

Feet First



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AGM ELECTS NEW BOARD

On 8th August the AMGFA held its Annual General Meeting and confirmed that the association was thriving and providing significant service to its members.

The President, Mr. Karl Schott reminded those present of the things we have done over the last twelve months and noted the things we will continue to work on. (The achievements and plans for 2004 were noted in the President's Report on Page 2).

Mr. Ron Henson the Treasurer reported on the financial position of the association, and noted that although we are not a large organisation our financial position is sound for the foreseeable future. Our membership numbers continue to remain around 50 but indications are that this will grow a little over the coming year.

The Secretary, Mr. Casper Ozinga reported that the administration of the association is functioning well and thanked Frances Reeves for her assistance as the Administration Assistant. Members were introduced to the new AMGFA web site.

Ernie Tye spoke about the ongoing negotiations with DVA on their Invitation to tender and the requirements for the new contract.

The existing board was re-elected and the **Executive Management Committee** remain as:

President: Karl Schott,
Secretary: Casper Ozinga
Treasurer: Ron Henson

Committee Members:

Paul Galy
Glen Wiley

State Representatives:

Howard Smith (Perth)
Ernie Tye (Qld)
Alfredo Roldan (NSW)
Libby Newman (Vic)

DVA Invitation to Tender

As all members will now know the DVA issued its Invitation to Tender in October with a closing date of 24th November. All the requirements of the tender had previously been announced by the DVA and AMGFA members who had taken up the projects offered by the association found themselves well prepared for their tender submission.

Merry Christmas

And a Happy New Year

Ho
Ho
Ho





From the President's Desk

With this the last newsletter for the year it is appropriate that we review what the association has achieved over 2003 and consider what we may want to do in 2004.

The Past

This year has been a year of first's and achievement of milestones, and without going into detail I will just list them.

- First international conference with Georg Neff presenting cases from his practice in Germany
- First certifications to the AMGFA criteria for MGF Practitioners.
- AMGFA providing assistance with the preparation of the DVA tender response.
- Continuing negotiations with medical funds and other groups.
- Launching of the AMGFA website.
- Publication of the AMGFA organisation Quality System.

None of these successful enterprises occurred without a lot of work and input from the management committee and members. I would like to thank everyone involved and I look forward to continuing our success into the New Year.

The Future

Some of the things we are planning for 2004, include:

- Training programs in NSW, VIC and QLD.
- Assistance with OHS Risk Management Plans as required by most State Governments.
- Another international conference.
- Continuing to work with governments, health funds and other industry related association.
- First Aid training.
- Survey of our industry and our customers perspective of us.

I look forward to participating in our continual success and would like to wish everyone a very Merry Christmas and a prosperous and happy New Year.

Karl Schott

FIRST AID TRAINING

The NSW State meeting held earlier this year it was resolved that the AMGFA in NSW would investigate First Aid Training for its members.

This training will be provided by St. John Ambulance in March with the venue and dates still to be finalised. It is important that we get a minimum of 10 people to attend this training in order to keep the costs down and provide a good learning environment. The training will be over a weekend and the location will be the Liverpool Chamber of Commerce training rooms.

All members that are interested in taking part in this training should contact Frances Reeves by email freeves@amgfa.org.au or fax on (02) 9610 7965.

Cost will be approximately \$260 plus GST and lunch will be provided.

OHS RISK MANAGEMENT PLANS

Most State Governments now require all businesses to have in place and implement an OHS Risk Management Plan. At a recent meeting of the AMGFA members it was discovered that many of our members have not completed their plans or know how to start.

The Management of the AMGFA have asked Peter Reeves to give us some assistance and in March we will be holding a workshop for members in NSW so that we can meet this legal requirement.

Peter will conduct the workshop and explain exactly what is required in the OHS Risk Management Plan. He will then work with the members to identify the risks, assess them and plan how the risks can be controlled.

