



# Children of the 90s

## @30 Participant information

We are inviting you to take part in a Children of the 90s clinic visit.

- Before you book an appointment for your visit, it is important for you to understand what the study is, why the research is being done and what it will involve.
- Please take time to read the following information carefully and feel free to discuss this with your family if you wish.
- You are free to decide whether or not to take part in a visit. If you choose not to take part, this will not affect the involvement of other members of your family or your future involvement with Children of the 90s. If you do take part, we will give you an electronic shopping voucher worth £40 (or bank transfer if you prefer) as a thank you for taking part.
- We always welcome back anyone who hasn't been part of the study for a while, even since the start of the study in the early 1990's.
- The following participants are eligible to attend our @30 clinic: original parents (mothers and fathers); Children of the 90s study children and if they have children enrolled, their partners are also eligible to attend; Children of the Children of the 90s (at any age)
- If you require this information in an alternative format e.g., large print, then please contact us.
- Please Ask us if there is anything that is not clear of if you would like more information.

### What is @30?

We are excited to welcome you to our next Children of the 90s clinic. To mark our 30<sup>th</sup> year we are calling it @30. This will be the study's largest ever clinic (in terms of participant numbers). This is such an important time to be part of Children of the 90s and it is a chance for all our participants, of any age, to be involved. @30 is your opportunity to contribute to the ongoing development of this world-leading scientific data resource.

The data you have given throughout the last 30 years helps scientists around the globe learn so much about what helps make us into healthy, happy individuals. Understanding the risks or reasons behind why some people develop serious illnesses such as cancer, diabetes, dementia and others don't, is made possible using longitudinal data from studies such as ours. This has been shown recently in how we have been able to respond to the global COVID-19 pandemic and provide vital information to researchers and policy makers in a way that no one else could. The collection of even more data now will allow us to contribute to research on the ongoing impact of the pandemic - we are unique in having data before, during and after COVID-19. This is only one part of the Children of the 90s research story but demonstrates well the important work that our study can do.

### Contents

1. What is @30?
2. Why have I been invited to take part?
3. What do I need to do if I want to take part?
4. What will it involve if I take part?
5. Where will my visit take place?
6. What will happen to my information?
7. Do I have to take part?
8. How is the study managed and funded?
9. What are the advantages and disadvantages of taking part?
10. COVID-19 safety precautions
11. Sources of help

### ***Children of the 90s news since you last visited us:***

- we have welcomed our 1,500th child of the Children of the 90s.
- we published our 2000th research paper.
- in 2018 we were recognised as Biobank of the year
- We have been funded by the Medical Research Council, Wellcome Trust and University of Bristol to continue until at least 2024.
- We have been able to contribute significantly to research about the COVID-19 pandemic for example: [\*The proportion of young people experiencing anxiety during the COVID-19 pandemic almost doubled when compared to previous levels, increasing from 13% to 24% \(2020\).\*](#)

The scientific potential is exciting as we continue to follow you and your families through childhood and adulthood and into older age. Ours is the only global study with such detailed participant data over three generations – this means that each and every one of you is unique and special. The overall aim of @30 is to collect detailed data on the health and wellbeing of all the original Children of the 90s participants:

**Our young people**, in their late 20s and early 30s, are often considered relatively healthy and are therefore overlooked in health research. However, collecting information about this age group is vital for helping researchers spot (and track) the early signs of conditions that more commonly affect us in later life.

**Our young families**, those young people who are (or are soon to become) a parent, information will help researchers look at how diseases, chronic illness or mental health can be passed between generations. We will also invite their partners and children to be involved.

**The parents of our young people**, have provided lots of information over the last 30 years and we will now be able to use this information to investigate links with; health as you get older, the impact retirement may have and potentially how being a grandparent affects you. We can also look at the influence parents/grandparents can have on the health of the rest of their family.

## Why have I been invited to take part?

You have been invited to this study because you are a participant of Children of the 90's and you have previously indicated you are happy to be invited to our clinics. Children of the 90s is what's known as a longitudinal study – research that follows the same group of people over time. That makes you irreplaceable. It doesn't matter how long it's been since you last took part, or if you've taken a break from the study – you are still important to us, and to the teams who use your data every day in their research. Plus, the more people who take part, the more informative the research we carry out will be.

If you are one of our young people and you or your partner are pregnant, or you already have children then we would like them to be involved too.

## What do I need to do if I want to take part?

All you need to do is book an appointment:

- By emailing us on [visits@childrenofthe90s.ac.uk](mailto:visits@childrenofthe90s.ac.uk) with the best contact number and time to reach you, so we can call you to book your appointment.
- You can call us on 0117 3310011 and we will book your appointment for you.

## What will it involve if I take part?

This will depend on which category you are in (i.e., participant, partner, or parent) and more information about the visits can be found using the links below. All our participants will be asked to complete one visit that will last about 2-3 hours. For this you will receive a £40 e-voucher which can be used at most online retailers or high street stores including Argos, Iceland and Wilko.

If you or your partner are pregnant or have children, you will be asked to complete some extra visits depending on the age of your child and how many children you have these may take up to 3 hours. You can choose not to attend a particular visit but still be invited to future visits.

## Important facts about your visit

- All our visits take place at our centre in Bristol.
- If you can't travel to Bristol, we can now offer a "virtual visit" alternative.
- We pay **all** your travel expenses.
- We can book and pay for a taxi for you.
- We can book and pay for overnight accommodation for you.
- We have free onsite parking.
- We will give you £40 compensation for your time as an e voucher or bank transfer.
- We can give you a letter for your employer to request paid time off. Some employers also offer time off for voluntary work and medical research often is permitted.
- We have appointments available throughout the day, evenings and weekends. You are welcome to come at the same time as your partner, children and grandchildren.
- All our visits take 2-3 hours (but can be tailored to personal circumstances).
- We offer "quiet" days where there are fewer staff and participants, no background noise and lighting is kept low. These days are listed on our website and social media channels so you can simply book yourself into one of these sessions.

[Visit information for young people.](#) This is for our original study participants who do not have children or whose children are all aged over 1 years old.

[Visit information for young people who are or are about to become parents.](#) This is for our original study participants and their partners, who are about to become parents or have children under 1 year old.

[Visit information for original parents.](#) This is for our original parents, those who had children in 1991-1992.

## Where will my visit take place?

The visit will be at our @30 centre at Oakfield House, Oakfield Grove, Bristol BS8 2BN.

If you are unable to travel to Bristol or would prefer a shorter face to face visit, then a virtual visit can be arranged using the Microsoft TEAMS platform and would include a full consent session as if you were attending a visit at Oakfield house but only some of the measurements. The measures that would be included are indicated in the description of the measure. For this you would receive a £20 voucher.

## What will happen to my information?

### How will we use information about you?

With your consent we will need to use information from you and your medical records for this research project.

This information will include your

- NHS number
- Name
- DOB

People will use this information to do the research or to check your records to make sure the research is being done properly. You can choose for us not to link to your medical records if you wish.

People who do not need to know who you are will not be able to see your name or contact details. Any data and samples we collect from you will be stored with a code number instead. No personal information (name, address or date of birth) will be attached.

