HELSE BERGEN
Haukeland universitetssjukehus

RHINESSA Study
Adult, Adolescent, Child, Grandparents and 4.Generation

Standard Operating Procedures

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1. General Instructions

All participants should be provided with an appointment time and instruction on how to get to the clinic. Before attending the clinic all participants should be asked to

1) refrain from smoking for at least one hour
2) avoid eating a heavy meal for one hour before
3) avoid vigorous exercise for at least one hour before
4) refrain from taking asthma and/or allergy medications before the visit if they have no symptoms (If ethical permission is granted to do this)

Type of medication	**Avoid for:**
short-acting beta-2 agonist	4 hours prior to the visit
anticholinergic inhaler	4 hours prior to the visit
oral beta-2 agonist	8 hours prior to the visit
oral theophylline	8 hours prior to the visit
oral antimuscarinic	8 hours prior to the visit
long-acting beta-2 agonist	12 hours prior to the visit
oral antihistamine	48 hours prior to visit

Please note that some participants may be taking medication with a long duration of action (24 hours) – if you are able to get ethical permission to tell them to cease taking these medications then please do so. However if it is not possible – please ensure you record recent medication usage correctly in the data sheets that are completed prior to lung function testing.

5) To wear clothing to the clinic that will make it easy for the tests to be performed with minimal disruption. For example to wear

a. wear light clothing, avoiding tight collars and tight belts
b. wear blouses and shirts where the sleeve can be rolled up for blood testing and skin prick tests
c. wear shoes that are easy to take off
d. avoid wearing tights, and if wearing socks ensure these are easy to get on and off
e. avoid wearing a lot of heavy metal jewellery

Addition to protocol:

Grandparents: Participants who have difficulties attend at the local study center may be offered home visits

2. Overview of the protocol

Participants will be invited to the local study center for a number of clinical investigations – these are listed below in recommended order:

1. Informed consent and a brief explanation of procedures
2. Verification of correct address, phone number and e-mail address
3. 'Getting ready' form
4. Measurement of weight, height, and waist-hip ratio
5. Interview
6. Blood pressure and pulse
7. Saliva sampling
8. FeNo
9. Fasting blood glucose
10. Skin- microbiota
11. Dental- microbiota
12. CPI-index
13. Bioelectrical Impedence Analysis,
14. Carotid Intima Media Thickness (not all centers)
15. Blood samples
16. Pre- and post-bronchodilator spirometry
17. Skin prick test
18. Urine sample
19. Self-administered questionnaires

- Sleep
- Rand 36
- IPAQ
- Body shape
- Cosmetics

20. Summary of results for participant
21. Information about/ delivery of dust sampler

Addition to protocol:

Child Self-administered questionnaire:
None
Adolescent Self-administered questionnaire:
Personal products
Body Shape if age > 13 years
Grandparent Self-administered questionnaires in preferred order:
-Body shape
-Sleep
-Cosmetics
-Rand-36

Depending on local facilities, the order in which these procedures are performed may differ. However, when organizing the study the following rules must be followed:

1. Signed consent and 'getting ready' form must be completed **before** procedures can be performed
2. Blood pressure must be done **before** blood tests
3. Skin prick tests must be performed **after** the interview and **after** the FeNO
4. Skin prick tests **must** be read at 15 minutes
5. Post-bronchodilation FEV1 **must** be read **at least** 15 minutes after administration of bronchodilator (Ventoline)
6. Saliva sampling must be performed **before** dental microbiota
7. Dental microbiota must be performed **before** CPI-index.
8. Skin-microbiota must be performed **before** taking blood samples.
9. The following questionnaires **must** be self –completed: RAND, Sleep, ACT, IPAQ, Body shape, Cosmetics.

3. Explanation of procedure and consent form

Field workers instruct participants on the procedure and the timing of the clinical examinations. They collect the consent form signed by a legal guardian if the participant is under the age of 16.

4. Screening/Getting ready Questionnaire

Aim: to evaluate any potential factors that might lead to excluding participants form certain examination, either for their own safety or because results might be affected and produce wrong measures.

The getting ready questionnaire has to be filled out together with the field worker and at the beginning of the clinical study center visit.

The full questionnaire is attached under the chapter “Questionnaires at the center”, chapter 29.

5. Medication questionnaire

Aim: to collect all information on current and past medication use.

The field worker goes through the medication interview together with the participant. The full questionnaire is attached under the chapter “Questionnaires at the center”, chapter 29.

6. Blood pressure and heart rate

Aim: to perform systolic and diastolic blood pressure and pulse measurement twice while at rest. Blood pressure and heart rate should be measured in all participants.

Blood pressure and pulse measurement takes place during the interview. Participant must have been seated for at least 10 minutes to adjust to the new environment. Do not take blood tests before blood
pressure and pulse measurement.

Information to fieldworker

OMRON 705 IT-IS Automatic-IS is a compact, fully automatic blood pressure and pulse monitor, operating on the oscillometric principle. After the cuff is inflated to the brachial artery shut-off, the pressure will automatically and continuously be reduced.
There are two values for arterial pressure measurements: the upper and the first value is called the systolic arterial pressure. It measures the pressure in the walls of the arteries at the moment the heart muscle contracts maximally. When the heart muscle relaxes, the arterial pressure decreases to the other and lower pressure, called the diastolic arterial pressure.
To assess blood pressure, both pressure values are necessary. Blood pressure is measured in millimeters of mercury (mmHg). The systolic pressure is written before the diastolic. A value of for example 140/90 denotes a systolic value of 140 mmHg, and a diastolic value of 90mmHg.
According to World Health Organization (WHO) and International Society of Hypertension (ISH) is optimal blood pressure less than 120/80 mmHg. Normal blood pressure is defined as values below 130/85. High blood pressure (hypertension) is blood pressure values equal to or above 140/90. Because blood pressure is subject to large fluctuations, hypertension will be diagnosed only after several readings.

Information to participants

Some international studies have found evidence for an association between air pollution and heart/vascular disease. In ECHRS III, we measure blood pressure and heart rate in order to examine these issues further.

Training and inclusion criteria

Blood pressure and heart rate should be measured in all participants.

Preparation

Time of examination
Blood pressure and pulse measurement takes place during the interview. Participant must have been seated for at least 10 minutes to adjust to the new environment. Do not take blood tests before blood pressure and pulse measurement.

1. Measurement of the left upper arm without clothes. Exception: if irradiated or axillary lymph node dissection because of breast cancer, shunt on the left arm for dialysis patients, paralysis or contractures of the left arm.
In the form, note “right” under “problem” for these participants. Fold-sleeved clothing must not squeeze the arm. In most cases a thin piece of clothing is not a problem.

2. Insert air tube to air jack (on the left side of the device). The cuff must be airless, and should be completely emptied before every measurement.

3. Participant should sit comfortably with their feet flat on the floor and arm supported on a table, so that the cuff is at level with the heart.

4. Measure the circumference of the left upper arm at its thickest part with a tape measure.
Circumference 17-22 cm: cuff for child. Circumference 22-32 cm: standard cuff. Circumference 32-42 cm: extra-large cuff. (In the form, log whether using small or extra large cuff, under “problem” with the individual participant.)

5. Put the arm through the cuff loop. The bottom of the cuff should be approximately 1-2 cm above the elbow. The green marker of the cuff should lie over the brachial artery (artery in the elbow) on the inside of the arm. The tube should run down center of arm approximately even with middle finger.

6. Tighten the cuff until the top and bottom are snugly against the arm.

7. When the cuff is positioned correctly, close the Velcro fastener firmly. Make certain the cuff fits snugly around the arm. You should be able to fit your index finger between the cuff and the arm easily, so that the cuff can easily be adjusted up or down.

8. The participant relaxes the arm and turns palm upward.

9. Ensure there are no kinks in the air tubing.

Implementation of the survey

Taking a measurement
1. Press the (0/I) button
a) All display symbols appear for approximately one second.
b) When the monitor is ready to measure, the (♥) symbol appears on the display.

2. Press the (START <I>) button. The participant must remain still.
As the cuff begins to inflate, the monitor automatically determines the ideal inflating level. Because the monitor detects the pulse even during inflation, it is important to not move the arm until the entire measurement is completed.

3. Inflation stops automatically and measurement process is started. As the cuff slowly deflates, decreasing numbers appear on the display and the (♥) symbol flashes at every heartbeat. In rare circumstances, a higher inflating may be necessary. In those cases, the monitor reflates the cuff up to 30mmHg higher than initial inflation and restarts the measurement.
4. When the measurement is complete, the cuff completely deflates and blood pressure and pulse are displayed.
Note: The monitor automatically stores blood pressure and pulse rate into the memory. If more than 28 sets of readings are stored in memory, the oldest set will be deleted to store a new set.
5. Enter the measurements on the form.

6. Repeat steps 2-5 after at least 3 minutes. Ideally, the measurements should not be much longer than 3 minutes apart.

7. Write down the measurements on the sheet “Blood pressure and pulse measurements”. Give this to the participant.

8. Press the (O/I) button to turn the monitor off. If you forget to turn the monitor off, it will automatically shut itself off after five minutes.

Instructions for special conditions
If the participant’s systolic blood pressure is known to be more than 220mmHg, press and hold the start button (START <I>) until the monitor inflates 30-40mmHg higher than the suspected systolic pressure.
Note: Do not apply more pressure than necessary. The monitor will not inflate above 300mmHg.

Quality criteria

Errors and their possible causes
Rectification

1. A correct reading could not be obtained because measurement was disturbed by movement of the body
1. Repeat the measurement keeping perfectly still. Do not move arm and do not speak

2. The cuff is not fitted correctly
2. Check that the cuff is correctly fitted, and then repeat the measurement

3. Tight clothing has constricted blood flow
3. Remove the item of clothing which caused the constriction

4. There is still air in the cuff when the monitor is switched on
4. The unit may be defective. Check with OMRON customer service

5. Start button was pressed before the symbol (♥) was displayed
5. Wait for the (♥) symbol indicating readiness before you press the start button

6. The blood pressure values displayed are extremely low or high, or they are implausible.
6. Refer to the instructions and then repeat the measurement

The display does not light up when the ON/OFF button (O/I) is pressed

1. The batteries are exhausted
1. Check the batteries, and if necessary, fit four new batteries

2. Plus/minus poles of the batteries have been reversed
2. Reinsert the batteries with the +/- poles the right way round

3. Battery poles are dirty
3. Clean the battery poles with a dry cloth

4. The batteries are weak or exhausted
4. Fit new batteries

The cuff pressure does not rise, although the pump motor can be heard.
Check that the air tube is properly connected to the monitor. Push the tube connector firmly into the socket.

Err

Problem with memory function
Contact OMRON Customer Service

If an error message appears in a measurement, repeat the test after at least 3 minutes.

If, after 2 attempts measurements are failing, feel the pulse and check whether there is an arrhythmia (heart rhythm disorder). If you can confirm arrhythmia register “Arrhythmia” on the form “Problems” with the participant, and inform the participant. (Recommend an examination with their doctor if the problem is not known.)
With repeated measurements due to errors, make a note under “Problems with the device”.

Improbable measurement result:
Blood pressure shows a large difference also when performing two measurements within a few minutes.

If blood pressure is “unlikely” (participant says he usually has very different blood pressure values)

- Check you have used the correct cuff size
- Check if there is an arrhythmia (cf. above)

If a third measurement is performed for any reason, do not register on the form (for example, the participant requests it because he is anxious).

Other problems with the device; see the user manual.

Quality control
The devices are numbered, and study management has an overview of the condition of each device.

7. Anthropometric measures: height, Weight, Waist-Hip Ratio

Aim: to measure anthropometric measures in all participants, including weight, height, waist & hip circumference.
Height and weight must be measured before spirometry. Even if spirometry is not going to be done these measures are to be made.

Height

Height is a predictor of lung function and it is very important that this is measured correctly by trained staff. No matter how simple the equipment, staff should be trained to record height and weight according to the guidelines in section below.

Height should be recorded to the nearest complete 1 cm using the same stadiometer for all measurements.

The Harpenden wall mounted or pocket Stadiometer is recommended. Stadiometers attached to balance beam scales are not recommended. The type of stadiometer used should be provided in the Centre Equipment Inventory that is completed when data are forwarded to the coordinating centre

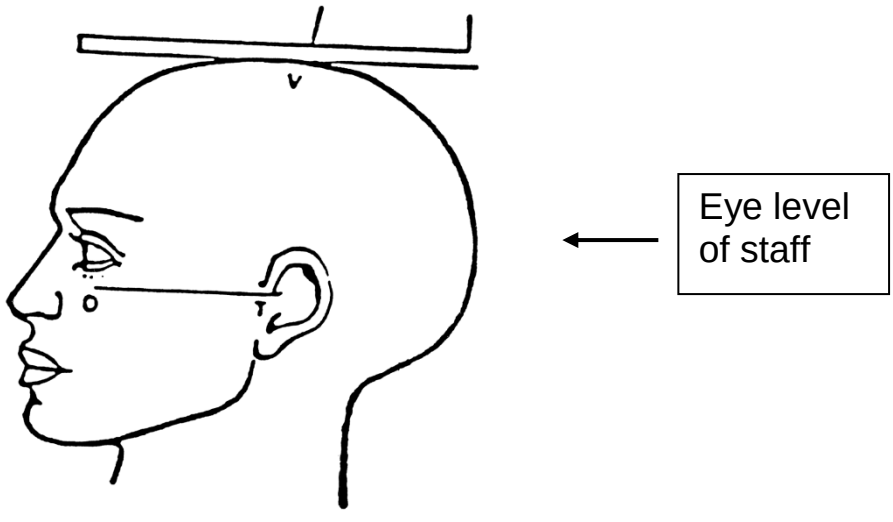
1. Ask the participant to remove shoes, hat and bulky clothing such as coats and sweaters. You may need to ask some participants to adjust hairstyles or remove hair accessories that may interfere with measurement.