Continued on Page 8



OST Magazine 1/2002 pp.13 – 17

Translated by Karl-Heinz Schott and Satoko Taga

Gait disturbance and fall in elderly people

Martin Runge

Walking is not as easy or natural as it appears when we are young and healthy. Problems do appear in old age. The evidence shows that more than a half the people over 80 years old have a gait disturbance that is often associated with high risk of falling.

Causes, effects and required treatments distinguish falls in elderly people from falls of other age groups. Children and athletes fall more often than elderly people, but their falls occur because of different processes and especially cause different results. Falls occur quite often in elderly people: about 30% of people over 65 years old fall at least once a year. Among people over 80 years old, the ratio of falls in a year is 50%. The average ratio of falls in hospitals and retirement villages are respectively 1.6 and 1.4 per bed per year.

Falls – in the older population cause fractures, soft tissue damages, immobilisation, function loss and can even lead to the necessity of nursing care. 5% of falls cause fractures and a quarter of them are proximal femur fractures.

In addition to that, between 2% and 10% of falls cause damages that needs hospitalisation or immobilisation. It is extremely difficult to get back to an independent daily life without aid after femoral neck fractures and intertrochanteric fractures. According to international reports, a one-year mortality of patient group with hip fractures caused by falls was about 20%, and only one third of them got back to the independent mobility they had before the fracture. About a quarter of patients with femoral neck fracture entered a nursing home within a year of the fall.

Known Causes

It is not only bones that break because of falls. The confidence, positive outlook on life and activities are also lost. More than a half of elderly people who have fallen complain of the anxiety of falling again, and about 20% say that the fall has changed their life completely. About 40% of fallen patients reduce their physical activity for at least several months.

In recent years, the geriatric research has found out how to recognise the risk of falling before something actually happens. Contrary to public belief most of falls in elderly people do not happen by losing consciousness or some kind of attack. 80% of falls in elderly people happen because of reduced movement ability and worsened balance. The keywords are

locomotion and postural competency. Locomotion is the controlled movement in a room. It starts with changing positions in lying and sitting, then standing up from sitting, standing, changing sitting positions, walking on a flat and an uneven ground, and then overcoming typical obstacles like slopes and steps. "Postural" is related to keeping control of the posture. Everything that takes care of having a correct posture in a room belongs to the postural system.

Body control worsens

Gait ability and loss of balance does not occur for all aging people but it does for many people. When it comes to a fall for the mature aged, it can be in a situation that does not have any unusual degree of balance difficulty. The typical fall in elderly people does not occur because of external factors like unfortunate situations of banana skins or ice on road, but occurs in absolutely normal daily activities. Therefore, those falls are a sign of worsening body control ability. External factors are not sufficient to explain falls in general. However, all falls are surely influenced by external factors. We do not live in the outer space. The infamous carpet corner is just the clue that a problem exists in the movement apparatus but is not the sole cause for the fall. A fall over the familiar edge of the carpet or step in the floor is only an indication that a problem is present not an explanation for the fall. Further, the "explanation" "they were just not careful enough" is heard repeatedly, but it is not good enough to explain the fall. A person who has normal gait ability does not require special concentration for the walking process in normal environmental condition. When walking does not function automatically any more, then there is a disorder and it is important to find and treat it.

Multiple causes

In geriatrics, the cause of problems is not a single disease, but is often a bundle of various factors. Each fallen Person has several combinations of fall causes. 100 falls = 400 causes! Apart from diseases, there are residue outcomes of diseases (i.e. disorders), aging processes and inappropriate lifestyle habits that reduce the locomotive competency. In most cases, they are a combination of several health disorders.

Geriatricians are learning more and more that many processes that were previously considered because of aging, can be explained by insufficient or inappropriate physical activities. The human movement apparatus like nerves, muscles, bones and joints do not wear out by moving, on the contrary, they need constant use for regeneration. Insufficient usage or "wrong" rest, lead muscles and bones to more and more deterioration. However, the cause of insufficient physical activities is not laziness or indifference. Often pain and other movement disorders are responsible for the decreased activities. Foot disorders play a very important role of limiting activities.