We will keep information about you safe and secure, for example files that link the code number to your personal details will be securely stored and kept strictly confidential and separate from your personal information. The data and samples will be used for research purposes only and will only be analysed by researchers who have been approved by the Children of the 90s Executive. Some of your information will be sent to researchers working in other universities, hospitals or other organisations in other parts of the UK or abroad. They must follow our rules about keeping your information safe.

None of the researchers will have access to your personal information. Your personal details will not be shared with third parties except for certain service providers working on our behalf, for example VCars if you ask us to book a taxi for your visit. You can see our privacy policy for more information:

[Privacy | Avon Longitudinal Study of Parents and Children | University of Bristol](#)

[Once we have finished the @30 study, we will keep your data so we can check the results. We write our reports in a way that no-one can work out that you took part in the study.](#)

Children of the 90s is compliant with GDPR (General Data Protection Regulation) and with the Data Protection Act (2018) with regard to the collection, processing, storage and disclosure of personal information. Children of the 90s has ISO27001 Information Security accreditation, renewed in April 2021.

### How to contact us

If you have any questions about this study, please talk to our participation team:

Tel: **0117 331 0011**

Email:

[info@childrenofthe90s.co.uk](mailto:info@childrenofthe90s.co.uk)

Website:

[www.childrenofthe90s.ac.uk](http://www.childrenofthe90s.ac.uk)

## What are your choices about how your information is used?

You can stop being part of the study at any time, without giving a reason, but we would like to keep information about you that we already have.

If you choose to stop taking part in the study, we would like to continue collecting information about your health from central NHS records. If you do not want this to happen, tell us and we will stop.

We need to manage your records in specific ways for the research to be reliable. This means that we won't be able to let you see or change the data we hold about you.

If you agree to take part in this study, you will have the option to take part in future research using your data saved from this study. The data from this study will become part of the Children of the 90s collection along with any other data you have provided in the past.

## Where can you find out more about how your information is used?

You can find out more about how we use your information

- at [www.hra.nhs.uk/information-about-patients/](http://www.hra.nhs.uk/information-about-patients/)
- our leaflet available from [Using your official records | Avon Longitudinal Study of Parents and Children | University of Bristol](#) or at <http://www.hra.nhs.uk/patientdataandresearch>
- by asking one of the research team
- by sending an email to [info@childrenofthe90s.ac.uk](mailto:info@childrenofthe90s.ac.uk)
- by ringing us on 0117 3310010

## Do I have to take part?

No, participation is completely voluntary. If you decide not to participate in this visit, it will not affect future invitations to you to participate in Children of the 90s research and will not affect the involvement of other members of your family. The visit is for research purposes and consent to take part will be obtained.

## How is the study managed and funded?

This research is organised by the Children of the 90s study team. The Scientific Directors for @30 are Professor Nic Timpson (also principal investigator) and Professor Deborah Lawlor. @30 has been funded by the Medical Research Council, the Wellcome Trust, the University of Bristol, the local Clinical Research Network (CRN) and the John Templeton Foundation.

The scientific value of the @30 clinic was reviewed by anonymous reviewers and grant board members for the MRC, Wellcome Trust and John Templeton Foundation, and the ALSPAC Executive.

The original cohort advisory panel (OCAP) made up of study participants was involved during the design and planning phase of the study.

ALEC (The Children of the 90s Law and Ethics Committee) made up of experts in research ethics and study participants, has approved the overall aims of the study.

The NHS research ethics committee (London – Queen Square Research Ethics committee), an independent group that looks at all research involving NHS patients and who are there to protect your safety, rights, well-being and dignity, has approved this study.

## Who do I contact if there is a problem?

You can contact us at any time using the details at the end of this document and our team will be happy to answer any questions you may have.

If you want to make a complaint, please contact our Chief Operating Officer:

Ms Lynn Molloy  
Children of the 90s  
University of Bristol  
Oakfield House  
Oakfield Grove  
Bristol  
BS8 2BN  
[Lynn.molloy@bristol.ac.uk](mailto:Lynn.molloy@bristol.ac.uk)  
0117 3310075

## What are the advantages and disadvantages of taking part?

---

@30 is not a health check and we are asking you to help us with research that we hope will help people in the future. Some of the measurements that we take might indicate increased risk for some health problems that can be easily treated if you know about them. If you have given us written consent, we will tell you the result of certain tests if they are higher or lower than they should be. We will also give you a letter to take to your GP. Other measurements taken are useful for research, but their results have no clear medical meaning, and we will not tell you about those results. In addition to this and with your consent, we are also collecting genetic material from the samples you provide. We do not plan to do any genetic studies with this material that could lead to findings that are significant for you or your family. The samples are important though for all types of research - for example it will give researchers the chance to use genetic material obtained at this clinic to look at the way genes work and are regulated. If in the future, we were to change this approach and wanted to carry out a study which could lead to significant findings we would obtain independent ethical review before proceeding. We do not see any major disadvantages in taking part.

## Will you tell my GP (General practitioner/family doctor) about my involvement in the study?

---

We will not inform your GP that you are a participant in the study or what tests you have done. If your blood test results or blood pressure are out of the normal range and you have given us consent, we will give you a letter you can give to your GP.

## If I attend @30 am I committed to any future visits or Children of the 90s activities?

---

Not at all. This is a very interesting time in your lives, and we are keen to improve our understanding of factors affecting health and disease development. However, we would always start any new visits with an invitation to take part and information about the visit. You can decide whether or not you want to take part. If at any time you would like us to stop contacting you completely, you just need to let us know.

## COVID-19 and other transmissible infection safety precautions

---

- You will notice that there are fewer participants in the clinic at the same time as you, this allows us to minimise prolonged interactions with others.
- When you arrive, your fieldworker will agree with you whether you would prefer them to wear a mask or not
- You are welcome to wear a mask if you prefer
- Most of our systems are now electronic, for example we will not issue paper vouchers or cash. These will be electronic or by bank transfer.
- We will not have the large café offering a full selection of food a drink as before. We will have a space where you can sit and have a drink and small snack. Tables will be positioned at safe distances and we will limit the number of people in this area.
- Our staff now wear surgical scrubs (rather than casual clothes).

## How do I know the @30 clinic area is safe?

- We will send all participants details about our safety guidelines with their confirmation letter.
- A few days before your visit all participants will receive a reminder message via text or email which will include this information again.
- All participants will be advised not to attend if they have COVID-19 symptoms or symptoms of other infections for example cold or flu symptoms.
- All clinic rooms will be cleaned between each participant.
- You have any concerns about visiting. We are able to offer some of the visit measures in a 'virtual visit' option.

Our safety measures are regularly reviewed.

## Sources of help

---

Below are organisations that you can contact for any issues that you may experience as a result of attending @30.

### **The Samaritans**

Emotional support for everyone

**Tel: 08457 909 090** (24 hours)

### **Alcoholics Anonymous**

Runs support groups for people with alcohol related problems.

**Tel: 0845 769 7555**  
[www.alcoholics-anonymous.org.uk](http://www.alcoholics-anonymous.org.uk)

### **Women's Aid**

Support for women experiencing domestic abuse.

