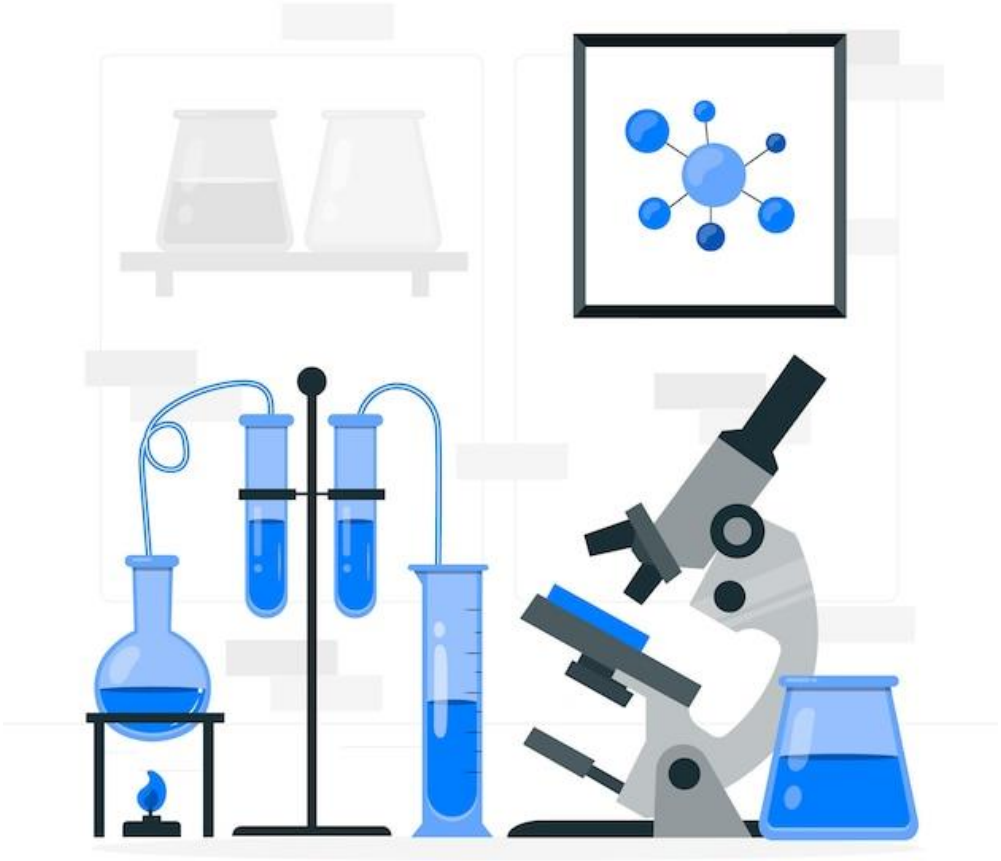
Sistema Socio Sanitario
Regione Lombardia
ASST Cremona



SERVICE CHARTER
ANALYSIS LABORATORY – OGLIO PO HOSPITAL

By: Dr. Mangoni Paolo – Biologist Manager

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INTRODUCTION

The Oglio Po Clinical Laboratory is a service that carries out its activities throughout the entire ASST of Cremona (hospital sites of Cremona and Vicomoscano), as well as in the Cremona and Casalasco areas, actively cooperating with the Cremona Clinical Laboratory by dividing the more specialised branches of diagnostics between them; indeed, it hosts the "Electrophoresis and Specific Proteins" section and the "Pathological Haemoglobins" section.
The Clinical Laboratory is a Simple Structure, an organisational branch of the Complex Structure Clinical Laboratory POC (Cremona), and is placed within the Department of Diagnostic Services of the ASST of Cremona.
The aim of our activity is to offer qualified care through the competence, professionalism and humanity of all the staff who work at the laboratory.
To achieve the quality objectives set, the work is based on the concept of teamwork and collaboration, in which all the actors in a process are involved so that they can contribute their own experience to the achievement of a common objective.

QUALITY

The increase in laboratory tests that has occurred in recent years has obliged large healthcare facilities to adopt daily checks, which are indispensable to ensure compliance with organisational and analytical procedures. This has led to extending the concept of analytical quality to that of "Global Quality", with a strong stimulus towards improving not only the quality of the services provided but also the continuing professional development of staff (E.C.M.).
The Service is directly involved in the CRS – SISS project for the computerisation of the Regional Health Service, with the possibility of access to the information services of the entire Italian Public Administration.
The Service is certified in accordance with the UNI EN ISO 9001:2015 standards and undergoes regular external and internal inspection visits in order to guarantee the technical quality of the services, organisational quality, the safety of staff and users, the professional development of staff, and the rights and satisfaction of users.
The clinical laboratory checks the performance of the tests it delivers on a daily basis through internal quality control **I.Q.C.** (assessment of analytical precision) and compares itself with other facilities through external quality assessment **E.Q.A**. (assessment of trueness and accuracy) (Regional Regulation DDUO 19/12/00 no. 32856).
Data relating to the controls are processed by computer, evaluated on site and sent to the designated companies for comparison with laboratories distributed throughout the national territory, in order to obtain reports verifying the quality of the results in relation to the various instruments and methods.
The Laboratory's commitment is to constantly improve analytical performance in terms of trueness, precision, sensitivity and specificity through the increasing automation and rationalisation of procedures in the diagnostic sector, in the face of the costs and investments in very high-technology instrumentation. The staff on duty at the laboratory attend the necessary refresher courses in order to accumulate the credits required by the regulations, as laid down by the respective professional bodies to which they belong.



