GAIN

GUIDELINES AND AUDIT
IMPLEMENTATION NETWORK

GUIDELINES AND CLINICAL STANDARDS OF CARE FOR PEOPLE WITH DIABETES IN CARE HOMES

These Guidelines have been agreed by: GAIN Regional Subcommittee on Diabetes Care Standards 2009

February 2010

PREFACE

Guidelines & Clinical Standards of Care for People with Diabetes in Care Homes.

These guidelines have been published by the Guidelines & Audit Implementation Network (GAIN), which is a team of health care professionals established under the auspices of the Department of Health, Social Services & Public Safety in 2008.

The aim of GAIN is to promote quality in the Health Service in Northern Ireland, through audit and guidelines, while ensuring the highest possible standard of clinical practice is maintained.

This guideline was produced by a sub-group of health care professionals from varied backgrounds and was chaired by Dr Michael Ryan, Consultant Chemical Pathologist at the Northern Health & Social Care Trust.

GAIN wishes to thank all those who contributed in any way to the development of these guidelines.

Dr T Trinick
Chairman of GAIN

CONTENTS

INTRODUCTION

These guidelines have been updated to ensure that this group of people have access to screening for diabetes and receive high quality care and education in line with the national recommendations and standards of care for diabetes. The aim is to reduce the risks of them developing complications and to optimise the quality of their lives.

It is hoped that this document will be used as a resource for those working in care homes and explains the links that need to be made with other healthcare professionals. It will also be available to people with diabetes and their families.

These guidelines describe the four minimum standards of care for people with diabetes living in care homes and includes background information for those caring for people with diabetes.

WHAT IS DIABETES?

Diabetes mellitus is a condition in which the amount of glucose in the blood is too high because the body is unable to use glucose properly. Glucose comes from the digestion of starchy foods such as bread, potatoes or rice, from sugar and other sweet foods. It is also produced by the liver and passes straight into the blood stream.

Insulin is a hormone produced by the pancreas and this helps glucose to enter the cells where it is used as a fuel by the body for energy. When there is a lack or absence of insulin the glucose builds up in the blood.

At least 11% of people in care homes have diabetes but many are undiagnosed.

Symptoms of diabetes

The main symptoms of untreated diabetes are:

- increased thirst
- passing large amounts of urine or incontinence
- extreme tiredness
- blurred vision
- weight loss
- itching of the genitals
- recurrent infections or wounds failing to heal

Often, however, there are no symptoms and it is necessary to screen the elderly for diabetes at regular intervals.

TYPES OF DIABETES

The most common types of diabetes are:

Type 1 diabetes:
This develops when there is a severe lack of insulin in the body because most or all of the cells, which produce insulin, have been destroyed. People with this type of diabetes tend to be thin and younger when diagnosed. They are treated with insulin injections and diet.

Type 2 diabetes:
This develops when the body can still produce some insulin but not enough for its needs, or when the insulin produced cannot be used properly. People with this type of diabetes are often older and overweight. This type of diabetes is treated by diet alone, diet and tablets, and some people may need insulin injections. Type 2 diabetes is a progressive disease and treatments may need changing over time.

If left untreated or not treated well enough, diabetes can cause complications and may damage the large and small blood vessels or the nerve endings. Common areas of the body that can be affected are the eyes, the kidneys and the feet. People with diabetes also have a higher incidence of heart disease and problems with their circulation. Foot ulceration is more common in diabetes and people with diabetes often require hospital admission.

People with diabetes need regular care and education to help them achieve the best outcomes for their health.

STANDARDS OF CLINICAL CARE

Diabetes care must meet the following standards of clinical care for each person in a care home.

When a resident with diabetes does not wish to receive this care it should be documented in their care record and their General Practitioner informed.

Standard 1
Each adult resident in a care home will be screened annually for diabetes.

Standard 2
Each resident with diabetes will have their diabetes care documented in their care plan.

Standard 3
Each resident with diabetes will have an annual review of their diabetes in the most appropriate setting.

Standard 4
Each resident with diabetes will have access to a named member of staff appropriately trained in the care of people with diabetes.

These standards will be subject to audit.

SCREENING FOR DIABETES

Standard 1

Each adult resident in a care home will be screened annually for diabetes.

When an annual health check takes place, a fasting blood sample will be checked for glucose using an accredited laboratory method.

Blood glucose concentration or any other abnormality will be reported to the General Practitioner and documented in the resident's care plan.

At the time of publication of this document there is no national screening programme for diabetes but this standard has been locally agreed as good practice.

