

1 Appendix B

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3 Supplementary material of “*Osteoarthritis Endotype Discovery via Clustering of*
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7 Bacardit.

8 1 CLUSTERS BASED STATISTICAL ANALYSIS FOR EXTRA MARKERS E

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10 In this appendix, the results of the statistical analysis conducted on extra marker
11 denoted as E are provided. The analysis aims at discovering whether the clusters
12 found in biochemical markers data B show statistically relevant differences in terms
13 of markers in E. In Table B1, the list of considered features (markers) in E is
14 provided. These features are those that have at most 5% of missing values (markers
15 with more abundant missing values were discarded). In Figures B1 through B18, the
16 feature distributions by cluster are provided, including the pair-wise p values for
17 statistically different clusters. Table B2 summarises how many features in each
18 category show statistically significant differences.

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Table B1. Additional features (denoted as E) considered from the IMI-APPROACH cohort for statistical analysis of biochemical markers-based clustering.

Category	Feature	Detected values	Description	Missing
CT	Acromioclavicular_Max	0;1;2;3;	Max of Acromioclavicular left and right	1
CT	Cyst_H	0:none;1:lateral;2:bilateral;	None or lateral or bilateral Cyst (hip)	1
CT	Cyst_K	0;1;	Cyst (knee)	1
CT	DISH_Kuperus	0;1;2;3;	DISH by Kuperus et al	3
CT	Degenerative_Disc_Disease_C1	0;1;2;3;	Degenerative Disc Disease Cervical worst affected	2
CT	Degenerative_Disc_Disease_C2	0;1;2;3;	Degenerative Disc Disease Cervical second worst affected	2
CT	Degenerative_Disc_Disease_L1	0;1;2;3;	Degenerative Disc Disease Lumbar worst affected	5
CT	Degenerative_Disc_Disease_L2	0;1;2;3;	Degenerative Disc Disease Lumbar second worst affected	5
CT	Degenerative_Disc_Disease_T1	0;1;2;3;	Degenerative Disc Disease Thorax worst affected	3
CT	Degenerative_Disc_Disease_T2	0;1;2;3;	Degenerative Disc Disease Thorax second worst affected	3
CT	Disk_Narrowing_C1	0;1;2;3;	Disk Narrowing Cervical worst affected	2
CT	Disk_Narrowing_C2	0;1;2;3;	Disk Narrowing Cervical second worst affected	2
CT	Disk_Narrowing_L1	0;1;2;3;	Disk Narrowing Lumbar worst affected	5
CT	Disk_Narrowing_L2	0;1;2;3;	Disk Narrowing Lumbar second worst affected	5
CT	Disk_Narrowing_T1	0;1;2;3;	Disk Narrowing Thorax worst affected	3
CT	Disk_Narrowing_T2	0;1;2;3;	Disk Narrowing Thorax second worst affected	3
CT	F_Cort_Lat_BMD_K	-300-2000	Femur Cortical Bone Plate Lateral Bone Marrow Density (mg/cm3)	15
CT	F_Cort_Med_BMD_K	-300-2000	Femur Cortical Bone Plate Medial Bone Marrow Density (mg/cm3)	15
CT	F_Cort_Tot_BMD_K	-300-2000	Femur Cortical Bone Plate Total Bone Marrow Density (mg/cm3)	15
CT	F_Epiphysis_Lat_BMD_K	-300-2000	Femur Epiphysis Lateral Bone Marrow Density (mg/cm3)	15
CT	F_Epiphysis_Med_BMD_K	-300-2000	Femur Epiphysis Medial Bone Marrow Density (mg/cm3)	15

