Table S1. Joint ratings of endometriosis diagnosis (present/absent) between operating surgeon (OS) and blinded experts (R1-R4) based on empiric assessment after viewing digital images (n=148)

		R1		% Classified Same	κ (95% CI) P-value*
		Yes	No		
OS	Yes	73	11	84.6	0.63 (0.48, 0.79) P=0.001
	No	7	26		
		R2			
		Yes	No		
OS	Yes	85	19	80.2	0.55 (0.41, 0.69) P=0.02
	No	10	33		
		R3			
		Yes	No		
OS	Yes	68	11	84.4	0.63 (0.47, 0.79) P=0.002
	No	6	24		
		R4			
		Yes	No		
OS	Yes	76	13	84.3	0.62 (0.47, 0.78) P=0.002
	No	6	26		

*Test of H0: κ = 0.40 against H1: κ = 0.75

Table S2. Joint ratings of endometriosis diagnosis (present/absent) between operating surgeon (OS) and blinded experts (R1-R4) based on empiric assessment after viewing digital images and operative report/drawing (n=148)

		R1		% Classified Same	κ (95% CI) P-value*
		Yes	No		
OS	Yes	102	1	93.0%	0.82 (0.71, 0.92) P<0.001
	No	9	31		
		R2			
		Yes	No		
OS	Yes	102	3	94.6%	0.87 (0.78, 0.96) P<0.001
	No	5	38		
		R3			
		Yes	No		
OS	Yes	92	4	93.2%	0.83 (0.72, 0.94) P<0.001
	No	5	32		
		R4			
		Yes	No		
OS	Yes	92	5	92.7%	0.82 (0.72, 0.93) P<0.001
	No	5	35		

*Test of H0: κ = 0.40 against H1: κ = 0.75

Table S3. Joint ratings of endometriosis diagnosis (present/absent) between operating surgeon (OS) and blinded experts (R1-R4) based on empiric assessment after viewing digital images, operative report/drawing and MRI (n=36)

		R1		% Classified Same	κ (95% CI) P-value*
		Yes	No		
OS	Yes	26	1	88.9%	0.68 (0.39, 0.97) P=0.03
	No	3	6		
		R2			
		Yes	No		
OS	Yes	25	2	86.1%	0.62 (0.31, 0.92) P=0.08
	No	3	6		
		R3			
		Yes	No		
OS	Yes	24	1	90.6	0.71 (0.41, 1.0) P=0.02
	No	2	5		
		R4			
		Yes	No		
OS	Yes	24	0	93.9	0.84 (0.62, 1.0) P<0.001
	No	2	7		

*Test of H0: κ = 0.40 against H1: κ = 0.75

Table S4. Joint ratings of endometriosis diagnosis (present/absent) between operating surgeon (OS) and blinded experts (R1-R4) based on empiric assessment after viewing digital images, operative report/drawing and histopathology report (n=67)

				% Classified Same	κ (95% CI) P-value*
	R1				
		Yes	No		
OS	Yes	43	8	84.9%	0.29 (-0.03, 0.61) P=0.75
	No	0	2		
	R2				
		Yes	No		
OS	Yes	46	7	87.3%	0.32 (-0.02, 0.67) P=0.68
	No	0	2		
	R3				
		Yes	No		
OS	Yes	40	7	85.7%	0.32 (-0.02, 0.66) P=0.68
	No	0	2		
	R4				
		Yes	No		
OS	Yes	40	10	80.8%	0.24 (-0.03, 0.51) P=0.88
	No	0	2		

*Test of H0: κ = 0.40 against H1: κ = 0.75

Table S5. Joint ratings of endometriosis diagnosis (present/absent) between operating surgeon (OS) and blinded experts (R1-R4) based on empiric assessment after viewing digital images, operative report/drawing, MRI and histopathology report (n=22)

		R1		% Classified Same	κ (95% CI) P-value*
		Yes	No		
OS	Yes	20	1		0.65 (0.01, 1.0)
				95.5%	P=0.22
	No	0	1		
		R2			
		Yes	No		
OS	Yes	20	1		0.45 (-0.19, 1.0)
				91.3%	P=0.44
	No	1	0		
		R3			
		Yes	No		
OS	Yes	21	0		1.0
				100.0%	P<0.001
	No	0	1		
		R4			
		Yes	No		
OS	Yes	20	0		1.0
				100.0%	P<0.001
	No	0	1		

