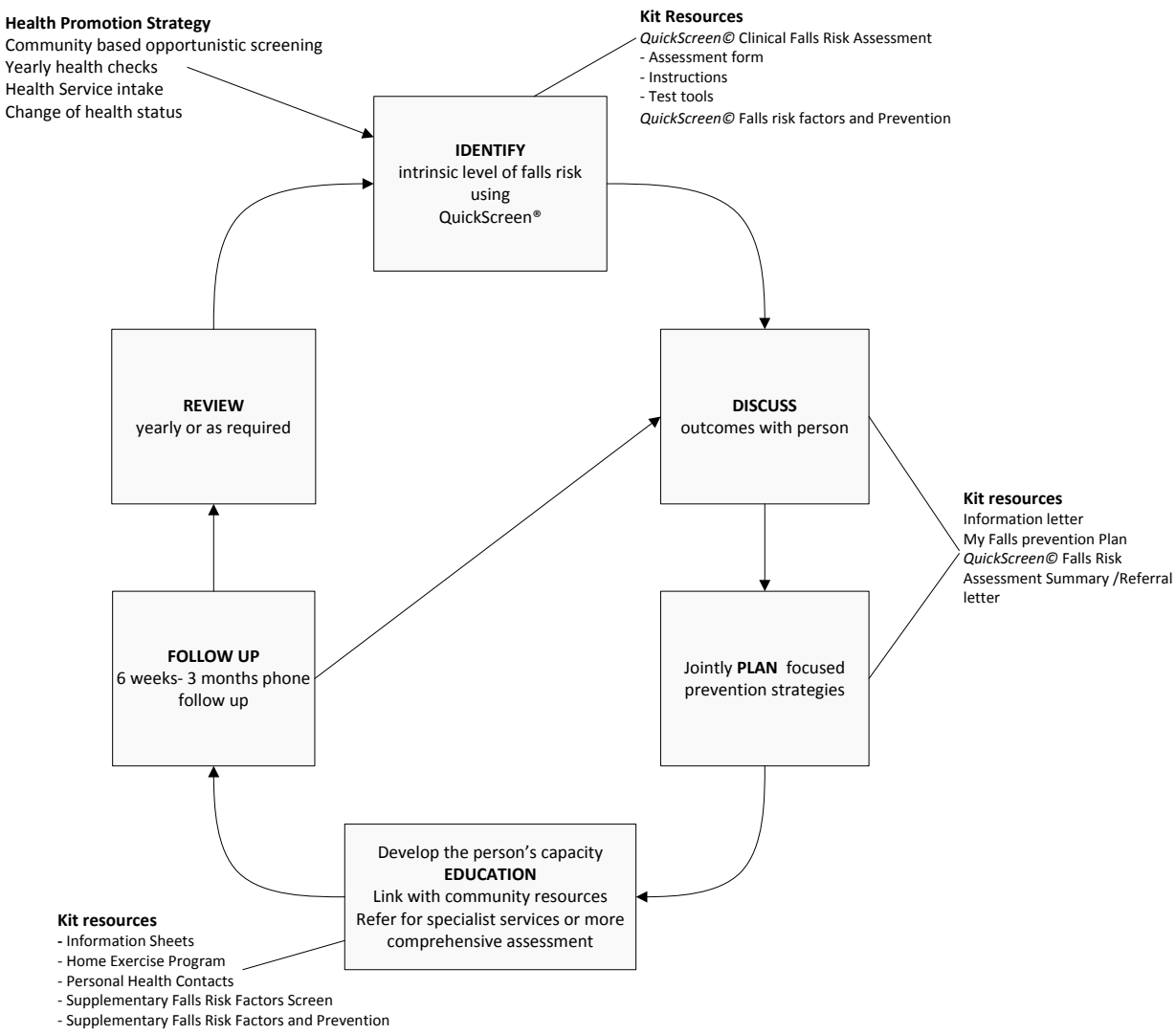
USING THE PROVIDED FORMS AND RESOURCES

This resource provides a number of optional components which are specifically designed for use after the implementation of a *QuickScreen®* assessment in the community. The chart titled Use of the *Falls Risk – A resource for rural health practice in the community* on page 32 indicates when these items may be most helpful.

- *QuickScreen®* ***Falls Risk Assessment and Referral Letter*** can be used to provide feedback to the person's general practitioner or to initiate referral.
- **Home Falls and Accidents Screening Tool *(HOME FAST)*** is specifically designed to identify environmental hazards for the elderly living at home[1].
- ***Supplementary Falls Risk Factors*** Screen provides opportunity to seek further information about broader falls risk issues following identification of a level of intrinsic falls risk using *QuickScreen®*.
- Information letter ***Keeping Falls Free and My Falls Prevention Plan*** explains the purpose of the screen to the older person and provides opportunity for a joint framework of prevention.
- Forms titled ***Personal Health Contacts and Community Resources*** provide an opportunity for the person and health professional to discuss and record the role of support services and what is available in their local community. These may stay with the person for reference.
- ***Information Sheets and the Home Exercise Program*** provide person focused falls prevention information which can be discussed and left with them. Please refer to the front of the *Home Exercise Program* for recommendations regarding its use.

Mackenzie, L., Byles, J. and Higginbotham, N. Reliability of the Home Falls and Accidents Screening Tool (HOME FAST) for measuring falls risk for older people. Disability and Rehabilitation 2002, 266-74.

USE OF QUICKSCREEN®



QUICKSCREEN® RISK FACTORS AND PREVENTION

MEDICATIONS

FALLS AND MEDICATIONS

QuickScreen® Falls Risk Assessment identifies two key medication triggers:

- Four or more medications per day
- Any psychotropic (centrally acting) medication

Older people are more likely to be taking a number of medications and be at risk of experiencing adverse effects from their medication regime. The number of medications a person is taking and the type of medication can increase the risk of falling[1] (see Table 1 page 23).

Psychotropic medications are drugs that have a direct affect on the brain chemistry. Older people taking psychotropic medications are more likely to fall. Medications in this group include[3]:

- Sedatives/hypnotics including benzodiazepines
- Antidepressants
- Antipsychotics

Though the evidence is less conclusive, cardiovascular system medications have also been associated with the increased falls risk[4]. These include antihypertensives, diuretics and digoxin[3].

There are numerous side effects that an older person may experience because of the number and type of medication or as a result of interactions between medications. Some of the potential side effects of medicines are listed below.

- postural hypotension
- reduced balance
- confusion
- gait disorders
- drowsiness
- withdrawal syndromes
- dehydration

COMMON CENTRALLY ACTING MEDICATIONS THAT MAY BE ASSOCIATED WITH AN INCREASED RISK OF FALLS[1]

	Product	Trade name	General comments
Sedative / hypnotics (Sleeping tablets)	Temazepam	Temaze Normison Temtabs	One of the more commonly prescribed benzodiazepines. Like all benzodiazepines – is potentially a drug of addiction
	Nitrazepam	Mogadon Alodorm	Long acting drug with effects extending into the day following consumption
	Flunitrazepam	Hypnodorm	Long acting drug. Of notoriety as Rohipnol, the date rape drug
	Diazepam	Valium Antenex Ducene	Used more in the management of anxiety and muscle spasm. Also used in benzodiazepine and alcohol withdrawal programs
	Lorazepam	Ativan	Used more in the management of anxiety
	Oxazepam	Serepax Alepam Murelax	
	Alprazolam	Alprax Kalma Xanax Zamhexal	Used in the management of anxiety disorders
	Zopiclone	Imovane Imrest	Shorter acting sleeping tablets and appear to be more selective on site of action
	Zolpidem	Stilnox	Shorter acting sleeping tablets and appear to be more selective on site of action
Antidepressants	Amitriptyline	Endep Tryptanol	A tricyclic antidepressant which can have anticholinergic effects such as dry mouth, blurred vision, urinary retention, confusion, gastrointestinal upset. Tend to avoid using it when there is underlying cardiovascular disease.
	Dothiepin	Prothiaden Dothep	As with amitriptyline
	Doxepin	Deptran Sinequan	As with amitriptyline
	Nortriptyline	Allegron	As with amitriptyline
	Mirtazapine	Avanza Axit Mirtazon Remeron	Tetracyclic antidepressant. Used in patients with depression and reduced appetite / anorexia