CT	F_Epiphysis_Tot_BMD_K	-300-2000	Femur Epiphysis Total Bone Marrow Density (mg/cm ³)	15
CT	F_Juxtaphy_Lat_BMD_K	-300-2000	Femur Juxta-Physis Lateral Bone Marrow Density (mg/cm ³)	15
CT	F_Juxtaphy_Med_BMD_K	-300-2000	Femur Juxta-Physis Medial Bone Marrow Density (mg/cm ³)	15
CT	F_Juxtaphy_Tot_BMD_K	-300-2000	Femur Juxta-Physis Total Bone Marrow Density (mg/cm ³)	15
CT	F_MidEpi_Lat_BMD_K	-300-2000	Femur Mid Epiphysis Lateral Bone Marrow Density (mg/cm ³)	15
CT	F_MidEpi_Med_BMD_K	-300-2000	Femur Mid Epiphysis Medial Bone Marrow Density (mg/cm ³)	15
CT	F_MidEpi_Tot_BMD_K	-300-2000	Femur Mid Epiphysis Total Bone Marrow Density (mg/cm ³)	15
CT	F_SubchEpi_Lat_BMD_K	-300-2000	Femur Subchondral Epiphysis Lateral Bone Marrow Density (mg/cm ³)	15
CT	F_SubchEpi_Med_BMD_K	-300-2000	Femur Subchondral Epiphysis Medial Bone Marrow Density (mg/cm ³)	15
CT	F_SubchEpi_Tot_BMD_K	-300-2000	Femur Subchondral Epiphysis Total Bone Marrow Density (mg/cm ³)	15
CT	Facet_C1	0;1;2;3;4;5;	Facet Cervical worst affected	2
CT	Facet_C2	0;1;2;3;4;5;6;7;	Facet Cervical second worst affected	2
CT	Facet_L1	0;1;2;3;	Facet Lumbar worst affected	4
CT	Facet_L2	0;1;2;3;4;5;	Facet Lumbar second worst affected	4
CT	Facet_T1	0;1;2;3;	Facet Thorax worst affected	2
CT	Facet_T2	0;1;2;3;4;5;6;7;8;9;10;11;12;	Facet Thorax second worst affected	2
CT	Glenohumeral_Max	0;1;2;3;	Max of Glenohumeral left and right	1
CT	JSN_H_Max	0;1;2;3;	Joint space narrowing (hip) max of left and right	1
CT	JSN_K	0;1;2;3;	Joint Space Narrowing (knee)	1
CT	Level_C1	0;1;2;3;4;5;6;7;	Level of Cervical worst affected	2
CT	Level_C2	0;1;2;3;4;5;6;7;	Level of Cervical second worst affected	2
CT	Level_L1	0;1;2;3;4;5;	Level of Lumbar worst affected	5
CT	Level_L2	0;1;2;3;4;5;	Level of Lumbar second worst affected	5
CT	Level_T1	0;1;2;3;4;5;6;7;8;9;10;11;12;	Level of Thorax worst affected	3
CT	Level_T2	0;1;2;3;4;5;6;7;8;9;10;11;12;	Level of Thorax second worst affected	3
CT	OA_HL	0;1;2;3;	OA (hip left)	1
CT	OA_HR	0;1;2;3;	OA (hip right)	1
CT	OA_K	0;1;2;3;	OA (knee)	1
CT	Osteophyte_C1	0;1;2;3;	Osteophyte Cervical worst affected	2
CT	Osteophyte_C2	0;1;2;3;	Osteophyte Cervical second worst affected	2
CT	Osteophyte_HL	0;1;2;3;	Osteophyte (hip left)	1
CT	Osteophyte_HR	0;1;2;3;	Osteophyte (hip right)	1
CT	Osteophyte_K	0;1;2;3;	Osteophytes (knee)	1
CT	Osteophyte_L1	0;1;2;3;	Osteophyte Lumbar worst affected	5
CT	Osteophyte_L2	0;1;2;3;	Osteophyte Lumbar second worst affected	5
CT	Osteophyte_T1	0;1;2;3;	Osteophyte Thorax worst affected	3
CT	Osteophyte_T2	0;1;2;3;	Osteophyte Thorax second worst affected	3
CT	Patellofemoral	0;1;2;3;	Patellofemoral	1
CT	Sclerosis_EP_irr_C1	0;1;2;	Sclerosis/endplate irregularity Cervical worst affected	2
CT	Sclerosis_EP_irr_C2	0;1;2;3;4;5;6;7;	Sclerosis/endplate irregularity Cervical second worst affected	2
CT	Sclerosis_EP_irr_L1	0;1;	Sclerosis/endplate irregularity Lumbar worst affected	5
CT	Sclerosis_EP_irr_L2	0;1;	Sclerosis/endplate irregularity Lumbar second worst affected	5