*Test of H0: κ = 0.40 against H1: κ = 0.75

Table S6. Joint ratings of endometriosis staging (absent, I-IV) between operating surgeon (OS) and blinded experts (R1-R4) based on empiric assessment after viewing digital images (n=148)

				R 1				% classified in same stage	Weighted κ (95% CI) P-value*
		None	I	II	III	IV	Total		
OS	None	26	7	0	0	0	33		
	I	5	26	1	0	0	32		0.60
	II	5	10	5	0	0	20	55.6%	(0.47, 0.74)
	III	0	9	6	4	3	22		P<0.001
	IV	1	4	0	1	4	10		
	Total	37	56	12	5	7	117		
				R 2				% classified in same stage	Weighted κ (95% CI) P-value*
		None	I	II	III	IV	Total		
OS	None	33	9	0	1	0	43		
	I	11	22	6	1	0	40		0.49
	II	6	14	3	1	0	24	43.5%	(0.37, 0.61)
	III	0	14	5	5	2	26		P=0.07
	IV	2	4	3	4	1	14		
	Total	52	63	17	12	3	147		
				R 3				% classified in same stage	Weighted κ (95% CI) P-value*
		None	I	II	III	IV	Total		
OS	None	24	5	1	0	0	30		
	I	6	14	6	0	1	27		0.70
	II	4	10	3	0	0	17	45.9%	(0.60, 0.79)
	III	1	6	8	4	5	24		P<0.001
	IV	0	0	3	3	5	11		
	Total	35	35	21	7	11	109		
				R 4				% classified in same stage	Weighted κ (95% CI) P-value*
		None	I	II	III	IV	Total		
OS	None	26	4	2	0	0	32		
	I	6	20	9	0	0	35		0.61
	II	5	8	7	1	1	22	48.8%	(0.48, 0.74)
	III	1	4	9	4	3	21		P<0.001
	IV	1	2	2	4	2	11		
	Total	39	38	29	9	6	121		

*Test of H0: κ = 0.40 against H1: κ = 0.75

Table S7. Joint ratings of endometriosis staging (absent, I-IV) between operating surgeon (OS) and blinded experts (R1-R4) based on empiric assessment after viewing digital images and operative report/drawing (n=148)

		R 1						% classified in same stage	Weighted κ (95% CI) P-value*
		None	I	II	III	IV	Total		
OS	None	31	7	1	0	1	40		
	I	1	34	4	1	0	40		0.83
	II	0	18	6	0	0	24	62.9%	0.75, 0.91
	III	0	2	6	10	7	25		*P*<0.001
	IV	0	0	1	4	9	14		
	Total	32	61	18	15	17	143		
		R 2						% classified in same stage	Weighted κ (95% CI) P-value*
		None	I	II	III	IV	Total		
OS	None	38	4	0	1	0	43		
	I	3	31	5	1	0	40		0.80
	II	0	22	1	1	0	24	58.1%	0.73, 0.87
	III	0	5	9	11	2	27		*P*<0.001
	IV	0	0	2	7	5	14		
	Total	41	62	17	21	7	148		
		R 3						% classified in same stage	Weighted κ (95% CI) P-value*
		None	I	II	III	IV	Total		
OS	None	32	4	0	0	1	37		
	I	2	23	7	1	1	34		0.78
	II	1	15	6	0	0	22	60.9%	0.67, 0.88
	III	0	2	10	10	4	26		*P*<0.001
	IV	1	0	1	2	10	14		
	Total	36	44	24	13	16	133		
		R 4						% classified in same stage	Weighted κ (95% CI) P-value*
		None	I	II	III	IV	Total		
OS	None	35	3	1	0	1	40		
	I	4	20	11	1	0	36		0.80
	II	1	10	10	1	0	22	59.1%	0.71, 0.88
	III	0	3	7	9	6	25		*P*<0.001
	IV	0	1	0	6	7	14		
	Total	40	37	29	17	14	137		

