

## LIV L4/L5 stability

### *Selection criteria*

```
data_ %<>% .['Posterior Instrumented Fusion' == 'Yes']

data_[, 'Posterior Instrumented Fusion: Upper / Lower Levels'] %>%
  sapply(. %>% strsplit('-',) %>% .[[1]] %>% .[2]) ->
  post_intr_fusion

data_[post_intr_fusion == 'L4', type := 'L4']
data_[post_intr_fusion == 'L5', type := 'L5']

data_ %<>% .[!is.na(get(treatment_))]
```

Patients: 81

*Increment = Future - Baseline*

### **Estability Increment Quality of Life**

### ODI - Score (%)

Base Time point 6M. ODI - Score (%)

Time evolution

	Estimate	Std. Error	df	t value	Pr(> t )
(Intercept)	-3.4618	0.8821	301.9203	-3.9245	0.0001
time_point	0.1728	0.5004	90.6875	0.3452	0.7307
typeL5	2.5322	1.2284	329.7579	2.0615	0.0400

### SRS22 - SRS Subtotal score

Base Time point 6M. SRS22 - SRS Subtotal score

Time evolution

	Estimate	Std. Error	df	t value	Pr(> t )
(Intercept)	0.1679	0.0359	295.2867	4.6788	0.0000
time_point	-0.0044	0.0207	89.9595	-0.2114	0.8331
typeL5	-0.1412	0.0506	323.1735	-2.7917	0.0056

### SF36 - PCS

Base Time point 6M. SF36 - PCS

Time evolution

	Estimate	Std. Error	df	t value	Pr(> t )
(Intercept)	1.4419	0.5553	310.8348	2.5968	0.0099
time_point	-0.0035	0.3060	100.8992	-0.0113	0.9910
typeL5	-0.2857	0.7648	334.9996	-0.3735	0.7090

### SF36 - MCS

Base Time point 6M. SF36 - MCS

Time evolution

	Estimate	Std. Error	df	t value	Pr(> t )
(Intercept)	1.0768	0.7828	311.3072	1.3756	0.1699
time_point	-0.3031	0.4233	100.1364	-0.7160	0.4757
typeL5	-0.4402	1.0750	334.8764	-0.4095	0.6825

## Estability Increment Radiology

### Static Major curve Cobb angle

Base Time point 6W. Static Major curve Cobb angle

Time evolution

	Estimate	Std. Error	df	t value	Pr(> t )
(Intercept)	-0.0920	0.4359	325.2749	-0.211	0.8330
time_point	0.7226	0.2977	72.6348	2.427	0.0177
typeL5	-0.3369	0.5921	348.8645	-0.569	0.5697

Preop & Inc preop variable: Static Major curve Cobb angle  
Basic Demographics

	Estimate	Std. Error	df	t value	Pr(> t )
(Intercept)	0.2286	1.0823	341.5792	0.2112	0.8329
Age	-0.0040	0.0222	343.4986	-0.1822	0.8555
SiteBOR Op	-0.2404	0.9099	344.7977	-0.2643	0.7917
SiteIST Op	-2.3392	1.2158	347.2003	-1.9241	0.0552
SiteMAD Op	0.2490	0.8935	343.5262	0.2787	0.7806
SiteZUR Op	0.0022	0.9959	346.8111	0.0022	0.9983
time_point	0.7282	0.2923	71.1238	2.4918	0.0150
typeL5	-0.1788	0.6674	345.3206	-0.2679	0.7889

Factors

	Estimate	Std. Error	df	t value	Pr(> t )
(Intercept)	1.0993	2.4729	337.8467	0.4445	0.6569
Age	-0.0227	0.0281	338.6784	-0.8058	0.4209
SiteBOR Op	-1.1672	1.0836	338.6128	-1.0772	0.2822
SiteIST Op	-1.5545	1.2613	340.3120	-1.2324	0.2186
SiteMAD Op	-0.2782	0.9327	338.0937	-0.2982	0.7657
SiteZUR Op	-2.5550	1.2022	339.9398	-2.1253	0.0343
'Prior Spine Surgery'Yes	-1.7605	0.9836	337.4331	-1.7898	0.0744
'Osteoporosis / osteopenia'Yes	1.0599	1.0390	339.5650	1.0201	0.3084
essg_categoryidiopathic	-1.4245	1.1242	338.1350	-1.2671	0.2060
essg_categoryothers	-1.6568	1.4160	340.2467	-1.1701	0.2428
Non_instrumented_segments	0.2529	0.1233	338.9080	2.0508	0.0411

inc_preop	-0.0774	0.0339	338.2409	-2.2811	0.0232
preop	-0.0311	0.0233	336.7994	-1.3339	0.1831
time_point	0.7218	0.2856	71.6505	2.5268	0.0137
typeL5	-0.4086	0.7023	338.0838	-0.5819	0.5610

### ### Coronal Balance (C7PL to CSVL)

Base Time point 6W. Coronal Balance (C7PL to CSVL)

#### Time evolution

	Estimate	Std. Error	df	t value	Pr(> t )
(Intercept)	-6.3353	1.0616	258.8904	-5.9675	0.0000
time_point	-0.7108	0.6486	75.7128	-1.0960	0.2766
typeL5	6.5266	1.4924	277.4809	4.3734	0.0000

Preop & Inc preop variable: Coronal Balance (C7PL to CSVL)

