POLICY DOCUMENT

Burton Hospitals
NHS Foundation Trust

NHS

MANAGEMENT OF DIABETIC FOOT POLICY

Approved by:	**Trust Executive Committee**
On:	**26 September 2017**
Review Date:	**September 2020**
Corporate / Directorate	**Corporate**
Clinical / Non Clinical	**Clinical**
Department Responsible for Review:	**Orthopaedic Department**
Distribution:	
• Essential Reading for:	**All Directors, Associate Directors, Senior Managers and Department Heads**
• Information for:	**Orthopaedic Surgeons;** **ED Consultants and all doctors and staff working in ED;** **General Surgeons with vascular interest;** **Diabetologists and all medical doctors;** **Nursing staff of Wards 19 and 20 and Medical Wards;**
Policy Number:	**268**
Version Number:	**2**
Signature:	**Chief Executive**
Date:	**26 September 2017**

Burton Hospitals NHS Foundation Trust

POLICY INDEX SHEET

Title:	**Management of Diabetic Foot Policy**
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Responsible Committee / Group	**None**
Consulted	**Divisional Medical Directors** **Divisional Nurse Directors** **Divisional Directors** **Clinical Directors** **Anthony Jaipersad (Vascular)**

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REVIEW AND AMENDMENT LOG

Version	Type of change	Date	Description of Change
2	Review and Update	July 2017	

MANAGEMENT OF DIABETIC FOOT POLICY

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MANAGEMENT OF DIABETIC FOOT POLICY

1. EXECUTIVE SUMMARY

The aim of the Clinical Management of Diabetic Foot Management Policy is to improve and standardised the care of patients admitted with super-added infection or vascular compromise with a background of diabetes. There are serious issues with tissue viability and patient morbidity / mortality with delays in treating this group of patients and the aim of this document and attached appendices is to ensure that patients are seen and treated in a timely manner which reduces those associated risks. There is NICE guidance that each hospital should have a policy and the hospital has been asked to demonstrate this previously by the Healthcare Commission.

<u>This Policy addresses how the Trust will manage these patients in a co-ordinated way:</u>

- To ensure that all patients admitted as an emergency are appropriately assessed and interventions co-ordinated and commenced in a timely fashion
- To ensure the management is clearly led by the ED consultant with input from the multidisciplinary team including radiographers, nurses, diabetic / medical, vascular and orthopaedic teams
- Identifies standards for radiological investigation
- Identifies roles and responsibilities of ED staff in ensuring patients are on the pathway
- Identifies standards for admission to diabetic ward
- Identifies standards for vascular assessment
- Identifies standards for orthopaedic assessment
- Identifies standards for optimisation of patients from the point of view of diabetic care
- To ensure that accurate data on all patients in available for local and national audit

This Policy acknowledges the importance of clinical engagement, at the earliest opportunity, within the patient pathway.

2. GENERAL PRINCIPLES

Each hospital should have a care pathway for patients with diabetic foot problems who require inpatient care

The multidisciplinary foot care team should consist of healthcare professionals with the specialist skills and competencies necessary to deliver inpatient care for patients with diabetic foot problems.

The multidisciplinary foot care team should normally include a diabetologist, a surgeon with the relevant expertise in managing diabetic foot problems, a diabetes nurse specialist, a podiatrist and a tissue viability nurse, and the team should have access to other specialist services required to deliver the care outlined in this guideline.

The NICE standard is too refer the patient to the multidisciplinary foot care team within 24 hours of the initial examination of the patient's feet.

Transfer the responsibility of care to a consultant member of the multidisciplinary foot care team if a diabetic foot problem is the dominant clinical factor for inpatient care.

Patients presenting in ED may be referred by their GP or attend ED directly via the ambulance service. All patients should be managed initially in the emergency department by the ED medical staff.

