

DUNFERMLINE & WEST FIFE CHP

DEPARTMENT OF PODIATRY

Wound Care in Care Homes 2010

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INDEX

- 1. INTRODUCTION**
- 2. METHODOLOGY**
- 3. RESULTS**
- 4. DISCUSSION**
- 5. CONCLUSION**
- 6. RECOMMENDATION**
- 7. REFERENCES**
- 8. APPENDEX**

1. INTRODUCTION

Pressure ulcers are a common and serious problem in the ageing population; representing a major contributor to mortality and morbidity and a decreased quality of life (Santamaria et al, 2009). As the population ages, many individuals find themselves requiring the services of care homes. Several studies have been carried out looking at the prevalence of pressure ulcers in care homes, Vu et al (2007) found incidence rates between 6.5% - 23%, Santamaria et al (2009) found UK rates between 4.6% - 7.5% and Kwong et al (2009) found incidence rates of 25.16%. Rates vary depending on how well pressure ulcerations are reported by the care home.

This study focuses on foot ulceration in a care home setting. Unfortunately after carrying out an online literature review, there was very little information on foot ulcerations, most studies looked at pressure ulcerations on the body as a whole. Salcido (2009) found the most common sites of pressure ulcers occurred on the ischium (28%), the sacrum (17-27%), the trochanter (12-19%) and the heel (9-18%). One study by Lindholm et al (1992) found that of all the foot ulcerations they saw 76% of them occurred on the toes.

As a caseload the Dunfermline and West Fife podiatry service covers all care homes in Dunfermline and West Fife (DWF), which represents 889 beds. The service only accepts patients in care homes who have a podiatric or medical need. The current population of Dunfermline and West Fife stands at 139407, which means at any one given time 0.6% of the population of Dunfermline and West Fife, reside in a care home.

AIM

To examine the prevalence and outcomes of foot ulceration in care home in a one year period.

OBJECTIVES

To establish if there any common factors with foot ulceration in care homes.

To highlight the role of the podiatrist in care homes, and the incidence of foot ulcerations.

To determine if any protocol is required in care homes regarding foot ulcerations.

2. METHODOLOGY

During 2010 all foot ulcerations in care homes in Dunfermline and West Fife which were referred to the podiatry service were recorded on a database. The information collected was:

- Chi (Community Health index)
- Medical history
- Site of ulcer
- Date ulcer was referred
- Date which ulcer healed
- Duration of ulceration (in days)
- Number of podiatry interventions
- Reoccurrence rate

This data was collected from the 1st January 2010 until 31st December 2010 to allow a view of foot ulcerations in a one year period in care homes in Dunfermline and West Fife. In January 2011 the data were examined. Each patient was split into a category according to their medical history. Several patients have co-morbidities.

3. RESULTS

Figure 1: Dorsal aspect of the foot showing sites of ulceration



Figure 2: Plantar aspect of the foot showing sites of ulceration



Yellow dots represent a site with between 1 -5 ulcerations.

Green dots represent a site with between 5 – 10 ulcerations

Orange dots represent a site with over 11 ulcerations.

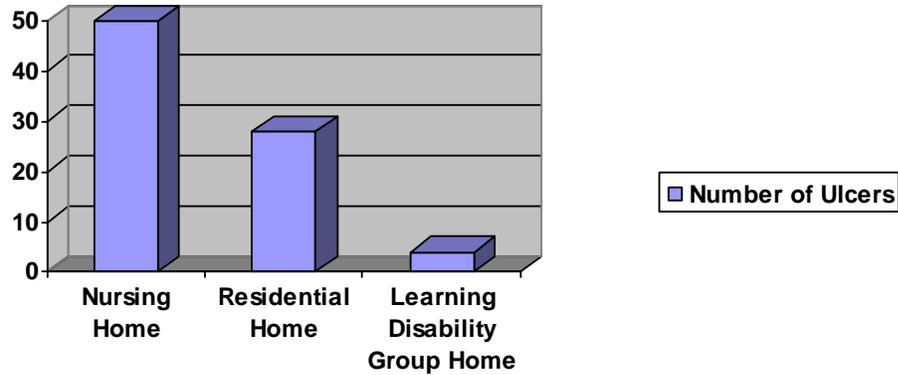
Table 1: Dorsal Aspect of the foot site of ulceration and number