#### Basic Demographics

	Estimate	Std. Error	df	t value	Pr(> t )
(Intercept)	-7.6444	2.6378	271.6449	-2.8980	0.0041
Age	0.0020	0.0529	272.6658	0.0368	0.9706
SiteBOR Op	1.2435	2.0140	272.9557	0.6174	0.5375
SiteIST Op	-3.6418	3.4198	270.7404	-1.0649	0.2879
SiteMAD Op	-0.3118	2.1688	272.8078	-0.1438	0.8858
SiteZUR Op	6.5648	3.0193	272.9198	2.1743	0.0305
time_point	-0.7479	0.6473	75.0085	-1.1555	0.2516
typeL5	7.6766	1.6963	272.6997	4.5255	0.0000

#### Factors

	Estimate	Std. Error	df	t value	Pr(> t )
(Intercept)	-3.3451	4.2407	265.0790	-0.7888	0.4309
Age	0.0840	0.0621	264.4580	1.3526	0.1773
SiteBOR Op	-1.2536	2.0563	263.7815	-0.6097	0.5426
SiteIST Op	-1.5745	3.5291	265.8095	-0.4461	0.6559
SiteMAD Op	1.2783	2.0221	263.0523	0.6322	0.5278
SiteZUR Op	4.5751	3.0214	265.6879	1.5142	0.1312
'Prior Spine Surgery'Yes	-3.5514	2.0545	263.8035	-1.7286	0.0851
'Osteoporosis / osteopenia'Yes	-1.8499	2.3314	264.8308	-0.7935	0.4282
essg_categoryidiopathic	1.9694	2.1928	264.7468	0.8981	0.3699
essg_categoryothers	6.8057	2.9002	264.9305	2.3466	0.0197
Non_instrumented_segments	-0.0390	0.3041	264.9007	-0.1283	0.8980
inc_preop	-0.5144	0.0531	265.5384	-9.6896	0.0000
preop	-0.3139	0.0613	265.2609	-5.1189	0.0000
time_point	-0.8659	0.5025	74.3152	-1.7234	0.0890
typeL5	5.1367	1.8121	263.3037	2.8346	0.0049

### ### Sagittal Balance

Base Time point 6W. Sagittal Balance

#### Time evolution

	Estimate	Std. Error	df	t value	Pr(> t )
(Intercept)	-10.8076	2.7085	260.9961	-3.9903	0.0001
time_point	2.4115	1.8748	61.8533	1.2863	0.2031
typeL5	6.5995	3.6989	282.0124	1.7842	0.0755

Preop & Inc preop variable: Sagittal Balance

Basic Demographics

	Estimate	Std. Error	df	t value	Pr(> t )
(Intercept)	-15.1669	6.8413	274.4852	-2.2170	0.0274
Age	0.0042	0.1358	277.0290	0.0307	0.9755
SiteBOR Op	-0.1912	5.2954	278.0938	-0.0361	0.9712
SiteIST Op	19.7919	7.9391	276.3790	2.4930	0.0133
SiteMAD Op	10.6303	5.5317	277.1603	1.9217	0.0557
SiteZUR Op	9.7425	6.7447	282.4703	1.4445	0.1497
time_point	2.3610	1.8392	60.0056	1.2837	0.2042
typeL5	4.8939	4.2585	278.4262	1.1492	0.2515

Factors

	Estimate	Std. Error	df	t value	Pr(> t )
(Intercept)	-14.6326	11.7565	269.6733	-1.2446	0.2143
Age	0.0172	0.1714	271.2340	0.1001	0.9203
SiteBOR Op	-0.8569	5.9260	270.4191	-0.1446	0.8851
SiteIST Op	8.7570	8.5191	270.6406	1.0279	0.3049
SiteMAD Op	9.3538	5.6023	269.9881	1.6696	0.0961
SiteZUR Op	3.9402	7.3064	274.9806	0.5393	0.5901
'Prior Spine Surgery'Yes	-0.8061	5.8220	273.6075	-0.1385	0.8900
'Osteoporosis / osteopenia'Yes	6.0021	5.8172	272.6931	1.0318	0.3031
essg_categoryidiopathic	-1.9616	6.1911	269.0718	-0.3168	0.7516
essg_categoryothers	-9.2900	7.8611	273.4112	-1.1818	0.2383
Non_instrumented_segments	0.7483	0.7212	273.0156	1.0375	0.3004
inc_preop	-0.3937	0.0692	270.7018	-5.6931	0.0000
preop	-0.2757	0.0691	266.3664	-3.9876	0.0001
time_point	2.1487	1.7093	58.7357	1.2571	0.2137
typeL5	9.4255	4.5476	273.2878	2.0726	0.0391

### Sagittal T2-T5

Base Time point 6W. Sagittal T2-T5

Time evolution

	Estimate	Std. Error	df	t value	Pr(> t )
(Intercept)	0.6310	0.6907	292.4527	0.9135	0.3617
time_point	0.3214	0.3934	82.4052	0.8169	0.4163
typeL5	-0.6228	0.9319	308.7698	-0.6683	0.5044

Preop & Inc preop variable: Sagittal T2-T5

Basic Demographics

	Estimate	Std. Error	df	t value	Pr(> t )
(Intercept)	1.1398	1.6243	303.7968	0.7017	0.4834
Age	-0.0133	0.0331	303.7585	-0.4013	0.6885
SiteBOR Op	-0.6395	1.2746	302.4205	-0.5017	0.6162
SiteIST Op	-0.7309	2.1373	303.8340	-0.3420	0.7326
SiteMAD Op	1.5938	1.3283	303.8311	1.1999	0.2311
SiteZUR Op	0.0898	1.7300	301.7173	0.0519	0.9586
time_point	0.3316	0.3939	81.4735	0.8420	0.4023
typeL5	-0.5992	1.0366	303.4296	-0.5780	0.5637