CARE PLANS

Standard 2

Each resident with diabetes will have their diabetes care documented in their care plan.

- When possible each resident (or relative) should be involved in developing their diabetes care plan.

- The diabetes care plan will be written by a registered nurse. This may be a practice nurse or community nurse if there is not a registered nurse working in the care home.

- Diabetes care will be evaluated at least annually (at the annual review) and more frequently if necessary.

- Diabetes care plans should include:
  - Name and telephone number of General Practitioner
  - Name and telephone number of the trained member of staff for contact
  - Name of advising community pharmacist
  - A full list of medications, doses and times taken
  - Frequency of review of diabetes (minimum annual)
  - Where review will take place and transport arrangements where necessary
  - A detailed list of diabetes related complications and treatments including foot and pressure damage risk assessments, so that potential risks are identified
  - Agreed metabolic targets (blood glucose, blood pressure and cholesterol)
  - Frequency and method of monitoring
  - Details of diet plan
  - Frequency of foot checks and care required and referral to appropriate practitioner where indicated
  - Injection site care if on insulin

Registered nurses will use a problem-orientated approach.This will identify potential and actual diabetes related problems, state the goal of care for each problem and the plans to achieve these goals. Community nurses will document their assessment, plan and evaluations on their Trust's healthcare record sheets. Nurses working in care homes will use their Home's documentation record sheets.To ensure continuity of care community nurses and care home staff must read each others records and communicate all changes to each other verbally.

A Diabetes care plan is available for download from the GAIN website - **www.gain-ni.org**

DIABETES CARE PLAN (PAGE 1)

The aim of this diabetes care plan is to identify the presence or risk of diabetes complications and develop a plan of care to meet these needs. It will be reviewed at least 6 monthly or if changes in health occur.

Name of Care Home.....

Residents name.....

GP .....

Name of Registered nurse for contact .....

Telephone number of Registered nurse .....

Community pharmacist.....

Medications taken (refer to drug treatment sheet if appropriate)

Freqency of Diabetes review (minimum annually) .....

Where will review take place .....

Transport arrangements (if necessary) .....

Diabetes related problems .....
.....

Blood Pressure (agreed target) .....

Cholesterol (agreed target) .....

HbA1c (agreed target).....

DIABETES CARE PLAN (PAGE 2)

This plan will be developed by the care staff and resident (or relative) with the help, if necessary, of the doctor or registered nurse.

Monitoring: (tick system used)
Method of monitoring: Blood testing using blood glucose meter if appropriate
Urine testing using dip stick for microalbumin
Other (stipulate)

Timing of monitoring (examples of monitoring sheet, page 31see **www.gain-ni.org**)
.....
.....
Agreed range of acceptable results

1) Special skin care (including injection sites if applicable)
.....

((2) Foot care
Frequency of checks (minimum daily and report any changes that occur)

by resident.....
by carer .....
Special footcare required .....
.....

(3) Diet plan.....
.....
.....
Care plan reviewed (6 monthly)

Date	Signed	Review date	Date	Signed	Review date

ANNUAL REVIEW

Standard 3

Each resident will have an annual review of their diabetes in the most appropriate setting.

The review will take place at the GP's surgery or if this is not possible, in the care home. Some patients will attend a hospital diabetes clinic. The frequency of this review and where it will take place will be documented in the care plan. Transport plans should be included when necessary. Local optometrists may, in special cases, visit homes to provide eye screening.

In order to carry out a thorough assessment of the resident's diabetes the doctor will need the following information:

Diet:	Is the resident's weight stable? Is their appetite good?
Monitoring results	A record of all blood and urine tests. A urine specimen in a clean bottle will usually be needed by the clinic. A blood test may be requested 1-2 weeks prior to the review.
Medication	A complete list of all the medication taken, doses and times taken.
General Condition	Information about any change in residents medical condition since their last appointment.

The Annual Review should consist of:

- general assessment of well being – mental and physical
- review of medication
- height and weight (body mass index)
- examination of feet, legs and general skin condition and assessment of foot risk status
- pressure damage risk assessment when appropriate
- blood pressure measurement – may be lying and standing
- visual acuity (eye sight test) when possible
- ensuring that the individual has received their annual retinal screening assessment throughout the regional program
- assessment of blood glucose control – discussion, blood test and records
- incidence of hypoglycaemia (low blood glucose)
- assessment of kidney function and cholesterol or lipids (blood and urine test)
- review of diet
- review of lifestyle issues – exercise, smoking status, flu jab status

The plan of care should then be reviewed with the patient and carers and a further review date should be arranged. The care plan and annual review template should be taken to each diabetes review.

