

LAMBETH DIABETES INTERMEDIATE CARE TEAM



Guidelines for the Annual Review of Housebound Patients with Diabetes

Lambeth and Southwark Diabetes Network

This policy replaces the following policy:

Annual reviews for Housebound Patients with Diabetes
March 2002 (CHSL)

Written and compiled by
Lambeth Diabetes Intermediate Care Team. February 2008
For review March 2010

Annual Review of Housebound Patients with Diabetes

1) Aim of these Guidelines

These guidelines provide information about annual diabetes review. There is also information about how to refer to other diabetes services locally.

2) Which Health Professionals should use these Guidelines?

These guidelines are primarily provided for Community Nursing Teams. However, other Health Professionals such as Practice Nurses who are reviewing patients with diabetes at home could also use them.

3) Patient Group

These guidelines are for the review of patients with Type 1 or Type 2 diabetes who are unable to attend their GP surgery for diabetes care and are not attending hospital for their diabetes management.

An annual review is needed for all diabetes patients including those controlled by diet alone.

4) Responsibility for undertaking the review

Responsibility for undertaking diabetes reviews lies with the GP practice. Their GP/Practice Nurse should undertake the review of housebound patients not already on Community Nursing caseloads.

Community Nurses are well placed to undertake annual diabetes review for patients already on their caseloads who they are visiting at least every three months.

Annual Review of Housebound Patients with Diabetes

Process and co-ordination of the annual review

Community Nursing Teams identify housebound patients who require annual diabetes review from their caseload



GP surgery and Community Nurse discuss who is best placed to undertake the annual diabetes review



Discuss annual review with patient and check that they agree for this to be undertaken



Arrange the blood tests required for the annual diabetes review



Community (District) Nurse undertakes the review with reference to the annual review record sheet



Community Nurse and GP discuss the results and findings from the annual review at their monthly meeting



- GP surgery enters information from the review onto the patients computer record
- GP is responsible for medication changes
- Community nurse and GP decide on referrals/actions required following the review
- Outcome sheet completed

Annual Review of Housebound Patients with Diabetes

Documentation for the annual diabetes review

Annual review record sheet:

These guidelines contain an annual review record sheet to be used when undertaking a diabetes review at a patient's home (appendix 1)

Medication review sheet:

There is a separate record sheet to make a record of a patient's current medication and any medication related problems (appendix 2)

Outcomes record sheet:

It is also recommended as part of the review process that the Community Nurse meets with the patient's GP following the review. This could be done at the regular team meeting held at the GP surgery. There is a record sheet to record outcomes of the review (appendix 3)

Record keeping following the annual review:

The GP surgery is responsible for recording information onto the patient's computer records

A copy of the diabetes review record sheet should be placed in the Community Nursing notes held at the patient's home and also in the Community Nursing records held at the Team Base

Annual Review of Housebound Patients with Diabetes

Information for the annual review

The following section is intended to provide explanatory information about the annual review record sheet (appendix 1).

1. History

| | |
|---------------------------|---|
| Type 1 or Type 2 diabetes | <p>Type 1 diabetes most often presents in younger people. People with type 1 diabetes make no insulin at all and without insulin treatment become severely unwell.</p> <p>Patients with type 2 diabetes are often overweight. Their body is usually able to make some insulin. Their diabetes is often treated with diet and tablets. They may require insulin treatment eventually.</p> |
| Complications of diabetes | <p>Diabetes can lead to complications affecting various parts of the body.</p> <p>These complications include:</p> <ul style="list-style-type: none">• Increased risk of ischaemic heart disease and stroke (cardiovascular disease)• Poor circulation to the feet and legs (peripheral vascular disease)• Kidney damage leading to proteinuria and impaired renal function• Damage to the retina which is known as retinopathy. In some cases this can cause visual problems or blindness• Damage to the nerves of the legs and feet causing loss of sensation (peripheral neuropathy)• Erectile dysfunction (ED) |
| Home Monitoring | <p>Diabetes can be monitored by urine testing for glucose using strips.</p> <p>Many patients monitor their blood glucose levels using a meter.</p> <p>It is important to check that a patient understands their readings; knows what to do with results; knows how to use their meter and can calibrate it regularly.</p> <p>See Appendix 5 and 6 for advise on monitoring</p> |

Annual Review of Housebound Patients with Diabetes

| | |
|---------------------------------------|--|
| Symptoms of high blood glucose levels | <p>Occasionally persistent, high blood glucose can cause a patient to become acutely unwell with symptoms such as drowsiness, vomiting and eventually coma.</p> <p>High blood glucose levels can cause the following symptoms:</p> <ul style="list-style-type: none"> • Thirst and passing urine more frequently • Fatigue <p>Recurrent infections such as skin infections or urinary tract infections</p> |
| Hypoglycaemia | <p>Patients treated with insulin can develop low blood glucose (hypoglycaemia or “HYPOS”) if they miss meals, exercise or have too much insulin. Patients treated with certain tablets (sulphonylureas) for their diabetes can also experience low blood glucose levels.</p> <p>All community nurses working with people with diabetes should be able to recognise the symptoms, signs of and management of hypoglycaemia.</p> |
| Insulin injection sites | <p>Patients can develop problems where they inject their insulin. This is most common if they have a poor injection technique or if they do not rotate their injection sites. The area where they inject can become lumpy and this is called lipohypertrophy. If this develops insulin absorption is reduced.</p> |

2. Measurements

| | |
|--|--|
| Body mass index (BMI) | <p>BMI is the relationship between weight and height. A normal BMI is between 20 and 25.</p> |
| Blood pressure | <p>For diabetes patients’ with hypertension blood pressure should be less than 130/80.</p> |
| Urinalysis (glucose, blood or protein) | <p>Protein or blood in the urine may suggest a urine infection and a MSU should be sent to the laboratory. If an MSU is negative for infection but there is still protein or blood on urinalysis this suggests diabetic kidney damage.</p> |