**Tel: 0808 2000 247** (24 hours)  
[www.womensaid.org.uk](http://www.womensaid.org.uk)

### **Men's Advice Line**

Helpline for male victims of domestic violence

**Tel: 0808 801 0327**  
(9am – 5pm Mon-Fri)  
[www.mensadviceline.org.uk](http://www.mensadviceline.org.uk)

### **Mind**

Advice and support for anyone with a mental health problem

**Tel: 0300 123 3393**  
(9am – 6pm, Mon – Fri)  
[www.mind.org.uk](http://www.mind.org.uk)  
Text: 86463

### **The Lesbian & Gay Foundation**

Advice, support and information for lesbian, gay, bisexual, transsexual and transvestite people

**Tel: 0845 330 3030**  
[www.lgf.org.uk/get-support](http://www.lgf.org.uk/get-support)

### **Mothers for Mothers**

Support for women experiencing postnatal depression.

**Tel: 0117 935 9366**  
(10am-9pm Mon-Fri)  
[www.mothersformothers.co.uk/contact-us](http://www.mothersformothers.co.uk/contact-us)

### **FRANK**

Friendly, confidential drugs advice

**Tel: 0300 123 6600** (24 hours)  
Text: 82111  
[www.talktofrank.com](http://www.talktofrank.com)

### **Your local GP**

Children of the 90s always recommend that you speak to your GP (doctor) if you have any concerns about your health.

[www.nhs.uk/service-search](http://www.nhs.uk/service-search)



# Visit information for young people.

## How long will the visit last?

You will need to complete one visit that will take about 3 hours. It will involve some physical measurements, the collection of some biological samples and some computer-based questionnaires. A summary of the measures is provided here.

## Consent

When you arrive a member of staff will explain the measurements to you and answer any questions you may have. Then we will ask you to complete and sign an electronic consent form. You can choose not to consent to any of the individual sessions or change your mind at any time during the visit without giving a reason. We will also ask you some general questions about your health and lifestyle that help us understand the data we get from the other measurements such as:

- Current medications and allergies.
- Alcohol consumption.
- Whether you smoke or vape.
- Whether or not you have asthma.

## Biological samples

Children of the 90s collects biological samples as they can give us lots of information about the health of our study participants and about their environment. The use of your biological samples is carefully regulated:

- The Human Tissue Authority (HTA) is a public body of the Department of Health and Social Care in the United Kingdom.
- It regulates the collection, storage, use of biological samples for research.
- The Human Tissue Authority provides guidelines (a code of practice) to researchers on what we are and are not allowed to do.
- Children of the 90s has ethical approval to collect samples and we abide by the HTA code of practice.
- The building where the samples are stored and managed also has a licence from the Human Tissue Authority.

We will ask you to provide the following biological samples (This will not be completed as part of a virtual visit):

### FASTING BLOOD SAMPLE

We would like you to come for your @30 visit fasted. After getting your consent we will take a blood sample. We will collect blood in the usual way and all staff are fully trained.

We will test your blood immediately for haemoglobin (a measure of anaemia), and fasting cholesterol and glucose (sugar). If the result of any of these tests is outside the range expected for your age or sex, we will give you a letter to take to your GP who will probably want to repeat the test.

**At any time during the sample taking, you can ask for the procedure to stop.**

### Contents

1. How long will my visit last?
2. Consent
3. Biological samples
4. Physical measurements
5. Questionnaire
6. Feedback of results

### ***Important things to remember for your visit.***

- You need to fast (not consume food or drinks except water) for 6 hours before your visit and until after we have taken a blood sample and completed one of your scans. We will let you know as soon as you can eat and drink normally.
- Do not drink caffeine for 6 hours before your visit
- Don't wear clothing with metal fastenings or zips.
- Wear comfortable shoes that are suitable for gentle exercise.
- Bring or wear a loose-fitting top to help with scans and blood samples.
- A note of any regular medications you take.

## WHAT ARE THE RISKS OF GIVING A BLOOD SAMPLE?

- There may be some bruising, though our staff aim to minimise this.
- Some people faint when having a blood sample taken, this could happen even if it has never happened before.
- We only take blood samples with you lying on a couch to reduce the risk of injury should you faint.
- If you do faint, we will make sure you are fully recovered before discussing if you wish to continue.

## SALIVA SAMPLE

If you do not wish to provide a blood sample, or we are unable to take a sample, we will ask you to provide a saliva sample instead. This sample can also be used to obtain DNA but cannot be used for non-genetic studies.

## URINE SAMPLE

The kidneys filter your blood, remove substances you don't need and excrete them in the urine, these substances are known as metabolic markers. Measuring metabolic markers, for example fats, sugars and iodine in urine can tell us about things that you may have been exposed to. It can also give a measure of your body's responses to its environment. For instance, it can show how your body reacts to things like viruses, pollen or certain foods. During your consent session you will be given a collection cup and sample tube for your urine sample. At any point during your visit when you need to use the toilet we will ask you to collect the sample. We will show you where you can leave the sample once it is done.

## WHAT WILL HAPPEN TO MY SAMPLES?

After the initial test detailed above and with your consent, we would like to store the remainder of your samples so we can use them for answering future research questions that arise, for example, to look at changing hormone levels as you get older. The samples are stored with unique ID numbers allowing test results to be linked to other data, but researchers using the samples will not be able to link these results to your personal information such as your name, age or date of birth. Samples are only issued following approval by the Children of the 90s Executive.

Most of the research using the samples will take place in Bristol. Some samples may also be made available to researchers working in other universities, hospitals or other organisations in other parts of the UK or abroad. The samples that you donate will not be sold for profit and will only be used in ethically approved research in the field of biomedical research. We may ask for a fee from researchers to help cover the costs of running the biobank where your samples are stored.

Another reason we take samples is so we can have a sample of your genetic material (DNA and RNA), the study of DNA, RNA and genes is referred to as genetic research. Our genes play an important role in defining many characteristics about individuals and some can make us more or less likely to develop many common diseases. We all have a slightly different set of genes in our bodies. Genetic studies can help us look at these differences and understand varying characteristics and the causes of diseases. You can choose not to consent for genetic studies but still provide your samples for equally important non-genetic research.

If you have given us a sample for genetic material in the past, we will not be using the samples you give us this time to collect more but it is useful for us to remind you that we do hold these stocks, what they are used for and to remind you that you can let us know if you have changed your mind. If you are providing a sample for the first time we will create a stock of your genetic material, if you give us consent, and use it for future research.

[More information about genetic studies and how we use biological samples can be found here](#)

### ***What is fasting?***

- You should not consume any food or drinks (except water) for 6 hours before your visit and until after we have taken the sample and completed one of your scans. We will let you know as soon as you can eat and drink normally.
- You can have water whenever you need it.
- We will provide you with a light snack after your sample has been taken and your scan completed so you feel comfortable for the rest of the measurements.

### ***Why do I need to fast?***

The results of many of the tests we do on your samples are more accurate and tell us more about your health if we know you have not eaten for a period of time.

### ***What happens if I forget to fast?***

Fasting allows us to accurately measure sugar, fats and other substances in your blood. But if you forget just make a note of what you had to eat or drink and attend your visit as normal. We will still ask you if we can take a blood sample, but some blood tests may not be completed, and we will not be able to feedback any results.

### ***Should I fast?***

**Do not** fast if:

- You are diabetic and using insulin (or have any other medical condition which means you should not go without food)
- You are pregnant.
- We can still take a blood sample, but some blood tests may not be completed.