	Product	Trade name	General comments
Antidepressants	Citalopram	Cipramil Celapram Ciazil Talam, Talohexal	An SSRI (selective serotonin reuptake inhibitor. Avoid abrupt withdrawal. Can cause serotonergic syndrome.
	Fluoxetine	Prozac Auscap Fluohexal Lovan Zactin	An SSRI (selective serotonin reuptake inhibitor). Avoid abrupt withdrawal. Can cause serotonergic syndrome.
	Paroxetine	Aropax Oxetine Paxtine	An SSRI (selective serotonin reuptake inhibitor). Avoid abrupt withdrawal. Can cause serotonergic syndrome.
	Sertraline	Zoloft Xydep Eleva Concorz	An SSRI (selective serotonin reuptake inhibitor). Avoid abrupt withdrawal. Can cause serotonergic syndrome.
	Venlafaxine	Efexor	SNRI (Serotonin and noradrenaline reuptake inhibitor). Can cause serotonergic syndrome.
Antipsychotic agents	Haloperidol	Serenace	Used in the management of delirium and should start at small dose (0.5mg) and titrate upwards as required. Can interact with many of the antidepressants
	Risperidone	Risperdal	Used in the management of delirium and in dementia with challenging behaviour. To be avoided in Lewy Body dementia
	Olanzapine	Zyprexa	Used mainly in schizophrenia and bipolar disorders
	Quetiapine	Seroquel	Used mainly in schizophrenia and bipolar disorders
	Trifluoperazine	Stelazine	Used mainly in chronic psychotic disorders
	Clozapine	Clopine Clozaril	Used by authorized medical practitioners only in difficult to treat schizophrenia

1 Prepared by A/Prof Jacqueline Close, Geriatrician, Prince of Wales Hospital, current at time of publication.

RESOURCES

Information on medications:-
National Prescribing Service Medicine Wise http://www.nps.org.au
Ph: 1300 636 424

Falls Prevention – Medications, flyer for clients/family/carers
http://www.cec.health.nsw.gov.au/programs/falls-prevention/falls-one-page-flyers

Translated health information about medicines
http://www.nps.org.au/translated-health-information-about-medicines

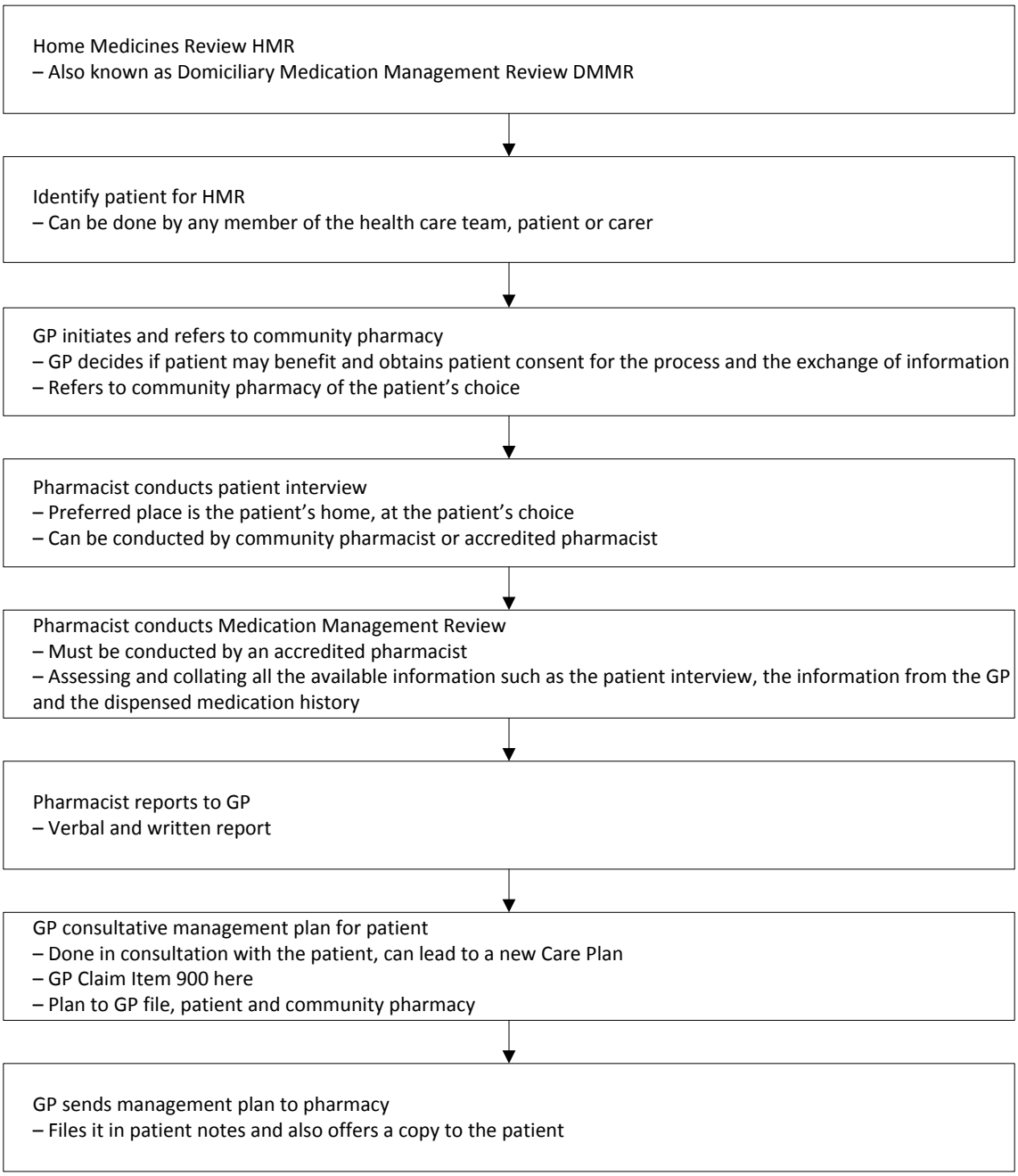
Complementary medicines Ph 02 8878 1500 Australian Traditional Medicine Society website:
http://www.atms.com.au

HOME MEDICINES REVIEW

The Home Medicines Review (HMR) is a service for persons living in the community. Its goal is to ensure that people gain maximum benefit from the medications they are on and to prevent medication-related problems through a team approach.

Any health professional or person can initiate a request to the general practitioner for consideration of a Home Medicines Review. Persons are included in all stages throughout the review process and are involved with their general practitioner in the development and management of their specific medication management plan.

The phases in an HMR are described in the chart below.



Reference: Home Medicines Review Process Flow Chart, Pharmacy Guild of Australia, New South Wales Branch

REASONS FOR REFERRING SOMEONE FOR ASSESSMENT FOR A HMR

There may be a number of reasons that a HMR is considered beneficial.

- Taking 5 or more medications
- Taking more than 12 doses per day
- Recently discharged from hospital (in last 4 weeks)
- Significant changes made to regimen in last 3 months
- On medication with a narrow therapeutic index
- Symptoms of a possible adverse drug reaction
- Sub-therapeutic response to treatment
- Suspected non-compliance or inability to manage medication
- Difficulty in managing medication regimen
- Attending different doctors

INITIATING A REQUEST TO THE GENERAL PRACTITIONER FOR CONSIDERATION OF A HMR

- Identify medications as a potential risk factor through QuickScreen®
- Request a Home Medicines Review

RESOURCES

Home Medicines Review

Home Medicines Review information Ph: (08) 8274 9641

http://www.medicareaustralia.gov.au/provider/pbs/fourth-agreement/hmr.jsp

SUGGESTED GUIDELINES FOR PREVENTION

- Identify medicines as a current risk factor
- Initiate with the person a request for a Home Medicines Review referral to the GP
- Promote safe medication use in the home and understanding of the medication management plan

1. National Prescribing Service Limited Newsletter 34, June; 2004.
2. Anderson, K. (Ed) *Mosby's Medical, Nursing, and Allied Health Dictionary,* 5th Edition, USA: Mosby-Year Book, Inc:1998,p 1350.
3. Hill K, Ringsides F, Haralambous B, Fearn M, Smith R, Murray K, Sims J and Dorevitch M. *An analysis of research on preventing falls and falls injury in older people: community, residential care and hospital settings.* Report to the Australian Government, Department of Health and Ageing, Injury Prevention Section. National Ageing Research Institute. Commonwealth, 2004.
4. Lord S, Sherrington C, Menz H and Close J. *Falls in older people: risk factors and strategies for prevention.* Cambridge University Press, 2007.
5. Shanley, C. *'Putting your best foot forward: Prevention and managing falls in aged care facilities,* Centre for Education & Research on geing, Poundsworth Press; Sydney,1998.