Patients with risk of falling will be recognised

Those patients can be recognised by appropriate examination. They are distinguishable from elderly people who do not have a risk of falling by a list of special conditions. A specific diagnosis will reveal a list of those differentiating factors and an individual fall risk profile will appear. The more a patient accumulates risk factors, the more they are likely to fall. Locomotive falls in elderly people consist of many factors.

The most important fall risk factor is weakened muscle power, and it is defined and measured physically, precisely as a product of force and velocity (Dimension Watt). A clinical measuring method is the standing up test. In this test, the patient must stand up from a chair and sit down again for 5 times as quickly as possible. A person who needs more than 10 seconds to perform it, has a critical weakness of muscle power with a higher risk of falls and fractures.

The second most important factor is the ability of posture holding control to the sides, and it is checked by tandem stand and tandem walks. In the tandem test, a patient puts their feet in a line in front of each other while standing and walking. A person who cannot control their body balance under this condition also has a high risk of falls and accumulate a risk factor other than muscle power.

Other risk factors are vision impairment and psychological disorders such as dementia. Medical drugs also play an important role. More than four kinds of prescribed medicines show a disordered health condition that is connected to the fall risks. Certain kinds of medicines that work for cerebral nervous system increase the risks falls as well.

Foot disorders lead to the fall risk

Disorders of lower extremities, especially of feet, weakened muscle power, worsed balance all increase the fall risk. Diseases like arthritis, diabetes, Parkinson's disease, cerebral vascular disorders as well as many other diseases and with changing combinations are causes. They form the condition called the "aging associated multi-functional gait disorder" together with the risk factors.

Naturally the foot itself plays an important role. Everyone can experience how their walking gait changes when they have pain or other changes on the foot. Humans adjust from head to toe when they have a foot problem. They lose the optimised body posture and are not as able to control their body. Disorders in the foot region are, therefore, a source of fall risk. Here again it is the combination of factors. When they have joint disorders or muscle atrophy at the same time because of arthritis or other diseases, those disorders are accumulated to increase the fall risk. Given the

weaker control, external conditions like coldness or uneven ground can be the tiny drop that tips the scale to a fall.

Improvements are possible

Multiple disorders should not be seen as discouraging, but rather they provide a lot of chances for multiple interventions. In several scientific studies, it was possible to reduce significantly the frequency of falls or the results of falls. The basic diseases may not be cured, but it does not mean that their results like weakened muscle power, balance disorders, vision impairment, pain etc. can not be improved by rehabilitation and therapies.

The Danish orthopaedic Professor Lauritzen has developed a protective "helmet for the hips." The hip protector "Safehip" consists of two polypropylene cups and they are sewed into the lateral sides of firm cotton underwear. They cover over the greater trochanter and divert the fall energy to the soft tissue around the hip joint in falls. Fractures near hip joint usually occur in a fall on to the lateral sides. The hip protector Safehip is positioned that can prevent from a hip fracture (If it is worn!).

Muscles and especially the gluteus muscles, have a triple role to prevent the hip joint fractures. The muscles control upright walking and prevent stumbles, secondly promote bone strength through pulling on (using) bones, and thirdly tension the bones into the vertical direction at the moment of fall to increase fracture resistance. An attractive buttock is not recognised without any reason, but is a sign of locomotive ability. It is not only a matter of strength, but also of the speed in which the force is made available (force multiplied velocity = energy). The critical split moment is to adjust quickly and not to fall down when we start to lose our balance. Those who cannot control at least 1.5 times of their body weight with one leg have no chance of catching their body when it falls. The one whose weight is 60 kilograms must be able to develop energy in fast movement to carry 90 kg or, if possible, better 120 kg on one leg.