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| | |
|--------------------------------|--|
| ACR (albumin:creatinine ratio) | <p>Diabetes can cause damage to the kidneys. When this occurs small amounts of protein leak from the kidneys into the urine. At first, the amount of protein leaking into the urine is too small to be detected using dipstix. It can be detected by testing an early morning sample of urine for an ACR.</p> <p>Normal ACR is less than 3.5 in women and less than 2.5 in men.</p> |
| HbA1c | <p>HbA1c is a measure of how well diabetes is controlled. It reflects the average blood glucose level over the previous 2-3 months.</p> <p>Target HbA1c for most diabetes patients is less than 7%.</p> <p>However, an HbA1c target needs to be individualised for every patient.</p> |
| Creatinine and eGFR | <p>Creatinine and eGFR (estimated glomerular filtration rate) are measures of renal (kidney) function.</p> |
| Cholesterol | <p>For diabetes patients total cholesterol should be less than 4mmol/l.</p> |

3. Feet examination

| | |
|-----------------------|---|
| Peripheral pulses | <p>The dorsalis pedis and posterior pulses should be palpated during a diabetes review. If unable to feel pulses people should be referred to podiatry.</p> |
| Microfilament testing | <p>A 10g monofilament is the best way to check the sensation of the feet. Reduced monofilament sensation suggests that the patient has developed a sensory peripheral neuropathy. Such patients need to take extra care to look after their feet.</p> |

Annual Review of Housebound Patients with Diabetes

| | |
|--|---|
| Foot self care | All patients with diabetes should be given information about caring for their feet. |
| Referral to podiatry (community foot health service) | An algorithm for foot care and referral is included with these guidelines (appendix 7 & 8) |

4. Eyes

| | |
|--|--|
| Annual Diabetes Eye Complications Screening (DECS) | <p>Diabetes can cause damage to the retina. Eventually this can lead to vision problems and even blindness. Every diabetes patient should have annual screening for retinopathy. This is best undertaken by taking photographs of the retina (DECS.)</p> <p>Information about DECS and a referral form is included with these guidelines (appendix 9 & 10)</p> |
|--|--|

5. Depression screening questions

| | |
|--|--|
| During the past month, have you often been bothered by feeling down, depressed or hopeless? | Depression is thought to be common in patients with chronic illnesses such as diabetes. These three simple questions can be used as a screening tool for depression. They are now included in the GP Quality and Outcomes Framework for diabetes care. |
| During the past month, have you often been bothered by having little interest or pleasure in doing things? | |
| Would you like help with the way you are feeling? | |

Annual Review of Housebound Patients with Diabetes

6. Lifestyle issues

| | |
|--------------|---|
| Healthy diet | Diabetes control is greatly improved in patients who eat healthily. It is important to check that diabetes patients understand what they should eat. Some patients may need referral to a dietician for education about their diet or if they are overweight. |
| Activity | Some form of physical activity is important for diabetes patients. It is recommended that patients try to exercise for 30 minutes at least 5 times a week. |
| Smoking | It is very important that patients with diabetes do not smoke as this greatly increases their risk of developing complications. GPs can offer help to quit smoking. |

Documentation to support the annual review process is attached in the appendices 1 - 3.

These should be used when undertaking the annual review.

Annual Review of Housebound Patients with Diabetes

Appendices

1. Diabetes Annual Review record sheet
2. Medication review sheet
3. Outcome of the annual review sheet
4. Flowchart for the management of Blood Glucose in Type 2 Diabetes Mellitus
5. Glucose testing in people with Diabetes – Self monitoring
6. Information for Blood Glucose Monitoring by Community Nurses
7. Lambeth & Southwark Diabetic Foot Guideline
8. Lambeth Foot Health Home Visit Request
9. The DECS service
10. DECS referral form
11. DECS exemption Form
12. Lambeth and Southwark Community Dietetics Service
13. Referral form for community dietician Requested
14. Useful reference sources for diabetes
15. Contact information for diabetes services in Lambeth and Southwark

Annual Review of Housebound Patients with Diabetes
Appendix 1

| Yearly Review for people with Diabetes and Housebound | | | | | | |
|--|---|-----|--------------|-----------------------|--------------|----|
| Print Name | Date of Birth | | | | | |
| GP Name & Surgery Address | | | | | | |
| Diabetes Management | Tablets | | Insulin | | | |
| Home Monitoring | Blood Glucose | YES | NO | Other Specif y | | |
| | Hypos | YES | NO | NA | | |
| Insulin Sites Checked | YES | | NO | NA | | |
| MEASUREMENTS | Weight KG | | | BP | | |
| Urinalysis | Protein | YES | NO | ACR | YES | NO |
| Blood tests | HbA1c | YES | NO | Result | | |
| | Creatinine | YES | NO | Result | | |
| | Cholesterol | YES | NO | Result | | |
| Foot Examination | <i>If actively being reviewed by community no need for foot screening</i> | | | | | |
| Being seen by podiatry | | | YES | | NO | |
| | Dorsalis Pedis | | Post Tibial | | Filament 10g | |
| Left | YES | NO | YES | NO | YES | NO |
| Right | YES | NO | YES | NO | YES | NO |
| Referred to chiropodist ? | | | YES | NO | Date: | |
| EYES | | | | | | |
| Attends Diabetes Eye Screen | | | YES | NO | Date: | |
| If No Referred To DECS | | | YES | NO | Date: | |
| If NO, is local optician undertaking retinal screening ? | | | | YES | NO | |
| Depression Screen | | | | | | |
| During the past month have you been bothered by feeling down? | | | | YES | NO | |
| In the past month have you been bothered by having little interest ? | | | | YES | NO | |
| Would you like help with the way you are feeling? | | | | YES | NO | |
| Life style | | | | | | |
| Diet discussed | | YES | NO | Referral to Dietician | | |
| Smoking | NO | Ex | Amount | | | |
| FORM COMPLETED BY: | | | | | | |
| SIGNATURE: | | | DESIGNATION: | | | |