VISION

QuickScreen® assesses low contrast visual acuity as one of the most important aspects of visual functioning influencing falling. Contrast sensitivity is the 'detection of large visual stimuli under low contrast conditions'[1]

FALLS AND VISION

Age related changes to visual function as well as ocular disease have been found to increase risk of falling[2]. Aspects of visual function which can deteriorate with age include:

- contrast sensitivity
- visual acuity
- depth perception
- peripheral vision
- tolerance to glare [3]

Ocular diseases which impact upon vision include macular degeneration, cataracts, glaucoma and diabetic retinopathy. Older persons may find it difficult to distinguish edges of surfaces or items in their peripheral vision. It may take extra time to adjust to glare and light changes. Judging the distance of steps and other objects in their path may be less accurate.

Older persons who rely on their vision to compensate for limited balance or peripheral sensation may be more likely to fall than those who experience good balance and are less reliant on visual feedback. Wearing bi-focal or multi-focal glasses may also impede depth perception and edge-contrast sensitivity[4].

Regular review of vision is recommended.

SUGGESTED GUIDELINES FOR PREVENTION

- Identify poor low contrast visual acuity as a risk factor
- Refer to GP or optometrist for further assessment or regular review
- Support and engage person in understanding and addressing the impact of visual changes experienced

Support Information

This kit provides *QuickScreen® an* information sheet entitled *'Vision and preventing falls'* on page 29.

RESOURCES

Falls Prevention – Eyesight, flyer for clients/family/carers
http://www.cec.health.nsw.gov.au/programs/falls-prevention/falls-one-page-flyers

NSW Multicultural Health Communication Service, Information on vision issues in a range of community languages
http://www.mhcs.health.nsw.gov.au/topics/Eyes.html

Vision Australia: Ph: 1300 847 466
http://www.visionaustralia.org.au

Glaucoma Australia Ph: 1800 500 880
http://www.glaucoma.org.au

1. Lord S, Sherrington C , Menz H and Close J. *Falls in older people: risk factors and strategies for prevention. 2nd edition,* Cambridge University Press: UK 2007,p 42.
2. Butler,1997, cited in Hill K, Ringsides F, Haralambous B, Fearn M, Smith R, Murray K, Sims J and Dorevitch M. *An analysis of research on preventing falls and falls injury in older people: community, residential care and hospital settings.* Report to the Australian Government, Department of Health and Ageing, Injury Prevention Section. National Ageing Research Institute. Commonwealth, 2004.
3. Shanley, C. *'Putting your best foot forward: Prevention and managing falls in aged care facilities,* Centre for Education & Research on Ageing, Poundsworth Press; Sydney,1998.
4. Lord S, Sherrington C, Menz H and Close J. *Falls in older people: risk factors and strategies for prevention. 2nd edition,* Cambridge University Press: UK ,2007.

VISION AND PREVENTING FALLS – INFORMATION SHEET

DID YOU KNOW?

- People with reduced vision are more likely to fall from tripping over something they did not see clearly. This may be in the person's home or in the community.
- Trips and falls can occur when lighting is poor or changes quickly e.g. at dusk, when there is a high level of glare or when moving from bright light into the dark or the other way round.
- Two of the most important visual skills for safe mobility and avoiding falls are being able to clearly see edges of steps and other objects, and being able to judge distances.
- Being able to judge distances is easiest when vision in both eyes is at its best.
- Bifocal, trifocal and multi-focal glasses can make seeing things at our feet more difficult. This is because the lenses may blur obstacles on the ground that we need to see to avoid tripping.

WHAT YOU CAN DO

- Have your vision tested every year by an eye doctor or optometrist.
- Wear a single-lens pair of glasses (i.e. not bifocals trifocal or multi-focal) when walking especially outside your home.
- Wear a hat and sunglasses when outside to reduce the glare.
- Always put on your glasses and switch on the light at night even for short walks to the bathroom.
- Avoid dimly lit areas and paths where possible

PERIPHERAL SENSATION

QuickScreen® assesses tactile sensitivity in the lower limbs. Loss of peripheral sensation is a major risk factor for falls.

FALLS AND PERIPHERAL SENSATION

Ageing can result in a deterioration of tactile sensitivity, proprioception and vibration sense. Peripheral sensation loss has been found to be strongly related to poor balance and likelihood of falling[1]. Other causes for sensation loss need to eliminated, such as diabetes or neurological disorders.

Older persons who experience impaired lower limb sensation may be more at risk of tripping or falling from slower reaction times and impaired balance.

SUGGESTED GUIDELINES FOR IMPLEMENTING PREVENTION

- Identify reduced peripheral sensation as a risk factor.
- Refer to GP if required to eliminate other causes of peripheral sensation loss. Consider multidisciplinary referral.
- Engage person in understanding role of suitable shoe choice and address mobility issues which may arise. See What makes a shoe safe information sheet provided on page 32.

Support Information

This *QuickScreen*® kit provides information sheet *'Sensation loss and preventing falls'* on the following page.

RESOURCES

Falls Prevention – Foot care and safe footwear, flyer for clients/family/carers
http://www.cec.health.nsw.gov.au/programs/falls-prevention/falls-one-page-flyers

Diabetes Australia
http://www.diabetesaustralia.com.au
Ph: 1300 136 588

1. Lord S, Sherrington C, Menz H, and Close J. *Falls in older people: risk factors and strategies for prevention*.2nd edition Cambridge University Press: UK 2007

SENSATION LOSS AND PREVENTING FALLS

DID YOU KNOW?

- Leg sensation provides information to your brain about your standing position and your leg movements. It is important so that you are aware of how and where to take your next step.
- If you have poor sensation in your legs or feet you rely more heavily on your vision to help know where and how to move around. You may not be able to feel if a shoe is not fitting well or is causing pain or skin damage.

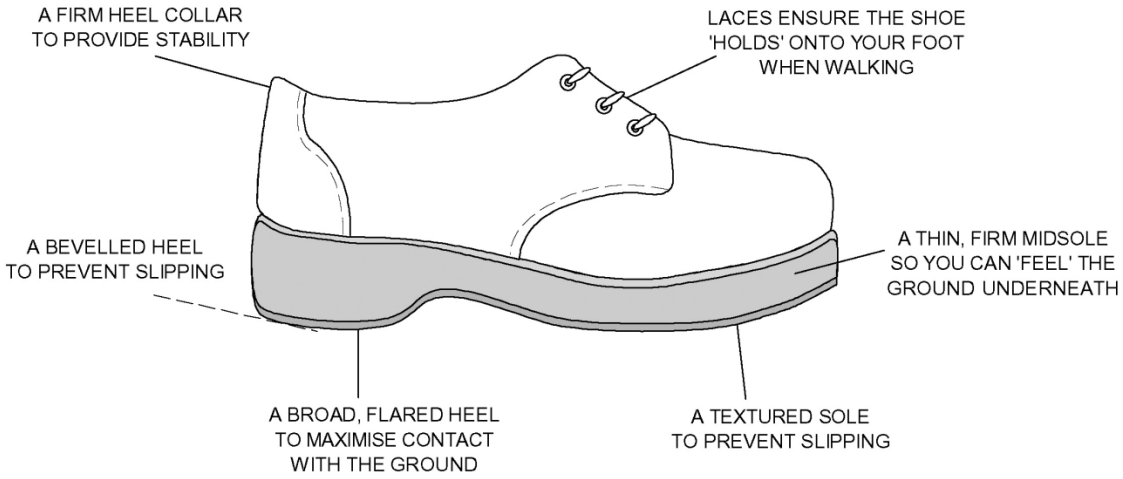
WHAT YOU CAN DO

- Take particular care when walking on surfaces that are uneven or soft. For example; footpaths, uneven or rough ground and thick carpets and rugs.
- Avoid walking in dim or unlit areas if possible. Be sure you turn the light on before walking around the house at night.
- Wear shoes with low heels and firm rubber soles to maximize leg sensation and balance.
- Consider using a walking stick or a sturdy umbrella (rather than /or in addition to a support) to help you compensate for sensation loss. A stick may give you extra information about footpath, road cracks and irregularities.
- Check your feet for any sore spots or shoe rub marks particularly if your shoes are new. Ask someone to help if needed.

