

GUIDELINES FOR THE PREVENTION AND MANAGEMENT OF FALLS IN THE ELDERLY

HOSPITAL WARDS



THE ROYAL BOURNEMOUTH
AND CHRISTCHURCH HOSPITALS
NHS TRUST



INTRODUCTION TO THE FALLS GUIDELINES

The issues around elderly people falling and their subsequent injuries have become more and more a focus of public and political attention. From being a Cinderella subject of a Cinderella specialty it is now gaining momentum and the interest of Purchasing Authorities.

It is from this background that I was approached by the Dorset Health Authority to produce an audit of elderly people falling within Dorset. A look at the available literature showed that there were few standards to audit against, and the task in hand soon became the much more challenging one of producing Guidelines for the whole County that would subsequently be audited.

Falls are most often multifactorial in their origin and the only way to deal with them satisfactorily is in a multidisciplinary, multiagency approach. With this in mind, a Steering Group was convened and the skeleton of the Guidelines produced.

These were to be simple, attractive, relative and as effective as current literature allowed.

The enormity of the task was emphasised by the Group's wish for some form of guideline to be accessible to all involved in the care of elderly people throughout Dorset. Thus, the sub-groups of Residential Care, Primary Care, Accident and Emergency and Secondary Care performed in a simmering multidisciplinary, multiagency way as the steering group.

Patients' views were sought via the Community Health Council and, as with all clinical decisions, falls interventions and treatments should be with the full consent of the patient.

The distillate of the Group's workings was presented at a workshop in the autumn of 1999 to trial run the Guidelines with those who will be using them. The success on the day and the reception of the Guidelines reflected the hard work put into each group especially by their respective chairmen.

A full implementation programme has been developed to ensure that the Guidelines are in place in all areas in an appropriate and timely manner.

The Guidelines are summarised as an algorithm and presented with supporting information including recommended assessment tools. Decisions (diamonds and blue) and actions (rectangle and yellow) guide the user appropriately through the falls preventative measures, assessment and treatment. Please see key on page 1.

These are the finished products..... for now. Guidelines must be regularly reviewed and improved through audit and the comments of those using them. We hope to produce these updates as and when indicated and needed. These will, I hope, not be the final version. The work continues.

Dr Matt Thomas
Consultant in Medicine for the Elderly
Poole General Hospital

1.4.2000

Revision date:1.4.2002

INDEX	PAGE
Working Group Membership	1
Acknowledgements	1
Algorithm	2
Appendices:	
A Supporting Information for Algorithm	3-6
B Risk Assessment Tools	7-10
C Medical Investigation Flowchart	11
D Falls Diary	12
E Drugs Implicated in Contributing to Falls	13-16
F References and Suggested Further Reading	17-20
G Useful Addresses	21

WORKING GROUP MEMBERSHIP

Dr Tony Blake, Consultant Physician in Medicine for the Elderly **Chairman of the Group**
 Mr Karim Hassan, Consultant Surgeon, A&E Department
 Ms Linda Odams, Physiotherapist
 Ms Justine Seymour, Physiotherapist
 Mrs Joy Warren, Ward Sister
 Mrs Debbie Hilbourne-Rose, Ward Sister
 Ms Marion Boyton, Senior Occupational Therapist
 Mrs Ann Gilbert, Pharmacist
 Miss Patricia Rollinson, Facilitator, Clinical Governance Department

ACKNOWLEDGEMENTS

These Dorset-wide Falls Guidelines were developed by the Hospital Wards Working Group. The Group was composed of multidisciplinary representatives from Dorset's Acute and Community Hospitals. All members of the working group gave their expertise and time enthusiastically and generously, without which these guidelines would not be available today.

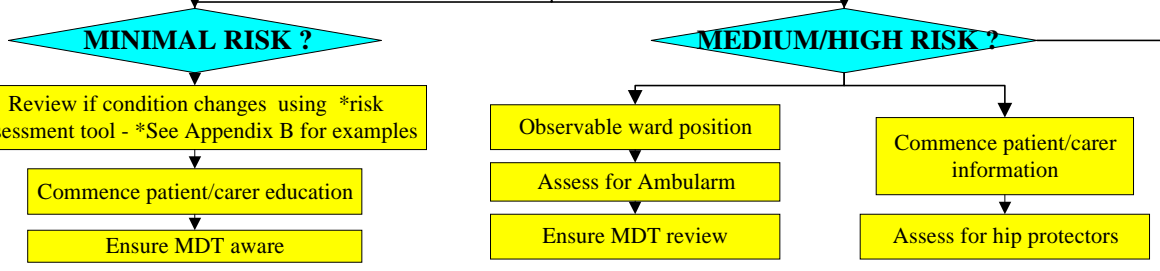
The Group would like to thank the following:

- All the professionals who reviewed the draft Guidelines and submitted valuable information and comment;
- Dr Peter Overstall, Dr Jed Rowe, Consultant Physicians in Elderly Medicine and Dr John Stevens, Consultant Obstetrician and Gynaecologist and Clinical Effectiveness Lead for Poole Hospital NHS Trust for their valuable Peer Review of the Guidelines;
- Osteoporosis Dorset, Straken Limited and Robinson Healthcare Ltd for their support in the development of the Guidelines.

