Lothian NHS Board

Lothian NHS Board
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www.nhslothian.scot

Date 21/07/2026
Your Ref
Our Ref 11549

Enquiries to Richard Mutch
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loth.freedomofinformation@nhs.scot
richard.mutch@nhs.scot

Dear

FREEDOM OF INFORMATION – HYPERTENSION

I write in response to your request for information in relation to Hypertension leaflets.

Question:

- A copy of **all** educational literature resources (e.g. Word documents, powerpoints, Patient Information Leaflets, written Advice and Guidance documents etc.) that are distributed, or presented, to patients within your Trust relating to the management of **Hypertension (High Blood Pressure)**, either in community-based or hospital-based settings.

Answer:

We have enclosed hard copies of the requested information with this response.

We have also found the following patient information leaflets that refer to hypertension (high blood pressure).
NHS Lothian leaflets - changed these to size 16 font.
Health Profile - Weight Management
Pregnancy with type 1 diabetes
Pregnancy with type 2 diabetes
Using Florence to help manage your blood pressure

NHS Scotland leaflets, not able to change the font size
NHS Scotland Blood Pressure Shared Management Plan
NHS Scotland Blood Pressure Shared Management Plan lower limit plan

Please not that this information is considered exempt under Section 25 of the Freedom of Information (Scotland) Act 2002 - Information otherwise accessible

Headquarters
Mainpoint
102 West Port
Edinburgh EH3 9DN

Chair Professor John Connaghan CBE
Chief Executive Professor Caroline Hiscox
Lothian NHS Board is the common name of Lothian Health Board

(1) Information which the applicant can reasonably obtain other than by requesting it under section 1(1) is exempt information. This is because it is already publicly available.

I hope the information provided helps with your request.

If you are unhappy with our response to your request, \you do have the right to request us to review it. Your request should be made within 40 working days of receipt of this letter, and we will reply within 20 working days of receipt. If our decision is unchanged following a review and you remain dissatisfied with this, you then have the right to make a formal complaint to the Scottish Information Commissioner within 6 months of receipt of our review response. You can do this by using the Scottish Information Commissioner's Office online appeals service at www.itspublicknowledge.info/Appeal. If you remain dissatisfied with the Commissioner's response you then have the option to appeal to the Court of Session on a point of law.

If you require a review of our decision to be carried out, please write to the FOI Reviewer at the email address at the head of this letter. The review will be undertaken by a Reviewer who was not involved in the original decision-making process.

FOI responses (subject to redaction of personal information) may appear on NHS Lothian's Freedom of Information website at: https://org.nhslothian.scot/FOI/Pages/default.aspx

Yours sincerely

ALISON MACDONALD
Executive Director, Nursing
Cc: Chief Executive
Enc.
Hard copy required.

Health Profile

Table of contents

Blood pressure

Blood pressure is the term used to describe the strength with which your blood pushes on the sides of your arteries as its pumped around your body.

Blood pressure is measured in millimetres of mercury and is given as 2 numbers:

- Systolic pressure is the higher figure and represents the amount of pressure when your heart contracts and pushes blood around your body.
- Diastolic pressure is the lower figure and represents the amount of pressure when your heart relaxes between beats and blood is pushed around your heart.

High blood pressure is a serious condition.

Your arteries are normally stretchy, so they can cope with your blood pressure going up and down. But with high blood pressure, your arteries lose their stretchiness, becoming stiff or narrow.

This narrowing makes it easier for fatty material (atheroma) to build up. This narrowing and damage to the arteries lining your heart or brain could trigger a life-threatening heart attack or stroke.

	Systolic (mm Hg)		Diastolic (mm Hg)
Normal	<120	and	60-80
Prehypertension	120-139	or	80-89
Hypertension (stage 1)	140-159	or	90-99
Hypertension (stage 2)	>160	or	>100
Hypertensive (seek medical care)	>180	or	>110

Health tips:

To help lower you blood pressure you can try these lifestyle changes:

- Eat a healthy diet: lots of fruit and vegetables and choose lean proteins likes chicken, turkey fish, eggs and beans.
- Reduce salt: try to limit your salt intake to less than 1,500mg per day or about a teaspoon.
- Be active: Aim for at least 150 minutes of aerobic exercise each week or two sessions of resistance exercises.
- Limits alcohol and caffeine: Cut down on alcohol and drink less caffeine which is found in coffee, tea and fizzy drinks.

Fitness Testing

The below fitness testing will be carried out at your 1 to 1 assessment and will be repeated 12 weeks after you have completed your physical activity intervention. Each of the tests give you a target to improve on which can act as motivation to increase your physical activity levels. Improvements across the 3 tests will help to improve your quality of life and reduce your risk of developing health conditions.

30 second sit to stand test

A test used to assess functional lower limb strength, endurance, balance and fall risks (in older adults).

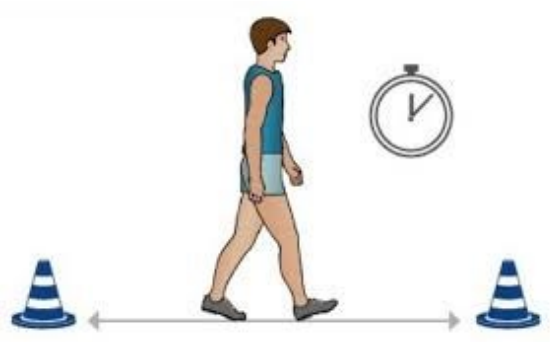
Age	Males	Females
20-29	24	23
30-39	22	21
40-49	20	19
50-59	18	17
60-69	16	15
70-79	14	13
80+	10	10

The aim of the test is to see how many sits to stands you can achieve in 30 seconds. This is achieved by rising to a full standing position, sitting back down again and repeat.

