

## Summary statistics - quantitative results

(Groups: measurement principle)

Filter: Slovakia, minimal size of groups n = 5

## EQA round: AM1/19 - Basic Clinical Chemistry - Urine

Dead line: 12.04.2019

RoM = robust average	AV = assigned value	Dmax = acceptable percent difference
SD = standard deviation	CRV = certified reference value	LL = lower limit
CV = coefficient of variation	RV = reference value	UL = upper limit
Ntot = total number of participants	CVE = consensus value from experts	Neva = number of evaluated participants
Nout = number of results excluded before calculation	CVP = consensus value from all participants	Nsuc = number of successful participants
	CVPG = consensus value from participants groups	Srel = success (relative)
	U <sub>AV</sub> = expanded uncertainty of the assigned value (k = 2)	

Test	[unit]	Comparability										Traceability											
		RoM	SD	CV [%]	N <sub>tot</sub>	N <sub>out</sub>	AV	U <sub>AV</sub>	D <sub>max</sub>	LL	UL	N <sub>eva</sub>	N <sub>suc</sub>	S <sub>rel</sub>	AV	U <sub>AV</sub>	D <sub>max</sub>	LL	UL	N <sub>eva</sub>	N <sub>suc</sub>	S <sub>rel</sub>	
<b>(61) Sodium</b>					50							50	49	98%							0		
Samples and groups	[mmol/L]																						
<b>Sample A</b>		168	2,8	1,7	50		CVP	168	0,42	11%	149	187	50	49	98%						0		
(2) Indirect ISE		168	2,7	1,6	45	0							45										
(3) Direct ISE		167	2,0	1,2	5	0							5										
<b>Sample B</b>		66,1	1,1	1,7	50		CVP	66,7	0,21	11%	59,3	74,1	50	50	100%						0		
(2) Indirect ISE		66,1	1,1	1,7	45	0							45										
(3) Direct ISE		66,1	0,76	1,1	5	0							5										
<b>(62) Potassium</b>					50								50	49	98%						0		
Samples and groups	[mmol/L]																						
<b>Sample A</b>		65,5	2,0	3,1	50		CVP	64,6	0,31	15%	54,9	74,3	50	49	98%						0		
(2) Indirect ISE		65,5	2,1	3,2	45	0							45										
(3) Direct ISE		65,2	1,4	2,2	5	0							5										
<b>Sample B</b>		25,1	0,74	3,0	50		CVP	25,0	0,099	15%	21,2	28,8	50	49	98%						0		
(2) Indirect ISE		25,2	0,77	3,1	45	0							45										
(3) Direct ISE		25,1	0,25	1,0	5	0							5										
<b>(63) Chloride</b>					49								49	47	96%						0		
Samples and groups	[mmol/L]																						
<b>Sample A</b>		197	4,3	2,2	49		CVP	195	0,74	14%	167	223	49	49	100%						0		
(3) Indirect ISE		197	4,3	2,2	43	0							43										
(4) Direct ISE		200	7,0	3,5	5	0							5										
Other					1	0							1										
<b>Sample B</b>		67,4	2,2	3,3	49		CVP	66,8	0,48	14%	57,4	76,2	49	47	96%						0		
(3) Indirect ISE		67,3	2,2	3,3	43	0							43										
(4) Direct ISE		68,5	0,74	1,1	5	0							5										
Other					1	0							1										
							Ix 2																
<b>(64) Calcium</b>					50								50	49	98%						0		
Samples and groups	[mmol/L]																						
<b>Sample A</b>		3,04	0,11	3,8	50		CVP	3,05	0,017	18%	2,5	3,6	50	49	98%						0		
(2) Phot. with o-cresol.		3,08	0,08	2,7	12	0							12										
(3) Phot. with arsenazo		3,02	0,14	4,7	31	0							31										
(4) Photomet. with NM-BAPTA		3,06	0,06	2,2	7	0							7										
<b>Sample B</b>		2,04	0,10	4,9	50		CVP	2,05	0,013	18%	1,68	2,42	50	49	98%						0		
(2) Phot. with o-cresol.		2,07	0,08	3,9	12	0							12										
(3) Phot. with arsenazo		2,02	0,11	5,6	31	0							31										
(4) Photomet. with NM-BAPTA		2,09	0,02	1,1	7	0							7										