3. THE NICE STANDARDS (DIABETIC FOOT PROBLEMS NICE CLINICAL GUIDELINE 119)

The multidisciplinary foot care team should:

Assess and treat the patient's diabetes, which should include interventions to minimise the patient's risk of cardiovascular events, and any interventions for pre-existing chronic kidney disease or anaemia (please refer to Chronic kidney disease [NICE clinical guideline 73] and Anaemia management in people with chronic kidney disease [NICE clinical guideline 114])

Assess, review and evaluate the patient's response to initial medical, surgical and diabetes management

Assess the foot, and determine the need for specialist wound care, debridement, pressure off-loading and/or other surgical interventions

Assess the patient's pain and determine the need for treatment and access to specialist pain services

Perform a vascular assessment to determine the need for further interventions

Review the treatment of any infection

Determine the need for interventions to prevent the deterioration and development of Achilles tendon contractures and other foot deformities

Perform an orthotic assessment and treat to prevent recurrent disease of the foot have access to physiotherapy

Arrange discharge planning, which should include making arrangements for the patient to be assessed and their care managed in primary and/or community care, and followed up by specialist teams. Please refer to Type 2 diabetes: prevention and management of foot problems (NICE clinical guideline 10).©

Appendix 1 and 2.

4. THE PATHWAY

4.1 Initial assessment in ED should include:

- Full History and physical examination
- Document and identify any new foot or previous diabetic foot problems in particular neuropathy, ischaemia, ulceration, inflammation, infection, deformity or Charcot joint
- Full documentation of observations
- Pain assessment and the appropriate analgesia given (Appendix 3)
- Assessment of suspected limb ischaemia
- Limb ischaemia with redness and pain can be misdiagnosed as soft tissue infection. The new onset of gangrene of a digit or of the forefoot is often precipitated by soft tissue infection, even though the signs of inflammation may be attenuated by coincidental peripheral arterial disease.

If limb ischaemia is suspected, obtain a full history of current and any previous cardiovascular events and symptoms, including previous treatments and/or procedures.

Examine the limb checking:

- Colour and temperature
- Presence of gangrene or tissue loss
- Presence or absence of a peripheral pulses
- Measure and document the ankle-brachial pressure (ABPI).

Arrange prompt vascular specialist assessment if critical ischaemia is present. Critical ischaemia is defined as the presence of one or more of:

- Rest pain
- ABPI < 0.5
- Tissue loss (ulcer)
- Gangrene.

Investigations

- Full blood count, electrolytes, renal and liver function, Group and save ESR (erythrocyte sedimentation rate) and CRP (C-Reactive Protein)

- Coagulation studies are not indicated unless the patient is anticoagulated

- Radiological investigation of the affected foot within 1 hour of admission and should include an AP, oblique and a horizontal beam lateral of the affected side to look for possible osteomyeilitis. Chest films should not be undertaken unless there is also chest or cardiac pathology

- ECG performed and analysed if surgery considered or cardiopulmonary disease.

The patient should be started on empirical antibiotic therapy based on the severity of the infection, using the antibiotic appropriate for the clinical situation and the severity of the infection, and with the lowest acquisition cost.

The patient should be admitted to the diabetic ward for stabilisation through the diabetic team within 2 hours of admission and the diagnosis confirmed.

4.2 <u>The admission assessment should include</u>:

- Full History and physical examination as above

- Review of blood tests

- Review of ECG

- Early Tissue Viability involvement within 24 hours of admission

- Inform the diabetic nurse specialist

- If symptoms or signs of critical ischaemia refer for urgent opinion from the vascular team

- If there is a suspicion of osteomyelitis from the xray or MRI scan the diabetologists should ask for oncall ortho team to review bleep 471.

- Stabilisation and maximisation of the patient's condition. To this end the diabetic foot order set should be prescribed (Appendix 4) alongside the appropriate Diabetes Control Action Plan (Appendix 5 & 6). This includes:
- 2L Oxygen via nasal cannualae
- IV fluids – 10hrly in the pre-op period
- Analgesia
- Sliding scale if pre-surgery
- Clexane as per thromboprophylaxis policy
- Usual medications

4.3 The management of diabetic foot infection

Each hospital should have antibiotic guidelines for the management of diabetic foot infections.

Do not delay starting antibiotic therapy for suspected osteomyelitis pending the results of the MRI scan.

Start empirical antibiotic therapy based on the severity of the infection, using the antibiotic appropriate for the clinical situation and the severity of the infection, and with the lowest acquisition cost.

For mild infections, offer oral antibiotics with activity against Gram-positive organisms.

For moderate and severe infections, offer antibiotics with activity against Gram-positive and Gram-negative organisms, including anaerobic bacteria. The route of administration is as follows:

- Moderate infection: oral or intravenous antibiotics, based on the clinical situation and the choice of antibiotic (see recommendation 1.2.23)

- Severe infection: start with intravenous antibiotics then reassess, based on the clinical situation (see recommendation 1.2.23).