How can I improve my sit to stand test?

- Attending your 12 sessions with your Exercise Specialist will include exercises that help improve your hip strength and mobility and improve lower leg strength.
- Practice sit to stand at home by trying to do sets and reps of five to ten a

6-minute walk test



The 6 minute walk test is an exercise test used to assess aerobic capacity and endurance.

The aim is to complete as many laps as possible within the 6 minutes.

The distance covered over 6 minutes allows us to compare changes in a person's fitness over time.

Health tips

How can I improve my 6-minute walk test?

- Resistance training can help reduce muscle dysfunction and improve walking ability.
- Climbing the stairs
- Add in an additional walk or if your new to walking try walking 5-10 minutes 3 times per week.

Grip Strength

The Hand Grip test (HGT) is a measure of muscular strength.

HGT is a reliable indicator of health and physical function and is used to assess a range of health issues. HGT can predict the risk of developing heart disease, arthritis, osteoporosis, Type 2 diabetes, and certain cancers.

Table: Norms for grip strength in Kilograms (KG) for combined score (L+R)

Female (Age)	Needs Improvement	Fair	Good	Very Good	Excellent
15-19	< 54	54-58	59-63	64-70	> 70
20-29	< 55	55-60	61-64	65-70	> 70
30-39	< 56	56-60	61-65	66-72	> 72
40-49	< 55	55-58	59-64	65-72	> 72
50-59	< 51	51-54	55-58	59-64	> 64
60-69	< 48	48-50	51-53	54-59	> 59

Male (Age)	Needs Improvement	Poor	Fair	Good	Excellent
15-19	< 84	84-94	95-102	103-112	> 112
20-29	< 97	97-105	106-112	113-123	> 123
30-39	< 97	97-104	105-112	113-122	> 122
40-49	< 94	94-101	102-109	110-118	> 118
50-59	< 87	87-95	96-101	102-109	> 109
60-69	< 79	79-85	86-92	93-101	> 101

Health tips

How can I improve my Hand Grip test?

- During our Physical activity classes, we will focus on upper body exercises which will help improve strength and grip in your hands/forearms.
- Squeeze a rubber ball to help strengthen your fingers.
- Daily activities: wash your car by hand, shovel the leaves or rake your grass without using a machinery.

Your Results

Assessment Centre: _____

Assessors Name: _____

Date:_____ Time: _____

Healthy Range

Week 1 Blood pressure: ___/___ Pulse: _____

Week 12 Blood pressure: ___/___ Pulse: _____

Normal range 120/80 & Below

Week 1

Sit to stand score: _____

Week 12

Sit to stand score: _____

See Page 5

Week 1

Hand Grip Test:
Right: _____
Left: _____

Week 12

Hand grip test:
Right: _____
Left: _____

See page 6

Week 1

6 minute walk test:

_____m Stops:_____ Pain: _____

Our aim is to help you increase your walk test by 30m

Week 12

6 minute walk test:

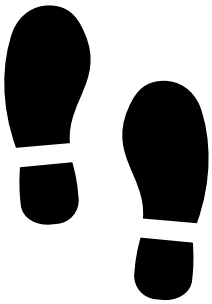
_____m Stops:____ Pain: _____

Goals:

1. 2. 3.

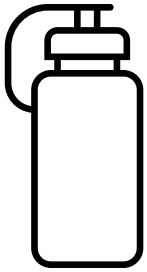
Healthy Habits

INCREASE YOUR STEPS



- Take the stairs rather than the lift.
- Park your car further away to increase your steps.
- If traveling by bus, try getting off a couple of stops early.
- Schedule a 10–15-minute walk on your lunch break.
- March on the spot while waiting for the kettle to boil.
- Clean the house.
- Do some gardening work.
- Walk during adverts.

DRINK MORE WATER



- Drink a glass of water first thing in the morning.
- Carry a water bottle with you.
- Set reminders by using a phone alarm.
- Drink with meals!
- Opt for water over sugary drinks; try replacing one sugary drink for one glass of water.

GET MORE SLEEP

- Create a routine by going to bed at the same time every day.

- Avoid caffeine and alcohol before bed.
- Avoid eating large or heavy meals within a few hours of bedtime. opt for a light snack.
- Limit screen time: you can try turning on your phone's red-light filter before bed.
- Keep your bedroom cool, dark and quiet.
- Only use bed for sleep!

Physical activity guidelines

Being physically active is one of the best things we can do to help our physical and mental health. The scottish government published the below guideline which highlihts types of exercises, frequency and duration which we should be aiming for to maintain a healthy weight and reduce your risk of dveloping health conditons.