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Test	[unit]	Comparability					Traceability																		
		RoM	SD	CV [%]	N <sub>tot</sub>	N <sub>out</sub>	AV	U <sub>AV</sub>	D <sub>max</sub>	LL	UL	N <sub>eva</sub>	N <sub>suc</sub>	S <sub>rel</sub>	AV	U <sub>AV</sub>	D <sub>max</sub>	LL	UL	N <sub>eva</sub>	N <sub>suc</sub>	S <sub>rel</sub>			
<b>(73) Magnesium</b>	[mmol/L]				48							48	48	100%									0		
Samples and groups																									
<b>Sample A</b>		4,85	0,21	4,4	48	CVP	4,85	0,035	20%	3,88	5,82	48	48	100%									0		
(2) Photometry with coloured dyes		4,86	0,21	4,4	46	0						46													
Other					2	0						2													
						2x 4																			
<b>Sample B</b>		2,56	0,14	5,4	48	CVP	2,55	0,021	20%	2,04	3,06	48	48	100%									0		
(2) Photometry with coloured dyes		2,56	0,14	5,3	46	0						46													
Other					2	0						2													
						2x 4																			
<b>(65) Inorganic phosphate</b>	[mmol/L]				50							50	50	100%									0		
Samples and groups																									
<b>Sample A</b>		14,0	0,53	3,8	50	CVP	14,0	0,081	18%	11,4	16,6	50	50	100%									0		
(1) UV-molybdate method		14,0	0,52	3,7	47	0						47													
Other					3	0						3													
						2x 2, 1x 3																			
<b>Sample B</b>		6,89	0,32	4,6	50	CVP	6,9	0,047	18%	5,65	8,15	50	50	100%									0		
(1) UV-molybdate method		6,91	0,31	4,6	47	0						47													
Other					3	0						3													
						2x 2, 1x 3																			
<b>(66) Osmolality</b>	[mmol/kg]				21							21	20	95%									0		
Samples and groups																									
<b>Sample A</b>		770	8,6	1,1	21	CVP	770	1,5	4%	739	801	21	20	95%									0		
(1) Osmometer		771	7,5	0,97	20	0						20													
Other					1	0						1													
						1x 99																			
<b>Sample B</b>		326	3,1	0,94	21	CVP	326	0,62	4%	312	340	21	20	95%									0		
(1) Osmometer		326	2,8	0,86	20	0						20													
Other					1	0						1													
						1x 99																			
<b>(67) Urea</b>	[mmol/L]				50							50	50	100%									0		
Samples and groups																									
<b>Sample A</b>		283	11	3,9	50	CVP	286	1,9	17%	237	335	50	50	100%									0		
(1) UV enzymatic m.(GMD)		283	11	4,0	49	0						49													
Other					1	0						1													
						1x 2																			
<b>Sample B</b>		136	7,0	5,1	50	CVP	136	0,97	17%	112	160	50	50	100%									0		
(1) UV enzymatic m.(GMD)		136	7,0	5,2	49	0						49													
Other					1	0						1													
						1x 2																			
<b>(68) Creatinine</b>	[mmol/L]				50							0											50	49	98%
Samples and groups																									
<b>Sample A</b>		12,6	0,51	4,0	50							0	RV	12,54	0,24	21%	9,9	15,2					50	49	98%
(1) Jaffe		12,6	0,53	4,3	27	0																	27		
(3) Enzyme		12,7	0,48	3,8	23	0																	23		
<b>Sample B</b>		5,68	0,27	4,7	50							0	RV	5,74	0,11	21%	4,53	6,95					50	49	98%
(1) Jaffe		5,60	0,26	4,7	27	0																	27		
(3) Enzyme		5,76	0,23	4,0	23	0																	23		