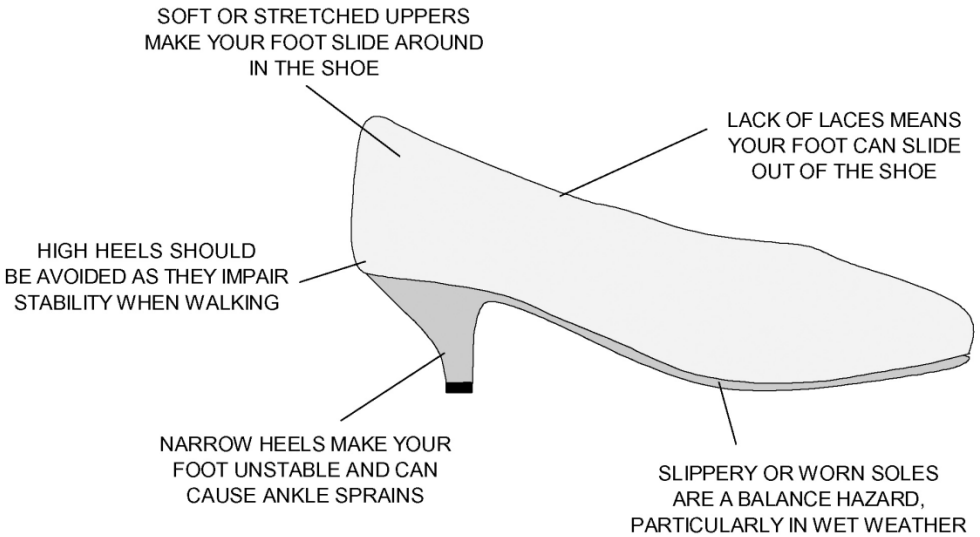
Loss of sensation in your feet can be for a number of reasons. Visit your doctor if you are concerned about possible loss of feeling in your legs or feet. Your doctor can assess whether any medical condition could be leading to your sensation loss.

WHAT MAKES A SHOE SAFE OR UNSAFE

What makes a shoe safe ?



What makes a shoe unsafe ?



STRENGTH, REACTION TIME AND BALANCE

QuickScreen® assesses strength, reaction time and balance as potential risk factors. Reduced lower limb strength, slowed reaction time and impaired balance are identified in the literature as influencing whether an older person is likely to fall or save themselves from a potential fall[1].

Lord[2] in his review of the evidence itemises gait, transfers and ability in standing up as the three balance and mobility functions most strongly associated with falling. These are influenced by neuromuscular responses of reaction time and muscle strength and affect whether a person is able to physically respond safely and reliably to a situation.

FALLS AND EXERCISE

Exercise can improve strength and balance and therefore reduce falls[2]. Although general physical activity is beneficial for many reasons it is of most benefit in addressing falls risk when it specifically targets the identified risk factors for that person.

It is possible to provide an exercise program or activity which specifically targets a combination of strength, balance, or endurance. This is particularly so in programs designed for use in the community, within health services or through home exercise programs.

There are several areas of exercise which are identified as having a positive impact upon falls risk. These are:

- Balance training
- General exercise including group exercise and home exercise programs
- Tai Chi

Programs that involve exercises in weight bearing positions, a level of resistance or include balance training such as Tai Chi are likely to be more effective[3]. Strength training is likely to be effective in reducing falls, especially for those with muscle weakness.

Consideration is needed in addressing safety issues, the nature of the person's risk factors and interest areas.

RESOURCES

Active and Healthy website: Find a falls prevention physical activity program in NSW
http://www.activeandhealthy.nsw.gov.au

Falls Prevention – Home Exercises, Falls Prevention Strength and Balance Exercises, flyers for patients/family/carers
http://www.cec.health.nsw.gov.au/programs/falls-prevention/falls-one-page-flyers

Physical Activity Recommendations for Older Australians (Source: DoHA)
Australian Government Department of Health and Ageing
http://www.health.gov.au/internet/main/publishing.nsf/content/phd-physical-rec-older

Australian Physiotherapy Association
Find a Physiotherapist
http://www.physiotherapy.asn.au/APAWCM/Controls/FindaPhysio.aspx

SUGGESTED GUIDELINES FOR PREVENTION

- Identify strength, reaction time and balance as risk factors
- Access multidisciplinary involvement
- Discuss with the person and provide support to safely engage in physical activity at home, in the community or within health services.

SUPPORT INFORMATION

This kit provides an information sheet on *'Exercise to prevent falls'* .Also provided is *QuickScreen®'s 'Exercise program for prevention of falls'* with an accompanying exercise note book for recording base line performance and progress. Details on how to use the exercise program and notebook are provided in the introduction of the program.

1. Lord S, Sherrington C and Menz H. *Falls in older people: risk factors and strategies for prevention.* Cambridge University Press: UK 2001
2. Buchner et al 1992 cited in Lord S, Sherrington C and Menz H. *Falls in older people: risk factors and strategies for prevention.* Cambridge University Press: UK 2001
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EXERCISE TO PREVENT FALLS

HOW CAN POOR STRENGTH, COORDINATION AND BALANCE LEAD TO FALLS?

- Adequate strength is required to support the body weight when we stand and walk. A weakness in one leg can result in a fall when all of the body weight is placed on it. Strength is also important for undertaking every day activities such as getting out of bed, rising from a chair and walking up and down steps.
- Good balance when we are standing and moving is important. It helps us to maintain our posture and not fall when we move around. Our body relies on quick reaction times and good coordination so we can recover our posture if we trip or lose balance.

WHAT YOU CAN DO

- Enjoyable exercise is the best activity to do to improve strength, balance and coordination. There are many activities which can help. Some are: walking, group exercise sessions, Tai Chi, exercising at home, gardening or a combination of different activities.
- Group exercise classes are particularly beneficial as balance, strength and coordination can be specifically targeted. Being in a group gives you encouragement to exercise in a friendly setting.

TIPS FOR GETTING STARTED AND KEEPING GOING

- Start slowly and gradually build up how much exercise you do.
- Spread them out during the day and the week.
- Choose an activity you enjoy and that you feel comfortable with.
- Exercise with a friend or in a group and enjoy the company.
- Vary what you do. If you walk choose places to visit you like.
- Avoid the heat of the day when exercising.
- Be realistic. Set a weekly goal that is achievable.
- Remember you are always young enough to exercise.

Check with your doctor before you start any exercise regimen.
Discuss your ideas for becoming fitter with your health professional.

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Australian Physiotherapy Association
Find a Physiotherapist
http://www.physiotherapy.asn.au/APAWCM/Controls/FindaPhysio.aspx

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- Avoid the heat of the day when exercising.
- Be realistic. Set a weekly goal that is achievable.
- Remember you are always young enough to exercise.

Check with your doctor before you start any exercise regimen.
Discuss your ideas for becoming fitter with your health professional.

EXERCISE PROGRAM FOR THE PREVENTION OF FALLS

WHY IS IT IMPORTANT TO EXERCISE?

- Exercise helps to make your muscles stronger and more flexible.
- Having stronger muscles and being more flexible improves your mobility and balance.
- You are more likely to regain your balance and save yourself from falling if you exercise regularly.
- Exercise can lift your spirits and helps you feel good about yourself.

A NOTE FOR HEALTH PROFESSIONALS

- This program has been designed for an individual's use in their home.
- It is advised that the person discusses with their doctor the appropriateness of using this program before they start.
- It is advised that you go through the exercise program with the person to ensure its correct use.
- An exercise note book page is included to record a base line prior to commencing the exercises and to provide a record of progress.

SOME THINGS TO KEEP IN MIND

- Check with your doctor or physiotherapist before starting
- If you haven't exercised for some time begin slowly and gently
- Be gentle with your body giving it time to adjust
- Do small amounts of exercise often instead of a lot all at once
- If you are overweight spend more time on the warm ups and cool down

Be sure to stop exercising and consult your health professional if you start to feel unwell or uncomfortable or if you are not sure how to perform any exercise.

It is normal to feel some slight initial discomfort especially muscle soreness when you start new exercises. This should ease as your body adjusts to the new routine.

If you have pain, dizziness, light-headedness or palpitations stop exercising and talk to your doctor

KEY TIPS THAT WILL HELP YOU GET STARTED

USE A STURDY SUPPORT

- Use a sturdy support to put your hands on such as a kitchen table, sturdy chair back or the kitchen bench. It should be at waist height.

KEEP YOURSELF SAFE

- Over time try to slowly reduce the amount of support you use from your hands.
- Each exercise should include 3 stages: warming up, your exercises and cooling down.

MAKE EXERCISE PART OF YOUR DAILY ROUTINE

- Make a habit of exercising.
- If you do these exercises 2 or 3 times a week, you should notice a difference after 6–8 weeks.
- Walking is an excellent exercise to strengthen your legs and improve your fitness. Try to go for a walk for 10–30 minutes 3 times per week.