**You will not** be able to give a blood sample so please do not fast if:

- You are using warfarin, heparin or other similar anti-coagulant medication.
- You have recently started treatment for anaemia.
- You have a blood borne virus (for example Hep A, Hep B, HIV)



## Physical measures

---

### BODY MEASUREMENTS (ANTHROPOMETRY)

We will measure the following:

1. Height.
2. Weight.
3. Circumferences; waist, head, arm and hip.

### PHYSICAL CAPABILITY ASSESSMENT

We will carry out several measurements that assess your general muscle strength, function, power and mobility. This allows us to look at your ability to carry out daily activities. (This will not be completed as part of a virtual visit)

1. A hand grip test will be carried out using a small measuring device called a spring dynamometer. This assesses your upper limb strength.
2. We will look at your balance by asking you to stand in several different positions and seeing how long you can maintain your balance as the positions get progressively harder.
3. We will assess your lower limb power by asking you to complete 3 jumps on a special platform called a force plate.
4. We will measure the peak force of your muscles by asking you to complete single leg hopping on the force plate.
5. We will assess how long it takes your muscles to get tired using another type of hand grip test.

### DXA WHOLE BODY SCAN

A DXA scanner is a large scanning machine that measures the amount of calcium and other minerals in your bones. The result is called the 'bone mineral density'. Denser bones have more calcium and minerals. They are stronger and less likely to break. (This will not be completed as part of a virtual visit)

We will carry out a full scan of your body and then a more detailed scan of one of your hips.

You will be asked to lie very still on the scanner as the arm passes above you, the scan usually takes 5 to 10 minutes.

Our fieldworker will check that you are not wearing clothes with metal fastenings, underwired bras or metal zips and will ask you to remove any watches, earrings, body piercings or other metal objects before having the whole-body DXA. This is because metals can affect the results of the scan and not because of safety reasons.

### BLOOD PRESSURE AND PULSE

As people get older their blood pressure can increase. We know that if a person has high blood pressure over many years and it is not detected and treated it can lead to problems in later life.

We would like to measure your blood pressure in different ways whilst you are sitting and then standing. This will be done by placing a cuff around your upper arm. The cuff will inflate (fill with air) and then deflate (release the air)

We will also measure your central blood pressure by placing a cuff around your wrist.

#### ***Is a DXA scan safe?***

- Yes, although if you are pregnant or think you might be, we will not ask you to do this scan.
- Risk assessments have shown that there is no risk to unborn babies.
- DXA scans use a much lower level of radiation than X-rays.
- DXA scans use less radiation than the amount we are exposed to in our daily lives.



*DXA Scan*

## LIVER SCAN

Fat in the liver can cause health problems in older people. We want to know whether having fat in the liver is common in young adults. We also want to measure liver fibrosis build-up. This is the scar tissue that builds up when the liver has been injured. We want to find out the reasons for this scarring and whether it makes people ill now and as they get older. To do this we will complete an ultrasound scan of your liver. Some of you have completed this measurement before so we will also be able to see how this is changing over time. (This will not be completed as part of a virtual visit)

You will need to fast for this measure too as how your liver looks on the scan is affected when you have eaten. We will do the scan at the start of the visit immediately before or after your blood sample.

You may be asked to change into a loose-fitting top (we will provide one if you have forgotten to bring your own). We have a private room where you can change. A member of staff will ask you to lie on a couch on your back. They will place some gel on your stomach, then place a probe over the gel and look at pictures of your liver on the scanner monitor (screen). The scan is painless, but during the scan you will feel a slight vibration on the skin at the tip of the probe. If your liver scan result is higher than normal, we will send you a result for yourself and a second one for your GP. Your GP might suggest further tests or lifestyle changes.

## GLYCOCALYX

The microvascular system is the part of your blood system that involves all the minute blood vessels. A healthy microvascular system is important for the transport of glucose (sugar) from the blood to your organs. Damage to the microvascular system can be related to blindness, kidney failure, heart attack and stroke. The glycocalyx is a thin layer of material that coats these minute blood vessels and measuring this can indicate the health of the microvascular system. (This will not be completed as part of a virtual visit)

We want to look at the microvascular system of our participants to understand if we can start to see early indications of who may or may not become ill as they get older.

We will use a special video microscope that is placed under the tongue to look at the blood volume in, and flow through the tiny blood vessels found here. This measurement takes about 10 minutes.

## LUNG FUNCTION

We would like to measure the general health of your lungs and we will do this in 3 different ways. (This will not be completed as part of a virtual visit)

### LUNG FUNCTION TEST 1 - SPIROMETRY

We want to measure how much air you can blow from your lungs over a short period of time. This tells us how much air your lungs can hold and about the size of the passages (airways) that carry air to your lungs.

With a nose-clip on we will ask you will blow as hard as possible, for as long as you can, into a mouthpiece. We would like you to do this before and after inhaling a drug called salbutamol (Ventolin), which is used to treat asthma. You can choose not to have the salbutamol; we will then just ask you to blow into the mouthpiece once.



Liver Scan

### Is a liver scan safe?

- Yes, although if you are pregnant, or think you might be, we will not ask you to do this scan.
- The scan uses sound waves, not X-rays or gamma-rays.
- Ultrasound scans have been used widely for over 30 years and there are no known risks.
- They are considered to be very safe.



Glyocalyx imaging

### Is salbutamol safe?

- Salbutamol is very safe and should have no unpleasant side effects.
- You may feel breathless for a very short period.
- you may notice your heart beating faster for a short time after taking it.

## LUNG FUNCTION TEST 2 – TREMOFLO (AIRWAVE OSCILLOMETRY)

This test measures the mechanics of your lung function. It involves you breathing as normally as possible into a special machine for about 16 seconds. When you breathe the machine will pass tiny vibrations into your airways, this feels like a flutter. We will do this test 3 times. TremoFlo measures the natural resistance to airflow in different parts of your lungs. There are no risks or side effects from doing this test.

## LUNG FUNCTION TEST 3 – FENO (FRACTIONAL EXHALED NITRIC OXIDE)

This test provides a measure of allergic inflammation in the air passages of the lungs. It involves you breathing in as deeply as you can through a special mouthpiece attached to a machine and then slowly breathing out into the machine at a constant rate. We will ask you to do this twice. You may feel breathless for a very short period after doing this test but there are no risks or side effects.

## CARDIOVASCULAR (HEART HEALTH) TEST

A cardiopulmonary exercise test (CPET) shows how your heart, lungs and muscles react when you exercise. It combines a number of tests including an electrocardiogram (ECG) and blood pressure, and measures how much oxygen is in your blood. We will ask you to wear some sensors (small electrodes on your chest) and then pedal an exercise bike for a maximum of 10 mins. The pedals will get harder to move until you cannot move them anymore. While you on the bike we will ask you to wear a special face mask that captures and measures the air you are breathing out.

## Questionnaire

---

### MOODS AND FEELINGS

We will ask you to complete a computer-based questionnaire that asks about your moods, how you feel and how you act in certain situations. It takes about 20 minutes to complete.

### COVID-19

We already have lots of information from many of our participants about whether or not you have had COVID-19 and how the Lockdown affected you. So that we can continue to contribute to COVID-19 research we will ask you to complete a short questionnaire about COVID-19 vaccination. Whether or not you have been vaccinated, which vaccine you had, whether or not you experienced side effects.