Physical activity for adults and older adults
Benefits health
Improves sleep
Maintains healthy weight
Manages stress
Improves quality of life
Reduces your chance of
Type II Diabetes -40%
Cardiovascular disease -35%
Falls, depression etc. -30%
Joint and back pain -25%
Cancers (colon and breast) -20%
Some is good, more is better
Make a start today: it's never too late
Every minute counts
Be active
at least 150 minutes moderate intensity per week
increased breathing able to talk
OR
or a combination of both
at least 75 minutes vigorous intensity per week
breathing fast difficulty talking
Swim
Brisk walk
Cycle
Run
Stairs
Sport
to keep muscles, bones and joints strong
Build strength
on at least 2 days a week
Gym
Yoga
Carry heavy bags
Minimise sedentary time
Break up periods of inactivity
Bowls
Tai Chi
Dance
For older adults, to reduce the chance of frailty and falls
Improve balance
2 days a week
UK Chief Medical Officers' Physical Activity Guidelines 2019

Blood Pressure – Shared Management Plan

(Lower limit plan for patients with diabetes or CKD Stage 3-5)

	Blood Pressure Readings taken by patient at home	**Recommended Actions** (Always check your BP again if unusually high or low)
	Readings below 100/40 mmHg If your BP reading is below 100 (systolic – the first number) or 40 (diastolic – the second number) your blood pressure is lower than expected. If you are taking medication this may mean your treatment needs to be adjusted. If your upper reading is very low. Flo will ask you to take your blood pressure again. You may have simply made an error.	**ACTION –** Take your BP again If the upper reading is still lower than 90 and you feel unwell, you should call your GP or out-of-hours service urgently. If you feel well you should contact the surgery on the next working day. **In addition to this**, to help alleviate symptoms until your BP has stabilised : ✓ Stand up gradually and avoid standing for too long ✓ Avoid caffeine and limit your alcohol intake ✓ Eat small frequent meals / increase your fluid intake ✓ Wear support stockings
	Readings between 100/40 and 124/74mmHg When taken at home your blood pressure is within the desirable range if the first number (systolic) is between 100 and 124 mmHg and the second (diastolic) is between 40 and 74 mmHg. Hopefully your blood pressure readings will be less than 125/75 mmHg when you measure them at home.	**Advice** ❖ Do your best to follow a healthy lifestyle ❖ Eat well – eat 5 portions of fruit and vegetables every day and cut down on fat, sugar and salt ❖ Exercise – walk for half an hour each day if you can ❖ Be mindful of your alcohol intake –it's recommended that you drink less than 14 units of alcohol per week ❖ Keep your weight down –aim for a BMI of 25 or below ❖ If you smoke, think about stopping. Ask your GP practice if you would like support
	Readings between 125/75 and 180/110 mmHg If your blood pressure is higher than 125/75 when taken at home, it is above the desirable range. This may just be a one-off or it may indicate that your blood pressure is not well controlled. If the second number (diastolic) is between 75 and 100 If your blood pressure is between 125/75 and 149/100 mmHg If your blood pressure remains between 150/100 and 180/110 mmHg having been well controlled	**ACTION** If you have been prescribed medication, keep taking your tablets every day as prescribed. Think about what could have made your blood pressure go up e.g. were you angry or stressed? If you can identify it, take action to alter it This is not normally a cause for immediate concern Wait to see if your blood pressure settles. If not, and you do not have a review booked in the next 2 months, make an appointment with your GP or practice nurse. Make an appointment with your GP or practice nurse in the next few days
	Above 180/110 mmHg If your blood pressure reading rises above either 180 (systolic) or 110 (diastolic) If the upper number (systolic) of your blood pressure is above **200 mmHg** *Very high blood pressure could trigger a stroke so it's important to seek medical advice as soon as possible.*	**ACTION** Repeat your BP reading an hour later, and if it's still as high, make an appointment with your GP or practice nurse within the next couple of days. Repeat your BP reading. If It's still as high you **must seek medical advice urgently today**. Phone your GP surgery or your out-of-ours medical contact number. Stay calm, try some relaxation techniques. Just sitting still and thinking about your breathing can help to calm you. Or think about a relaxing time you've had in the past (e.g. a holiday or long soak in the bath)

Blood Pressure – Shared Management Plan

BP readings taken at home are usually a little lower than readings taken in a clinical setting

	Blood Pressure Readings taken by patient at home	**Recommended Actions** (Always check your BP again if unusually high or low)
	Readings below 100/40 mmHg If your BP reading is below 100 (systolic – the first number) or 40 (diastolic – the second number) your blood pressure is lower than expected. If you are taking medication this may mean your treatment needs to be adjusted. If your upper reading is very low. Flo will ask you to take your blood pressure again. You may have simply made an error.	**ACTION –** Take your BP again If the upper reading is still lower than 90 and you feel unwell, you should call your GP or out-of-hours service urgently. If you feel well you should contact the surgery on the next working day. **In addition to this**, to help alleviate symptoms until your BP has stabilised : ✓ Stand up gradually and avoid standing for too long ✓ Avoid caffeine and limit your alcohol intake ✓ Eat small frequent meals / increase your fluid intake ✓ Wear support stockings
	Readings between 100/40 and 134/84 mmHg When taken at home your blood pressure is within the desirable range if the first number (systolic) is between 100 and 134 mmHg and the second (diastolic) is between 40 and 84 mmHg. Hopefully your blood pressure readings will be less than 135/85 mmHg when you measure them at home.	**Advice** ❖ Do your best to follow a healthy lifestyle ❖ Eat well – eat 5 portions of fruit and vegetables every day and cut down on fat, sugar and salt ❖ Exercise – walk for half an hour each day if you can ❖ Be mindful of your alcohol intake –it's recommended that you drink less than 14 units of alcohol per week ❖ Keep your weight down –aim for a BMI of 25 or below ❖ If you smoke, think about stopping. Ask your GP practice if you would like support
	Readings between 135/85 and 180/110 mmHg If your blood pressure is higher than 134/84 when taken at home, it is above the desirable range. This may just be a one-off or it may indicate that your blood pressure is not well controlled. If the second number (diastolic) is between 85 and 100 If your blood pressure is between 135/85 and 149/100 mmHg If your blood pressure remains between 150/100 and 180/110 mmHg having been well controlled	**ACTION** If you have been prescribed medication, keep taking your tablets every day as prescribed. Think about what could have made your blood pressure go up e.g. were you angry or stressed? If you can identify it, take action to alter it This is not normally a cause for immediate concern Wait to see if your blood pressure settles. If not, and you do not have a review booked in the next 2 months, make an appointment with your GP or practice nurse. Make an appointment with your GP or practice nurse in the next few days
	Above 180/110 mmHg If your blood pressure reading rises above either 180 (systolic) or 110 (diastolic) If the upper number (systolic) of your blood pressure is above **200 mmHg** *Very high blood pressure could trigger a stroke so it's important to seek medical advice as soon as possible.*	**ACTION** Repeat your BP reading an hour later, and if it's still as high, make an appointment with your GP or practice nurse within the next couple of days. Repeat your BP reading. If It's still as high you **must seek medical advice urgently today**. Phone your GP surgery or your out-of-ours medical contact number. Stay calm, try some relaxation techniques. Just sitting still and thinking about your breathing can help to calm you. Or think about a relaxing time you've had in the past (e.g. a holiday or long soak in the bath)

