

SUPPLEMENT II

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1 Descriptive statistics for the pain composite scores

Descriptive statistics (mean and standard deviation, SD) of the pain composite scores (PCS) and sub-scores for pain intensity ($PCS_{\text{intensity}}$), pain interference ($PCS_{\text{interference}}$) and side effects (PCS_{side}). Results are shown separately for the total cohort and women with regional anaesthesia (no general anaesthesia). In addition, the patient numbers (n) are shown.

Variable	Care group	Total cohort			Regional anaesthesia		
		Mean	SD	n	Mean	SD	n
PCS_{total}	Incomplete	3.82	1.74	3,071	3.92	1.77	2,509
	Intra-operative	3.52	1.66	186	3.55	1.65	167
	Post-operative	3.49	1.58	715	3.51	1.56	603
	Full care	3.25	1.54	1,010	3.19	1.52	934
PCS_{intensity}	Incomplete	5.02	2.05	3,071	5.19	2.09	2,509
	Intra-operative	4.39	2.04	186	4.37	2.04	167
	Post-operative	4.01	1.77	715	3.99	1.72	603
	Full care	3.98	1.94	1,010	3.88	1.88	934
PCS_{interference}	Incomplete	4.42	2.36	3,071	4.54	2.40	2,509
	Intra-operative	4.05	2.30	186	4.08	2.35	167
	Post-operative	4.25	2.09	715	4.27	2.05	603
	Full care	3.65	2.03	1,010	3.58	2.01	934
PCS_{side}	Incomplete	2.16	2.10	3,071	2.20	2.17	2,509
	Intra-operative	2.20	2.06	186	2.27	2.05	167
	Post-operative	2.14	1.98	715	2.21	2.02	603
	Full care	2.19	1.96	1,010	2.19	1.96	934

2 Model details: Total cohort

2.1 Pain Composite Score: total

Model parameter for the **total pain composite score** (PCS_{total} , $n = 4,982$ patients). The PCS_{total} was z-standardized before modelling. Significant regression coefficients are printed in bold (coefficient of determination: $R^2_{marginal} = 0.025$, $R^2_{conditional} = 0.216$).

Variable	[Reference/Unit]	β	95%CI		p
(Intercept)		-0.27	-0.59	0.06	0.114
Perioperative treatment protocol:					
Intra-operative	[vs. Incomplete]	-0.27	-0.42	-0.11	<0.001
Post-operative	[vs. Incomplete]	-0.07	-0.19	0.04	0.216
Full care	[vs. Incomplete]	-0.36	-0.49	-0.23	<0.001
Group:					
General anaesthesia (GA)	[vs. RA, regional anaesthesia]	0.16	0.04	0.28	0.009
Combined GA + RA	[vs. RA]	0.04	-0.14	0.22	0.659
Age	[years]	0.00	-0.01	0.00	0.138
Pre-existing chronic pain	[vs. no]	0.21	0.11	0.31	<0.001
Ward: any opioid	[vs. none]	0.17	0.10	0.25	<0.001
Income level: high	[vs. others]	0.32	-0.07	0.70	0.120

Estimated marginal means (covariate adjusted means) and 95% confidence intervals of the PCS_{total} ($n = 4,982$ patients). Results are shown for the peri-operative treatment protocol groups. The PCS_{total} was z-standardized before modelling.

Care group	mean	95% CI	
Incomplete	0.04	-0.17	0.25
Intra-operative	-0.23	-0.47	0.02
Post-operative	-0.03	-0.25	0.18
Full care	-0.32	-0.54	-0.09

Contrasts (differences of the estimated marginal means) and 95% confidence intervals for the **total pain composite score** (PCS_{total} , $n = 4,982$ patients). Significant contrasts ($p < 0.05$) are printed in bold. The PCS_{total} was z-standardized before modelling. Thus, differences can be interpreted as differences in standard deviations.

