NSW Falls Injury Prevention Network

FALLS LINKS

Volume 1 Issue 5

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INSIDE THIS ISSUE:

SPECIAL POINTS OF INTEREST:

WELCOME

Welcome to our fifth issue of Falls Links. This issue features the Falls Forum held by South Eastern Sydney Illawarra Health Service (SESIAHS) on Thursday 14 September 2006 at St George Hospital. It was a great day with many interesting presentations and concluding with a panel discussion. A report on this forum is on page 2.

There is an excellent article on Medication Management and Falls Prevention by Dr Jacqueline Close commencing on page 3, including a table of medications associated with an increased risk of falls.

Next month is the second biannual Australian Falls Prevention Conference in Brisbane from the 5-7th November. This will be a stimulating conference with a number of inspiring speakers. Looking forward to meeting many of you at this event.

For further information go to www.powmri.edu.au/AFP2006 .

SESIAHS Falls Forum

Vijay Naidoo, the organiser of the SESIAHS Falls Forum held at St George Hospital on Thursday 14th September.

SESIAHS Falls Forum

The SESIAHS hosted a successful Falls Forum on Thursday 14th September at the St George Hospital Education Centre Auditorium. The forum hosted by the Clinical Governance Unit had 140 attendees who came from as far as Canberra with nursing homes in the SESIAHS very well represented. The purpose of the forum was to showcase and share lessons learned in implementing programs and strategies for fall prevention and injury reduction amongst older people. A program of excellent presentations of the work undertaken in the differing environments of inpatient, community dwelling and supported accommodation was complemented by presentations on the NSW context for managing and preventing falls and the National and International Research Priorities.

Polly Price and Michelle Kershaw

A panel discussion at the end of the program identified actions to further progress the initiatives across the Area. These included:

- The appointment of the Area Falls Co-ordinator and establishment of a Falls Management Committee to harness good initiatives and establish priorities.
- Health promotion to form link with Local Government (representative at forum from Hurstville Council) to establish a network with the Home and Community Care (HACC) and service providers.
- Health promotion is to provide the lead in mapping exercise programs that are currently in

SESIAHS Falls Forum 2006

place across the Area Health Service:

- Include hospital programs that are currently being run through the Chronic Care Program (pulmonary and cardiac rehab); ACAT (specific falls clinics, day hospital clinics).
- Establish a SESIAHS directory which will include referral mechanism and eligibility criteria.
- Establish links with GPs – email programs.

- Stepping On Program
  - Develop a strategy to role out across the AHS which will include a guide for transport and links with local government for this e.g. Leichhardt Council now provides transport to a Stepping On Program.
  - Other models e.g. St Vincent's Hospital program with Community Health in Surry Hills Northcote Housing Estate.

Copies of the presentations from the forum are available on the NSW Falls Network website at:
www.powmri.edu.au/fallsnetwork

Lorraine Poulos from St.Lukes Hospital Complex at Potts Point

Medication Management and Falls Prevention

Prepared by Dr Jacqueline C.T. Close, Staff Specialist in Geriatrics, Prince of Wales Hospital, Senior Lecturer, UNSW, Senior Research Associate at Prince of Wales Medical Research Institute, Sydney and Honorary Consultant Physician at Kings College Hospital, London, UK.

Why are medications associated with an increased risk of falling?

Medications have long been implicated as an iatrogenic cause of falls and fractures in older people with a number of studies demonstrating a link between medications and falls. The ageing process can be associated with an alteration of the body's ability to absorb, metabolise, distribute and excrete drugs (pharmacokinetics) as well as an alteration of drug effect at its intended target site (pharmacodynamics). Advancing age is associated with increased sensitivity to the central nervous system effects of certain drugs including benzodiazepines [1] with sedation induced at lower doses and concentrations than one would see in a younger person[2, 3]. Reduced mental alertness, slowed transmission within the central nervous system, sedation, blurred vision, confusion, neuromuscular incoordination, impaired balance and drug-induced parkinsonism are all potential mechanisms by which particular medications predispose older people to fall [4, 5].