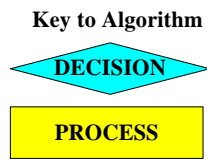
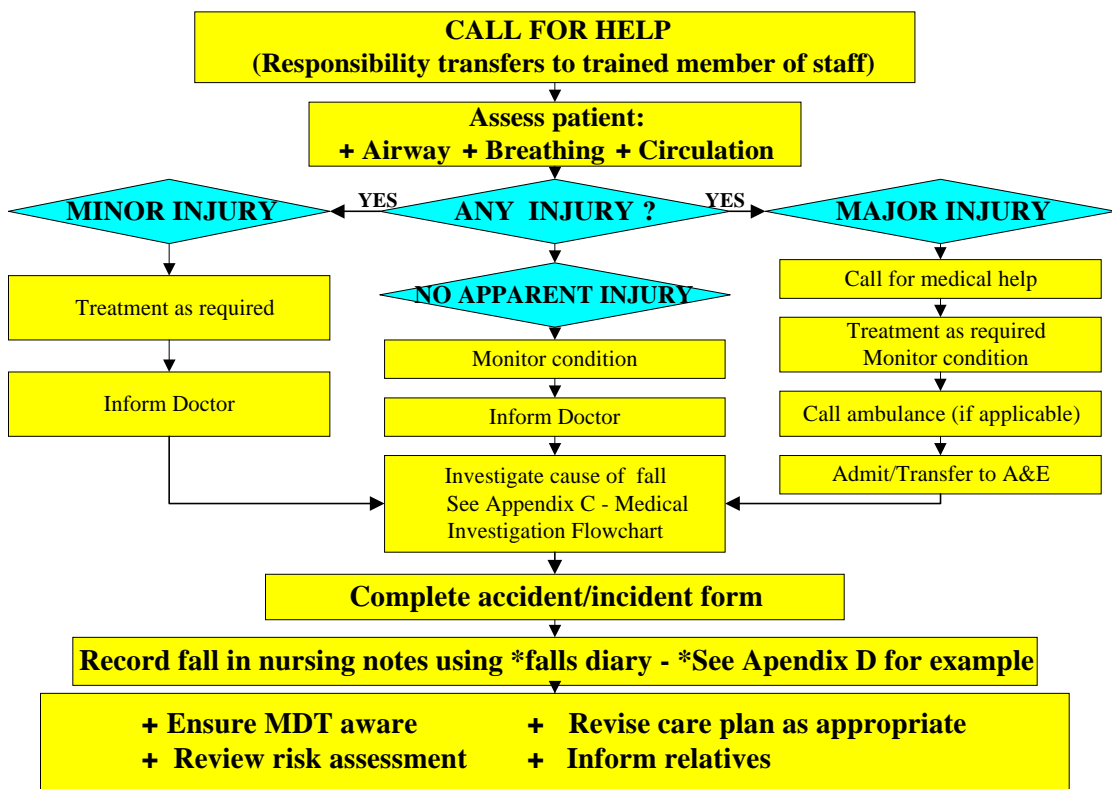
**GUIDELINES FOR THE PREVENTION AND MANAGEMENT OF FALLS
IN ELDERLY PEOPLE IN HOSPITAL WARDS.**
ALL STEPS SHOULD BE WITH THE CONSENT OF THE PATIENT AND (IF APPROPRIATE) CARER

- Maintain a safe environment : See Appendix A - Supporting Information**
- + Patient's position on ward + Ward Orientation + Appliances for manual handling
 - + Access to toilet facilities + Suitable furniture + Hazards
 - + Access to call bell + Clothing/Footwear + Brakes (eg. beds, wheelchairs, hoists)
 - + Bed at appropriate height + Lighting + Staff education

Assess all patients within a maximum of 24 hours of admission using a recognised *risk assessment tool
* See Appendix B for examples



PROTOCOL IF ELDERLY PERSON FALLS IN HOSPITAL



ON DISCHARGE

Inform: GP; Key staff; carer of patients at risk of falling

**AUDIT INCIDENCE AND MANAGEMENT OF FALLS;
IMPLEMENT ACTION IDENTIFIED**

hspward3

ENVIRONMENT

- Patient to be placed in a suitable position within the ward;
- Call bell system needs to be in a good state of repair;
- Beds should be left in the appropriate position for the patient;
- Chairs should be appropriate to the patient's needs;
- Floors should be non-glare and non-slippery with spills cleaned and hazards identified;
- Lighting should be sufficient both day and night for patients to orientate themselves;
- Distances should not be too far to toilet facilities;
- Walking aids should be kept within patients' reach if appropriate;
- Avoid clutter.

SAFETY CARE PRACTICES

- Good patient ward orientation;
- Call bells within patient reach with instructions on use having been given;
- Anticipate patients' need for help;
- Drinks, books etc. within easy reach of patient;
- Investigate any cause of patient restlessness;
- Advise patients if they may need to go to the toilet more frequently;
- Ensure the patient is wearing safe clothing and footwear;
- Ensure seating is of the correct type, height etc. and is comfortable;
- Each patient should have a movement and mobility assessment completed with the correct equipment being used, eg, hoist etc;
- Staffing levels should reflect patient dependency.