*Test of H0: κ = 0.40 against H1: κ = 0.75

Table S8. Joint ratings of endometriosis staging (absent, I-IV) between operating surgeon (OS) and blinded experts (R1-R4) based on empiric assessment after viewing digital images, operative report/drawing and MRI Findings (n=36)

		R 1						% classified in same stage	Weighted κ (95% CI) *P*-value*
		None	I	II	III	IV	Total		
OS	**None**	6	3	0	0	0	9		
	I	1	7	1	2	0	11		0.79
	II	0	2	1	1	0	4	52.8%	(0.66, 0.92)
	III	0	2	1	2	3	8		*P*<0.001
	IV	0	0	0	1	3	4		
	Total	7	14	3	6	6	36		
		R 2						% classified in same stage	Weighted κ (95% CI) *P*-value*
		None	I	II	III	IV	Total		
OS	**None**	6	3	0	0	0	9		
	I	2	4	4	1	0	11		0.77
	II	0	2	1	1	0	4	47.2%	(0.63, 0.90)
	III	0	2	2	4	0	8		*P*<0.001
	IV	0	0	0	2	2	4		
	Total	8	11	7	8	2	36		
		R 3						% classified in same stage	Weighted κ (95% CI) *P*-value*
		None	I	II	III	IV	Total		
OS	**None**	5	2	0	0	0	7		
	I	1	4	2	1	1	9		0.76
	II	0	2	2	0	0	4	46.9%	(0.59, 0.92)
	III	0	1	2	1	4	8		*P*<0.001
	IV	0	0	0	1	3	4		
	Total	6	9	6	3	8	32		
		R 4						% classified in same stage	Weighted κ (95% CI) *P*-value*
		None	I	II	III	IV	Total		
OS	**None**	7	1	1	0	0	9		
	I	0	6	0	2	0	8		0.81
	II	0	1	2	1	0	4	57.6%	(0.70, 0.93)
	III	0	1	0	2	5	8		*P*<0.001
	IV	0	0	0	2	2	4		
	Total	7	9	3	7	7	33		

*Test of H0: κ = 0.40 against H1: κ = 0.75

Table S9. Joint ratings of endometriosis staging (absent, I-IV) between operating surgeon (OS) and blinded experts (R1-R4) based on empiric assessment after viewing digital images, operative report/drawing and histopathology findings (n=67)

		None	I	II	III	IV	Total	% classified in same stage	Weighted κ (95% CI) *P*-value*
				R 1					
OS	**None**	2	0	0	0	0	2		
	I	6	12	1	0	0	19		0.82
	II	2	6	2	0	0	10	54.7%	(0.74, 0.90)
	III	0	0	3	7	3	13		*P*<0.001
	IV	0	0	1	2	6	9		
	Total	10	18	7	9	9	53		
				R 2				% classified in same stage	Weighted κ (95% CI) *P*-value*
OS	**None**	2	0	0	0	0	2		
	I	4	14	1	0	0	19		0.67
	II	2	8	0	0	0	10	47.2%	(0.54, 0.80)
	III	1	2	3	7	2	15		*P*<0.001
	IV	0	0	3	3	3	9		
	Total	9	24	7	10	5	55		
				R 3				% classified in same stage	Weighted κ (95% CI) *P*-value*
OS	**None**	2	0	0	0	0	2		
	I	3	9	3	0	0	15		0.65
	II	2	5	2	0	0	9	51.0%	(0.55, 0.85)
	III	1	2	3	5	3	14		*P*<0.001
	IV	1	0	1	0	7	9		
	Total	9	16	9	5	10	49		
				R 4				% classified in same stage	Weighted κ (95% CI) *P*-value*
OS	**None**	2	0	0	0	0	2		
	I	6	9	3	0	0	18		0.65
	II	3	3	4	0	0	10	48.1%	(0.46, 0.84)
	III	0	1	4	6	2	13		*P*<0.001
	IV	1	1	0	3	4	9		
	Total	12	14	11	9	6	52		