contrast	estimate	95% CI		p
Incomplete vs. Intra-operative	-0.27	-0.42	-0.11	0.002
Incomplete vs. Post-operative	-0.07	-0.19	0.04	0.432
Incomplete vs. Full care	-0.36	-0.49	-0.23	<0.001
Intra-operative vs. Post-operative	0.19	0.03	0.36	0.064
Intra-operative vs. Full care	-0.09	-0.25	0.06	0.432
Post-operative vs. Full care	-0.28	-0.40	-0.17	<0.001

2.2 Pain Composite Score: intensity sub-score

Model parameter for the **pain composite intensity sub-score** ($PCS_{intensity}$, $n = 4,982$ patients). The $PCS_{intensity}$ was z-standardized before modelling. Significant regression coefficients are printed in bold (coefficient of determination: $R^2_{marginal} = 0.025$, $R^2_{conditional} = 0.249$).

Variable	[Reference/Unit]	β	95%CI		p
(Intercept)		-0.45	-0.78	-0.11	0.013
Perioperative treatment protocol:					
Intra-operative	[vs. Incomplete]	-0.20	-0.35	-0.06	0.007
Post-operative	[vs. Incomplete]	-0.05	-0.16	0.07	0.428
Full care	[vs. Incomplete]	-0.18	-0.30	-0.05	0.006
Group:					
General anaesthesia (GA)	[vs. RA, regional anaesthesia]	0.16	0.04	0.27	0.007
Combined GA + RA	[vs. RA]	0.09	-0.08	0.26	0.315
Age	[years]	0.00	0.00	0.01	0.206
Pre-existing chronic pain	[vs. no]	0.15	0.06	0.25	0.002
Ward: any opioid	[vs. none]	0.21	0.14	0.28	<0.001
Income level: high	[vs. others]	-0.04	-0.45	0.36	0.843

Estimated marginal means (covariate adjusted means) and 95% confidence intervals of the **pain composite intensity sub-score** ($PCS_{intensity}$, $n = 4,982$ patients). Results are shown for the peri-operative treatment protocol groups. The $PCS_{intensity}$ was z-standardized before modelling.

group	mean	95% CI	
Incomplete	-0.11	-0.33	0.11
Intra-operative	-0.31	-0.56	-0.06
Post-operative	-0.15	-0.38	0.07
Full care	-0.29	-0.52	-0.06

Contrasts (differences of the estimated marginal means) and 95% confidence intervals for the **pain composite intensity sub-score** ($PCS_{intensity}$, $n = 4,982$ patients). Significant contrasts ($p < 0.05$) are printed in bold. The $PCS_{intensity}$ was z-standardized before modelling. Thus, differences can be interpreted as differences in standard deviations.

contrast		estimate	95% CI		p
Incomplete	vs. Intra-operative	-0.20	-0.35	-0.06	0.036
Incomplete	vs. Post-operative	-0.05	-0.16	0.07	0.856
Incomplete	vs. Full care	-0.18	-0.30	-0.05	0.036
Intra-operative	vs. Post-operative	0.16	0.00	0.31	0.153
Intra-operative	vs. Full care	0.02	-0.13	0.17	0.856
Post-operative	vs. Full care	-0.13	-0.24	-0.02	0.076

2.3 Pain Composite Score: interference sub-score

Model parameter for the **pain composite interference sub-score** ($PCS_{interference}$, $n = 4,982$ patients). The $PCS_{interference}$ was z-standardized before modelling. Significant regression coefficients are printed in bold (coefficient of determination: $R^2_{marginal} = 0.025$, $R^2_{conditional} = 0.225$).

