

Table S1 Outliers removed from each distribution

Data obtained with the software						
E2-E1	5.3	4.95				
E3-E2	4.05					
E3-E1	5.65					
M3-M2	6.95					
M3-M1	9.85					
N3-N2	-6					
N3-N1	5.7	-5.45	-5.8			
E1-M1	6.9	-14.8				
M1-N1	8					
E1-N1	14.9	-14.1				
E2-M2	6.9	-8.6				
E2-N2	10.5	7.65	-9.6			
E3-M3	-7.65	-8.45				
M3-N3	8.35	7.5	-5.3			
E3-N3	7.6	6.1	4.1	3.05	-5.05	-5.75
Data obtained with manual method						
E2-E1	-6	-7.5				
E3-E1	6.5					
M3-M2	9					
N2-N1	11.1					
N3-N2	7	6	5	-6	-6	-6
E1-N1	-13					

The digit of the column descriptors corresponds to the observer. E, measurement obtained by the “expert observer”; M, measurement from the “mid-level experienced observers”; N, measurement from the “Novel observer”.

Table S2 Axial vertebral rotation values (in degrees) of each vertebra obtained by each observer and in each series of measurements, with the software

	E11	E12	E13	E21	E22	E23	E31	E32	E33	M11	M12	M13	M21	M22	M23	N11	N12	N13	N21	N22	N23
V1	13	13	14	13	9.3	12	4.6	9.2	8	11	14	14	15	16	14	10	11	13	13	13	14
V2	8.7	8.6	8.2	0	6.8	5.2	1.5	4.7	6	8.7	8.1	0	10	10	8.2	8.6	8	8.4	8.7	8.6	8.2
V3	8.4	8.0	8.8	7.9	8.5	9.9	11	10	11	13	11	12	9.4	11	11	11	9	11	8.4	8.0	8.8
V4	7.2	7.7	5.2	4.3	5.4	7.7	7.2	8	12	5.1	2.6	2.7	8.8	10	8.7	0	8.4	6	7.2	7.7	5.2
V5	1.1	6.2	6.4	0	4.8	2.6	4.2	4.3	8.6	0	3.1	2.5	6.3	7.2	6.6	6.6	5.8	3.3	1.1	6.2	6.4
V6	30	29.3	29	27	27	28	33	34	33	23	28	29	28	29	28	30	31	30	30	29.3	29
V7	9.3	8.6	8.2	4.9	7.3	10	11	12	13	10	11	8.4	14	12	9.9	7.8	8.8	7.7	9.3	8.6	8.2
V8	22	21	20	21	21	20	24	20	22	23	24	24	21	23	24	24	25	24	22	21	20
V9	4.1	4.4	4.1	5.2	6.8	6.7	7.5	4.2	7.2	6.8	4.9	4.6	6.7	7.1	6.2	5.2	6.3	5.8	4.1	4.4	4.1
V10	14	14	15	12	11	13	17	20	16	14	17	17	16	15	16	16	14	13	14	14	15
V11	8.7	6.6	5.9	8.9	22	23	24	23	23	23	23	23	22	23	11	24	24	24	8.7	6.6	5.9
V12	20	21	20	24	23	21	24	26	21	24	21	22	25	23	25	21	21	21	20	21	20
V13	8.2	9.4	8.8	5.8	8.8	9.8	6	7.7	4.4	6	13	7.8	5.3	2.9	4.6	2.3	0	1.8	8.2	9.4	8.8
V14	7.1	5.9	5	9.5	5.4	8.2	5.4	4.6	5.4	8.3	11	7.4	12	6	5.3	5.8	5	6.2	7.1	5.9	5
V15	22	22.4	22	21	23	22	24	20	19	24	23	23	23	21	23	23	21	23	22	22.4	22
V16	9	9.4	9.2	10	12	11	13	12	13	11	12	9.4	12	6.1	11	9.6	11	11	9	9.4	9.2
V17	12	12	12	9.2	12	11	14	13	13	8.9	11	11	12	13	13	11	13	7.1	12	12	12
V18	37	34.1	34	41	42	40	35	27	35	29	35	36	23	30	33	24	25	26	37	34.1	34
V19	3.6	4.4	4.2	7.9	4	0.3	9.1	6.4	6.1	4.8	11	8	8.5	10	5	8.8	3.3	9.6	3.6	4.4	4.2
V20	31	29.5	29	30	26	29	32	28	27	28	28	29	30	31	29	28	30	29	31	29.5	29
V21	0	0	0	0	0	0	2.8	4	5.9	0	0	0	4.1	0	0	6.8	0	0	0	0	0
V22	14	13.1	13	16	16	13	24	17	18	13	12	12	15	15	15	16	14	16	14	13.1	13
V23	16	17	16	17	19	17	13	15	19	18	17	16	16	18	19	17	18	16	16	17	16
V24	16	15.8	16	13	16	17	16	17	17	16	16	15	14	17	17	16	13	16	16	15.8	16
V25	31	31.1	31	37	38	39	28	35	35	30	29	43	31	30	31	29	36	31	31	31.1	31
V26	7.4	6.8	6.8	5.6	0	0.5	7.2	6.4	8.3	0	4.2	4.3	7.3	7.4	5.6	6.2	9.3	4	7.4	6.8	6.8
V27	20	19.6	20	23	19	20	29	30	30	25	21	25	27	25	22	25	19	19	20	19.6	20
V28	18	18	18	23	20	20	19	18	23	19	20	20	17	21	20	21	20	22	18	18	18
V29	6.9	7.7	7.5	5.1	7.1	7.5	13	15	11	7	7.8	8	9.2	9.4	9.2	7.1	7.5	8.6	6.9	7.7	7.5
V30	8.6	7.5	7.9	10	10	12	4	12	9	16	11	13	13	9.7	15	14	13	16	8.6	7.5	7.9
V31	14	13.6	14	14	13	12	15	12	13	13	15	14	13	15	13	16	12	13	14	13.6	14
V32	34	34.1	34	40	34	42	36	35	36	40	41	40	34	33	34	38	35	35	34	34.1	34
V33	14	14	15	12	15	10	12	14	10	12	17	17	15	18	16	15	18	16	14	14	15

