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Revision	Date	VERIFICATION AND APPROVAL	
1	June 2022	<i>Office</i> Director of the Microbiology Unit Head of the Analysis Laboratory Unit Director of the Pathological Anatomy Unit	<i>Approved by</i> Dr Pierangelo Clerici Dr Sergio Finazzi Dr Paolo Fociani
2	February 2025	Acting Director of the Microbiology Department Director of the Analysis Laboratory Department	Dr Bianca Osnaghi Dr Sergio Finazzi

URINE ANALYSIS

☐ HOW TO COLLECT MORNING URINE



1. Wash your hands and external genitals thoroughly **REMOVE THE CAP** by unscrewing it



2. Place the lid **UPSIDE DOWN** on a clean surface



3. **DO NOT TOUCH THE INTERNAL SURFACES** of the container and the lid



4. **COLLECT THE URINE SAMPLE** during the intermediate phase of urination.
Fill the container no more than 3/4 of its capacity



5. **CAREFULLY CLOSE** the container by screwing the lid clockwise



6. **HOMOGENIZE** the sample before transferring it to the test tube



7. **PARTIALLY LIFT** the protective label
Warning: presence of needle



8. **INSERT THE TEST TUBE.** Apply and maintain moderate pressure on the test tube. **WAIT UNTIL COMPLETELY FILLED** (cessation of flow)



9. Remove the test tube. **CAREFULLY REPOSITION THE PROTECTIVE LABEL ON THE LID**



10. **TEST TUBE WITH PRESERVATIVE:** Homogenize the sample (8-10 times by slow inversion)

☐ MID-STREAM URINE CULTURE

1. Avoid taking antibiotics for at least 5 days before the test. Fasting is not necessary.
2. Collect the first urine of the morning, or 4 hours after the last urination, as indicated in HOW TO COLLECT MORNING URINE, and deliver the sample as soon as possible.

☐ PHYSICAL-CHEMICAL EXAMINATION WITH SEDIMENT, PREGNANCY TEST, CYSTINURIA AND BIOCHEMICAL ASSAYS

1. For physical-chemical examination, do not collect samples during the menstrual period.
2. Avoid intense and prolonged physical effort in the 2 days before and on the morning of the collection.
3. Collect the first urine of the morning, as indicated in HOW TO COLLECT MORNING URINE.

☐ CROSS-LINKS

1. In the morning, upon waking up, eliminate the urine of the night (first urine). After 2 hours, collect a urine sample as indicated in HOW TO COLLECT MORNING URINE.
2. Darken the test tube with aluminium foil and deliver as soon as possible, in any event by 12:30 pm on the same day.

☐ IMMUNOFIXATION, BENGE-JONES PROTEIN, ERYTHROCYTE MORPHOLOGY

1. In the morning, upon waking up, eliminate the urine of the night (first urine).
2. Collect the second urine of the morning, as indicated in HOW TO COLLECT MORNING URINE.

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☐ URINE FOR DETECTION OF TRICHOMONAS, LEGIONELLA AND PNEUMOCOCCUS

1. Collect the first urine of the morning (including the first stream) in the jar with a screw cap.
2. Deliver the sample within the first hours of collection.

☐ PARASITOLOGICAL URINE FOR DETECTION OF SCHISTOSOMA HAEMATOBII EGGS (Bilharzia)

1. Collect the urine of the entire urination in the sterile container after a moderate amount of physical exercise (for example, about 30 push-ups, or running up a flight of stairs).
2. Deliver the sample, keeping it away from light, within the first hours of collection.

☐ URINE FOR KOCH'S BACILLUS (Mycobacteria)

1. Thoroughly clean the external genitals with soap and water and rinse accurately with water.
2. Collect the first urine of the morning (including the first jet) in the screw-cap tube and deliver within the first hours of collection.
3. If the investigation is requested **on multiple samples**, collect the samples on consecutive days, delivering each collection daily.

☐ URINE CULTURE AND URINE IN NEWBORNS

1. For urine culture, avoid giving the newborn antibiotics for at least 5 days before the test. Fasting is not necessary.
2. Wash your hands with soap and water and dry them.
Wash the child's genitals thoroughly several times and dry them.
3. Apply the sterile adhesive plastic bag, and wait for the child to urinate.
4. Wash your hands again, gently remove the bag, fold the adhesive part of the bag and insert it into the jar, making sure that urine does not leak out of the bag.
5. Deliver within the first hours of collection.

☐ 24-hour URINE COLLECTION METHOD

1. Establish the collection start time (e.g. 7 a.m.) and discard the first urination. Collect all urine for 24 hours, including urine from the same time (in the example, 7 a.m.) of the following morning.
2. Keep the container closed during collection, in a cool place and away from light.
3. At the end of collection, shake the container to mix the urine without turning it upside down.
4. Paying attention to the presence of the needle, remove the adhesive label from the small cap (collection area) and insert the test tube from the cap side, applying moderate pressure until it is completely full.
5. Write the total amount of urine discharged on the test tube (there is a graduated scale on the bin).
6. Deliver only the test tube containing the urine sample collected.

☐ 24 hours ACIDIFIED

1. **NB:** the bin contains concentrated hydrochloric acid (corrosive substance)
 - do not urinate directly into the bin but into a clean container (e.g. a plastic cup) and pour the urine keeping your face away from the container (irritating fumes may develop)
 - keep the container tightly closed and out of the reach of children
 - keep the container away from heat sources and do not turn it upside down
 - in the event of accidental contact of the skin with the acid, wash immediately with plenty of water and consult your doctor
2. To collect, follow the instructions set out above for 24-hour URINE COLLECTION METHOD, from point 1 to point 3, and deliver the entire bin.

Dietary restrictions for the following tests:

- ☐ 5-HYDROXY INDOLEACETIC ACID, VANILMANDELIC ACID: two days before and during collection, follow a diet without bananas, vanilla and chocolate
- ☐ CITRATES: avoid the intake of citrus fruits (oranges, mandarins, lemons, etc.) and vitamin C in the two days before and during collection

☐ 24 hours FOR UROCOPROPORPHYRINS

1. The urine must be collected in a container with preservative (Sodium Carbonate).
2. Urinate into a clean disposable plastic cup and pour the urine into the bin.
3. For collection, follow the instructions set out above for 24-hour URINE COLLECTION METHOD, but deliver the entire bin.