Oglio Po Clinical Laboratory

(Via Staffolo 51 - 26040 Vicomoscano - Casalmaggiore - CR)

Acting Head: Dr. **Paolo Mangoni**

Internal reference telephone numbers

Hospital switchboard	Tel. 0375-2811
Laboratory Secretariat from 11:00 to 15:00, Saturdays and public holidays excluded	Tel. 0375-281482 Fax 0375-281481 E-mail: segreteria.laboratorio.poop@asst-cremona.it
Haemostasis and Thrombosis Centre from 11:00 to 15:00, Saturdays and public holidays excluded	0375-281632



Cremona Clinical Laboratory

(V.le Concordia 1 Cremona)

Acting Director: Dr. **Sara Rizzardi**

Internal reference telephone numbers

Hospital switchboard	Tel. 0372-405111
Laboratory Secretariat	Tel. 0372-405452 Fax 0372-405458 E-mail: laboratorio.poc@asst-cremona.it
Haemostasis and Thrombosis Centre	Tel. 0372-405666
Anatomic Pathology Secretariat	Tel. 0372-405477
Transfusion Centre Secretariat	Tel. 0372-405462
Cytogenetics Laboratory Secretariat	Tel. 0372-405217

COLLECTION POINTS

"OGLIO-PO" LABORATORY



For special and complex tests (semen analysis, glycaemic curves, haematological and HLA typing, genetic tests, metal assays, etc.), it is advisable to make prior arrangements with the Laboratory Secretariat.
Please note: collections for certain tests are carried out exclusively at the Oglio Po collection point (see p. 7).

Payment of the ticket (co-payment) is made at the time of registration.
Test reports can be collected by consulting the Electronic Health Record or at the CUP counters.
Please remember that if the person concerned is unable to collect the report in person, a delegation is required.

On the day of the blood draw for blood chemistry tests, it is necessary to:

- arrive **fasting for at least 8 hours**;
- bring the prescription from the General Practitioner or Specialist;
- bring the Health Card (Tessera Sanitaria).

Collection points		
Collection point **Hospital OGLIO PO**	Oglio Po Outpatient Clinics	Monday to Friday, public holidays excluded: from 7:25 to 9:55 Saturdays from 7:00 to 8:30 Direct access without appointment
Collection point of **Casalmaggiore**	Via Petofi	Monday to Friday, public holidays excluded, from 7:30 to 10:30. Saturday 7:00–9:00. Direct access without appointment, or time-slot booking on tel. 0375203401. *(call Monday to Friday from 9:30 to 13:00; on Saturdays from 7:00 to 9:30)*
Collection point of **Viadana**	Largo De Gasperi	**Registration hours for collections by appointment (tel. 0376435533 – reachable from 10:30 to 11:30, Monday to Friday):** Monday, Wednesday and Friday from 7:30 to 9:30. Tuesday and Thursday from 8:30 to 9:30 (from 7:30 to 8:30 is reserved for collections for the CAD of Mantua). Saturday from 7:00 to 8:00. **Registration hours for collections without appointment:** Monday to Friday from 9:30 to 10:00. Saturday from 8:00 to 8:30. **Hours for delivery of organic material without appointment:** Monday to Friday from 10:30 to 11:30. **Delivery of reports:** Monday to Friday from 14:30 to 16:30.

Other collection activities	**Contact the facilities to make a booking**	
Collection activity in **Cingia de Botti**	At Ospedale Germani	Thursday from 7:30 to 8:30 For home collections: Monday and Wednesday
Collection activity in **Dosolo**	At municipal facilities	Thursday from 7:30 to 9:30

The following tests are not performed on Saturdays: Blood gas analysis - Lactic acid - Carboxyhaemoglobin Methaemoglobin - Ionised calcium – Bicarbonates ACTH - Factor VIII and Factor VIII inhibitor - Ammonia

EXTERNAL COLLECTIONS

At most collection sites, the requested tests are entered into the L.I.S. (Laboratory Information System) via terminals connected to the Laboratory's central server. At the time of entry, labels are generated to identify the tubes and the various biological containers required. In addition to the request number and its barcode, the labels also show the patient's personal details and an indication of the type of tube or container to be used.
Home collections should be scheduled in advance, by delivering the doctor's request to the collection sites, or to the laboratory secretariat, **at least 2 days** before the planned date of execution. It is mandatory to specify exactly the date on which the collection is to be carried out; if problems subsequently arise that make it impossible to keep to the scheduled date, notify the Laboratory secretariat. The labels may be collected from the second day following the delivery of the requests, at the same site.
Collections that cannot be scheduled in advance are in any case accepted provided that they are correctly identified with Surname, First name and date of birth.

To deliver biological materials (urine, faeces, etc.), the patient must present with the material correctly collected in suitable containers, purchased at a pharmacy or supplied by the laboratory collection point, securely closed (for collection procedures see p. 9).
For special and complex tests (glycaemic curves, haematological and HLA typing, genetic tests, metal assays, etc.), it is necessary to make prior arrangements with the Laboratory Secretariat (0375-281684 – from 10:00 to 15:00). Semen analysis is performed at the Cremona clinical laboratory; call 0372405452.

Patients must present at the collection sites **FASTING FOR AT LEAST 8 HOURS** at the time and on the day of the booking, with a valid prescription and health card.

At the FCSA Surveillance Centre associated with the Oglio-Po Laboratory it is possible to obtain **THE ASSIGNMENT OF ORAL ANTICOAGULANT THERAPY O.A.T.** and **THE MONITORING OF THERAPIES WITH THE NEW DIRECT ORAL ANTICOAGULANT DRUGS D.O.A.C.** for patients sampled indifferently at any of the various collection points or at home.

For information, and before starting therapy, contact the Haemostasis Centre on 0375-281632, between 8:30–11:30 and 14:30–15:30, Monday to Friday

INTERNAL ACTIVITY

Internal **ROUTINE** samples are accepted at the laboratory **Monday to Friday, from 7:30 to 9:30.**
On Saturdays until 8:30.
The **URGENT** samples are accepted 24 hours a day, public holidays included.
On Sundays and public holidays, only urgent tests are performed.