An Annual Review Template is available for download from the GAIN website - **www.gain-ni.org**

ANNUAL REVIEW TEMPLATE (PAGE 1)

This template should be completed by the care home staff if any procedure is performed. Checks that the care home is unable to perform will be completed by the general practitioner, practice nurse, community nurse, or other health care professional.

If it is not possible to complete any section please state why.

Name of resident.....
Date of Birth .....
Name of care home.....

Height (cms) .....**Weight** (Kgs) .....
Body Mass Index (Kg/m^2) .....

Smoking status: never smoked .....**Date of last flu jab**.....
Stopped smoking (date) .....Other vaccinations .....
Current smoker (no. per day).....type of tobacco.....
Advice given re smoking (date and sign).....

Alcohol (no.of units per week) .....

Diet (difficulties with diet -if any) .....
Date if seen by dietician.....

Urine test Date.....Protein .....Ketones.....
Microalbumin (laboratory test if no protein) .....

Eyes Visual Acuity date .....Right eye .....Left Eye .....
Date of retinal screening .....

Blood Pressure .....date .....sign .....
Pulse rate/min.....
Activity levels .....

ANNUAL REVIEW TEMPLATE (PAGE 2)

Footcare

Foot pulses Right Dorsalis pedis.....Right Posterior tibial.....
Left Dorsalis Pedis .....Left posterior tibial .....

Monofilament score/5 Right.....Left.....
Seen by podiatrist Yes ☐ No ☐ If yes, name of podiatrist .....
Deformity, Lesions, Previous ulceration, foot wear.....
.....
.....

Skin

Pressure risk assessment score.....

Blood tests

HbA1c date..... eGFR date .....
....
....

Lipid profile date ..... Thyroid funtion test .....
....

Medication review Date..... Sign.....

Injection sites.....

Hypoglycaemic problems.....

Education.....
.....
.....

TRAINING AND EDUCATION

Standard 4

Each care home will have a named member of staff, trained in the care of people with diabetes.

- Training should include:
  - Classification and diagnosis of diabetes (including screening)
  - Long-term complications and prevention
  - Annual review
  - Blood glucose monitoring and use of blood glucose meters
  - Foot care
  - Hypoglycaemia – recognition, prevention and treatment
  - Hyperglycaemia – recognition, prevention and treatment
  - Oral hypoglycaemic medication
  - Insulin therapy
  - How to test urine and interpret results
  - Quality and risk management issues in diabetes care
  - Cultural and ethical issues involved in diabetes care
  - Nutritional issues
  - Care in intercurrent illness
  - Roles and responsibilities in diabetes care
  - Role of Diabetes UK and voluntary bodies

- Training and education sessions should be provided by healthcare professionals trained in diabetes care.

- Education and training should be available for nurses and health care staff, including chefs and cooks.

- Staff should attend update sessions every 3 years.

DIET

Dietary guidelines

The recommended diet for people with diabetes is essentially a normal, varied, healthy diet, which is high in fibre, and low in sugar and fat. It is recognised that some residents may be nutritionally at risk, for example being underweight due to acute or chronic illness, or if self-feeding is difficult. For malnourished residents, when nutritional supplement drinks are indicated, or if other special diets are required, a registered dietitian will provide further advice.

Any diet plan must be acceptable to the individual resident and their wishes considered when making food choices.

Weighing each resident at the time of admission and as appropriate thereafter (e.g. during the annual review) is an important assessment.

People with newly diagnosed diabetes should be referred to a registered dietitian and for those with established diabetes NICE recommends a care planning process which may lead to dietetic referral for life events.

Meals should provide a varied and nutritionally balanced diet.

- **Regular Eating**
  People with diabetes need regular meals and depending on their diabetes treatment additional snacks may be required.

- **Fibre**
  Meals should include starchy carbohydrates such as bread, potatoes and breakfast cereals, high fibre varieties should be encouraged. Five portions of fruit and vegetables are recommended each day.

- **Fluid**
  8 – 10 cups of fluid should be encouraged unless on a fluid restriction.

- **Sugar**
  The diet does not need to be sugar-free, but where possible high sugar foods should be replaced by low sugar alternatives. For example the following could be used:

  - Artificial sweeteners can be added to drinks, cereals and puddings
  - Preserves such as reduced sugar jams and marmalade
  - Sugar-free diet drinks
  - Fruit tinned in natural juice rather than syrup
  - Plain biscuits
  - Sugar-free or reduced sugar puddings

- **Diabetic foods**
  These should be avoided, as they are usually unnecessary. They may contain substances that have a laxative effect. They offer no special benefits to residents with diabetes.

