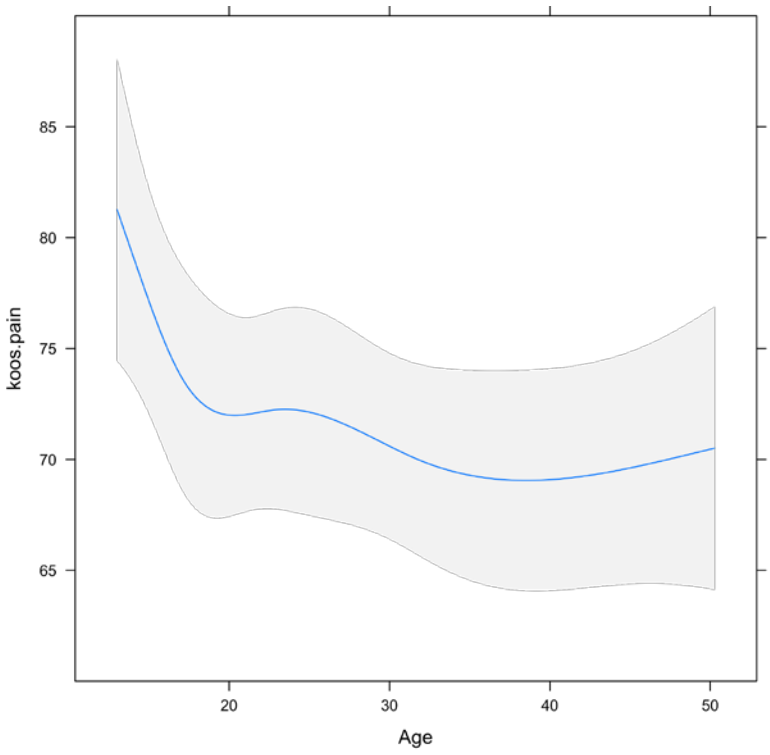
Appendices

Appendix I. Summary of effects of predictors in the model for KOOS pain subscale using interquartile ranges for continuous variables (Low = 1st quartile, High = 3rd quartile, Δ = difference between 1st and 3rd quartile, Lower and Upper 95% confidence interval for the mean effect).

model.summary	Low	High	Effect	Lower 0.95	Upper 0.95
chron.dy	32	120	3.87	−0.67	8.41
age	17	34	−4.13	−9.40	1.14
bmi	22	28	−6.54	−9.41	−3.67
marxscore	9	16	−0.62	−5.46	4.22
mri.bone.bruise - no:yes	2	1	1.19	−2.96	5.34
sex - female:male	1	2	−5.87	−9.36	−2.38
ltx.ex - <=50ltx.ex - >50ltx.ex - repair:normal	3	4	−0.49	−6.73	5.75
ltx.ex - Tear not Tx:normal	3	5	0.53	−4.52	5.58
mtx.ex - <=50mtx.ex - >50mtx.ex - repair:normal	3	4	1.93	−2.33	6.20
mtx.ex - Tear not Tx:normal	3	5	4.30	−2.32	10.92
lach.ssd.c - <5mm SSD:6-10mm SSD	2	1	−1.16	−5.00	2.69
lach.ssd.c - >10mm SSD:6-10mm SSD	2	3	−5.46	−10.03	−0.89
medial - Yes:No	1	2	1.16	−3.08	5.39
lateral - Yes:No	1	2	0.17	−3.89	4.23
anterior - Yes:No	1	2	5.02	0.49	9.55
mcl.c - grade I:normal	1	2	−2.19	−9.63	5.25
mcl.c - grade II/III:normal	1	3	−2.94	−10.52	4.63
lcl.c - abnormal:normal	1	2	−14.08	−25.16	−2.99

Appendix II. Age is a significant predictor for KOOS pain (p=0.034). However, its effect is nonlinear, and its relationship with the KOOS pain score is not monotonic. The summary plot displays the effect on KOOS pain, when age increases from its 1st quantile (17 years old) to its 3rd quantile (34 years old), adjusting for all other variables. Because of the nonlinearity of the age effect, its downward and upward trends cancel each other out, leaving the predicted KOOS pain score at 17 and 34 years old to be relatively similar, given all other variables are the same. Figure 2 is a visual display of the effect size of each variable, yet it is not ideal for displaying effects that are nonlinear. See the partial effects plot below.



