

# SUMMARY STATISTICS

## EQA round: NF2/18 - Peripheral Blood Smears - Photos

Dead line (EQA round closed): 28.09.2018

Professional supervision: Czech Haematological Society  
National Reference Laboratory for Haematology

Key:	>>>	... marks correct (expected) result
	>	... marks conditionally correct (acceptable) result

### Photo 1

Object no.1 WBC and other nucleous elements - types of cells	>>>	58	Monocyte	100 %
WBC - morphology	>>>	41	No changes	71 %
	>	13	Atypical/reactive monocytes	22 %
		4	Vacuolisation	6,9 %
Object no.2 WBC and other nucleous elements - types of cells	>>>	58	Lymphocyte	100 %
WBC - morphology		14	No changes	24 %
		14	Lymphocytes - reactive forms	24 %
	>>>	26	"Hairy" lymphocytes	45 %
	>	5	Lymphocytes - atypical forms	8,6 %
Object no.3 WBC and other nucleous elements - types of cells		31	Neutrophil segment	53 %
		1	Eosinophil segment	1,7 %
WBC - morphology	>>>	26	Basophiles	45 %
		10	No changes	17 %
		25	Hypergranulation/toxic granulation	43 %
	>>>	11	Hypogranulation/agranulation	19 %
	>	11	Hypersegmented granulocytes	19 %
		1	Döhle bodies	1,7 %
RBC - morphology	>>>	36	Vacuolisation	62 %
		3	No changes	5,2 %
		9	Normocytosis	16 %
		1	Macrocytosis	1,7 %
	>	23	Anisocytosis	40 %
		1	Poikilocytosis	1,7 %
		1	Eliptocytes	1,7 %
	>	18	Spherocytes	31 %
	>>>	50	Stomatocytes	86 %
		1	Drepanocytes	1,7 %
		1	Dacryocytes	1,7 %
		1	Acanthocytes	1,7 %
		2	Polychromasia	3,4 %
	>>>	31	Hypochromia	53 %
		4	Howell-Jolly bodies	6,9 %
		8	Pappenheimer bodies	14 %
		3	Anisochromia	5,2 %
		1	Knizocytes	1,7 %
	>	13	Ovalocytes	22 %
Platelets - morphology	>>>	34	No changes	59 %
		8	Small platelets	14 %
	>	19	Anisocytosis	33 %
	>	5	Platelets hypo-/agranulation	8,6 %

### Photo 2

Object no.1 WBC and other nucleous elements - types of cells	>>>	58	Neutrophil bar	100 %
WBC - morphology		1	No changes	1,7 %
	>>>	55	Hypogranulation/agranulation	95 %
		2	Hyposegmentation or pseudo Pelger anomaly	3,4 %
	>	23	Döhle bodies	40 %
Object no.2 WBC and other nucleous elements - types of cells		1	Neutrophil myelocyte	1,7 %
		1	Neutrophil segment	1,7 %
WBC - morphology	>>>	56	Monocyte	97 %
	>	29	No changes	50 %

## Photo 2

Object no.2 WBC - morphology		1	Hypogranulation/agranulation	1,7 %
	>>>	26	Atypical/reactive monocytes	45 %
		1	Nucleocytoplasmatic asynchrony	1,7 %
		2	Vacuolisation	3,4 %
Object no.3 WBC and other nucleous elements - types of cells	>>>	58	Neutrophil segment	100 %
	WBC - morphology	2	No changes	3,4 %
	>>>	56	Hypogranulation/agranulation	97 %
Object no.4 WBC and other nucleous elements - types of cells	>	2	Hyposegmentation or pseudo Pelger anomaly	3,4 %
		2	Blast	3,4 %
		4	Promyelocyte	6,9 %
		6	Neutrophil myelocyte	10 %
	>>>	43	Monocyte	74 %
	WBC - morphology	3	Lymphocyte	5,2 %
		12	No changes	21 %
		7	Hypogranulation/agranulation	12 %
	>>>	33	Atypical/reactive monocytes	57 %
		9	Vacuolisation	16 %
		2	LGL/big lymphocytes	3,4 %
RBC - morphology		2	Lymphocytes - reactive forms	3,4 %
		2	Microcytosis	3,4 %
		8	Macrocytosis	14 %
	>>>	56	Anisocytosis	97 %
		3	Poikilocytosis	5,2 %
		2	Eliptocytes	3,4 %
	>>>	41	Spherocytes	71 %
	>>>	44	Stomatocytes	76 %
		4	Echinocytes	6,9 %
	>>>	44	Target cells	76 %
		7	Schistocytes (and other fragmentocytes)	12 %
		1	Polychromasia	1,7 %
		3	Hypochromia	5,2 %
		1	Basophilic stippling	1,7 %
		1	Howell-Jolly bodies	1,7 %
		2	Pappenheimer bodies	3,4 %
	>	11	Anisochromia	19 %
	>>>	50	Knizocytes	86 %
	>>>	47	Ovalocytes	81 %
Platelets - morphology		5	No changes	8,6 %
		2	Small platelets	3,4 %
	>	16	Anisocytosis	28 %
	>>>	52	Platelets hypo-/agranulation	90 %