RISK ASSESSMENT TOOLS

Copies of the following risk assessment tools can be found as Appendix B:

- Stratify;
- Tullamore;
- Morse.

INFORMING STAFF OF PATIENTS AT RISK OF FALLING

This can be done in a number of ways:

- Coloured stickers behind beds;
- Coloured stickers on notes/Cardex;
- Written in patient documentation;
- Falls diary - example can be found as Appendix B;
- Verbally mentioned at handover.

OBSERVATION

- Patients at risk should be nursed where they can be observed most easily.

MULTIDISCIPLINARY ASSESSMENT AND INTERVENTIONS

PHYSIOTHERAPY

- General assessment to include balance; gait; range of movement; strength; functional mobility. This should be continuous throughout the patient's stay;
- Gait re-education;
- Assessment of need for walking aid;
- Advice on suitable footwear;
- Advice to other disciplines on the best methods of patient movement and mobility.

MEDICAL

- Clinical examination (see Appendix C for Medical Investigation Flowchart);
- Physical and cognitive assessment;
- Review of drugs - particularly if patient is on 4 or more.

NURSING

- Ensure fall risk assessment is carried out on each patient;
- Establish patient goals, usual routine and coping strategies;
- If the patient has a history of falls, check lying and standing blood pressure;
- Check for any sensory deficit.

OCCUPATIONAL THERAPY

- Continuous assessment of activities of daily living and any necessary interventions throughout the patient's stay in hospital;
- Assessment of home environment, identifying possible hazards;
- Check for any sensory deficit;
- Patient's level of independence within home environment including transfers;
- Suitability of walking aid in this context;
- Provision of appropriate equipment and/or adaptations;

PATIENT/CARER INFORMATION - The Patient's Named Nurse/Key Worker is responsible for ensuring this is done

Give information on:

- Common causes of falls (via falls leaflet - see Appendix G for details of available leaflets);
- Prevention of falls;
- Correct method of getting up from the floor;
- How to summon help;
- Provision/use of 'Care Line' or other alarm systems;
- Advice on coping with a 'long lie'.

DRUGS

A list of drugs implicated in contributing to falls in the elderly can be found as Appendix E.

FALLS ALARMS

- Ambularm (See Appendix G for contact).

HIP PROTECTORS

- Offer information on hip protectors to patients/carers who are at risk of falling or who have fallen. Safehip is currently the only hip protector proven to reduce fractures. (See Appendix G for contact)

STAFF EDUCATION

This should be available for all staff and include:

- The medical cause of falls;
- Maintaining a safe environment;
- Safety care practices;
- Risk assessment;
- Communication;
- Patient/carer education;
- Maintaining and evaluating a falls diary (See appendix D for example);
- Fall alarms eg Ambularm;
- Use of cot sides (refer to hospital policy).

LINK NURSES

- A link nurse on each ward would act as a resource promoting the guidelines and linking with other link nurses;
- Link nurses should be given support from their manager.

AUDIT

- Accident forms should be audited. The minimum audit criteria should include; cause of fall, time of fall; location of fall; type of injury sustained;
- Feedback should be given to staff with trends being identified and addressed;
- Audits should be used as a way to move forward in falls prevention and not to compare one area with another.

DISCHARGE ARRANGEMENTS

Ensure timely referrals are made to relevant disciplines prior to discharge. These may include:

District Nursing Service
Community Rehabilitation Services
Care Manager
Chiropody
Speech/Language Therapy
Mental Health Team
Dietetics

GENERAL PRACTITIONER

- Inform the patient's GP on discharge if the patient has fallen or is at risk of falling.

STRATIFY risk assessment tool

1 Did the patient present to hospital with a fall or has he or she fallen on the ward since admission?

(Yes = 1, No = 0)

Do you think the patient is? (questions 2-5)

2 Agitated?

(Yes = 1, No = 0)

3 Visually impaired to the extent that everyday function is affected?

(Yes = 1, No = 0)

4 In need of especially frequent toileting?

(Yes = 1, No = 0)

5* Transfer and mobility score of 3 or 4?

(Yes = 1, No = 0)

Total score

5* refers to mobility and transfer section of the Bartel Index

Mobility

0 Immobile

1 Wheelchair independent

2 Walks with 1

3 Independent

Transfer

0 Dependent

1 Major physical,
needs 2; can sit

2 Minor help

3 Independent

Total Score

Transfer to 5 above

- If Total Score is 2 or above the patient is at high risk.

Validated: Oliver D., Britton M., Seed A., Martin F. c. And Hooper A.H (1997) Development and evaluation of evidence based risk assessment tool (STRATIFY) to predict which elderly inpatients will fall: case control and cohort studies. British Medical Journal, 315, 1049 – 53.