## Feedback of results

---

If we do not feedback any results to you, you should **not** conclude this means you have a clean bill of health. If you have any symptoms that cause you concern you should contact your GP in the way that you normally would.

The following describes which of the test results we plan to provide feedback on (if you have given us consent to do so):

- If your **blood pressure** is high, we will tell you at the clinic and give you a letter to take to your GP.
- If you have low haemoglobin (risk of **anaemia**) or very high haemoglobin (this can mean your blood flows too slowly).
- If you have high **blood sugar** (an indicator of diabetes) and you gave a fasting blood sample.
- If you have high levels of total **cholesterol** and you gave a fasting blood sample.
- If your **liver scan** result is higher than normal.
- If your **hip DXA scan** result shows a lower than normal bone density



Lung function – spirometry measurement

### *When and how will I receive any feedback?*

- You will receive your blood pressure results immediately.
- The blood tests will be done in our laboratory and a result will be available within 4 weeks of your visit. If you have values outside the normal range and have given consent for feedback, you will receive a letter up to 4 weeks after your visit.
- You will receive your hip DXA feedback within 4 weeks if the result is lower than normal bone density.
- If your liver scan is out of range, you will receive a letter in the post

**Thank you for your time in reading about @30 and for your ongoing support of Children of the 90's.**

# Visit information for young people who are or are about to become parents.

How many visits will I have to do and how long will they last?

If you are one of our original study participants who are about to become a parent or already are a parent, we would like to invite you to complete some additional clinics and provide some extra biological samples. This is so we can understand how becoming a parent is affecting your health and lifestyle. We are also inviting the partners of our original participants if they have chosen to join Children of the 90s.

How many visits we ask you to do and how long they last will depend on how many children you have and how old they are. The picture below shows what we will invite you to do and when. If you have more than one child, we will try to combine your visits as much as possible.

The longest clinic is 3 hours but most of your visits will be much quicker. It is usually the first visit that will be the longest (unless you are pregnant and then the second visit will be the longest)

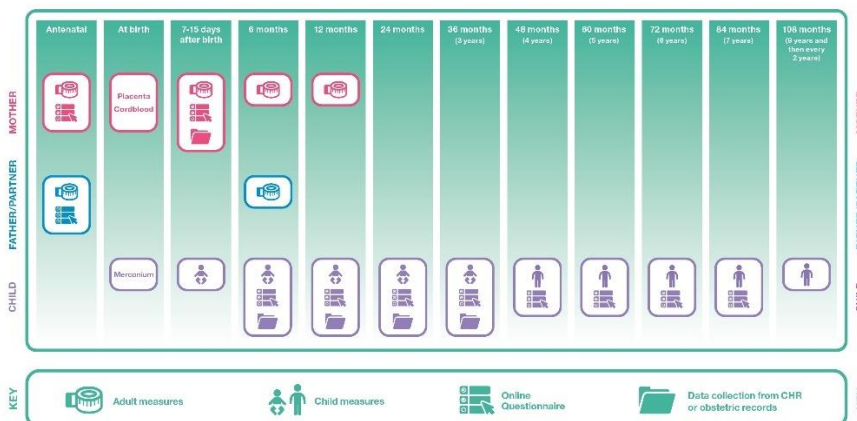
You will be invited to each visit separately and you can choose not to do a particular visit without it affecting your future involvement or that of your partner or children.

## Contents

1. How many visits will I have to do and how long will they last?
2. What will I have to do?
3. Consent
4. Data linkage
5. Biological samples
6. Physical measurements
7. Questionnaire
8. Measure to complete at home.
9. Feedback of results

## Important things to remember for your visit.

- You should not consume any food or drinks (except water) for 6 hours before your visit (unless you are pregnant) and until after we have taken the sample and completed one of your scans. We will let you know as soon as you can eat and drink normally.
- Don't wear clothing with metal fastenings or zips.
- Wear comfortable shoes that are suitable for gentle exercise.
- Bring or wear a loose-fitting top to help with scans and blood samples.
- A note of any medications you currently take.



## What will I have to do?

If you are one of our original study participants then you should read the ['visit information for young people'](#) section in full, there will also be a few additional measures. If you happen to be pregnant for your first visit, then we will not be able to complete all these measures and we will ask you to complete them at your 6month visit instead.

For the partners of our original participants, our pregnant participants and those original participants who are having a 2<sup>nd</sup> or 3<sup>rd</sup> visit the measures you will complete are listed below.

## Consent

---

When you arrive at each of your visits a member of staff will explain the measurements to you and answer any questions you may have. Then we will ask you to complete and sign an electronic consent form. You can choose not to consent to any of the individual sessions or change your mind at any time during the visit without giving a reason. We will also ask you some general questions about your health and lifestyle that help us understand the data we get from the other measurements such as:

- Current medications and allergies.
- Alcohol consumption
- Whether you smoke or vape.

## Data Linkage

---

If you are a partner of one of our original participants, during your first visit we will talk to you about how Children of the 90s uses your health and other official records. We use health records (NHS data such as your GP records or hospital attendance data) and other official records (education, benefits, earnings and any criminal conviction or caution records you may have) to help with our research. Data from these official records can provide researchers with greater detail than clinic or questionnaire data, for instance details of prescriptions or educational attainment. If you consent to data linkage we will continue to access and use your records unless you tell us to stop. While most Children of the 90s participants support this, we fully understand if this part of the study is not for you and we respect all the decisions you make.

[More information about data linkage can be found here](#)

When we see you at the @30 clinic, we will be happy to discuss this use of the data with you and to record the decisions you make. We will ask if you are willing, or not, for Children of the 90s to use your health and routine records in our research. You are free to make your own decisions about these questions, and to make a separate decision about each type of record.

## Biological samples

---

Children of the 90s collects biological samples, such as blood and saliva as they can give us lots of information about the health of our study participants, their genes and about their environment. The use of your biological samples is carefully regulated:

- The Human Tissue Authority (HTA) is a public body of the Department of Health and Social Care in the United Kingdom.
- It regulates the collection, storage, and use of biological samples for purposes such as research.
- The Human Tissue Authority provides guidelines (a code of practice) to researchers on what we are and are not allowed to do.
- Children of the 90s has ethical approval to collect samples and we abide by the HTA code of practice.
- The building where the samples are stored and managed also has a licence from the Human Tissue Authority.

We will ask you to provide the following biological samples (This will not be completed as part of a virtual visit):

BLOOD SAMPLE

- If you are pregnant then we will ask you to provide a non-fasting blood sample at your antenatal visit.
- For all other participants, if this is your first visit or the first visit since giving birth, we would like you to come for your @30 visit fasted, i.e., having not eaten or drunk anything (except water) for 6 hours before your appointment. (We will confirm in your confirmation letter exactly what we would like you to do)

After getting your consent we will take a blood sample. We will collect blood in the usual way and all staff are fully trained.

We will test your blood immediately for haemoglobin (a measure of anaemia), and fasting cholesterol and glucose (sugar). If the result of any of these tests is outside the range expected for your age or sex, we will give you a letter to take to your GP who will probably want to repeat the test.

## WHAT ARE THE RISKS OF GIVING A BLOOD SAMPLE?

- At any time during the sample taking you can ask for the procedure to stop.
- There may be some bruising, though our staff aim to minimise this.
- Some people faint when having a blood sample taken, this could happen even if it has never happened before.
- We only take blood samples with you lying on a couch to reduce the risk of injury should you faint.
- If you do faint, we will make sure you are fully recovered before discussing if you wish to continue.

