Figure 1: Participant flow diagram.
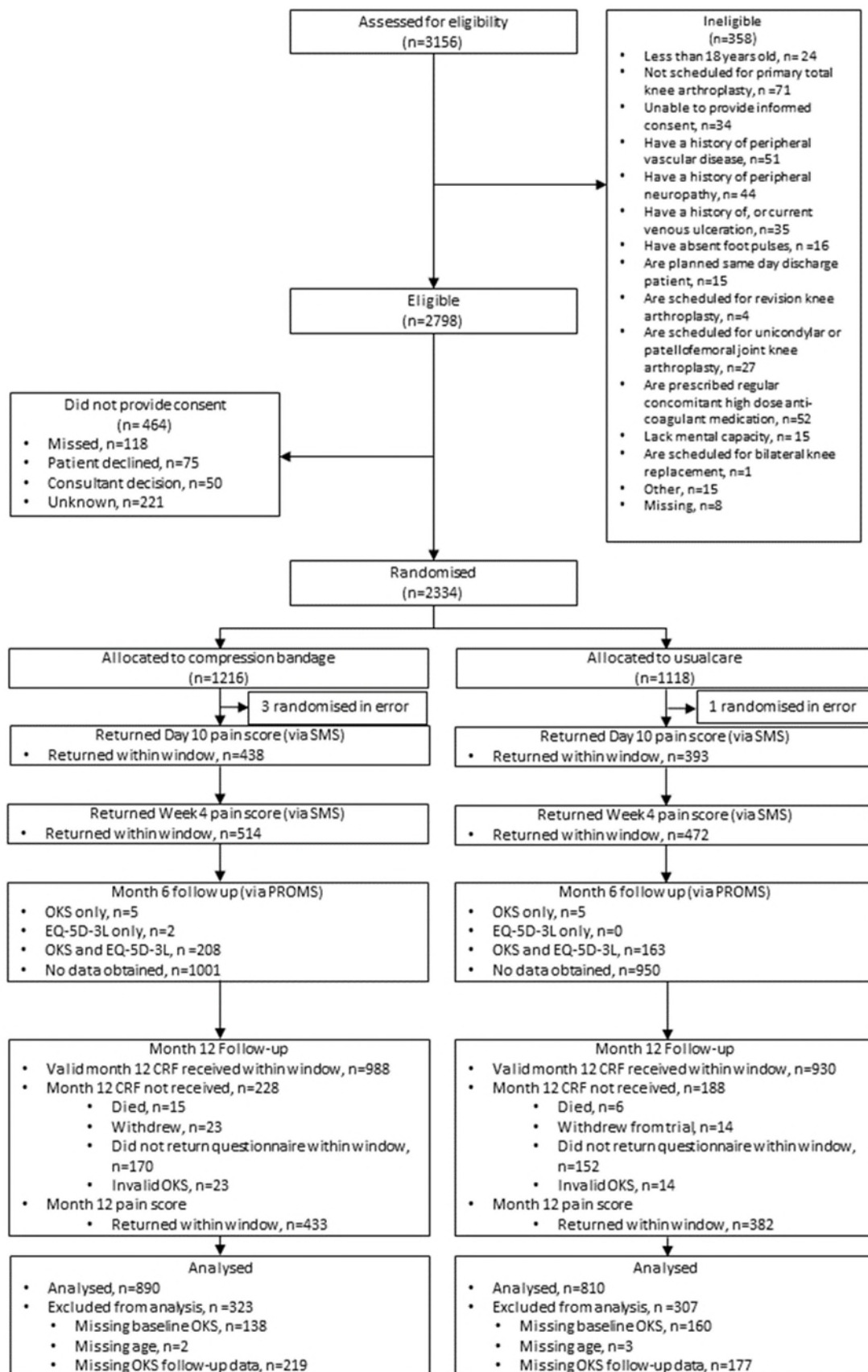
Assessed for eligibility (n=3156)

Ineligible (n=358)
- Less than 18 years old, n= 24
- Not scheduled for primary total knee arthroplasty, n =71
- Unable to provide informed consent, n=34
- Have a history of peripheral vascular disease, n=51
- Have a history of peripheral neuropathy, n= 44
- Have a history of, or current venous ulceration, n=35
- Have absent foot pulses, n =16
- Are planned same day discharge patient, n=15
- Are scheduled for revision knee arthroplasty, n=4
- Are scheduled for unicondylar or patellofemoral joint knee arthroplasty, n=27
- Are prescribed regular concomitant high dose anti-coagulant medication, n=52
- Lack mental capacity, n= 15
- Are scheduled for bilateral knee replacement, n=1
- Other, n=15
- Missing, n=8