Variable	[Reference/Unit]	β	95%CI		p
(Intercept)		-0.21	-0.54	0.12	0.226
Perioperative treatment protocol:					
Intra-operative	[vs. Incomplete]	-0.24	-0.39	-0.08	0.002
Post-operative	[vs. Incomplete]	-0.07	-0.19	0.05	0.240
Full care	[vs. Incomplete]	-0.35	-0.49	-0.22	<0.001
Group:					
General anaesthesia (GA)	[vs. RA, regional anaesthesia]	0.19	0.07	0.31	0.002
Combined GA + RA	[vs. RA]	0.03	-0.15	0.21	0.722
Age	[years]	0.00	-0.01	0.00	0.152
Pre-existing chronic pain	[vs. no]	0.10	0.00	0.20	0.052
Ward: any opioid	[vs. none]	0.18	0.11	0.26	<0.001
Income level: high	[vs. others]	0.38	-0.01	0.78	0.071

Estimated marginal means (covariate adjusted means) and 95% confidence intervals of the **pain composite interference sub-score** ($PCS_{interference}$, $n = 4,982$ patients). Results are shown for the peri-operative treatment protocol groups. The $PCS_{interference}$ was z-standardized before modelling.

group	mean	95% CI	
Incomplete	0.09	-0.13	0.31
Intra-operative	-0.15	-0.40	0.10
Post-operative	0.02	-0.20	0.24
Full care	-0.27	-0.50	-0.04

Contrasts (differences of the estimated marginal means) and 95% confidence intervals for the **pain composite interference sub-score** ($PCS_{interference}$, $n = 4,982$ patients). Significant contrasts ($p < 0.05$) are printed in bold. The $PCS_{interference}$ was z-standardized before modelling. Thus, differences can be interpreted as differences in standard deviations.

contrast	estimate	95% CI		p
Incomplete vs. Intra-operative	-0.24	-0.39	-0.08	0.010
Incomplete vs. Post-operative	-0.07	-0.19	0.05	0.297
Incomplete vs. Full care	-0.35	-0.49	-0.22	<0.001
Intra-operative vs. Post-operative	0.17	0.00	0.33	0.143
Intra-operative vs. Full care	-0.12	-0.28	0.04	0.297
Post-operative vs. Full care	-0.28	-0.40	-0.17	<0.001

2.4 Pain Composite Score: side effects sub-score

Model parameter for the **pain composite side effects sub-score** (PCS_{side} , $n = 4,982$ patients). The PCS_{side} was z-standardized before modelling. Significant regression coefficients are printed in bold (coefficient of determination: $R^2_{marginal} = 0.018$, $R^2_{conditional} = 0.075$).

Variable	[Reference/Unit]	β	95%CI		p
(Intercept)		-0.03	-0.26	0.20	0.804
Perioperative treatment protocol:					
Intra-operative	[vs. Incomplete]	-0.17	-0.32	-0.01	0.038
Post-operative	[vs. Incomplete]	-0.04	-0.16	0.07	0.465
Full care	[vs. Incomplete]	-0.23	-0.37	-0.10	<0.001
Group:					
General anaesthesia (GA)	[vs. RA, regional anaesthesia]	0.02	-0.11	0.14	0.787
Combined GA + RA	[vs. RA]	-0.01	-0.19	0.17	0.918
Age	[years]	-0.01	-0.01	0.00	0.014
Pre-existing chronic pain	[vs. no]	0.28	0.18	0.38	<0.001
Ward: any opioid	[vs. none]	0.02	-0.06	0.09	0.621
Income level: high	[vs. others]	0.27	0.05	0.49	0.026

Estimated marginal means (covariate adjusted means) and 95% confidence intervals of the **pain composite side effects sub-score** (PCS_{side} , $n = 4,982$ patients). Results are shown for the peri-operative treatment protocol groups. The PCS_{side} was z-standardized before modelling.

group	mean	95% CI	
Incomplete	0.06	-0.08	0.20
Intra-operative	-0.10	-0.30	0.09
Post-operative	0.02	-0.13	0.17
Full care	-0.17	-0.33	-0.01

Contrasts (differences of the estimated marginal means) and 95% confidence intervals for the **pain composite side effects sub-score** (PCS_{side} , $n = 4,982$ patients). Significant contrasts ($p < 0.05$) are printed in bold. The PCS_{side} was z-standardized before modelling. Thus, differences can be interpreted as differences in standard deviations.

