NICE National Institute for Health and Care Excellence

NICE Pathways

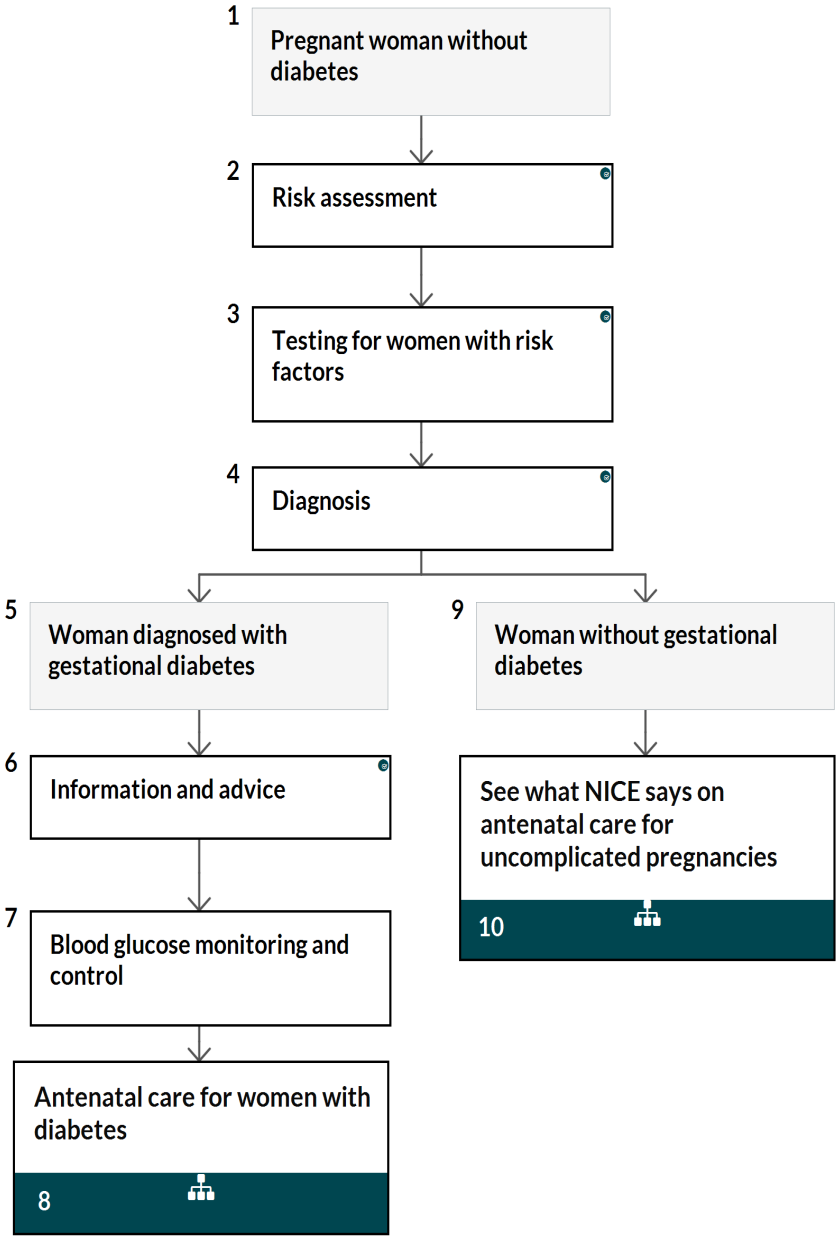
Gestational diabetes: risk assessment, testing, diagnosis and management

NICE Pathways bring together everything NICE says on a topic in an interactive flowchart. NICE Pathways are interactive and designed to be used online.

They are updated regularly as new NICE guidance is published. To view the latest version of this NICE Pathway see:

http://pathways.nice.org.uk/pathways/diabetes-in-pregnancy
NICE Pathway last updated: 24 June 2019

This document contains a single flowchart and uses numbering to link the boxes to the associated recommendations.



1 Pregnant woman without diabetes

No additional information

2 Risk assessment

So that women can make an informed decision about risk assessment and testing for gestational diabetes, explain that:

- in some women, gestational diabetes will respond to changes in diet and exercise
- the majority of women will need oral blood glucose-lowering agents or insulin therapy if changes in diet and exercise do not control gestational diabetes effectively
- if gestational diabetes is not detected and controlled, there is a small increased risk of serious adverse birth complications such as shoulder dystocia
- a diagnosis of gestational diabetes will lead to increased monitoring, and may lead to increased interventions, during both pregnancy and labour.

Assess risk of gestational diabetes using risk factors in a healthy population. At the booking appointment, determine the following risk factors for gestational diabetes:

- BMI above 30 kg/m^2
- previous macrosomic baby weighing 4.5 kg or above
- previous gestational diabetes
- family history of diabetes (first-degree relative with diabetes)
- minority ethnic family origin with a high prevalence of diabetes.