- **Alcohol**
  This can be taken in moderation as long as it is not contra-indicated due to their medication or other medical conditions.

- **Obesity**
  Weight loss is desirable for obese residents. However, for some this may be difficult to achieve i.e. those with marked immobility when maintenance of current weight may be more realistic.

  If overweight, fat intake should be reduced. The best way to reduce fat is by grilling or baking rather than frying foods, avoiding high fat foods e.g. pastry, cream, fat on meat and by using fat alternatives such as semi-skimmed milk and low fat spreads.

  It is helpful to encourage visitors who bring gifts such as chocolate, sweets to offer alternatives instead e.g. magazines and toiletries.

HYPOGLYCAEMIA (LOW BLOOD GLUCOSE)

This occurs when the blood glucose levels drops below 4 mmol/l. It can happen when a person with diabetes takes tablets or insulin but does not occur in those on diet alone.

- **Causes may include:**
  - Less carbohydrate
  - Miss or delay a meal or snack
  - Too much insulin or incorrect dose of tablets
  - Taking the insulin or diabetic tablets at the wrong time
  - More active than normal
  - Too much alcohol or alcohol on an empty stomach

- **Symptoms**

  These may vary between individuals and it is useful to know how each resident may feel or look if they go 'hypo'. People may have less warning signs as they get older. Symptoms are listed below.

Hunger	Confusion	Irritability
Tiredness	Feeling faint or giddy	Weakness
Drowsiness	Blurred vision	Feeling anxious
Lack of concentration	Sweating	Rapid pulse
Pounding heart	Shaking	Pins and needles

If the early symptoms are missed the person may have a fit and lose consciousness. In this situation place the person in the recovery position and call an ambulance.

Treatment of hypoglycaemia

If the resident is conscious give 10 – 20g fast acting carbohydrate i.e.

- 50 – 100mls lucozade **or**
- 150 – 300mls lucozade Sport **or**
- 4 – 6 glucose tablets **or**
- 2 - 4 teaspoons sugar in water **or**
- 100 – 200mls ordinary lemonade **or**
- 1 – 2 tubes GlucoGel

Recheck blood glucose in 10 - 20 minutes:

- If blood glucose less than 4 mmol give an additional 10 - 20 g fast acting carbohydrate
- If blood glucose above 4 mmol give snack of more slowly absorbed carbohydrate or scheduled meal to maintain blood glucose at the correct level and prevent recurrence
- The blood glucose level should be rechecked prior to leaving the patient to ensure it has remained within the normal range

If the early symptoms are missed the person may have a fit and lose consciousness. In this situation place the person in the recovery position and call an ambulance.

Glucagen (available on prescription to insulin treated patients) is a synthetic form of the hormone glucagon which works opposite to insulin and stimulates the liver to release stored glucose into the blood stream.

Glucagon is given by injection if hypoglycaemia progresses to unconsciousness and should raise the blood glucose level within 15 minutes. Adult dosage is 1mg and detailed instructions are available inside the kit. Potential users of Glucagen should be familiar with the kit and giving injections. Glucagen will last for 3 years if stored between 2 and 8°c (check expiry date) but 18 months if stored at room temperature.

Prevention of Hypoglycaemia

Hypoglycaemia in the elderly presents added risks and management should aim to avoid if at all possible. Frequent exposure to hypoglycaemia can lead to loss of warning signs rendering the patient helpless before they know to take corrective action therefore it is important to prevent hypoglycaemia if at all possible. Regular mealtimes, appropriate blood glucose monitoring and following dietary guidelines will help to keep the risk of hypoglycaemic episodes to a minimum. All hypoglycaemic episodes in elderly, debilitated or dependant patients should be reported to GP/DSN with a view to management review.

MONITORING

Diabetic control can be assessed by testing a person's blood glucose level directly from a finger prick blood sample, from a vein, or indirectly by testing the urine.

Where possible the patient should be involved in the testing and keep their own records, which can then be discussed with the doctor and nurse at their diabetic review. Records are usually hand-written but may be computer printouts.

All monitoring equipment must meet recognised standards for infection control, quality control (accuracy) and health and safety. When staff are performing blood glucose monitoring it should be remembered that this is an invasive procedure. It is subject to the Health Authority and Local Authority Registration & Inspection Units Notes of Guidance on the Exceptional Use of Invasive Procedures in Registered Homes and Other Social Care Settings for Adults.