The Operating Units (U.O.) of the Hospital are connected online with the Clinical Laboratory; therefore the requested tests are entered into the L.I.S. (Laboratory Information System) directly by the U.O., and the results, once validated by the laboratory, can be viewed on the ward terminals and printed after digital signature.

The time needed to complete an urgent request is stated in protocol MTP D602 020 and ranges from 30 to 120 minutes depending on the type of tests requested, except in situations of particularly heavy workload or analytical and IT problems.

FOR PARTICULAR PRIORITIES, PLEASE NOTIFY THE TECHNICIAN IN CHARGE.

INTERNAL COLLECTIONS

When the ward enters into the L.I.S. a patient with all the data needed for correct identification (first name, surname, date of birth, admission number and health card number) and the relevant tests, a request number is automatically assigned. For each number, labels with the relevant barcode are printed to identify all the tubes (or containers of biological material) of each collection. Each label shows the significant data of the patient, the ward of origin, the type of collection and the type of tube to be used.

In the event of an operational emergency due to a failure or malfunction of the IT system, tests must be requested using the "**Routine" and "Urgent"** forms, correctly completed. Requests and the related samples must be identified with labels showing the patient's SURNAME, FIRST NAME, DATE OF BIRTH. The forms also indicate the tubes to be used for the tests requested.

Labels on the tubes must be applied straight, in a vertical orientation, towards the upper edge of the tube.

There must be absolute correspondence between the tests requested and the samples sent.

Urinalysis and investigations on various biological materials must be requested only if the samples are available.

Tubes and the various containers must be delivered capped and clean, placed in the appropriate transport containers (airtight), sorted by patient.

Except for the exceptions set out below, the laboratory does not accept verbal requests to add tests to collections already performed, in which case the wards must send a new IT request accompanied by a new sample.
For paediatric collections (children under 6 years of age) or extremely difficult ones, **exceptionally** new IT test requests are accepted, to be performed on any sample already received.

Internal transport of materials: from approximately 7:00 to 9:30, Monday to Friday, a designated person goes round the wards to collect the material to be delivered to the laboratory. After that time, and on Saturdays, Sundays and public holidays, delivery is the responsibility of the ward.

COLLECTIONS PERFORMED EXCLUSIVELY AT THE OGLIO PO COLLECTION POINT

- **ALDOSTERONE and/or RENIN** in clinostatism and orthostatism**, PROLACTIN CURVE, GLYCAEMIC** and **INSULINAEMIC CURVES.** These tests must be booked at the secretariat from 9:00 to 15:30 on 0375281482. **GLYCAEMIC CURVES IN PREGNANCY** are performed from the 24th to the 28th week.
- **ARTERIAL, VENOUS AND CAPILLARY BLOOD GAS ANALYSIS, IONISED CALCIUM, BICARBONATES, LACTATES, CARBOXYHAEMOGLOBIN** are performed at the Oglio-Po collection point.
- **QUANTIFERON**: performed only at the Oglio-Po collection point, Monday to Thursday.
- **MALE URETHRAL SWABS:** are performed exclusively at the Oglio-Po collection point. The patient must refrain from urinating for at least 3–4 hours. It is advisable to report immediately to the staff at the collection point, without waiting for one's turn.
- **VAGINAL, CERVICAL AND FEMALE URETHRAL SWABS:** are performed in the Gynaecology ward of the Oglio-Po Hospital and, in special cases, at the family clinic (consultorio) in Viadana. The patient must first report to the collection point where (after the test has been entered) she will be given the labels with which to go to the Gynaecology U.O. to have the test performed.
- **CRYOGLOBULINAEMIA, COLD AGGLUTININS, GENETIC COAGULATION MUTATIONS, COAGULATION FACTOR VIII**: the collections are performed exclusively at the Oglio-Po collection point.

COLLECTIONS PERFORMED BY DIRECT BOOKING WITH THE LABORATORY

- **H.L.A.** and **HAEMATOLOGICAL** typing is performed **by appointment** to be arranged with the secretariat of the Oglio-Po laboratory.
- **GENETIC TESTS**: the day of the collection must be agreed with the Laboratory secretariat (0375281482). These tests must be prescribed exclusively by a specialist physician and accompanied by completion of the informed consent form, also signed by the requesting physician.
- **METALS: ALUMINIUM, CADMIUM, CHROMIUM, MERCURY, NICKEL, LEAD, SELENIUM, ZINC, OCCUPATIONAL MEDICINE INVESTIGATIONS:** are performed by appointment, to be arranged with the laboratory secretariat (0375281482). On the appointed day (Tuesday and Thursday), report to the counter no later than 8:00 and announce yourself to the staff.

ANATOMIC PATHOLOGY TESTS

- **CYTOLOGICAL EXAMINATION OF URINE:** is performed on three morning urine samples (second void) collected on three consecutive days. The patient must first go to the collection point (during opening hours) to pick up the dedicated containers with preservative and the forms, which will be handed over together with the instructions for collection. The samples can then be delivered to any of the service's collection points, accompanied by the paperwork completed by the doctor and the valid prescription.

- **CYTOLOGICAL EXAMINATIONS OF VARIOUS FLUIDS:** The patient must first go to the collection point (during opening hours) to pick up the dedicated forms, the instructions for collection and the containers:
  - **for various fluids**: jar without preservative, to be kept in the refrigerator until delivery.
  - **for sputum:** jar with preservative.

  The samples can then be delivered to any of the service's collection points, accompanied by the paperwork completed by the doctor and the valid prescription.