Factors

	Estimate	Std. Error	df	t value	Pr(> t )
(Intercept)	7.5280	2.8695	295.4648	2.6235	0.0092
Age	0.0158	0.0413	295.7407	0.3825	0.7024
SiteBOR Op	-0.6367	1.5037	293.5080	-0.4235	0.6723
SiteIST Op	-0.9480	2.1302	296.9910	-0.4451	0.6566
SiteMAD Op	-0.1735	1.3676	295.3339	-0.1268	0.8991
SiteZUR Op	0.3204	2.0166	294.5393	0.1589	0.8739
'Prior Spine Surgery'Yes	-1.2661	1.4162	292.6676	-0.8940	0.3721
'Osteoporosis / osteopenia'Yes	-2.1424	1.5401	295.2133	-1.3911	0.1652
essg_categoryidiopathic	-2.5819	1.5449	295.4953	-1.6713	0.0957
essg_categoryothers	-4.8795	1.9718	294.3925	-2.4746	0.0139
Non_instrumented_segments	-0.4213	0.1899	295.6424	-2.2181	0.0273
inc_preop	-0.2453	0.0819	295.0884	-2.9966	0.0030
preop	-0.0998	0.0928	296.1639	-1.0756	0.2830
time_point	0.3560	0.3640	81.9460	0.9778	0.3310
typeL5	-0.3546	1.0788	294.9537	-0.3287	0.7426

### ### Sagittal T5-T12

Base Time point 6W. Sagittal T5-T12

#### Time evolution

	Estimate	Std. Error	df	t value	Pr(> t )
(Intercept)	-0.2355	0.5664	273.5005	-0.4158	0.6779
time_point	1.2858	0.4314	64.3031	2.9805	0.0041
typeL5	-0.3096	0.7783	295.8594	-0.3977	0.6911

Preop & Inc preop variable: Sagittal T5-T12

#### Basic Demographics

	Estimate	Std. Error	df	t value	Pr(> t )
(Intercept)	0.5243	1.3622	285.2580	0.3849	0.7006
Age	-0.0448	0.0278	288.5785	-1.6078	0.1090
SiteBOR Op	2.5342	1.0753	291.7083	2.3568	0.0191
SiteIST Op	-1.1819	1.7790	296.9240	-0.6644	0.5070
SiteMAD Op	0.3942	1.1364	286.2028	0.3469	0.7289
SiteZUR Op	0.5109	1.4315	300.7494	0.3569	0.7214
time_point	1.3336	0.4323	60.3559	3.0853	0.0031
typeL5	0.5596	0.8614	291.1691	0.6497	0.5164

#### Factors

	Estimate	Std. Error	df	t value	Pr(> t )
(Intercept)	3.6263	2.4064	283.6356	1.5069	0.1329
Age	-0.0480	0.0365	283.6621	-1.3135	0.1901
SiteBOR Op	4.5450	1.2199	288.0085	3.7257	0.0002
SiteIST Op	-1.3826	1.8382	290.5827	-0.7522	0.4526
SiteMAD Op	0.5343	1.1597	282.3789	0.4607	0.6454
SiteZUR Op	2.0728	1.5961	292.9476	1.2986	0.1951
'Prior Spine Surgery'Yes	1.1214	1.2654	288.6295	0.8862	0.3762
'Osteoporosis / osteopenia'Yes	1.2865	1.2484	286.1287	1.0305	0.3036
essg_categoryidiopathic	-0.2327	1.2647	287.5579	-0.1840	0.8541
essg_categoryothers	0.5766	1.5982	289.7848	0.3608	0.7185
Non_instrumented_segments	-0.1345	0.1664	287.1947	-0.8080	0.4198
inc_preop	-0.2413	0.0482	289.1298	-5.0026	0.0000
preop	-0.1114	0.0385	285.7222	-2.8921	0.0041

time_point	1.3022	0.4059	61.3796	3.2085	0.0021
typeL5	1.1236	0.8967	284.6807	1.2531	0.2112

### ### Sagittal T2-T12

Base Time point 6W. Sagittal T2-T12

#### Time evolution

	Estimate	Std. Error	df	t value	Pr(> t )
(Intercept)	-0.0794	0.5314	291.8632	-0.1494	0.8814
time_point	1.1964	0.3826	63.1471	3.1266	0.0027
typeL5	-1.4639	0.7495	323.6745	-1.9532	0.0517

Preop & Inc preop variable: Sagittal T2-T12

#### Basic Demographics

	Estimate	Std. Error	df	t value	Pr(> t )
(Intercept)	1.2090	1.3188	313.9349	0.9168	0.3600
Age	-0.0374	0.0270	318.0738	-1.3876	0.1662
SiteBOR Op	1.3795	1.0439	321.3361	1.3214	0.1873
SiteIST Op	0.6984	1.6416	320.0336	0.4254	0.6708
SiteMAD Op	-1.1271	1.0623	317.1251	-1.0610	0.2895
SiteZUR Op	0.3484	1.3812	324.9214	0.2522	0.8010
time_point	1.1941	0.3806	62.2006	3.1371	0.0026
typeL5	-0.9883	0.8227	320.3488	-1.2013	0.2305