Finger pricking devices that are not suitable for multiple patient use are an infection risk to staff and residents. Single patient use finger pricking devices must not be used by care staff as they carry a high risk of needle stick injury. Further advice can be obtained from the diabetes nurse specialist (see contacts section page 30).

Venous blood sample

This test (the HbA1c) reflects the average control over the last 6-8 weeks and is an overall guide to how well an individual's diabetes is controlled. The doctor or nurse usually takes this test before a person attends for their review.

Frequency of tests

The care plan will describe the type of testing agreed for each person. This should be individualised for each patient and should be based on the degree of glucose control and the need for the results to be considered for treatment changes.

Sudden changes in test results may indicate that the resident is unwell.

Extreme age and in high-risk patients conventional control standards for blood glucose and HbA1c may not be appropriate.

INTERCURRENT ILLNESS

Illness can upset blood glucose control, chest and urinary tract infections are the most common cause of sudden deterioration in glycaemic control in the elderly. Blood glucose levels may rise even when the patient is unable to eat or drink.

Treatment and monitoring

INSULIN	**TABLETS**
DO NOT WITHOLD INSULIN	Continue Tablets
Check blood glucose 2 – 4 hourly	Check blood glucose 4 hourly
Test urine for Ketones if blood glucose >13 mmol/L	Test urine for ketones if blood glucose >13mmol/L
If vomiting contact GP	
If ketones present inform GP or DSN	
If hypo or hyperglycaemic contact GP or DSN for advice	

Food and fluid

Maintain an adequate fluid intake (sugar free) of 100-200 ml (1 glass) every hour, for example water, tea, diet drinks, no added squash.

If a resident cannot manage their normal amount of starchy carbohydrate at meals, have a small snack from the following list every few hours:

- toast
- scone
- pancake
- cereal or porridge
- soup and bread
- yoghurt
- small pot of ordinary jelly

- ice cream
- milky drink
- milky puddings
- biscuits

Prolonged episodes of hyperglycaemia may lead to **Diabetic Ketoacidosis** (Type 1 diabetes) or **Hyperosmolar Non-ketotic coma** (Type 2 diabetes). These are both life-threatening conditions requiring immediate hospital admission.

If you are unable to eat solid foods have a glass (200mls) of ordinary lemonade/cola, milk or milky drink every 2 hours.

NOTE: All patients should have all wound dressings removed and areas checked for source of infection.

SAMPLE GLUCOSE RECORDING CHART

NAME							**DOB**
Blood glucose **targets**			Pre Meal		Post Meal		HbA1c
Frequency and timing of blood glucose monitoring							
Date / Time							Comments

SAMPLE DIABETES CARE REGISTER

DIABETES CARE REGISTER

Name	Medical Review	Laboratory	Dietician	Podiatry							Eye screening	
				Annual Foot assessment	Nail cutting and skin care						Digital photo	Optician

MEDICATION

An individual's diabetes may be controlled by diet alone, oral medication and diet or by insulin and diet. Sometimes a combination of diet, insulin and tablets may be required.

Diabetes is a chronic condition. It is expected that during a person's life their treatment will be reviewed and changed to maintain best possible control of blood glucose levels with optimum quality of life. This medication review should be carried out by the patient's doctor at least annually and will require the patient to visit the doctor. In certain circumstances a home visit by a doctor may be required.

Diabetic medication must be given at the appropriate times to ensure maximum benefit to the resident by controlling blood glucose levels.

Insulin injections may be used to control blood glucose levels. A resident's ability to self-administer insulin should be assessed by a registered nurse. It may be appropriate for a carer in a home to prepare and administer insulin to a resident but this must only be after training and will be under the guidance of a Trust employed registered nurse.

Stocks of insulin must always be stored in a fridge where the temperature is monitored daily (2° - 8°C). **The insulin in use** may be stored securely in a locked cupboard at room temperature in accordance with the manufacturers instructions.

If a resident is able to self administer insulin using a pen device this should be clearly labelled with the resident's name and kept securely in a locked cupboard.

PROTOCOL ON ADMINISTRATION OF INSULIN BY SUB-CUTANEOUS INJECTION

Aim

To ensure safe administration of prescribed insulin.

The following protocol applies to the care of patients in residential accommodation who require insulin therapy as part of their diabetes management.