Annual Review of Housebound Patients with Diabetes

Outcomes of the review

Appendix 3

| | |
|-----------------------------|--|
| Date case discussed with GP | |
|-----------------------------|--|

| Action needed | When | By who |
|---------------|------|--------|
| 1. | | |
| 2. | | |
| 3. | | |
| 4. | | |
| 5. | | |
| 6. | | |

Name and designation of Community Nurse completing this form:

Signature:

Date:

Annual Review of Housebound Patients with Diabetes
Lambeth Foot Health Home Visit Request Appendix 8



Clinic Address:

Foot Health Home Visit Request

Please fill in all sections – they are important!

Date of referral: _____

Name: _____ Date of Birth: _____

Address: _____

Post Code: _____ Tel No: _____

Has this person been seen at home by the Podiatrist before? Yes
 No

Who is referring and contact details? _____

GP name & surgery: _____

Is patient diabetic? (Y/N) _____ Is patient housebound? (Y/N) _____

What is your current foot problem?

Is there any special access requirements e.g.: Days not to call, get key from a neighbour etc?

Annual Review of Housebound Patients with Diabetes

The DECS Service – Retinopathy Screening for People with Diabetes in Lambeth, Southwark and Lewisham

Appendix 9

DECS is the local provider of retinopathy screening, which is now a national programme governed by the National Screening Committee (NSC) in a similar way to breast screening and cervical cancer screening. For DECS, the target population is all people with diabetes in Lambeth, Southwark and Lewisham aged 12 years and over.

The only method that is considered acceptable from the beginning of 2007 is digital retinal imaging to standard technical specifications as defined by the NSC. DECS operates such cameras from all 4 hospital diabetes centres (St Thomas', Guy's, Kings and Lewisham) Slit lamp biomicroscopy screening by community optometrists is being phased out, although it is hoped to continue to use their expertise to screen patients with media opacities that prevent adequate retinal imaging.

People who receive their diabetes care in part from a hospital diabetic clinic receive their retinal screening as part of their visit to the diabetologist. However, to comply with National Screening Committee requirements, from February 2008 the DECS service will be constructing a central register of all diabetic patients eligible for screening by direct upload from the GP practice database using Contract Focus. For further information on this, practice staff should contact their practice manager or the DECS team as below. Referrals sent using the referral form will no longer be accepted and returned to the referrer. Patients should be offered the opportunity to be excluded from this central register if they do not wish to have their eyes screened but must complete the Declaration of Exclusion from Diabetic Retinopathy Screening (Appendix ?)

Tel: 020 7188 1979

Fax: 020 7188 9540

Email: DECSenquiries@gstt.nhs.uk

The central register will instigate a call/recall of patients on an annual basis, or more frequently if diabetic changes affecting their eyes are noticed which may need closer monitoring. A report is sent after each visit to DECS, to the patients GP and the patient receives a letter notifying them of their results and when they will need to be seen next. . Treatment for sight- threatening retinopathy is given at Kings College Hospital and St Thomas' hospital ophthalmology departments. DECS admin send the referral to these departments.

People without retinopathy, and those with mild background disease, are seen annually. DECS also monitors moderate retinopathy at more frequent intervals to conserve ophthalmologic resources for patients needing treatment.

Please contact the DECS team for any further information

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Appendix 10.

DECS Diabetic Eye Complications Screening Practice Referral Form

- **THIS FORM IS FOR NEW REFERRALS. Screening is recommended for people with diabetes from 12 years of age.**
- **To change follow-up / recall appointments, please contact the central DECS office by phone (020 7188 1979), fax (020 7188 9540) or email (DECSenquiries@gstt.nhs.uk).**

• **PLEASE CIRCLE PREFERRED DECS SCREENING CENTRE:**

ST. THOMAS' HOSPITAL GUY'S HOSPITAL KING'S COLLEGE HOSPITAL
UNIVERSITY HOSPITAL LEWISHAM

- **ADVISE PATIENTS NOT TO DRIVE AS EYEDROPS WILL BE GIVEN. THEY SHOULD BRING SUNGLASSES IF POSSIBLE AND A LIST OF ALL PRESCRIPTION MEDICINES.**

- **NHS no and details of the referring clinician are essential.**

SURNAME _____ FORENAME _____ M/F

ADDRESS _____

D.O.B. _____ TELEPHONE _____ NHS NO _____

TREATMENT for Diabetes:

OTHER MEDICAL HISTORY

EYE HISTORY if known:

PREVIOUS RETINAL SCREENING HISTORY if known:

GP NAME AND ADDRESS:

SIGNATURE _____ DATE _____

- **PLEASE SEND THIS FORM TO:
DECS Central Office, Block 6, 2nd Floor South Wing, St. Thomas Hospital, Lambeth Palace Road
London SE1 7EH**

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Appendix 11.

Declaration for Exclusion from Diabetic Retinopathy Screening

SURNAME:..... FORENAME:..... M / F

ADDRESS:.....

D.O.B..... TELEPHONE:..... NHS No:.....

GP Name & Practice (*stamp or label preferred*):

General Practitioner's Declaration

This patient should be suspended from Diabetic Retinopathy Screening for the following reason:

This person is under the age of 12 years and screening will be deferred until after 12th birthday.