Pregnancy with type 1 diabetes

Information for patients

Key points

- Most women with diabetes who become pregnant have healthy babies.
- Diabetes can increase the chance of problems during pregnancy for both baby and mother.
- Your diabetes team are here to help work with you to optimise your diabetes care, reduce some of the risks and improve your chances of a healthy pregnancy and baby.

What can I do to maintain a healthy pregnancy?

- Stop smoking
- Do not drink alcohol
- Healthy eating/weight: Eating a healthy diet and leading an active lifestyle during pregnancy can help your baby develop and grow, and keep you fit and well.
- Optimise blood sugar control: In pregnancy the targets for blood sugar control are tighter and we aim for blood sugars as near to normal as possible. This means that we aim for blood glucose levels of 4.0-5.9mmol/L before meals or >70% time in the range of 3.5-7.8mmol/L if you are using flash or continuous glucose monitoring. Similarly we aim for HbA1c (average blood sugar) as close to 48 mmol/mol as possible without significant hypoglycaemia).
- Medication review: Not all medications taken by people with diabetes are appropriate to continue in pregnancy, particularly cholesterol medication (statins) and some blood pressure medications (for example ACE-inhibitors). Please don't stop any medications without discussion with your doctor.
- Ensure your diabetes screening is up to date: It is important that you have had a recent review of your eyes and kidneys to see if your diabetes has affected them.

- Folic acid: High dose folic acid (5mg daily) is recommended in diabetes, to be taken for the first 3 months of pregnancy. This helps prevent neural tube defects such as spina bifida. You can only get high dose folic acid on prescription.

Enjoy giving your baby a healthy start.

What do I need to know?

What are the risks for my baby?

Most women with diabetes have healthy babies however, the chance of a problems with the baby and/or birth are increased compared to women without diabetes. Good control of your diabetes can help to reduce this chance.

Miscarriage - the chance of miscarriage in the first few weeks of pregnancy is slightly higher.

Foetal anomaly (a problem with the development and formation of organs) - 2 in every 100 pregnancies can be complicated by congenital anomaly. This chance is increased when you have diabetes. The most common anomalies are of the spinal cord and the heart. Excellent control of your blood sugar can help to reduce this chance close to that of women without diabetes. The higher your blood sugars are early in pregnancy, the higher the chance of an anomaly. You will be offered an ultrasound scan of your baby at 18 and 22 weeks of pregnancy to screen for any anomalies.

Growth of the baby - Diabetes can affect the growth of the baby by either affecting the blood flow in the placenta (leading to a smaller baby) or by the baby receiving too much sugar (leading to a bigger baby). Good sugar control can reduce the chance of a problem with the baby's growth.

Still birth - Babies of women or birthing people with diabetes have a slightly higher chance of dying inside the womb for reasons that are not completely understood but likely related to diabetic control and placental function. Due to this known risk, you will be offered a planned birth 1-3 weeks before your due date.

Difficulties with birth – There is an increased chance of difficulty birthing the baby's shoulders (shoulder dystocia) at vaginal birth in women with diabetes. This risk is higher if the baby has grown excessively. You will be offered ultrasound scans to monitor the growth of your baby during the later stage of your pregnancy to help you to make a plan for birth with the obstetrics team.

Low blood sugar - Babies born to people with diabetes can have low blood sugars (hypos) in the first hours and days of life. Your baby will be monitored for this by the team in the post-natal ward. The chance of having a baby with low blood sugar readings is higher if you have had higher blood sugar readings in the last few weeks, and even hours, before birth. If your baby has low blood sugar they may need care in the neonatal unit.

What are the risks for my diabetes?

In the first trimester, there is an increase in the chance of you having low blood sugar (a 'hypo') and of you being less aware of the drop in your blood sugar. You will be offered continuous glucose monitoring during pregnancy if you are not already using this. We would recommend you, and if possible someone you live with, know how to use glucagon to treat a severe hypo.

During pregnancy there is an increased chance of developing diabetic ketoacidosis (DKA) at lower blood sugars. We therefore recommend that you check for ketones if your blood sugar rises above 10.

If you have pre-existing diabetic eye disease or diabetic kidney disease, these can worsen during pregnancy, and may not recover after your pregnancy has ended. We recommend that if you have existing eye or kidney disease you discuss this with your care team before considering pregnancy. All women with diabetes are offered eye and kidney screening in each trimester to ensure any changes can be monitored and treated if needed.

What are the risks for me?