2. The participant should stand erect, with shoulders level, hands at sides, knees or thighs together and with weight evenly distributed on both feet. Feet should be flat on the floor (or foot piece) with both heels comfortably together and touching the base of the vertical board or wall. When possible, all four contact points (the head, back, buttocks, and heels) should touch the vertical surface while the participant also maintains a natural stance. Some people may not be able to keep a natural stance if all four contact points were touching the vertical surface. For these participants a minimum of two contact points — the head and buttocks, or the buttocks and heels — should always touch the vertical surface.

3. Ask the participant to move their head or position the participant's head by placing a hand on the chin and moving it into the Frankfort Plane. The Frankfort Plane is an imaginary line from the lower margin of the eye socket to the notch above the tragus of the ear. When aligned correctly, the Frankfort Plane is parallel to the horizontal headpiece and perpendicular to the vertical back piece of the stadiometer. This is best viewed and aligned when the investigator is directly to the side and at eye level with the participant.

4. Lower the horizontal headpiece until it firmly touches the crown of the head and is at a right angle with the measurement surface. Ask the subject to inhale deeply and check contact points to ensure that the lower body stays in the proper position and heels remain flat. Reposition the head board if necessary. Read the height to the nearest complete 1 cm. If the reading is to xxx.5cm always round down to the nearest complete 1cm. Do not round up. Record results immediately and enter into this value into the spirometer when prompted.

Figure 1 Frankfort Plane for measuring body height



Weight

Weight should be measured to the nearest to 1 kg. Weight is not used as a predictor of lung function, but accuracy is still important and staff should be trained to use centres' weighing equipment correctly. The measurements should be recorded to the nearest 1kg or 1cm on Questionnaire and entered into the spirometer when prompted during lung function testing.

A digital scale or balance beam is recommended for the measurement of weight. The same scale should be used for all measurements. Ideally the scales should be calibrated at least annually by a local procedure.

Whatever kind of scale is to be used, checks should be made and any necessary adjustments to ensure that the scale reads '0' before each measurement.

The scales should be placed on a flat, firm floor surface. If weight has to be measured in carpeted areas, a small sheet of wood or hard plastic should be placed beneath the scale. The participant should ideally be wearing normal lightweight indoor clothing. Ask them to remove shoes, coats, jacket and heavy objects from pockets such as telephones or keys. Ask the participant to step onto the center of the scale platform and stand up straight with arms relaxed at their sides and looking straight forward.

Staff training for height and weight measures

Staff involved in the recruitment should be properly trained to conduct height and weight measurements based on the on the method described here. Training should begin with a discussion and demonstration of the methods. The 'trainee' should then be asked to perform

Duplicate measurements on three different individuals. Height and weight should be recorded for each individual once and then the process repeated for a second recording of measurement. The 'trainer' should also undertake the same measurements on one occasion. Adequate training is achieved where the trainee's repeat measurements are within 1kg and 1cm of each other and the mean of the repeat measurements are within 1kg and 1cm of the trainer's measurements. If reproducibility is not met, repeat the training process -beginning with a review of the methods, until the required standards are achieved.

Waist and hip circumferences

Measurement should be made with an insertion tape calibrated in mm, with a plastic or metal buckle at one end.

All measurements should be taken to the nearest millimeter. If the length lies half-way between two millimeters, then round to the nearest **EVEN** mm. For example, if the measurement is halfway between 68.3cm and 68.4cm, round up to 68.4cm. And if the measurement is halfway between 68.8cm and 68.9cm, round down to 68.8cm. Please note that you must enter the measurement to one decimal place - do not round it to the nearest centimeter.

Before starting measurements ask the participant to 1) remove all outer layers of clothing (eg: jackets, heavy or baggy jumpers, cardigans and waistcoats) 2) remove shoes with heels, 3) remove tight garments intended to alter the shape of the body (eg corsets, lycra body suits, support tights) and 4) remove or loosen belts.

Ensure the respondent is standing erect in a relaxed manner and breathing normally. Weight should be evenly balanced on both feet and the feet should be about 25-30cm (1 foot) apart. The arms should be hanging loosely at their sides. If possible, kneel or sit on a chair to the side of the respondent. Pass the tape around the body of the respondent and insert the plain end of the tape through the metal ring at the other end of the tape. To check the tape is horizontal you have to position the tape on the right flank and peer round the participant's back from his/her left flank to check that it is level. This will be easier if you are kneeling or sitting on a chair to the side of the respondent. Hold the buckle flat against the body and flatten the end of the tape to read the measurement from the outer edge of the buckle. Do not pull the tape towards you, as this will lift away from the respondent's body, affecting the measurement.

<u>Measuring waist circumference</u>

1. The waist is defined as the point midway between the iliac crest and the costal margin (lower rib). To locate the levels of the costal margin and the iliac crest use the fingers of the right hand

held straight and pointing in front of the participant to slide upward over the iliac crest. Men's waists tend to be above the top of their trousers whereas women's waists are often under the waistband of their trousers or skirts.

2. Do not try to avoid the effects of waistbands by measuring the circumference at a different position or by lifting or lowering clothing items. For example, if the respondent has a waistband at the correct level of the waist (midway between the lower rib margin and the iliac crest) measure the waist circumference around the waistband.

3. Ensure the tape is horizontal. Ask the participant to breathe out gently and to look straight ahead (to prevent the respondent from contracting their muscles or holding their breath). Take the measurement at the end of a normal expiration. Measure to the nearest millimetre and record this on the schedule.

4. Repeat this measurement again.

5. If your second waist measurement differs by 3cm or more from the first please check and repeat the measure.

6. If you are of the opinion that clothing, posture or any other factor is significantly affecting the waist measurement, record this on the schedule.

Measuring hip circumference

1. The hip circumference is defined as being the widest circumference over the buttocks and below the iliac crest. To obtain an accurate measurement you should measure the circumference at several positions and record the widest circumference.

2. Check the tape is horizontal and the respondent is not contracting the gluteal muscles. Pull the tape, allowing it to maintain its position but not to cause indentation. Measure to the nearest millimeter and record this on the schedule.

3. If clothing is significantly affecting the measurement, record this on the schedule.

4. Repeat this measurement again.

5. If your second hip measurement differs by 3cm or more from the first please check and repeat the measure.

General points

The tape should be tight enough so that it doesn't slip but not tight enough to indent clothing. If clothing is baggy, it should be folded before the measure is taken.
If the respondent is large, ask him/her to pass the tape around rather than having to "hug" them. Remember though to check that the tape is correctly placed for the measurement being taken and that the tape is horizontal all the way around.
If you have problems palpating the rib, ask the respondent to breathe in very deeply. Locate the rib and as the respondent breathes out, follow the rib as it moves down with your finger. If your respondent has a bow at the back of her skirt, this should be untied as it may add a substantial amount to the waist circumference. Female respondents wearing jeans may present a problem if the waistband of the jeans is on the waist at the back but dips down at the front. It is essential that the waist measurement is taken midway between the iliac crest and the lower rib and that the tape is horizontal. Therefore in this circumstance the waist measurement would be taken on the waist band at the back and off the waist band at the front. Only if the waistband is over the waist all the way around can the measurement be taken on the waistband. If there are belt loops, the tape should be threaded through these so they don't add to the measurement.
We only want to record problems that will affect the measurement by more than would be expected when measuring over light clothing. As a rough guide only record a problem if you feel it affected the measurements by more than 0.5cm. We particularly want to know if waist and hip are affected differently.

8. Lung function Testing

Aim: to get at least one high quality spirometry and a post-bronchodilation measure for each participant. Spirometry testing offers important data on respiratory lung volume and function.
Trained staff should carry out each spirometry session according to the SOP described in the Section below:

During a spirometry maneuver there is a small risk that the participant may faint and hurt him/herself while falling. **Participants must therefore perform the maneuver in seated position, in a chair with arms but without wheels.**

Spirometry will be conducted using the ndd EasyOne Spirometer. This is a highly portable spirometer that measures flow and volume by ultra-sound transit time. It is endorsed by the ERS and complies with ATS spirometry standards.

To ensure data integrity equipment must be regularly cleaned and the calibration checked daily according to manufacturer instructions. **Always check that the EasyOne configuration settings are set to the study parameters and install the Easy Ware software in the English language version.**

During each session the following measures will be collected:

Forced Vital Capacity (FVC)	The total volume of air exhaled in a forced expiratory manouver.
Forced Expiratory Volume at One Second (FEV_1)	The amount of air that a person exhales during the first second of a forced expiratory manouver.
The ratio of FEV_1 to the FVC (FEV_1/FVC)	It is obtained by dividing the FEV_1 by the FVC, and is expressed as a percentage (100 x FEV_1/FVC).
Forced Expiratory Volume at Six Seconds (FEV_6)	The amount of air that a person exhales during the first six seconds of a forced expiratory manouver.
The ratio of FEV_1 to the FEV_6 (FEV_1/FEV_6)	An alternative to the FEV_1/FVC ratio.

These volumes are measured **before and after bronchodilator administration.**

Location

Spirometry testing ideally should be performed in a private, temperature-controlled room. All necessary equipment should be available in the room. Ideally the room should be well lit, preferably with a window, and located in a quiet area of a clinic. For safety, the participant must be seated in a chair with arms but without wheels.

Equipment

The spirometry session should be carried out in a room with the following equipment:

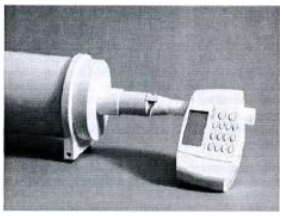
Sink for hand washing, soap and hand towels
Containers of:
Clean mouthpieces (Spirettes)
Nose-clips
Containers to collect:
Used Spirettes
Used nose clips
Box of tissues
Alcohol wipes
Disposal bin
Clinical gloves
Chair with arms/without wheels

Spare AA batteries
EasyOne Spirometer
Calibration syringe & syringe adapter
Bronchodilator (Ventolin)
Drinking water and cups/glasses

Calibration

The EasyOne Spirometer has been designed to need no calibration. The instrument can however develop faults and we request that a calibration check be carried out **daily** during the course of the data collection. Instructions for performing the calibration check are in the ndd EasyGuide technical manual.

The calibration syringe and adapter should always be stored next to the spirometer so that the temperature between them is similar. Contact the co-ordinating center **immediately** if the EasyOne develops a fault.



Medication use prior to testing

In order to provide a valid lung function assessment, participants should be asked to refrain from taking bronchodilators before their clinical visit appointment. The exact omission time depends on the type of medication. The extent to which you are able to ask this of participants may be governed by your local ethics committee

Type of medication	**Avoid for:**
Short-acting beta-2 agonist	4 hours prior to the visit
Anticholinergic inhaler	4 hours prior to the visit
Oral beta-2 agonist	8 hours prior to the visit
Oral theophylline	8 hours prior to the visit
Oral antimuscarin	8 hours prior to the visit
Long-acting beta-2 agonist (Serevent)	12 hours prior to the visit

If the participant has not been able to comply with these waiting periods, the spirometry can be done anyway, AS LONG AS THEY HAVE NOT TAKEN ANY INHALER IN THE HOUR PRIOR TO TESTING. It is preferable that the participant make another appointment if they are willing.

Participants should also refrain from smoking for one hour prior to testing.

Reasons for rescheduling spirometry testing

In some instances, spirometry testing may be contraindicated by a temporary condition that would affect the validity of the maneuver, or endanger the health of the participant. These situations are at the discretion of the investigator/ spirometry technician – examples may include: acute back pain; a respiratory tract infection with unresolved symptoms in the week prior to the visit; or recent dental work.

Ideally, center should postpone testing and should re-schedule the visit for a time when the situation could be expected to be resolved. If participants are brought back later for spirometry testing, but the rest of their data are collected on the first visit, then the Spirometry safety questions must be asked again and the date of spirometry entered onto Questionnaire.

Contraindications for testing

Testing should **not** be done if the subject has or reports any of the following:

- a heart attack in the last three months
- chest or abdominal surgery in the past 3 months
- a detached retina or eye surgery in the past 1 month
- if they are a woman in the last trimester of pregnancy (after week 23)
- any other co-morbidity (such as unstable angina or pneumonia) that, in the opinion of a local clinician, may affect the performance of the test or impact the participant's safety

If a participant has or reports any of the conditions above do not proceed with spirometry. If they agree, participants may be brought back for retesting at a later date.

Method

A detailed description of the use and operation of the ndd EasyOne spirometer, together with instructions for coaching the participant, are included in the ndd EasyGuide users' manual. All study staff who undertake the lung function tests are asked to read this document and to be familiar with its contents and that of this SOP. A copy of this document should be kept with each spirometer in case questions arise during testing.

Always check that the EasyOne configuration settings are set to the study parameters.

A nominated person responsible for configuration of the EasyOne™ should be designated at each clinical site.

Participant information should be entered into the spirometer as prompted. In the ID field enter all digits of the subject's unique ID.

As prompted enter the age, height, weight, ethnic category, gender, smoking status and allocated project staff ID of the person undertaking the test (Always input your same allocated 'Staff ID' -this is your two digit or two figure personal ID or initials, always use the same ID)

If after safety questions it is decided to reschedule the session, ensure that the same questionnaire is recalled for use at the second visit. If testing is to proceed offer participants the opportunity to use toilet facilities before testing. Instruct them to loosen any tight clothing that might restrict inspiration. Testing should be conducted with the participant seated, upright and with chin slightly elevated on a chair with arms but no wheels. The chair is a safety measure to support the participant in case s/he faints during the manouver.

Staff and participants should wash their hands before the start of the test and use a tissue or gloves to remove mouthpieces (the Spirette) from its packaging. Allow the participant to insert the clean

Spirette into the spirometer. Be careful to ensure that the arrow on the Spirette is lined up with the arrow on the spirometer.

