

AM1/25: Basic Clinical Chemistry - Urine

This EQA round was accomplished according to the document *EQA Plan 2025*.

Typing conventions: We are using comma as a decimal separator and dates in day.month.year format.

Samples

Commercial samples were used.

Supervisor's comment

There were 288 participants in this round, 1 from Austria and 53 of them from Slovakia.

The assigned values were determined as follows:

- Total protein: Robust averages within homogeneous groups (CVPG) arranged according to reagent manufacturers (code R), minimum size of a group $n = 5$.
- Other tests: Robust averages of results across all participants (CVP).

The results were excellent, as the overall success rate for all tests was 95 % or higher.

Educational part of the round – uncertainties of measurement results

An overview of the relative combined expanded uncertainties (U_c) reported by the participants can be found in the table below.

Test	Sample A				Sample B			
	Minimum [%]	Average [%]	Maximum [%]	n	Minimum [%]	Average [%]	Maximum [%]	n
(71) Total protein	1,9	7,6	23	75	0,98	6,3	21	75
(62) Potassium	1,1	3,4	13	78	1,1	3,7	13	78
(65) Inorganic phosphate	1,5	5,2	15	76	1,2	4,7	17	76
(70) Glucose	0,60	4,5	16	65	1,1	4,3	12	65
(73) Magnesium	2,0	6,0	20	71	0,47	5,3	20	71
(63) Chloride	1,0	3,2	9,2	78	1,1	3,0	9,2	78
(68) Creatinine	1,5	4,8	15	82	1,4	4,7	15	82
(69) Uric acid	0,70	4,7	19	75	0,70	4,3	19	75
(67) Urea	0,70	5,4	17	77	0,70	5,3	17	77
(66) Osmolality	0,40	1,9	5,2	36	0,40	1,9	5,2	36
(72) pH	0,13	2,1	6,5	7	0,11	2,1	6,5	7
(61) Sodium	0,92	2,9	8,9	78	0,56	2,5	8,9	78
(64) Calcium	1,3	3,9	18	79	1,3	3,8	18	79

87 participants, i.e. one third of the participants of the round, reported uncertainties of their results.

The average magnitudes of uncertainties are realistic. However, we still encounter cases where the differences between the minimum and maximum are orders of magnitude. In these cases in particular, we recommend checking whether participants have included all uncertainty components in the uncertainty calculation and whether they regularly revise (recalculate) their uncertainty estimates, or whether there has been no confusion of units and whether the expanded ($k = 2$) uncertainty has actually been reported.

Long term success rate

You can find the overview of the total success of the participants of this round over last 2 years in the following table. Particular ranges of success are defined in the column headers (percentage of the tests on which the participant reported the correct result). Next 2 lines contain both absolute and relative number of participants who reached the success from the header.

<i>Success</i>		0 %	1 - 74 %	75 - 79 %	80 - 89 %	90 - 94 %	95 - 99 %	100 %
Success in words		unsatisfactory		acceptable	good	very good	excellent	
Count	absolute	0	1	1	4	6	67	209
	relative	-	0,35 %	0,35 %	1,4 %	2,1 %	23 %	73 %

Note: You can find your individual success over last 2 years in your result sheet.

The long-term success rate of most participants of this round over the past 2 years is 95 % or greater.

Lower success rates should be an impulse for improvement.

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Supplements

As a supplement to this report individual participant who reported the results gain:

<i>Name</i>	<i>Description</i>
Confirmation of attendance Certificate Result sheet	The conditions for issuing the relevant document specified in the EQA Plan must be met.
Summary overviews of quantitative results	These documents include a graphical overview of the results in the form of the complex statistics (this includes for each test a Youden plot or histograms, an overview of the P-score for 2 years history, an overview of the results with uncertainties and summary statistics in graphical form).

The supplements are identified by their name, EQA round identification and participant code and are intended for the needs of the participant.

If you reported the results in this round, you can find your individual evaluation (reports) in the **Cibule** application (<https://www.eqa.cz/cibule>). After login, select **EQA Results - View** in the menu and then click the **Reports** button for the particular round.

Additional information

The final report, with the exception of the supplements, is public. Further information is freely available to the participants and other professionals at www.sekk.cz, in particular:

- The summary of the results of this round, including this final report.
- The criteria (D_{max}) for a quantitative results assessment.
- The document **EQA Plan** (contains information that applies both to this round and also the EQA in general).
- Explanation of the content of the particular supplements mentioned above.
- Contact to the EQA provider and the EQA coordinator and the list of all supervisors, including contacts.