SITE	NUMBER
1 st Apex	3
1 st Subungal	35
2 nd Apex	1
2 nd Subungal	7
3 rd Subungal	5
3-4 I.D	1
4 th Subungal	1
4-5 I.D	1
5 th Apex	1
5 th Subungal	2
1 st IPJ	12
2 nd PIPJ	20
3 rd PIPJ	4
4 th PIPJ	1
5 th PIPJ	2
HAV	4
Taylors Bunion	2
Midtarsal	1
Navicular	1
Talus	1

Table 2: Plantar aspect of the foot site of ulceration and number

Site	Number
1 st IPJ	3
1 st Met Head	3
2 nd Met Head	2
5 th Met Head	2
Heel	17

Graph 1: Number of ulcers by facility



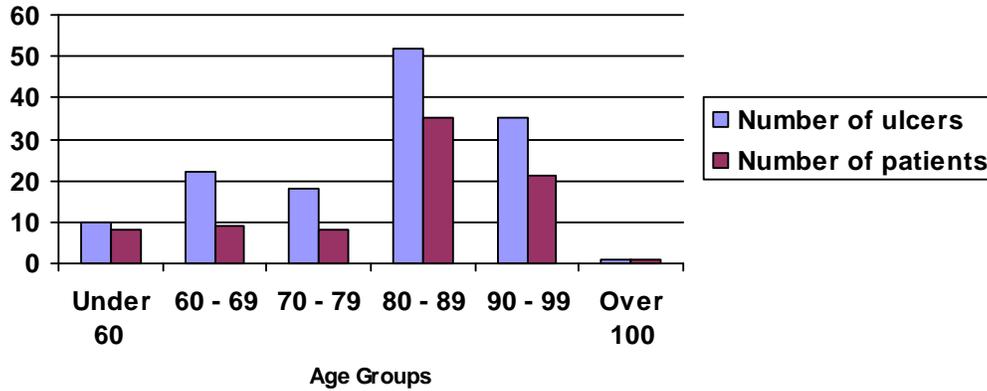
Raw data implies that the incidence of ulceration in nursing homes is greater than in residential homes and learning disability group homes; however there are a greater number of nursing home beds than residential home beds. Further work needs to be undertaken to ascertain if there is a higher incidence within nursing homes.

Table 3: Age distribution/condition per patient with an ulceration

Age Group	Learning Disability	Diabetic	Mental Health	Vascular
Under 60	5	2	3	0
60-69	3	2	3	4
70-79	0	3	6	5
80-89	0	7	22	21
90-99	0	6	14	11
Over 100	0	0	0	1
Total	8	20	48	42

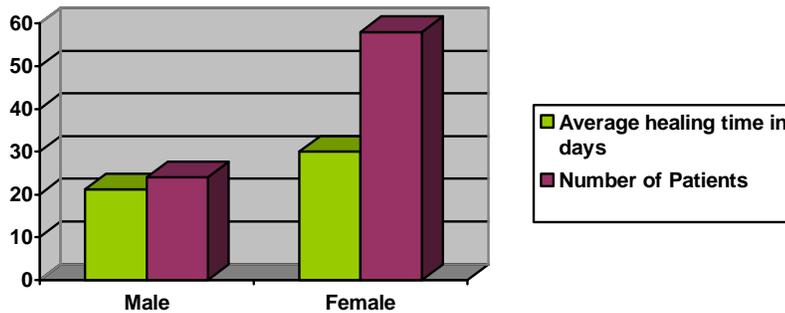
This table demonstrates the spread of ages over the individual conditions who present with ulceration. Individuals with multiple conditions feature in more than one column. In total there were 82 residents in care homes who ulcerated.

Graph 2: Age split of patients with ulcers compared



This graph shows the number of ulcers per age group compared to the number of patients, demonstrating that some patients had several ulcers.