#### Factors

	Estimate	Std. Error	df	t value	Pr(> t )
(Intercept)	3.1475	2.4845	313.4551	1.2669	0.2061
Age	-0.0240	0.0342	311.7242	-0.7023	0.4830
SiteBOR Op	3.0374	1.2022	316.5325	2.5264	0.0120
SiteIST Op	0.1397	1.6769	312.9655	0.0833	0.9336
SiteMAD Op	-1.3106	1.1065	311.7255	-1.1844	0.2372
SiteZUR Op	2.4420	1.6213	317.2341	1.5062	0.1330
'Prior Spine Surgery'Yes	-0.0549	1.2099	316.8539	-0.0454	0.9638
'Osteoporosis / osteopenia'Yes	-0.2177	1.2715	314.1278	-0.1712	0.8641
essg_categoryidiopathic	0.4084	1.2789	315.3628	0.3193	0.7497
essg_categoryothers	0.2672	1.6258	316.7437	0.1644	0.8695
Non_instrumented_segments	-0.2865	0.1524	315.3457	-1.8803	0.0610
inc_preop	-0.1443	0.0505	310.4838	-2.8542	0.0046
preop	-0.0484	0.0332	312.3444	-1.4583	0.1458
time_point	1.2199	0.3700	61.9192	3.2972	0.0016
typeL5	0.1108	0.8868	312.9434	0.1250	0.9006

### ### Lordosis (top of L1-S1)

Base Time point 6W. Lordosis (top of L1-S1)

#### Time evolution

	Estimate	Std. Error	df	t value	Pr(> t )
(Intercept)	-1.6537	0.6151	339.9805	-2.6887	0.0075
time_point	0.0701	0.4510	83.5703	0.1555	0.8768
typeL5	0.8868	0.8439	364.7570	1.0508	0.2940

Preop & Inc preop variable: Lordosis (top of L1-S1)

# Basic Demographics

	Estimate	Std. Error	df	t value	Pr(> t )
(Intercept)	-1.6890	1.5629	355.9181	-1.0806	0.2806
Age	-0.0104	0.0309	358.6502	-0.3377	0.7358
SiteBOR Op	-0.8134	1.2167	360.2389	-0.6685	0.5042
SiteIST Op	1.3938	1.8111	362.8787	0.7696	0.4421
SiteMAD Op	1.8367	1.2562	357.2001	1.4621	0.1446
SiteZUR Op	1.7608	1.3628	364.0516	1.2921	0.1971
time_point	0.0573	0.4500	82.1961	0.1272	0.8991
typeL5	0.8205	0.9275	360.6347	0.8847	0.3769

# Factors

	Estimate	Std. Error	df	t value	Pr(> t )
(Intercept)	-11.0364	2.9625	356.2713	-3.7254	0.0002
Age	0.0016	0.0384	355.8960	0.0419	0.9666
SiteBOR Op	-1.7007	1.2677	357.8530	-1.3416	0.1806
SiteIST Op	3.0426	1.8226	358.1509	1.6694	0.0959
SiteMAD Op	2.2389	1.2845	355.2923	1.7430	0.0822
SiteZUR Op	0.6696	1.5701	358.3840	0.4265	0.6700
'Prior Spine Surgery'Yes	-1.0932	1.2362	357.1552	-0.8843	0.3771
'Osteoporosis / osteopenia'Yes	1.5000	1.3647	357.4750	1.0992	0.2724
essg_categoryidiopathic	1.9244	1.4126	356.7498	1.3623	0.1740
essg_categoryothers	1.6089	1.7913	359.5993	0.8982	0.3697
Non_instrumented_segments	0.2638	0.1594	357.3014	1.6546	0.0989
inc_preop	-0.2615	0.0474	357.3578	-5.5189	0.0000
preop	-0.1149	0.0340	357.4675	-3.3845	0.0008
time_point	0.0393	0.4006	78.7917	0.0981	0.9221
typeL5	0.5063	0.9430	356.5323	0.5370	0.5916

# ### Pelvic Incidence

Base Time point 6W. Pelvic Incidence

# Time evolution

	Estimate	Std. Error	df	t value	Pr(> t )
(Intercept)	0.0484	0.1533	304.1251	0.3154	0.7527
time_point	-0.0048	0.1823	60.7075	-0.0264	0.9790
typeL5	-0.1388	0.2162	322.6198	-0.6419	0.5214

# Preop & Inc preop variable: Pelvic Incidence

# Basic Demographics

	Estimate	Std. Error	df	t value	Pr(> t )
(Intercept)	0.3419	0.4017	311.6667	0.8512	0.3953
Age	-0.0042	0.0080	314.6994	-0.5244	0.6004
SiteBOR Op	-0.1353	0.3151	310.2325	-0.4294	0.6679
SiteIST Op	0.0661	0.4636	321.8835	0.1426	0.8867
SiteMAD Op	-0.1941	0.3233	306.9688	-0.6003	0.5487
SiteZUR Op	-0.1009	0.3585	332.3838	-0.2816	0.7784
time_point	-0.0065	0.1830	59.2869	-0.0353	0.9720
typeL5	-0.1292	0.2393	319.1456	-0.5400	0.5896

# Factors

	Estimate	Std. Error	df	t value	Pr(> t )
(Intercept)	-0.3167	0.7969	305.3560	-0.3974	0.6913