KEEP A TRACK OF HOW YOU'RE GOING

- It is important to see how you are progressing. Progress can give a great sense of reward.
- You can look back and see how much stronger and more flexible you have become.
- A note book page is provided for you to keep an ongoing record of your progress.
- On the note book page record the date and how many times you have completed each exercise.
- You may like to show this to the health worker who provided this program, your doctor or physiotherapist.

Be sure to stop exercising and consult your health professional if you start to feel unwell or uncomfortable or if you are not sure how to perform any exercise

THE PROGRAM

WARMING UP

- Helps your breathing and circulation get ready for doing exercises
- Warms up your muscles and joints
- Take about 5–10 minutes
- Do warm ups every time you exercise

WARM UPS YOU CAN DO

- March on the spot. Use a support to hold onto if needed
- Walk for 5–10 minutes
- Breathing deeply
  - Stand relaxed with arms by your side
  - Breathe in as you lift your arms up and to the side
  - Breathe out as you lower them again
- Repeat 3 or 4 times.

THE EXERCISES

INCREASING THE AMOUNT YOU DO

Start with about 10 minutes of exercises in this stage. As you become fitter and stronger you can increase how much you do. Your muscles should feel a bit tired after you have exercised.

YOU CAN INCREASE YOUR EXERCISE PROGRAM

- Each week gradually doing more working up to 15–20 minutes.
- Increasing the number of times (repeats) you do each exercise.
- If you started with 8–12 repeats of an exercise then after 1–2 minutes rest do them a second or third time.
- If you can do 2 sets of repetitions of an exercise without feeling tired you can add a weight to the exercise.
- A weight should make the exercise a bit harder to do but you should be able to do 1 set of repetitions before you need a rest.
- Do not increase the weight if you have pain or discomfort.
- Increase the weight by 1–2 lbs (1/2 to 1kg) when the exercise no longer feels “hard.”

Be sure to stop exercising and consult your health professional if you start to feel unwell or uncomfortable or if you are not sure how to perform any exercise

SIDE LIFT - FOR LEG STRENGTH

WHAT TO DO

- Stand beside your support
- Lift your outer leg to the side
- Keep your knee straight and foot facing forward
- Hold for 3 seconds then lower
- Repeat 8–12 times
- Turn and repeat with the other leg
- Build up to 3 sets

TIPS

- Keep your body upright while lifting your leg

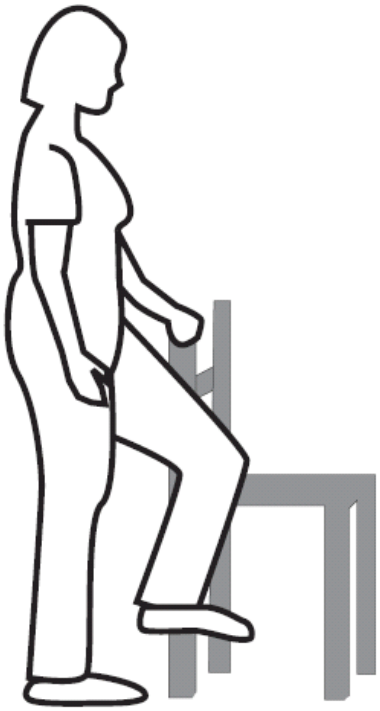
AS YOU GET STRONGER

• Tie a weight around the ankle (e.g. a 1kg bag of rice or sand) to make the exercise harder.

KNEE RAISES - FOR STRENGTH AND BALANCE

WHAT TO DO

- Stand beside your support
- Raise your right knee up towards your chest
- Hold for 10 seconds then lower
- Do this 8–10 times
- Repeat with the other leg



TIP

- Use a sturdy chair or table if support is needed

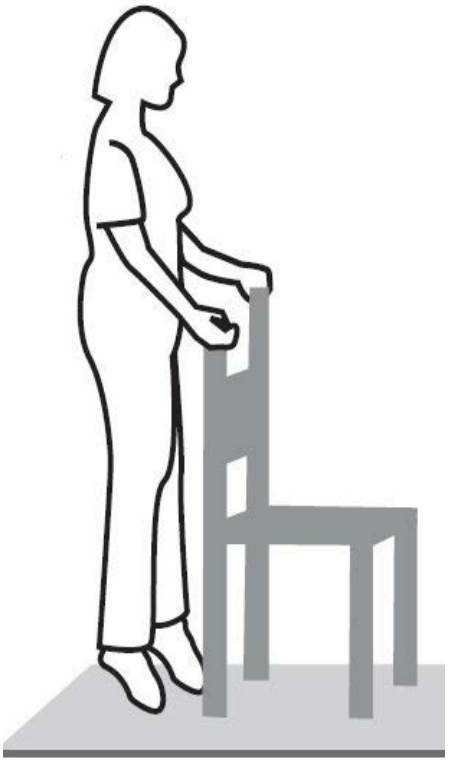
AS YOU GET STRONGER

- Tie a weight around the ankle (e.g. a 1kg bag of rice or sand) to make the exercise harder.

Be sure to stop exercising and consult your health professional if you start to feel unwell or uncomfortable or if you are not sure how to perform any exercise

TOE AND HEEL RAISES - FOR STRENGTH AND BALANCE

WHAT TO DO



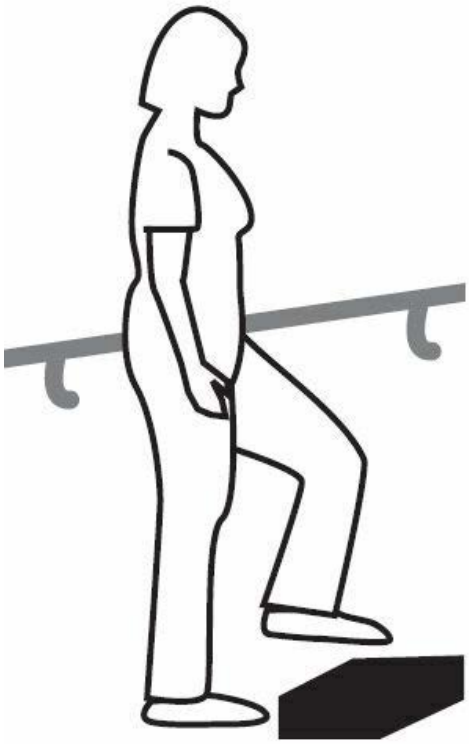
- Stand facing your support
- Use both feet to rise up on your toes
- Hold for 5 seconds then lower
- Then, keep your heels on the floor and lift your toes
- Hold for 5 seconds
- Repeat both movements 8–12 times
- Build up to 3 sets

AS YOUR BALANCE IMPROVES

- try not to hold on to the support as much
- To progress further, try walking on your toes, then heels.

STEP UPS - FOR STRENGTH AND BALANCE

WHAT TO DO



- Use a step which has a support nearby such as a wall or handrail
- Step up one step, placing both feet on the step, right foot first
- Step down with the right leg first
- Repeat 8–12 times
- Change to the left foot leading
- Repeat these 8–12 times
- Build up to 3 sets

TIP

- Use the bottom step in a set of steps.

Be sure to stop exercising and consult your health professional if you start to feel unwell or uncomfortable or if you are not sure how to perform any exercise

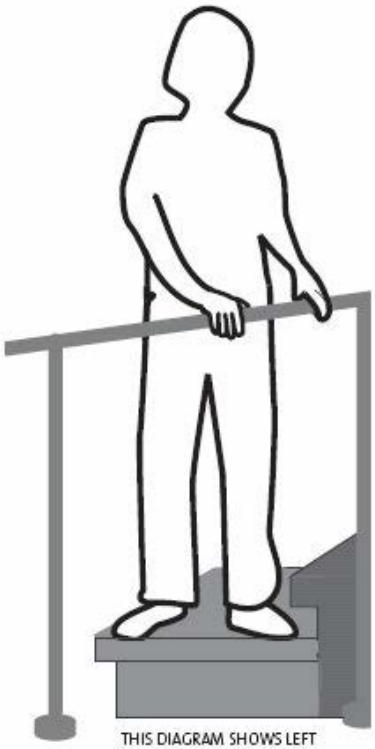
SIDE WAYS STEP UPS - FOR STRENGTH AND BALANCE

WHAT TO DO

- Use a step which has a support nearby such as a wall or handrail
- Face the hand rail and step up one step sideways, right foot first
- Step down with the left leg first
- Repeat 8–12 times
- Change to the left foot leading
- Repeat these 8–12 times
- Build up to 3 sets

TIP

- Use the bottom step in a set of steps.