Women with diabetes have an increased chance of pregnancy related high blood pressure (hypertension) and a condition called pre-eclampsia. We will offer you regular blood pressure monitoring and checks of your urine for protein to screen for pre-eclampsia. Women with diabetes are more likely to have a caesarean birth or assisted vaginal birth than those without diabetes.

You will be offered care in the diabetes antenatal clinic to make sure all the staff you need to see are in the same place and to optimise your care.

What should I expect from my diabetes and obstetric antenatal team in pregnancy?

Appointments - We will see you regularly throughout your pregnancy. We will offer you an appointment (in person or by telephone) with a diabetes and obstetric doctor at least every month. The team will also be available to contact by telephone or email between appointments. We will provide you with meters that can be uploaded remotely so we can discuss your sugar control accurately with you.

Insulin - Your insulin requirements will change significantly though the pregnancy. Close monitoring and adjustment of doses is important so that we can support you with these changes. Try not to get frustrated by this – you will get there, and we are here to work with you.

Medications - Other medications will need reviewed to make sure they are appropriate for pregnancy. We may suggest changing to alternative medications in some circumstances.

Looking after your diabetes - Changes related to diabetes can occur more quickly during pregnancy. We offer eye screening (photographs), a kidney blood and urine check and thyroid check every trimester. We will also check your HbA1c (average blood sugar) every trimester.

Scans

- You will be offered an ultrasound scan around 8 weeks to check the pregnancy is developing.
- You will be offered a routine booking scan around 12 weeks to date the pregnancy.
- You will be offered an anomaly scan at 18 weeks to look at the baby's organ development and an additional scan around 22 weeks to look at the baby's heart in more detail.
- You will be offered scans to check that your baby is growing well in your 3rd trimester.

Birth

- We recommend that women with diabetes give birth in a labour ward in hospital. We will discuss this in more detail later in your pregnancy and make a plan with you.
- You will likely need intravenous insulin during labour as you won't be eating in labour. Labour makes it very difficult to control your blood sugar with normal insulin and high blood sugar levels in labour can affect the baby in the first few hours of life. This will be managed by the hospital team but please discuss this beforehand if you have any questions or concerns. We recommend that you **continue** your long acting insulin in labour even if you are on intravenous insulin. If you normally use an insulin pump to manage your diabetes it is likely you can continue to use this in labour. We will discuss this with you during your pregnancy.
- When baby is born your insulin requirements will rapidly return to what they were before pregnancy. It is a good idea to make a note of your insulin requirements pre-conception to remind you what you will need after the pregnancy.
- Breastfeeding is safe for you and your baby. If you choose to breastfeed, there is a higher chance of hypoglycaemia. We will give you advice on how to safely manage your diabetes while breastfeeding.

My Personal Care Plan and Start of Pregnancy Insulin Doses/Pump Settings

My Checklist - I have:

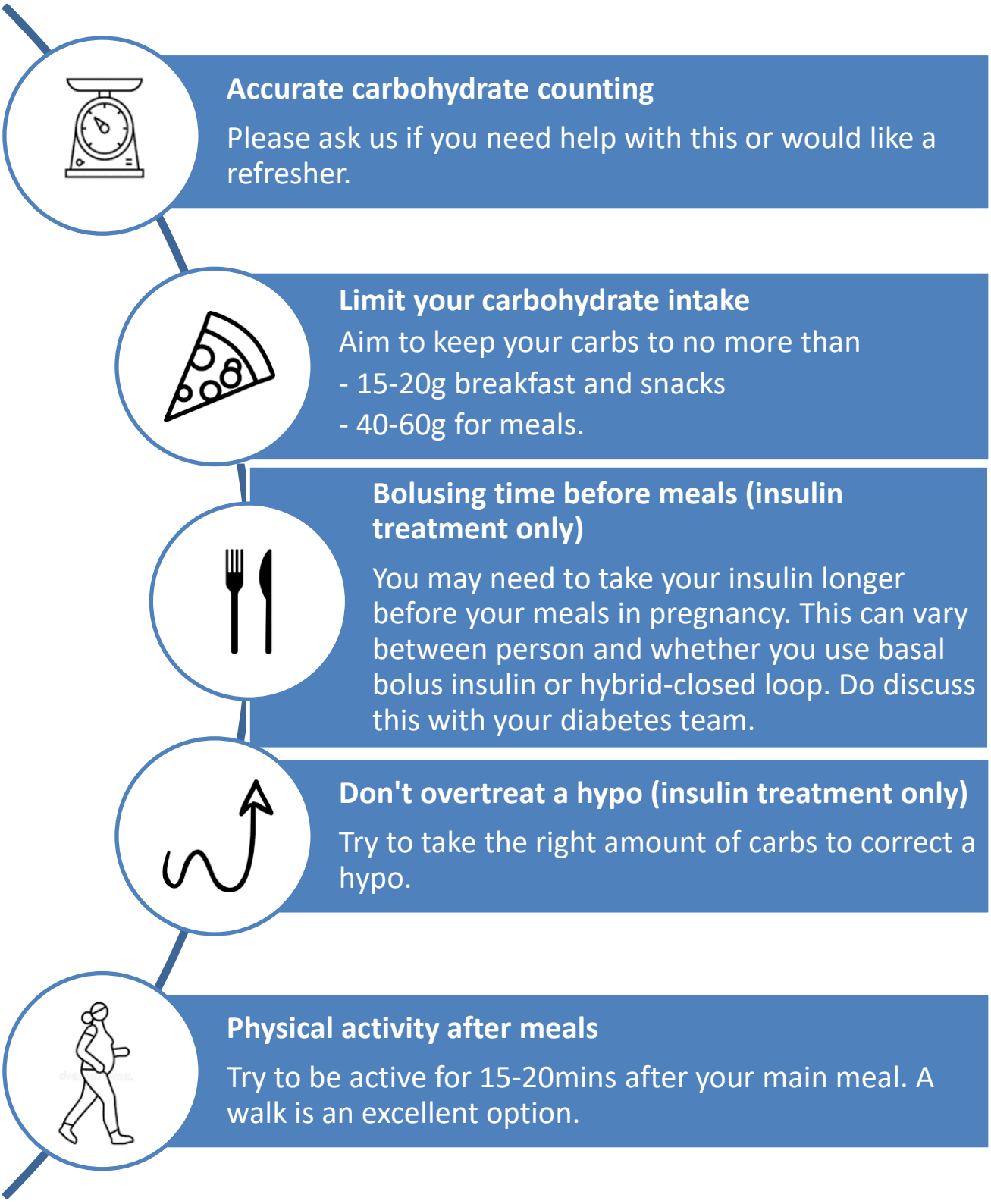
Stopped smoking or do not smoke	
Stopped drinking alcohol or do not drink alcohol	
Considered healthy eating and asked for a referral to a dietician if I wished	
Reviewed my blood sugars, my targets are:	
Had a review of my medications	
Had my eyes and kidneys checked	
Started Folic Acid 5mg daily	
Had advice about hypoglycaemia and have discussed whether I need a glucagon kit (Patients with insulin treated diabetes only)	
Had advice regarding diabetic keto-acidosis (DKA) in pregnancy and I have a ketone meter and ketone strips (Patients with Type 1 Diabetes)	
I have discussed continuous glucose monitoring with my diabetes team (Patients using multiple daily dose insulin or insulin pump treatment only)	