1. The officer in charge is required to inform the appropriate Diabetic Specialist Nurse (DSN) of any resident treated with insulin or requiring change in insulin therapy to ensure that the care given is the most appropriate.

2. Insulin should only be administered to residents in residential accommodation by the officer in charge or the person acting for the officer in charge.

3. These persons must have received training in diabetes care and the administration of insulin (see enclosed Educational Checklist). The local DSN will provide this training.

THIS PROCEDURE SHOULD NOT BE CARRIED OUT ON A PATIENT UNLESS THE THEORETICAL AND PRACTICAL COMPETENCY HAS BEEN ACHIEVED.

4. Every residential home to have a copy of this protocol.

Insulin Therapy

- Insulin should be stored at the front/bottom of the fridge as per manufacturers instructions
- The insulin device in current use may be stored at room temperature
- Insulin in use should be discarded after 28 days
- The expiry date should be checked prior to a new device being used
- Insulin devices should not be shared between patients

- Staff administering insulin should be aware of the time action profile of the prescribed insulin to ensure that insulin is administered at the appropriate time in relation to meals
- Staff caring for insulin treated persons should be aware of the causes, signs, symptoms and treatment of hypoglycaemia
- Lucozade, glucagen and glugogel should be available for the emergency treatment of hypoglycaemia for those persons treated with insulin
- Care plan of insulin treated patients should specify a blood glucose monitoring regime as agreed with DSN to include glycaemic targets and frequency of monitoring
- Insulin treated patients in residential accommodation should be reviewed regularly by the DSN (maximum 6 monthly)
- The person administering insulin should be aware of the patient's blood glucose level immediately prior to administration
- Advice of DSN/GP should be sought during intercurrent illness or if there are changes in the patient's physical condition or appetite

Procedure for Insulin injection using a Pen Device

1. Wash and dry hands.

2. Place required equipment in injection tray
   - Insulin pen
   - Pen needle
   - Needle remover
   - Medicine kardex

3. Check with second staff member
   - the identity of the patient against the prescription
   - the type and dose of the prescribed insulin
   - the insulin in the device corresponds with the prescribed insulin
   - the expiry date on the device / cartridge

4. If cloudy insulin rotate/invert the pen 10 times to thoroughly mix the insulin.

5. Apply the appropriate sized needle
   - standard 8mm
   - children and thin adults 5 - 6mm
   - obese adults 12mm.
   - Novofine autocover pen needle should be used on Novo Nordisk pen devices to reduce the risk of needle stick injuries

6. Remove both needle covers.

7. Perform a test shot by dialling up 1-2 units of insulin and discarding before setting the dose. Repeat this step until a small spurt of insulin is expelled through the needle. If unable to obtain a spurt of insulin replace the needle and repeat steps above. If still unable to obtain a spurt of insulin replace device and repeat above steps.

8. Dial the prescribed number of units and check the dose against the prescription with the second staff member.

9. Optiset does not have a dial up mechanism and the set number of units is obtained by pulling out the plunger.

10. Inform the patient what the procedure involves and request their permission to carry it out.

11. Recommended injection sites are thighs, arms or abdomen, injections should be rotated within these sites.

12. The injection should be subcutaneous so gently pinch the skin between thumb and forefinger during injection.

13. The needle should be inserted at a 90 degree angle (45 degrees for a thin person).

14. Hold the pen so that the dose dial is visible when injecting.

15. Inject the prescribed number of units and hold the needle in place for a further 5-10 seconds to ensure full delivery of the insulin.

16. Remove the needle from the delivery device
    - with the appropriate needle remover provided by DNS
    - or alternatively secure the used needle in the appropriate lip of the sharps box (available on patient prescription) and unscrew the pen
    - or snap off the needle with a needle clipping device (available on patient prescription) unscrew the stub and place in the sharps box

17. Sharps boxes obtained on prescription may be returned to the pharmacy for disposal.

18. Recap the pen and store without needle in a safe place out of extremes of hot and cold.

19. Record the time, date dose and site of administration in the patients medicine records.

Procedure for Insulin injection using Insulin Syringe

1. Wash and dry hands.

2. Place required equipment in injection tray
    - Insulin syringe
    - Insulin vial
    - Medicine kardex

3. Check with second staff member
   - the identity of the patient against the prescription
   - the type and dose of the prescribed insulin
   - the insulin in the vial corresponds with the prescribed insulin
   - the expiry date on the insulin vial

4. If cloudy insulin rotate/invert the vial10 times to re-suspend the insulin.

5. Use appropriate sized insulin syringe
   - 8mm needle /50 unit syringe as standard
   - single doses > 50 units will require use of 12.7mm needle/100 unit syringe

