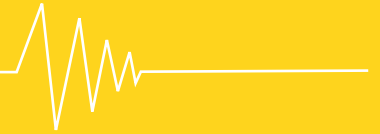


**The alternative to
visual inspection during urine collection:
The RUMA marker system**



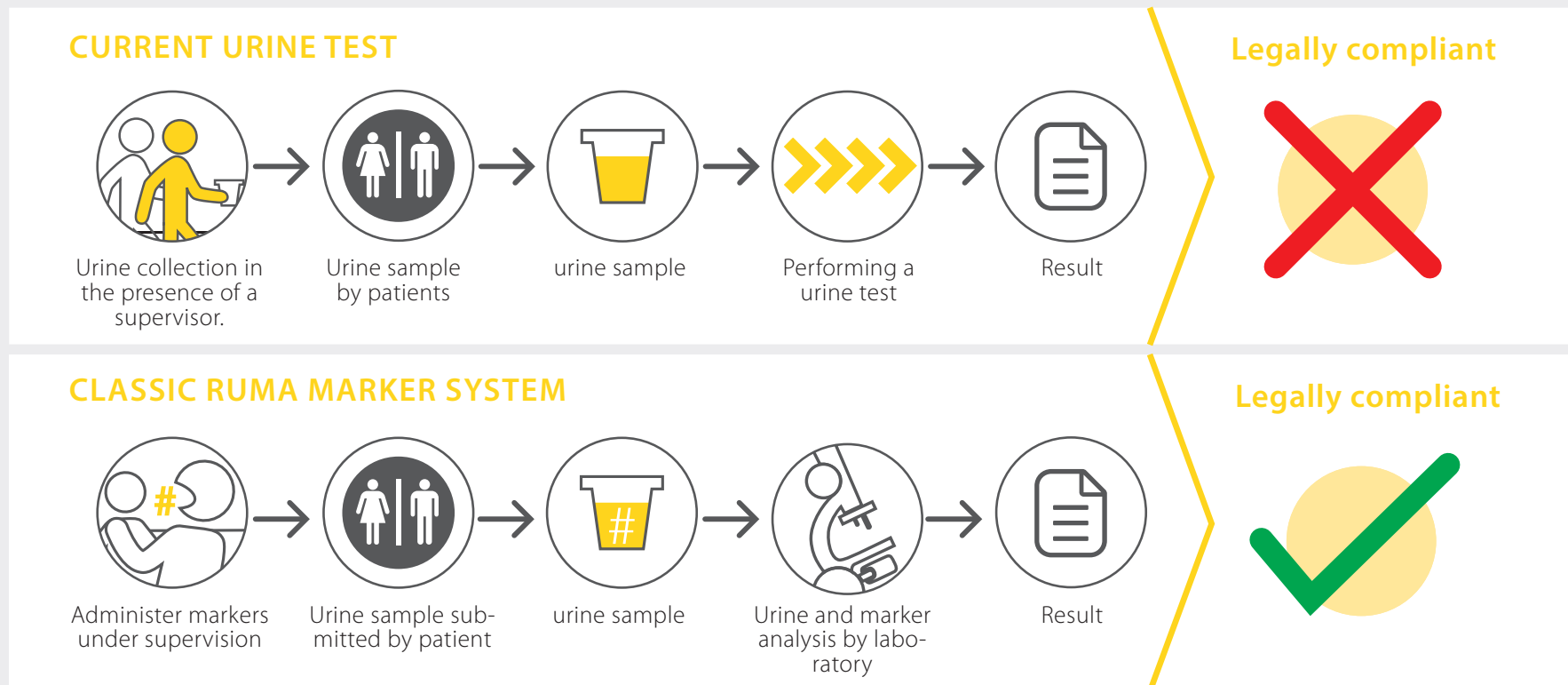
Practical problems with urine analysis under direct vision

- Daily, endless discussions undermine mutual trust („can't come now," „can't I come tomorrow?," „I have other appointments").
- Patients wait in the waiting room until they can urinate.
- A person of the same sex must be available for visual monitoring.
- Some patients have difficulty urinating under direct vision.
>> Organizational delays/additional workload, planning uncertainties



The Constitutional Court has ruled that visual inspection during urine tests is unconstitutional. The Ruma Marker system ensures a legally compliant procedure.

The comparison at a glance:





The path of the Ruma® marker

The Ruma Marker acts as a „fingerprint“ in the urine sample itself. The individual markers—PEGs with varying chain lengths—are not processed by the body. They are excreted completely, exactly as they were ingested. As completely inert substances, they are neither drugs nor medical devices and, in fact, do not even need to be listed as ingredients.

This has been confirmed by international testing, for example, at the EMA and FDA. The different chain lengths of our markers serve as a code. Each marker is individually coded and unique.

The structure of the markers is not altered by the addition or ingestion of other substances. Several clinical studies have unequivocally demonstrated that the detection and identification of individual markers is not impaired by food and beverages of any kind, nor by the addition of chemicals such as oxidants, acids, alkalis, etc. On the contrary, any attempts at tampering are reliably detected and reported within the patented Ruma Marker System.



Controlled delivery of the individualized Ruma® marker to patients.



He/She takes the Ruma® Marker under supervision (or using the recording function of the Ruma Digital System).