All manoeuvres should be performed with the participant wearing a nose clip. This clip prevents air from moving through the nose during the test.

A good rapport with the participant will improve the quality of the test. Explain that the purpose of the test is to take some measurements to check on the health of the lungs. Emphasize that, although the procedure does not hurt, in order to get useful and valid results he/she must breathe out as hard and as fast and for as long as is possible when told to do so, and will need to repeat the procedure a few times.

Pre-bronchodilator test

Lung function testing should be carried out AFTER the 'GETTING READY FOR FENO, SPIROMETRY, REVERSIBILITY AND BIOIMPEDENCE QUESTIONNAIRE' has been completed.

After instructing the participant about the procedure for pulmonary function testing the following procedures (outlined in sections 5.2 to 5.4 of the ndd EasyGuide™ users' manual) should be followed. This initial series of maneuver is performed **BEFORE** administering the bronchodilator.

Explain that the participant should:

- take in as deep a breath as possible
- when his/her lungs are totally full, quickly position the mouthpiece
- BLAST out the air as hard and as fast as possible
- blow out smoothly **without re-breathing.**
- continue exhaling for at least 6 seconds
- throughout they should remain erect and not bend forward

To assist the participant – technicians should give a vigorous demonstration in which they

- demonstrate the correct positioning of the mouthpiece
- take a deep breath and emphasize the full depth of inhalation
- demonstrate dramatic blast out as fast as possible.

Follow the instructions in the box regarding number of blows to be conducted

Baseline spirometry

If after 5 attempts a grade A **or** grade B has been achieved – go on to bronchodilator

If after 5 attempts grade A or grade B **not** achieved continue for 3 further attempts.

As soon as grade A **or** grade B achieved – go on to bronchodilator

If after 8 attempts Grade C achieved – go on to bronchodilator

If after 8 attempts Grade C **not** achieved – go on to bronchodilator

Post-bronchodilator spirometry
All participants to have up to 5 attempts at a full FVC maneuver post-bronchodilator

As soon as grade A achieved – the test is complete

If after 5 attempts a grade A or grade B has been achieved –the test is complete

If after 5 attempts grade A or grade B not achieved continue for 3 further attempts

As soon as grade A or grade B achieved – the test is complete

If after 8 attempts grade C is achieved – the test is complete

If after 8 attempts grade C is not achieved – the test is complete

Administer the bronchodilator

After at least 3 acceptable and 2 reproducible maneuver (see below for definitions of "acceptable" and "reproducible") are obtained, administer **two puffs** of bronchodilator (short-acting beta-agonist, Salbutamol, 100 mcg per puff) to the participant using a standard spacer e.g. Clement Clarke Able Spacer . A new unit should be used for each individual unless appropriate sterilisation procedures are approved by your center, and used units should be disposed of in the appropriate manner.

The following steps should be followed

1. The fieldworker shakes the inhaler and places it on the spacer
2. The participant is asked to exhale fully, tip their chin up slightly and place their lips around the spacer.
3. The fieldworker discharges the inhaler into the spacer using either the middle or index finger, and holding the spacer level and securely with their thumb beneath
4. The participant inhales slowly and deeply to total lung capacity and then hold their breath for 10 seconds
5. The procedure is repeated for steps 2-5

For optimal distribution of the bronchodilator, these steps should be followed carefully. A timer should be set up to sound 15 minutes after the last administered puff.

Addition to protocol:

Adolescent >15 years: Use the same protocol as for adults
Adolescent 10-15 years: A maximum of 5 attempts will be performed, at each of baseline and post-bronchodilator spirometry
Children< 10 years: Only baseline spirometry will be performed, and including a maximum of 5 attempts. (Do not administer bronchodilator and do not perform post-bronchodilator spirometry.)
Grandparents during home visits: Only baseline spirometry will be performed, and including a maximum of 5 attempts. (Do not administer bronchodilator and do not perform post-bronchodilator spirometry.)

Maximum Post-bronchodilator-maneuver

The post-bronchodilator (BD) maneuver, can start any time **after the 15-minute wait, but not later than 30 minutes.** It is not critical that the post-BD maneuver is done immediately at 15 minutes, but rather that it is done at least 15 minutes after the last administered puff of bronchodilator.

Acceptable and reproducible maneuver

"Acceptable" is defined as a manoeuvre that is free from error.

"Reproducible" is defined as being without excessive variability between manoeuvres.

Three acceptable manoeuvres are needed to be 'reproducible'. The two highest values for FVC and FEV_1 taken from acceptable forced expiratory manoeuvres should not vary more than 200 millilitres from the second highest FVC and FEV_1. It is also important to monitor the volume-time curves to determine if the size and shape of the curves are reproducible.

Many factors will result in error, including hesitation or false starts, cough, variable effort, glottis closure, early termination and leaks. When errors do occur, review them with the participant before proceeding with additional manoeuvres. You may wish to repeat a demonstration manoeuvre. Demonstrate the correct placement of the mouthpiece, emphasize the maximum depth of inhalation, and then blast out the air. If the participant tries again and the reproducibility criteria are not met, continue the test as needed (up to a total of 8 manoeuvres), assuming that the participant is able to continue.

When errors occur, review common errors with the participant before proceeding with additional manoeuvres.

Ask the participant to watch the technician perform the FVC manoeuvre again. The technician should demonstrate the correct placement of the mouthpiece, emphasize the maximum depth of inhalation, and then blast out the air. If the participant tries again and the reproducibility criteria are not met, the technician should continue administering the test as needed (up to a total of five manoeuvres), assuming that the subject is able to continue.

Some participants may never be able to provide three reproducible manoeuvres. The goal of each session is to meet the acceptability and reproducibility criteria, but these are not absolute requirements for data to be used.

Spirometer calibration, maintenance and hygiene

The EasyOne spirometer is designed to reduce the need for cleaning and maintenance (see sections 13 and 14 in the EasyGuide users' manual). The surface of the spirometer and cradle may be cleaned by wiping with a damp cloth. If a more thorough cleaning is desired, the spirometer and its spirette cavity may be cleaned with an alcohol wipe or a soft cloth that has been lightly moistened with isopropyl alcohol. **Do not let liquids flow into the Spirette cavity of the spirometer while cleaning.** The disposable Spirette eliminates the need for cleaning the spirometer between patients. The Spirettes are designed for single patient use only, and must be removed and disposed of after each participant. Nose clips should be thoroughly cleaned after each use with hot water and detergent, allowed to dry and then wiped with alcohol.

Participants with evidence of obvious upper respiratory infections should not be tested, but rather asked if they may be tested at a later date.

Beyond battery replacement and the calibration check, the spirometer requires no maintenance. No service should be performed on the spirometer except by manufacturer-authorised personnel.

Data transfer

Centers will be required to have ndd EasyWare PC-software which is compatible with a PC running Microsoft Windows 98/ME/2000/XP. EasyWare software is available in a number of languages, however centres are asked to **install the software in the English language version**. This is important. All databases will be regularly merged with the master database at the coordinating center.

Data should be transferred to a local PC daily. From here they will be transferred to the coordinating center.

Quality Control Checks

At various points during the study the coordinating centers will request spirometry data from each center so that the Spirometry Curves arising from the testing each technician has done can be reviewed. Explicit instruction will be provided to each center at the time for the transfer of anonymous data and a brief report will be provided to each center.

Versions of NDD software
All centres should use the SAME software throughout the period of the study – centres should NOT upgrade during the period of data collection.

Centres buying new NDD will be working with firmware that may be version 6.2 upwards. This is satisfactory

Centres using NDD that have already been purchased should upgrade their machine prior to starting the study to version 5.8.

EasyOne configuration settings

Test settings:

Parameter	
Predicted:	ERS/ECCS
Add.Ped:	'blank'
Value Sel:	Best Value
Interpretation:	OFF or 'blank'
Lung Age:	OFF
Automated QC:	ON
FVC Selection:	FVC
PEF Unit:	L/s
AfricanEthnCorr:	88%
AsianEthnCorr:	100%
HispanicEthnCorr:	100%
OtherEthnCorr:	100%
Storage:	3 Best Curves or 'all curves'

General Settings:

Parameter	
Time Form:	24 hour
Date Form:	DD/MM/YY
Date:	Enter date
Time:	Enter local time
Alpha-ID:	No
Tech.ID:	Yes
SyringeVol:	3.0L
Height Unit:	m/cm
Weight Unit:	Kg
Age/Birth:	Age
LCDContrast:	40% or adjust as needed
Language:	English
Altitude:	0 (or nearest 500meters)
Mode	DIAGNOSTIC
Temperature	°C
Humidity	Best average guess

Report Settings:

Parameter	
Printer:	Set to printer type used
Data:	3 Best Data or 3 Best Values
Curve:	3 Best or 3 best curves
Graph:	Small FV & VT
Headers (1-4)	Enter the headers you want

9. Exhaled Nitric Oxide measures (FeNo)

Aim: to measure exhaled nitric oxide (FeNo) in all participants. It is a quantitative measure of airway inflammation.

Exhaled nitric oxide measures should be made after completion of the 'Getting ready for FENO, spirometry, reversibility and bioimpedence' questionnaire.

Exhaled nitric oxide levels should be measured before other spirometric assessment and before skin prick testing.

The NIOX MINO will be used to make **one** measure of F_eNO

For one hour prior to measurement participants should refrain from
- Smoking for one hour
- Eating or drinking for one hour
- Strenuous exersice

The NIOX MINO should be turned on at least 15 minutes prior to use, and set for a 10 second inhalation. At all times the NIOX Mino should be kept away from
- mobile phones, computers and other electromagnetic forces
- direct heat
- drafts

The mouthpiece is inserted. The procedure should be explained to the participant.

Measurements are made in the sitting position. A mirror should be placed on a nearby table such that participants can see the image of the screen. This will help them know if they are exhaling at the correct speed.

Participants are asked to
- empty their lungs through a single long exhalation
- place their lips around the mouthpiece and take a deep breath until they reach total lung capacity
- without delay participants should then exhale through the mouthpiece, slowly and steadily in such a way as to comply with the audio and visual feedback (keep the 'cloud' between the two horizontal lines) on the NIOX MINO. The NIOX MINO will indicate when 10 seconds is complete.

FeNO is measured at the plateau of expiration and given in parts per billion. This figure will be given on the screen and should be recorded.

If the participant is unable to complete the test at the first attempt this should be repeated. No more than nine attempts should be made. The number of attempts should be recorded.

When the test is complete the mouthpiece should be removed. A new one should be inserted prior to the next test.

The training video should be seen by all fieldworkers as part of their training.
http://www.aerocrine.com/en/niox-mino/Videowindow.html

Addition to protocol:

Grandparents during home visits: No FeNo will be performed.

10. Bioelectric Impedance

Aim: the bioelectric impedance measures the body composition and can define fat from lean mass. It is the aim to have one measure per participant as additional data on metabolic status.
Bioelectric impedence should be measured using a suitable instrument that delivers a 50HZ current and which provides a direct measure of reactance and resistance (not derived values for impedence or fat free mass).

Recommended equipment is

1) new version of the BodyStat 1500 MDD (**NOT** the BodyStat 1500). Each unit has a serial number which can be displayed by holding down the down arrow key whilst switching the unit on at the same time. If the serial number starts 301 then it is the older device and will not display Resistance or Reactance. If the serial number starts 310 then it is the newer device and will display Resistance and Reactance. (NB the BodyStat 1500 is NOT suitable as it does not display reactance or resistance)

The following participants should not have their bioimpedence measured

1) Women who are pregnant
2) Those who have a pacemaker or defibrillator
3) Those who have cardiac failure, renal disease or liver disease such that they have visible oedema of the legs, or ascites.

Participants should refrain from drinking in the hour prior to measurement.

Participants should
Remove all metal jewellery from their body and any metal objects from their pockets.
Remove their right shoe and any socks or stockings on the right foot
Lie on their back on a non-conductive surface (examination table, bench, carpet)
Relax and lay their head back
Place their feet 20 to 25 centimeters apart, ensuring the upper inner thighs are not touching
Place their hands 10 centimeters or more from their sides so that the inner upper arm is not touching their torso

The fieldworker should now place sensor pads on the participant's right hand and right foot.

The sensor pads on the hand are placed

1) midway along an imaginary line running from the head of the ulna to the head of the radius with one half of the pad above the line and one half below the line and with the tab facing way from the body and
2) about 1cm above the knuckle line towards the middle of the hand with the tab facing way from the body

The sensor pads on the foot are placed

1) midway along an imaginary line over the crest of the ankle and connecting the lateral and medial malleoli with one half of the pad above the line and one half below the line and with the tab facing way from the body
2) about 1cm above the toe line towards the middle of the foot and with the tab facing way from the body

The fieldworker should check that the electrodes are properly adhered to the participant skin with at least 75% of the pad in contact with the skin.

Measures will be made at 50 HZ.
Reactance and resistance at 50HZ should be recorded.

Two readings should be made, checking the positioning of all electrodes and the position of the participant prior to the second reading
Phase angle, total body water, fat mass and fat free mass will be calculated as derived variables using available relevant formulae available at the time of the analysis.

11. Skin Prick Testing

Aim: the skin prick testing gives immediate results on allergic sensitization to different allergens applied. Participants are given the results home.
Skin prick testing will be carried out using skin testing reagents and standard lancets available from ALK-ABELLO.

Twelve allergens will be tested in all centers plus a positive and negative control.

Each subject will be skin tested using the following panel of allergens at the stated concentration. In centers where for local reasons it is impossible to comply with this protocol the details of the deviation form protocol should be clearly stated on the Centre Equipment List Inventory.