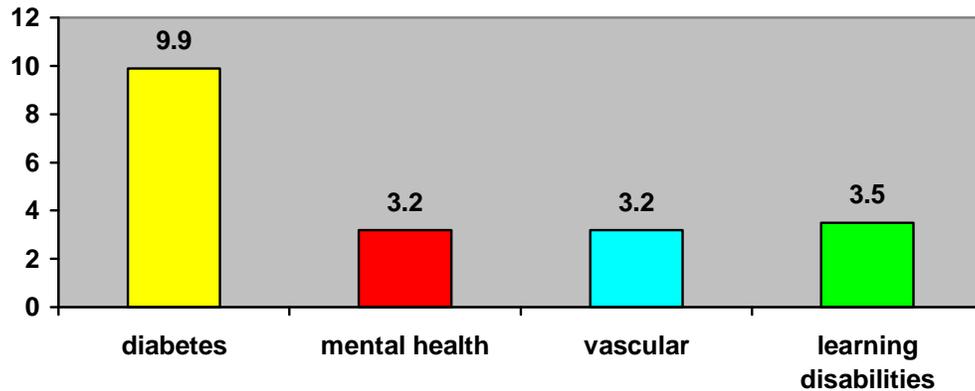
Graph 3: Male/Female Split



More females presented with ulcerations than males, however in 2010 72% of care home residents seen by the podiatry service were female (ISD Figures).

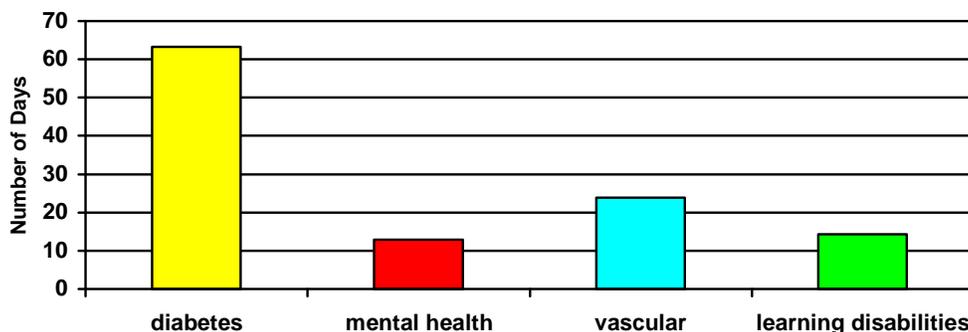
It appears that males heal quicker than females.

Graph 4: Average number of podiatry interventions per condition



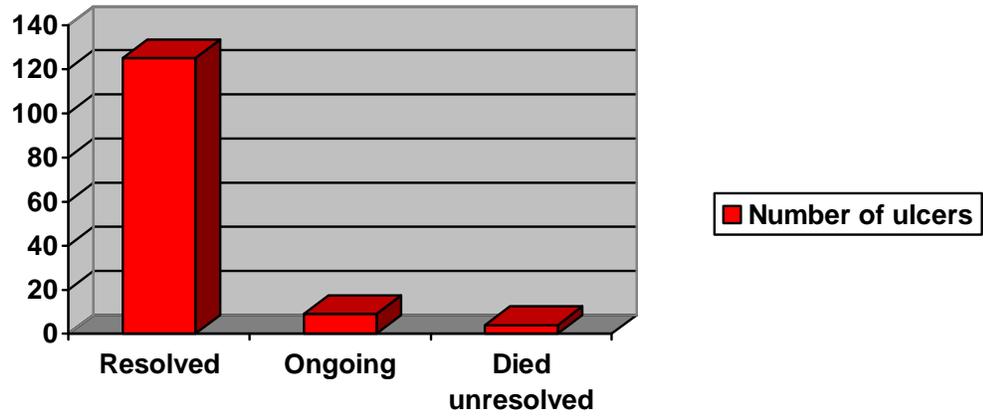
The data show that patients with diabetes require 3 times more podiatry interventions to heal a wound than patients without diabetes. In total 605 podiatry appointments were needed and 794 interventions were made as some patients had more than one ulceration. These figures exclude the number of intermediate dressings made by nursing home staff as these figures were not readily available.

Graph 5: Average Healing Time per condition



This graph correlates with the data in graph 4, that patients with diabetes take on average 3 times longer to heal than patients without diabetes.