contrast		estimate	95% CI		p
Incomplete	vs. Intra-operative	-0.17	-0.32	-0.01	0.152
Incomplete	vs. Post-operative	-0.04	-0.16	0.07	0.815
Incomplete	vs. Full care	-0.23	-0.37	-0.10	0.003
Intra-operative	vs. Post-operative	0.12	-0.05	0.29	0.466
Intra-operative	vs. Full care	-0.07	-0.23	0.09	0.815
Post-operative	vs. Full care	-0.19	-0.31	-0.07	0.007

3 Sensitivity analysis for the total Pain Composite Score

Sensitivity analysis excluding one hospital with a high patient number. Results of the multi-level regression models using the pain composite score (0-10) as dependent variable. Regression coefficients (β) including 95% confidence intervals (95%CI) and p-values (p) are shown. In addition, results for the patient sample with regional anaesthesia are shown. Significant p-values are printed in bold.

variable	reference	total cohort [n = 3 041]				regional anaesthesia [n = 2 397]			
		β	95% CI		p	β	95% CI		p
(intercept)		-0.16	-0.55	0.22	0.419	-0.15	-0.62	0.31	0.527
Peri-operative care group:									
Intra-operative [only]	[vs. Incomplete]	-0.24	-0.43	-0.06	0.009	-0.22	-0.42	-0.02	0.028
Post-operative [only]	[vs. Incomplete]	-0.09	-0.20	0.03	0.154	-0.01	-0.14	0.13	0.917
Full care	[vs. Incomplete]	-0.38	-0.52	-0.25	< 0.001	-0.39	-0.54	-0.24	< 0.001
group:									
General anaesthesia	[vs. regional anaesthesia]	0.28	0.13	0.42	< 0.001	<i>not modelled</i>			
Combined RA & GA	[vs. regional anaesthesia]	0.16	-0.08	0.39	0.196				
Age	[years]	-0.01	-0.01	0.00	0.030	-0.01	-0.02	0.00	0.032
Pre-existing chronic pain: yes	[vs. no]	0.27	0.15	0.39	< 0.001	0.23	0.10	0.36	< 0.001
Intra-operative: neuraxial morphine	[vs. others/none]	<i>not modelled</i>				-0.12	-0.23	-0.01	0.032
Ward: opioid	[vs. no]	0.18	0.10	0.26	< 0.001	0.23	0.14	0.32	< 0.001
Income level: high	[vs. others]	0.50	0.06	0.93	0.037	0.49	0.00	0.99	0.068

Estimated marginal means (EMM, z-scale) including 95% confidence intervals (CI) for the different multi-level models and models from sensitivity analysis. Pain composite scores served as dependent variables and covariates are listed at the end of the table.

Model I: total sample [n = 4 982]			
Care group	EMM¹	95%CI	
Incomplete	0.04	-0.17	0.25
intra-operative (only)	-0.23	-0.47	0.02
PACU/normal-ward (only)	-0.03	-0.25	0.18
Full Care	-0.32	-0.54	-0.09
Model II: without one hospital [n = 3 041]			
Care group	EMM¹	95%CI	
Incomplete	0.22	-0.03	0.46
intra-operative (only)	-0.03	-0.31	0.26
PACU/normal-ward (only)	0.13	-0.11	0.38
Full Care	-0.17	-0.42	0.09
Model III: regional anaesthesia [n = 4 213]			
Care group	EMM²	95%CI	
Incomplete	-0.13	-0.35	0.10
intra-operative (only)	-0.36	-0.62	-0.11
PACU/normal-ward (only)	-0.14	-0.37	0.09
Full Care	-0.49	-0.73	-0.26
Model IV: regional anaesthesia/without one hospital [n = 2 397]			
Care group	EMM²	95%CI	
Incomplete	-0.01	-0.29	0.27
intra-operative (only)	-0.23	-0.55	0.08
PACU/normal-ward (only)	-0.02	-0.30	0.26
Full Care	-0.40	-0.69	-0.12