*Test of H0: κ = 0.40 against H1: κ = 0.75

Table S10. Joint ratings of endometriosis staging (absent, I-IV) between operating surgeon (OS) and blinded experts (R1-R4) based on empiric assessment after viewing digital images, operative report/drawing, MRI, and histopathology findings (n=22)

		R 1						**% classified in same stage**	**Weighted κ (95% CI) P-value***
		None	**I**	**II**	**III**	**IV**	**Total**		
OS	**None**	1	0	0	0	0	2		
	I	1	4	0	2	0	7		0.72
	II	0	2	1	1	0	4	45.5%	(0.52, 0.92)
	III	0	1	1	1	4	7		*P*<0.001
	IV	0	0	0	0	3	3		
	Total	2	7	2	4	7	22		
		R 2						**% classified in same stage**	**Weighted κ (95% CI) P-value***
		None	**I**	**II**	**III**	**IV**	**Total**		
OS	**None**	0	1	0	0	0	1		
	I	1	3	3	0	0	7		0.73
	II	0	2	1	1	0	4	45.5%	(0.54, 0.91)
	III	0	1	2	4	0	7		*P*<0.001
	IV	0	0	0	1	2	3		
	Total	1	7	6	6	2	22		
		R 3						**% classified in same stage**	**Weighted κ (95% CI) P-value***
		None	**I**	**II**	**III**	**IV**	**Total**		
OS	**None**	1	0	0	0	0	1		
	I	0	2	3	1	1	7		0.65
	II	0	1	3	0	0	4	45.5%	(0.37, 0.93)
	III	0	0	2	1	4	7		*P*=0.01
	IV	0	0	0	0	3	3		
	Total	1	3	8	2	8	22		
		R 4						**% classified in same stage**	**Weighted κ (95% CI) P-value***
		None	**I**	**II**	**III**	**IV**	**Total**		
OS	**None**	1	0	0	0	0	1		
	I	0	4	0	2	0	6		0.76
	II	0	1	2	1	0	4	52.4%	(0.57, 0.94)
	III	0	0	0	2	5	7		*P*<0.001
	IV	0	0	0	1	2	3		
	Total	1	5	2	6	7	21		

*Test of H0: κ = 0.40 against H1: κ = 0.75

Table S11. Joint ratings of endometriosis staging (absent, I-IV) between operating surgeon (OS) and blinded experts (R1-R4) based on rASRM algorithm assessment after viewing digital images (n=148)

		R 1						% classified in same stage	Weighted κ (95% CI) P-value*
		None	**I**	**II**	**III**	**IV**	**Total**		
OS	**None**	26	6	0	0	0	32		
	I	7	36	3	0	0	46		0.66
	II	3	7	2	1	1	14	58.9%	0.53,0.80
	III	1	4	0	2	0	7		*P*<0.001
	IV	0	4	0	2	0	7		
	Total	37	57	5	5	7	112		
		R 2						% classified in same stage	Weighted κ (95% CI) P-value*
		None	**I**	**II**	**III**	**IV**	**Total**		
OS	**None**	33	7	0	2	0	42		0.53
	I	13	35	6	1	0	55		0.40, 0.67
	II	3	8	1	3	1	16	52.1%	*P*=0.03
	III	2	5	1	2	1	11		
	IV	1	6	2	6	3	18		
	Total	52	61	10	14	5	142		
		R 3						% classified in same stage	Weighted κ (95% CI) P-value*
		None	**I**	**II**	**III**	**IV**	**Total**		
OS	**None**	24	5	0	0	0	29		
	I	9	20	6	3	0	38		0.78
	II	1	4	5	2	1	13	60.6%	0.68, 0.87
	III	1	1	1	5	1	9		*P*<0.001
	IV	0	1	3	2	9	15		
	Total	35	31	15	12	11	104		
		R 4						% classified in same stage	Weighted κ (95% CI) P-value*
		None	**I**	**II**	**III**	**IV**	**Total**		
OS	**None**	26	4	1	0	0	31		
	I	8	29	12	0	0	49		0.60
	II	1	4	5	2	2	14	55.1%	0.47,0.74
	III	3	0	2	3	0	8		*P*<0.001
	IV	1	1	6	5	1	14		
	Total	39	38	26	10	3	116		