THIS DIAGRAM SHOWS LEFT FOOT LEADING

LEG EXTENSIONS - HELPS STRENGTH

WHAT TO DO

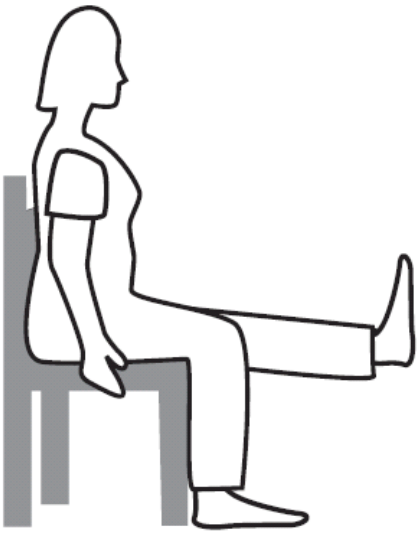
- Sit with both feet flat on the floor
- Gently straighten your knee as far as you can
- Hold for 3 seconds then lower
- Repeat with your left leg
- Do this exercise 8–12 times with each leg
- Build to 3 sets

TIP

- Don’t strain to lift your leg to the horizontal position,
- Gentle practice means it will become easier in time

AS YOU GET STRONGER

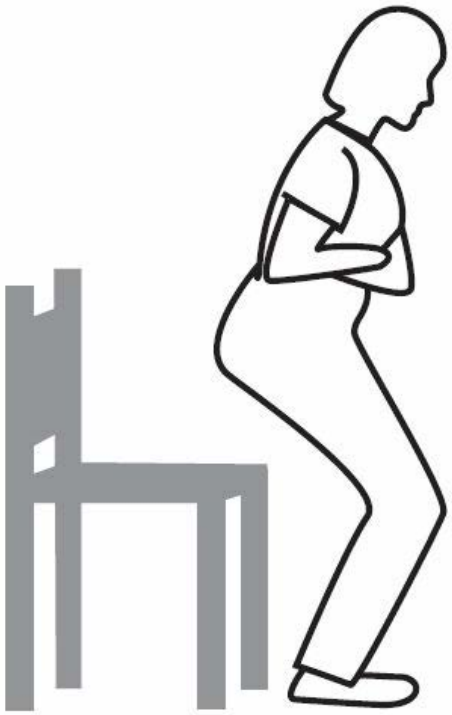
- Tie a weight around the ankle (e.g. a 1kg bag of rice or sand) to make the exercise harder.



Be sure to stop exercising and consult your health professional if you start to feel unwell or uncomfortable or if you are not sure how to perform any exercise

SIT TO STAND - HELPS STRENGTH AND BALANCE

WHAT TO DO



- Sit in a straight back chair with your feet shoulder width apart and arms folded
- Lean forward and stand up trying not to use the armrests for support
- Move in a slow and controlled way
- Do this exercise 8–12 times
- Build to 3 sets

TIPS

- Take your time
- Leaning forward and placing one foot slightly in front of the other will help

AS YOU GET STRONGER

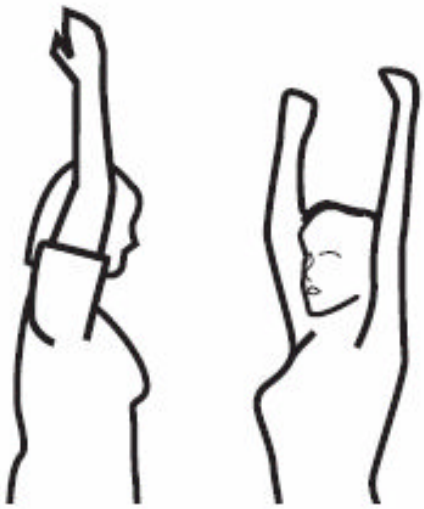
- Sit in a lower chair and do the exercise more slowly.

COOLING DOWN

- Helps your heart rate and breathing slow down to an at rest state
- Use gentle movements like marching on the spot and side stepping
- Stretches are good to do here as your muscles are warm and will stretch more easily.

STRETCHES YOU CAN DO - TORSO STRETCH

WHAT TO DO



- Stand and raise one arm above your head or as far as you can
- 'Reach for the sky'. You should feel some stretch to your torso and arm.
- Repeat with your other arm
- Then do with both arms together, stretching up as tall as you can

TIPS

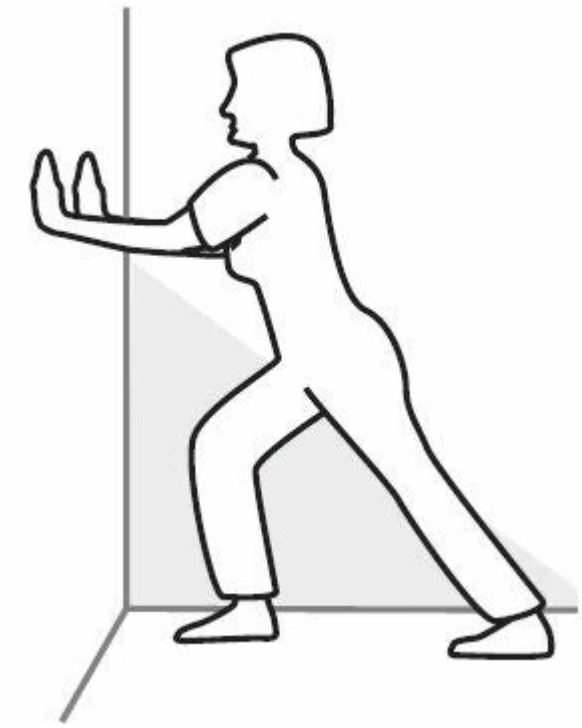
- Stretch slowly and smoothly
- Stretching can help reduce any muscle soreness.

Be sure to stop exercising and consult your health professional if you start to feel unwell or uncomfortable or if you are not sure how to perform any exercise

STRETCHING YOUR LEGS

WHAT TO DO

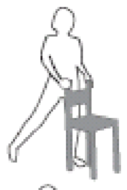
- Stand facing a wall
- Place your hands on the wall at shoulder height and as far apart as your shoulders
- Place your right foot back about 1 metre from the wall keeping your right knee straight
- Bend the left knee and lean your body forward slightly, keeping your back straight until you feel a stretch in your right calf muscle
- Hold for 10 seconds
- Repeat by swapping leg positions
- Repeat 3 times for each leg



Be sure to stop exercising and consult your health professional if you start to feel unwell or uncomfortable or if you are not sure how to perform any exercise

EXERCISE NOTE BOOK

Be sure to stop exercising and consult your health professional if you start to feel unwell or uncomfortable or if you are not sure how to perform any exercise



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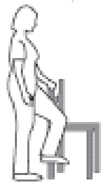

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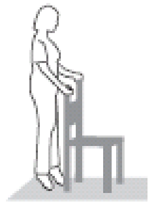

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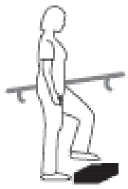

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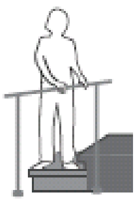

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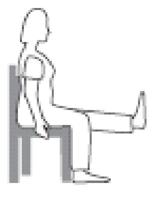

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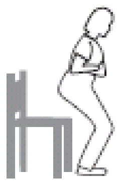

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Corcoran, E., *Falls Prevention Assessment and exercise program,* Pilot Project, Community Health Nursing, Department of Health and Community Services, Alice Springs, NT. Unpublished, used with permission.

SUPPLEMENTARY FALLS RISK FACTORS

PSYCHOLOGICAL AND COGNITIVE FACTORS

DEMENTIA

Older persons with dementia are at increased risk of falling and subsequent injury. A person with dementia may experience lack of insight into the likelihood of falling or be more prone to fall from an environmental hazard. Assessment of cognitive function may be indicated if the person:

- Demonstrates or describes difficulty performing everyday activities because of difficulty remembering
- Presents as confused or have difficulty following instructions
- Experiences difficulty learning new ways of doing everyday tasks

SUGGESTED GUIDELINES FOR FALLS PREVENTION

- Involve carers and family as much as possible
- Identify potential environmental hazards to ensure the home and surrounds is as free of obstacles as possible
- Use consistent and easy to understand instructions with repetition

FEAR OF FALLING

Fear of falling can be a result of previous falls or injury. An older person may restrict their physical activity to reduce the chance of further falls. Limiting physical exercise may however actually result in further falls risk by increasing muscle weakness due to lack of exercise. Independence in social activities and daily tasks may be affected. Identifying and discussing an individual's reaction to previous falls and their view of any possible future falls is important in developing self efficacy. Increased self awareness is an important step in developing personal capacity to prevent future falls by modifying actions or behaviours.