Timothy Grass	10 HEP
Ragweed	1:100 W/V
D. pteronyssinus	10 HEP
Cat	10 HEP
Birch	10 HEP
Blatella (German Cockroach)	1:100 W/V
Olive	30HEP
Alternaria	1:20 W/V
Dog	10 HEP
Cladosporium	1:20 W/V
Parietaria	10 HEP
D. farinae	10 HEP
Positive Control	10mg/mL histamine
Negative Control	0.9% saline

Addition to protocol:

Children<10 years
Six allergens will be tested in all centers plus a positive and negative control.

Children<10 years will be offered local anesthetic (Emla cream / patch) before skin prick test. The cream / patch should sit 1 hour before removing it. Any residue on the skin must be removed prior to skin prick test.

Timothy Grass	10 HEP
D. pteronyssinus	10 HEP
Cat	10 HEP
Birch	10 HEP
Dog	10 HEP
Cladosporium	1:20 W/V
Positive Control	10mg/mL histamine
Negative Control	0.9% saline

Grandparents during home visits: No skin prick test will be performed.

Equipment

Skin test solutions must be stored at +4°C when not in use.

Other necessary equipment:

- skin test grid for application of tests
- lancets
- tissues
- sink, soap, hand towels
- sharps bin
- transparent scotch 3M tape at least 25 mm wide
- ball-point pen or fine felt tip pen
- timer with alarm.
- antihistamine cream
- Skin prick test results sheet

A template for the skin test grid is provided. This can be printed onto transparent paper (such as overhead projection paper) and then the grids cut out as required. The same grid can be used for several different participants, so long as they are cleaned with water and detergent and then wiped with alcohol between uses.

Method

Skin prick testing should be carried out after measurement of exhaled NO

Fieldworkers should firstly ask question 1 on the skin prick test data collection sheet, recording the time of last use of antihistamine medication

Trained study staff should carry out the skin testing according to the following instructions:

Wash hands and apply clinical gloves

1. Place a clean test grid on volar surface of the forearm and fix with transparent or surgical tape. Mark the orientation of the grid on the subject's arm (e.g. mark top and bottom of grid).

2. Place a small drop of skin testing solution in the center of each grid square. (Apply the skin test allergens in the same order during each test.)

3. Un-wrap a lancet according to manufacturer's instructions. Hold the lancet at 90^{o} to the skin and with the forefinger press through the drop against the skin for at least 1 second. Very little pressure is required. A small impression may be briefly visible on the skin. The skin should not be broken to the extent that blood is drawn. Always apply the same pressure.

4. Remove the lancet with an upward motion and discard into a sharps container.

5. Change the lancet skin puncture device between each allergen test sites to avoid false positive results.

6. Remove the skin test grid. Blot any excess solution with tissues taking care not to cross-contaminate the tests.

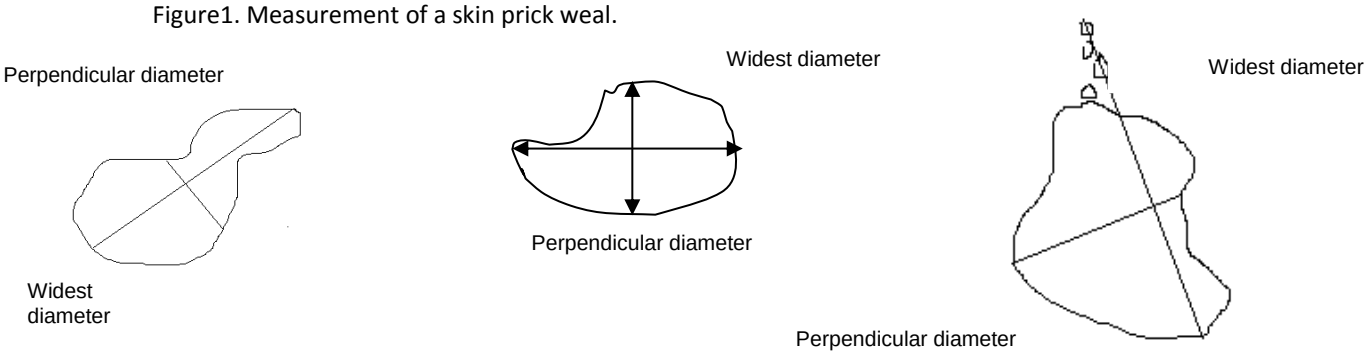
7. Set the timer alarm and read the results after 15 minutes. During this wait, review the self-administered questionnaires.

8. To record the results of the skin prick test draw around the perimeter of each of the wheals with a ballpoint pen or fine felt-tip pen. Always draw in the same order as the application of the tests.

9. Press a strip of transparent Scotch tape against the skin and transfer the prints to the grid on the results sheet. The transfer should always be placed at the same orientation marked on the grid.

10. From the transfer, first measure the weal diameter (mm) at its widest. The second diameter is called the 'perpendicular diameter'. This should be drawn at 90^{o} to the first diameter and **at the mid-point** of the first diameter. The second diameter may therefore not necessarily be at a wide point on the weal. Record both diameters to the nearest whole millimeter on the results sheet.

Figure1. Measurement of a skin prick weal.



11. When rounding to the nearest whole millimeter use the
(1 mm), 1.5- 1.9 mm round up,(2 mm).

12. If the participant has itchy and uncomfortable wheals after testing, reassure them that they will normally resolve after ½ hour and apply antihistamine cream as required.

Other measures of skin prick test reactivity
Computer software that can scan the skin prick test record sheet is available. All centers should preserve their skin prick testing sheets so that this approach to wheal measurement can be used at an unspecified point in the future.

Training
Project study staff must be trained to perform skin tests consistently and in a standardized manner. Before starting the study, staff should perform two histamine skin tests on each of 10 participants (total 20 tests done by each trainee).

The results can be recorded on the allergy skin test training sheet supplied.

Participants can be tested with allergens if they wish, but only the histamine weal results need be recorded for the purpose of the training.

Trained staff should have a coefficient of variation (CV) of less than 30%.
The coefficient of variation of each staff member is carried out as follows:

Calculate the log to base e of each mean weal diameter recorded in mm.
If there are exactly two skin tests carried out on each participant:
Use the following formula to calculate the CV:

$$CV = \sqrt{\frac{\Sigma(d^2 / 2}{n}} \times 100$$

where
d = difference between two $\log_e$ values for each participant
n = number of participants

Use the coefficient of variation calculation sheet provided in Appendix 14

If there are not exactly two skin tests for each participant:
A between participant one-way analysis of variance can be carried out using a suitable computer program or calculator. Obtain the residual mean square, take the square root and multiply by 100 to obtain the CV (%).

Trainees should also administer the entire panel of allergens on five occasions and record them on a skin prick test result sheet (as per Method sub-chapter) before starting data collection with study participants. Document that this training has taken place.

12. Skin sampling and storage procedure

Aim: is to sample skin microbiome from two different locations for bacterial DNA extraction.

Sampling in general

- Use good lighting
- Examine the sampling area carefully
- Use aseptic technique, gloves may be used, but avoid contamination of the gloves; if one glove comes in contact with the sampling area you must change it before sampling from the next site
- The samples will be taken from the subjects writing hand

Equipment
Sterile supplies to include (but not limited to) tubes, pipets, and all buffer/reagents

- Sterile gloves
- 2 ml sterile tubes (e.g. Mikrorør safelock Biopur 2ml EPPE0030121.597)
- Sterile Catch-All™ Sample Collection Swab
- Glass or tube filled with sterile specimen collection fluid to moisten the swabs

- Sterile scissor
- Specimen collection fluid: 50 mM Tris buffer [pH 7,6], 1 mM EDTA [pH 8,0] and 0,5% Tween-20
- Sterile phosphate buffered saline (PBS)

Sample collection and laboratory procedure:

1. *First sample – inner elbow*

The sample is taken from the flexion crease with a Catch-All™ Sample Collection Swab moistened with sterile specimen collection fluid
a. Stretch the skin taut with one hand
b. With the other hand hold the swab parallel to the skin surface and rub back and forth approximately 25 times while you press the swab firmly against the skin
c. Insert the swab head into the sterile tube containing approx. 300 µL of sterile BPS – or enough PBS to cover the collection head
d. Cut the head of the swab with a sterile scissor and screw the tube cap in place
e. Label the tube with the subjects' id, date and sampling site
f. Freeze the sample directly at -20°C followed by storage at -80°C

2. *Second sample – dorsal side of the hand*

The sample is taken midway between the wrist and MCP-joints with a Catch-All™ Sample Collection Swab moistened with sterile specimen collection fluid
a. Ask the person to tighten fist in order to stretch the skin
b. Hold the swab parallel to skin and rub back and forth approximately 25 times while you press the swab firmly against the skin
c. Insert the swab head into the sterile tube containing approx. 300 µL of sterile BPS – or enough PBS to cover the collection head
d. Cut the head of the swab with a sterile scissor and screw the tube cap in place
e. Label the tube with the subjects' id, date and sampling site
f. Freeze the sample directly at -20°C followed by storage at -80°C

Field blanks: Store tubes with Sterile Catch-All™ Sample Collection Swab (without sample) and 300 µL PBS buffer - which has been handled in the same way as in the sampling procedure. Prepare 1 field blank sample once or twice a month for the duration of the project period. The field blanks can be used to determine external contamination.

Note the following:

- Single blister, pustule, boil, abscess, erosion, ulcer, scab, cut crack or pink/hyper-pigmented patch or plaque at or within 4 cm of the sampling site
- Disseminated rash (at multiple sites or a broad area)

Check sheet ->fill out before taking the samples

	YES	NO
Used local antibiotics or steroids on arms and/or hands last 7 days		
Blisters/pustules/boils/abscesses erosions/ulcers on hands and/or arms		
Blister/pustule/boil/abscess/erosion/ ulcer/scab/cut/crack/pink or hyperpigmented patch/plaque at or within 4 cm of the sampling sites		
Thickened, cracking, "dry" skin on palms		
Disseminated rash		

13. Microbiome/Gingiva Sampling

Aim: is to sample oral microbiome from the gingiva for bacterial DNA extraction.

Supplies:

- Sterile Paper-points: Protaper Universal Paper-Points F4 and F5 (F4: Ø40 and F5: Ø50)
- 2 ml Microtubes safelock Biopur (2 tubes)
- Sterile mirror and sterile tweezers
- Sterile gloves
- Surgical face mask

Sterile Procedure: Right hand must be sterile through the whole procedure. Left hand semi-sterile.

Sample collection:

Use the mirror to hold the lip(s) aside/apart. The sterile paperpoint is introduced (with sterile tweezer or hand with sterile glove) in the gingival area, between the gingiva and the tooth, alongside the tooth, hold there for 5 seconds.
One paper-point is inserted at each of the following places, in both the upper and lower mouth:

1. Between the two frontal teeth
2. Left frontal tooth, lateral side
3. Right frontal tooth, lateral side
4. Left molar number 6, facing molar number 5*
5. Right molar number 6, facing molar number 5*

*If molar number 6 is missing, use molar 5

Paperpoints are then placed in sterile tubes (to be opened and closed with the left hand);
one tube for the 5 samples (paperpoints) from upper mouth,
one tube for the 5 samples (paperpoints) from lower jaw,
marked separately.

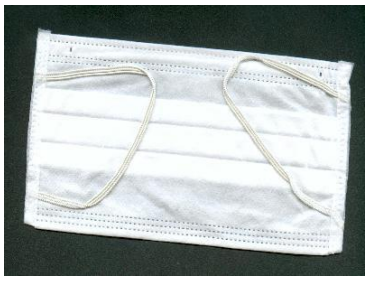
Storage: Freeze the sample directly at -20°C followed by storage at -80°C

If also measuring CPI index, the gingival procedure should be done before the CPI measure to reduce contamination i.e. with blood.

14. CPI index

Aim: to measure pockets…..

Materials:



- Periodontal probe; every 3 mm the color changes, to measure depth
- Tweezers
- Mirror
- Paper points for samples (saliva or crevicular fluids)
- Cotton rolls

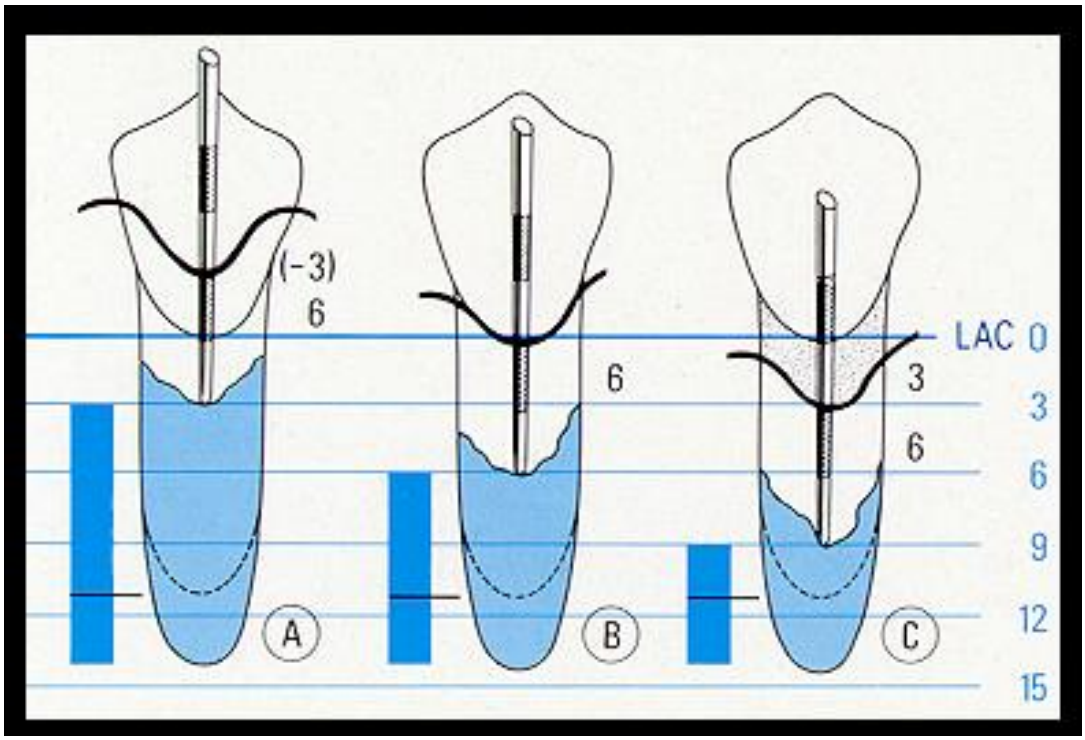
- Virkon + H2O, for sterilisation of instruments
- Gloves, masc
- Compresses, to wipe instruments during the process