Key Contact Numbers

- **Diabetes specialist nurse helpline** 0131 537 1746 WGH, 0131 242 1471 RIE, 01506 523 856 SJH
- **Diabetes emergency helpline for evenings and weekends** 0131 242 1000 (ask for the diabetes doctor on call)
- **Obstetric triage** 0131 242 2657 RIE, 01506 524 125 SJH

Top tips for managing your diabetes in pregnancy

Managing your diabetes in pregnancy is hard work and can be very stressful. We are here to help you and share the burden. These are the key things you can do to optimise your diabetes control in pregnancy.



Pregnancy with type 2 diabetes

Information for patients

Key points

- Most women with diabetes who become pregnant have healthy babies.
- Diabetes can increase the chance of problems during pregnancy for both baby and mother.
- Your diabetes team are here to help work with you to optimise your diabetes care, reduce some of the risks and improve your chances of a healthy pregnancy and baby.

What can I do to maintain a healthy pregnancy?

- Stop smoking
- Do not drink alcohol
- Healthy eating/weight: Eating a healthy diet and leading an active lifestyle before and during pregnancy can help your baby develop and grow, and keep you fit and well.
- Optimise blood sugar control: In pregnancy the targets for blood sugar control are tighter and we aim for blood sugars as near to normal as possible. This means that we aim for blood glucose levels of 4.0-5.9mmol/L before meals or >70% time in the range of 3.5-7.8mmol/L if you are using flash or continuous glucose monitoring. Similarly we aim for HbA1c (average blood sugar) as close to 48 mmol/mol as possible without significant hypoglycaemia).
- Medication review: Not all medications taken by people with diabetes are appropriate to continue in pregnancy. While insulin and metformin are safe in pregnancy, other medications such as cholesterol medication (statins) and some blood pressure medications (for example ACE-inhibitors) are not recommended to be taken while pregnant and alternatives may be needed. Please discuss your medications with your doctor.

- Ensure your diabetes screening is up to date: It is important that you have had a recent review of your eyes and kidneys to see if your diabetes has affected them.
- Folic acid: High dose folic acid (5mg daily) is recommended in diabetes for the first 3 months of pregnancy. This helps prevent neural tube defects such as spina bifida. You can only get high dose folic acid on prescription.

Enjoy giving your baby a healthy start.

What do I need to know?

What are the risks for my baby?

Most women with diabetes have healthy babies however, the chance of a problems with the baby and/or birth are increased compared to women without diabetes. Good control of your diabetes and working towards a healthy weight can help to reduce this chance.

Miscarriage - the chance of miscarriage in the first few weeks of pregnancy is slightly higher.

Foetal anomaly (a problem with the development and formation of organs) - 2 in every 100 pregnancies can be complicated by congenital anomaly. This chance is increased when you have diabetes. The most common anomalies are of the spinal cord and the heart. Excellent control of your blood sugar can help to reduce this chance close to that of women without diabetes. The higher your blood sugars are early in pregnancy, the higher the chance of an anomaly. You will be offered an ultrasound scan of your baby at 18 and 22 weeks of pregnancy to screen for any anomalies.

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Still birth - Babies of women with diabetes have a slightly higher chance of dying inside the womb for reasons that are not completely understood but

likely related to diabetic control and placental function. Due to this known risk, you will be offered a planned birth 1-3 weeks before your due date.

Difficulties with birth – There is an increased chance of difficulty birthing the baby's shoulders (shoulder dystocia) at vaginal birth in women with diabetes. This risk is higher if the baby has grown excessively. You will be offered ultrasound scans to monitor the growth of your baby during the later stage of your pregnancy to help you to make a plan for birth with the obstetrics team.