SUGGESTED GUIDELINES FOR FALLS PREVENTION

- Observe and discuss response to falls risk
- Provide support and understanding of personal falls risk through screening for intrinsic and extrinsic falls risk factors and education
- Work closely with the person to develop a personal falls management plan

MMSE1 MINI MENTAL STATE EXAMINATION

The Mini mental state examination (MMSE) is a brief cognitive screen which indicates whether a cognitive impairment is likely. It is easy to administer and scoring indicates either no cognitive impairment, probable cognitive impairment or definite cognitive impairment.

When to consider using:

- to determine if possible cognitive impairment is present

RUDAS2 ROWLAND UNIVERSAL DEMENTIA ASSESSMENT SCALE

The Rowland Universal Dementia Assessment Scale (RUDAS) is a multicultural mini-mental state screening instrument. It was developed by Liverpool Health Service resource team based at Liverpool Hospital in Western Sydney and has been validated in a multicultural population. The screen is designed to be used when education, culture or language may otherwise impact on obtaining an accurate result of cognitive functioning[2]. It is easy to use and quick to administer. Scoring provides an indication of whether a possible cognitive impairment is present.

When to consider using:

- To determine if there is a level of cognitive dysfunction
- When culture, education or language may inhibit accurate reflection of cognitive function on usual assessments[4].

RESOURCES

Access details for Cognitive Screens

MMSE – Mini Mental State Examination Website links
http://www.minimental.com/
Folstein M, Folstein S, McHugh P. Mini-mental State: A practical method for grading the cognitive state of patients for the clinician. Journal of Psychiatric Research 1975; 12:189-198.

RUDAS
The RUDAS assessment, on line DVD, scoring guide and sheet are available at Alzheimer's Australia
http://www.fightdementia.org.au/understanding-dementia/rowland-universal-dementia-assessment-scale.aspx

1. Hall and Hassett, Assessing and managing old age psychiatric disorders eMJA (Online). Sourced May 2004.
2. Storey, J. Rowland, J. Basic, D. Conforti, D. and Dickson, H The Rowland Universal Dementia Assessment Scale (RUDAS): A Multicultural Cognitive Assessment Scale. International Psychogeriatrics. Vol 16(1);13-31, 2004. Storey J., Rowland,J., Basic D., Conforti D.,& Dickson, H. RUDAS Administration and Scoring Guide, Aged Care Research, Liverpool Health Service,2002.4
3. Allen's Cognitive Levels website.(Online) Sourced: May 2004.

ENVIRONMENTAL HAZARDS

SCREENING FOR ENVIRONMENTAL HAZARDS

- as part of a multifactorial falls risk prevention initiative
- when a person is identified as being at risk of falling
- as part of discharge planning management
- when a person is fearful of falling
- when a person experiences cognitive impairment

FALLS AND ENVIRONMENTAL HAZARDS

Health professionals consider falling at home and in public areas to be frequently associated with the presence of an environmental hazard. Home assessments often involve engaging the older person to consider changing how they do everyday tasks or changing furniture or equipment used. However compliance with these changes can be a significant issue. Compliance with changes in the home environment is greatest when the person believes that changing how they do things will lower the risk of falling. Support from friends and family to incorporate these changes is very important. Research suggests it is the person who has a high level of falls risk who is most likely to benefit from home environmental assessments and modifications[1].

Many falls however occur where there are no apparent environmental hazards. The interrelationship between a person's physical capacity to stay on their feet and the way in which they perform everyday activities is important when considering how significant environmental hazards are for an individual.

Evidence indicates that environmental hazards may be more associated with falling when a person experiences cognitive impairment or when a physically active older person 'stretches the boundaries' of physical activity[2].

Hill (2004) reports that there is no evidence from randomised clinical trials that addressing hazards in the home will result in reduced falls on its own[3]. When reducing home hazards is one of a number of initiatives instigated by the person then the risk of falls is more likely to be lowered.

SCREENS AND ASSESSMENTS

The nature of interaction between the person and the environment and self perceptions of safety are critical components in understanding the role of home assessment. When conducting a home hazard screen it is important to consider:

- the identified level of falls risk for that person and what is impacting upon that level
- the persons' beliefs about how at risk they are of falling because of a hazard in the environment
- how safely the person moves in and around the home environment
- fear of falling

Many organisations develop their own screen for their particular client group. These provide an initial indication to the client and the health professional about possible environmental hazards for that person. Following are several examples of validated screens for identifying hazards in the home which may be a falls risk.

HOME FAST THE HOME FALLS AND ACCIDENTS SCREENING TOOL M

Authors: Mackenzie L., Byles J., and Higginbotham, N., [3]

The HOME FAST tool was developed specifically to identify falls risk from environmental hazards in older people living in the community. It involves a yes/no rating of 25 items identifying hazardous home items and functional performance in and around the home[4].

When to consider using

- as an initial tool to identify the nature and extent of potential home hazards

THE FALLS BEHAVIOURAL (FAB) SCALE FOR THE OLDER PERSON

Authors: Clemson L., Cumming R., and Heard R., [5]

The Falls Behavioural (FaB) Scale for the Older Person is a scale which evaluates behavioural factors which may protect the person against falling. It involves the person circling responses to 30 easy to understand questions about their own behaviours related to falling. The client may complete the scale on their own or with a support person or health professional.

When to consider using

- as a pre and post falls preventative program indicator of change in behaviours associated with falls prevention
- as an initial tool to facilitate self-efficacy and reflection of current falls risk behaviours
- an intervention tool to guide interventions designed to encourage behaviours which will reduce the risk of falling.

STAY ON YOUR FEET®: YOUR HOME SAFETY CHECKLIST

Source: NSW Department of Health

This is a checklist that looks at possible hazards in the home. It uses a Yes/No response system and provides suggestions where risks are identified.

FALLS PREVENTION ENVIRONMENTAL AUDIT – COMMUNITY

Source: NSW Health 2004.[6]

This screen provides a detailed checklist of possible environmental hazards in the home. Yes/No responses are recorded highlighting items to be addressed.

When to consider using

- to identify potential home hazards
- to guide prevention planning

M = Black and white masters of these items are provided in the Masters Booklet

WESTMEAD HOME SAFETY REPORT (WEHSA)

Author: Clemson L., [7]

The Westmead Home Safety Report was designed as a detailed assessment of the home environment. It is recommended for use by occupational therapists or in conjunction with an occupational therapist.

When to consider using

- when initial screening identifies home hazards are a likely falls risk
- when the person has significant mobility issues

RESOURCES

Access details for Environmental Hazards Screens

Falls Behavioural Scale(FaB) for the Older Person, manual and scale
http://sydney.edu.au/health-sciences/staff/docs/lindy_clemson/FaB_manual_2003.pdf

HOME FAST The Home Falls and Accidents Screening Tool M
Mackenzie, L., Byles, J. and Higginbotham, N., Designing the Home Falls and Accidents Screening Tool (HOME FAST): Selecting the items. British Journal of Occupational Therapy 2000, 63:260-9.

Westmead Home Safety Report (WeHSa)
included in Home Falls Hazards (1997) available from Co-ordinates Publications
Website:www.therapybookshop.com
http://www.therapybookshop.com/page2/10001.html

Home Safety Checklist – Community
Staying active and on your feet booklet
http://www.activeandhealthy.nsw.gov.au/your_active_and_healthy_guide
Online Home Safety Checklist
http://www.activeandhealthy.nsw.gov.au/home_safety_checklist

M = Black and white masters of these items are provided in the Masters Booklet

1. Hill K, Ringsides F, Haralambous B, Fearn M, Smith R, Murray K, Sims J and Dorevitch M. An analysis of research on preventing falls and falls injury in older people: community, residential care and hospital settings. Report to the Australian Government, Department of Health and Ageing, Injury Prevention Section. National Ageing Research Institute. Commonwealth, 2004.
2. Lord S, Sherrington C and Menz H. Falls in older people: risk factors and strategies for prevention. Cambridge University Press: UK 2001
3. Mackenzie, L., Byles, J. and Higginbotham, N. Reliability of the Home Falls and Accidents Screening Tool (HOME FAST) for measuring falls risk for older people. Disability and Rehabilitation 2002, 266-74.
4. Mackenzie, L., Byles, J. and Higginbotham, N., Designing the Home Falls and Accidents Screening Tool (HOME FAST): Selecting the items. British Journal of Occupational Therapy 2000,63:260-9.
5. Clemson, L., Cumming, R.G., & Heard, R. The Falls Behavioural (FaB) Scale for the Older Person Instruction Manual, University of Sydney, 2003.
6. Queensland Health, Falls Prevention: Best Practice Guidelines for Public Hospitals and State Government Residential Aged Care Facilities incorporating a Community Integration Supplement , Queensland Government,
7. 2003.
8. Clemson, L., Fitzgerald, M., & Heard, R., Content validity of an assessment tool to define home fall hazards: The Westmead Home Safety Assessment. British Journal of Occupational Therapy, 1999, 62:4.

