## Supplementary

Table S1 Sample handling

Variables	Pain-free (n=70)	High impact chronic pain (n=201)	Osteoarthritis pain (n=81)
Fasting, hours, mean (SD)	7.4 (5.4)	6.3 (5.0)	13.2 (2.6)
Sample collection time CSF, minutes, mean (SD)	6.2 (4.0)	5.9 (5.1)	7.8 (4.1)
Time from sampling to freezing of CSF, minutes, mean (SD)	20.7 (5.7)	19.0 (4.2)	25.9 (7.8)
Time from sampling to freezing of plasma, minutes, mean (SD)	18 (5.6)	19.2 (9.6)	61.0 (22.1)
Time from sampling to freezing of serum, minutes, mean (SD)	53.9 (56.4)	47.7 (8.5)	62.5 (22.7)
Puncture time, CSF			
7-9 am, number	5 (7%)	11 (5%)	20 (25%)
9-10 am, number	12 (17%)	33 (16%)	12 (15%)
10-11 am, number	15 (21%)	32 (16%)	16 (20%)
11-12 am, number	7 (10%)	35 (17%)	10 (12%)
12–13 pm, number	10 (14%)	29 (14%)	11 (14%)
13-14 pm, number	13(19%)	40 (20%)	11 (14%)
14-15 pm, number	8 (11%)	21 (10%)	1 (1%)
Puncture time, blood			
7-9 am, number	11 (16%)	23 (11%)	54 (67%)
9-10 am, number	12 (17%)	32 (16%)	8 (10%)
10-11 am, number	12 (17%)	30 (15%)	14 (17%)
11-12 am, number	10 (14%)	40 (20%)	4 (5%)
12-13 pm, number	12 (17%)	36 (18%)	1 (1%)

SD, standard deviation; CSF, cerebrospinal fluid.

Table S2 Complications

Variables	All participants (n=389)
Post dural-puncture headache	6 (1.5%)
Back pain	24 (6.2%)
Soreness at puncture site	38 (9.8%)
Worsening of existing headache	8 (2%)
Worsening of existing sciatic pain	1 (0.3%)
Dizziness	1 (0.3%)

Total n=389 participants on whom spinal puncture was performed.