The definitive antibiotic regimen and the duration of treatment should be informed by both the results of the microbiological examination and the clinical response to empiric antibiotic therapy.

4.4 The Decision to Investigate

Radiological investigation of the affected foot within 1 hour of admission and should include an AP, oblique and a horizontal beam lateral of the affected side to look for possible osteomyeilitis.

- If osteomyelitis is suspected and initial X-ray does not confirm the presence of osteomyelitis, use magnetic resonance imaging (MRI) as this also identifies collections. If MRI is contraindicated, white blood cell (WBC) scanning may be performed instead (NICE guidance)

- CT scan of the foot can be performed if MRI is contra-indicated.

4.5 The Decision to Operate

If there is an obvious collection and the patient is unwell this will be drained by the on call vascular / orthopaedic team on the next available CEPOD / trauma list.
A non viable digit may require amputation as part of this procedure.

The surgical / orthopaedic team after reviewing the patient following an operation can refer on to vascular / orthopaedic foot specialist teams for a second opinion regarding on going treatment.

The aim is to operate on the patient on the next available Trauma list within a maximum of 48hrs from admission.

The admitting team should :

- Inform the patient of the possible time to theatre
- Contact 1st on call (bleep 511)
- 1st on call or nominated deputy to review patient
- Patient to be listed on next available trauma list (within a maximum of 48hrs).

- Patient **fit** for surgery
    - Inform ward staff
    - Inform vascular / orthopaedic team
    - Clearly document decision
    - Update patient and relatives
    - Ward staff to starve patient as per protocol.

- Patient **unfit** for theatre
    - Inform vascular / orthopaedic team and ward staff
    - Clearly document decision and management plan
    - Contact consultant on call for further advice
    - Optimise patient
    - Inform patient and relatives
    - Ensure patient is fed.

4.6 Intra-operative

- Antibiotics as per hospital Policy will be given on induction unless allergies do not permit, where another suitable antibiotic will be administered

- Flowtron boots will be utilised.

4.7 Post operative instructions will include

- Wait bearing status – if not included will be presumed to be Fully Weight bearing the next day.

4.8 Post operative care

- Post operative anitibiotics as prescribed to continue i.v for 48 hours and then review

- Observations recorded usually EWS initially, followed by track and trigger as appropriate

- Mobilise as per post operative instructions day 1

- Reversal of sliding scale when eating and drinking

- Daily review of wound dressing, changing as required

- Suture removal 10 days post operatively.

4.9 Discharge

- An expected date of discharge will be decided on admission and confirmed post operatively. This is usually 10 -14 days post operatively

- The physiotherapy team and occupational therapy team will be involved with date of admission.

Appendix 1: NICE generic care pathway for diabetic foot

Care pathway

Multidisciplinary foot care team:

- Each hospital should have an inpatient care pathway, managed by a multidisciplinary foot care team.
- The team should consist of healthcare professionals with the specialist skills to deliver inpatient care, including a diabetologist, a surgeon with the relevant expertise in managing diabetic foot problems, a diabetes nurse specialist, a podiatrist and a tissue viability nurse, and the team should have access to other specialist services needed to deliver the care outlined in the guideline.
- The multidisciplinary foot care team should:
  - assess and treat the patient's diabetes, which includes minimising the risk of cardiovascular events, and interventions for pre-existing chronic kidney disease or anaemia
  - assess, review and evaluate the patient's response to initial medical, surgical and diabetes management
  - assess the foot, and determine the need for specialist wound care, debridement, pressure off-loading and/or other surgical interventions
  - assess the patient's pain and determine the need for treatment and access to specialist pain services
  - perform a vascular assessment to determine the need for further interventions
  - review the treatment of any infection
  - assess the need for interventions to prevent the deterioration and development of foot deformities
  - perform an orthotic assessment and treat to prevent recurrent disease of the foot
  - have access to physiotherapy
  - arrange discharge planning.

Patient information and support:

- Offer patients consistent, relevant information and clear explanations that support informed decision making, and provide opportunities for them to discuss issues and ask questions.
- Patients should have a named contact to provide information and to liaise between secondary and primary and/or community care.