**Tullamore Fall Risk Assessment Risk Scale for the Elderly
Developed by Cannard (1996)**

Fall risk assessment scale for older people					
Sex		Sensory deficit		Medical history	
Male	1	Sight	2	Diabetes	1
Female	2	Hearing	1	Organic brain disease/confusion	1
		Balance	2	Fits	1
Age		Fall history		Mobility	
60 – 70	1	None	0	Full	1
71 – 80	2	At home	2	Uses aid	2
81 +	1	In ward	1	Restricted	3
		Both	3	Bed bound	1
Gait		Medication		<u>Total score:</u>	
Steady	0	Hypnotics	1	3 - 8	low risk
Hesitant	1	Tranquillisers	1	9 – 12	medium risk
Poor	3	Hypotensives	1	13 +	high risk
transfer	3				
Unstead					
y					

Action for different risk groups

Low risk

- 1 Explain to patient the importance of asking for help when walking
- 2 Ensure call bell is to hand
- 3 Use variable height bed and leave bed in low position when patient is unattended
- 4 Maintain frequent checks on patients
- 5 Use chair of appropriate design for patient

Medium risk

All of the above plus:

- 6 Display fall hazard card over bed

High risk

All of the above plus:

- 7 Consider use of Ambularm. Enter risk status and appropriate action on care plan

Morse Fall Scale

Item				Score
1	History of falling	No	0	_____
		Yes	25	
2	Secondary diagnosis	No	0	_____
		Yes	15	
3	Walking aid			_____
	None/bedrest/nurse assist		0	
	Crutches/stick/frame		15	
	Furniture		30	
4	Intravenous therapy/pump	No	0	_____
		Yes	20	
5	Gait			_____
	Normal/bedrest/wheelchair		10	
	Weak		20	
	Impaired		20	
6	Mental status			_____
	Orientated to own ability		0	
	Overestimated/forgets limitations		15	
Total				_____

Validated: Morse J.M. (1997) Preventing Patient Falls, published by Sage.

The items are scored as follows:

History of falling. This is scored as 25 if the patient has fallen during the present admission or if there was an immediate history of physiological falls, such as fainting or impaired gait. If the patient has not fallen, this is scored 0. **Note:** if a patient falls for the first time, then his or her score immediately increases by 25.

Secondary diagnosis. This is scored as 15 if more than one medical diagnosis is identified; if not, score 0.

Walking Aids. This is scored as 0 if the patient walks without a walking aid (even if assisted by a nurse), uses a wheelchair, or is on bed rest and does not get out of bed at all. If the patient walks clutching on to furniture for support, score 30.

Intravenous therapy. This is scored 20 if the patient has intravenous therapy or a heparin pump; if not, score 0

Gait. The characteristics of the three types of gait are evident regardless of the type of disability or underlying cause. A normal gait is characterised by the patient walking with head erect, arms swinging freely at side, and striding unhesitantly. This gait scores 0.

With a weak gait (score as 10), the patient is stooped but is able to lift head while walking without losing balance. If support is required, this is with a featherweight touch almost for reassurance, rather than grabbing to remain upright. Steps are short and the patient may shuffle.

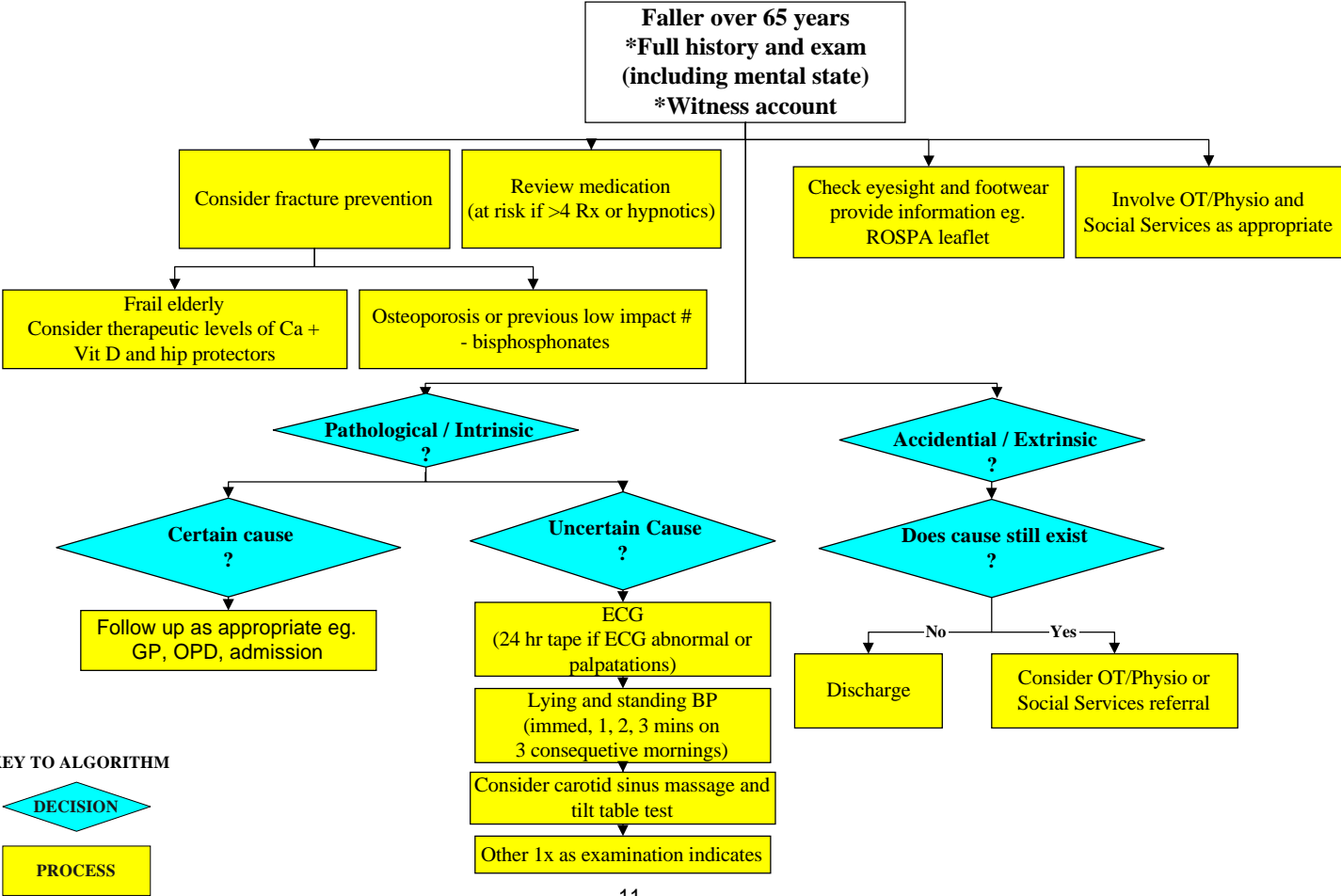
With an impaired gait (score 20) the patient may have difficulty rising from the chair, attempting to get up by pushing on the arms of the chair and/or by 'bouncing' (i.e. By using several attempts to rise). The patient's head is down, and he or she watches the ground. Because the patient's balance is poor, the patient grasps on to furniture, another person, or a walking aid for support and cannot walk without this assistance. When assisting these patients to walk, the nurse will note that they often hold onto the nurse's hand, and when grasping on to a rail or furniture, they often hold so that their knuckles are white. The patient takes short steps or shuffles.