## SALIVA SAMPLE

If you do not wish to provide a blood sample, or we are unable to take a sample, we will ask you to provide a saliva sample instead. This sample can be used to obtain DNA but cannot be used for non-genetic studies.

## URINE SAMPLE

- If you are pregnant then we will ask you to provide a urine sample at your antenatal visit.
- For all other participants, if this is your first visit or the first visit since giving birth, we will ask you to provide a urine sample.
- The kidneys filter your blood, remove substances you don't need and excrete them in the urine, these substances are known as metabolic markers. Measuring metabolic markers, for example fats, sugars and iodine in urine can tell us about things that you may have been exposed to. It can also give a measure of your body's responses to its environment. For instance, it can show how your body reacts to things like viruses, pollen or certain foods. During your consent session you will be given a collection cup and sample tube for your urine sample. At any point during your visit when you need to use the toilet we will ask you to collect the sample. We will show you where you can leave the sample once it is done.

## BIRTH SAMPLES (PLACENTA, CORD BLOOD AND MECONIUM)

If you are pregnant, at your antenatal visit we will ask you to consent for the collection of several samples at (or shortly after) the birth of your baby. This can only be done if you are delivering your baby at one of our local hospitals. Our fieldworkers will discuss this with you. All these birth samples, linked with other information we have collected gives us a detailed picture of your baby's health, the nutrients they

- You should not consume any food or drinks (except water) for 6 hours before your visit and until after we have taken the sample and completed one of your scans. We will let you know as soon as you can eat and drink normally.
- You can have water whenever you need it.
- We will provide you with a light snack after your sample has been taken.

### ***Why do I need to fast?***

The results of many of the tests we do on your samples are more accurate and tell us more about your health if we know you have not eaten for a period of time.

### ***What happens if I forget to fast?***

Fasting allows us to accurately measure sugar, fats and other substances in your blood. But if you forget just make a note of what you had to eat or drink and attend your visit as normal. We will still ask you if we can take a blood sample, but some blood tests may not be completed, and we will not be able to feedback any results.

### ***Should I fast?***

**Do not** fast if:

- You are diabetic and using insulin (or have any other medical condition which means you should not go without food)
- You are pregnant.
- We can still take a blood sample, but some blood tests may not be completed.

**You will not** be able to give a blood sample so please do not fast if:

- You are using warfarin, heparin or other similar anti-coagulant medication.
- You have recently started treatment for anaemia.
- You have a blood borne virus (for example Hep A, Hep B, HIV)



received and the environment they were exposed to in the womb and can help us look at subsequent health outcomes. The samples we would like to collect are:

- Umbilical cord blood - this will be collected after the cord has been cut and you and the baby have been separated from the umbilical cord and placenta. It will be sent to our laboratories for processing and storage for future research. We can obtain your child's DNA from the cord blood sample.
- The placenta will be collected once any normal checks have been completed. It will then be sent to our laboratories where it will be weighed, measured and photographed and some small sections of it removed and stored for future research including genetic research.  
Any remaining parts of your placenta will be disposed of in the same way as the hospital would dispose of it.
- We would also like to ask you to collect a sample of your baby's first bowel movement/stool, called meconium.

For all these samples you will be provided with the equipment necessary for them to be collected and detailed instructions for you and your midwife. We just ask that you remember to take the pack with you when you go to hospital for the birth.

## WHAT WILL HAPPEN TO MY SAMPLES?

After the initial test detailed above and with your consent, we would like to store the remainder of your samples so we can use them for answering future research questions that arise, for example, to look at changing hormone levels as you get older. The samples are stored with unique ID numbers allowing test results to be linked to other data, but researchers using the samples will not be able to link these results to your personal information such as your name, age or date of birth. . Samples are only issued following approval by the Children of the 90s Executive.

Most of the research using the samples will take place in Bristol. Some samples may also be made available to researchers working in other universities, hospitals or other organisations in other parts of the UK or abroad. The samples that you donate will not be sold for profit and will only be used in ethically approved research in the field of biomedical research. We may ask for a fee from researchers to help cover the costs of running the biobank where your samples are stored.

Another reason we take samples is so we can have a sample of your genetic material, the study of DNA, RNA and genes is referred to as genetic research. Our genes play an important role in defining many characteristics about individuals and some can make us more or less likely to develop many common diseases. We all have a slightly different set of genes in our bodies. Genetic studies can help us look at these differences and understand varying characteristics and the causes of diseases. You can choose not to consent for genetic studies but still provide your samples for non-genetic research.

[More information about genetic studies and how we use biological samples can be found here](#)

## Physical measurements

---

### BODY MEASUREMENTS (ANTHROPOMETRY)

At each of your visits we will measure the following:

1. Height
2. Weight
3. Circumferences: waist, head, arm and hip

### PHYSICAL CAPABILITY ASSESSMENT

At all visits except 7-15 day, we will carry out several measurements that assess your general muscle strength, function, power and mobility. This allows us to look at your ability to carry out daily activities. (This will not be completed as part of a virtual visit)

1. A hand grip test will be carried out using a small measuring device called a spring dynamometer. This assesses your upper limb strength.
2. We will look at your balance by asking you to stand in several different positions and seeing how long you can maintain your balance as the positions get progressively harder.
3. We will assess your lower limb power by asking you to complete 3 jumps on a special platform called a force plate.
4. We will measure the peak force of your muscles by asking you to complete single leg hopping on the force plate.
5. We will assess how long it takes your muscles to get tired using another type of hand grip test.

## DXA WHOLE BODY AND HIP SCAN

At your first visit only (or first visit after giving birth) we will ask you to complete a DXA scan. A DXA scanner is a large scanning machine that measures the amount of calcium and other minerals in your bones. The result is called the 'bone mineral density'. Denser bones have more calcium and minerals. They are stronger and less likely to break. (This will not be completed as part of a virtual visit)

We will carry out a full scan of your body and then a more detailed scan of your leg.

You will be asked to lie very still on the scanner as the arm passes above you, the scan usually takes 5 to 10 minutes.

Our fieldworker will check that you are not wearing clothes with metal fastenings, underwired bras or metal zips and will ask you to remove any watches, earrings, body piercings or other metal objects before having the whole-body DXA. This is because metals can affect the results of the scan and not because of safety reasons.

## BLOOD PRESSURE AND PULSE

As people get older their blood pressure can increase. We know that if a person has high blood pressure over many years and it is not detected and treated it can lead to problems in later life.

At each of your visits we would like to measure your blood pressure in different ways whilst you are sitting and then standing. This will be done by placing a cuff around your upper arm. The cuff will inflate (fill with air) and then deflate (release the air)

At each visit except your 7–15-day visit we will also measure your central blood pressure by placing a cuff around your wrist.

## GLYCOCALYX

The body's microvascular system is the part of your blood system that involves all the minute blood vessels. A healthy microvascular system is important for the transport of glucose (sugar) from the blood to your organs. Damage to the microvascular system can be related to blindness, kidney failure, heart attack and stroke. The glycocalyx is a thin layer of material that coats the blood vessels. Measuring this can indicate the health of the microvascular system. (This will not be completed as part of a virtual visit)

We want to look at the microvascular system of our participants to understand if we can start to see early indications of who may or may not become ill as they get older.