Within 24 hours of the patient being admitted or a foot problem being detected (if the patient is already in hospital)

- A named consultant should be accountable for the care of the patient and for ensuring that healthcare professionals provide timely care.
- Refer the patient to the multidisciplinary foot care team within 24 hours of the initial examination of the patient's feet. Transfer the responsibility of care to a consultant member of the multidisciplinary foot care team if a diabetic foot problem is the dominant clinical factor for inpatient care.

Initial examination and assessment

- Examine the feet and record details of new and/or existing foot problems.
- Examine the patient for signs and symptoms of systemic sepsis.
- X-ray the affected foot (or feet).
- Use pressure-relieving support surfaces and strategies in line with 'Pressure ulcers' (NICE clinical guideline 29).

If you suspect the following, obtain advice from an appropriate specialist:

- Charcot arthropathy
- systemic sepsis
- a deep-seated infection
- limb ischaemia.

Diabetic foot ulcers

Investigation

Record the size and depth of the ulcer. Assess and record any signs of infection, ischaemia, neuropathy, gangrene or deformity.

Management

Debridement should only be done by healthcare professionals from the multidisciplinary foot care team using the technique that best matches their expertise, clinical experience, patient preference and site of the ulcer.

When choosing wound dressings, healthcare professionals from the multidisciplinary foot care team should take into account the wound, patient preference and the clinical circumstances, and should use wound dressings with the lowest acquisition cost.

Offer off-loading. Healthcare professionals from the multidisciplinary foot care team should take into account the wound, patient preference and the clinical circumstances, and should use the technique with the lowest acquisition cost.

Use pressure-relieving support surfaces and strategies in line with NICE clinical guideline 29.

Interventions not recommended

Negative pressure wound therapy, unless in the context of a clinical trial or as rescue therapy (when the only other option is amputation).

Dermal or skin substitutes, electrical stimulation therapy, autologous platelet-rich plasma gel, regenerative wound matrices, deltaparin, growth factors, hyperbaric oxygen therapy, unless in the context of a clinical trial.

Diabetic foot infection

Investigation

Send a deep soft tissue sample (or a superficial swab) for microbiological examination.

If you suspect osteomyelitis but the initial X-ray was not diagnostic, carry out magnetic resonance imaging (MRI) or white blood cell scanning if MRI is contraindicated.

Management

Start antibiotic therapy based on infection severity, using the antibiotic with the lowest acquisition cost appropriate for the clinical situation. Take into account local antibiotic guidelines as well as the microbiology results.

Do not delay starting therapy for suspected osteomyelitis pending MRI results.

For mild infections, offer oral antibiotics with activity against Gram-positive organisms.

For moderate and severe infections, offer antibiotics with activity against Gram-positive and Gram-negative organisms, including anaerobic bacteria. For moderate infections use oral or intravenous; for severe infections start with intravenous and then reassess.

Interventions not recommended

- ***Investigation***
  X-rays or probe-to-bone testing to exclude osteomyelitis.
  Bone scans to diagnose osteomyelitis.
- ***Management***
  Prolonged antibiotic therapy for mild soft tissue infections.

Suspected limb ischaemia

Obtain a history of any previous cardiovascular events and symptoms, including treatments and/or procedures.

Inspect the limb for colour and temperature, gangrene or tissue loss and presence or absence of a peripheral pulse.

Measure and document the ankle–brachial pressure where clinically possible and interpret the results carefully.

Arrange prompt specialist assessment.

Appendix 2

Burton Hospitals NHS
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Emergency Department Care Pathway

Diabetic Foot Pathway

Name	Unit No
Date of Birth	Sex M/F
Age	
Hospital Label if available	

Task	Yes	No	Comment / Reason
Observations recorded on TPR chart			
Foot X-ray			
Bloods taken (U&E's, FBC, G&S plus others as dictated)			
IV access & Fluids & antibiotics			
ECG – checked and signed			
Analgesia – pain controlled			Pain Score _____ Analgesia _____Time_____ Review Pain Score _____Time_____
Weight recorded			Record weight here
Urinalysis recorded			Attach results sheet
Pressure areas observed and noted			
Hospital Gown			
No other injuries / medical conditions requiring urgent intervention			
Patient still clinically stable		STOP FAST TRACK	NO -- Refer to ED doctor for resuscitation

Reason For Delay:

Waiting for X-ray ☐
Waiting for confirmation fracture ☐
Waiting for bed ☐ Were they transferred to AAC? Yes ☐ No ☐
Other ☐ Please State _____

Name_____ Signature _____
Date & Time _____

Appendix 3:

ED PAIN PROTOCOL FOR SUSPECTED DIABETIC FOOT

- Assess patient's pain (score 0-3) as soon as patient presented to ED & ½ hourly if pain control is inadequate. Document pain score in patient assessment chart. ***(Pain Scoring 0-None; 1- Mild; 2-Moderate; 3-Severe)***

- Pain must be adequately controlled before moving patient for X-ray

1- Paracetamol (pain score <2)

1gm IV/PO. Assess pain after ½ hour. If pain relief inadequate, give Morphine

2- Morphine (pain score 2 or>2)

Give titrated dose of Morphine. Add 10mg Morphine in 9 mls saline. Give 2mg i.v at 5 minutes interval to maximum 10 mg. Use 1mg boluses of Morphine if patient >75 years, weight < 50kg or BP less than 100mmHg. Give antiemetic with Morphine. Patient must be given continuous O2 via face mask or nasal cannula.

Pain assessment (score 0-3) should be documented on transfer to ward / theatre

Appendix 4:

Diabetic Foot Pre-surgery Order Set

This group of patients are to be prescribed the order set alongside their normal medications unless there are contraindications or known adverse interactions

Included in the order set :

Oxygen therapy 2 litres	For all patients to receive 2 litres of oxygen during the pre operative period
Paracetamol (Tablet & Soluble)	Regular analgesia – Either or to be used depending on patients swallowing ability
Codeine Phosphate 60mg tablets	Regular analgesia –
Morphine 10mgs/5mls oral	PRN 2 hourly as required for breakthrough pain
Morphine 10mgs/1ml SC	PRN 4 hourly as required for breakthrough pain
Senna	PRN
Ensure Fortijuice plus juice	BD (see Flow chart in appendix 1 for necessary bloods and other nutritional supplements)
Hartmanns (4 bags) IV	For all patients to receive 10 hourly fluids during the pre operative period, to maintain hydration (this is in addition to oral intake and NOT just when Nil By Mouth)
Normal saline (2 bags) SC	To be used at nursing staffs discretion to maintain fluid intake if IV access is lost
Clexane 40mgs SC	As per thrombophylaxis policy

Exclusions:
Known allergy to medication
Ensure Fortijuice plus juice - Diabetes (BM > 10mmol/l), Dysphagia, Requirement for thickened fluids or Cow's milk protein intolerance
Hartmans's - Diabetcis with a BM > 10mmol/l (and should be started on an insulin/fluid regimen). Normal saline should be used in patients with Liver Failure
Clexane – **Absolute contraindications to prophylactic enoxaparin**
Active bleeding
Bleeding disorders,
already receiving therapeutic anticoagulation
known hypersensitivity to heparin
previous heparin induced thrombocytopaenia or thrombosis
haemorrhagic stroke,
acute MI or acute coronary syndrome
receiving high dose LMWH
Thrombocytopenia

Special consideration:
Hartmanns / Normal saline – patients with signs of cardiac failure should be monitored closely for signs of overload.
Senna – if a patient takes adequate laxatives normally
Analgesics – consider patients usual analgesics when prescribing paracetamol & codeine especially.
Notes:

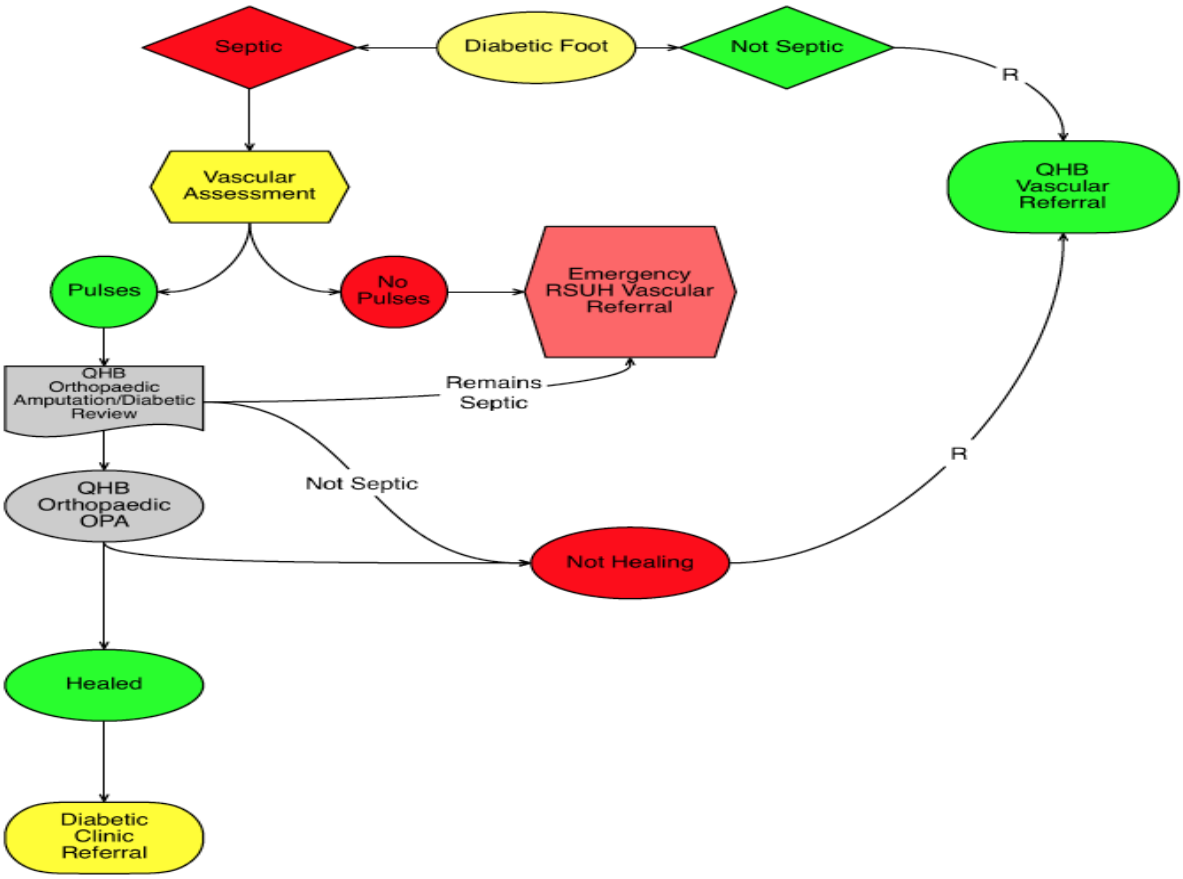
Patients will still require Potassium as indicated
Further fluid as indicated for example dehydration or low circulatory blood volume.
Patients to continue with eating and drinking until day of surgery. Nil By Mouth as per pre op guidelines 4 hours clear fluid and 6 hours for food. Patients must NOT be starved longer than necessary.

QHB/RSUH Vascular Surgeons:

Mr. T Jaipersad	Mr. J Fairhead	Mr. D. Ablett
Mon/Tues 9-3	Alt. Thurs 9-1pm	Alt. Thurs 9-1pm

Appendix 5:

Diabetic Foot Pathway 2017



RSUH Call Centre: 01782 715444 RSUH SAU: 01782 672296

RSUH SAU Fax (Emergency admission (Burton to RSUH transfer form – available on intranet): **08436365845**

RSUH Alliance Secretary: 01782 6**71520/79885**

QHB Vascular Secretary: 01283 511511 **ext 4049**

EMERGENCY REFERRAL TO RSUH GENERAL SURGERY SpR VIA RSUH CALL CENTRE (If Not Available Discuss with VOW (Vascular Consultant of the Week.)

R=OPA referral via QHB Vascular Secretary

Alternate Tuesday's PM: 3x Diabetic Foot OPA slots with Mr. Jaipersad.

Send referrals to RSUH Alliance Secretaries directly for Urgent OPA bookings.

carolinesheldon@nhs.net or anita.lovatt@nhs.net

Appendix 6:

Burton Hospitals NHS
NHS Foundation Trust

Department of Diabetes Medicine

Guideline for Managing persons over the age of 16 who have diabetes controlled with oral hypoglyceamics and are having a surgical / investigative procedure
This guideline applies to those people fasting for less than 12 hours

This guideline has been written to enable staff to give appropriate advice to patients who are undergoing surgical or investigative procedures. This guide can be used for all procedures where patients will be starving for a period of less than 12 hours. Further guidance should be sort for those who need to be on a light diet or who are using Bowel Preparation before a procedure.