Muscle training helps also the "elderly people"

Rehabilitation provides a good opportunity to improve muscle power and balance. Muscle training also works also for elderly people and improves mobility and walking ability. In our clinic, a balance and muscle training that consists of special self training ("Kenneburger Training Program") has been developed. In a new book we have described the theory of falls and gait in detail and hopefully it will evoke interest and is understandable (M. Runge, G. Fehfeld: Mobil bleiben – Pflege bei Gehstörungen und Sturzgefahr, Hannover 2000). It has been proven in studies that the Chinese Tai Chi avoids falls. The Tai Chi is good especially for elderly people. The technology comes to help us with

modern training equipment. The seesaw (Vibrationwippe) Galileo (www.galileo2000.de) works with the principle of reflective muscle stimulation. It indicates very positive results in competitive sports and rehabilitation for elderly people. Training with the Galileo improves the muscle power within a few weeks and improves the bone strength within a few months.

Supports from various areas

Applying and adjusting of medicines is a doctors' task. Firstly medicines that promote falls must be recognised and be stopped if possible. However, they may often be necessary, but it may be possible to change the dose and frequency or change to similar medicines that are considered to be not problematic for the risk of a fall. In that situation, it is even more important to have the walk and balance training and also the hip joint protector gets a special significance.

Vitamin D is very important in relation to bones and muscles. Especially elderly people suffer from vitamin D insufficiency due to lack of sunshine on our attitude (in Germany). The combination of vitamin D and calcium is good for improving not only the bone strength, but also the neuromuscular coordination.

Foot care (podiatry) is undisputedly important for elderly people. Since elderly people develop motion limits, they may not be able to do foot care by themselves and ailments are not found and are not treated. Healthy feet are a basis for balance and safe walking.

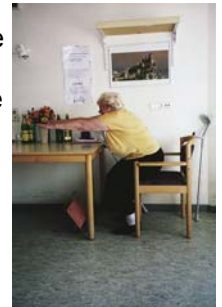
The checking of risk factors inside the home (check lists are in the book mentioned above) is surely significant, but the causes of falls are mainly in the patients themselves. A person who has a high risk of falling will fall in the optimum environment. The environment also includes good footwear. Slippers, sandals and worn-out shoes that are often liked by elderly people worsen the ability to keep postural control. Firm shoes with leather sole are better than sports shoes with soft sole in terms of balance! It is suggested that high cut shoes improve body control in walking and standing. Using sticks or walking frames for gait or balance disorders may have significance. However, it has not yet been clear completely the effect of the walking aids for recurrence of falls.

There are problems in the region of fall and gait disturbance that have not been yet clarified scientifically. The geriatricians recognise the importance of fall risk in elderly people and finds answers to avoid effects of falls and after falls more and more. However, fall risk is a theme for all medical professionals.



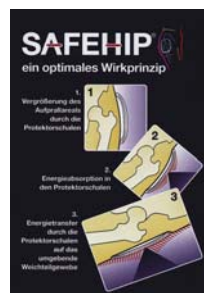
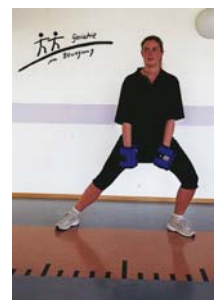
In the via mobilis equipment, the deciding moment of fall by stumble or roll will be researched and trained.

Standing up as test and training: the one who can not stand up without using their arms or who needs more than 11 seconds to stand up five times without help of their arms has fall risk. It is good training at the same time to stand up and sit down slowly (four seconds each).



In the Aerpah-Klinik, Essingen, force, muscle power and fall risk are measured by the modern electric equipment (Leonardo-Mess-System, F. Novotec).

The "Kennenburger Training Program" provides balance and power practice and can reduce fall risk.



The hip protector Safehip, developed by Danish trauma surgery professor J. Lauritzen, can prevent hip fractures caused by fall. It should be recommended to all patients who have fall risk.



SAFEHIP optimal functioning principle

1. Increasing of the impact area through the protector cups
2. Energy absorption in the protector cups
3. Energy transfer through the protector cups onto the surrounding soft tissue

Risk of falling check list

How do I know gait disturbance with risks of falling?

Indications on risk of falling according the PISA project of the Aerpah-Klinik, Esslingen-Kennenburg (based on Mr M. Runge: Gehstörungen, Stuerze, Hueffrakturten. Steinkopff-Verlag Darmstadt 1998; www.udfm.de/geriatrie/es.htm).