This person has no perception of light in either eye (include report from Ophthalmologist).

This person is currently under the care of an ophthalmologist for treatment and management of diabetic retinopathy (please include report from Ophthalmologist).

This person is terminally ill.

Screening and treatment for diabetic retinopathy is inappropriate for this person for the reason(s) below. Consider that healthcare providers must not discriminate against patients who are not able to access standard services (e.g. due to physical or mental impairment) and that advice should be sought for e.g. from a social worker and / or an ophthalmologist.

I have explained the risks of Diabetic Eye Disease and the purpose of screening procedures to the above named patient; however she/he has requested temporary / permanent exclusion from the screening register (please ask patient to countersign declaration below).

GP's Signature

Date

Patient's Declaration (circle as appropriate)

I request temporary exclusion from Diabetic Retinopathy Screening for a period ofmonths.

Or

I hereby consent to permanent exclusion from Diabetic Retinopathy Screening

I confirm that I have understood the risks of Diabetic Eye Disease and the purpose of screening in the prevention of visual loss due to Diabetic Retinopathy. However I do not wish to attend for a screening examination.

Patient's Signature _____

Date _____

Annual Review of Housebound Patients with Diabetes

Lambeth and Southwark Community Dietetics Service.

Appendix 12.

Community Dietician (Lambeth)

Currently provides domiciliary visits to house bound patients only that reside within the borough of Lambeth. These include:

- 1) Nutritional Support for malnourished/ high risk patients
- 2) Therapeutic Diets (e.g. Diabetics, High Protein and High Calorie diets, Reducing Diets)
- 3) Patients living in residential accommodation/Nursing homes

Community Nutritionist Clapham Park (Lambeth)

Provides a nutrition service for residents within the Clapham Park area including health promotion for differing age groups, cook and eat sessions etc. Actively work in partnership with other organisations to provide well rounded nutrition support for residents.

Annual Review of Housebound Patients with Diabetes

Dietetic Referral

Appendix: 13

Date

Client Details

Name*

DOB*

Address*

Tel*

Patient NHS No.

Diagnosis*

Weight*

Gender*

Does this patient require a home visit?(Available in Lambeth)*

Yes (please state why)

No

Reason for referral

Relevant medical treatment*

Present medication/drugs*

Relevant biochemistry*

Referring Health Professional

Name

Address

Signature

Tel:

GP/Consultant details

Name

Tel

Address

Does the patient require a translator? Yes/no

If yes, in what language?

**Essential information: form will be return if not completed*

PLEASE RETURN THIS FORM TO
ONE OF THE ADDRESSES
BELOW:

1) If *patient's GP has a Dietitian*
send to:

Primary Care (GP) Dietitian

Name of GP Practice

.....

Address.....

.....

Post code:

2) *Housebound patients*

(Lambeth only) send to:

Community Dietitian

Port cabins

Whittington centre

11-13 Rutford Road

London

SW16 2DQ

Tel:0208 243 2544

Fax:0208 243 2530

3) All other patients send to **Hospital**

Dietitian

Name of Hospital

.....

Address.....

.....

Post code:

Annual Review of Housebound Patients with Diabetes

Useful reference sources for diabetes Appendix 14

Diabetes UK website: <http://www.diabetes.org.uk>

Comprehensive information about diabetes for patients and healthcare professionals

Leicestershire Diabetes website: <http://leicestershirediabetes.org.uk>

Useful website with information about diabetes for patients and healthcare professionals. Good information about insulin treatment in diabetes

National Library for Health
Diabetes page: <http://www.library.nhs.uk/diabetes/>

Information on all aspects of diabetes including clinical and organisational issues

Clinical Knowledge Summaries: <http://www.cks.library.nhs.uk/>

This site provides patient information sheets and clinical information about diabetes and replaces the PRODIGY website

National Obesity Forum: <http://www.nationalobesityforum.org.uk>

Information about obesity and its management for patients and healthcare professionals

Royal College of Nursing:
<http://www.rcn.org.uk/resources/improvingcare/diabetes/resources>

RCN resource page for diabetes

Lambeth PCT: <http://www.lambethpct.nhs.uk>

Southwark PCT <http://www.southwarkpct.nhs.uk>

PCT websites with information about local services, guidelines and policies

Annual Review of Housebound Patients with Diabetes

Contact information for diabetes services in Lambeth
Appendix 15

Lambeth Community Diabetes Nurses

For patients registered with Lambeth practices

NORTH
Julia Azille 020 7188 1906
Julia.Azille@gstt.nhs.uk

SOUTH WEST
Rosarie Atkinson 07770 966989
Rosarie.Atkinson@lambethpct.nhs.uk

SOUTH EAST
Deirdre McGowan 020 7188 9799
Deirdre.McGowan@gstt.nhs.uk

Southwark Community Diabetes Nurses

For patients registered with Lambeth practices

SOUTH
Cinzia Halfyard 020 299 1738

NORTH
Jenny Sharpe 020 7188 1934

Hospital Diabetes Departments

KING'S COLLEGE HOSPITAL 020 3299 1737

ST THOMAS' HOSPITAL 020 7188 7188

GUY'S HOSPITAL 020 7188 1926

DECS 020 7188 1979
DECS@gstt.nhs.uk

Hospital Diabetes Specialist Nurses

KING'S COLLEGE 020 3299 1739

ST THOMAS' & GUYS 020 7188 1993

ST GEORGE'S 020 8725 0232

Podiatry Central Booking

Telephone 020 3049 5371
Fax 020 8696 6941
Housebound office 020 8243 2537
St Thomas' clinic 020 7188 1983
Kings Foot Clinic 020 3299 3223

INFORMATION FOR BLOOD GLUCOSE MONITORING BY COMMUNITY NURSES

**ALL STAFF MONITORING BLOOD GLUCOSE LEVELS MUST BE TRAINED TO DO SO AS
PER DEPARTMENT OF HEALTH AND ROYAL COLLEGE OF NURSING
RECOMMENDATIONS ^(1,2)**

TARGETS FOR CONTROL:

Targets for glycaemic control should be individualised and should be agreed with the patient and key health care professional. Risks of Hypoglycaemia & Hyperglycaemia may be high in this population

NB

**Remember to take into account the clinical picture when assessing blood glucose results
i.e:**

- Have you asked about symptoms of hypo or hyperglycaemia
- Is the patient able to recognise symptoms of hypo and hyperglycaemia? And do they know the appropriate management
- Is medication being reviewed or altered?
- Is the patient unwell /has an infection?
- Are they taking steroids?

