

Table S1. Housing conditions of the examined horses.

Parameter	Mean	Standard Deviation	Median	Minimum	Maximum
N° horses at the farm	11	7	10	3	25
Size of paddock (m ²)	1774.3	2032.5	1600.0	15.0	10000.0
N° horses in the paddock	8	7	4	1	21
Space allowance (m ² /animal)	475.0	1162.5	133.3	10.0	10000.0

Table S2. Demographic characteristics of examined horses by farms

Farm	Sex				Age (years)	
	Male		Female		Mean	Standard Deviation
	Count	%	Count	%		
1	1	5.0%	19	95.0%	7	4
2	1	10.0%	9	90.0%	7	6
3	1	20.0%	4	80.0%	8	7
4	0	0.0%	9	100.0%	5	3
5	7	63.6%	4	36.4%	3	3
6	0	0.0%	3	100.0%	5	4
7	1	20.0%	4	80.0%	9	5
8	0	0.0%	12	100.0%	10	9
9	5	20.0%	20	80.0%	6	6

Table S3. Descriptive statistics for AHT, HT, and BUT scores and classification of horses, by the blinded observers, according to the definition of 'unbroken' in Regulation EC 1/2005.

Parameter	Score/ classification	Observer							
		1		2		3		4	
		N	%	N	%	N	%	N	%
APPROACHING AND HALTERING	0	64	38.8%	63	38.2%	66	40.0%	63	38.2%
	1	41	24.8%	50	30.3%	34	20.6%	35	21.2%
	2	60	36.4%	52	31.5%	65	39.4%	67	40.6%
HANDLING	0	80	48.5%	74	44.8%	72	43.6%	72	43.6%
	1	68	41.2%	63	38.2%	41	24.8%	67	40.6%
	2	17	10.3%	28	17.0%	52	31.5%	26	15.8%
BUT score	0	64	38.8%	63	38.2%	66	40.0%	63	38.2%
	1	11	6.7%	7	4.2%	5	3.0%	7	4.2%
	2	34	20.6%	39	23.6%	18	10.9%	26	15.8%
	3	40	24.2%	36	21.8%	36	21.8%	47	28.5%
	4	16	9.7%	20	12.1%	40	24.2%	22	13.3%
Classification according to Regulation EC 1/2005	Broken	61	37.0%	40	24.2%	93	56.4%	102	61.8%
	Unbroken	104	63.0%	125	75.8%	72	43.6%	63	38.2%

Table S4. Factors affecting eye temperature (ET) of horses from the multivariable model including ET as dependent variable.

Parameter	OR	95% Confidence Interval for OR		P value
		Lower	Upper	
BUT score	1.096	0.998	1.204	0.054
Temperature (°C)	1.062	1.025	1.099	0.001
Lux	1.000	1.000	1.000	0.086
Distance between camera and horse (meters)	0.632	0.521	0.766	<0.001
Age (years)	0.981	0.961	1.002	0.075
Sex (male <i>vs</i> female)	0.723	0.508	1.029	0.072

BUT=Broken/Unbroken Test, OR=odds ratio

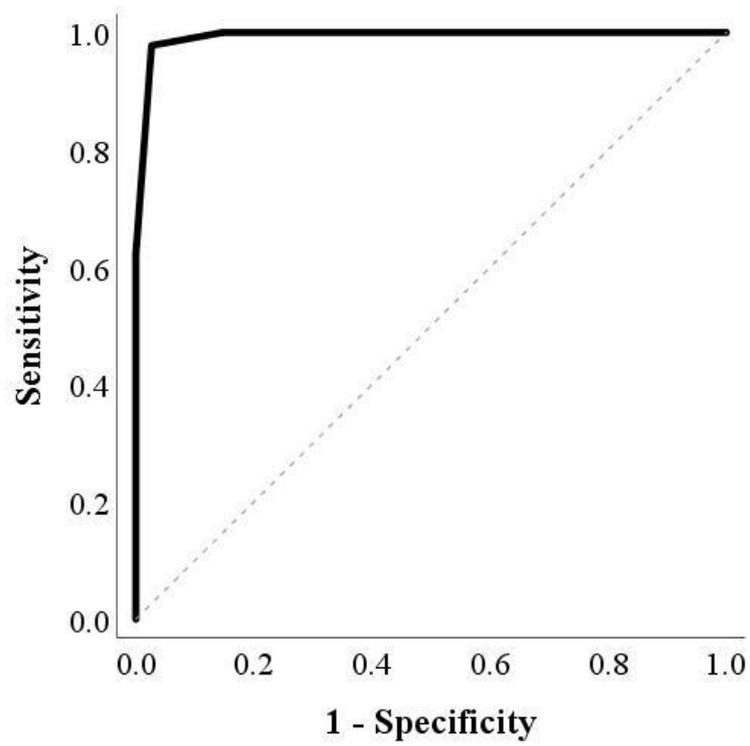
Table S5. Ordinal logistic regression: factors associated with BUT score

Predictor	OR	95% Confidence Interval for		P value
		Lower	Upper	
HR	0.948	0.891	1.009	0.093
RR	0.849	0.795	0.907	<0.001
Avoidance distance	-	-	-	-
ET	1.461	0.955	2.235	0.081
Approach time	0.977	0.959	0.996	0.015
Haltering time	0.978	0.968	0.988	<0.001
Handling time	0.967	0.954	0.980	<0.001
Total time	0.983	0.978	0.989	<0.001

CI=confidence interval, OR=odds ratio. HR=heart rate, RR= respiratory rate, ET= eye temperature.

- not calculable

Figure S1. Receiver Operating Characteristic (ROC) curve of BUT score for prediction of broken vs unbroken status in horses



AUC=area under curve, BUT=Broken/Unbroken Test, CI=confidence interval

AUC=0.993, 95% CI=0.984–1.000; $P<0.001$

Dotted line indicates reference line (AUC=0.50)