If the patient is in a wheelchair, the patient is scored according to the gait he or she uses when transferring from wheelchair to bed.

Mental status. When using the scale, mental status is measured by checking the patient's own self-assessment of his or her ability to walk. If the patient's assessment is consistent with his or her ability score 0. This may be checked by asking the patient if they need assistance to go to the bathroom. If there is an overestimation by the patient of their ability, or he or she tends to forget their limitations, score 15.

The total gives a risk score.

FLOWCHART FOR INPATIENT INVESTIGATION



KEY TO ALGORITHM



FALLS DIARY

<p>Ward</p> <p>Patients name</p> <p>Hospital number</p>
--

WALKING AIDS USED? **WALKING STICK** **ZIMMER FRAME** **OTHER PLEASE STATE** _____

FALLS LEAFLET GIVEN TO _____ **DATE GIVEN** _____

DATE	TIME	PRECISE LOCATION	INJURY	DESCRIPTION OF FALL	PREVENTATIVE MEASURES

DRUGS IMPLICATED IN CONTRIBUTING TO FALLS IN THE ELDERLY

There are two main categories of prescribed drugs which are associated with increased risk of falling.

- a) drugs which cause drowsiness
- b) drugs which are hypotensive, with those causing postural hypotension of particular concern.

DRUGS CAUSING DROWSINESS

A

Acetazolamide
 Alfuzosin
 Alprazolam
 Amisulpride
 Amitriptyline
 Amoxapine
 Amylobarbitone
 Aspirin & Paracetamol
 dispersible
 Azatadine

B

Baclofen
 Benperidol
 Benzhexol
 Benztropine
 Biperiden
 Bromazepam
 Brompheniramine
 Buprenorphine

C

Carbamazepine
 Carisoprodol
 Chloral hydrate
 Chlormethiazole
 Chlorpheniramine
 Chlorpromazine
 Cinnarizine
 Clemastine
 Clobazam
 Clomipramine
 Clonazepam
 Clonidine
 Clorazepate
 Clozapine
 Codeine
 Co-proxamol

Cyclizine
 Cycloserine
 Cyproheptadine
 Cyproterone

D

Dantrolene
 Dextromoramide
 Diamorphine
 Diazepam
 Diconal
 Dihydrocodeine
 Dimenhydrinate
 Diphenhydramine
 Disulfiram
 Dothiepin
 Doxepin
 Droperidol

E

Equagesic
 Equanil

F

Fentanyl
 Flupenthixol
 Fluphenazine
 Flurazepam
 Fortagesic

G

Gabapentin

H

Haloperidol

Hydroxyzine
 Hyoscine

I

Imipramine
 Indoramin
 Isocarboxazid

L

Lofepamine
 Lofexidine
 Loprazolam
 Lorazepam
 Lormetazepam

M

Maprotiline
 Meprobamate
 Meptazinol
 Mequitazine
 Methadone
 Methocarbamol
 Methotrimeprazine
 Methyl dopa
 Methylphenobarbitone
 Methysergide
 Metirosine
 Migralive (pink)
 Mirtazepine
 Moditen
 Morphine
 Motival