Tablets	Day before Admission	Day of Surgery	
		Patient for AM List	Patient for PM List
Acarbose	Take as normal	Omit morning dose if NBM	Give morning dose if allowed light breakfast
Metaglinides *Repaglinide, Nateglinide*	Take as normal	Omit morning dose if NBM	Give morning dose if allowed light breakfast
Biguanides *Metformin* If contrast media is being used then metformin should be omitted for day of surgery and for 48 hours after	Take as normal	Omit breakfast dose Lunch and evening meal dose can be taken if eating and drinking	Give morning dose if allowed light breakfast. Omit Lunch dose. Evening meal dose may be given if eating and drinking
Metformin SR If contrast media is being used then metformin should be omitted for day of surgery and for 48 hours after	Take as normal	OD dose with evening meal need not be stopped BD dosing, omit AM dose	Give morning dose if allowed light breakfast. Evening meal dose may be given when eating and drinking
Sulphonylureas *Glibenclamide, Gliclazide, Glipizide, Glimepiride*	Take as normal	OD omit prior to procedure but can have with first meal after the operation BD Omit am dose	OD Omit AM BD Omit AM and PM
Diamicron MR	Take as normal	If taken in the morning, delay dose until first meal after operation	Omit am dose
Thiazolidinediones *Pioglitazone,*	Take as normal	Take as normal	Take as normal
DPP4 Inhibitors *Sitagliptin, Vildagliptin saxagliptin*	Take as normal	Omit on day of surgery	Omit on day of surgery
Combination Therapies *Avandamet, Competact, Eucreas*	Take as normal	Omit am dose	Omit am do

Department of Diabetes Medicine

Guideline for Managing persons over the age of 16 who have diabetes controlled with injectable diabetes medications and are having a surgical / investigative procedure

This guideline applies to those people fasting for less than 12 hours

This guideline has been written to enable staff to give appropriate advice to patients who are undergoing surgical or investigative procedures. This guide can be used for all procedures where patients will be starving for a period of less than 12 hours. Any patient that is going to be fasting for more than 12 hours should be put on a sliding scale.

Please note this is for guidance only and anyone that you feel needs individualised advice should be referred to the diabetes nurses.

Further guidance should be sort for those who need to be on a light diet or who are using Bowel Preparation before a procedure.

Insulin Regimen	Day before Admission	Day of Surgery	
		Patient for AM List	Patient for PM List
OD Lantus or Levermir	Take as normal	Take as normal	Take as normal
OD Mixed insulin given am Novomix 30 *Humulin M3* Humalog Mix 25 Humalog Mix 50 *Insuman combi*	Take as normal	Give half am dose	Give half am dose
OD Mixed insulin given pm *Novomix 30* *Humulin M3* Humalog Mix 25 Humalog Mix 50 *Insuman combi*	Take as normal	No Changes required PM Insulin as normal	Give PM dose when able to eat
BD Mixed insulin Novomix 30 Humulin M3 Humalog Mix 25 Humalog Mix 50 Insuman combi	Take as normal	Ideally patient should be first on list. Give half am dose No change to PM Dose	Give half am dose PM dose as normal when eats evening meal
Basal Bolus Regime **(basal insulin taken pm)** Novorapid / Humalog / Apidra *With each meal (Bolus)* & *Lantus / Levermir (basal)*	Take as normal	Ideally patient should be first on list. Breakfast dose of Bolus insulin should be omitted. Can be taken with late breakfast after procedure completed Basal insulin taken as normal	Half breakfast bolus dose can be given if allowed light breakfast. Lunch time Bolus dose should be omitted. Evening meal Bolus dose can be given if eating and drinking. Basal insulin taken as normal
Basal Bolus Regime **(basal insulin taken am)** Novorapid / Humalog / Apidra *With each meal (Bolus)* & *Lantus / Levermir (basal)*	Take as normal	Ideally patient should be first on list. Breakfast dose of Bolus insulin should be omitted. Can be taken with late breakfast after procedure completed Basal insulin should be reduced by 20%	Half breakfast bolus dose can be given if allowed light breakfast. Lunch time Bolus dose should be omitted. Evening meal Bolus dose can be given if eating and drinking. Basal insulin given as normal