At each visit except your 7–15-day visit we will use a special video microscope (about the size of a pencil) that is placed under the tongue to look at the blood volume and flow through the tiny blood vessels found here. This measurement takes about 10 minutes.



DXA scan

### Is a DXA scan safe?

- Yes, although if you are pregnant or think you might be, we will not ask you to do this scan.
- Risk assessments have shown that there is no risk to unborn babies.
- DXA scans use a much lower level of radiation than X-rays.
- DXA scans use less radiation than the amount we are exposed to in our daily lives.



Glyocalyx imaging

## SKINFOLDS

This is a technique that estimates how much fat is on the body. It involves a trained fieldworker using a device called a calliper to lightly pinch the skin and underlying fat in several places including your shoulder, tummy, arm and leg. We will complete this at each of your visits. (This will not be completed as part of a virtual visit)

## COGNITIVE ASSESSMENT

At your first visit, we will ask you to do separate tests of your memory, how you process new information and how your brain uses that information.

- A short, recorded story will be played to you, we will then ask you to repeat its content immediately and again 10 minutes later. A score is allocated for the number of key facts that are correctly remembered from the story at each time point.
- You will be read 2 numbers and asked to repeat them backwards; if you do this accurately the test is repeated with 3 numbers and so on. The result is the highest number of numbers you can correctly repeat backwards.
- You will be shown several numbers paired with a symbol (e.g., 5 = a square). You will then be given 90 seconds to pair specific numbers to their symbols. The number correctly matched in the given time is the score.
- You will be asked to list as many words as possible beginning with certain letters that you can think of. The number of words (without repeats) is the test score.
- You will be provided with a list of pairs of words. One will be a real word, the other will be a made-up word. You will be asked to indicate which is the real word for each pair.

## BABY BANDIT – CHANGES IN THOUGHT PROCESSES DURING PREGNANCY

Previous research suggests that pregnant women make unconscious preparations for becoming a mother. We want to know how this relates to a mother's personality and wellbeing and how it affects her interactions with her child. If you are pregnant, you will be asked to play a computer game where you must 'soothe the baby'. You will be shown the picture of a crying baby on a computer screen and be asked to choose a toy to offer to the baby to stop it crying. The toy that works may change throughout the game. The game usually takes about 15 minutes.

## Questionnaires

---

### ABOUT YOU AND YOUR CHILD

When you first agree to take part in our study about being a parent, we will send you a link to complete an online questionnaire. We will then send further questionnaires before each of your visits.

### MOODS AND FEELINGS

At each visit we will ask you to complete a computer-based questionnaire that asks about your moods, how you feel and how you act in certain situations. It takes about 20 minutes to complete.

### MOODS, PERSONALITY AND RELATIONSHIPS

At the antenatal and 6-month visits for both parents we will ask you to complete additional computer-based questionnaires that ask about yourself (e.g., personality, parenting style, mood and feelings during pregnancy, outlook on life), your household, relationship with your partner, sources of social support, your feelings about your unborn baby and future parenthood.

## COVID-19

We already have lots of information from many of our participants about whether or not you have had COVID-19 and how the Lockdown affected you. So that we can continue to contribute to COVID-19 research we will ask you to complete a short

questionnaire about COVID-19 vaccination. Whether or not you have been vaccinated, which vaccine you had, whether or not you experienced side effects.

## Measurements to complete at home.

---

### ACTIVITY MONITORING

We will ask you to take away with you and wear an activity sensor after each of your visits. The sensor is worn on your wrist like a watch, for 6 days. After this you will return it to us in a prepaid envelope. The activity sensor records your movements and therefore provides accurate information about your physical activity habits and will allow us to study these patterns of physical activity in relation to health outcomes.

### FOOD DIARY

After each visit we would like you to collect information about what you eat during the next 6 days. We will collect this by asking you to log onto a website with a unique username and password. The website will then prompt you to recall what you have eaten the day before. The website is managed by researchers at a different university who are carrying out this service under contract with us. The researchers are not given any information about you other than the information you provide about the food you eat. We will send you a reminder email each day to help you to remember to complete the diary.

### CONTINUOUS GLUCOSE MONITORING (CGM)

At each visit we will ask if you would like to wear a small sensor, about the size of a 10p coin, that will monitor your blood sugar (glucose) levels continuously while you wear it. This device is widely used by people with type 1 diabetes and does not pose any risk to you (including during pregnancy). This device is called Dexcom.

One of our Fieldworkers will place the sensor either on your upper arm or your upper buttocks (whichever you prefer) so that the sensor can repeatedly test the fluid just below the surface of the skin. This is a painless procedure, in which a small hair-like filament is placed just below the surface of the skin. Once in place the sensor will not cause any discomfort. We will ask you to wear the sensor for six days after your visit [You can see a video here.](#)

After 6 days you can remove the sensor yourself and we will arrange to collect this from you

### PARENT AND CHILD HEAD CAMERAS

During your 6 month visit you will be asked if you are willing to take some cameras away and use them during different activities with your baby (e.g., meal and play time) for several sessions. You can see a video about using head cameras [here](#)

Our Fieldworkers will show you how to use the parent and baby head cameras. The head cameras are small plastic cameras attached to an elastic headband (please see the pictures below).



We would like you to use the cameras while completing the play and meal tasks on your own (i.e., without your partner), and to complete one mealtime task as a family (i.e., with your partner and your child). We will then collect the cameras from you on an agreed date. We will link information from the videos (such as frequencies of different behaviours) to information you have completed during your assessments at the clinic. This will help us understand how different aspects of your personality and emotional well-being, as well as other factors (e.g., relationship with your partner) relate to your interactions with your child.

## Feedback of results

---

If we do not feedback any results to you, you should not conclude this means you have a clean bill of health. If you have any symptoms that cause you concern you should contact your GP in the way that you normally would.

The following describes which of the test results we plan to provide feedback on (if you have given us consent to do so):

- If your **blood pressure** is high, we will tell you at the clinic and give you a letter to take to your GP.
- If you have low haemoglobin (risk of **anaemia**) or very high haemoglobin (this can mean your blood flows too slowly).
- If you have high **blood sugar** (an indicator of diabetes) and you gave a fasting blood sample.
- If you have high levels of total **cholesterol** and you gave a fasting blood sample.
- If your **hip DXA scan** result shows a lower than normal bone density

In all cases we will give you a letter to take to your GP so that they can repeat the test, discuss this with you, and do further tests if necessary.

**Thank you for your time in reading about @30 and for your ongoing support of Children of the 90's.**

### ***What if I change my mind or accidentally record something?***

- You can change your mind at any time and return the cameras to us with no recordings.
- If, after doing some recordings you change your mind, just let the Fieldworker know when they collect the cameras that you no longer want to take part. We will then delete any recordings without viewing them.
- We can choose exactly which recordings we view, using your completed schedule. We will only view anything that matches the date and times you give us. That way if you have not turned the camera off or something unexpected happens, we will not see these recordings.

### ***When and how will I receive any feedback?***

- You will receive your blood pressure results immediately.
- The blood tests will be done in our laboratory and a result will be available within 4 weeks of your visit. If you have values outside the normal range and have given consent for feedback, you will receive a letter up to 4 weeks after your visit.
- You will receive your hip DXA feedback within 4 weeks if the result is lower than normal bone density.