N

Nabilone
 Naratriptan
 Nefazodone

Nefopam
Nitrazepam
Nortriptyline

Prazosin
Primidone
Prochlorperazine

Tizanidine

Q

Olanzapine
Oxatomide
Oxazepam
Oxybutynin
Oxypertine

Promazine
Promethazine
Protriptyline

Q

Quetiapine

R

Risperidone
Ropinirole

P

Pentazocine
Pentobarbitone
Pericyazine
Perphenazine
Pethidine
Phenazocine
Phenelzine
Phenindamine
Phenobarbitone
Pimozide
Piracetam
Pizotifen

S

Solpadol
Sulpiride
Sumatriptan

T

Temazepam
Thiabendazole
Thiondazine

Topiramate
Tramadol
Tranlycypromine
Trazadone
Triclofos
Trifluoperazine
Trimeprazine
Trimipramine
Triptafen
Tylex

V

Vigabatrin

Z

Zolmitriptan
Zolpidem
Zopiclone
Zuclopenthixol

Notes:

- 1) Hypnotics - These can cause drowsiness and confusion the following day, especially in the elderly as half-lives are increased.
- 2) Many over the counter products for coughs and colds contain antihistamine and/or low dose opiates.
- 3) The combination of two or more of the above drugs or combination with alcohol will increase drowsiness.

Information from BNF Vol. 36

Ask your Pharmacy Department to update as necessary.

A

Acebutolol
Acrivastine
Alfuzosin
Alprazolam
Amiloride
Aminoglutethimide
Amisulpride
Amitriptyline
Amoxapine
Apomorphine
Astemizole
Atenolol
Azatadine

B

Bendrofluazide
Benperidol
Betaxolol
Bethanidine
Bisoprolol
Bretlylum
Bromazepam
Brompheniramine
Bumetanide
Buprenorphine

C

Cabergoline
Captopril
Carvedilol
Celiprolol
Cetirizine
Chlordiazepoxide
Chlorothiazide
Chlorpheniramine
Chlorpromazine
Chlortalidone
Cilazapril
Clemastine
Clobazam
Clomipramine
Clorazepate
Clozapine
Co-beneldopa

Co-careldopa
Co-dergocrine
Codeine
Cyclopentiazide
Cyproheptadine

D

Debrisoquine
Dextromoramide
Dextropropoxyphene
Diamorphine
Diazepam
Dihydrocodeine
Diltiazem
Diphenhydramine
Dipipanone
Dipyridamole
Dothiepin
Doxazosin
Doxepin

E

Enalapril
Ethacrynic Acid

F

Fentanyl
Fexofenadine
Flunitrazepam
Flupenthixol
Fluphenazine
Flurazepam
Fosinopril
Frusemide

G

Guanethidine
Glyceryl trinitrate

H

Haloperidol
Hydralazine
Hydrochlorthiazide

Hydromorphone
Hydroxyzine

I

Imipramine
Indapamide
Indoramin
Inositol nicotinate
Isocarboxazid
Isosorbide dinitrate
Isosorbide mononitrate

L

Labetalol
Lercanidipine
Levodopa
Lisinopril
Lofepamine
Lofexidine
Loprazolam
Loratadine
Lorazepam
Lormetazepam
Loxapine
Lysuride

M

Maprotiline
Mefruside
Meprobamate
Meptazinol
Mequitazine
Methadone
Methotrimeprazine
Methysergide
Metoprolol
Mexiletine
Mianserin
Mirtazepine

Mizolastine
Moexipril
Morphine

N

Nalbuphine
Nefazodone
Nicardipine
Nicotinic Acid
Nicotiny alcohol
Nifedipine
Nimodipine
Nisoldipire
Nortriptyline

O

Ofloxacin
Olanzapine
Oxazepam
Oxpentifylline
Oxprenolol
Oxypertine

P

Pamidronate
Paroxetine
Pentaerythritol
Pentazocine
Pericyazine
Pergolide

Perindopril

Perphenazine
Phenazocine
Phenelzine
Phenoxybenzamine
Pimozide
Pindolol
Pipothiazine
Polythiazide
Prazosin
Prochlorperazine
Promazine
Promethazine

Propafenone
Propranolol
Protamine
Protriptyline

Q

Quetiapine
Quinapril

R

Ramipril
Reboxetine
Risperidone
Ropinirole

S

Selegiline
Sotalol
Sulpiride
Sumatriptan

T

Tamsulosin
Temazepam
Terazosin
Terfenadine
Thioridazine
Timolol
Torazamide
Tramadol
Trandolapril
Tranlycypromine
Trifluoperazine
Trimeprazine
Trimipramine

V

Verapamil
Viloxazine

X

Xipamide

Z

Zuclophenthixol

Notes:

- 1) In the case of some drugs, hypotension is rare, in others the hypotensive effect is transient.

Information from BNF Vol. 36

Ask your Pharmacy Department to update as necessary.