¹ **adjusted for:** protocol of anaesthesia (regional anaesthesia vs. general anaesthesia vs. mixed protocols), chronic pre-existing pain (yes vs. no), age (years), opioid administration on the ward (yes vs. no), income level of the country (high vs. others), intra-operative use of dexamethasone (vs. no)

² **adjusted for:** chronic pre-existing pain (yes vs. no), age (years), opioid administration on the ward (yes vs. no), income level of the country (high vs. others), intra-operative use of neuraxial morphine (vs. no) and dexamethasone (vs. no)

Contrasts of the different multi-level models and multi-level models for sensitivity analysis for different sub-groups of peri-operative treatment protocol. Pain composite scores served as dependent variables. P-values were adjusted using the Bonferroni-Holm method. Significant p-values ($p < 0.05$) are printed in bold.

		Model			
contrast		I	II	III	IV
		p	p	p	p
Incomplete vs.	Intra-operative	0.002	0.037	0.021	0.114
Incomplete vs	Post-operative	0.412	0.263	0.837	0.917
Incomplete vs	Full care	< 0.001	< 0.001	< 0.001	< 0.001
Intra-operative vs.	Post-operative	0.065	0.263	0.045	0.114
Intra-operative vs.	Full care	0.412	0.263	0.261	0.121
Post-operative vs.	Full care	< 0.001	< 0.001	< 0.001	< 0.001

4 Model details: Regional anaesthesia

4.1 Pain Composite Score: total

Model parameter for the **total pain composite score** (PCS_{total} , $n = 4,213$ patients). The PCS_{total} was z-standardized before modelling. Significant regression coefficients are printed in bold (coefficient of determination: $R^2_{marginal} = 0.035$, $R^2_{conditional} = 0.236$).

Variable	[Reference/Unit]	β	95%CI		p
(Intercept)		-0.30	-0.66	0.07	0.125
Perioperative treatment protocol:					
Intra-operative	[vs. Incomplete]	-0.24	-0.40	-0.07	0.005
Post-operative	[vs. Incomplete]	-0.01	-0.15	0.12	0.837
Full care	[vs. Incomplete]	-0.36	-0.51	-0.22	<0.001
Age	[years]	0.00	-0.01	0.00	0.266
Pre-existing chronic pain	[vs. no]	0.17	0.07	0.28	0.002
Intra-operative neuraxial morphine: yes	[vs. no]	-0.16	-0.27	-0.05	0.004
Ward: any opioid	[vs. none]	0.20	0.12	0.28	<0.001
Income level: high	[vs. others]	0.31	-0.11	0.73	0.162

Estimated marginal means (covariate adjusted means) and 95% confidence intervals of the **total pain composite score** ($n = 4,213$ patients). Results are shown for the perioperative treatment protocol groups. The PCS_{total} was z-standardized before modelling.

group	mean	95% CI	
Incomplete	-0.13	-0.35	0.10
Intra-operative	-0.36	-0.62	-0.11
Post-operative	-0.14	-0.37	0.09
Full care	-0.49	-0.73	-0.26

Contrasts (differences of the estimated marginal means) and 95% confidence intervals for the **total pain composite score** (PCS_{total} , $n = 4,213$ patients). Significant contrasts ($p < 0.05$) are printed in bold. The PCS_{total} was z-standardized before modelling. Thus, differences can be interpreted as differences in standard deviations.

contrast	estimate	95% CI		p
Incomplete vs. Intra-operative	-0.24	-0.40	-0.07	0.021
Incomplete vs. Post-operative	-0.01	-0.15	0.12	0.837
Incomplete vs. Full care	-0.36	-0.51	-0.22	0.000
Intra-operative vs. Post-operative	0.22	0.04	0.40	0.045
Intra-operative vs. Full care	-0.13	-0.29	0.04	0.261
Post-operative vs. Full care	-0.35	-0.47	-0.22	0.000

4.2 Pain Composite Score: intensity sub-score

Model parameter for the **pain composite intensity sub-score** (PCS_{intensity}, n = 4,213 patients). The PCS_{intensity} was z-standardized before modelling. Significant regression coefficients are printed in bold (coefficient of determination: R²_{marginal}= 0.057, R²_{conditional}= 0.295).