*Test of H0: κ = 0.40 against H1: κ = 0.75

Table S12. Joint ratings of endometriosis staging (absent, I-IV) between operating surgeon (OS) and blinded "international" expert (R1-R4) based on rASRM algorithm assessment after viewing digital images and operative report/drawing (n=148)

		R 1					% classified in same stage	Weighted κ (95% CI) *P*-value*
		None	I	II	III	IV	Total	
OS	**None**	31	6	1	0	1	39	
	I	1	47	7	0	0	55	0.86
	II	0	8	4	2	2	16	73.0%
	III	0	0	1	6	2	9	0.78,0.94
	IV	0	0	1	5	12	18	*P*<0.001
	Total	32	61	14	13	17	137	

		R 2					% classified in same stage	Weighted κ (95% CI) *P*-value*
		None	I	II	III	IV	Total	
OS	**None**	38	2	1	1	0	42	
	I	3	44	7	2	0	56	0.84
	II	0	10	2	2	2	16	68.3%
	III	0	2	2	4	2	10	0.77, 0.90
	IV	0	0	1	8	9	18	*P*<0.001
	Total	41	58	13	17	13	142	

		R 3					% classified in same stage	Weighted κ (95% CI) *P*-value*
		None	I	II	III	IV	Total	
OS	**None**	32	2	1	0	1	36	
	I	3	34	7	3	0	47	0.84
	II	0	2	7	4	3	16	74.6%
	III	1	0	0	7	2	10	0.76, 0.93
	IV	0	0	0	3	14	17	*P*<0.001
	Total	36	38	15	17	20	126	

		R 4					% classified in same stage	Weighted κ (95% CI) *P*-value*
		None	I	II	III	IV	Total	
OS	**None**	35	3	0	0	1	39	
	I	4	35	13	0	0	52	0.86
	II	0	2	8	3	2	15	71.2%
	III	1	0	1	5	1	8	0.77,0.94
	IV	0	0	0	7	11	18	*P*<0.001
	Total	40	40	22	15	15	132	

*Test of H0: κ = 0.40 against H1: κ = 0.75

Table S13. Joint ratings of endometriosis staging (absent, I-IV) between operating surgeon (OS) and blinded "international" expert (R1-R4) based on rASRM algorithm assessment after viewing digital images, operative report/drawing, and MRI findings (n=36)

		R 1						% classified in same stage	Weighted κ (95% CI) *P*-value*
		None	I	II	III	IV	Total		
OS	None	6	2	0	0	0	8		
	I	1	8	2	1	0	12		0.89
	II	0	1	2	0	0	3	69.7%	(0.80. 0.98)
	III	0	1	0	0	0	1		*P*<0.001
	IV	0	0	0	2	7	9		
	Total	7	12	4	3	7	33		
		R 2						% classified in same stage	Weighted κ (95% CI) *P*-value*
		None	I	II	III	IV	Total		
OS	None	6	1	1	0	0	8		
	I	2	5	4	1	0	12		0.81
	II	0	2	1	0	0	3	54.5%	(0.69, 0.94)
	III	0	1	0	0	0	1		*P*<0.001
	IV	0	0	1	2	6	9		
	Total	8	9	7	3	6	33		
		R 3						% classified in same stage	Weighted κ (95% CI) *P*-value*
		None	I	II	III	IV	Total		
OS	None	5	1	0	0	0	6		
	I	1	6	0	3	0	10		0.89
	II	0	1	1	1	0	3	75.9%	(0.79, 0.99)
	III	0	0	0	1	0	1		*P*<0.001
	IV	0	0	0	0	9	9		
	Total	6	8	1	5	9	29		
		R 4						% classified in same stage	Weighted κ (95% CI) *P*-value*
		None	I	II	III	IV	Total		
OS	None	7	1	0	0	0	8		
	I	0	7	0	2	0	9		0.89
	II	0	0	2	0	1	3	76.7%	(0.80, 0.99)
	III	0	0	0	1	0	1		*P*<0.001
	IV	0	0	0	3	6	9		
	Total	7	8	2	6	7	30		