REFERENCES

- Grading of evidence in brackets**
- I = evidence from well designed, randomised controlled trials (RCTs), meta analyses or systematic reviews of RCTs**
- II = Evidence from prospective studies (non-randomised controlled trials or good observational studies)**
- III = Evidence obtained from retrospective and cross-sectional studies**
- IV = Evidence obtained from expert committee reports or opinions and/or clinical experience of respected authorities**
- Adachi JD, Bensen WG, Brown J, et al.
Intermittent etidronate therapy to prevent corticosteroid induced osteoporosis.
NEJM 1997;337:382-387 (I)
- Black DM, Cummings SR, Karpf DB et al.
Randomised trial of effect of alendronate on risk of fracture in women with existing vertebral fractures.
Lancet 1996; 238:1535-1540 (I)
- Campbell AJ et al.
Falls prevention over 2 years: a randomised controlled trial in women 80 years and over.
Age and Ageing 1999;28;513-518 (I)
- Carter SE, Campbell EM, Sanson-Fisher RW, Redman S, Gillespie WJ.
Environmental hazards in the homes of older people.
Age and Ageing 1997;26:195-202 (II)
- Chapuy MC, Arlot ME, Duboeuf F et al.
Vitamin D3 and calcium to prevent hip fractures in elderly women.
NEJM 1992;327:1637-1642 (I)
- Close J, Ellis M, Hooper R, Glucksman E, Jackson S, Swift C.
Prevention of falls in the elderly trial (PROFET): a randomised controlled trial.
Lancet 1993; 353:93-97 (I)
- Davies AJ and Kenny RA.
Falls presenting to the accident and emergency department: types of presentation and risk factor profile.
Age and Ageing 1996;25:362-366 (II)
- Dawson-Hughes B, Harris SS, Krall EA et al.
Effect of calcium and vitamin D supplementation on bone chemistry in menopausal women 65 years of age or older.
NEJM 1997;337:670-676 (II)
- Fiatrone MA, O'Neil EF, Ryan N, Clements KM, Solares GR et al.
Exercise training and nutritional supplementation for physical frailty in very elderly people.
NEJM 1994;330(25):1769-1775 (I)
- Folstein MF, Folstein SE and McHugh PR.
'Mini Mental State'. A practical method for grading the cognitive state of patients for the clinician.
Journal of Psychiatric Research 1975;12:189-198 (II)

Gillespie LD, Gillespie WJ, Cummings R, Lamb SE, Rowe BH.
Interventions to reduce the incidence of falling in the elderly.
Cochrane Database of Systematic Reviews Cochrane Library 1998 Issue 2 (I)

Gillespie WJ, Henry DA, O'Connell DL, Robertson J.
Vitamin D and vitamin D analogues and calcium in the prevention of fractures in involutional and post menopausal osteoporosis.
Cochrane Database of Systematic reviews. Cochrane Library 1998, Issue 3 (I)

Grodstein F, Stampfer MJ, Colditz GA et al.
Postmenopausal hormone therapy and mortality.
NEJM 1997;336:1769-1775 (III)

Grubb BP, Wolfe D, Samoil D, Madu E, Temesy-Armos P, Hahn H and Elliott L.
Recurrent unexplained syncope in the elderly: the use of head-upright tilt table testing in the evaluation and management.
J AM Geriatr Soc 1992;40:1123-1128 (II)

Harris ST, Watts NB, Jackson RD et al.
Four-year study of intermittent cyclic etidronate treatment of postmenopausal osteoporosis: three years of blinded therapy followed by one year of open therapy.
American Journal of Medicine 1993;95:557-567 (I)

Hodkinson HM.
Evaluation of a mental test score for assessment of mental impairment in the elderly.
Age and Ageing 1972;1:233-238 (III)

Hodkinson HM.
Evaluation of a mental test score for assessment of mental impairment in the elderly.
Age and Ageing 1973a;1:233-238 (III)

Hoffman N.
Diet in the elderly. Needs and risks.
Medical Clinics of North America 1993;77(4);745-756 (IV)

Kannus P.
Preventing osteoporosis, falls and fractures among elderly people.
BMJ 1993;318:205-6 (IV)

Lauritzen JB, Petersen MM, Lund B.
Effect of external hip protectors on hip fracture.
Lancet 1993;341:11-13 (I)

Law MR, Hackshaw AK.
A meta-analysis of cigarette smoking, bone mineral density and risk of hip fracture: recognition of a major effect.
BMJ 1997;315:841-6 (III)

Lilley JM, Arie T, Chilvers CE.
Accidents involving older people : a review of the literature.
Age and Ageing 1995;24:346-365 (IV)

Liu BA, Topper AK, Reeves RA, Gryfe C Maki BE.
Falls among older people: relationship to medication use and orthostatic hypotension.
J AM Geriatr Soc 1995;43:1141-5 (I)

Lord SR and Bashford GM.
Shoe characteristics and balance in older women.
JAGS 1996;44:429-433 (I)

Lufkin EG, Wahner HW, O'Fallon WM et al.
Treatment of postmenopausal osteoporosis with transdermal oestrogen.
Annals of Internal Medicine 1992;117:1-9) (I)

McIntosh S, Da Costa D, Kenny RA.
Outcome of an integrated approach to the investigation of dizziness, falls and syncope in elderly patients referred to a syncope clinic.
Age and Ageing 1993;22:53-58 (II)

Nevitt MC, Cummings SR, Kidd S, Black D.
Risk factors for recurrent nonsyncopal falls: a prospective study.
JAMA 1989;261:2663-8 (II)

Oliver D, Britton M, Seed P, Martin FC and Hooper A.
Development and evaluation of evidence based risk assessment tool (STRATIFY) to predict which elderly inpatients will fall: case-control and cohort studies.
BMJ 1997;315:1049-1053 (I)