Age	0.0050	0.0103	310.0896	0.4846	0.6283
SiteBOR Op	-0.2475	0.3469	304.6053	-0.7133	0.4762
SiteIST Op	0.3003	0.4850	318.0321	0.6192	0.5362
SiteMAD Op	-0.3131	0.3363	301.6334	-0.9308	0.3527
SiteZUR Op	-0.2368	0.4296	324.4646	-0.5512	0.5819
'Prior Spine Surgery'Yes	-0.7664	0.3158	312.6400	-2.4267	0.0158
'Osteoporosis / osteopenia'Yes	-0.3989	0.3702	320.7403	-1.0775	0.2821
essg_categoryidiopathic	0.3063	0.3743	317.4972	0.8184	0.4137
essg_categoryothers	0.0698	0.4967	318.1530	0.1405	0.8884
Non_instrumented_segments	0.0361	0.0417	312.8404	0.8643	0.3881
inc_preop	-0.0844	0.0498	324.4986	-1.6955	0.0909
preop	-0.0014	0.0105	308.1124	-0.1366	0.8915
time_point	-0.0022	0.1786	58.8730	-0.0125	0.9901
typeL5	-0.0324	0.2573	313.5388	-0.1258	0.9000

### ### Pelvic Tilt

Base Time point 6W. Pelvic Tilt

#### Time evolution

	Estimate	Std. Error	df	t value	Pr(> t )
(Intercept)	-0.0941	0.3977	352.8063	-0.2367	0.8130
time_point	0.5038	0.2379	95.6055	2.1180	0.0368
typeL5	0.2734	0.5366	370.9689	0.5095	0.6107

Preop & Inc preop variable: Pelvic Tilt

#### Basic Demographics

	Estimate	Std. Error	df	t value	Pr(> t )
(Intercept)	0.3093	0.9958	365.7404	0.3106	0.7563
Age	-0.0164	0.0197	365.9564	-0.8338	0.4049
SiteBOR Op	0.2267	0.7738	364.9218	0.2930	0.7697
SiteIST Op	2.5232	1.1294	365.9577	2.2341	0.0261
SiteMAD Op	0.5279	0.8000	365.8052	0.6598	0.5098
SiteZUR Op	0.1479	0.8674	365.8669	0.1705	0.8647
time_point	0.5056	0.2365	94.2637	2.1376	0.0351
typeL5	0.2835	0.5864	365.9094	0.4834	0.6291

#### Factors

	Estimate	Std. Error	df	t value	Pr(> t )
(Intercept)	-3.7820	1.6374	358.2050	-2.3097	0.0215
Age	0.0352	0.0254	356.9532	1.3869	0.1663
SiteBOR Op	0.7959	0.8071	352.1014	0.9861	0.3248
SiteIST Op	3.4346	1.1365	357.9938	3.0220	0.0027
SiteMAD Op	0.8847	0.7994	354.8484	1.1067	0.2692
SiteZUR Op	1.6215	0.9975	356.7453	1.6256	0.1049
'Prior Spine Surgery'Yes	-1.3728	0.7448	354.4086	-1.8433	0.0661
'Osteoporosis / osteopenia'Yes	-0.9271	0.8557	358.2375	-1.0834	0.2793
essg_categoryidiopathic	2.1423	0.8590	357.8994	2.4940	0.0131
essg_categoryothers	2.3255	1.1135	353.7848	2.0884	0.0375
Non_instrumented_segments	-0.0313	0.0963	356.0037	-0.3245	0.7457
inc_preop	-0.3658	0.0527	354.9667	-6.9442	0.0000
preop	-0.0563	0.0414	355.5869	-1.3583	0.1752
time_point	0.5280	0.2056	91.3491	2.5679	0.0119
typeL5	1.6093	0.5985	356.1766	2.6890	0.0075



### ### Sacral Slope

Base Time point 6W. Sacral Slope

Time evolution

	Estimate	Std. Error	df	t value	Pr(> t )
(Intercept)	-0.0499	0.3957	346.0322	-0.1260	0.8998
time_point	-0.4370	0.2593	87.5526	-1.6854	0.0955
typeL5	-0.1480	0.5393	369.4986	-0.2745	0.7839

Preop & Inc preop variable: Sacral Slope

Basic Demographics

	Estimate	Std. Error	df	t value	Pr(> t )
(Intercept)	-0.4230	1.0013	362.5199	-0.4225	0.6729
Age	0.0181	0.0198	364.4298	0.9164	0.3600
SiteBOR Op	-0.2592	0.7806	365.6006	-0.3320	0.7401
SiteIST Op	-2.2802	1.1380	365.2607	-2.0037	0.0458
SiteMAD Op	-0.6070	0.8060	364.4555	-0.7531	0.4519
SiteZUR Op	-0.6226	0.8744	365.5789	-0.7121	0.4769
time_point	-0.4373	0.2582	85.8354	-1.6935	0.0940
typeL5	-0.1998	0.5908	364.9241	-0.3383	0.7354