TYPE 1 AND TYPE 2 REQUIRING INSULIN OR ORAL HYPOGLYCAEMIC AGENTS (OHAs)

- Home blood glucose monitoring is essential in all patients with Type 1 and Type 2 diabetes on insulin or sulphonylureas. If the patient is unable to self monitor the community nurse is required to undertake this (refer to "Glucose testing in people with Diabetes – Self monitoring" flowchart for further details on frequency of monitoring)
- If health care staff are administering insulin, blood glucose levels should be checked prior to each administration
- If your patient is on a sulphonylurea and is displaying symptoms of hypoglycaemia (see page 2 for symptoms), the patient's blood glucose should be checked prior to administering the sulphonylurea.
- If results are < 4mmol/L or >15mmol/L see page 2 for advice
- If results are regularly outside of individual's target range discuss with GP or diabetes team

For patients who are able to self-monitor please see separate flowchart: "Glucose testing in people with Diabetes – Self monitoring"

Symptoms of Hypoglycaemia

- Pale
- Shaky
- Sweaty
- Vague
- Disorientated
- Slurred speech

Blood Glucose Results

- Ensure level is correct
- Check monitoring technique
- Quality control technique
- ? test interferences

Symptoms of Hyperglycaemia

- Polyuria
- Polydipsia
- Vomiting
- Feeling unwell
- Infection

HYPOGLYCAEMIA

Blood glucose level low < 4 mmols

CONSCIOUS:

- Treat with glucose i.e. 5 dextrose tablets or GlucoGel or 80-100mls lucozade or 200mls fruit juice or coke

- Check level again after 10 minutes to see if rising

DROWSY OR UNCONSCIOUS – ON INSULIN

Give IM or SC Glucagon 1mg if available

AND call an ambulance

DROWSY OR UNCONSCIOUS – ON OHAs

Call an ambulance

- IF STILL < 4 MMOLS REPEAT TREATMENT

- If > 4 mmols give all medication as prescribed and meal if due or CHO snack

- Investigate cause e.g. too little or missed food, increased activity, too much medication

- Give preventative advice

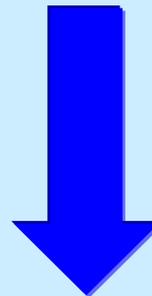
- If occurring regularly review treatment

- If no determined cause document and monitor for further occurrence. seek advice from relevant professionals

HYPERGLYCAEMIA

Blood glucose level > 15 mmols

No Symptoms



Determine if there is a reason for high blood sugar level e.g. extra or sweet food < 2hrs since eating, missed insulin or oral hypoglycaemic agents, infection



If reason determined give appropriate advice.

Symptoms

Check urine for ketones



++ KETONES OR UNWELL
Contact appropriate professional for advice
GP/Hospital/ DSN



No reason determined, monitor regularly as seems appropriate and if reoccurs seek advice from relevant professional