Graph 6: Outcome of ulcers



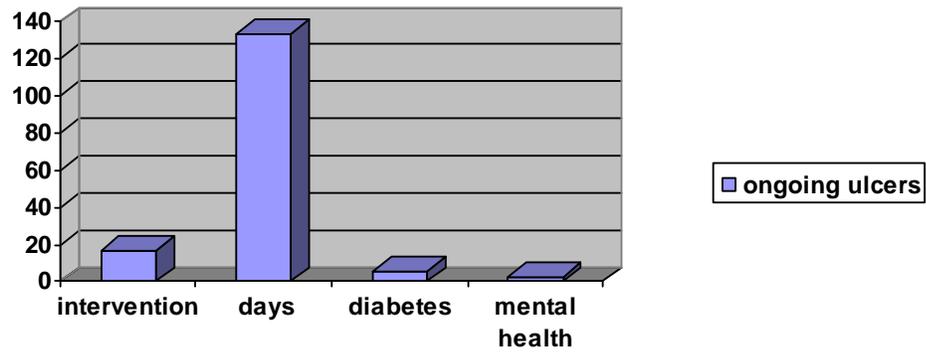
This data demonstrates the vast majority of ulcers seen by the podiatry department in 2010 resolved.

Table 4: Reoccurrence Rate within 2010

Number of Ulcers which healed	Number of Ulcers which Reoccurred
125	9

This graph shows a reoccurrence rate of 7.2% during this audit period.

Graph 7: Current ongoing ulcers



Of the ongoing ulcers they have so far had 159 podiatry interventions – averaging at 17 interventions each, with the average time the ulcer being present being 133 days.

Of the 9 ongoing ulcers 6 have diabetes and 3 have mental health problems.

4. DISCUSSION

In the UK it is estimated that 410, 000 people will be living in a care home at one given time. The average age of a care home resident is over 85 years, with females having a greater life expectancy. Females are more likely to be severely disabled, although 75% of all residents are classed as severely disabled (Office of Fair Trading, 2005).

During 2010 the podiatry service treated 138 individual ulcerations on 82 patients. Our data shows that the majority of these patients were female, and took longer to heal than males. Our highest incidence of ulcerations occurred between the ages of 80 and 99 which correlate with the age of care home residents and their ill health.

The data from table 3 highlights that the incidence of patients with diabetes in care homes with ulcerations is higher than any other condition. In 2010 there were 120 people with diabetes in DWF care homes, equating to 13% of the care home population. 16% of this group presented with ulcerations. The raw data on the other conditions was not readily available. This data correlates with SIGN guidelines, which establishes the greater risk of ulceration amongst people with diabetes.

The average healing time was influenced by the patient's general well being. Those with diabetes took on average over 60 days to heal with 9.9 podiatry interventions, whereas vascular patients took on average to heal over 20 days

with 3.2 podiatry interventions. Mental health and learning disability patients were similar in that they took just over 10 days to heal with 3.2 – 3.5 podiatry interventions.

The findings also show that people with a learning disability in a care home develop ulcerations at a younger age than the general care home population (table 3). However a person with a learning disability has a lower life expectancy than someone who does not have a learning disability. Their mean life expectancy is now considered to be 74 (mild), 67 (moderate) and 58 (severe), (Emerson and Hatton 2008), whereas the elderly population in a care home mean average is over 85. It is accepted people with a learning disability will develop problems at a younger age. For example an individual with Down syndrome is at risk of developing dementia in their forties.

Within Dunfermline and West Fife CHP there are 594 nursing home beds and 263 residential care home beds in the area, all are classified as care homes by the Scottish Government. The data from graph 1 shows that 28.5% of patients in care homes develop a foot ulcer, with 62% occurring in nursing homes, and 38% in residential homes. As patients are frailer in nursing homes and have more medical need, they may be more prone to developing ulcerations.

The overall outcome for foot ulcerations in care homes is good, of the 138 ulcerations 125 healed within the year, 9 remain unresolved and 4 died unresolved. Of the 125 ulcerations that healed 9 reoccurred, equating to a recurrence rate of 7.2% during this audit period.

There were no amputations in this time period; however 4 patients were referred to vascular but were deemed unfit for surgery. Two have healed, and two have died of complications associated with their lower limb ulceration.

When mapping the location of ulcerations of the foot it was evident that the most common place wounds developed was on the toes. Lindholm et al (1992) also found in their study of foot and leg ulcerations that the most common site for foot ulcerations were on the toes, 76% of ulcers, our rate was 71%. Many of these wounds are caused by ill fitting footwear, and are therefore preventable. Footwear education is vital; however as it is family members who buy footwear it is difficult to ensure they are aware of the issues surrounding foot ulcerations as the service does not have direct contact with them.