NUTRITION

Evidence suggests that malnutrition can increase the incidence of falls and that falls can also impact on nutrition status. Malnutrition can be associated with balance, gait and mobility issues[1]. There can be a number of reasons why malnutrition or poor nutrition occurs. These include:

- Difficulty chewing or swallowing
- Poor dental hygiene
- Impaired taste and smell
- Reduced appetite
- Impaired cognitive function or depression
- Difficulty planning and preparing food
- Social isolation and difficulty obtaining nutritious food
- Medical or metabolic conditions

SUGGESTED GUIDELINES FOR FALLS PREVENTION

- Suggest and provide information on recommended nutritional intake
- Identification of poor nutrition as a possible falls risk factor
- Referral to General Practitioner and Dietician for assessment and intervention

RESOURCES

Falls Prevention – Healthy Eating, Falls Prevention – Bone Health, flyers for clients/family/carers
http://www.cec.health.nsw.gov.au/programs/falls-prevention/falls-one-page-flyers

Department of Health & Ageing, Nutrition and Healthy Eating: Nutrition Publications
http://www.health.gov.au/internet/main/publishing.nsf/Content/health-pubhlth-strateg-food-resources.htm

Australian Dietary Guidelines, Eat for health guidelines and companion resources (Australian Government Department of Health and Ageing and NHMRC)
http://www.eatforhealth.gov.au/

1. Preventing Falls and harm from falls in older people: best practice guidelines for Australian hospitals and residential aged care facilities. Commonwealth of Australia, 2005. These guidelines are currently being updated and will be available later in 2009.
2. http://www.safetyandquality.gov.au/internet/safety/publishing.nsf/Content/FallsGuidelines

CONTINENCE

Incontinence has been associated with falling in older people living in the community as well as in residential or acute settings. Triggers related to falling from incontinence involve mobility safety issues. Some of these include:

- rushing to the toilet
- slipping on urine
- overbalancing or handling awkward clothing
- getting up quickly at night and not turning lights on can also be a hazard

Identification and management of any incontinence issues may help address the increased possibility of falling.

SUGGESTED GUIDELINES FOR FALLS PREVENTION

- Establish level of continence
- Education about safe mobility when going to and from the toilet particularly at night
- Consider home hazard self screen or assessment
- Referral for further assessment and management of incontinence

RESOURCES

National Continence Helpline 1800 330 066
Continence Foundation of Australia Incontinence brochure series
http://www.continence.org.au

Department of Health and Ageing
Continence Aids Payment Scheme Helpline 1800 330 066
http://www.bladderbowel.gov.au/caps/application.htm

Department of Health & Ageing: Bladder & Bowel Website
http://www.bladderbowel.gov.au/

Information brochure: *Bladder Control Problem? t.*
http://www.bladderbowel.gov.au/assets/doc/brochures/01BladderControl.html

Information Brochure: *Poor Bowel Control*
http://www.bladderbowel.gov.au/assets/doc/brochures/03PoorBowelControl.html

COMMUNITY RESOURCES

Useful links to falls prevention programs and community resources

NSW Falls Prevention Program, Clinical Excellence Commission
http://www.cec.health.nsw.gov.au/programs/falls-prevention
This website contains a summary of the NSW Falls Prevention Program with information and resources to assist Local Health District staff to prevent falls and harm from falls in their care setting.

NSW Falls Prevention Network
http://fallsnetwork.neura.edu.au
This network provides a forum for health professionals interested in falls prevention in hospitals, community and residential care sectors. The network produces a regular newsletter, holds regular meetings and has a listserv for members to post questions and receive information.

Active and Healthy website
http://www.activeandhealthy.nsw.gov.au
This website contains a database of exercise programs in NSW that include sufficient strength and balance components for falls prevention. The programs can be accessed by suburb/town and provide information on location, time and cost of classes and contact information and other relevant details.

Australian and New Zealand Falls Prevention Society
http://www.anzfallsprevention.org
This society was formed in 2006 to promote the multidisciplinary study and implementation of falls prevention in older people. There are regular conferences to present and discuss the latest research and clinical findings relating to falls risk factors and falls prevention strategies.

Australian Commission on Safety and Quality in Health Care.
Australian Commission on Safety and Quality in Health Care (ACSQHC) 2009**, *Preventing Falls and harm from Falls in Older People: Best Practice Guidelines for Australian Community Care*.** These guidelines can be accessed at: http://www.safetyandquality.gov.au/our-work/falls-prevention/

Public Health Units
Brochures are available at several public health unit websites. Brochures in languages other than English are also available on the Queensland and New South Wales Health Department websites.

ACT
http://www.health.act.gov.au/c/health?a=&did=10129125
NSW
http://www0.health.nsw.gov.au/topics/injury.asp
Queensland
http://www.health.qld.gov.au/stayonyourfeet/

Tasmania
http://www.dhhs.tas.gov.au/pophealth/injury_prevention
Victoria
http://www.health.vic.gov.au/agedcare/maintaining/falls_dev/
Western Australia
http://www.healthnetworks.health.wa.gov.au/network/fallsprevention.cfm

RESEARCH SITES

Joanna Briggs Institute Ph: 08 8313 4880
http://www.joannabriggs.edu.au

Monash University Accident Research Centre Ph: 03 9905 4371
http://www.healthnetworks.health.wa.gov.au/network/fallsprevention.cfm

National Ageing Research Institute Ph: 03 9905 4371
http://www.nari.unimelb.edu.au

Neuroscience Research Australia Falls and Balance Research Group Ph:02 9399 1000
http://www.neura.edu.au/research/facilities/falls-and-balance-research-group

USEFUL CONTACTS

Ambulance Service of New South Wales Ph: 02 9320 7777
For Medical Emergencies call 000
http://www.ambulance.nsw.gov.au/

Continence
Continence Foundation of Australia
http://www.continence.org.au

Department of Health and Ageing
Continence Aids Payment Scheme Helpline 1800 330 066
http://www.bladderbowel.gov.au/caps/application.htm

Department of Health & Ageing: Bladder & Bowel Website
http://www.bladderbowel.gov.au/

Council of the Ageing (COTA) National Office Ph: 08 8232 0422
http://www.cota.org.au/

Department of Veteran Affairs
Network office in each state: 133 254 or Veterans' Helpline: 1800 555 254
http://www.dva.gov.au/Pages/home.aspx
Health and wellbeing Fact sheets:
http://www.dva.gov.au/health_and_wellbeing/Pages/Factsheets.aspx
Refer: *DVA services in rural and remote areas*
HomeFront:
http://www.dva.gov.au/health_and_wellbeing/health_programs/homefront/Pages/index.aspx

Indigenous Health
The Australian Indigenous Health InfoNet Ph: 08 9370 6336
http://www.healthinfonet.ecu.edu.au
Health Insurance Commission (HIC) Indigenous Australians
http://www.humanservices.gov.au/customer/themes/indigenous-australians
Access Line Ph: 136 240

Multicultural Health

NSW Multicultural Health Communication Service Ph: 02 9816 0347
http://www.mhcs.health.nsw.gov.au/

Nutrition

Australian Dietary Guidelines, Eat for health guidelines and companion resources (Australian Government Department of Health and Ageing and NHMRC)
http://www.eatforhealth.gov.au/

National Heart Foundation Ph: 1300 362 787 (Australia wide)
http://www.heartfoundation.com.au

Osteoporosis Australia Ph: 02 9518 8140
http://www.osteoporosis.org.au

Diabetes Australia Helpline: 1300 136 588 (local call cost)
http://www.diabetesaustralia.com.au

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Anderson, K. (Ed) *Mosby's Medical, Nursing, and Allied Health Dictionary,* 5th Edition, USA: Mosby-Year Book, Inc: 1998, p1350.

Australian Commission on Safety and Quality in Health Care. *Preventing Falls and harm from falls in older people: best practice guidelines for Australian hospitals and residential aged care facilities*. Commonwealth of Australia, 2005.

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