Addition to protocol:

Grandparents during home visits: No CPI will be performed
4. Generation: No CPI will be performed

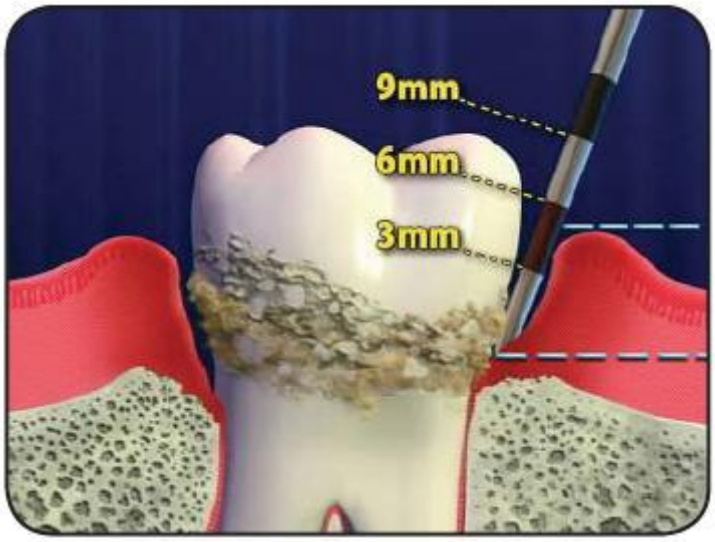
How can we measure the pockets?

To measure depth, we introduce the probe in the sulcus beetwen the tooth and gums, with a force of about 25 grams.



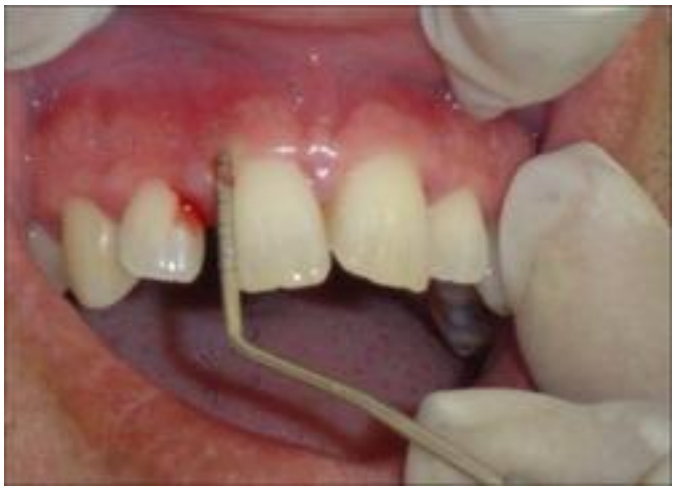
A. Health status, the probe only enter less than 3 mm, biological space distance.
B. Probe introduces more tan 3mm, so there is a bone loss and then also a periodontal pocket.
C. There is a deeper pocket, 9mm, and of course worst status of periodontal disease, we have lost more attachment bone.

We introduce the probe from the LAC (the end of the crown) to the bone, and use the colour code of the probe to measure the depth of the pocket, like the drawing shows.



How to measure bleeding?

We measure in four points in the perimeter of the tooth, and after 5 seconds we have to see if its bleeding or not.

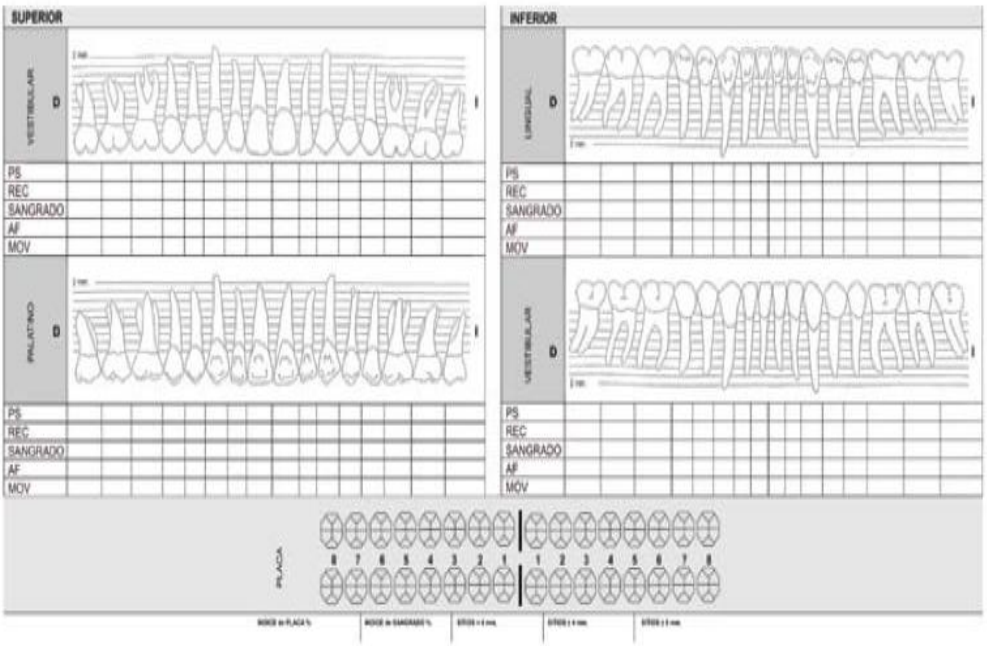


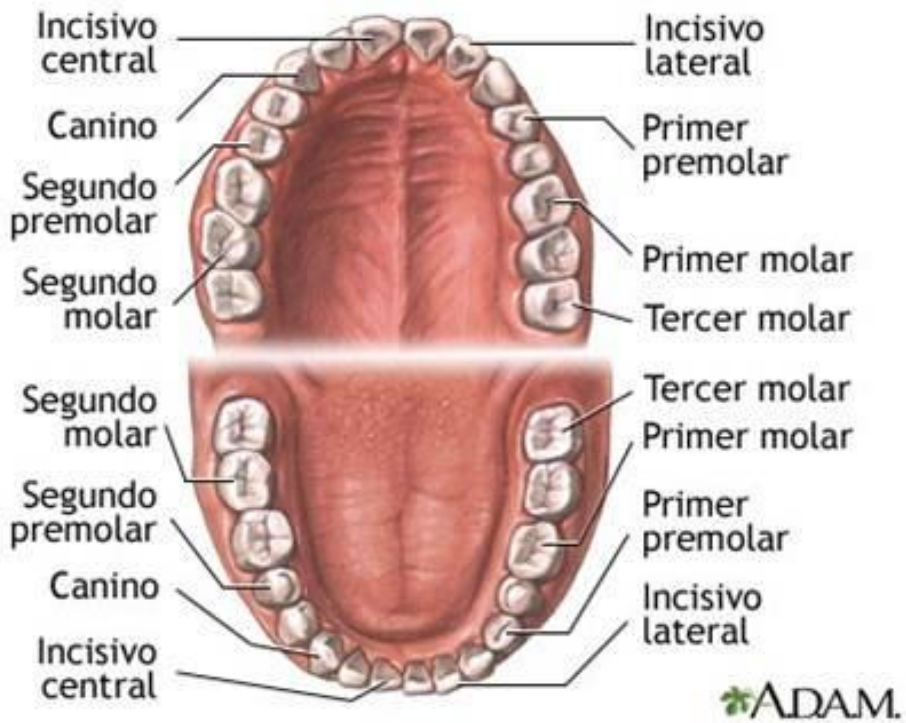
What should we do if there isn´t the tooth that we want to measure?

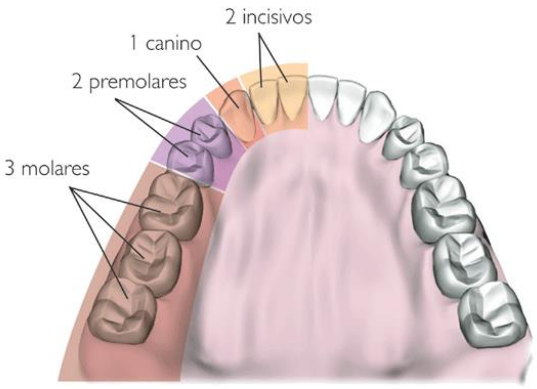
We mark it as lost tooth “no tooth”.

Where will we record the information?

In dentistry every tooth has a number:







We will measurement ten teeth, and for each tooth register the Community Periodontal Index (CPI) in this table:

17	16	11	26	27
47	46	31	36	37

Coding of the CPI index :

Codes	Periodontal Condition
0	No bleeding No calculus No pathological pocket
1	Bleeding on probing gingival margin No calculus No pathological pocket
2	Presence of calculus (sub or supra gingival) with or without bleeding. No pathological pocket
3	Pathological pocket of 4-5 mm with or without bleeding and calculus
4	Pathological pocket of 6 mm or more with or without bleeding and calculus
9	Tooth missing

15. Venesection

Aim: to collect blood samples for various testing of biomarkers for inflammation, cardio-metabolic biomarkers, Ig E etc. (see table xx). The blood samples will partly go into a biobank for long-term storage and future analyses. Certain analyses will be performed within a short timeframe.

The aim is to collect blood for the following samples (in order of priority) using standard venesection techniques. Staff should be trained and insured to carry out Venepuncture according to local requirements.

Addition to protocol:

Children and adolescent will be offered local anesthetic (Emla cream / patch) before venepunction. The cream / patch should sit for 1 hour and be removed 10-15 minutes prior to venepunction.

Vacutainer	Size	Processing	RPM/min	Bio-materials	Child<10 years	Adolescent>10 years	Adult>18 years
EDTA	4 ml	Direc freeze		Fullblood	X1	X1	X1
EDTA	10 ml	Direct spin	4200 10 min	Plasma (4 ml++ store in 4,5 ml tube) + packed cells (freeze in 10 ml vacutainer)	0	X1	X1
EDTA	4 ml	Direct spin	4200 10 min	Plasma (2x 1 ml++, store in 2 ml tubes)	0	X1	X2
EDTA	4 ml	Direct spin	4200 10 min	Plasma (1 ml++, store in 2 ml tubes)+ packed cells(freeze in 4 ml vacutainer)	X1	0	0
Gel-glas	8.5 ml	>30min <1 hour	3400 10 min	Sera (1x 4 ml++, store in 4,5 ml tube)	0	X1	X1
Gel-glas	5 ml	>30min <1 hour	3400 10 min	Sera (1 ml++, store in 2 ml tubes) as many as possible	X2	X1	X1
Gel-glas	8.5 ml	>30min <1 hour	3400 10 min	Sera (1 ml++, store in 2 ml tubes) as many as possible	0	0	X1

2mLs of serum will be sent at -20°C for measurement of total IgE, serum specific IgE for environmental allergens and for food allergens.

Remaining samples will be used for further as yet unspecified research. Further ethical approval will be required from Research Ethics Committees when the precise nature of this future research is agreed.

Equipment required

Clinical gloves
Sharps bin

Tourniquet
Cotton Wool swabs
Plastic storage tubes 6 X 2ml
Small receiver
Spot plasters/micropore
Blood spillage kit
Barcode stickers
Checklist for order of draw
Washable pillow
Suitable couch or chair (with arms and without wheels).
Tube rack (if the field)
BD Vacutainer™ Plastic Blood Collection Tubes,

All study project centers are asked **to use the same** BD Vacutainer Plastic Blood Collection Tubes where possible. These contain either anticoagulant or clot activator and therefore require immediate mixing following collection.
Explain the procedure to the participant and ascertain if they may feel faint when giving a blood sample. If so, ask them to lie down. Otherwise they should be positioned comfortably with their arm straight and resting on a hard surface or pillow.

Wash your hands and apply gloves.

Using a tourniquet, locate a suitable vein for venepuncture (median cubital, basilic or cephalic)

Insert vacutainer needle into holder.

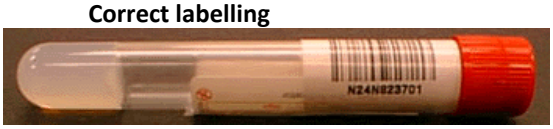
Insert needle into vein, insert first bottle into vacutainer holder, pushing it firmly into place and ensuring it pierces rubber stopper allowing the vacuum to be completely filled.

Remove bottle from holder, keeping needle situated in the vein and continue to fill the blood bottles in correct order of draw. **Mix each blood tube as required before inserting a new tube.** The exchange of vacutainers should be smooth and the final blood tube removed prior to the needle being withdrawn from the vein.

When draw is complete, remove the tourniquet and gently withdraw the needle from the vein and place cotton wool swab firmly over the puncture site. Apply pressure to the puncture site for approximately half-a-minute.

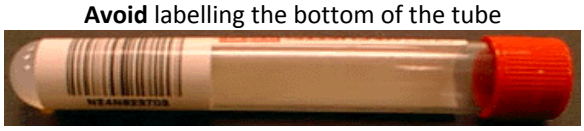
Dispose of sharps directly into a sharps bin and transfer other contaminants to a clinical waste bag. Ensure that the outside of the blood bottles are free from blood. Label the EDTA tube with one of the subject's ID bar-coded stickers. Ensure that the sticker is aligned lengthways and at the top of the blood tube, that is, with the longer end of the sticker placed lengthways along the tube so that the entire barcode and ID number are visible, flat and not obscured by any overlap.