Eligible (n=2798)

Did not provide consent (n= 464)
- Missed, n=118
- Patient declined, n=75
- Consultant decision, n=50
- Unknown, n=221

Randomised (n=2334)

Allocated to compression bandage (n=1216)
- 3 randomised in error

Returned Day 10 pain score (via SMS)
- Returned within window, n=438

Returned Week 4 pain score (via SMS)
- Returned within window, n=514

Month 6 follow up (via PROMS)
- OKS only, n=5
- EQ-5D-3L only, n=2
- OKS and EQ-5D-3L, n =208
- No data obtained, n=1001

Month 12 Follow-up
- Valid month 12 CRF received within window, n=988
- Month 12 CRF not received, n=228
  - Died, n=15
  - Withdrew, n=23
  - Did not return questionnaire within window, n=170
  - Invalid OKS, n=23
- Month 12 pain score
  - Returned within window, n=433

Analysed
- Analysed, n=890
- Excluded from analysis, n =323
  - Missing baseline OKS, n=138
  - Missing age, n=2
  - Missing OKS follow-up data, n=219

Allocated to usual care (n=1118)
- 1 randomised in error

Returned Day 10 pain score (via SMS)
- Returned within window, n=393

Returned Week 4 pain score (via SMS)
- Returned within window, n=472

Month 6 follow up (via PROMS)
- OKS only, n=5
- EQ-5D-3L only, n=0
- OKS and EQ-5D-3L, n=163
- No data obtained, n=950

Month 12 Follow-up
- Valid month 12 CRF received within window, n=930
- Month 12 CRF not received, n=188
  - Died, n=6
  - Withdrew from trial, n=14
  - Did not return questionnaire within window, n=152
  - Invalid OKS, n=14
- Month 12 pain score
  - Returned within window, n=382

Analysed
- Analysed, n=810
- Excluded from analysis, n =307
  - Missing baseline OKS, n=160
  - Missing age, n=3
  - Missing OKS follow-up data, n=177

Table 1: Baseline characteristics presented by treatment group in the 'as randomised' and 'as analysed' populations.

	As randomised (n=2330)		As analysed (n=1700)	
	Compression bandage (n=1213)	Usual care (n=1117)	Compression bandage (n=890)	Usual care (n=810)
Gender, n (%)				
Male	534 (44.0)	509 (45.6)	409 (46.0)	369 (45.6)
Female	677 (55.8)	605 (54.2)	481 (54.0)	441 (54.4)
Missing	2 (0.2)	3 (0.3)	0 (0)	0 (0)
Age				
n (%)	1211 (99.8)	1115 (99.8)	890 (100)	810 (100)
Mean (SD)	68.8 (8.8)	69.2 (9.1)	69.0 (8.8)	69.5 (8.8)
Median (Q_2, Q_3)	69.2 (62.7, 75.0)	69.5 (62.8, 75.7)	69.6 (62.8, 75.2)	69.9 (63.7, 75.6)
Min, Max	42.4, 93.3	42.4, 92.8	42.4, 93.3	44.4, 91.0
BMI				
n (%)	1182 (97.4)	1093 (97.9)	873 (98.1)	798 (98.5)
Mean (SD)	31.3 (5.6)	31.5 (5.4)	31.3 (5.6)	31.5 (5.4)
Median (Q_2, Q_3)	30.8 (27.3, 34.8)	31.0 (27.9, 35.0)	30.6 (27.3, 34.9)	30.8 (27.8, 35.0)
Min, Max	14.3, 58.3	19.0, 57.8	14.3, 58.3	19.0, 57.8
Knee receiving treatment, n (%)				
Left	451 (37.2)	412 (36.9)	366 (41.2)	340 (42.0)
Right	523 (43.1)	450 (40.3)	430 (48.3)	383 (47.3)
Missing	239 (19.7)	255 (22.8)	94 (10.6)	87 (10.7)
Oxford Knee Score				
n (%)	1076 (88.7)	957 (85.7)	890 (100)	810 (100)
Mean (SD)	20.2 (8.0)	20.1 (7.8)	20.5 (7.8)	20.3 (7.7)
Median (Q_2, Q_3)	20.0 (14.0, 25.0)	20 (14.0, 25.2)	20.0 (15.0, 26.0)	20 (14.0, 26.0)
Min, Max	3.0, 44.0	1.0, 43.6	3.3, 44.0	3.0, 43.6

The Oxford Knee Score is reported to one decimal place, as missing responses were imputed with the mean of non-missing responses (for participants with one or two missing responses), and as a result non-integer values of the score were derived. Q_2 and Q_3 represent the lower and upper quartiles respectively.