- **HISTOLOGICAL EXAMINATIONS**: the material must arrive preserved in 10% buffered formalin, pH 7, and must be sent accompanied by the dedicated forms.

PROCEDURES FOR THE COLLECTION OF BIOLOGICAL MATERIALS

URINE

URINE – MORNING SPOT COLLECTION

In a tube:
COMPLETE URINALYSIS – CALCIUM* – URIC ACID* – CHLORIDE* – CREATININE* – PHOSPHORUS* – SODIUM* - POTASSIUM* – MAGNESIUM*

In a jar:
URINARY ELECTROPHORESIS* – URINARY IMMUNOFIXATION (INCLUDING BENCE JONES PROTEIN)* – ASSAY OF FREE K AND λ+ - PREGNANCY TEST – URINARY AMYLASE - - MICROALBUMINURIA - NGAL - PHENYLGLYOXYLIC ACID** - HIPPURIC ACID** - METHYLHIPPURIC ACID** - MANDELIC ACID**

*** May also be requested on 24-hour urine** (in that case, follow the relevant instructions).
**** Collection to be carried out at the end of the work shift or exposure.**

Collect the first urine of the morning, or at least 3 hours after the last void, before having breakfast and before doing any kind of physical activity.
Avoid carrying out the collection during menstruation, after consuming fruit juice or vitamin C and, if possible, after taking diuretics.
For metal testing and/or specific occupational medicine investigations, preferably carry out the collection at the end of the work shift.

What you need:

- A clean container for collecting the urine (for example a plastic cup);
- A capped tube for complete urinalysis and/or a jar, not necessarily sterile, for other tests. The containers are available free of charge at the Collection Centres or the Clinical Laboratory, or can be purchased at a pharmacy.

Sample collection:

- Carefully wash your hands and external genitalia with soap and water (do not use disinfectants or intimate hygiene products);
- Rinse thoroughly and dry with a clean small towel;
- Uncover the glans (men) or spread the labia of the vulva with your fingers (women), discard the first stream of urine and collect the second part (midstream) of the urine in the clean container. Transfer the urine into the tube for complete urinalysis or into the jar for the other tests. Close the containers carefully and deliver them to the collection points or to the laboratory during the set hours.

N.B. The tube must be filled to three quarters of its volume.

Warning: for young children unable to provide a midstream urine sample, see the "URINE FROM COLLECTION BAG" collection method further on (section on microbiological investigations on urine). If a complete urinalysis plus urine culture is requested, do not transfer the urine collected in the bag, but deliver the bag containing the urine enclosed in a sterile container. Laboratory staff will take care to separate the sample while maintaining sterile conditions.

24-HOUR URINE COLLECTION

CREATININE CLEARANCE – AZOTURIA* – CALCIUM* – SODIUM* – CHLORIDE* – MAGNESIUM* – PHOSPHORUS* – POTASSIUM* – URICURIA* – OXALURIA (urine is acidified on arrival at the laboratory) - CITRATURIA – URINARY CORTISOL – ALDOSTERONE - URINARY ELECTROPHORESIS* – URINARY IMMUNOFIXATION (INCLUDING BENCE JONES PROTEIN)* – ASSAY OF FREE K AND λ*

*** May also be requested on 24-hour urine** (in that case, follow the relevant instructions).

What you need:

- Graduated container (2 litres), available at pharmacies, thoroughly washed with distilled water;
- Non-sterile jar for urine collection (available free of charge from the Clinical Laboratory or purchasable at a pharmacy).

Sample collection:

- In the morning, urinate and discard the urine (which must not be included in the collection);
- Then start collecting the 24-hour urine, including that of the following morning, in a large graduated plastic container;
- Check the total quantity of urine collected and write the quantity of urine collected on the label of a small container;
- Mix the urine in the large container and pour part of it into the small one filling it up to halfway;
- Screw the lid on tightly and hand in the small container. Deliver to the collection points or to the laboratory during the set hours.

ACIDIFIED URINE – 24-HOUR COLLECTION

VANILLYLMANDELIC ACID – 5-OH INDOLEACETIC ACID - CATECHOLAMINES - METANEPHRINES

Patient preparation:
For the 48 hours beforehand and throughout the entire collection, follow a diet free of: avocado, bananas, kiwi, nuts, coffee, tea, chocolate. Any suspension of medications (acetylsalicylic acid, tricyclic antidepressants, caffeine, clonidine, chlorpromazine, diuretics, drugs containing catecholamines, felodipine, furosemide, glyceryl trinitrate, histamine, levodopa, pindolol, reserpine) is to be agreed with the treating physician. Otherwise, report that the medication has been taken.

What you need:

- Graduated container (2 litres), available at pharmacies (container 1), thoroughly washed with distilled water;
- Non-sterile jar for urine collection (available free of charge from the Clinical Laboratory or purchasable at a pharmacy) (container 2);
- Commercial muriatic acid without detergent (for internal wards: 5N hydrochloric acid, to be requested from the laboratory).

Collection of acidified urine:

- Before collection, add to (container 1) 4 tablespoons of commercial muriatic acid, WITHOUT DETERGENT (internal wards: add 5 mL of hydrochloric acid 5 N per litre of urine);
- On the 1st morning, urinate and discard the urine (which must not be included in the collection);
- Then start collecting the 24-hour urine, including that of the following morning, in a large graduated plastic container (container 1);
- Check the total quantity of urine collected and write it on the urine jar (container 2);
- After shaking the collected urine well, take about 10 ml from container 1 to pour into container 2;
- NB: During the collection period, keep the container with the urine, if possible, in the refrigerator or in a cool place.