Offer women with any one of these risk factors testing for gestational diabetes (see testing for women with risk factors [See page 4]).

Do not use fasting plasma glucose, random blood glucose, HbA1c, glucose challenge test or urinalysis for glucose to assess risk of developing gestational diabetes.

Glycosuria detected by routine antenatal testing

Be aware that glycosuria of 2+ or above on 1 occasion or of 1+ or above on 2 or more occasions detected by reagent strip testing during routine antenatal care may indicate undiagnosed gestational diabetes. If this is observed, consider further testing to exclude gestational diabetes.

Quality standards

The following quality statement is relevant to this part of the interactive flowchart.

Antenatal care

6. Risk assessment – gestational diabetes

3 Testing for women with risk factors

Use the 2-hour 75 g OGTT to test for gestational diabetes in women with risk factors (see risk assessment [See page 3]).

Offer women who have had gestational diabetes in a previous pregnancy:

- early self-monitoring of blood glucose **or**
- a 75 g 2-hour OGTT as soon as possible after booking (whether in the first or second trimester), and a further 75 g 2-hour OGTT at 24–28 weeks if the results of the first OGTT are normal.

Offer women with any of the other risk factors for gestational diabetes (see risk assessment [See page 3]) a 75 g 2-hour OGTT at 24–28 weeks.

Quality standards

The following quality statement is relevant to this part of the interactive flowchart.

Antenatal care

6. Risk assessment – gestational diabetes

4 Diagnosis

Diagnose gestational diabetes if the woman has either:

- a fasting plasma glucose level of 5.6 mmol/litre or above **or**
- a 2-hour plasma glucose level of 7.8 mmol/litre or above.

Offer women with a diagnosis of gestational diabetes a review with the joint diabetes and antenatal clinic within 1 week.

Inform the primary healthcare team when a woman is diagnosed with gestational diabetes (see also what NICE says on patient experience in relation to continuity of care).

Quality standards

The following quality statement is relevant to this part of the interactive flowchart.

Diabetes in pregnancy

5. Review after a diagnosis of gestational diabetes

5 Woman diagnosed with gestational diabetes

No additional information

6 Information and advice

Explain to women with gestational diabetes:

- about the implications (both short and long term) of the diagnosis for her and her baby (advice for women on driving with diabetes is available from the DVLA website)
- that good blood glucose control throughout pregnancy will reduce the risk of fetal macrosomia, trauma during birth (for her and her baby), induction of labour and/or caesarean section, neonatal hypoglycaemia and perinatal death
- that treatment includes changes in diet and exercise, and could involve medicines.

Teach women with gestational diabetes about self-monitoring of blood glucose.

Offer women advice about changes in diet and exercise at the time of diagnosis of gestational diabetes.

Advise women with gestational diabetes to eat a healthy diet during pregnancy, and emphasise that foods with a low glycaemic index should replace those with a high glycaemic index.

Refer all women with gestational diabetes to a dietitian.

Advise women with gestational diabetes to take regular exercise (such as walking for 30 minutes after a meal) to improve blood glucose control.

NICE has written information for the public explaining the guidance on diabetes in pregnancy.

For lifestyle advice on diet and physical activity see also NICE's recommendations on diet, and for information for women before, during and after pregnancy, see NICE's recommendations on physical activity.

Quality standards

The following quality statements are relevant to this part of the interactive flowchart.

Diabetes in pregnancy

5. Review after a diagnosis of gestational diabetes

6. Self-monitoring of blood glucose levels during pregnancy

7 Blood glucose monitoring and control

Use the same capillary plasma glucose target levels for women with gestational diabetes as for women with pre-existing diabetes (see target blood glucose levels in monitoring blood glucose and HbA1c).

Tailor blood glucose-lowering therapy to the blood glucose profile and personal preferences of the woman with gestational diabetes.

Offer a trial of changes in diet and exercise to women with gestational diabetes who have a fasting plasma glucose level below 7 mmol/litre at diagnosis.

Offer metformin[1] to women with gestational diabetes if blood glucose targets are not met using changes in diet and exercise within 1–2 weeks.

Offer insulin instead of metformin to women with gestational diabetes if metformin is contraindicated or unacceptable to the woman.

Offer addition of insulin to the treatments of changes in diet, exercise and metformin for women with gestational diabetes if blood glucose targets are not met.

Offer immediate treatment with insulin, with or without metformin, as well as changes in diet and exercise, to women with gestational diabetes who have a fasting plasma glucose level of 7.0

mmol/litre or above at diagnosis.

Consider immediate treatment with insulin, with or without metformin, as well as changes in diet and exercise, for women with gestational diabetes who have a fasting plasma glucose level of between 6.0 and 6.9 mmol/litre if there are complications such as macrosomia or hydramnios.