What is observed?	Explanation
Walking gait is Very slow or quite irregular	Steps are small and irregular, possibly with frequent tripping/ wobbling gait. Trying to grab hold everywhere with every step is a sign of falling risk as well.
Balance disturbance	If one can not stand for ten seconds in the following way: stand with the feet in a line, one foot in front of the other like put one foot's heel to the other foot's toes (Tandem stand).
Reduced Leg muscle power	If one can not stand up from a normal high chair five times in 11 seconds or quicker with using the arms as support, one has a risk of falling.
More than 4 kinds of medicines per day or specific medicines	One who takes more than 4 kinds of medicines per day has a risk of falling. Some medicines can not be stopped even though they increase the risk of falling.
Two or more falls during last year	Each falling should be checked by doctors, even when no injury happens.
Mental disorder	People with reduce of memory or attention disorder have a risk specifically, especially they walk around often.
Vision impairment	When one sees with one eye clearly worse than with the other eye, it is especially risky.
Problems of legs and feet	For example, hips, knees or feet ache, especially sudden onset of pain is dangerous.
Walking aids are required	Walking with stick or walking frame (with wheels) etc. is safer subjectively or objectively.
Mobility and walking ability are slowly deteriorating	If some one tends to reduce their activity radius more and more, it is often an indication of a gait disturbance.
Osteoporosis	Due to lacking of calcium in bones, the bones are more breakable (however, fractures of hands and femurs do happen without osteoporosis as well).

Know the risks – get rid of the risks: when two or more points are applied to you, you should see a doctor to speak about the risk of falling in any case.

As an immediate help, Hip protectors (Safehip are available in pharmacies and special shops) that can protect from pelvic fractures and femoral neck fractures as the worst result of a fall. Also the possibility of Geriatric rehabilitation should be discussed with your doctor. There are functioning methods to improve power, balance, and walking.

Diagnosis of gait disturbance with risks of falling

Indication of risk of fall according to the PISA project of the Aerpah-Klinik, Esslingen-Kennenburg (based on M. E. Tinetti, Yale University, compare M. Runge Gehstörungen, Stuerze, Hueffrakturten. Steinkopff-Verlag Darmstadt 1998; www.udfm.de/geriatrie/es.htm)



Symptoms	Explanation	Points
Gait disturbance, e.g. (alternative possible) <ol style="list-style-type: none"> 1 Clinically unstable gait 2 Spontaneous walk speed is very slow (< 0.6 m/s) 3 Tinetti test positive (Walking score) Or Balance disorder, e.g. <ol style="list-style-type: none"> 1 10 seconds tandem stand impossible 2 Tandem walk impossible or unstable 3 Strong anxiety or more than 12 steps needed for 360 turn round 4 Tinetti test positive (Balance score) 	Clinical judgement: Steps are small and irregular. Strong body swinging. Deviate from the walking line. Step height reduces. Frequent tripping/wobbling. Hold/grab for support. Stop walking while speaking. Key symptoms: high variation in the steps. Each consecutive step is irregular. Tandem stand: 3 trials possible. Feet stand in one line in to each other. Put one foot's heel to the other foot's toes. Arms can be anywhere. Help to get into position is accepted. "Tandem walk unstable" when: 8 failures or more than 2 m.	2
Muscle power reduce of hip, knee and ankle joint <ol style="list-style-type: none"> 1 Standing up from a chair without arms impossible or 2 Takes > 2 sec. per stand up 5 times (chair rising) or 3 Clinical power exams positive 	Stand up test (chair rising): Patient sits on a chair with typical height (46 cm), crosses their arms in front of their chest and stands up as quickly as possible. Repeat 5 times for stand up and sit down as fast as possible.	2
> 4 kinds of medicines Or medicines that are proven to increase a risk of falling	Multiple medicines indicate a general health disorder. Following medicines increase a risk of falling: neuroleptic, tri-cyclic antidepressive, benzodiazepine with half-time > 24 hours, anticonvulsive	2
Falling anamnesis positive	3 or more falls without losing conscious per year or 1 fall with severe injuries	2
Daily life relevant cognitive disorder with psycho motoric unsettled	Clinically noticeable as attention disorder or psycho motoric disorder, as unsettled walking up and down, or a gross misjudgement of ones own ability	2
Vision impairment	Differently operationed, e.g. general as "daily life relevant" or at least 20% vision lost. Especially great differences between two eyes visions are associated with a risk of falling.	1
ADL deficit or walking aid required or progressive locomotive worsening	Personal help for basic ADL (ADL = activity of daily living) is needed. In the anamnesis e.g. gradually reducing the daily locomotive radius.	1
Functional relevant problems /assessed results on the lower extremities	E.g. chronic or sudden ache, inflammatory arthrosis, contractures, muscle atrophies, inflammations diagnosed in the foot.	1
Parkinson syndrome or female hyperthyroid in the anamnesis	Under various nosologic diagnoses, the most commonly and strongly related to risks of falling.	1
85 years or older, or low Body Mass Index. Or for female: under 45 kg weight or no weight gain since 25 years old or hip fracture history on the mother's side	Some prediction of falling and fall related hip fractures are only researched with women's groups.	1