Low blood sugar - Babies born to people with diabetes can have low blood sugars (hypos) in the first hours and days of life. Your baby will be monitored for this by the team in the post-natal ward. The chance of having a baby with low blood sugar readings is higher if you have had higher blood sugar readings in the last few weeks, and even hours, before birth. If your baby has low blood sugar they may need care in the neonatal unit.

What are the risks for me?

Women with diabetes have an increased chance of pregnancy related high blood pressure (hypertension) and a condition called pre-eclampsia. We will offer you regular blood pressure monitoring and checks of your urine for protein to screen for pre-eclampsia. Women with diabetes are more likely to have a caesarean birth or assisted vaginal birth than those without diabetes.

You will be offered care in the diabetes antenatal clinic to make sure all the staff you need to see are in the same place and to optimise your care.

Many women with type 2 diabetes will also have a raised body mass index (BMI). This is a measure that combines your height and weight. We know that having a raised BMI presents increased risks in pregnancy, even for women who do not also have diabetes. For this reason, we have a specific antenatal clinic (the metabolic antenatal clinic) for women with a BMI of 40 or above. If your BMI is raised, you can reduce the risks in pregnancy by losing weight before you become pregnant. We do not advise trying to lose weight once you are pregnant.

As with diabetes, increased weight also increases the risks of pre-eclampsia. You will be offered 150mg aspirin at night from around 12 weeks pregnancy until the last few weeks of pregnancy. Increased weight also increases the risks of blood clots and heart disease. It can also make pain relief and anaesthetics in pregnancy more challenging. The metabolic antenatal clinic includes anaesthetists, specialist dieticians and diabetes doctors as well as midwives and obstetric consultants.

What are the risks for my diabetes?

In the first trimester, if you are on insulin injections, there is an increase in the chance of you having low blood sugar (a 'hypo') and of you being less aware of the drop in your blood sugar. In the third trimester, hormonal changes make your body less responsive to insulin and we expect that you will need significant increases in your diabetes treatment over these few months. These changes revert to normal once the baby is born. You may therefore need insulin treatment for part of the pregnancy even if you do not need insulin normally. This does not mean that you will need to remain on insulin after your baby is born.

During pregnancy there is an increased chance of developing a complication called diabetic ketoacidosis (DKA). Outwith pregnancy, this mainly affects people with type 1 diabetes, but it can affect women with type 2 diabetes in pregnancy. We may therefore recommend that you check for ketones if your blood sugar rises above 10. Your team will discuss this with you on an individual basis.

If you have pre-existing diabetic eye disease or diabetic kidney disease, these can worsen during pregnancy, and may not recover after your pregnancy has ended. We recommend that if you have existing eye or kidney disease you discuss this with your care team before considering pregnancy. All women with diabetes are offered eye and kidney screening in each trimester to ensure any changes can be monitored and treated if needed.

What should I expect from my diabetes and obstetric antenatal team in pregnancy?

Appointments - We will see you regularly throughout your pregnancy. We will offer you an appointment (in person or by telephone) with a diabetes and obstetric doctor at least every month. The team will also be available to contact by telephone or email between appointments. We will provide you with meters that can be uploaded remotely so we can discuss your sugar control accurately with you.

Insulin – If you are treated with insulin, your insulin requirements will change significantly though the pregnancy. Close monitoring and adjustment of doses is important so that we can support you with these changes. Try not to get frustrated by this – you will get there, and we are here to work with you.

Medications - The only medication for type 2 diabetes which is safe to use in pregnancy (other than insulin) is metformin. Other medications will need reviewed to make sure they are appropriate for pregnancy. We may suggest changing to alternative medications in some circumstances.

Looking after your diabetes - Changes related to diabetes can occur more quickly during pregnancy. We offer eye screening (photographs), a kidney blood and urine check every trimester. We will also check your HbA1c (average blood sugar) every trimester.

Scans

- You will be offered an ultrasound scan around 8 weeks to check the pregnancy is developing.
- You will be offered a routine booking scan around 12 weeks to date the pregnancy.
- You will be offered an anomaly scan at 18 weeks to look at the baby's organ development and an additional scan around 22 weeks to look at the baby's heart in more detail.
- You will be offered scans to check that your baby is growing well in your 3rd trimester.
-

Birth

- We recommend that women with diabetes give birth in a labour ward in hospital. We will discuss this in more detail later in your pregnancy and make a plan with you.

- You may need intravenous insulin during labour as you won't be eating in labour. Labour makes it very difficult to control your blood sugar with normal insulin and high blood sugar levels in labour can affect the baby in the first few hours of life. This will be managed by the hospital team but please discuss this beforehand if you have any questions or concerns. If you are already on insulin, we recommend that you **continue** your long acting insulin in labour even if you are on intravenous insulin. When baby is born your insulin requirements will rapidly return to what they were before pregnancy. If you were already on insulin before pregnancy, it is a good idea to make a note of your insulin requirements pre-conception to remind you what you will need after the pregnancy.
- Breastfeeding is safe for you and your baby. If you choose to breastfeed, there is a higher chance of hypoglycaemia if you are treated with insulin. We will give you advice on how to safely manage your diabetes while breastfeeding.