## Photo 3

Object no.1 WBC and other nucleous elements - types of cells		1	Neutrophil segment	1,7 %	
	>>>	57	Lymphocyte	98 %	
	WBC - morphology	>	11	No changes	19 %
		1	Atypical/reactive monocytes	1,7 %	
		1	Vacuolisation	1,7 %	
		2	LGL/big lymphocytes	3,4 %	
	>	14	Lymphocytes - reactive forms	24 %	
	>	4	"Hairy" lymphocytes	6,9 %	
Object no.2 WBC and other nucleous elements - types of cells	>	26	Lymphocytes - atypical forms	45 %	
	>>>	58	Neutrophil segment	100 %	
	WBC - morphology	>>>	47	No changes	81 %
		10	Hypergranulation/toxic granulation	17 %	
Object no.3 WBC and other nucleous elements - types of cells		1	Hypogranulation/agranulation	1,7 %	
		1	Hyposegmentation or pseudo Pelger anomaly	1,7 %	
	>>>	57	Bare nuclei, smudge cell	98 %	
Object no.4 WBC and other nucleous elements - types of cells	WBC - morphology		No changes	26 %	
		1	Nucleus fragments of neutrophiles	1,7 %	
	RBC - morphology	10	Normocytosis	17 %	
		1	Macrocytosis	1,7 %	
	9	Anisocytosis	16 %		
	1	Poikilocytosis	1,7 %		
	1	Eliptocytes	1,7 %		

## Photo 3

RBC - morphology	>	13	Spherocytes	22 %	
	>>>	27	Stomatocytes	47 %	
		1	Drepanocytes	1,7 %	
		3	Dacryocytes	5,2 %	
		20	Acanthocytes	34 %	
		24	Echinocytes	41 %	
	>>>	50	Schistocytes (and other fragmentocytes)	86 %	
		2	Polychromasia	3,4 %	
	>	16	Hypochromia	28 %	
		1	Howell-Jolly bodies	1,7 %	
	>>>	58	Rouleaux formation	100 %	
		4	Pappenheimer bodies	6,9 %	
		9	Anisochromia	16 %	
		4	Knizocytes	6,9 %	
	>	13	Ovalocytes	22 %	
	Platelets - morphology		2	No changes	3,4 %
			3	Large platelets	5,2 %
>>>		49	Anisocytosis	84 %	
>>>		33	Platelets hypo-/agranulation	57 %	
>>>		21	Megakaryocytic nucleus fragments	36 %	

## Photo 4

Object no.1 WBC and other nucleous elements - types of cells		5	Neutrophil myelocyte	8,6 %	
		4	Neutrophil metamyelocyte	6,9 %	
		3	Monocyte	5,2 %	
	>>>	46	Lymphocyte	79 %	
	WBC - morphology		6	No changes	10 %
			3	Hypogranulation/agranulation	5,2 %
			1	Döhle bodies	1,7 %
			3	Atypical/reactive monocytes	5,2 %
		>>>	40	LGL/big lymphocytes	69 %
			5	Lymphocytes - reactive forms	8,6 %
	3	Lymphocytes - atypical forms	5,2 %		
RBC - morphology		1	No changes	1,7 %	
		8	Normocytosis	14 %	
		7	Microcytosis	12 %	
	>	14	Anisocytosis	24 %	
		2	Poikilocytosis	3,4 %	
		2	Eliptocytes	3,4 %	
	>>>	34	Spherocytes	59 %	
	>>>	54	Stomatocytes	93 %	
		1	Acanthocytes	1,7 %	
		10	Echinocytes	17 %	
		1	Target cells	1,7 %	
		1	Schistocytes (and other fragmentocytes)	1,7 %	
	>	14	Hypochromia	24 %	
		1	Howell-Jolly bodies	1,7 %	
		5	Rouleaux formation	8,6 %	
		2	Pappenheimer bodies	3,4 %	
		3	Anisochromia	5,2 %	
>>>	44	Ovalocytes	76 %		
Platelets - morphology		4	No changes	6,9 %	
	>>>	52	Large platelets	90 %	
		1	Small platelets	1,7 %	
	>>>	36	Anisocytosis	62 %	
	>	13	Platelets hypo-/agranulation	22 %	
	2	Megakaryocytic nucleus fragments	3,4 %		

**Evaluation of the results - scoring system**

**NF2/18**

	<b>Photo 1</b>	<b>Photo 2</b>	<b>Photo 3</b>	<b>Photo 4</b>
<b>Maximal achievable score:</b>	<b>50</b>	<b>75</b>	<b>50</b>	<b>35</b>
Successful participants (success 60 % and more):	29 (it is 50 %)	57 (it is 98 %)	50 (it is 86 %)	48 (it is 83 %)
Minimal success in this round:	26,0 %	18,7 %	42,0 %	11,4 %
Maximal success in this round:	88,0 %	100,0 %	100,0 %	100,0 %

<b>Number of participants: 58</b>	
<b>Number of participants that succeeded:</b>	in all 4 photos: 25 (it is 43 %)
	in 3 photos: 23 (it is 40 %)
	in 2 photos: 6 (it is 10 %)
	in 1 photo: 3 (it is 5 %)
	in no photo: 1 (it is 2 %)