Which medications have been associated with an increased risk of falling

Centrally-acting medications

The group of medications consistently shown to be associated with an increased risk of falls are the psychoactive or centrally acting medications i.e. medications with a direct effect on brain function. Older people are more susceptible to the effects of centrally acting medications and the literature suggests a two to three fold increase in both fall and fracture rates for people prescribed centrally acting medications [6-13]. The use of multiple centrally acting agents has an additive effect on falls risk.

The most frequently studied group of centrally acting medications with respect to falls are the sedative/hypnotic agents and in particular the benzodiazepines. In a recent systematic review of the literature of sedative/hypnotic use in older people, it was shown that the average increase in sleep time from taking a sleeping tablet was 25 minutes and that you are twice as likely to cause an adverse cognitive effect than you are to improve the quality of sleep in an older person[14].

Other centrally acting medications associated with an increase in falls risk are the antidepressants and antipsychotic agents and to a lesser extent the anticonvulsants and anti-Parkinsonian medications. Table 1 highlights some of the commonly prescribed centrally acting medications which may be associated with an increased risk of falls.

Other medications associated with falls

The literature on the association of other drug groups and falls is less compelling. Cardiovascular medications have been suggested as being a predictor of falls risk. The mechanism by which these medications contribute to risk is probably from the potential of many of these medications to cause postural hypotension and volume depletion. Analgesic agents have also been considered as a risk factor for falls although once studies have adjusted for the condition for which a pain killer is prescribed then the strength of the association between falls and the drug is diminished. There is conflicting evidence as to whether the narcotic analgesic agents (tramadol, oxycodone, morphine, fentanyl etc) contribute to falls risk.

Can withdrawal of certain medications reduce falls risk?

There is one published study which looked specifically at whether withdrawal of centrally acting medications could lead to a reduction in falls[15]. The study showed a reduction in falls in those subjects undergoing the withdrawal program. A large proportion of subjects in this trial were on either sedatives or antidepressants or both. An important outcome from this study was that a significant number of people in the trial went back on their medications after the study finished which serves to highlight how difficult it is to successfully withdraw and maintain people of certain medications, some of which are drugs of dependency. Abrupt cessation of centrally acting medications is to be avoided as withdrawal can precipitate clinical symptoms. Certain drugs such as the benzodiazepines are drugs of dependence and formal withdrawal programs need to be undertaken with the consent of the patient. The NSW Detoxification Clinical Practice Guidelines provide guidance on drug withdrawal **-http://www.health.nsw.gov.au/public-health/dpb/publications/pdf/detoxification_clinicalpractice_guidelines.pdf.**

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Table 1. Commonly centrally acting medications which may be associated with an increased risk of falls

	Trade/Product names	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	
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
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 serotenergic 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

Drug modification has been an integral component of various multifaceted trials but it is not possible from these trials to dissect out which medications were altered and the relative contribution of the drug modification to the reduction in falls.

"Polypharmacy" as a risk factor for falls

Several studies have shown that the prescription of four or more medications increases the risk of falls. Some argue that the number of medications is really a marker of underlying co-morbidity and when this is adjusted for the relationship with number of medications is lost[16]. In a world of evidence based medicine, polypharmacy is essentially a defunct term and the concept of "appropriate" prescribing better describes the aims of medication management Older people should have access to medications from which they stand to benefit and so for people with multiple underlying pathologies there is an inevitability that the number of prescribed medications will increase. However medications are only effective if actually taken and compliance is negatively effected by increasing numbers of medications. Regular medication review is essential to ensure optimum prescribing and adherence are achieved. Negotiation with the patient is key to maximizing compliance. In the UK it is recommended that medication review is undertaken on a 6 monthly basis for older people on 4 or more medications and yearly for those on less than 4 medications.

Conclusions

Medications, and in particular the centrally acting medications, have been shown to increase a persons risk of falls.

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There is also evidence to support culprit medication withdrawal as a single and multifaceted approach to prevention. People (patients and prescribers alike) need to be aware of the risks associated with prescribing and make an informed choice around the risks and benefits. Any prescribed medication should be reviewed and the need for ongoing prescription justified.