24-HOUR URINE – LIGHT-PROTECTED COLLECTION

URINARY UROPORPHYRINS*

***Can also be performed on light-protected spot urine samples.**

What you need:

- If requested on 24-hour urine, obtain a graduated container (2 litres), available at pharmacies (container 1), thoroughly washed with distilled water.
- Jar for urine collection (container 2). Available at pharmacies or obtainable free of charge from the collection points;
- Aluminium foil;

Sample collection:

- Prepare the collection container (for 24-hour urine, available at pharmacies – Container 1) **by wrapping it in aluminium foil**.
- The container must be kept in a dark or semi-dark environment.
- Discard the first urine of the morning.

- Collect in the container all the urine passed over the course of the day and night, **including that of the following morning.**
- Record the volume of the collection (checking on the graduated container) and write the value on the urine jar (container 2), identified with Surname and First name.
- Mix the collection container, then transfer a small quantity into the plastic tube, taking care to protect it from light (by wrapping it in aluminium foil).
- Deliver to the collection points or to the laboratory during the set hours.
- **N.B**. The urine to be stored may be passed into a clean temporary container but must be immediately transferred into the light-protected container. It is important, for the successful outcome of the test, to follow the instructions scrupulously.

FAECES

TESTING FOR OCCULT BLOOD IN FAECES

What you need:
Use the specific container with preservative solution, available at the Collection Centres and the clinical laboratory. The container, if not yet used, must be stored at room temperature.

Sample collection:
Collect the faeces on a dry surface such as:

- A bedpan;
- A plastic bag or a sheet of paper placed in the bidet or in a bin.
- A bowl.

Warning:
DO NOT pass the faeces directly into the toilet.
DO NOT urinate on the faecal sample during collection.
DO NOT urinate into the container.

Unscrew and remove the cap from the tube, and immerse the tip of the sampler stick at several points, rotating and dragging it. Before putting the sampler back into the vial, check that the tip of the stick is soiled with faeces; otherwise repeat the operation described in the previous point. Insert the stick into the tube, screw the cap back on and shake.

Important:
If the test is requested on three samples, it is necessary to collect one sample from each of three different bowel movements (even on the same day, although collection on different days is recommended).

Storage and delivery:
Before collection the vial may be stored at room temperature; after collection, store it in the refrigerator for **a maximum of 6 days**. Deliver the samples to the laboratory during the set hours. When the Occult Blood test is requested on multiple samples, it is recommended to deliver the samples to the laboratory only once all the requested samples (1, 2 or 3) have been collected.

Warning:
In case of diarrhoea, haemorrhoidal bleeding or menstruation, postpone the collection to a later time. If possible, for at least 1–2 days before collecting the sample, stop taking vitamin C, aspirin and other drugs that can cause gastrointestinal irritation and bleeding. No dietary restrictions are necessary.

CALPROTECTIN AND FAECAL ELASTASE ASSAY IN FAECES

What you need:
Container with a tight-fitting cap equipped with a collection spatula, available free of charge at the Collection Centre, the laboratory, or purchasable at a pharmacy.

Sample collection:

Collect the faeces on a dry surface such as: a bedpan, or a plastic bag, or a sheet of paper placed in the bidet, or a clean container.

Warning:
DO NOT pass the faeces directly into the toilet.
DO NOT contaminate the faeces with urine during collection.
DO NOT collect the faeces directly into the container.

Place the faeces in the container:

- Formed faeces: using the small spoon attached to the lid, collect about 5–10 grams of faeces (a portion the size of a walnut) and place it in the container.
- Liquid faeces: transfer about 5–10 ml of faeces into the container (about a quarter of the container's volume).
- DO NOT fill the container completely. Containers filled to the brim will not be accepted.
- Close the container and deliver it to the collection points or the laboratory during the set hours.

Storage:
The faeces may be from the same morning or, if necessary, the sample may be stored at 4 °C (in the refrigerator) for a maximum of 12 hours.

Warning: chymotrypsin and faecal elastase are not performed on liquid faeces but on at least partially formed faeces.

OTHER MATERIALS

URINARY CALCULUS

The material must be delivered dry in a clean container (urine jar) to the collection points or the laboratory.

CULTURE-BASED MICROBIOLOGICAL – PARASITOLOGICAL INVESTIGATIONS

All the **CULTURE TESTS** on various biological fluids are performed on samples collected in **sterile containers**.

URINE

URINE CULTURE

Collect the first urine of the morning or at least 3 hours after the last void.

What you need:
- A sterile wide-mouth container (for urine), available free of charge at the collection points, the laboratory, or purchasable at a pharmacy.
- Specific tube for microbiology, yellow cap, available free of charge at the collection points or the laboratory.

Sample collection:
- Carefully wash your hands and external genitalia with soap and water (do not use disinfectants or intimate hygiene products);
- Rinse well and dry with a clean small towel;
- Open the sterile container, avoiding touching the inside;
- Uncover the glans (men) or spread the labia of the vulva with your fingers (women): this reduces the possibility of contamination during collection;
- Discard the first stream of urine (if a complete urinalysis is also requested, collect the first stream in a different container) and collect the second part (midstream) of the urine directly into the sterile container: fill the container up to halfway;
- Discard the remaining part of the urine;
- After collecting the midstream urine in a sterile urine container, open the yellow-cap tube and dip the swab (small sponge) into it for 5 seconds; then reinsert it into its tube, maintaining sterile conditions.
- Break the swab shaft.
- Close the container immediately.

Storage:
The sample may be stored at 4 °C (in the refrigerator) for a maximum of 12 hours.

URINE CULTURE - MYCOBACTERIA - LEGIONELLA Antigen - PNEUMOCOCCUS Antigen

Collect the first urine of the morning or at least 3 hours after the last void.

What you need:
A sterile wide-mouth container (for urine), available free of charge at the Laboratory or purchasable at a pharmacy.