Factors

	Estimate	Std. Error	df	t value	Pr(> t )
(Intercept)	7.1830	1.8238	358.7436	3.9384	0.0001
Age	-0.0234	0.0237	358.8959	-0.9870	0.3243
SiteBOR Op	-0.9589	0.7871	354.9027	-1.2183	0.2239
SiteIST Op	-3.1211	1.1082	358.7028	-2.8164	0.0051
SiteMAD Op	-0.7017	0.7941	357.6352	-0.8837	0.3774
SiteZUR Op	-1.8223	0.9794	358.0323	-1.8605	0.0636
'Prior Spine Surgery'Yes	0.9410	0.7289	356.7136	1.2910	0.1976
'Osteoporosis / osteopenia'Yes	0.7977	0.8554	358.9805	0.9325	0.3517
essg_categoryidiopathic	-1.5613	0.8739	358.9612	-1.7865	0.0749
essg_categoryothers	-3.0905	1.0995	356.5576	-2.8108	0.0052
Non_instrumented_segments	0.0236	0.0957	358.0831	0.2467	0.8053
inc_preop	-0.4137	0.0527	357.2589	-7.8517	0.0000
preop	-0.1085	0.0307	357.2576	-3.5329	0.0005
time_point	-0.4489	0.2128	83.3282	-2.1091	0.0379
typeL5	-1.0095	0.5813	358.2710	-1.7366	0.0833

### ### RLL

Base Time point 6W. RLL

Time evolution

	Estimate	Std. Error	df	t value	Pr(> t )
(Intercept)	1.7176	0.6085	341.7420	2.8226	0.0050
time_point	-0.0841	0.4265	87.2178	-0.1973	0.8441
typeL5	-0.9145	0.8334	365.5063	-1.0973	0.2732

Preop & Inc preop variable: RLL

Basic Demographics

	Estimate	Std. Error	df	t value	Pr(> t )
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(Intercept)	1.6048	1.5417	357.2427	1.0409	0.2986
Age	0.0130	0.0305	359.7971	0.4262	0.6702
SiteBOR Op	0.7916	1.2046	361.5477	0.6571	0.5115
SiteIST Op	-1.4152	1.7851	362.6353	-0.7928	0.4284
SiteMAD Op	-1.7709	1.2421	359.1222	-1.4257	0.1548
SiteZUR Op	-1.6194	1.3497	362.9328	-1.1998	0.2310
time_point	-0.0788	0.4270	85.4901	-0.1847	0.8539
typeL5	-0.8612	0.9142	361.0194	-0.9421	0.3468

#### Factors

	Estimate	Std. Error	df	t value	Pr(> t )
(Intercept)	5.1762	2.5263	352.8693	2.0489	0.0412
Age	-0.0159	0.0383	354.1598	-0.4157	0.6779
SiteBOR Op	1.9030	1.2661	356.8701	1.5030	0.1337
SiteIST Op	-2.9923	1.7949	356.8930	-1.6672	0.0964
SiteMAD Op	-2.2003	1.2734	355.0954	-1.7279	0.0849
SiteZUR Op	-0.6813	1.5543	357.1510	-0.4383	0.6614
'Prior Spine Surgery'Yes	1.4726	1.2173	356.8164	1.2097	0.2272
'Osteoporosis / osteopenia'Yes	-1.1038	1.3621	354.6434	-0.8104	0.4183
essg_categoryidiopathic	-2.4587	1.3873	354.3539	-1.7723	0.0772
essg_categoryothers	-1.3906	1.7764	357.5720	-0.7828	0.4342
Non_instrumented_segments	-0.2637	0.1581	356.2929	-1.6684	0.0961
inc_preop	-0.2606	0.0491	355.7307	-5.3073	0.0000
preop	-0.1237	0.0395	354.8996	-3.1301	0.0019
time_point	-0.0681	0.3868	80.9138	-0.1760	0.8607
typeL5	-1.0506	0.9441	355.6140	-1.1128	0.2666

#### ### Global Tilt

Base Time point 6W. Global Tilt

#### Time evolution

	Estimate	Std. Error	df	t value	Pr(> t )
(Intercept)	-1.7991	0.5394	302.2456	-3.3355	0.0010
time_point	0.7090	0.3497	88.7407	2.0277	0.0456
typeL5	1.8069	0.7599	323.3349	2.3777	0.0180

#### Preop & Inc preop variable: Global Tilt

#### Basic Demographics

	Estimate	Std. Error	df	t value	Pr(> t )
(Intercept)	-2.7992	1.3195	315.5751	-2.1215	0.0347
Age	-0.0047	0.0266	318.4427	-0.1748	0.8613
SiteBOR Op	0.5360	1.0547	319.4170	0.5082	0.6117
SiteIST Op	6.4377	1.5096	318.7808	4.2644	0.0000
SiteMAD Op	2.4863	1.0864	318.1312	2.2885	0.0228
SiteZUR Op	1.1922	1.3380	319.7679	0.8911	0.3736
time_point	0.7152	0.3411	84.0887	2.0968	0.0390
typeL5	1.3217	0.8195	318.5985	1.6128	0.1078

#### Factors

	Estimate	Std. Error	df	t value	Pr(> t )
(Intercept)	-4.6625	2.1558	311.7109	-2.1627	0.0313
Age	0.0585	0.0344	312.4956	1.7014	0.0899
SiteBOR Op	1.5119	1.2371	312.9981	1.2221	0.2226