**REMEMBER
UNTREATED HYPERGLYCAEMIA CAN
PROGRESS TO DIABETIC KETOACIDOSIS
AND HYPEROSMOLAR NON
KETOACIDOTIC COMA**

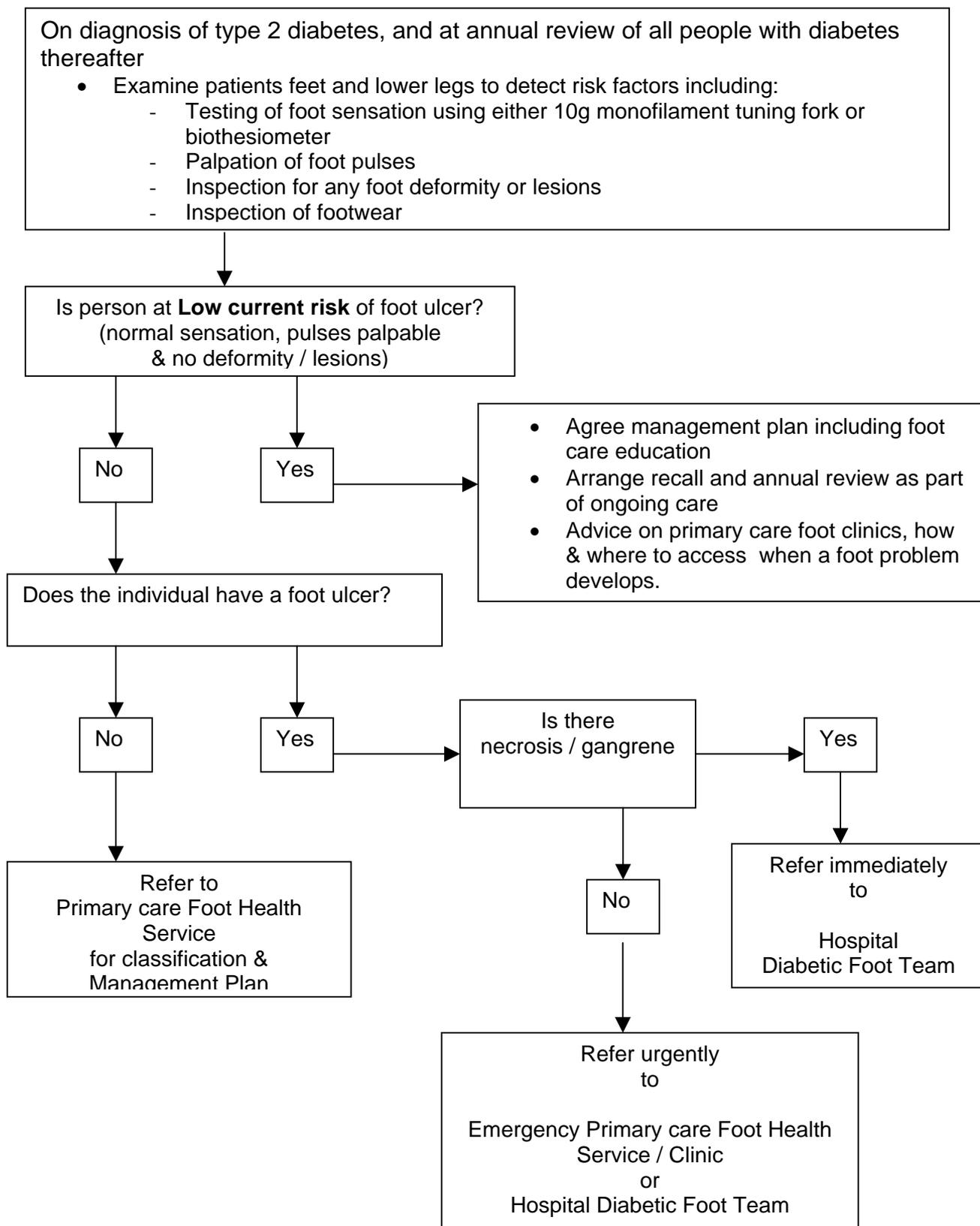
References

1. Department of Health and Social Security (1987) HN (Hazard) (87) 13 Blood Glucose Measurements: Reliability of Results Produced in Extra Laboratory Areas. DHSS London
2. Royal College of Nursing (1993) RCN Nursing Forum Guidelines on the use of Blood Glucose Monitoring Equipment by Nurses in Clinical Areas. RCN, London
3. National Institute for Clinical Excellence (2002) Management of Type 2 Diabetes- Management of Blood Glucose NICE, available via www.nice.org.uk

This information has been produced by Lambeth and Southwark diabetes specialist nurses on behalf of the Lambeth and Southwark Diabetes Prescribing Group. For further information and group details please contact for Southwark PCT Devika Sennik, PCT pharmacist. tel: 0207 525 0477. for Lambeth PCT: Stacey Golding, PCT Pharmacist. tel: 0207 716 7141

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Lambeth & Southwark Diabetic Foot Guideline



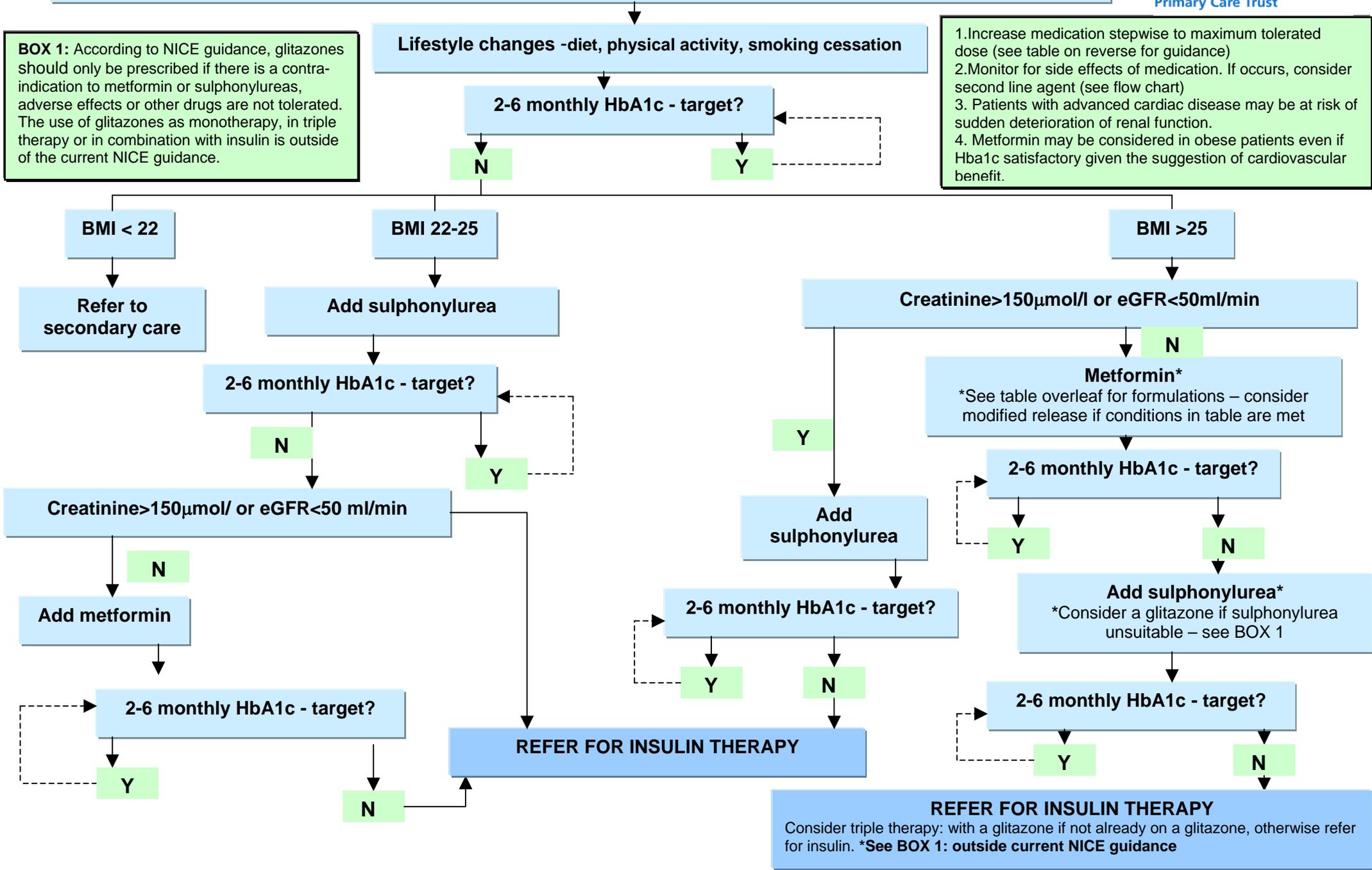
Flowchart for the Management of Blood Glucose in Type 2 Diabetes Mellitus