Sample collection:
- Carefully wash your hands and external genitalia with soap and water (do not use disinfectants or intimate hygiene products);
- Rinse well and dry with a clean small towel;
- Open the sterile container, avoiding touching the inside;
- Uncover the glans (men) or spread the labia of the vulva with your fingers (women): this reduces the possibility of contamination during collection;
- Discard the first stream of urine (if a complete urinalysis is also requested, collect the first stream in a different container) and collect the second part (midstream) of the urine directly into the sterile container: fill the container up to halfway;
- Discard the remaining part of the urine;
- Close the container immediately, screwing the lid on carefully and avoiding touching the inside.

Storage:
The sample may be stored at 4 °C (in the refrigerator) for a maximum of 24 hours.

URINE FROM COLLECTION BAG

Collection method for young children unable to provide a midstream urine sample.

What you need:
Paediatric urine collection bag.
Wide-mouth container with screw cap, available free of charge at the Laboratory or purchasable at a pharmacy.

Sample collection:
- Wash your hands with soap and water, rinse and dry them;
- Wash the child's external genitalia and perineum with soap and water (do not use antiseptics or intimate hygiene products), rinse and dry with a clean towel;
- Open the sterile bag, avoiding touching the inside, and make it adhere to the perineal skin;
- Keep the child in an upright position (hold the child in your arms);
- Collect the urine; if the child has difficulty urinating, **remove the bag every 30 minutes** and repeat the cleaning and positioning procedure described above, until the sample has been collected;
- Close the bag again using the adhesive tab provided and place it in the container with the screw cap (do not pour the urine into the container).
- **Close the jar carefully** and deliver it to the collection points or the laboratory during the set hours.

Storage:
If necessary, the sample may be stored in the refrigerator at 4–8 °C for up to a maximum of 12 hours.

Warning: if a complete urinalysis plus urine culture is requested, do not transfer the urine collected in the bag, but deliver the bag containing the urine enclosed in a sterile container. Laboratory staff will take care to separate the sample while maintaining sterile conditions.

URINE FOR DETECTION OF EGGS OF *SCHISTOSOMA HAEMATOBIUM*

What you need:
- Sterile jar for urine collection. Purchasable at a pharmacy or obtainable free of charge from the collection points.
- Aluminium foil.

Sample collection:

Collect the terminal stream of urine between 10:00 and 14:00 (the number of eggs in the urine varies during the day and is highest in this time interval).

- Discard most of the urine into the toilet bowl;
- Collect in the sterile container at least 10 ml of the last part of the urine (terminal stream).
- Close the container carefully, and label it with the Patient's First name and Surname, date of birth, time of collection, and ward, if applicable.
- Wrap the container in aluminium foil (the urine must be stored in the dark).

Storage:
Send immediately to the Laboratory. Samples, kept protected from light, must be examined within one hour of collection.
Deliver the sample directly to the Oglio Po clinical laboratory.

FAECES

FAECES FOR BACTERIOLOGICAL TESTS: STOOL CULTURE – YERSINIA – ENTEROPATHOGENIC E. COLI

What you need:
Specific tube for microbiology with green cap and flocked swab, available free of charge at the Collection Centre or the laboratory.

Sample Collection:
Collect the faeces on a dry surface such as: a bedpan, or a plastic bag, or a sheet of paper placed in the bidet, or a clean container.

Warning:
DO NOT pass the faeces directly into the toilet.
DO NOT contaminate the faeces with urine during collection.
DO NOT collect the faeces directly into the container.
Place the faeces in the container:

After collecting the faeces in a suitable container, take a small quantity of sample by inserting the swab completely and rotating it for a few seconds; in particular, dip it into areas with blood, mucus or water.
Reinsert it into its tube and break the swab (leave the swab inserted in the tube).

Warning: do not use the swab like a spoon, but rotate it like a probe. Do not fill with an excessive quantity, not exceeding the "MAX FILL" line indicated on the tube label. If the collection is excessive, repeat with a new kit.

Storage:
Send to the laboratory immediately or store at 2–8 °C for a maximum of 24 hours.

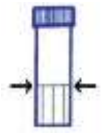
FAECES FOR MYCOBACTERIA – ROTAVIRUS – ADENOVIRUS – NOROVIRUS – CANDIDA

What you need:
Container with a tight-fitting cap equipped with a collection spatula, available free of charge at the Collection Centre, the laboratory, or purchasable at a pharmacy.

Sample Collection:
Collect the faeces on a dry surface such as: a bedpan, or a plastic bag, or a sheet of paper placed in the bidet, or a clean container.

Warning:
DO NOT pass the faeces directly into the toilet.
DO NOT contaminate the faeces with urine during collection.
DO NOT collect the faeces directly into the container.
Place the faeces in the container:

- Formed faeces: using the small spoon attached to the lid, collect about 5–10 grams of faeces (a portion the size of a walnut) and place it in the container. **For stool culture only:**
- Liquid faeces: transfer about 5–10 ml of faeces into the container (about a quarter of the container's volume).
- DO NOT fill the container completely. Containers filled to the brim will not be accepted.
- Close the container.



Storage:
The faeces may be from the same morning or, if necessary, the sample may be stored at 4 °C (in the refrigerator) for a maximum of 12 hours.

ENTEROBIUS VERMICULARIS - PINWORMS

(FORMERLY THE SCOTCH TEST)

What you need: available from the Clinical Laboratory
A container with screw cap (Para-Pak Eco Fix), with preservative, 3 swabs.

Sample collection:
- Carry out the collection in the morning, before having a bowel movement and before washing;
- Rub the perianal area **adequately** with a clean cotton bud (swab);
- Place the stick in the container (if it is a long swab, break it to size) and leave it there;
- Close the container tightly;
- Repeat the procedure for 3 consecutive days, placing the three swabs in the same container.