CT	Sclerosis_EP_irr_T1	0;1;	Sclerosis/endplate irregularity Thorax worst affected	3
CT	Sclerosis_EP_irr_T2	0;1;	Sclerosis/endplate irregularity Thorax second worst affected	3
CT	Sumscore_C1	0;1;2;3;4;5;6;7;8;9;10	Sumscore Cervical worst affected	2
CT	Sumscore_C2	0;1;2;3;4;5;6;7;8;9;10	Sumscore Cervical second worst affected	2
CT	Sumscore_HL	0;1;2;3;4;5;6;7;8;9;10	Sum score (hip left)	1
CT	Sumscore_HR	0;1;2;3;4;5;6;7;8;9;10	Sum score (hip right)	1
CT	Sumscore_K	0;1;2;3;4;5;6;7;8;9;10	Sum score (knee)	1
CT	Sumscore_L1	0;1;2;3;4;5;6;7;8;9;10	Sumscore Lumbar worst affected	5
CT	Sumscore_L2	0;1;2;3;4;5;6;7;8;9;10	Sumscore Lumbar second worst affected	5
CT	Sumscore_T1	0;1;2;3;4;5;6;7;8;9;10	Sumscore Thorax worst affected	3
CT	Sumscore_T2	0;1;2;3;4;5;6;7;8;9;10	Sumscore Thorax second worst affected	3
CT	T_Cort_Lat_BMD_K	-300-2000	Tibia Cortical Bone Plate Lateral Bone Marrow Density (mg/cm ³)	15
CT	T_Cort_Med_BMD_K	-300-2000	Tibia Cortical Bone Plate Medial Bone Marrow Density (mg/cm ³)	15
CT	T_Cort_Tot_BMD_K	-300-2000	Tibia Cortical Bone Plate Total Bone Marrow Density (mg/cm ³)	15
CT	T_EpiphysisLat_BMD_Menis_K	-300-2000	Tibia Epiphysis Lateral Bone Marrow Density covered by meniscus (mg/cm ³)	15
CT	T_Epiphysis_Lat_BMD_K	-300-2000	Tibia Epiphysis Lateral Bone Marrow Density (mg/cm ³)	15
CT	T_Epiphysis_Lat_BMD_N_Menis_K	-300-2000	Tibia Epiphysis Lateral Bone Marrow Density not covered by meniscus (mg/cm ³)	15
CT	T_Epiphysis_Med_BMD_K	-300-2000	Tibia Epiphysis Medial Bone Marrow Density (mg/cm ³)	15
CT	T_Epiphysis_Med_BMD_Menis_K	-300-2000	Tibia Epiphysis Medial Bone Marrow Density covered by meniscus (mg/cm ³)	15
CT	T_Epiphysis_Med_BMD_N_Menis_K	-300-2000	Tibia Epiphysis Medial Bone Marrow Density not covered by meniscus (mg/cm ³)	15
CT	T_Epiphysis_Tot_BMD_K	-300-2000	Tibia Epiphysis Total Bone Marrow Density (mg/cm ³)	15
CT	T_Epiphysis_Tot_BMD_Menis_K	-300-2000	Tibia Epiphysis Total Bone Marrow Density covered by meniscus (mg/cm ³)	15
CT	T_Epiphysis_Tot_BMD_N_Menis_K	-300-2000	Tibia Epiphysis Total Bone Marrow Density not covered by meniscus (mg/cm ³)	15
CT	T_Juxtaphy_Lat_BMD_K	-300-2000	Tibia Juxta-Physis Lateral Bone Marrow Density (mg/cm ³)	15
CT	T_Juxtaphy_Lat_BMD_Menis_K	-300-2000	Tibia Juxta-Physis Lateral Bone Marrow Density covered by meniscus (mg/cm ³)	15
CT	T_Juxtaphy_Lat_BMD_N_Menis_K	-300-2000	Tibia Juxta-Physis Lateral Bone Marrow Density not covered by meniscus (mg/cm ³)	15
CT	T_Juxtaphy_Med_BMD_K	-300-2000	Tibia Juxta-Physis Medial Bone Marrow Density (mg/cm ³)	15
CT	T_Juxtaphy_Med_BMD_Menis_K	-300-2000	Tibia Juxta-Physis Medial Bone Marrow Density covered by meniscus (mg/cm ³)	15
CT	T_Juxtaphy_Med_BMD_N_Menis_K	-300-2000	Tibia Juxta-Physis Medial Bone Marrow Density not covered by meniscus (mg/cm ³)	15
CT	T_Juxtaphy_Tot_BMD_K	-300-2000	Tibia Juxta-Physis Total Bone Marrow Density (mg/cm ³)	15
CT	T_Juxtaphy_Tot_BMD_Menis_K	-300-2000	Tibia Juxta-Physis Total Bone Marrow Density covered by meniscus (mg/cm ³)	15
CT	T_Juxtaphy_Tot_BMD_N_Menis_K	-300-2000	Tibia Juxta-Physis Total Bone Marrow Density not covered by meniscus (mg/cm ³)	15
CT	T_MidEpi_Lat_BMD_K	-300-2000	Tibia Mid Epiphysis Lateral Bone Marrow Density (mg/cm ³)	15
CT	T_MidEpi_Lat_BMD_Menis_K	-300-2000	Tibia Mid Epiphysis Lateral Bone Marrow Density covered by meniscus (mg/cm ³)	15
CT	T_MidEpi_Lat_BMD_N_Menis_K	-300-2000	Tibia Mid Epiphysis Lateral Bone Marrow Density not covered by meniscus (mg/cm ³)	15
CT	T_MidEpi_Med_BMD_K	-300-2000	Tibia Mid Epiphysis Medial Bone Marrow Density (mg/cm ³)	15
CT	T_MidEpi_Med_BMD_Menis_K	-300-2000	Tibia Mid Epiphysis Medial Bone Marrow Density covered by meniscus (mg/cm ³)	15
CT	T_MidEpi_Med_BMD_N_Menis_K	-300-2000	Tibia Mid Epiphysis Medial Bone Marrow Density not covered by meniscus (mg/cm ³)	15
CT	T_MidEpi_Tot_BMD_K	-300-2000	Tibia Mid Epiphysis Total Bone Marrow Density (mg/cm ³)	15
CT	T_MidEpi_Tot_BMD_Menis_K	-300-2000	Tibia Mid Epiphysis Total Bone Marrow Density covered by meniscus (mg/cm ³)	15