SiteIST Op	4.8020	1.5354	312.6842	3.1276	0.0019
SiteMAD Op	2.5961	1.1257	312.8699	2.3063	0.0217
SiteZUR Op	2.0868	1.4632	312.9898	1.4262	0.1548
'Prior Spine Surgery'Yes	-1.0657	1.0890	312.9892	-0.9786	0.3285
'Osteoporosis / osteopenia'Yes	-0.4777	1.1863	312.2032	-0.4027	0.6874
essg_categoryidiopathic	1.7667	1.2330	311.5857	1.4328	0.1529
essg_categoryothers	0.2231	1.6070	312.8616	0.1388	0.8897
Non_instrumented_segments	-0.0555	0.1415	312.9356	-0.3925	0.6949
inc_preop	-0.3721	0.0614	312.9587	-6.0603	0.0000
preop	-0.1968	0.0408	312.5062	-4.8217	0.0000
time_point	0.7357	0.3006	78.7593	2.4477	0.0166
typeL5	3.8481	0.8589	312.9603	4.4804	0.0000

### ### T1 Sagittal Tilt

Base Time point 6W. T1 Sagittal Tilt

#### Time evolution

	Estimate	Std. Error	df	t value	Pr(> t )
(Intercept)	-1.1022	0.2981	232.2231	-3.6977	0.0003
time_point	-0.0382	0.1702	60.5075	-0.2242	0.8233
typeL5	0.3632	0.4050	247.9626	0.8966	0.3708

Preop & Inc preop variable: T1 Sagittal Tilt

#### Basic Demographics

	Estimate	Std. Error	df	t value	Pr(> t )
(Intercept)	-1.7308	0.7053	242.9919	-2.4539	0.0148
Age	-0.0034	0.0146	242.1419	-0.2312	0.8173
SiteBOR Op	0.5172	0.5873	241.7096	0.8805	0.3794
SiteIST Op	-0.4700	0.9830	241.8785	-0.4781	0.6330
SiteMAD Op	1.0107	0.5728	242.4025	1.7646	0.0789
SiteZUR Op	2.7639	0.8100	242.7051	3.4123	0.0008
time_point	-0.0314	0.1599	63.6116	-0.1966	0.8448
typeL5	0.4912	0.4475	242.7320	1.0976	0.2735

#### Factors

	Estimate	Std. Error	df	t value	Pr(> t )
(Intercept)	-1.8345	1.1944	229.4430	-1.5359	0.1259
Age	-0.0222	0.0182	222.8821	-1.2198	0.2238
SiteBOR Op	0.2198	0.6535	220.2633	0.3363	0.7369
SiteIST Op	-0.3597	1.0027	222.0846	-0.3587	0.7201
SiteMAD Op	0.8920	0.5755	221.1680	1.5501	0.1226
SiteZUR Op	1.7841	0.9350	227.0856	1.9081	0.0576
'Prior Spine Surgery'Yes	0.2498	0.6393	226.7046	0.3907	0.6964
'Osteoporosis / osteopenia'Yes	0.2755	0.7034	230.1531	0.3916	0.6957
essg_categoryidiopathic	-0.5279	0.6470	230.8175	-0.8159	0.4154
essg_categoryothers	-1.2121	0.9632	225.4204	-1.2585	0.2095
Non_instrumented_segments	0.0630	0.0812	220.0777	0.7765	0.4383
inc_preop	-0.3700	0.0661	225.3135	-5.5978	0.0000
preop	-0.2979	0.0602	227.0013	-4.9490	0.0000
time_point	-0.0244	0.1325	63.2336	-0.1838	0.8547
typeL5	1.0349	0.4666	226.4716	2.2180	0.0275

### ### Thoracolumbar L2-T10

Base Time point 6W. Thoracolumbar L2-T10

#### Time evolution

	Estimate	Std. Error	df	t value	Pr(> t )
(Intercept)	0.6867	0.7403	274.9171	0.9276	0.3544
time_point	0.8325	0.4553	70.7628	1.8285	0.0717
typeL5	0.4860	1.0260	298.9675	0.4736	0.6361

Preop & Inc preop variable: Thoracolumbar L2-T10

#### Basic Demographics

	Estimate	Std. Error	df	t value	Pr(> t )
(Intercept)	-0.4252	1.8334	292.3295	-0.2319	0.8168
Age	0.0171	0.0377	294.5233	0.4527	0.6511
SiteBOR Op	1.2401	1.4029	294.7946	0.8839	0.3775
SiteIST Op	-1.6123	2.2438	294.0755	-0.7186	0.4730
SiteMAD Op	-1.0229	1.5009	293.7111	-0.6815	0.4961
SiteZUR Op	0.4719	1.8608	294.8459	0.2536	0.8000
time_point	0.8422	0.4554	68.3758	1.8491	0.0688
typeL5	0.7613	1.1488	294.5424	0.6627	0.5081

#### Factors

	Estimate	Std. Error	df	t value	Pr(> t )
(Intercept)	-7.0381	2.6580	287.4227	-2.6479	0.0085
Age	0.0686	0.0418	287.2852	1.6411	0.1019
SiteBOR Op	1.7632	1.4394	285.0640	1.2250	0.2216
SiteIST Op	-1.3541	2.0479	287.9998	-0.6612	0.5090
SiteMAD Op	-1.7608	1.3550	286.9516	-1.2995	0.1948
SiteZUR Op	-0.1573	1.9733	287.6163	-0.0797	0.9365
'Prior Spine Surgery'Yes	4.6020	1.5252	285.5869	3.0174	0.0028
'Osteoporosis / osteopenia'Yes	1.6649	1.5610	287.0225	1.0666	0.2871
essg_categoryidiopathic	3.1235	1.4959	287.2690	2.0880	0.0377
essg_categoryothers	1.7420	1.9963	286.3900	0.8726	0.3836
Non_instrumented_segments	-0.0480	0.1887	287.2270	-0.2545	0.7993
inc_preop	-0.4504	0.0418	287.9480	-10.7808	0.0000
preop	-0.3782	0.0447	287.9975	-8.4567	0.0000
time_point	0.8409	0.3519	68.0118	2.3896	0.0196
typeL5	2.9246	1.1187	286.4884	2.6141	0.0094