Correct labelling

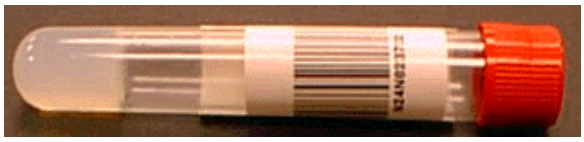


Incorrect methods

Avoid labelling the bottom of the tube



Do **not** wrap labels around the tube



Avoid wrinkles, folds or tears in label

Avoid incomplete or illegible labels

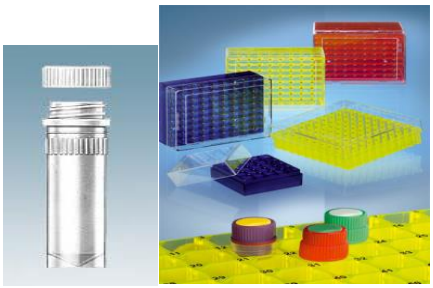
It is not necessary to barcode label the serum collection tubes as they will be disposed of after centrifugation (carefully write the ID code onto the serum bottles).

<u>Preparation of serum sample</u>

Equipment
Fridge
-20ºC freezer (with thermometer)
Swing head or fixed angle centrifuge
2ml (Sarstedt) storage tubes – (or tubes suitable for -20ºC freezing and that can fit 24x13mm labels) and lids
Sarstedt tube storage boxes
Laboratory safety equipment (lab coat, glasses, gloves)
Disposable graduated 3ml pipettes
Barcode stickers
Barcode reader
Laboratory sample logbook
Results sheet

Samples ***may*** be stored in a fridge overnight before they are centrifuged. This should only be the case if for example it is late in the evening and the technician needs to go home. Samples should be spun **first thing** the following morning.

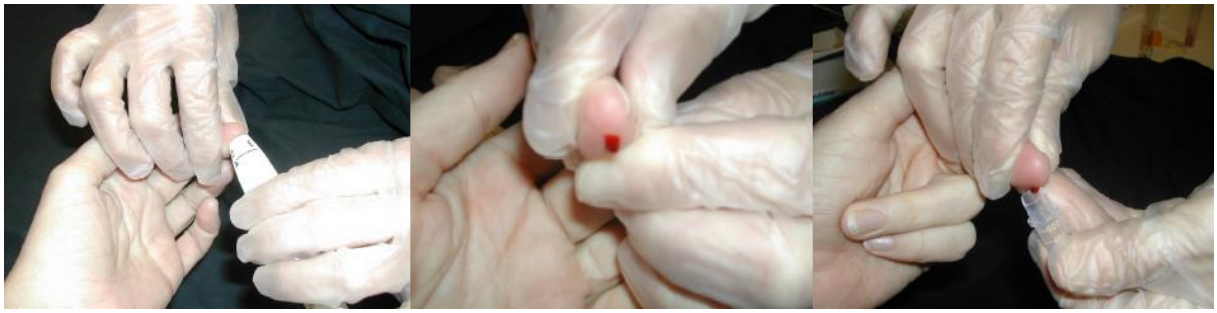
Sample storage tubes must be labeled with the correct ID barcode label. Stick the label lengthways on the tube. **Do not wrap the label around the tube** (ensure that the whole of the bar code and ID are visible).



Store the sample tubes in a carefully labeled storage box at -20ºC making appropriate record in the sample log book.

It is important to maintain an **impeccable sample logbook**. Copies of it will be required during sample shipment.

16. Capillary blood sampling



1. Make sure the participant's hand/finger is warm. If not, spend some extra time warming the puncture site.

2. Skin puncture of the non-dominant hand is preferred. Avoid pricking the thumb or index finger.

3. The site of the puncture should be lateral to the bulb of the finger.

4. After puncturing, wait for 5-10 seconds before slightly squeezing the finger to get a drop of blood.

5. Always wipe away the first drop of blood.

6. Don't squeeze the proximal finger joint.

7. If blood flow is inadequate, gently massage the proximal portion of the finger to increase blood circulation, then press firmly on the distal joint of the finger.

8. Touch the tip of the collection container to the blood drop, and draw the blood sample.

9. Compression of the puncture site will give faster healing and less scaring.

10. In cases of poor peripheral circulation, capillary blood sampling is unsuitable.

Addition to protocol:

No capillary blood sample for Adolescent and Child

17. Urine collection

Aim: to collect at least 10 ml of urine from each participant and from this to prepare urine samples for long term storage at -80°C.

COLLECTION AND STORAGE OF URINE SAMPLES
Only polypropylene materials should come in contact with urine.
Make sure not to use triclosan-containing soap or other triclosan-containing products before handling the urine samples.
Supplies:

- Atago Urine Specific Gravity Refractometer, PAL 10-S, ATAGO U.S.A., Inc., WA 98005 USA
- BD Vacutainer® Plus Urinalysis Preservative Tubes (Ref # 364992)
- 2 or 5 ml polypropylene tubes (Bergen use 5 ml tubes)
- Labels
- If printed labels are not available: Black ink pen (permanent) or cryomarker
- Glass pipettes and rubber bulb
- Powderless exam gloves (nitrile)

Urine collection

Obtain urine specimen from subject in sterile urine cup (polypropylene). Label cup with study ID, time and date of specimen.

- Preferable to collect urine at the same time for each participant –first morning void is optimal. If this is not possible, make sure to register at what time during the day the urine was collected.

Laboratory processing

Wait at least 15 minutes: do not use material which is over 30°C

1) Measure urine specific gravity in the sample. Record results on sample log-sheet.
   - Use a handheld refractometer (Atago Urine Specific Gravity Refractometer, PAL 10-S, ATAGO U.S.A., Inc., WA 98005 USA). Calibrate refractometer before each use. Shake the urine sample well before measuring urine specific gravity (e.g. 8-10 times by inversion).

2) Pipette 8 mL urine into 1 BD Vacutainer® Plus Urinalysis Preservative Tubes
   - Fill tube between the minimum and maximum fill lines on the tube label
   - Replace the stopper securely and mix tube 8-10 times by inversion
   - Place sample in freezer at - 80°C

3) Pipette remaining urine sample into 2 or 5 ml polypropylene tubes.
   - Leave some room between urine and cap. Screw caps on tubes on snugly.
   - Place sample in freezer at - 80°C. Store all samples upright in special storage boxes.

Store as many tubes your budget/space permit. (Analyses of chemicals such as phthalates and phenols require approximately 2 mL sample volume).
If space permits: Remaining urine can be pooled and used as positive controls.
Discard urine cup appropriately. Remove gloves and wash your hands. Document urine specimen in logbook: study ID, time and date of specimen, urine specific gravity, number of aliquots/tubes (and size of aliquots if these vary).
NB! Prepare field blank specimens at various times during the process (e.g. once each month or week depending on the duration of project). Field blanks can be prepared with deionized water processed using the exact same protocol as the study samples and stored in 1 BD Vacutainer Urinalysis Preservative Plus Urine Tubes and in 1 polypropylene tube).

18. Salvia sampling

Aim: to collect salvia for bacterial and individual DNA extraction.

Supplies:

Sterile supplies to include (but not limited to) tubes, pipets, pipet tips, and buffer

- Sterile gloves (for handling of samples in the lab)
- Falcon, 50 mL sterile conical polypropylene tubes for collection
- 2 ml Microtubes safelock Biopur (2-3 tubes)
- Sterile phosphate buffered saline (PBS)

Sample collection:

The subject should hold the sterile collection tube (Falcon) himself/herself. Subject is asked to swallow and sit with the head down to allow saliva to collect and then drain off the lower lip into the Falcon tube. The subject should avoid touching the top of the tube and inside the cork. The collection period may take several minutes or may be repeated in order to collect larger volumes of saliva (aim for a minimum of 2 mL).
Laboratory procedure:

1. Immediately mix the sample with equal volume of sterile PBS buffer (but a minimum of 300 µL)
2. Mix saliva and buffer in the tube by inversions 8-10 times
3. Transfer sample to 2 ml tubes (minimum 2 tubes)
4. Label the tube with the subjects' id, date and sample type
5. Freeze the samples directly at -20°C followed by storage at -80°C

Field blanks:

Store tubes with PBS buffer (without samples) - which has been handled by the same procedure as in the preparation for sample storage. If the samples are collected in Falcon tubes and then transferred to smaller tubes, do the same procedure for the field blank samples (but with PBS buffer only in the tube). Prepare 1 field blank sample once or twice a month for the duration of the project period. The field blanks can be used to determine external contamination.

19. Dust sampling

Aim: to have dust samples of each participant's home for testing of allergens and microbiome.
The participant or parents of the participants were asked if they are willing to place a dust sampler at home in the invitation letter. They indicate on the consent form, if they agree.
When the offspring comes to the center he/she receives:

1. Dust sampler – labelled with the participants name.

2. Information sheet with instructions on how to place the sampler, how to access the accompanying questionnaire (if web-version is chosen /web-link) and how to return the sampler.

3. A pre-paid envelope for returning the sampler per post

The parent/participant is informed at the center on how the samples should be placed according to the information sheet. It is important to specify time limits for how long sampler should be displayed. They are given information about the questionnaire which is available online or as a paper version, as well as the option of returning a paper version of the questionnaire to the study center along with dust sampler in the pre-paid envelope.
Reminders to send back the dust sampler will be sent automatically through CheckWare for those study centers using the web solution.

Addition to protocol:

Grandparents during home visits:
Will not be asked to place dust samplers

20. Getting ready questionnaire

Adult

Centre ID

		NO	YES
1	Have you had a cigarette in the last hour?		
2	Have you eaten in the last hour?		
3	Have you undergone any strenuous activity in the last hour?		

If no to questions 1-3 – participant is ready for FeNO test
If yes to any of questions 1-3 - consider if the FeNO test can be delayed –
If it cannot be delayed please test FeNO

4	Does the participant have visible oedema of the lower leg or ascites (fluid in the abdominal cavity): Please check		
5	Do you have a pacemaker or implanted defibrillator?		
6	Are you pregnant?		

If yes to questions 4-6 this participant <u>should not</u> have bioimpedance measured

7	Are you in the last trimester of pregnancy?		
8	Have you had surgery on your chest or abdomen in the last three months?		
9	Have you had a heart attack within the past 3 months?		
10	Have you been hospitalised for any other heart problem within the past month?		
11	Do you have a detached retina or have you had any eye surgery in the past 3 months?		
12	Does the participant have a resting pulse of greater than 120 beats per minute?		
13	Are you being treated for tuberculosis?		

If yes to any of questions 7-13 participant should not have spirometry measured

		NO	YES
14	Have you had a respiratory infection (cold) in the last three weeks?		

If yes: How many days ago did it end? DAYS

		NO	YES
15	Have you used an inhaler in the last **24 hours?**		

If YES:

15.1 What inhaler(s) did you use and how many hours ago did you use it? *(if used combined please enter each component)*

	DRUG (ENTER CODE)	HOURS
.....		
.....		
.....		
.....		

		NO	YES
16	Have you used any other medicine (including pills, capsules or suppositories) to help your breathing or any oral anti-muscarinic in the last 24 hours?		

If YES:

16.1 What medicines did you use and how many hours ago did you use it?

	DRUG	HOURS
.....		
.....		
.....		
.....		

17 Have you used any allergy tablets (antihistamines) in the last 24 hours? **NO** ☐ **YES** ☐

18 How long is it since you last ate? **HOURS** ☐ **MINUTES** ☐

19 When was the urine sample taken (hh:mm)? ☐☐

20 If the participant is a woman, does she have menstrual periods? **NO** ☐ **YES** ☐

Coding system for 'Getting ready for FENO, spirometry, reversibility testing, and bioimpedence'

Question 15

1	Short acting beta 2 agonist
2	Long acting beta 2 agonist
3	Short acting anti –muscarinic
4	Long acting antimuscarinic
5	Inhaled cromoglycate/nedocromil
6	Other
7	Inhaled steroids or combination products with steriods

Question 16

1	Oral beta 2 agonist
2	Oral methylxanthine
3	Oral steroids
4	Oral anti-leukotrienes
5	Other

21. Getting ready questionnaire

Adolescent

Centre ID

		NEI	JA
1	Har du røykt siste timen?		
2	Har du spist siste timen?		
3	Har du hatt anstrengende fysisk aktivitet siste timen?		

Hvis NEI til spørsmål 1-3: deltager er klar for FENO

Hvis JA til noen av spørsmålene 1-3: vurder om FENO kan bli utsatt. Hvis ikke utsettelse er mulig, kjør FENO

4	Har du en pacemaker eller hjertestarter implantert?		
5	Hvis deltageren er over 15år: Er du gravid?		

Hvis ja til noen av spørsmålene 4-5, skal bioimpedanse ikke utføres

6	Hvis ja på spørsmål 5: Er du i svangerskapets siste trimester?		
7	Har du fått utført kirurgi på bryst, mage eller øye de siste tre måneder?		
8	Har du vært innlagt på sykehus for andre hjerterelaterte problemer siste tre måneder?		
9	Blir du behandlet for tuberkulose?		

Hvis ja til noen av spørsmålene 6-9, skal deltageren ikke utføre spirometri

		NEI	JA
10	Har du hatt en luftveisinfeksjon(forkjølelse) de siste tre uker?		

Hvis JA til spørsmål 10:

		DAGER
10.1	Hvor mange dager er det siden du ble frisk?	

		NEI	JA
11	Har du brukt inhalator siste 24 timer**?**		

Hvis JA til spørsmål 11:

		Medikament (skriv kode)	Timer
11.1	Hvilken inhalator(er) bruker du og hvor mange timer er det siden du brukte den? (Ved kombinert bruk beskriv alle du har brukt)		
	.....		
	.....		
	.....		
	.....		