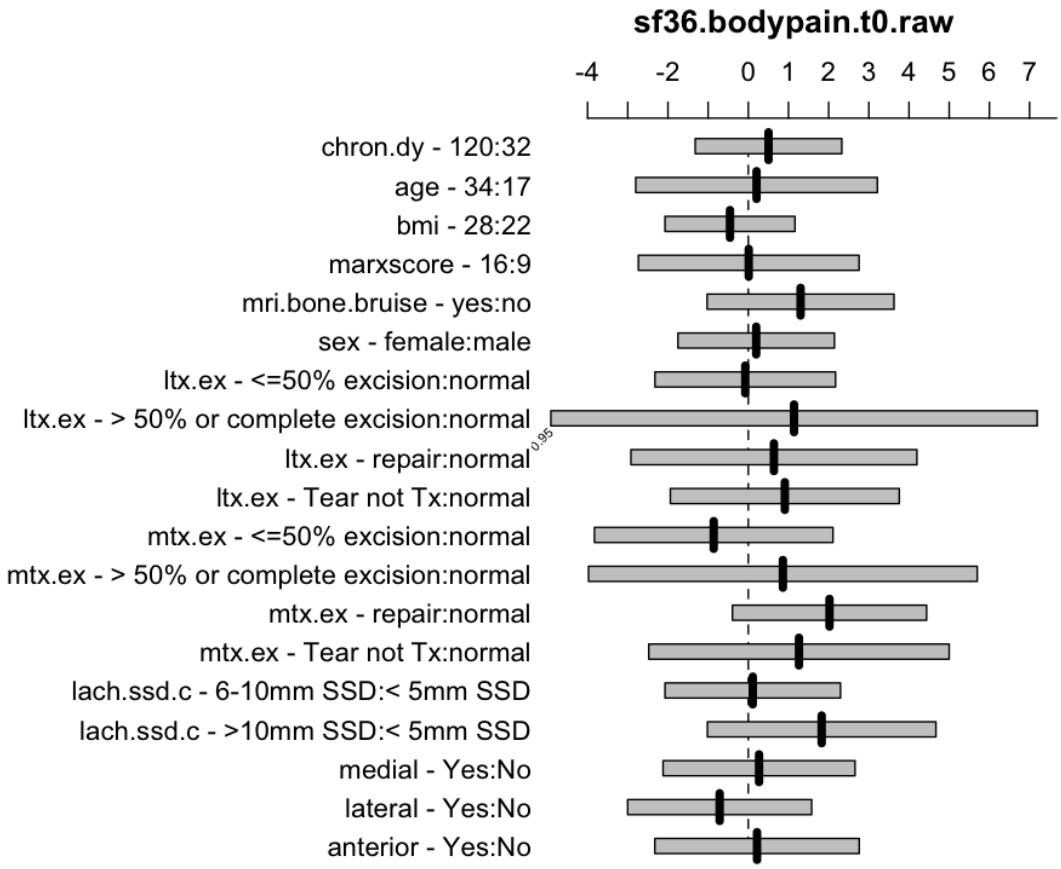
Appendix III. Summary of effects of predictors in the model for KOOS symptoms subscale using interquartile ranges for continuous variables (Low = 1st quartile, High = 3rd quartile, Δ = difference between 1st and 3rd quartile, Lower and Upper 95% confidence interval for the mean effect).

r	Low	High	Effect	Lower 0.95	Upper 0.95
chron.dy	32	120	2.47	−1.09	6.035
age	17	34	−4.59	−9.93	0.742
bmi	22	28	−6.86	−9.76	−3.961
marxscore	9	16	−4.91	−9.84	0.031
mri.bone.bruise - no:yes	2	1	3.28	−0.96	7.524
sex - female:male	1	2	−7.35	−10.84	−3.870
ltx.ex - <=50ltx.ex - >50ltx.ex - repair:normal	3	4	−1.24	−7.58	5.091
ltx.ex - Tear not Tx:normal	3	5	−2.00	−7.16	3.149
mtx.ex - <=50mtx.ex - >50mtx.ex - repair:normal	3	4	−0.95	−5.27	3.371
mtx.ex - Tear not Tx:normal	3	5	1.83	−4.86	8.508
lach.ssd.c - <5mm SSD:6-10mm SSD	2	1	−1.24	−5.14	2.651
lach.ssd.c - >10mm SSD:6-10mm SSD	2	3	−3.15	−7.72	1.431
medial - Yes:No	1	2	0.84	−3.49	5.176
lateral - Yes:No	1	2	−0.98	−5.09	3.135
anterior - Yes:No	1	2	3.93	−0.66	8.520
mcl.c - grade I:normal	1	2	−2.29	−9.83	5.241
mcl.c - grade II/III:normal	1	3	−2.96	−10.69	4.776
lcl.c - abnormal:normal	1	2	−12.40	−22.23	−2.570