6. Remove the white cap covering the plunger.

7. Remove the orange needle cap with a gentle pull and twist.

8. Withdraw the plunger to measure the amount of air equivalent to the prescribed dose.

9. With the vial standing upright insert the needle into rubber cap of the insulin vial and depress the plunger.

10. Invert the vial and ensure the needle tip is below the surface of insulin.

11. Withdraw plunger until slightly more than the required dose is in the insulin syringe.

12. Tap the side of the syringe to move any air bubbles to the top.

13. Push the plunger to the prescribed dose expelling any air bubbles into the vial.

14. Remove syringe from vial and check the dose against the prescription with the second staff member.

15. Inform the patient what the procedure involves and request their permission to carry it out.

16. Recommended injection sites are thighs, arms or abdomen, injections should be rotated within these sites.

17. The injection should be subcutaneous so gently pinch the skin between thumb and forefinger during injection.

18. The needle should be inserted at a 90 degree angle (45 degrees for a thin person).

19. Depress the plunger of the syringe until all the insulin has been injected.

20. Place the used syringe in the sharps box. Do not re-sheath.

21. Record the time, date dose and site of administration in the patients medicine records.

References

- Northern Ireland Diabetes Nurse Study Group (2002) Basic principles for nurses.
- MDEA (NI)2006/39

SKIN AND PRESSURE AREA CARE

Prevention of skin damage is the key to providing quality skin care.

Pressure ulcers are a key indicator of the quality of care provided. People with diabetes are more prone to skin damage as they may have reduced awareness of pressure and dry skin.

Risk Assessment

All patients should have a risk assessment for pressure damage performed on admission, which should be updated regularly or when their condition changes.

Causes of Pressure Sores

Pressure sores are caused by a combination of factors, extrinsic (external/outside) and intrinsic (internal/inside) the patient.

Extrinsic (external) factors

1. Pressure

This is the most important factor in pressure ulcer development. It occurs when the soft tissue of the body is compressed between a bony prominence (e.g. the heel), and a hard surface (e.g. a footstool). People with diabetes often have reduced sensation and so are at increased risk for a variety of reasons.

Finger test (Non-blanching hyperaemia)

Put your finger on a patient's reddened area of skin and apply a little pressure. If the skin blanches (turns white) then the soft tissues underneath are not damaged. If the the area does not turn white, there is damage underneath.

What to do This is an early sign of pressure damage so reposition the person. Inform the patient's registered nurse immediately who will advise on a movement and positioning regime.

2. Shear forces

These deform and disrupt tissues and damage blood vessels. This skin damage often occurs if the patient slides down the bed or chair. The skin on the patient's buttocks remains in contact with the bed, but the skeleton moves downwards.

What to do

Inform the patient's registered nurse and document the skin damage in the patient's notes. Make sure that the patient has a good chair that allows them to sit upright comfortably and not slide forwards.

3. Friction

Damage from friction occurs when two surfaces rub together. Moisture makes friction damage worse.

What to do

Inform the patient's registered nurse. Keep the patient's skin dry and healthy. Do not use the drag lift. Skin sealant can protect against further damage due to incontinence.

There will always be exceptions. Always ask for specific advice for individual patients if you are unsure.

SKIN AWARENESS

- **Use a risk calculator** (e.g. Medley/Waterlow), to determine patients' vulnerability – document and update regularly or on change in condition.

- **Areas that commonly suffer** from pressure damage are hips, buttocks, sacrum, heels, and elbows, shoulders and ears (in bed-fast patients).

- **Pressure reducing equipment** (e.g. electrically operated air mattresses) are to be used as an aid to pressure relief. Pressure-reducing equipment is only effective when the patient is on that surface. Pressure ulcers can develop and do develop despite these aids.

- **Remember heel damage.** Simple measures such as relieving pressure by positioning pillows so that the patient hangs their heels over the edge of them will completely remove any pressure. Alternatively, heel troughs are relatively cheap, reusable and easy to use.

Further advice can be obtained from the Tissue Viability Nurses at your local hospital.

FOOTCARE

People with diabetes may develop damage to the nerve endings in their feet (neuropathy) or to the circulation in their lower limbs (ischemia). This makes them more likely to develop foot problems such as skin damage and ulcers.

The aim of treatment is the prevention of skin damage and foot ulceration.

It is well established that intensive patient education, targeted podiatry and the correct identification of those at risk can prevent ulceration. The correct action must be taken when a problem is discovered.