If 4 or more points are accumulated, one can assume a significant higher risk of falling.

Feet First



AUSTRALIAN MEDICAL GRADE
FOOTWEAR ASSOC. INC.

P. O BOX 5144
PRESTONS NSW 2170

PH: (02) 9823 0684
FAX: (02) 9610 7965
EMAIL:: freeves@amgfa.org.au



COMMITTEE MEMBERS

President: Mr Karl Schott
Secretary: Mr Casper Ozinga
Treasurer: Mr Ron Henson

FIRST CERTIFIED MGF PRACTITIONERS

After several years of work defining the certification criteria and providing training we are now able to announce the first certifications of our professional members.

Those certifications will be managed by MGF Register and the details of the certification are available on the internet at www.mgfreister.com.au.

The people that have been admitted to the register this year are:

CMGFP Ron Henson, Paul Galy, Rob Hamilton, Karl Schott and
Custom Made Andrew Walbaum.

CMGFP Daniel Raffaele, Casper Ozinga, Glen Willey and Ernest
Modifications Tye.

CMGFP Pauline Raffaele, Elizabeth Newman and Lynda Francis.
Retail

Further training will be provided for the CMGFP Program in February 2004. Members interested in taking part in these programs should contact Frances Reeves by email freeves@amgfa.org.au or fax on (02) 9610 7965.

Proposed dates are: **Days 1 and 2**, Sydney 14th and 15th February. Melbourne 21st and 22nd February, Brisbane 28th and 29th February. **Days 3 and 4** Sydney April (Dates to be confirmed).

Each training program is dependent upon getting a minimum of 10 attendees, so if you are interested in one of these programs contact Frances Reeves as soon as possible.

DVA Invitation to Tender - Continued from Page 1

The documentation of the tender was quite imposing and the short time frames meant that a lot of work had to be done while business continued as usual.

In order to further assist members, AMGFA arranged for Peter Reeves to provide professional guidance in the preparation of the tender documents. All members that received help from Peter expressed their appreciation of the professionalism of Reeves IMS Consulting and the high quality of work that was produced to the critical timelines.

Now all we have to do is wait for the tender arrangements by DVA.

OHS RISK MANAGEMENT PLAN - Continued from Page 2

From the outcomes of the workshop he will then produce a generic OHS Risk Management Plan for our members and then contact each participating member to customise the plan for the individual business. This is a necessary part of the law.

Each participating member will then get the OHS Risk Management Plan for his/her business and guidance on how to use and continually review the document.

The cost of this service will be \$440 plus GST and is only available to AMGFA members who attend the workshop. Members that do not attend the workshop will have to pay \$880 plus GST, but they will have Peter to conduct the workshop in their own business.

The date of the workshop will be 4th February 2004 at Concord RSL Club at 7.00pm. Members interested in participating should contact Frances Reeves by email freeves@amgfa.org.au or fax on (02) 9610 7965.