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Test	[unit]	Comparability					Traceability																	
		RoM	SD	CV [%]	N <sub>tot</sub>	N <sub>out</sub>	AV	U <sub>AV</sub>	D <sub>max</sub>	LL	UL	N <sub>eva</sub>	N <sub>suc</sub>	S <sub>rel</sub>	AV	U <sub>AV</sub>	D <sub>max</sub>	LL	UL	N <sub>eva</sub>	N <sub>suc</sub>	S <sub>rel</sub>		
<b>(69) Uric acid</b>	[mmol/L]				48							48	45	94%									0	
Samples and groups																								
<b>Sample A</b>		0,781	0,05	7,3	48		CVP	0,766	,0076	23%	0,589	0,943			48	47	98%						0	
(2) Enzyme-photomet. m.		0,781	0,05	7,3	48	0									48									
<b>Sample B</b>		0,350	0,03	9,8	48		CVP	0,339	,0053	23%	0,261	0,417			48	45	94%						0	
(2) Enzyme-photomet. m.		0,350	0,03	9,8	48	0									48									
<b>(70) Glucose</b>	[mmol/L]				48										48	47	98%						0	
Samples and groups																								
<b>Sample A</b>		16,1	0,47	2,9	48		CVP	16,2	0,071	22%	12,6	19,8			48	48	100%						0	
(1) GOD photometry		16,0	0,39	2,4	13	0									13									
(3) Method with hexokinase		16,2	0,52	3,2	32	0									32									
Other					3	0									3									
							3x 2																	
<b>Sample B</b>		1,50	0,10	6,7	48		CVP	1,51	0,012	22%	1,17	1,85			48	47	98%						0	
(1) GOD photometry		1,43	0,13	8,9	13	0									13									
(3) Method with hexokinase		1,51	0,07	5,1	32	0									32									
Other					3	0									3									
							3x 2																	
<b>(71) Total protein</b>	[g/L]				50										44	43	98%						0	
Samples and groups																								
<b>Sample A</b>		0,783	0,12	15	50										44	44	100%						0	
(1) Biuret; (58) Beckman Coulter (Olympus)		0,869	0,04	4,7	5	0	CVPG	0,865	,0079	30%	0,605	1,13			5									
(2) Pyrogallol red; (58) Beckman Coulter (Olympus)		0,871	0,01	2,1	15	0	CVPG	0,865	,0079	30%	0,605	1,13			15									
(2) Pyrogallol red; (149) Siemens (Dade)		0,777	0,03	4,3	5	0	CVPG	0,755	0,050	30%	0,528	0,982			5									
(4) Turbidimetry; (60) Roche		0,606	0,03	6,1	11	0	CVPG	0,616	0,013	30%	0,431	0,801			11									
Other					14	0									8									
							2x 1/12, 1x 1/178, 3x 2/12, 1x 2/60, 3x 2/75, 2x 2/178, 1x 4/1, 1x 4/77																	
<b>Sample B</b>		0,249	0,07	30	50										44	43	98%						0	
(1) Biuret; (58) Beckman Coulter (Olympus)		0,298	0,01	3,7	5	0	CVPG	0,302	,0032	30%	0,211	0,393			5									
(2) Pyrogallol red; (58) Beckman Coulter (Olympus)		0,304	0,00	2,3	15	0	CVPG	0,302	,0032	30%	0,211	0,393			15									
(2) Pyrogallol red; (149) Siemens (Dade)		0,236	0,00	4,1	5	0	CVPG	0,223	0,021	30%	0,156	0,29			5									
(4) Turbidimetry; (60) Roche		0,141	0,01	12	11	0	CVPG	0,143	,0050	30%	0,1	0,186			11									
Other					14	0									8									
							2x 1/12, 1x 1/178, 3x 2/12, 1x 2/60, 3x 2/75, 2x 2/178, 1x 4/1, 1x 4/77																	
<b>(72) pH</b>	[-]				11										11	11	100%						0	
Samples and groups																								
<b>Sample A</b>		6,72	0,07	1,1	11		CVP	6,77	0,045	5%	6,43	7,11			11	11	100%						0	
(1) Glass electrode		6,74	0,05	0,79	10	0									10									
Other					1	0									1									
							1x 99																	
<b>Sample B</b>		6,72	0,08	1,3	11		CVP	6,78	0,052	5%	6,44	7,12			11	11	100%						0	
(1) Glass electrode		6,74	0,07	1,1	10	0									10									
Other					1	0									1									
							1x 99																	