Podiatry/Chiropody services

Timely referral to podiatry services can prevent foot ulceration and amputation. Where homes do employ a private podiatrist/chiropodist they should ensure that they are registered with the Health Professions Council (HPC). HPC registration ensures that a minimum standard of practice has been achieved. By law, only podiatrists/chiropodists who hold the appropriate qualifications and are registered with the HPC are allowed to work in the N.H.S. Details of whether a podiatrist/chiropodist is registered can be checked on the HPC Website.
The link is below.

http://register.hpc-uk.org/lisa/onlineregister/RegistrantSearchInitial.jsp

Where podiatry is not provided, homes must make provision for those whose feet have been identified as at risk.

Where podiatry/chiropody is provided in a care home, adequate treatment facilities should be available. This includes:

- A height adjustable couch or chair
- Adequate clinical waste disposal systems
- Assistance
- meets current UK National Guidance
- Good lighting
- Hand washing facilities

The area should also be private (this may be the resident's bedroom).

If these facilities are not available effective treatment may not be possible and it may also fail to meet Health & Safety requirements.

Close links must be developed with the local Trust Podiatry/Chiropody provider for advice and rapid treatment if required. They will have access to the specialist diabetes team for specialist advice. Podiatry/Chiropody must also be integrated with other health professionals' input to provide continuity of care.

DEFINITION OF DIABETIC FOOT RISK STATUS

People with diabetes have a higher than normal risk of developing foot problems and foot risk status is a method of assessing their risk of foot problems. The aim of footcare is PREVENTION of skin damage and foot ulceration.

Assessment of the foot risk status should be made by a Registered podiatrist/chiropodist or nurse trained in foot risk status. Those at greatest risk should be seen by an NHS specialist diabetes podiatrist/chriopodist.

Risk 3/4 - Extreme Risk

- Previous amputation / gangrene / ulceration
- Ischaemic foot (circulation problem), suspect if foot is very cold, absent or abnormal pulses, or the foot does not blanch to touch
- Previous vascular surgery
- Neuropathy (loss or altered sensation, numb or painful feet). The neuropathic foot will have been assessed and documented by the doctor, Registered podiatrist / chiropodist or nurse
- Structural deformity of foot or toes present
- Chiropodial problems present. Corns, excessive callus (hard skin) thickened deformed nails

Risk 2 - Medium Risk

- Structural deformity of foot or toes present
- Tight or ill fitting shoes
- Foot or ankle oedema (swelling)
- Chiropodial problems present. Corns, excessive callus (hard skin) thickened deformed nails

- Older patients
- Poor diabetes control
- Poor vision registered blind or partially sighted
- Limited mobility – use of walking aid or wheelchair

Risk 1 - Low Risk

This is someone with diabetes who has none of the above. These people still are at risk and need to be vigilant and should check their feet daily.

FOOTCARE MANAGEMENT

- **Recognition of foot problems**
  All people with diabetes should have their feet checked daily. Regular surveillance will also be required by care staff for those with and without foot problems.

  All people with diabetes will also have a yearly foot assessment as part of the annual review. Ideally this should be performed by a podiatrist. This will identify the level of risk to the foot or limb and form part of the patient's care plan.

- **Care of the feet**
  Those identified as **High Risk** must be seen by a specialist diabetes podiatrist. Your footcare packs will give more information about the general footcare required. Those with medium risk should have their feet examined at least weekly by a carer and will need to see a podiatrist regularly.

  Care plans should identify special care that is required for each person with diabetes e.g. nails, skin treatments, heel pads, appropriate footwear.

  Extremes of heat should be avoided as this can cause skin damage.

  Corn cures must never be used as they can cause ulceration.

- **Education programme**
  All care staff should have footcare education, which includes the special needs of people with diabetes.

  Simple nail cutting can be provided by staff who have been suitably trained when the feet have been assessed and are **not** of high/medium risk. Training must be undertaken by a Registered podiatrist/chiropodist.

- **Organisation of footcare**
  Each care home should have an identified member of staff responsible for overseeing footcare for people with diabetes. They should liase with the local HSC podiatry/chiropody department.

The local NHS Podiatry/Chiropody provider is best placed to provide the advice, treatment and training required in establishing this programme of care.

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This document was modified from a document drawn up by the SHSCT Diabetes team and the Devon and Exeter Diabetes Group with whose kind permission we have tried to reflect local preferences. We are grateful for their help.

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ISBN: 978-1-906805-03-6