Table 2: Primary and secondary outcomes.

	Compression bandage	Usual care	Adjusted mean difference (95% CI)	p-value
Primary outcome				
Month 6 post-surgery OKS				
n	208	162	0.52	0.40
Mean (SD)	37.8 (8.6)	36.7 (9.7)	(-0.70, 1.74)	
Median (Q_2, Q_3)	40.0 (32.0, 45.0)	40.0 (32.0, 44.0)		
Min, Max	9.0, 48.0	3.0, 48.0		
Month 12 post-randomisation OKS				
n	881	799	0.29	0.52
Mean (SD)	36.4 (10.3)	36.0 (10.3)	(-0.60, 1.20)	
Median (Q_2, Q_3)	40.0 (31.0, 44.0)	39.0 (31.0, 44.0)		
Min, Max	1.0, 48.0	2.0, 48.0		
Secondary outcomes				
Pain Score day 10				
n	383	319	0	0.95
Mean (SD)	6.0 (2.1)	6.1 (2.1)	(-0.29, 0.27)	
Median (Q_1, Q_2)	6 (5, 8)	6 (5, 8)		
Min, Max	0, 10	0, 10		
Pain Score Week 4				
n	454	390	-0.14	0.32
Mean (SD)	4.4 (2.2)	4.7 (2.1)	(-0.40, 0.13)	
Median (Q_1, Q_2)	4 (3, 6)	5 (3, 6)		
Min, Max	0, 10	0, 10		
Pain Score Month 12				
n	382	320	-0.19	0.30
Mean (SD)	2.5 (2.7)	2.8 (2.6)	(-0.56, 0.17)	
Median (Q_1, Q_2)	2 (0, 4)	2 (1, 4)		
Min, Max	0, 10	0, 9		

			Adjusted odds ratio/incidence rate ratio (95% CI)	
Returned to theatre within 30 days of surgery, n (%)				
Yes	4 (0.6)	3 (0.5)	1.90	0.47
No	659 (99.4)	606 (99.5)	(0.33, 11.06)	
Readmitted to Hospital as an emergency within 30 days of operation, n (%)				
Yes	29 (4.0)	28 (4.2)	0.93	0.80
No	697 (96.0)	641 (95.8)	(0.55, 1.59)	
Experienced a pulmonary embolism within 60 days of surgery, n (%)				
Yes	2 (0.3)	4 (0.7)	0.45	0.36
No	661 (99.7)	605 (99.3)	(0.08, 2.47)	
Experienced a DVT within 60 days of surgery, n (%)				
Yes	2 (0.3)	4 (0.7)	0.47	0.42
No	662 (99.7)	606 (99.3)	(0.08, 2.87)	
Length of hospital stay				
n	726	668	0.95	0.10
Mean (SD)	2.9 (1.9)	3.1 (2.3)	(0.89, 1.01)	
Median (Q$_2$, Q$_3$)	2 (2, 3)	3 (2, 4)		
Min, Max	0, 27	0, 26		

The Oxford Knee Score is reported to one decimal place, as missing responses were imputed with the mean of non-missing responses (for participants with one or two missing responses), and as a result non-integer values of the score were derived. Q2 and Q3 represent the lower and upper quartiles respectively.

Table 3: Information on the number of non-serious and serious adverse events presented by treatment group

	Compression bandage (n=1215)	Usual care (n=1118)
Number of non-serious adverse events, n (%)		
0	1169 (96.2)	1100 (98.4)
1	44 (3.6)	17 (1.5)
2	2 (0.2)	1 (0.1)
At least one non-serious adverse event, n (%)		
Yes	46 (3.9)	18 (1.6)
No	1169 (96.2)	1100 (98.4)
Number of serious adverse events, n (%)		
0	1212 (99.8)	1115 (99.7)
1	3 (0.2)	3 (0.3)