Variable	[Reference/Unit]	β	95%CI		p
(Intercept)		-0.47	-0.85	-0.09	0.023
Perioperative treatment protocol:					
Intra-operative	[vs. Incomplete]	-0.13	-0.28	0.03	0.109
Post-operative	[vs. Incomplete]	-0.01	-0.13	0.12	0.926
Full care	[vs. Incomplete]	-0.15	-0.29	-0.02	0.029
Age	[years]	0.01	0.00	0.01	0.049
Pre-existing chronic pain	[vs. no]	0.11	0.01	0.21	0.029
Intra-operative neuraxial morphine: yes	[vs. no]	-0.33	-0.43	-0.23	<0.001
Ward: any opioid	[vs. none]	0.22	0.14	0.30	<0.001
Income level: high	[vs. others]	-0.04	-0.49	0.40	0.847

Estimated marginal means (covariate adjusted means) and 95% confidence intervals of the **pain composite intensity sub-score** (PCS_{intensity}, n = 4,213 patients). Results are shown for the peri-operative treatment protocol groups. The PCS_{intensity} was z-standardized before modelling.

group	mean	95% CI	
Incomplete	-0.33	-0.56	-0.09
Intra-operative	-0.46	-0.72	-0.19
Post-operative	-0.33	-0.58	-0.09
Full care	-0.48	-0.73	-0.24

Contrasts (differences of the estimated marginal means) and 95% confidence intervals for the **pain composite intensity sub-score** (PCS_{intensity}, n = 4,213 patients). Significant contrasts (p < 0.05) are printed in bold. The PCS_{intensity} was z-standardized before modelling. Thus, differences can be interpreted as differences in standard deviations.

contrast		estimate	95% CI		p
Incomplete	vs. Intra-operative	-0.13	-0.28	0.03	0.435
Incomplete	vs. Post-operative	-0.01	-0.13	0.12	0.999
Incomplete	vs. Full care	-0.15	-0.29	-0.02	0.145
Intra-operative	vs. Post-operative	0.12	-0.05	0.29	0.473
Intra-operative	vs. Full care	-0.02	-0.18	0.13	0.999
Post-operative	vs. Full care	-0.15	-0.27	-0.03	0.094

4.3 Pain Composite Score: interference sub-score

Model parameter for the **pain composite interference sub-score** ($PCS_{interference}$, $n = 4,213$ patients). The $PCS_{interference}$ was z-standardized before modelling. Significant regression coefficients are printed in bold (coefficient of determination: $R^2_{marginal} = 0.05$, $R^2_{conditional} = 0.242$).

Variable	[Reference/Unit]	β	95%CI		p
(Intercept)		-0.22	-0.58	0.15	0.254
Perioperative treatment protocol:					
Intra-operative	[vs. Incomplete]	-0.17	-0.34	-0.01	0.042
Post-operative	[vs. Incomplete]	-0.03	-0.17	0.10	0.647
Full care	[vs. Incomplete]	-0.34	-0.49	-0.20	<0.001
Age	[years]	0.00	-0.01	0.00	0.456
Pre-existing chronic pain	[vs. no]	0.07	-0.04	0.17	0.215
Intra-operative neuraxial morphine: yes	[vs. no]	-0.37	-0.48	-0.26	<0.001
Ward: any opioid	[vs. none]	0.18	0.10	0.26	<0.001
Income level: high	[vs. others]	0.41	-0.01	0.83	0.068