REVISED OCTOBER 2007 – USE IN CONJUNCTION WITH LOCAL GLITAZONE GUIDANCE

Aim for target HbA1c 6.5-7.5% (or agreed individualised targets)
This target should be set based on macrovascular and microvascular complications. Higher target if at risk of hypoglycaemia

BOX 1: According to NICE guidance, glitazones should only be prescribed if there is a contra-indication to metformin or sulphonylureas, adverse effects or other drugs are not tolerated. The use of glitazones as monotherapy, in triple therapy or in combination with insulin is outside of the current NICE guidance.

1. Increase medication stepwise to maximum tolerated dose (see table on reverse for guidance)
2. Monitor for side effects of medication. If occurs, consider second line agent (see flow chart)
3. Patients with advanced cardiac disease may be at risk of sudden deterioration of renal function.
4. Metformin may be considered in obese patients even if Hba1c satisfactory given the suggestion of cardiovascular benefit.



REFER FOR INSULIN THERAPY
Consider triple therapy: with a glitazone if not already on a glitazone, otherwise refer for insulin. *See BOX 1: outside current NICE guidance

ORAL HYPOGLYCAEMICS - Refer to product literature for full list of doses, cautions, contraindications, and drug interactions.

| Agent | Recommended dose range (BNF Sept 2006) | Cost of 4 weeks treatment (£) Drug Tariff (January 2007) | Comments |
|---|---|---|---|
| BIGUANIDE <i>Metformin normal release</i> | 500mg to 3g daily in divided doses. Start at 500mg daily and titrate dose weekly. Max 3g daily | 500mg tds - - - - - £2.33 850mg tds-----£1.88 | <ul style="list-style-type: none"> Contraindicated in renal impairment Doses in company literature may differ to BNF doses. Doses are normally taken with meals (breakfast, lunch, dinner) Most physicians limit max dose to 2.5g daily Metformin normal release is first line choice <u>Only</u> consider M/R in patients with a BMI >25 after metformin tds normal release not tolerated Not suitable if normal release dose is greater than 2g daily Maximum 2g per day |
| | <i>Metformin modified release (M/R)</i> | Initially 500mg once daily, increased every 10-15 days, max. 2g once daily with evening meal. Patients taking less than 2g daily of normal release can start on same daily dose of M/R | |
| SULPHONYLUREAS | | | |
| <i>Gliclazide</i> | Initially 40-80mg daily, titrate according to response. Max. 320 mg daily. | 80mg od-----£1.91 160mg daily----£1.94 160 mg bd -----£3.88 | <ul style="list-style-type: none"> Avoid sulphonylureas where possible in severe hepatic and renal impairment and in porphyria. Up to 160mg daily can be taken as a single dose, with breakfast. Doses higher than this should be divided |
| <i>Glipizide</i> | Initially 2.5-5mg daily, Titrate dose according to response. Max. 20mg daily. | 2.5mg daily-----£1.48 5mg daily-----£1.26 10mg daily-----£2.52 | <ul style="list-style-type: none"> Doses are taken just before breakfast or lunch. Up to 15mg daily can be taken as a single dose. Doses higher than this should be divided. |
| GLITAZONES | | | |
| <ul style="list-style-type: none"> The glitazones are contraindicated in hepatic impairment, patients with a history of heart failure, in combination with insulin (due to risk of heart failure). Monitor liver function before treatment, and then periodically thereafter e.g. two months after initiation, then at 6 months, then 6 monthly after that. Do not initiate treatment if ALT >2.5 X upper limit of normal (ULN) or any evidence of liver disease. During therapy, if ALT increases to 3 X ULN, reassess liver enzymes ASAP. If ALT remains >3 X ULN, discontinue glitazone therapy. For dual therapy, the glitazones should only be used in combination with a sulphonylurea in patients who show intolerance to metformin or for whom metformin is contraindicated, with insufficient glycaemic control despite maximal tolerated dose of monotherapy with a sulphonylurea. Consider risk of fracture, as glitazones may be associated with a greater risk of fracture in the feet and upper limbs in women. | | | |
| <i>Pioglitazone</i> | 15-30mg once daily, increased to a max. of 45mg daily according to response | 15mg daily-----£24.14 30mg daily-----£33.54 45 mg daily-----£36.96 | |
| <i>Rosiglitazone</i> | Initially 4mg daily, when used in combination with metformin, the dose can be increased to 8mg daily (in 1 or 2 divided doses) after 8 weeks according to response. | 4mg daily-----£24.74 8mg daily-----£50.78 | In patients administered rosiglitazone in combination with a sulphonylurea, an increase in rosiglitazone to 8 mg/day should be undertaken cautiously following appropriate clinical evaluation to assess the patient's risk of developing adverse reactions relating to fluid retention |