VX is each of the vertebrae (V1 to V33). The first digit of the column descriptors corresponds to the observer and the second to the measurement series (e.g., M21 is equivalent to the first measurement of the “Mid-level experienced observer” number 2). The number of zeros is due to scoliosis with minimal vertebral rotation. This rotation can be quantified, but the observers can also interpret its low value as “normal” (no vertebral rotation), which is often the case in the clinical assessment setting. We included curves with such a low degree of rotation because we consider it could be a significant source of error, which we should not overlook in our research. E, measurement obtained by the “expert observer”; M, measurement from the “mid-level experienced observer”; N, measurement from the “novel observer”.

Table S3 Axial vertebral rotation values (in degrees) of each vertebra obtained by each observer and in each series of measurements, with the manual method

	E11	E12	E13	E21	E22	E23	E31	E32	E33	M11	M12	M13	M21	M22	M23	N11	N12	N13	N21	N22	N23
V1	18	18	18	10	18	8	10	16	13	6	10	10	20	10	10	14	16	16	18	18	18
V2	10	10	10	10	10	14	16	18	13	10	10	13	10	10	10	14	4	4	10	10	10
V3	12	6	6	10	12	12	12	12	12	12	12	12	8	8	10	8	6	6	12	6	6
V4	6	10	10	20	10	2	15	14	14	4	10	4	8	4	8	6	6	6	6	10	10
V5	6	6	4	0	0	0	10	8	8	6	4	10	8	6	6	4	6	2	6	6	4
V6	30	22	28	26	28	28	28	34	30	26	10	32	32	34	30	30	30	32	30	22	28
V7	10	12	3	10	6	12	10	18	14	20	22	14	10	10	14	12	24	12	10	12	3
V8	24	22	22	21	22	24	20	24	24	22	10	19	22	22	24	24	12	24	24	22	22
V9	6	2	2	10	2	8	6	6	6	6	10	13	6	6	6	8	4	6	6	2	2
V10	22	24	12	12	14	14	24	20	18	22	20	16	24	26	26	28	24	22	22	24	12
V11	4	14	4	10	4	6	16	10	15	24	6	4	16	12	14	18	14	14	4	14	4
V12	22	22	28	20	22	24	28	28	28	30	28	28	22	24	22	28	22	24	22	22	28
V13	12	4	4	11	4	12	4	14	12	6	20	12	4	0	12	8	8	8	12	4	4
V14	6	6	6	2	6	2	6	14	14	6	6	6	6	6	10	6	10	6	6	6	6
V15	26	22	26	19	24	24	12	24	20	16	24	24	24	26	24	24	22	22	26	22	26
V16	6	6	6	21	14	8	10	20	17	4	14	9	6	6	6	14	10	10	6	6	6
V17	10	10	8	10	10	10	10	10	10	8	8	14	10	10	14	14	10	12	10	10	8
V18	28	28	28	36	38	38	32	31	32	40	40	36	28	42	30	40	42	42	28	28	28
V19	2	10	3	14	8	4	10	10	12	10	10	10	0	6	16	16	6	6	2	10	3
V20	26	26	26	32	30	30	10	34	30	32	30	30	32	30	28	28	28	30	26	26	26
V21	0	6	6	0	2	0	2	2	6	18	2	5	0	0	0	0	0	0	0	6	6
V22	12	12	12	16	14	14	14	18	10	18	10	18	14	16	12	16	12	14	12	12	12
V23	14	14	26	21	22	22	22	22	20	14	16	20	18	20	22	14	20	18	14	14	26
V24	16	10	16	18	18	16	16	16	16	22	16	16	16	26	16	12	10	14	16	10	16
V25	32	28	29	30	36	40	34	40	40	24	42	37	40	42	34	38	42	44	32	28	29
V26	6	4	5	0	0	0	14	8	8	4	4	4	9	10	8	6	6	6	6	4	5
V27	22	22	22	16	20	24	24	34	27	20	22	21	22	24	24	22	20	26	22	22	22
V28	18	16	16	21	20	20	16	18	18	16	16	22	18	22	16	20	24	18	18	16	16
V29	10	10	6	6	6	0	10	10	7	10	8	8	12	6	6	12	6	8	10	10	6
V30	14	14	24	13	12	2	20	20	20	25	14	18	0	0	0	20	26	23	14	14	24
V31	10	10	10	12	12	14	14	10	14	10	10	14	10	12	16	8	12	10	10	10	10
V32	32	32	30	34	32	34	34	34	36	34	42	42	30	36	34	30	32	34	32	32	30
V33	14	14	16	15	12	12	22	15	16	14	12	14	3,8	14	12	12	24	14	14	14	16

VX is each of the vertebrae (V1 to V33). The first digit of the column descriptors corresponds to the observer and the second to the measurement series (e.g., M21 is equivalent to the first measurement of the “Mid-level experienced observer” number 2). The number of zeros is due to scoliosis with minimal vertebral rotation. This rotation can be quantified, but the observers can also interpret its low value as “normal” (no vertebral rotation), which is often the case in the clinical assessment setting. We included curves with such a low degree of rotation because we consider it could be a significant source of error, which we should not overlook in our research. E, measurement obtained by the “expert observer”; M, measurement from the “mid-level experienced observer”; N, measurement from the “novel observer”.