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Recent interesting abstracts from the literature on falls prevention

Pain and falls in older people

Fiona M. Blyth[a, b,], Robert Cumming[a, c], Paul Mitchell[d] and Jie Jin Wang[d]

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European Journal of Pain 2006, preprint from Science Direct

Abstract

Pain and falling both affect substantial segments of the older population. Despite the presence of several plausible mechanisms for pain to contribute to falling, very few studies have investigated this relationship in older people. If pain is a falls risk factor, this represents a potentially important point of intervention for falls prevention. Falls are a major cause of disability and loss of independent living status in older people. We examined the relationship between pain, pain-related interference with activities and falls in a cross-sectional analysis of 3509 people aged 49 years or more in two postal code areas in New South Wales, Australia (the Blue Mountains Eye Study). We found that subjects reporting pain with moderate to severe level of pain-related interference with activities were more likely to report any falls or multiple falls in the past 12 months than subjects not reporting pain (adjusted prevalence ratios 1.42, $p = 0.0001$ and 1.62, $p = 0.0156$, respectively). We also found a significant trend in the association indicating an increasing likelihood of self-reported falls associated with increasing level of pain-related interference with activities. The association was stronger for multiple falls than for any falls. Excluding subjects with recent fractures did not alter the findings. Given the high prevalence and public health importance of both conditions, further investigation of this association in prospective studies is recommended.

Keywords: Pain; Accidental falls; Aged; Blue Mountains Eye Study

The ProFaNE (Prevention of Falls Network Europe) website has a large number of useful resources, some are available in important community languages. New resources are continually added, so it is worth checking out on a regular basis. The website is at http://www.profane.eu.org/

Risk of falls after withdrawal of fall-risk-increasing drugs: a prospective cohort study

Nathalie van der Velde,[1,2,3] Bruno H. Ch. Stricker,[1,3] Huib A. P. Pols [1] & Tischa J. M. van der Cammen[1,2]

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British Journal of Clinical Pharmacology, Preprint August 30, 2006.

Abstract

Aims: Falling in older persons is a frequent and serious clinical problem. Several drugs have been associated with increased fall risk. The objective of this study was to identify differences in the incidence of falls after withdrawal (discontinuation or dose reduction) of fall-risk-increasing drugs as a single intervention in older fallers.

Methods: In a prospective cohort study of geriatric outpatients, we included 139 patients presenting with one or more falls during the previous year. Fall-risk-increasing drugs were withdrawn, if possible. The incidence of falls was assessed within 2 months of follow-up after a set 1 month period of drug withdrawal. Multivariate adjustment for potential confounders was performed with a Cox proportional hazards model.

Results: In 67 patients, we were able to discontinue a fall-risk-increasing drug, and in eight patients to reduce its dose. The total number of fall incidents during follow-up was significantly lower in these 75 patients, than in those who continued treatment (mean number of falls: 0.3 vs. 3.6; P value 0.025). The hazard ratio of a fall during follow-up was 0.48 (95% confidence interval (CI) 0.23, 0.99) for overall drug withdrawal, 0.35 (95% CI 0.15, 0.82) for cardiovascular drug withdrawal and 0.56 (95% CI 0.23, 1.38) for psychotropic drug withdrawal, after adjustment for age, gender, use of fall-risk-increasing drugs, baseline falls frequency, co-morbidity, Mini-Mental State Examination score, and reason for referral.

Conclusions: Withdrawal of fall-risk-increasing drugs appears to be effective as a single intervention for falls prevention in a geriatric outpatient setting. The effect was greatest for withdrawal of cardiovascular drugs.

CONFERENCES

It is my pleasure to invite you to attend the second Australian Falls Prevention Conference, to be held at the Sofitel Hotel, Brisbane, Queensland. The conference will address the important issue of falls in older people with a major emphasis on...

"Preventing falls in at-risk groups"

The conference includes 7 keynote speakers from Australia and abroad, free papers, poster sessions, workshops, roundtable discussions and trade exhibitions.

The Organising Committee looks forward to welcoming you to Brisbane.