Consider glibenclamide[1] for women with gestational diabetes:

- in whom blood glucose targets are not achieved with metformin but who decline insulin therapy **or**
- who cannot tolerate metformin.

8 Antenatal care for women with diabetes

See Diabetes in pregnancy / Antenatal care for women with diabetes

9 Woman without gestational diabetes

No additional information

10 See what NICE says on antenatal care for uncomplicated pregnancies

See Antenatal care for uncomplicated pregnancies

[1] Although metformin is commonly used in UK clinical practice in the management of diabetes in pregnancy and lactation, and there is strong evidence for its effectiveness and safety (presented in the full version of the guideline), at the time of publication (February 2015) metformin did not have a UK marketing authorisation for this indication. The summary of product characteristics advises that when a patient plans to become pregnant and during pregnancy, diabetes should not be treated with metformin but insulin should be used to maintain blood glucose levels. The prescriber should follow relevant professional guidance, taking full responsibility for the decision. Informed consent should be obtained and documented. See the General Medical Council's Good practice in prescribing and managing medicines and devices for further information.

[1] At the time of publication (February 2015) glibenclamide was contraindicated for use up to gestational week 11 and did not have UK marketing authorisation for use during the second and third trimesters of pregnancy in women with gestational diabetes. The prescriber should follow relevant professional guidance, taking full responsibility for the decision. Informed consent should be obtained and documented. See the General Medical Council's Good practice in prescribing and managing medicines and devices for further information.

Glossary

Disabling hypoglycaemia

means the repeated and unpredicted occurrence of hypoglycaemia requiring third-party assistance that results in continuing anxiety about recurrence and is associated with significant adverse effect on quality of life

eGFR

estimated glomerular filtration rate

HbA1c

glycated haemoglobin

Level 2 critical care

care for patients requiring detailed observation or intervention, including support for a single failing organ system or postoperative care and those 'stepping down' from higher levels of care

OGTT

oral glucose tolerance test

Sources

Diabetes in pregnancy: management from preconception to the postnatal period (2015) NICE guideline NG3

Your responsibility

Guidelines

The recommendations in this guideline represent the view of NICE, arrived at after careful consideration of the evidence available. When exercising their judgement, professionals and practitioners are expected to take this guideline fully into account, alongside the individual

needs, preferences and values of their patients or the people using their service. It is not mandatory to apply the recommendations, and the guideline does not override the responsibility to make decisions appropriate to the circumstances of the individual, in consultation with them and their families and carers or guardian.

Local commissioners and providers of healthcare have a responsibility to enable the guideline to be applied when individual professionals and people using services wish to use it. They should do so in the context of local and national priorities for funding and developing services, and in light of their duties to have due regard to the need to eliminate unlawful discrimination, to advance equality of opportunity and to reduce health inequalities. Nothing in this guideline should be interpreted in a way that would be inconsistent with complying with those duties.

Commissioners and providers have a responsibility to promote an environmentally sustainable health and care system and should assess and reduce the environmental impact of implementing NICE recommendations wherever possible.

Technology appraisals

The recommendations in this interactive flowchart represent the view of NICE, arrived at after careful consideration of the evidence available. When exercising their judgement, health professionals are expected to take these recommendations fully into account, alongside the individual needs, preferences and values of their patients. The application of the recommendations in this interactive flowchart is at the discretion of health professionals and their individual patients and do not override the responsibility of healthcare professionals to make decisions appropriate to the circumstances of the individual patient, in consultation with the patient and/or their carer or guardian.

Commissioners and/or providers have a responsibility to provide the funding required to enable the recommendations to be applied when individual health professionals and their patients wish to use it, in accordance with the NHS Constitution. They should do so in light of their duties to have due regard to the need to eliminate unlawful discrimination, to advance equality of opportunity and to reduce health inequalities.

Commissioners and providers have a responsibility to promote an environmentally sustainable health and care system and should assess and reduce the environmental impact of implementing NICE recommendations wherever possible.

Medical technologies guidance, diagnostics guidance and interventional procedures guidance

The recommendations in this interactive flowchart represent the view of NICE, arrived at after careful consideration of the evidence available. When exercising their judgement, healthcare professionals are expected to take these recommendations fully into account. However, the interactive flowchart does not override the individual responsibility of healthcare professionals to make decisions appropriate to the circumstances of the individual patient, in consultation with the patient and/or guardian or carer.

Commissioners and/or providers have a responsibility to implement the recommendations, in their local context, in light of their duties to have due regard to the need to eliminate unlawful discrimination, advance equality of opportunity, and foster good relations. Nothing in this interactive flowchart should be interpreted in a way that would be inconsistent with compliance with those duties.

Commissioners and providers have a responsibility to promote an environmentally sustainable health and care system and should assess and reduce the environmental impact of implementing NICE recommendations wherever possible.