		NEI	JA
12	Har du brukt noen annen medisin (inkludert tabletter, kapsler eller stikkpiller) for å hjelpe deg med pusten de siste 24 timer?		

Hvis JA til spørsmål 12:

		Medikament (skriv kode)	Timer
12.1	Hvilke medisiner brukte du og hvor mange timer er det siden du brukte dem?		
	.....		
	.....		
	.....		
	.....		

		NEI	JA
13	Har du brukt allergitabletter (antihistaminer) de siste 24 timer?		

		TIMER	MINUTTER
14	Hvor lenge er det siden du spiste sist (hh:mm)??		
15	Når ble urinprøve tatt (hh:mm)?		

		NEI	JA
16	Hvis deltaker er kvinne, har hun menstruasjon nå?		

Kodesystem for **' gjør deg klar for FENO, spirometri, reversibilitets-test og bioimpedans**

Spørsmål 11

1	Korttidsvirkende beta2agonist
2	Langtidsvirkende beta2agonist
3	Korttidsvirkende antikolinergika
4	Langtidsvirkende antikolinergika
5	Inhalert cromoglycate/nedocromil
6	Andre
7	Inhalasjonssteroider/kombinasjonspreparat

Spørsmål 12

1	Peroral beta2agonist
2	Peroral methylxanthine
3	Perorale steroider
4	Perorale anti-leukotriener
5	Andre

22. Getting ready questionnaire

Child

Centre ID | | | | | |

		NEI	JA
1	Har barnet spist siste timen?		
2	Har barnet hatt anstrengende fysisk aktivitet siste timen?		

Hvis NEI til spørsmål 1-2: deltager er klar for FENO

Hvis JA til noen av spørsmålene 1-2: vurder om FENO kan bli utsatt. Hvis ikke utsettelse er mulig, kjør FENO

3	Har barnet en pacemaker eller hjertestarter implantert?		

Hvis ja til spørsmål 3, skal bioimpedanse ikke utføres

4	Har barnet fått utført kirurgi på bryst, mage eller øye de siste tre måneder?		
5	Har barnet vært innlagt på sykehus for andre hjerterelaterte problemer siste tre måneder?		
6	Blir barnet behandlet for tuberkulose?		

Hvis ja til noen av spørsmålene 4-6, skal deltageren ikke utføre spirometri

		NEI	JA
7	Har barnet hatt en luftveisinfeksjon(forkjølelse) de siste tre uker?		

Hvis JA til spørsmål 7:

		DAGER
7.1	Hvor mange dager er det siden barnet ble frisk?	

		NEI	JA
8	Har barnet brukt inhalator siste 24 timer**?**		

Hvis JA til spørsmål 11:

		Medikament (skriv kode)	**Timer**
8.1	Hvilken inhalator(er) bruker barnet og hvor mange timer er det siden barnet brukte den? (Ved kombinert bruk beskriv alle du har brukt)		
	.....		
	.....		
	.....		
	.....		

		NEI	JA
9	Har barnet brukt noen annen medisin (inkludert tabletter, kapsler eller stikkpiller) for å hjelpe seg med pusten de siste 24 timer?		

Hvis JA til spørsmål 12:

		Medikament (skriv kode)	**Timer**
9.1	Hvilke medisiner brukte barnet og hvor mange timer er det siden barnet brukte dem?		
	.....		
	.....		
	.....		
	.....		

		NEI	JA
10	Har barnet brukt allergitabletter (antihistaminer) de siste 24 timer?		

		TIMER	**MINUTTER**
11	Hvor lenge er det siden barnet spiste sist (hh:mm)?		
12	Når ble urinprøve tatt (hh:mm)?		

Kodesystem for **' gjør deg klar for FENO, spirometri, reversibilitets-test og bioimpedans**

Spørsmål 8

1	Korttidsvirkende beta2agonist
2	Langtidsvirkende beta2agonist
3	Korttidsvirkende antikolinergika
4	Langtidsvirkende antikolinergika
5	Inhalert cromoglycate/nedocromil
6	Andre
7	Inhalasjonssteroider/kombinasjonspreparat

Spørsmål 9

1	Peroral beta2agonist
2	Peroral methylxanthine
3	Perorale steroider
4	Perorale anti-leukotriener
5	Andre

23. Getting ready questionnaire

Grandparent

Centre ID | | | | | |

		NEI	JA
1	Har du tatt en sigarett siste timen?		
2	Har du spist siste timen?		
3	Har du foretatt deg anstrengende fysisk aktivitet siste timen?		

Hvis nei til spørsmål 1-3: deltager er klar for FENO
Hvis ja til noen av spørsmål 1-3: vurder om FENO kan bli utsatt –
Hvis ikke utsettelse er mulig kjør FENO

4	Har deltageren synlige hevelser I leggene eller ascites (væske i buken): Sjekk dette		
5	Har du en pacemaker eller hjertestarter implantert?		

Hvis ja på noen av spørsmålene 4-5, skal bioimpedans ikke utføres

6	Har du fått utført kirurgi på bryst eller buk de siste tre måneder?		
7	Har du hatt et hjerteinfarkt siste tre måneder?		
8	Har du vært innlagt på sykehus for andre hjerterelaterte problemer siste tre måneder?		
9	Har du hatt netthinneløsning eller har du fått utført kirurgi på øyet siste tre måneder?		
10	Har deltageren en hvilepuls høyere enn 120 slag per minutt?		
11	Blir du behandlet for tuberkulose?		

Hvis ja på noen av spørsmålene 6-11, skal deltageren ikke utføre spirometri

		NEI	JA
12	Har du hatt en luftveisinfeksjon(forkjølelse) de siste tre uker?		
	Hvis ja: Hvor mange dager er det siden du ble frisk?	DAGER	
13	Har du brukt inhalator siste 24 timer**?**	NEI	JA

		Medikament (skriv kode)	Timer
13.1	Hvilken inhalator(er) bruker du og hvor mange timer siden er det at du brukte den? (Ved kombinert bruk beskriv alle du har brukt)		
	.....		
	.....		
	.....		
	.....		

		NEI	JA
14	Har du brukt noen annen medisin (inkludert tabletter, kapsler eller stikkpiller) for å hjelpe deg å puste eller annen antikolinergika tablett de siste 24 timer?		

Hvis JA:

14.1 Hvilke medisiner brukte du og hvor mange timer er det siden du brukte dem?

	Medikament	Timer
.....		
.....		
.....		
.....		

15 Har du brukt allergitabletter (antihistaminer) de siste 24 timer? **NEI** ☐ **JA** ☐

16 Hvor lenge er det siden du spiste sist? **TIMER** ☐ **MINUTTER** ☐

17 Når ble urinprøve tatt (hh:mm)? ☐☐

18 Bruker du blodfortynnende medisiner **NEI** ☐ **JA** ☐
Hvis JA, obs ekstra kompresjon ved blodprøvetaking

Kodesystem for **' gjør deg klar for FENO, spirometri, reversibilitets-test og bioimpedans**

Spørsmål 13

1	Korttidsvirkende beta2agonist
2	Langtidsvirkende beta2agonist
3	Korttidsvirkende antikolinergika
4	Langtidsvirkende antikolinergika
5	Inhalert cromoglycate/nedocromil
6	Andre
7	Inhalasjonssteroider/kombinasjonspreparat

Spørsmål 14

1	Peroral beta2agonist
2	Peroral methylxanthine
3	Perorale steroider
4	Perorale anti-leukotriener
5	Andre

Senternummer ID-nummer

Din søvn

Dette skjemaet har ulike typer spørsmål relatert til søvn.

Noen av spørsmålene besvarer du ved å hake av for det alternativet som passer for deg, eller angi et tidsintervall.

TIMER

1 Hvor mange timer sover du gjennomsnittlig per natt?

2. Hvor ofte har det følgende skjedd **i de siste tre måneder:**

Tallene betyr
1: Aldri eller nesten aldri
2: Mindre enn én gang i uken
3: Én eller to ganger i uken
4: 3- 5 netter/dager per uke
5: Nesten hver dag eller natt

(Vennligst sett sirkel rundt det tallet som passer best)

2.1	at du har vanskelig for å sovne om kvelden?	1	2	3	4	5
2.2	at du våkner opp gjentatte ganger om natten?	1	2	3	4	5
2.3	at du våkner for tidlig og har vanskelig for å sovne igjen?	1	2	3	4	5
2.4	at du har brystbrann eller sure oppstøt når du har lagt deg?	1	2	3	4	5

3. Har du noen gang blitt fortalt at du snorker når du sover? NEI JA

***HVIS 'NEI' GÅ TIL SPØRSMÅL 4, HVIS 'JA'*:**

	Aldri natt	Sjelden	Iblant	Ofte	Hver
3.1 I de siste ***12 måneder*** har du blitt fortalt at du slutter å puste eller puster uregelmessig når du sover?	☐	☐	☐	☐	☐
3.2 Har du våknet plutselig med kvelningsfornemmelse eller uten å kunne puste i de siste ***12 måneder***?	☐	☐	☐	☐	☐
3.3 Har du blitt fortalt at du snorker høyt eller at din snorking forstyrrer andre i de siste ***12 måneder***?	☐	☐	☐	☐	☐

	NEI	JA
4. Har en lege noen gang fortalt deg at du har søvnapnoe eller snorkesyke?	☐	☐

5. Hvor sannsynlig er det at du døser av eller sovner i de følgende situasjoner, i motsetning til bare å føle deg trett? Dette gjelder ditt vanlige liv den senere tid. Selv om du ikke har gjort noen av disse tingene i det siste, prøv å tenke ut hvordan det ville ha påvirket deg.
Bruk følgende skala for å velge det tallet som passer best for hver situasjon:

0 = ville **aldri** døset av
1 = **liten** sjanse for å døse av
2 = **middels** sjanse for å døse av
3 = **høy** sjanse for å døse av

(Sett inn det tallet som passer best)

	Situasjon	**Sjanse for å døse av**
5.1	Sitte og lese	
5.2	Se TV	
5.3	Sitte inaktiv på offentlige steder (f.eks. i teateret eller på møter)	
5.4	Som passasjer i bil en time uten pause	
5.5	Ligge ned for å hvile om ettermiddagen når det passer	
5.6	Sitte og snakke med noen	
5.7	Sitte i ro etter lunsj uten alkohol	
5.8	I bil, ved noen minutters stopp pga trafikken	

RAND-36 SPØRRESKJEMA OM HELSE

INSTRUKSJON: Dette spørreskjemaet handler om hvordan du ser på din egen helse. Disse opplysningene vil hjelpe oss til å få vite hvordan du har det og hvordan du er i stand til å utføre dine daglige gjøremål.

Hvert spørsmål skal besvares ved å hake av for det alternativet som passer best for deg. Hvis du er usikker på hva du skal svare, vennligst svar så godt du kan.

1. Stort sett, vil du si at din helse er:

(sett ring rundt ett tall)

Utmerket 1

Meget god 2

God 3

Nokså god 4

Dårlig 5

2. Sammenlignet med for ett år siden, hvordan vil du si at din helse stort sett er nå?

(sett ring rundt ett tall)

Mye bedre nå enn for ett år siden 1

Litt bedre nå enn for ett år siden 2

Omtrent den samme som for ett år siden 3

Litt dårligere nå enn for ett år siden 4

Mye dårligere nå enn for ett år siden 5

3. De neste spørsmålene handler om aktiviteter som du kanskje utfører i løpet av en vanlig dag. Er din helse slik at den begrenser deg i utførelsen av disse aktivitetene nå? Hvis ja, hvor mye?

(sett ring rundt ett tall på hver linje)

AKTIVITETER	Ja, begrenser meg mye	Ja, begrenser meg litt	Nei, begrenser meg ikke i det hele tatt
a. Anstrengende aktiviteter som å løpe, løfte tunge gjenstander, delta i anstrengende idrett	1	2	3
b. Moderate aktiviteter som å flytte et bord, støvsuge gå en tur eller drive med hagearbeid	1	2	3
c. Løfte eller bære en handlekurv	1	2	3
d. Gå opp trappen flere etasjer	1	2	3
e. Gå opp trappen en etasje	1	2	3
f. Bøye deg eller sitte på huk	1	2	3
g. Gå mer enn to kilometer	1	2	3
h. Gå flere kvartaler	1	2	3
i. Gå ett kvartal	1	2	3
j. Vaske deg eller kle på deg	1	2	3

4. I løpet av de siste 4 ukene, har du hatt noen av følgende problemer i ditt arbeid eller i andre av dine daglige gjøremål på grunn av din fysiske helse?

(sett ring rundt ett tall på hver linje)

	JA	NEI
a. Du har måttet **redusere tiden** du har brukt på arbeid eller på andre gjøremål	1	2
b. Du har **utrettet mindre** enn du hadde ønsket	1	2
c. Du har vært hindret i å utføre **visse typer** arbeid eller gjøremål	1	2
a. Du har hatt **problemer** med å gjennomføre arbeidet eller andre gjøremål (f.eks. fordi det krevde ekstra anstrengelser)	1	2

5. I løpet av de siste 4 ukene, har du hatt noen av de følgende problemer i ditt arbeid eller i andre av dine daglige gjøremål på grunn av følelsesmessige problemer (som f.eks. å være deprimert eller engstelig)?

(sett ring rundt ett tall på hver linje)

	JA	NEI
a. Du har måttet **redusere tiden** du har brukt på arbeid eller på andre gjøremål	1	2
b. Du har **utrettet mindre** enn du hadde ønsket	1	2
c. Du har utført arbeidet eller andre gjøremål mindre **grundig** enn vanlig	1	2

6. I løpet av de siste 4 ukene, i hvilken grad har din fysiske helse eller følelsesmessige problemer hatt innvirkning på din vanlige sosiale omgang med familie, venner, naboer eller foreninger?