# Visit information for original study parents.

## How long will the visit last?

You will need to complete one visit that will take about 2 hours. It will involve some physical measurements, and a computer-based questionnaire. Information about each of the measures is provided here.

## Consent

When you arrive a member of staff will explain the measurements to you and answer any questions you may have. Then we will ask you to complete and sign an electronic consent form. You can choose not to consent to any of the individual sessions or change your mind at any time during the visit without giving a reason. We will also ask you some general questions about your health and lifestyle that help us understand the data we get from the other measurements. Things like:

- Current medications and allergies.
- Alcohol consumption
- Whether you smoke or vape.
- Whether or not you have asthma.

## Physical measures

### BODY MEASUREMENTS (ANTHROPOMETRY)

We will measure the following:

1. Height
2. Weight
3. Circumferences: waist, head, arm and hip

### PHYSICAL CAPABILITY ASSESSMENT

We will carry out several measurements that assess your general muscle strength, function, power and mobility. This allows us to look at your ability to carry out daily activities. (This will not be completed as part of a virtual visit)

1. A hand grip test will be carried out using a small measuring device called a spring dynamometer. This assesses your upper limb strength.
2. We will look at your balance by asking you to stand in several different positions and seeing how long you can maintain your balance as the positions get progressively harder.
3. We will assess your lower limb power by asking you to complete 3 jumps on a special platform called a force plate.
4. We will measure the peak force of your muscles by asking you to complete single leg hopping on the force plate.
5. We will assess how long it takes your muscles to get tired using another type of hand grip test.

### Contents

1. How long will my visit last?
2. Consent
3. Physical measurements
4. Questionnaire
5. Feedback of results

### Important things to remember for your visit.

- Don't wear clothing with metal fastenings or zips.
- Wear comfortable shoes that are suitable for gentle exercise.
- Bring or wear a loose-fitting top to help with scans and blood samples.
- If you normally wear glasses, please bring them with you. Or wear your contact lenses as normal. If you have a copy of a recent prescription for your glasses/contacts please bring this too.
- Please bring with you a note of any medications you take regularly.



JUMPING TEST



## DXA WHOLE BODY AND HIP SCAN

A DXA scanner is a large scanning machine that measures the amount of calcium and other minerals in your bones. The result is called the 'bone mineral density'. Denser bones have more calcium and minerals. They are stronger and less likely to break. (This will not be completed as part of a virtual visit)

We will carry out a full scan of your body and then a more detailed scan of your leg.

You will be asked to lie very still on the scanner as the arm passes above you, the scan usually takes 5 to 10 minutes.

Our fieldworker will check that you are not wearing clothes with metal fastenings, underwired bras or metal zips and will ask you to remove any watches, earrings, body piercings or other metal objects before having the whole-body DXA. This is because metals can affect the results of the scan and not because of safety reasons.

## BLOOD PRESSURE AND PULSE

As people get older their blood pressure can increase. We know that if a person has high blood pressure over many years and it is not detected and treated it can lead to problems in later life. We would like to measure your blood pressure in different ways whilst you are sitting and then standing. This will be done by placing a cuff around your upper arm. The cuff will inflate (fill with air) and then deflate (release the air) We will also measure your central blood pressure by placing a cuff around your wrist.

## GLYCOCALYX

The microvascular system is the part of your blood system that involves all the minute blood vessels. A healthy microvascular system is important for the transport of glucose (sugar) from the blood to your organs. Damage to the microvascular system can be related to blindness, kidney failure, heart attack and stroke. The glycocalyx is a thin layer of material that coats these minute blood vessels and measuring this can indicate the health of the microvascular system. (This will not be completed as part of a virtual visit)

We want to look at the microvascular system of our participants to understand if we can start to see early indications of who may or may not become ill as they get older.

We will use a special video microscope that is placed under the tongue to look at the blood volume in, and flow through the tiny blood vessels found here. This measurement takes about 10 minutes.



DXA scan

### **Is a DXA scan safe?**

- Yes, although if you are pregnant or think you might be, we will not ask you to do this scan.
- Risk assessments have shown that there is no risk to unborn babies.
- DXA scans use a much lower level of radiation than X-rays.
- DXA scans use less radiation than the amount we are exposed to in our daily lives.



Glycocalyx imaging

## LUNG FUNCTION

We would like to look at the general health of your lungs by measuring how much air you can blow from your lungs over a short period of time. This tells us how much air your lungs can hold and about the size of the passages (airways) that carry air to your lungs.

With a nose-clip on we will ask you will blow as hard as possible, for as long as you can, into a mouthpiece. We will repeat this three times.

## VISION

We will carry out an assessment of your vision. Poor vision can either be a result of poor health or can have an impact on your health. Understanding how vision changes as you get older will help us understand this in more detail. The vision assessment will involve the following measures:

1. Visual acuity – this looks at how clearly you see things or the sharpness of your vision. This is measured using eye charts with letters or symbols getting smaller as you read down the chart. We will repeat this for both near and far sight using any glasses if you have them.
2. Colour vision – we will assess how you see colour using pictures, each of which contains a coloured circle of dots. Within the pattern of each circle are dots which form a number or shape that is clearly visible to those with normal colour vision and difficult or impossible to see for those with a colour vision defect.
3. Stereoacuity – This is one form of “3D vision”. We will measure it by giving you some special glasses to wear (or put over your own). We will ask you to look at some cards with black and white dots on and for you to tell us whether you see a shape seeming to stand out from the dots.
4. We will take an image of the back of your eye using a special camera and we will measure your long sight or short sight using another similar machine. For both of these machines we will ask you to put your chin on a rest and look straight ahead, then the examiner will take a picture or measurement.

## HEARING

We will carry out an assessment of your hearing. This will involve you wearing a special set of headphones and completing a number of tasks on an iPad that assess the range of tones you can hear and also how well you can hear when there is background noise. The test will take about 15 minutes.

## Questionnaire

---

### MOODS AND FEELINGS

We will ask you to complete a computer-based questionnaire that asks about your moods, how you feel and how you act in certain situations. It takes about 20 minutes to complete.

### COVID-19

We already have lots of information from many of our participants about whether or not you have had COVID-19 and how the Lockdown affected you. So that we can continue to contribute to COVID-19 research we will ask you to complete a short questionnaire about COVID-19 vaccination. Whether or not you have been vaccinated, which vaccine you had, whether or not you experienced side effects.



*Lung function – Spirometry test*

## Feedback of results

---

If we do not feedback any results to you, you should not conclude this means you have a clean bill of health. If you have any symptoms that cause you concern you should contact your GP in the way that you normally would.

The following describes which of the test results we plan to provide feedback on (if you have given us consent to do so):

- If your **blood pressure** is high, we will tell you at the clinic and give you a letter to take to your GP.
- If your **hip DXA scan** result shows a lower than normal bone density

In all cases we will give you a letter to take to your GP so that they can repeat the test, discuss this with you, and do further tests if necessary.

**Thank you for your time in reading about @30 and for your ongoing support of Children of the 90's.**

### ***When and how will I receive any feedback?***

- You will receive your blood pressure results immediately.
- You will receive your hip DXA feedback within 4 weeks if the result is lower than normal bone density