### ### RSA

Base Time point 6W. RSA

#### Time evolution

	Estimate	Std. Error	df	t value	Pr(> t )
(Intercept)	-1.6985	0.5341	299.9119	-3.1804	0.0016
time_point	0.7117	0.3590	85.8735	1.9826	0.0506
typeL5	1.5577	0.7553	321.9558	2.0625	0.0400

Preop & Inc preop variable: Global Tilt

#### Basic Demographics

	Estimate	Std. Error	df	t value	Pr(> t )
(Intercept)	-4.5813	1.7947	249.9993	-2.5527	0.0113
Age	-0.0140	0.0362	248.3361	-0.3878	0.6985

SiteBOR Op	1.5112	1.4358	245.6460	1.0525	0.2936
SiteIST Op	10.2613	2.0457	248.6590	5.0159	0.0000
SiteMAD Op	4.4947	1.4685	248.6396	3.0607	0.0025
SiteZUR Op	2.7257	1.8443	245.1789	1.4779	0.1407
time_point	1.0129	0.3819	95.7799	2.6526	0.0093
typeL5	1.6189	1.1139	248.2113	1.4534	0.1474

#### Factors

	Estimate	Std. Error	df	t value	Pr(> t )
(Intercept)	-7.4183	2.7632	241.5597	-2.6847	0.0078
Age	0.0679	0.0435	240.9169	1.5625	0.1195
SiteBOR Op	3.2380	1.6043	233.4775	2.0184	0.0447
SiteIST Op	7.4270	1.9678	240.0509	3.7743	0.0002
SiteMAD Op	4.8448	1.4301	238.3824	3.3878	0.0008
SiteZUR Op	4.6374	1.8720	236.3944	2.4772	0.0139
'Prior Spine Surgery'Yes	-1.2283	1.3984	235.3187	-0.8784	0.3806
'Osteoporosis / osteopenia'Yes	-0.0438	1.5262	240.5527	-0.0287	0.9771
essg_categoryidiopathic	3.2109	1.5993	241.1452	2.0078	0.0458
essg_categoryothers	0.5475	2.0484	239.4889	0.2673	0.7895
Non_instrumented_segments	-0.1057	0.1827	236.7383	-0.5788	0.5633
inc_preop	-0.5918	0.0789	233.1824	-7.4976	0.0000
preop	-0.3026	0.0527	239.4241	-5.7408	0.0000
time_point	1.0465	0.3265	86.9724	3.2054	0.0019
typeL5	5.5732	1.0952	237.4691	5.0890	0.0000

#### ### RPV

Base Time point 6W. RPV

#### Time evolution

	Estimate	Std. Error	df	t value	Pr(> t )
(Intercept)	0.0219	0.3891	352.4632	0.0562	0.9552
time_point	-0.4709	0.2364	97.2060	-1.9922	0.0492
typeL5	-0.2292	0.5260	370.9947	-0.4357	0.6633

#### Preop & Inc preop variable: Sacral Slope

##### Basic Demographics

	Estimate	Std. Error	df	t value	Pr(> t )
(Intercept)	-0.6657	1.3372	283.1818	-0.4978	0.6190
Age	0.0306	0.0262	277.3605	1.1673	0.2441
SiteBOR Op	-0.5579	1.0269	269.0739	-0.5433	0.5874
SiteIST Op	-3.4181	1.5007	280.8108	-2.2776	0.0235
SiteMAD Op	-0.9451	1.0543	275.4094	-0.8964	0.3708
SiteZUR Op	-0.7573	1.1562	280.2474	-0.6550	0.5130
time_point	-0.4729	0.2618	118.9488	-1.8062	0.0734
typeL5	-0.4229	0.7801	278.1774	-0.5421	0.5882

#### Factors

	Estimate	Std. Error	df	t value	Pr(> t )
(Intercept)	10.4942	2.2098	253.2831	4.7489	0.0000
Age	-0.0374	0.0288	253.4216	-1.3000	0.1948
SiteBOR Op	-1.4662	0.9472	233.3606	-1.5479	0.1230
SiteIST Op	-4.6950	1.3458	262.2286	-3.4887	0.0006
SiteMAD Op	-1.0309	0.9487	239.4164	-1.0867	0.2783

SiteZUR Op	-2.3248	1.1867	259.0919	-1.9592	0.0512
'Prior Spine Surgery'Yes	2.0035	0.8809	243.7936	2.2745	0.0238
'Osteoporosis / osteopenia'Yes	1.2885	1.0395	257.6466	1.2395	0.2163
essg_categoryidiopathic	-2.3720	1.0698	257.0268	-2.2172	0.0275
essg_categoryothers	-4.8351	1.3264	249.9122	-3.6452	0.0003
Non_instrumented_segments	0.0296	0.1157	252.5915	0.2560	0.7981
inc_preop	-0.6100	0.0632	244.4996	-9.6511	0.0000
preop	-0.1491	0.0369	240.8941	-4.0369	0.0001
time_point	-0.4954	0.2082	119.7027	-2.3797	0.0189
typeL5	-1.7207	0.7031	251.5952	-2.4475	0.0151