Storage: The container must be stored at room temperature, protected from light and **out of the reach of children.** Deliver the container with the three swabs inserted.

COPROPARASITOLOGICAL EXAMINATION

PARASITES IN FAECES - *STRONGYLOIDES STERCORALIS*

Important precautions:
For a few days before and during the faeces collection period:

- Do not use laxatives, antidiarrhoeals, antimicrobials or other interfering substances such as barium, bismuth, mineral oils;
- It is advisable to follow a diet that avoids: legumes and nuts, fruit and vegetables with a tough skin (peaches, apricots, tomatoes, pears, strawberries, figs), carrots and bananas.

What you need:
Container with screw cap equipped with a collection spatula, available free of charge from the Laboratory.

Sample collection:
Collect the faeces on a dry surface such as: a bedpan, a plastic bag or a sheet of paper placed in the bidet or in a bin.

Warning:
DO NOT pass the faeces directly into the toilet.
DO NOT contaminate the faeces with urine during collection.
DO NOT collect the faeces directly into the container.
Place the faeces in the container.

- **Formed faeces**: using the small spoon attached to the lid, collect about 10–20 grams of faeces (equal to a walnut) and place them in the container (about one third of the container's volume).
- **Liquid faeces**: transfer about 10–20 ml of faeces into the container (about one third of the container's volume). Containers holding too little material (level well below one third of the volume) or an excess (containers filled to the brim) will NOT be accepted.
- Close the container and wash your hands thoroughly.

Storage:

- Before delivery, faecal samples may be stored at 4–8 °C (in the refrigerator) for no more than 24 hours.

Warning: the search for parasites in faeces should be performed three times, that is, on three samples collected on different days, possibly alternating ones. This is in order to obtain adequate sensitivity, since the shedding of eggs in faeces is discontinuous. As this is a special test, each sample must be delivered as fresh as possible. Each sample must be accompanied by a prescription.

TESTING FOR CLOSTRIDIUM DIFFICILE TOXIN IN FAECES

Testing for *Clostridium Difficile* toxin is performed on a sample (collected in the faeces container, available free of charge from the laboratory or purchasable at a pharmacy) **which must be kept on ice and delivered to the laboratory as quickly as possible.** Testing for *Clostridium Difficile* **toxin is performed only on diarrhoeal faeces.**

TESTING FOR HELICOBACTER PYLORI IN FAECES

Testing for *Helicobacter pylori* antigens in faeces has high sensitivity and specificity (91% and 93% respectively), comparable to those of the Breath test. In addition to diagnosing the infection, the test is useful for verifying that eradication of *H. pylori* has occurred; in this case the test must be performed at least **4 weeks after the end of therapy**.
What you need
Container with screw cap equipped with a collection spatula, available free of charge from the Laboratory or purchasable at a pharmacy.
Sample collection
Collect the faeces as for stool culture (see above).

Storage
The sample may be stored in the refrigerator at 4–8 °C for up to a maximum of 12 hours.

SPUTUM

CULTURE TEST – SEARCH FOR BACTERIA - MYCOBACTERIA

Collection must be performed in the morning, fasting.
For the culture test, material obtained from a single expectoration is sufficient.
Do not collect respiratory materials cumulatively over the entire 24 hours; this would significantly increase the risk of contaminating the sample with oral flora.

What you need: a sterile wide-mouth container with screw cap.

Sample collection:
- Remove any dentures;
- Thoroughly clean the oral cavity and gargle with water. Avoid the use of mouthwash and/or toothpaste.
- Open the sterile container. Expectorate into the container with a cough. Avoid introducing saliva.
- Close the container, screwing the lid on carefully
- If you have difficulty expectorating, perform an aerosol with saline solution.

Storage:
- For **the CULTURE TEST:** it is possible to store in the refrigerator for a maximum of 12 hours.
- For the **MYCOBACTERIA TEST**: it is possible to store in the refrigerator for a maximum of 12 hours. If collection of several samples on successive days is requested, keep the materials collected each day in the refrigerator until delivery.

SEMEN CULTURE

Before semen collection, sexual abstinence (ejaculation or intercourse) of 2–3 days is recommended.

What you need: sterile wide-mouth container.

SAMPLE Collection:
- Carry out the collection at home in the morning;
- After urinating, carefully wash the external genitalia;
- Collect the semen, by masturbation, directly into the container. Collect all the semen emitted.

N.B.: do not collect the semen by means of a condom, as the spermicidal substances it contains may interfere with the test. Deliver the material **within 2 hours of collection.** It may be stored in the refrigerator for a maximum of 12 hours.

FURTHER INFORMATION AND CLARIFICATIONS ON ALL THE TESTS PERFORMED BY THE LABORATORY CAN BE OBTAINED FROM THE TABLES ATTACHED TO THIS CHARTER OR BY CONTACTING THE LABORATORY SECRETARIAT DURING OPENING HOURS.
Below are some tables that schematically show the suitable containers for the various biological materials.