In addition to footwear issues there are other factors which cause ulcerations and wound healing itself is a multifaceted process, involving multi-agency working. To support the patient healing process other factors must be considered, including nutrition, vascular status, footwear, pressure relief, correct choice of dressings and pharmacy, pain relief, infection control, continence control. These can only be addressed with the support of the care home staff and their contribution to resolving the ulcerations cannot be underestimated.

At the end of 2010, there were 9 ongoing ulcerations, averaging at 17 interventions each with the average time the ulcer being present being 133

days. Of the 9 ongoing ulcers 6 have diabetes and 3 have mental health problems. These are the long standing ulcerations, which show that patients with diabetes have more challenging ulcerations and require more podiatry input.

During 2010 the podiatry service made 605 interventions. The care home team consists of 3(1)(2) team members, who work 7(5)(4) sessions a week. Assuming a 42 week working year, this equates to 15 interventions per working week, covering 4 sessions per week. An average visit takes one hour. Which includes travel, accessing patient, treatment, written and verbal advice to staff, and completing documentation, which may include the development of a clinical management plan and onward referrals. In order to meet the other demands within the care home service time has been accessed from general podiatry resources.

5. CONCLUSION

The outcome for foot ulceration in care homes is good with 90% healing and only 7.2% reoccurring. Many of these foot ulcers can be prevented through good footwear. As expected patients with diabetes have more complicated long standing wounds. Interestingly the study highlight that ulcerations occur in many other long standing chronic conditions.

6. RECOMMENDATIONS

Patients in care homes who are non-mobile or bed bound do not require footwear as there is no benefit and this only creates pressure on the foot. Bed socks would be of greater benefit as they provide the feet with warmth and protection.

Should an individual wear shoes or slippers it is important that they fit the foot correctly to reduce the risk of ulceration. Patient's feet swell during the day so the footwear becomes tighter; the patient should sit with their feet up and remove the footwear to reduce pressure.

Education of carers and family members is required to ensure patients have appropriate footwear and that footwear is changed throughout the day to accommodate swelling.

All foot ulcerations in care homes should be reported to the podiatry service for assessment and treatment if required.

Further Study

During this audit the grade of the wound was not assessed, therefore this would be an interesting area to look at in the future.

Following this audit the podiatry service has developed an education leaflet on slippers and currently has a footwear leaflet which will be distributed to all care homes. It would be worthwhile re-auditing in a years time to see if any reduction in ulcerations have occurred.

7. REFERENCES

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8. APPENDIX

A) FOOTWEAR ADVICE LEAFLET

B) SLIPPERS ADVICE LEAFLET

1. Tighten this 1/2 bow towards eyelet No 2. to secure the lace (see diagram 3.)

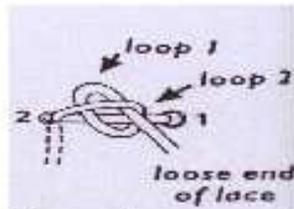


Diagram 3.

To Untie:
Diagram 4

1. Undo the 1/2 bow by pulling the loose end
2. Loosen the lace, starting at the toe (lace 7-8) working upwards to lace 1-2.

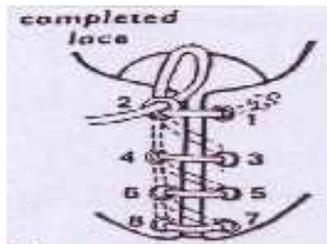


Diagram 4.

Further patient information leaflets are available online on our website www.dwfchp.scot.nhs.uk. You will find Podiatry in the Health Services section.

If you require the information in this leaflet to be made available in a different community language or alternative formats such as Braille, easy read or audio please contact the Equality and Diversity Lead on 01592226783 or angelaheyes@nhs.net

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**PODIATRY
DEPARTMENT**



FOOTWEAR



FOOTWEAR



- Badly fitting footwear can cause problems such as blisters, corns, callous and curly toes.