WHEN TO REFER PATIENTS:

1. Acutely unwell patients (these patients may require insulin urgently, refer to specialist service)
 - severe hyperglycaemia or
 - urinary ketones or
 - Rapid weight loss or
 - Dehydration
2. Patients with advanced cardiac disease or hepatic impairment
3. Referral for insulin start in those with sub-optimal control on maximal tolerated oral agents.
4. Pregnant women, urgent referral to diabetes antenatal clinic

References:

- NICE guideline on management of Type 2 Diabetes - blood glucose, Sept 2002 available via www.nice.org.uk
- MeReC Bulletin Drug Management of Type II diabetes, Vol 15 (1), Oct 2004 available via www.npc.co.uk
- NICE guidance on glitazones in Type 2 diabetes, Aug 2003. Available via www.nice.org.uk
- Expert opinions of diabetologists and diabetes nurses from Guy's and St. Thomas' foundation Trust and King's College Hospital
- Summary Product Characteristics Avandia™ (rosiglitazone), last revised Nov 2005, available via www.medicines.org.uk (accessed 15/01/2007)
- Summary Product Characteristics Actos™ (pioglitazone), last revised Oct 2006, available via www.medicines.org.uk (accessed 15/01/2007)

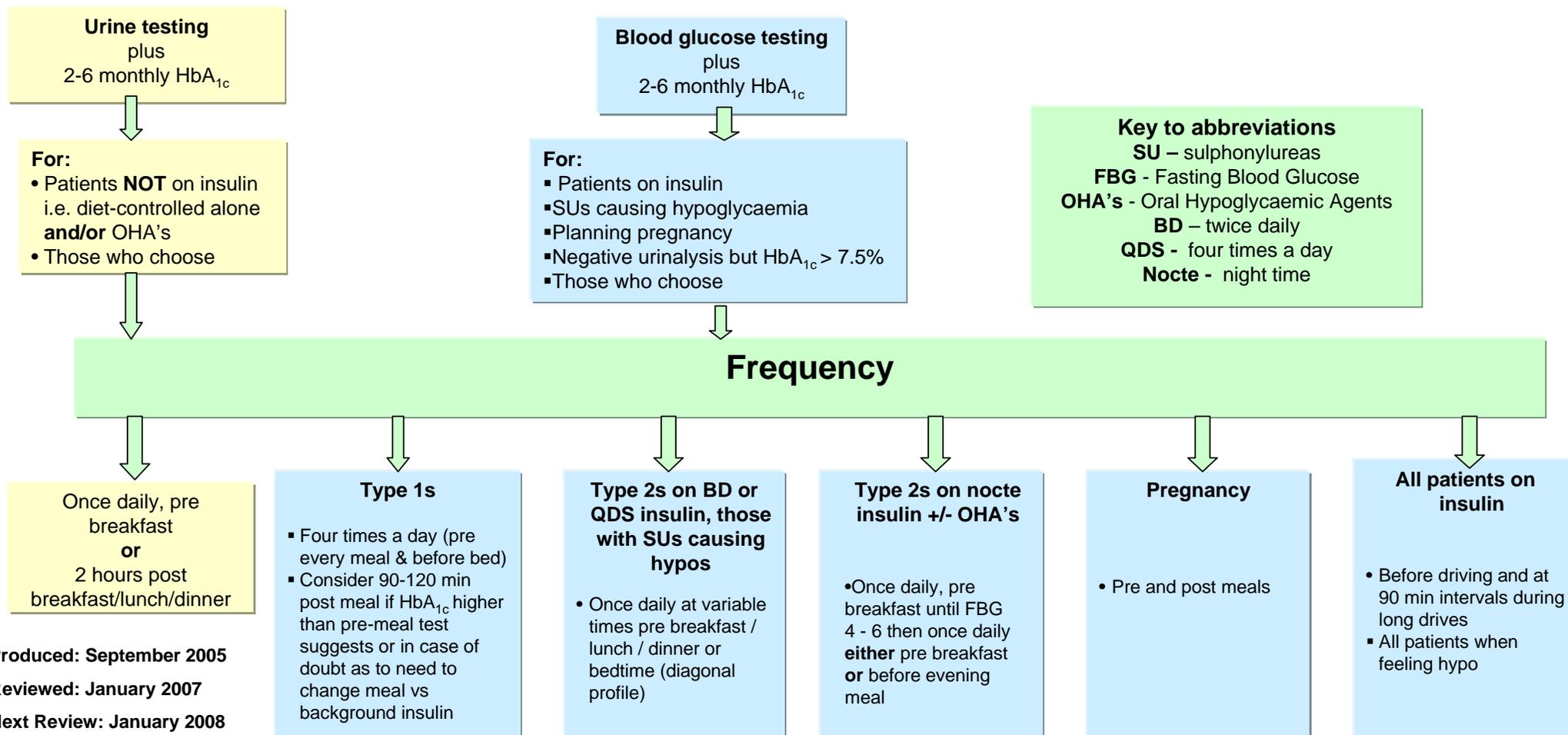
Revised version: **OCTOBER 2007**

Next revision: post publication of revised NICE guidance (currently due Feb 2008)

Glucose testing in people with Diabetes – Self monitoring

This flowchart has been developed for use across Primary care and the local Acute trusts (Guy's and St. Thomas' Foundation trust and Kings College Hospital).

Healthcare professionals may want to vary the regimens described in this flowchart according to their clinical judgement.



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