Appendix IV. Summary of effects of predictors in the model for SF-36 bodily pain subscale using interquartile ranges for continuous variables (Low = 1st quartile, High = 3rd quartile, Δ = difference between 1st and 3rd quartile, Lower and Upper 95% confidence interval for the mean effect).

r	Low	High	Effect	Lower 0.95	Upper 0.95
chron.dy	32	120	0.61	−1.36	2.6
age	17	34	0.11	−2.87	3.1
bmi	22	28	−0.51	−2.13	1.1
marxscore	9	16	−0.25	−2.98	2.5
mri.bone.bruise - no:yes	2	1	−1.30	−3.63	1.0
sex - female:male	1	2	0.26	−1.69	2.2
ltx.ex - <=50ltx.ex - >50ltx.ex - repair:normal	3	4	0.89	−2.66	4.4
ltx.ex - Tear not Tx:normal	3	5	1.17	−1.69	4.0
mtx.ex - <=50mtx.ex - >50mtx.ex - repair:normal	3	4	1.95	−0.47	4.4
mtx.ex - Tear not Tx:normal	3	5	1.09	−2.66	4.8
lach.ssd.c - <5mm SSD:6-10mm SSD	2	1	−0.15	−2.33	2.0
lach.ssd.c - >10mm SSD:6-10mm SSD	2	3	1.69	−0.86	4.2
medial - Yes:No	1	2	0.15	−2.24	2.5
lateral - Yes:No	1	2	−0.87	−3.15	1.4
anterior - Yes:No	1	2	0.19	−2.36	2.7
mcl.c - grade I:normal	1	2	2.79	−1.43	7.0
mcl.c - grade II/III:normal	1	3	−1.13	−5.40	3.1
lcl.c - abnormal:normal	1	2	4.57	−0.92	10.1

Appendix V. Plot of effects of predictors in the model for SF-36 bodily pain subscale using interquartile ranges for continuous variables with bars representing the 95% confidence interval for the mean effect.



Appendix VI. Summary of effects of predictors in the model for BB using interquartile ranges for continuous variables (Low = 1st quartile, High = 3rd quartile, Δ = difference between 1st and 3rd quartile, Lower and Upper 95% confidence interval for the mean effect).

r	Low	High	Effect	Lower 0.95	Upper 0.95
age	17	34	−0.30	−0.8532	0.26
Odds Ratio	17	34	0.74	0.4261	1.30
bmi	22	28	−0.12	−0.3586	0.13
Odds Ratio	22	28	0.89	0.6986	1.14
marxscore	9	16	0.34	−0.0032	0.69
Odds Ratio	9	16	1.41	0.9968	1.99
sex - female:male	1	2	0.21	−0.2746	0.70
Odds Ratio	1	2	1.24	0.7598	2.01
contact.inj.c - yes:no	1	2	0.24	−0.3795	0.85
Odds Ratio	1	2	1.27	0.6842	2.35
jump.il.c - yes:no	1	2	−0.68	−1.1723	−0.19
Odds Ratio	1	2	0.50	0.3096	0.82
pop.c - no:yes	2	1	0.27	−0.2320	0.76
Odds Ratio	2	1	1.30	0.7930	2.15
sport.contact - Contact Sport:Non-contact Sport	2	1	0.53	−0.3186	1.38
Odds Ratio	2	1	1.70	0.7272	3.96
sport.contact - Non-sport:Non-contact Sport	2	3	−0.30	−0.9222	0.33
Odds Ratio	2	3	0.74	0.3976	1.39