*Test of H0: κ = 0.40 against H1: κ = 0.75

Table S14. Joint ratings of endometriosis staging (absent, I-IV) between operating surgeon (OS) and blinded "international" expert (R1-R4) based on rASRM algorithm assessment after viewing digital images, operative report/drawing, and histopathology findings (n=67)

				R 1				% classified in same stage	Weighted κ (95% CI) *P*-value*
		None	I	II	III	IV	Total		
OS	None	2	0	0	0	0	2		
	I	6	16	5	0	0	27		0.75
	II	1	2	0	1	2	6	56.6%	(0.62, 0.88)
	III	1	0	0	6	1	8		*P*<0.001
	IV	0	0	2	2	6	10		
	Total	10	18	7	9	9	53		
				R 2				% classified in same stage	Weighted κ (95% CI) *P*-value*
		None	I	II	III	IV	Total		
OS	None	2	0	0	0	0	2		
	I	5	19	2	1	0	27		0.63
	II	1	2	0	2	1	6	52.7%	(0.43, 0.82)
	III	0	3	3	4	0	10		*P*<0.001
	IV	1	0	2	3	4	10		
	Total	9	24	7	10	5	55		
				R 3				% classified in same stage	Weighted κ (95% CI) *P*-value*
		None	I	II	III	IV	Total		
OS	None	2	0	0	0	0	2		
	I	4	12	5	1	0	22		0.64
	II	2	1	0	1	2	6	44.9%	(0.46, 0.81)
	III	1	2	4	1	1	9		*P*<0.001
	IV	0	1	0	2	7	10		
	Total	9	16	9	5	10	49		
				R 4				% classified in same stage	Weighted κ (95% CI) *P*-value*
		None	I	II	III	IV	Total		
OS	None	2	0	0	0	0	2		
	I	6	14	6	0	0	26		0.65
	II	2	0	2	1	1	6	50.0%	(0.46, 0.85)
	III	1	0	2	4	1	8		*P*<0.001
	IV	1	0	1	4	4	10		
	Total	12	14	11	9	6	52		

*Test of H0: κ = 0.40 against H1: κ = 0.75

Table S15. Joint ratings of endometriosis staging (absent, I-IV) between operating surgeon (OS) and blinded "international" expert (R1-R4) based on rASRM algorithm assessment after viewing digital images, operative report/drawing, MRI, and histopathology findings (n=22)

		R 1						% classified in same stage	Weighted κ (95% CI) *P*-value*
		None	I	II	III	IV	Total		
OS	None	1	0	0	0	0	1		
	I	1	5	0	3	0	9		0.78 (0.60, 0.96) *P*<0.001
	II	0	1	2	0	0	3	68.2%	
	III	0	1	0	0	0	1		
	IV	0	0	0	1	7	8		
	Total	2	7	2	4	7	22		

		R 2						% classified in same stage	Weighted κ (95% CI) *P*-value*
		None	I	II	III	IV	Total		
OS	None	0	1	0	0	0	1		
	I	1	4	3	1	0	9		0.65 (0.45, 0.83) *P*<0.001
	II	0	2	0	1	0	3	27.2%	
	III	0	0	1	0	0	1		
	IV	0	0	2	4	2	8		
	Total	1	7	6	6	2	22		

		R 3						% classified in same stage	Weighted κ (95% CI) *P*-value*
		None	I	II	III	IV	Total		
OS	None	1	0	0	0	0	1		
	I	0	2	5	2	0	9		0.81 (0.66, 0.97) *P*<0.001
	II	0	1	2	0	0	3	59.0%	
	III	0	0	1	0	0	1		
	IV	0	0	0	0	8	8		
	Total	1	3	8	2	8	22		

		R 4						% classified in same stage	Weighted κ (95% CI) *P*-value*
		None	I	II	III	IV	Total		
OS	None	1	0	0	0	0	1		
	I	0	5	0	3	0	8		0.77 (0.58, 0.97) *P*<0.001
	II	0	0	2	0	1	3	71.4%	
	III	0	0	0	1	0	1		
	IV	0	0	0	2	6	8		
	Total	1	5	2	6	7	21		

*Test of H0: κ = 0.40 against H1: κ = 0.75