Graham Kerr,
Conference Host.

session themes

- Vision Impairment
- Cognitive Impairment
- Parkinson's Disease
- Understanding Balance
- Falls risk assessment
- Exercise programs
- Compliance issues
- Fracture prevention
- Falls prevention initiatives
- Falls policy development

Australian Government
Department of Health and Ageing

QUT

POPI
Prevention of Older People's Injuries

important dates

- Abstracts open.....10th February 2006
- Registrations open.....27th February 2006
- Abstracts close.....30th June 2006
- Notification of abstract acceptance...1st September 2006
- Early registrations close.....15th September 2006

invited speakers

- Lindy Clemson (Sydney, Australia) 'Occupational interventions for the prevention of falls'.
- Bob Cumming (Sydney, Australia) 'Interventions for preventing falls in hospitals'.
- Stephen Lord (Sydney, Australia) 'Overview of 50 RCTs on exercise for falls prevention'.
- John Wark (Melbourne, Australia) 'An update of fracture prevention strategies'.
- Graham Kerr (Brisbane, Australia) 'Falls prevention strategies for people with Parkinson's disease'.
- Clare Robertson (Dunedin, NZ) 'Falls prevention strategies for people with visual impairment'.
- Jacqui Close (Sydney, Australia) 'Falls prevention strategies for people with cognitive impairments'.
- Chris Todd (Manchester, UK) 'Psychological factors related to falls'.
- Keith Hill (Melbourne, Australia) *Panel of experts* 'Preventing falls in at risk groups'.

Organising Committee

G Kerr, J Wood, S Morrison, S Brauer, J Nitz
N Peel, M Bourke, P Vardon, R O'Keefe

Scientific Committee

G Kerr, J Wood, S Morrison, S Lord, J Close, R Fitzpatrick, C Sherrington, L Day
J Steele, B Cumming, I Cameron, H Menz, K Hill, L Clemson, C Vogler, D Sturnieks

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NSW FALLS INJURY PREVENTION NETWORK

For information, suggestions and ideas regarding the network or this newsletter, contact Esther Vance at

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www.powmri.edu.au/fallsnetwork

NSW FALLS INJURY PREVENTION NETWORK BACKROUND

The NSW Falls Injury prevention network has existed since 1993. The role of this network has grown since its inception and now includes:

- *Meetings for discussion of falls related issues;*
- *Dissemination of research findings both local and international;*
- *Sharing resources developed and exploration of opportunities to combine resources in joint initiatives;*
- *Encouragement of collaborative projects and research;*
- *To act as a lobby group to influence policy;*
- *To liaise with NSW Health to provide information on current State/ Commonwealth issues in relation to falls and*
- *Maintenance of resources pertinent to the field*

The main purpose of the network is to share knowledge, expertise, and resources on falls injury prevention for older people.

'The NSW Falls Injury Prevention Network activities are part of the implementation of the NSW Falls Policy funded by NSW Health

NETWORK INFORMATION

SHARE YOUR NEWS AND INFORMATION/IDEAS ON FALLS PREVENTION

Do you have any news on Falls Prevention you want to share with other on the network, or do you want to report on a project that is happening in your area. Please email Esther with your information. We also welcome suggestions for articles and information you would like to see in this newsletter.

Send your information to e.vance@unsw.edu.au

THE NETWORK LISTSERV

It is great to see the increased activity on the listserv and want to continue to promote this. To send an item to the listserv where all members of the network can see it, send an email to:

Nsw-falls-network@lists.health.nsw.gov.au

You need to be a subscriber to the listserv to send an email that will be distributed to all members of the on the listserv. Remember to put a short description in the subject line.
Recently some posts to the listserv have bounced due to email address changes in the area health services, you need to re-subscribe with your new e-mail address and unsubscribe from your old address following the Join the Network instructions as shown on this page.

AFP CONFERENCE

BRISBANE

NOVEMBER 5-7, 2006

JOINING THE NETWORK

To join the NSW Falls Injury Prevention Network listserv :

- Send an email to : majordomo@lists.health.nsw.gov.au
- In the body of the message type **subscribe nsw-falls-network**
- Do not put anything in the subject line
- Do not put anything else in the body of the message including your signature. If your signature is automatically added every time you send an email you will need to turn this off.
- To unsubscribe send an e-mail to the above address and in the body of the message write **unsubscribe nsw-falls-network**

If you have any problems contact Esther at e.vance@unsw.edu.au.