Estimated marginal means (covariate adjusted means) and 95% confidence intervals of the **pain composite interference sub-score** ($PCS_{interference}$, $n = 4,213$ patients). Results are shown for the peri-operative treatment protocol groups. The $PCS_{interference}$ was z-standardized before modelling.

group	mean	95% CI	
Incomplete	-0.14	-0.36	0.09
Intra-operative	-0.31	-0.57	-0.05
Post-operative	-0.17	-0.40	0.06
Full care	-0.48	-0.71	-0.25

Contrasts (differences of the estimated marginal means) and 95% confidence intervals for the **pain composite interference sub-score** ($PCS_{interference}$, $n = 4,213$ patients). Significant contrasts ($p < 0.05$) are printed in bold. The $PCS_{interference}$ was z-standardized before modelling. Thus, differences can be interpreted as differences in standard deviations.

contrast		estimate	95% CI		p
Incomplete	vs. Intra-operative	-0.17	-0.34	-0.01	0.166
Incomplete	vs. Post-operative	-0.03	-0.17	0.10	0.647
Incomplete	vs. Full care	-0.34	-0.49	-0.20	<0.001
Intra-operative	vs. Post-operative	0.14	-0.04	0.32	0.247
Intra-operative	vs. Full care	-0.17	-0.34	0.00	0.166
Post-operative	vs. Full care	-0.31	-0.44	-0.19	<0.001

4.4 Pain Composite Score: side effects sub-score

Model parameter for the **pain composite side effects sub-score** (PCS_{side}, n = 4,213 patients). The PCS_{side} was z-standardized before modelling. Significant regression coefficients are printed in bold (coefficient of determination: R²_{marginal}= 0.035, R²_{conditional}= 0.083).

Variable	[Reference/Unit]	β	95%CI		p
(Intercept)		-0.06	-0.30	0.19	0.643
Perioperative treatment protocol:					
Intra-operative	[vs. Incomplete]	-0.23	-0.40	-0.06	0.008
Post-operative	[vs. Incomplete]	0.02	-0.11	0.15	0.771
Full care	[vs. Incomplete]	-0.27	-0.41	-0.13	<0.001
Age	[years]	-0.01	-0.01	0.00	0.003
Pre-existing chronic pain	[vs. no]	0.25	0.14	0.36	<0.001
Intra-operative neuraxial morphine: yes	[vs. no]	0.36	0.26	0.47	<0.001
Ward: any opioid	[vs. none]	0.07	-0.01	0.16	0.084
Income level: high	[vs. others]	0.20	-0.01	0.42	0.081

Estimated marginal means (covariate adjusted means) and 95% confidence intervals of the **pain composite side effects sub-score** (PCS_{side}, n = 4,213 patients). Results are shown for the peri-operative treatment protocol groups. The PCS_{side} was z-standardized before modelling.

group	mean	95% CI	
Incomplete	0.12	-0.01	0.26
Intra-operative	-0.10	-0.29	0.08
Post-operative	0.14	0.00	0.29
Full care	-0.15	-0.30	0.00

Contrasts (differences of the estimated marginal means) and 95% confidence intervals for the **pain composite side effects sub-score** (PCS_{side}, n = 4,213 patients). Significant contrasts (p < 0.05) are printed in bold. The PCS_{side} was z-standardized before modelling. Thus, differences can be interpreted as differences in standard deviations.

contrast		estimate	95% CI		p
Incomplete	vs. Intra-operative	-0.23	-0.40	-0.06	0.031
Incomplete	vs. Post-operative	0.02	-0.11	0.15	0.999
Incomplete	vs. Full care	-0.27	-0.41	-0.13	<0.001
Intra-operative	vs. Post-operative	0.25	0.06	0.43	0.031
Intra-operative	vs. Full care	-0.04	-0.21	0.12	0.999
Post-operative	vs. Full care	-0.29	-0.42	-0.17	<0.001