GOOD SHOES SHOULD

- Fit well
- Be the right length and width
- Allow enough room for toes which allows adequate depth at the toe box
- Have a smooth lining without seams
- Be flexible so they can bend
- Support the foot held by adjustable fastenings such as laces, buckles or Velcro
- Have a low heel (keep high heels for special occasions)

REMEMBER

- New shoes should be comfortable straight away. There should be no need to break them in!
- Have your feet measured whilst standing by a trained shoe fitter
- The more you walk, the more your feet may swell. Allow for this when buying shoes
- If you wear special insoles, please take them with you when buying shoes

- Cushioning insoles can be inserted where appropriate to help with painful soles.
- Where seamed hosiery is worn turning them inside out can make wearing of them more comfortable.

HOSIERY SHOULD BE

- Well fitting
- Without holes, rough seams or light elastic
- Changed daily

TYING YOUR SHOELACE WITH ONE HAND

An aid for people who have difficulty in tying their shoe laces with two hands.

To Lace:
(Diagram 1)

1. Tie a knot on one end of the lace
2. Thread through (upwards) eyelet no 1.
3. Thread down 2, up 3 and so on to no 7
4. Thread lace down eyelet 8 and bring back up through eyelet 2

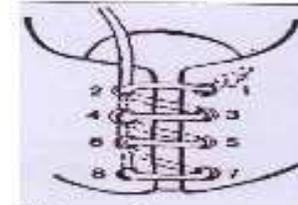


Diagram 1

To Fasten:
Diagram 2 & 3

1. Tighten the lace from top of shoe, downwards towards the toe of the shoe.
2. Pull loose end of lace tightly at eyelet 2.
3. Make a loop in the loose end. Pass loop 1 under the lace between eyelets 1 and 2. Do not tighten.
4. Pass the loop through the second loop which has now been formed (see diagram 2).

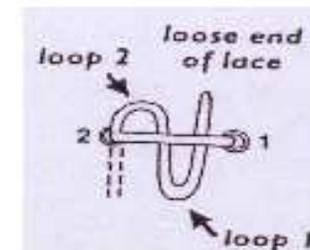


Diagram 2.

FOOT ULCERS

Approximately 10% of residents in care homes will develop a foot ulcer each year.

A foot ulcer is a break in the skin which can result in infection, reduced mobility and pain. Foot ulcers can take a very long time to heal.

Poor footwear is a major cause of foot ulcers.

If you develop a foot ulcer slippers may not be suitable as they may increase the risk of infection and create pressure points on your feet. It is recommended that you remove your slippers until your ulcer has healed.

If you feel you may have an ulcer please contact a podiatrist immediately.

Please find below your contact(s) in NHS Fife Podiatry Department:

Tel: _____

If you require the information in this leaflet to be made available in a different community language or alternative formats such as Braille, easy read or audio please contact the Equality and Diversity Lead on 01592226783 or angelaheyes@nhs.net

All NHS Fife Podiatry information leaflets are available on line at:

www.dwfchp.scot.nhs.uk



PODIATRY DEPARTMENT



Advice for Wearing Slippers

Slippers are not suitable footwear for everyone

They can contribute to:

- Falls
- Foot ulcerations
- Excessive sweating
- Foot odour

Badly fitted slippers can increase your chance of falling, tripping and slipping. A fall, trip or slip can often be the cause of a serious injury e.g., broken bones.

If you choose to wear slippers, please consider the following recommendations:



- Wear slippers which have a rubber sole as this will reduce the risk of slipping.

- Make sure the slipper has a wide sole as this will help to maintain your balance.
- Slippers should have adjustable fastenings – e.g. velcro. Velcro ensures that the slippers are flexible enough to fit feet that swell during the day and will not restrict the blood circulation in your foot.
- Your slippers should always be easy to put on and take off!
- Ensure your slippers have a wide, seam free and deep toe box. This will ensure enough room for any foot problems you may have such as bunions and to allow for any swelling in your feet throughout the day.
- To make sure your slippers fit well try them on before you buy them. Feet can change shape and size with age. The material the slipper is made from may not stretch to accommodate your feet.

Podiatry Advice

- If you are not mobile (bedbound) you should wear good fitting bed socks to keep your feet warm. Footwear will only create pressure on parts of your foot which can lead to sores.
- Ideally do not wear shoes or slippers when sitting for a long period of time. Slippers should only be worn for short periods. Remember to put your slippers on before you move around.
- Do not wear old and worn slippers/shoes as these may increase your risk of trips and falls.
- Check your slippers fit well every few hours. Your feet may swell and you might need to adjust the fastenings to ensure that good blood circulation is maintained.