


CAPT_URI_0200JA1 Quick Sheet Specimen Collection - Urine Screening for Glucose Ketones Protein et al

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Specimen Collection: Urine Screening for Glucose, Ketones, Protein, Blood, pH, and Specific Gravity – Quick Sheet

NOTE*-Urine that has been in the bladder for an extended period of time does not provide accurate glucose results.

False-positive or false-negative results can occur with use of reagent strips.

1. Perform hand hygiene before patient contact.
2. Introduce yourself to the patient.
3. Verify the correct patient using two identifiers.
4. Determine the reason for the urine test.
5. Determine whether the patient or a family member needs to learn and is capable of learning to perform the skill.
6. Determine whether the patient is proficient with double-voided specimen collection or requires teaching.
7. Determine the patient's medications and check the drug literature for their effects on reagent strips.
8. Assess the patient's ability to read colors on the reagent strip.
9. If the patient or a family member is to perform the test, ensure that he or she understands how to use each item.
10. Determine whether a double-voided specimen is needed for testing. If so, have the patient collect a random urine specimen and discard it, drink a glass of water, and collect another specimen within 40 minutes.
11. Perform hand hygiene and don gloves.
12. Explain the procedure to the patient and ensure that he or she agrees to the treatment.
13. Have reagent test strips that assess multiple chemical properties (i.e., specific gravity [SG], pH, protein, glucose, ketones, blood, bilirubin, urobilinogen, leukocytes, nitrites) at the bedside. Keep the strips in the bottle with the cap tightly closed to maintain reagent reactivity.
14. Check the expiration date on the reagent strip bottle. **Do not use strips after the expiration date.**
15. Obtain the urine specimen from the patient, ensuring that the specimen is not contaminated with feces or toilet tissue. **Test only urine that is fresh (not refrigerated).**
16. Observe the color of the urine.
17. Observe the appearance of the urine.
18. Gently swirl the urine container to mix the urine thoroughly.
19. Remove one strip from the test strip bottle and replace the cap immediately. **Do not touch the test pads on the strip.**
20. Dip the strip into the specimen, ensuring that all of the reagent pads are immersed; remove the strip immediately.
21. While removing the strip from the specimen, run the edge of the strip against the rim of the urine container to remove excess urine. **Never blot the test pads.**
22. Turn the strip to the horizontal position.

Written by:	Ron Garbuio
Reviewed by:	Ron Garbuio
Reviewed on:	2019-04-01
Renewed by:	Ronny Garbuio
Renewed on:	2021-07-26

Approved by (sign.):	
Approved by (name):	Cheng-Han Lee
Approved on:	2019-04-01
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23. Hold the strip close to the color key on the bottle without touching the bottle. After the required waiting periods specified on the bottle, carefully compare the reagent pads on the strip with the color key on the bottle (Figure 1) (Table 1).
24. Note whether the urine is positive for blood, protein, glucose, or ketones.
25. Discard the urine.
26. Assess, treat, and reassess pain.
27. Discard supplies, remove gloves, and perform hand hygiene.
28. Report the reading to the practitioner, if warranted.
29. Document the procedure in the patient's record.

Adapted from Perry, A.G., Potter, P.A., Ostendorf, W.R. (Eds.). (2018). *Clinical nursing skills & techniques* (9th ed.). St. Louis: Elsevier.

Clinical Review: Kathleen M. Stacy, PhD, RN, APRN-CNS, CCNS

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Illustrations

Figure 1



Testing urine using a reagent strip. (From Perry, A.G., Potter, P.A., Ostendorf, W.R. [Eds.]. [2018]. *Clinical nursing skills & techniques* [9th ed.]. St. Louis: Elsevier.)

Table 1 Reagent Strip Expected Results

Test strip parameter	Expected values	Result values
SG	1.016 – 1.022	1.000, 1.005, 1.010, 1.015, 1.020, 1.025, 1.030
pH	4.8 – 7.4	5, 6, 6.5, 7, 8, 9
LEU	< 10 Leu/ μ L	NEG, 25, 100, 500 Leu/ μ L
NIT	–	NEG, POS
PRO	< 10 mg/dL < 0.1 g/L	NEG, 25, 75, 150, 500 mg/dL NEG, 0.25, 0.75, 1.5, 5.0 g/L
GLU	< 30 mg/dL < 1.7 mmol/L	NORM, 50, 100, 300, 1000 mg/dL NORM, 3, 6, 17, 56 mmol/L
KET	< 5 mg/dL < 0.5 mmol/L	NEG, 5, 15, 50, 150 mg/dL NEG, 0.5, 1.5, 5, 15 mmol/L
UBG	< 1 mg/dL < 17 μ mol/L	NORM, 1, 4, 8, 12 mg/dL NORM, 17, 68, 135, 203 μ mol/L
BIL	< 0.2 mg/dL < 3.4 μ mol/L	NEG, 1, 3, 6 mg/dL NEG, 17, 50, 100 μ mol/L
ERY	0 – 5 Ery/ μ L	NEG, 10, 25, 50, (150), 250 Ery/ μ L

(From Perry, A.G., Potter, P.A., Ostendorf, W.R. [Eds.]. [2018]. *Clinical nursing skills & techniques* [9th ed.]. St. Louis: Elsevier.)

Reference

https://point-of-care.elsevierperformancemanager.com/skills/431/quick-sheet?skillId=GN_43_4