(sett ring rundt ett tall)

Ikke i det hele tatt 1

Litt 2

Endel 3

Mye 4

Svært mye 5

7. Hvor sterke kroppslige smerter har du hatt i løpet av de siste 4 ukene?

(sett ring rundt ett tall)

Ingen 1

Meget svake 2

Svake 3

Moderate 4

Sterke 5

Meget sterke 6

8. I løpet av de siste 4 ukene, hvor mye har smerter påvirket ditt vanlige arbeid (gjelder både arbeid utenfor hjemmet og husarbeid)?

(sett ring rundt ett all)

Ikke i det hele tatt 1

Litt 2

Endel 3

Mye 4

Svært mye 5

9. De neste spørsmålene handler om hvordan du har følt deg og hvordan du har hatt det de siste 4 ukene. For hvert spørsmål, vennligst velg det svaralternativet som best beskriver hvordan du har hatt det. Hvor ofte i løpet av de siste 4 ukene har du:

(sett ring rundt ett tall på hver linje)

	Hele tiden	**Nesten hele tiden**	**Mye av tiden**	**En del av tiden**	**Litt av tiden**	**Ikke i det hele tatt**
a. Følt deg full av tiltakslyst?	1	2	3	4	5	6
b. Følt deg veldig nervøs?	1	2	3	4	5	6
c. Vært så langt nede at ingenting har kunnet muntre deg opp?	1	2	3	4	5	6
d. Følt deg rolig og harmonisk?	1	2	3	4	5	6
e. Hatt mye overskudd?	1	2	3	4	5	6
f. Følt deg nedfor og trist?	1	2	3	4	5	6
g. Følt deg sliten?	1	2	3	4	5	6
h. Følt deg glad?	1	2	3	4	5	6
i. Følt deg trett?	1	2	3	4	5	6

10. I løpet av de siste 4 ukene, hvor mye av tiden har din fysiske helse eller følelsesmessige problemer påvirket din sosiale omgang (som det å besøke venner, slektninger osv.)?

(sett ring rundt ett tall)

Hele tiden 1

Nesten hele tiden 2

En del av tiden..... 3

Litt av tiden 4

Ikke i det hele tatt 5

11. Hvor RIKTIG eller GAL er hver av de følgende påstander for deg?

(sett ring rundt ett tall på hver linje)

	Helt riktig	**Delvis riktig**	**Vet ikke**	**Delvis gal**	**Helt gal**
a. Det virker som om jeg blir syk litt lettere enn andre	1	2	3	4	5
b. Jeg er like frisk som de fleste jeg kjenner	1	2	3	4	5
c. Jeg tror at helsen min vil forverres	1	2	3	4	5
d. Jeg har utmerket helse	1	2	3	4	5

TAKK FOR HJELPEN!

Senternummer ☐☐☐
ID-nummer ☐☐☐☐☐

INTERNASJONALT SPØRRESKJEMA FOR FYSISK AKTIVITET

Vi ønsker i å finne ut mer om den fysiske aktiviteten som utføres som en del av folks hverdag. I spørsmålene under spør vi deg om hvor mye tid du har brukt på fysisk aktivitet ila de **siste 7 dagene**. Svar på alle spørsmålene selv om du ikke anser deg selv for å være en aktiv person. Inkluder aktiviteter du utfører på arbeid, i forbindelse med hus – og hagearbeid, i forbindelse med å komme deg fra et sted til et annet, og i forbindelse med fritid som for eksempel sportsaktiviteter.

Tenk først på de **mest anstrengende** aktivitetene du gjorde ila de **siste 7 dagene.** Med veldig anstrengende fysiske aktiviteter regnes aktiviteter som oppleves som veldig anstrengende, og som får deg til å puste mye tyngre enn vanlig. Tenk *bare* på de aktivitetene som varte i 10 minutter eller mer.

1. I løpet av de **siste 7 dagene**, hvor mange av disse dagene utførte du aktiviteter som er **veldig anstrengende** sånn som for eksempel tunge løft, tungt bygg- og hagearbeid, aerobic, løping eller sykling?

   _____ **dager**

   ☐ Ingen veldig anstrengende aktiviteter → ***Gå videre til spørsmål 3***

2. Hvor lenge holdt du i gjennomsnitt på med **veldig anstrengende** fysisk aktivitet på en slik dag?

   _____ **timer**

   _____ **minutter**

   ☐ Vet ikke / Er ikke sikker

Tenk nå på alle de **moderat anstrengende** aktivitetene du gjorde i løpet av de **siste 7 dagene.** Med m**oderat anstrengende** fysiske aktiviteter regnes aktiviteter som oppleves som moderat anstrengende, og som får deg til å puste noe tyngre enn vanlig. Tenk *bare* på de aktivitetene som varte i 10 minutter eller mer.

3. I løpet av de **siste 7 dagene**, hvor mange av disse dagene utførte du aktiviteter som er **moderat anstrengende** sånn som for eksempel lette løft, rolig sykling, svømmig eller jogging? Ikke ta med gange/gåturer her.

   _____ **dager**

   ☐ Ingen moderate fysiske aktiviteter → ***Gå videre til spørsmål 5***

4. Hvor lenge holdt du i gjennomsnitt på med **moderat anstrengende** fysisk aktivitet på en slik dag?

   _____ **timer pr dag**

   _____ **minutter pr dag**

   ☐ Vet ikke / Er ikke sikker

Tenk nå på den tiden du brukte på **å gå** i løpet av de **siste 7 dagene.** Dette inbefatter gange på jobb og hjemme, gange for å komme deg fra et sted til et annet, og all annen gange i din fritid.

5. I løpet av de siste **7 dagene**, hvor mange dager gikk du sammenhengende i 10 minutter eller mer?

_____ **dager**

☐ Ingen gåing**/gåturer** → ***Gå videre til spørsmål 7***

6. Hvor mye tid brukte du i gjennomsnitt på å gå på en slik dag?

_____ **timer pr dag**

_____ **minutter pr dag**

☐ Vet ikke / Er ikke sikker

Det siste spørsmålet spør om hvor mye tid du brukte på **å sitte** i ukedagene i løpet av de **siste 7 dagene.** Ta med tiden du satt på jobb, hjemme, mens du studerte eller var på kurs, og i forbindelse med andre ting du gjorde på fritiden. Regn med tid der du satt foran pc'en, når du besøkte venner, når du leste, eller satt i sofaen og så på tv.

7. I løpet av de siste **7 dagene**, hvor mye tid brukte du i gjennomsnitt på å sitte på en **ukedag**?

_____ **timer pr dag**

_____ **minutter pr dag**

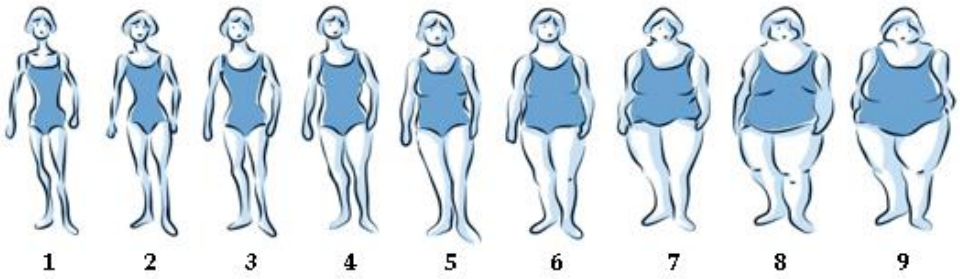
☐ Vet ikke / Er ikke sikker

Dette er slutten av dette spørreskjemaet, tusen takk for at du svarte!

Kroppsfasong

KVINNE:

1. Hvilket bilde beskriver best din kroppsfasong ved hvert alderstrinn? (sett kun ett kryss for hver alder fram til den alderen du har nådd)

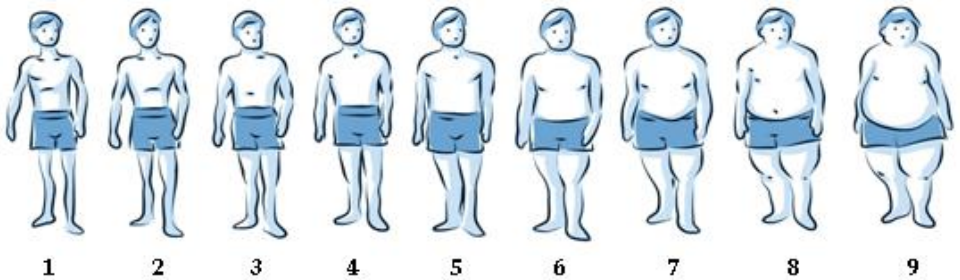


Nåværende	☐	☐	☐	☐	☐	☐	☐	☐	☐
Alder: 8år	☐	☐	☐	☐	☐	☐	☐	☐	☐
Første menstruasjon	☐	☐	☐	☐	☐	☐	☐	☐	☐
Alder: 20 år	☐	☐	☐	☐	☐	☐	☐	☐	☐
Alder: 30 år	☐	☐	☐	☐	☐	☐	☐	☐	☐
Alder: 45 år	☐	☐	☐	☐	☐	☐	☐	☐	☐

2. Hvilket bilde beskriver best kroppsfasongen til din biologiske mor ved ?

										Vet ikke
30 års alder	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
45 års alder	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

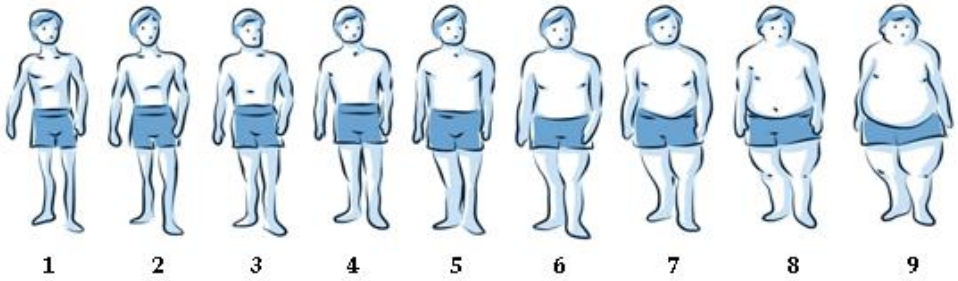
3. Hvilket bilde beskriver best kroppsfasongen til din biologiske far ved?



										Vet ikke
30 års alder	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
45 års alder	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

MANN

1. Hvilket bilde beskriver best din kroppsfasong ved hvert alderstrinn? (sett kun ett kryss for hver alder fram til den alderen du har nådd)



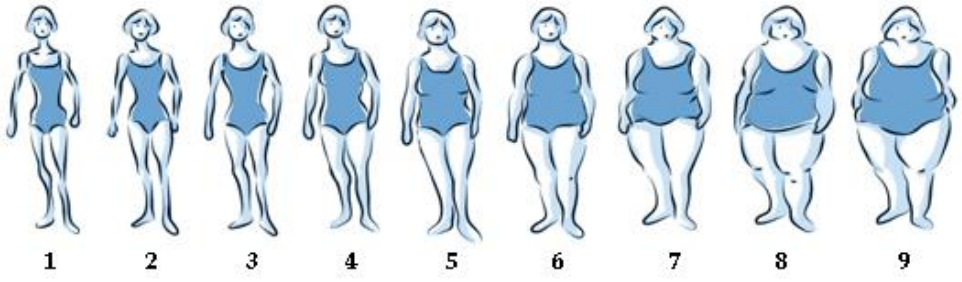
Nåværende	☐	☐	☐	☐	☐	☐	☐	☐	☐
Alder: 8år	☐	☐	☐	☐	☐	☐	☐	☐	☐
Ved stemmeskifte	☐	☐	☐	☐	☐	☐	☐	☐	☐
Alder: 20 år	☐	☐	☐	☐	☐	☐	☐	☐	☐
Alder: 30 år	☐	☐	☐	☐	☐	☐	☐	☐	☐
Alder: 45 år	☐	☐	☐	☐	☐	☐	☐	☐	☐

2. Hvilket bilde beskriver best kroppsfasongen til din biologiske far ved?

Vet ikke

30 års alder	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
45 års alder	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

3. Hvilket bilde beskriver best kroppsfasongen til din biologiske mor ved



Vet ikke

30 års alder	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
45 års alder	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

HELSE BERGEN
Haukeland universitetssjukehus

Spørreskjema om personlige produkter

Senternummer			1	4	0
ID-nummer					

Hvor ofte bruker du følgende personlige produkter?
(Kun ett kryss per produkt)

	Aldri	Mindre enn 1 dag/uke	1-3 dager/uke	4-7 dager/uke	Mer enn en gang daglig
Parfyme-spray	☐	☐	☐	☐	☐
Parfyme (ikke spray)	☐	☐	☐	☐	☐
Deodorant-spray.....	☐	☐	☐	☐	☐
Deodorant stift/roll-on...	☐	☐	☐	☐	☐
Hårspray.....	☐	☐	☐	☐	☐
Fuktighetskrem.....	☐	☐	☐	☐	☐
Lotions.....	☐	☐	☐	☐	☐
Rensekrem.....	☐	☐	☐	☐	☐
Sminke.....	☐	☐	☐	☐	☐
Neglepleie produkter.....	☐	☐	☐	☐	☐
Hårgele/ hårstyling-produkter.....	☐	☐	☐	☐	☐
Barberkrem / barberskum.....	☐	☐	☐	☐	☐
Etterbarberings-produkter.....	☐	☐	☐	☐	☐

	Aldri	Mindre enn 1 gang/år	1-6 ganger/år	6-12 ganger/år	Mer enn en gang i måneden
Hårfarge-produkter.....	☐	☐	☐	☐	☐
Hårbleke-produkter.....	☐	☐	☐	☐	☐