MICROBIOLOGICAL SAMPLE COLLECTION PROCEDURES

Container type	Preservative	Material	Test
 **Urine tube**	NONE	**URINE** **morning spot sample**	**PHYSICAL-CHEMICAL URINE TEST**
 **Jar Screw cap**	NONE	**VARIOUS BIOLOGICAL MATERIALS** TO BE KEPT NON-STERILE	**PREGNANCY TEST** **URINARY AMYLASE** **URINE ELECTROPHORESIS – URINARY IMMUNOFIXATION** **(BENCE JONES) – URINARY FREE K - λ** **MICROALBUMINURIA - N GAL** **PHENYLGLYOXYLIC ACID** **HIPPURIC ACID** **METHYLHIPPURIC ACID** **MANDELIC ACID** **URINARY CALCULUS (clean and dry)**
	N.B. To be booked at the secretariat Performed in the Lab. of Occupational Toxicology of Bs	**URINE** (preferably collected at the end of the work shift)	**DELTA-AMINOLEVULINIC ACID - PHENOL** **TRICHLOROACETIC ACID** **T,T - MUCONIC ACID** **ALUMINIUM – ANTIMONY – ARSENIC - CADMIUM – COBALT CHROMIUM – MANGANESE - MERCURY-NICKEL-LEAD COPPER SELENIUM - ZINC –ETC.**
 **Sterile jar Screw cap**	NONE For cavity fluids heparinise	**URINE** **VARIOUS BIOLOGICAL MATERIALS** TO BE KEPT STERILE	**(URINE CULTURE)***see below **TESTING FOR LEGIONELLA ANTIG.** **PNEUMOCOCCUS ANTIG.** **SPUTUM - BRONCHIAL ASPIRATE** **PLEURAL, SYNOVIAL FLUID** **VARIOUS CAVITY FLUIDS** **WEST NILE (+SERUM TUBE)** **SEMEN CULTURE** **VARIOUS CULTURES** **BIOPSY MATERIALS**

<table>
<tr>
<td>
YELLOW cap tube with small sponge</td>
<td>After collecting the midstream urine in a sterile urine container, dip the swab for 5 seconds and then reinsert it into its tube, maintaining sterile conditions.
Break the swab shaft.</td>
<td>URINE</td>
<td>*URINE CULTURE</td>
</tr>
<tr>
<td>
Tube
STERILE</td>
<td>STERILE
For cavity fluids heparinise</td>
<td>CSF

VARIOUS FLUIDS</td>
<td>CULTURE ON

CSF and OTHER FLUIDS
CHEMICAL EXAMINATION OF CSF
MOLECULAR BIOLOGY EXAMINATION OF CSF</td>
</tr>
<tr>
<td>
PINK cap swab</td>
<td rowspan="2">After collection, reinsert the swab into its tube and break the shaft at the breaking point.

Warning: make sure that the transport medium does not leak out.</td>
<td>Swabs from various sites

Screening swabs
(sentinel organisms, neonatal colonisation)</td>
<td rowspan="2">CULTURE TESTS FOR MICROBIOLOGY</td>
</tr>
<tr>
<td>
ORANGE cap swab</td>
<td>Ocular swabs

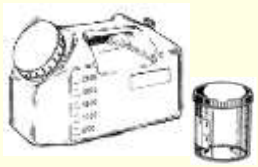
Conjunctival swabs

Ear swabs

Swabs in newborns

Cervical swabs

Urethral swabs</td>
</tr>
</table>

 **LIGHT BLUE cap swab**		**Vagino-rectal swab for group B streptococcus** *(S. agalactiae)*	**CULTURE TESTS FOR MICROBIOLOGY**
 **URINE 24-HOUR collection**	NONE Acidification required for some tests	**URINE** DELIVER A SAMPLE OF THE 24h URINE IN A SCREW-CAP JAR WITH THE DIURESIS SPECIFIED	**CREATININE CLEARANCE - AZOTURIA** **URINARY ELECTROLYTES - URICURIA OXALURIA - CITRATURIA - URINARY CORTISOL ALDOSTERONE** Protected from light (see instructions): **UROPORPHYRINS** Acidified (see instructions): **VANILLYLMANDELIC AC. – 5-OH INDOLEACETIC AC. CATECHOLAMINES - METANEPHRINES**
Bottles for BLOOD CULTURES	MEDIUM CULTURE	**BLOOD**	**BLOOD CULTURE** 2 bottles for aerobiosis 2 bottles for anaerobiosis ADHERE SCRUPULOUSLY TO THE COLLECTION PROCEDURE
 **Container FAECES**	STERILE Preservation swab for S.O. containers	**FAECES**	**MYCOBACTERIA - PARASITES - CANDIDA – Ag. *H. PYLORI* - ROTAVIRUS - ADENOVIRUS – CHYMOTRYPSIN – FAECAL ELASTASE - CALPROTECTIN *CLOSTRIDIUM DIFFICILE* (on ice and diarrhoeal faeces only) EOSINOPHILS -**
 **Container dedicated to occult blood**	Specific preservative	**FAECES**	**OCCULT BLOOD**

 **GREEN cap swab**	After collecting the faeces in a suitable container, take a small quantity of sample by inserting the swab completely and rotating it for a few seconds; in particular, dip it into areas with blood, mucus or water. Reinsert it into its tube and break the swab. Warning: do not use the swab like a spoon, but rotate it like a probe. Do not fill with an excessive quantity, not exceeding the "MAX FILL" line indicated on the tube label. If the collection is excessive, repeat with a new kit.	**FAECES**	**Stool culture** (**Salmon.-Shigella -Campylobacter)** **Testing for Yersinia** **Testing for faecal fungi** **Testing for *E. coli***
Sterile empty Petri dishes, sterile nail scissors, sterile tweezers for hair, sterile scalpel	Collect nails with scissors and scalpel; scrape skin scales with a scalpel; collect hair with tweezers	**NAILS** **HAIR** **SKIN SCALES**	**Testing for dermatophytes (moulds, fungi) on nail samples, skin scales, hair**
Sterile tube	Lumbar puncture. If possible, 2 ml per tube	**CSF**	**CSF culture test** **CSF chemical-physical examination** **CSF molecular biology examination**
4 blood culture bottles (two aerobic and two anaerobic)	Ask the laboratory for information (0375-281482)	**WHOLE BLOOD**	**BLOOD CULTURE**
Sterile container with screw cap	Moisten the biopsy with a thin layer of sterile SALINE	**BIOPSY**	**Biopsy culture test**