My Personal Care Plan and Start of Pregnancy Medicine Doses

My Checklist - I have:

Stopped smoking or do not smoke	
Stopped drinking alcohol or do not drink alcohol	
Considered healthy eating and asked for a referral to a dietician if I wished	
Considered my weight and ensured it is as healthy as possible	
Ensured I am checking my blood sugar regularly, my targets are:	
Had a review of my medications	
Had my eyes and kidneys checked	
Started Folic Acid 5mg daily	
Had advice about hypoglycaemia and have discussed whether I need a glucagon kit (Patients with insulin treated diabetes only)	
I have discussed continuous glucose monitoring with my diabetes team (Patients using multiple daily dose insulin only)	

Key Contact Numbers

- **Diabetes specialist nurse helpline** 0131 537 1746 WGH, 0131 242 1471 RIE, 01506 523 856 SJH
- **Diabetes emergency helpline for evenings and weekends** 0131 242 1000 (ask for the diabetes doctor on call)

Obstetric triage 0131 242 2657 RIE, 01506 524 125 SJH

Top tips for managing your diabetes in pregnancy

Managing your diabetes in pregnancy is hard work and can be very stressful. We are here to help you and share the burden. These are the key things you can do to optimise your diabetes control in pregnancy.

Accurate carbohydrate counting

Please ask us if you need help with this or would like a refresher.

Limit your carbohydrate intake

Aim to keep your carbs to no more than

- 15-20g breakfast and snacks
- 40-60g for meals.

Bolusing time before meals (insulin treatment only)

You may need to take your insulin longer before your meals in pregnancy. This can vary between person and whether you use basal bolus insulin or hybrid-closed loop. Do discuss this with your diabetes team.

Don't overtreat a hypo (insulin treatment only)

Try to take the right amount of carbs to correct a hypo.

Physical activity after meals

Try to be active for 15-20mins after your main meal. A walk is an excellent option.

Using Florence to help manage your blood pressure

Information for service users

Simple TELEHEALTH Florence

d British Heart Foundation

You have agreed to take your blood pressure (BP) at home, and send the readings in by text message to the surgery when asked by ‘Florence’ (or ‘Flo’ for short), the messaging service.

Please remember that this is an automated service and no-one at the surgery will be looking at your readings every day. If you feel unwell, you should take normal steps to look after yourself. This may include asking for help from health professionals.

You will have a shared management plan agreed with your nurse or doctor, which makes it clear what to do if your BP is higher than normal. Flo supports the advice given in this plan. You will be asked to return the BP monitor once you no longer need it for this programme so that other patients can also benefit from the service.

Your BP reading is two numbers- the pressure when the heart beats and the pressure in between beats. It is usually written for example as: 130/85 mmHg. To send this by phone, you only need to text the numbers but you **must** also text BP, or the computer won’t know what

the numbers are. So to send in this reading you would put: **BP 130 85**

> It doesn't matter if you use capital letters or lower case – Flo will understand; but if you don't put any letters, Flo gets confused.

High BP is usually any reading above 140/90 mmHg, but some people have other medical problems which mean they should aim to keep their BP below 130/80 mmHg. Your doctor or nurse will confirm your goals.

Usually BP readings taken at home are a little lower than when taken at your doctor's surgery but they are as accurate if you take the BP reading as you have been shown.

A few tips:

- Wear loose clothing so that your arm isn't squeezed, and wrap the cuff around the bare skin of your arm
- Use the same arm each time as indicated by your doctor or practice nurse
- Take two readings, and send in the lower
- Don't have a big meal or caffeinated drink, or smoke within 30 minutes before taking BP readings
- Sit calmly for 5 minutes before taking the BP reading; rest your arm on something firm so the cuff is level with your heart
- Don't talk while you are taking your BP.

You may find that certain things you do affect your BP, and that once you understand what these are you can alter your life to avoid some of these pressures.

Flo may send you information about what may help to reduce your BP. Try some of these out,

as the more you can do for yourself, the less tablets you are likely to need. Don't alter your tablets without discussing it with your doctor or practice nurse.

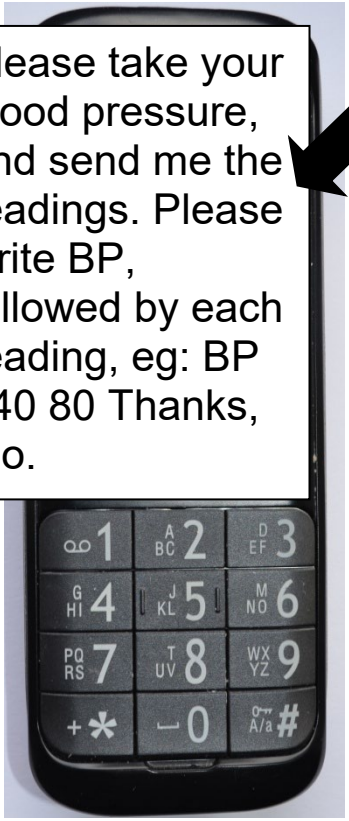
Sometimes the tablets you take to help with BP control have side effects, and if you are concerned about these, have a chat with your doctor or pharmacist.

Text messages in the UK to and from Flo are always free. However, in other countries the usual messaging costs apply, so we would strongly recommend you have a break while you're away.

Text messages in the UK to and from Flo are always free (ie. they are paid for by the NHS) – even though some phones may warn you that there will be a cost (smart phones with android operating system 4.2 and above may say this incorrectly - the warning cannot be removed); however, in other countries the usual messaging costs apply, as you cannot use the FREEPHONE number, so we would strongly recommend you have a break while you're away.

You will be asked this question most often. Please give your answer by writing BP followed by the reading on your blood pressure monitor

Please take your blood pressure, and send me the readings. Please write BP, followed by each reading, eg: BP 140 80 Thanks, Flo.



If you want to stop all messages, text “STOP” to Flo, but if you want a short break from receiving messages, text “HOLIDAY”, or “AWAY” and then “HOME” when you want to start again.