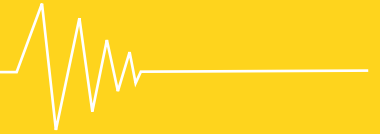
After waiting:
Submission of the urine sample without supervision.



The marker is contained in the urine sample.



The laboratory tests for the marker assigned by the doctor, manipulations, and, in the case of capsules, additionally for an analysis spectrum of up to 100 different substances.



Instructions for Ruma[®] Marker Capsule



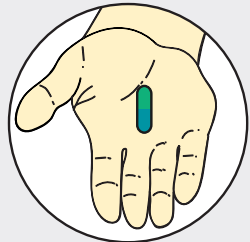
PREPARATION

Laboratory Form

- > Complete and check patient data.

Marker Vial (Identification Code)

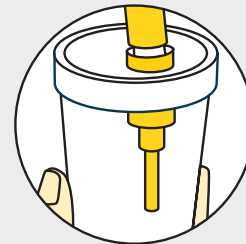
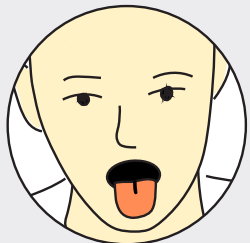
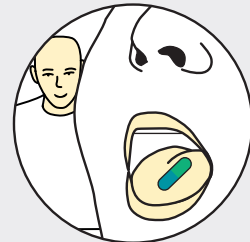
- > Affix the marker label with the barcode to the laboratory form or accompanying document.
- > Caution: The marker barcode sticker must be affixed to the laboratory form (the second barcode can be used for internal records). There are two identical codes.



ADVICE

Administration

- > Remove the marker vial from the packaging.
- > Ensure the vial is held between your thumb and forefinger.
- > The subject swallows the vial under supervision.
- > To visually verify administration, stand to the side of the patient.
- > Drink approximately 200 ml of a soft drink to help swallow the vial.
- > After swallowing the marker vial, the patient waits 30 seconds.
- > A subsequent oral check verifies that the vial has been completely swallowed.



Urine Collection

- > Affix one of the laboratory stickers to the Monovette.
- > After waiting at least 60 minutes, the patient can collect the urine independently.

Collection is possible up to several hours after marker administration, but importantly: the first urine sample after marker administration is required.

- > Caution: Do not drink anything during the waiting period.
- > No visual inspection is required during urination.



Shipping

- > Pack the urine collection tube in the enclosed protective sleeve. Please use only the provided shipping bags for shipping.

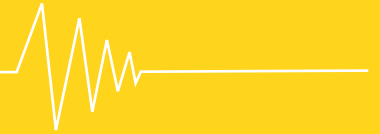
INSTRUCTIONS FOR URINE COLLECTION

After waiting at least 60 minutes, the patient can collect a urine sample independently.

Important: The first urine sample after taking the marker is required.

Caution: Nothing should be consumed during the waiting period. No visual monitoring is required during urination.





Instructions Ruma[®]-Marker Classic



PREPARATION

Laboratory Form

- > Complete and check patient data.

Marker Vial (Identification Code)

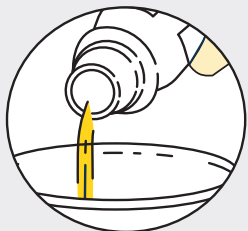
- > Affix the marker label with the barcode to the laboratory form or accompanying document.
- > Note: The marker barcode sticker must be affixed to the laboratory form (the second barcode can be used for internal records). There are two identical codes.



ADVICE

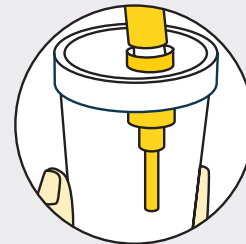
Administration

- > Remove the marker capsule from the packaging.
- > Ensure the capsule is held between your thumb and forefinger.
- > The patient swallows the capsule under supervision.
- > To visually verify administration, stand sideways to the patient.
- > Drink approximately 200 ml of soft drink to wash down the capsule.



After swallowing the marker capsule, the patient waits 30 seconds.

The complete swallowing of the capsule is then checked by checking the mouth.



Urine Collection

- > Affix one of the laboratory stickers to the Monovette.
- > After waiting at least 45 minutes, the patient can collect the urine independently.

Collection is possible up to several hours after marker administration, but importantly: the first urine sample after marker administration is required.

- > Caution: Do not drink anything during the waiting period.
- > No visual inspection is required during urination.



Shipping

- > Pack the urine collection tube in the enclosed protective sleeve. Please use only the provided shipping bags for shipping.

INSTRUCTIONS FOR URINE COLLECTION

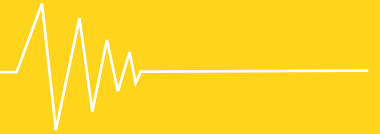
After waiting at least 45 minutes, the patient can collect a urine sample independently.



Important: The first urine sample after taking the marker is required.



Caution: Nothing should be consumed during the waiting period. No visual monitoring is required during urination.



Experiences with marker analysis

- Markers are tolerated or even welcomed by the majority of patients.
- The waiting time is often perceived as a period of rest, and often used for conversation.
- No side effects were reported.
- Discussions prior to visual inspection are eliminated.
- Patients do not have to wait in the practice to urinate.
- The staff-intensive visual inspection is eliminated.
- The samples can be reliably assigned.

RUMA®

Marker-System



RUMA® Marker-System

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