Overstall PW.
Falls.
Reviews in Clinical Gerontology 1992;2:31-38 (IV)

Preventing falls and subsequent injury in older people.
Effective Health Care Bulletin. Vol.2.No.4. University of York:NHS Centre for Reviews and Dissemination (I)

Province MA, Hadley EC, Hornbrook MC, Lipsitz LA, Miller JP, Mulrow CD, Ory MG, Sattin RW, Tinetti ME, Wolf SL.
The effects of exercise on falls in elderly patients.
JAMA 1995;273:1341-1347 (II)

Sattin RW, Rodriguez JG, DeVito CA, Wingo PA
Study to Assess Falls Among the Elderly (SAFE) Group. Home environmental hazards and the risk of falling among community-dwelling older persons.
J AM Geriatr Soc 1998;46:669-676 (III)

Shaw FE, Kenny RA.
The overlap between syncope and falls in the elderly.
Postgrad Med J 1997;73:635-639 (IV)

Simpson J, Harrington R and Marsh N.
Guidelines for managing falls among elderly people.
Physiotherapy 1998;84:173-177 (IV)

Tinetti ME, Baker DI, McAvay G et al.
A multifactorial intervention to reduce the risk of falling among elderly people living in the community.
NEJM 1994;331:821-7 (I)

Tinetti ME, Doucette J, Claus, Marottoli R.
Risk factors for serious injury during falls by older persons in the community.
J AM Geriatr Soc 1995;43:1214-1221 (II)

Vellas BJ, Wayne SJ, Romero L, Baumgartner RN, Rubenstein LZ, Garry PJ.
One-leg balance is an important predictor of injurious falls in older persons.
J AM Geriatr Soc 1997;45:735-738 (II)

SUGGESTIONS FOR FURTHER READING

Aaronson L, Carlon-Wolfe, W And Schoener (1991) Pressures that fall on rising: Ways to control postural hypotension. Geriatric Nursing, 12, 2, 67.

Aldridge E, (1991) Accidents Will Happen', Nursing Times, 87, 40.

Blake A.J, (1992) Falls in the Elderly British, British Journal of Hospital Medicine, 47, 4, 268-272.

Downton J, (1993) Falls in the Elderly, Edward Arnold.

Edwards SL, (1998) Malnutrition in hospital patients: where does it come from? British Journal of Nursing, Vol 7, No 16.

Gaebler S, (1993) Predicting which patient will fall again and again, Journal of Advanced Nursing, 18, 1895-1902.

Mitchell A. and Jones N. (1996) Striving to prevent falls in an acute setting-action to enhance quality, Journal of Clinical Nursing, 5, 213-220.

Morse J.M. (1997) Preventing Patient Falls, published by Sage.

Morse J. M., Tylko S.O., and Dixon H.A., (1985) The patient who falls and falls again, Journal of Gerontological Nursing, 11, 1, 15-18.

NHS Executive (1996) Promoting Clinical Effectiveness in and through the NHS: A Framework for the NHS, NHS Executive, Leeds.

Perdue C., (1998) Treating Postural Hypotension, Nursing Times, 94, 14, 54-56.

Rogers S. (1994) Reducing Falls in a Rehabilitation Setting: A Safer Environment Through Team Effort, Rehabilitation Nursing, 19, 5, 274-276.

Sweeting H.L., (1994) Patient fall prevention: a structured approach, Journal of Advanced Nursing, 2, 4, 187-192.

Uden G., Ehfors M., and Sjostrom K (1999) Use of initial risk assessment and recording as the main nursing intervention in identifying risk of falls Journal of Advanced Nursing, 29(1), 145-152

Vellas BJ, Wayne S, Romero , Baumgartrerner R. And Garry P, (1997) Fear of falling and restriction of mobility in elderly fallers, Age and Ageing, 26, 198-193.

Information on an independent learning pack on reducing the risk of falls by elderly people in hospitals is available from Joy Warren, Ward Sister, Barnes Ward, Dorset County Hospital Dorchester DT1 2JY, Tel:01305 254771.

Useful Addresses

WanderGuard (UK) Ltd

Clarendon Buildings

London

N15 1XL

FREEPHONE 0500 500 667

Supply Tabs Mobility Monitors - can alert staff of patients who are at risk when they need assistance.

Sensor Care Systems Ltd

Kirk Hammerton Hall

York

North Yorkshire

YO5 8DA

TELEPHONE 01423 331298

Supply bed alarms

Robinson Healthcare

Waterside

Walton

Chesterfield

S40 1YF

TELEPHONE 01246 220022

Supply 'Safehip' hip protectors (Validated)

Alert Care

Ellen Young

PO Box 3604

Sturminster Newton

DT10 2XG

TELEPHONE 01258 817328

Supply Ambularm

Age Concern Aid Call

Freepost (Ex 2356)

Newton Abbot

Devon

TQ13 7BR

TELEPHONE: 0345 413103

Produce Falls leaflets

Health Education Authority's Older People Programme

TELEPHONE: 0171 413 2036

To obtain the leaflet 'Avoiding slips, trips and broken hips'.