CT	T_MidEpi_Tot_BMD_N_Menis_K	-300-2000	Tibia Mid Epiphysis Total Bone Marrow Density not covered by meniscus (mg/cm ³)	15
CT	T_SubchEpi_Lat_BMD_K	-300-2000	Tibia Subchondral Epiphysis Lateral Bone Marrow Density (mg/cm ³)	15
CT	T_SubchEpi_Lat_BMD_Menis_K	-300-2000	Tibia Subchondral Epiphysis Lateral Bone Marrow Density covered by meniscus (mg/cm ³)	15
CT	T_SubchEpi_Lat_BMD_N_Menis_K	-300-2000	Tibia Subchondral Epiphysis Lateral Bone Marrow Density not covered by meniscus (mg/cm ³)	15
CT	T_SubchEpi_Med_BMD_K	-300-2000	Tibia Subchondral Epiphysis Medial Bone Marrow Density (mg/cm ³)	15
CT	T_SubchEpi_Med_BMD_Menis_K	-300-2000	Tibia Subchondral Epiphysis Medial Bone Marrow Density covered by meniscus (mg/cm ³)	15
CT	T_SubchEpi_Med_BMD_N_Menis_K	-300-2000	Tibia Subchondral Epiphysis Medial Bone Marrow Density not covered by meniscus (mg/cm ³)	15
CT	T_SubchEpi_Tot_BMD_K	-300-2000	Tibia Subchondral Epiphysis Total Bone Marrow Density (mg/cm ³)	15
CT	T_SubchEpi_Tot_BMD_Menis_K	-300-2000	Tibia Subchondral Epiphysis Total Bone Marrow Density covered by meniscus (mg/cm ³)	15
CT	T_SubchEpi_Tot_BMD_N_Menis_K	-300-2000	Tibia Subchondral Epiphysis Total Bone Marrow Density not covered by meniscus (mg/cm ³)	15
Clinical assessment	BP_DBP_mean	30-220	BP: Mean sitting DBP (mmHg)	0
Clinical assessment	BP_HR_mean	40-135	BP: Mean sitting heart rate (Beats/min)	0
Clinical assessment	BP_SBP_mean	30-220	BP: Mean sitting SBP (mmHg)	0
Clinical assessment	Chair_StandUp_Stands	1-30	PERFST: Number of times patient is able to stand up in 30 sec	3
Clinical assessment	Chair_StandUp_Strategy	0=No;1=Yes	PERFST: Adapted strategy used during 30 sec stand up test?	0
Clinical assessment	Menopause_Post	-1=not_apply_as_male;0=No;1=Yes;	Menopause: Is the patient post-menopausal (ASSE and M000 aggregated, -1 for males)?	2
Clinical assessment	Self_Paced_Walk_Aid	0=No;1=Yes	PERFST: Has patient used assistive walking aid during 40m walking test?	0
Clinical assessment	Self_Paced_Walk_Time	0-70	PERFST: Time needed for 40 m walking (sec)	0
Comorbidity	CCI	0-29	Charlson Comorbidity Index	0
Demographics	Age	>= 18	Age at baseline (years)	0
Demographics	Sex	1=Male;2=Female;	Gender	0
FIHOA	clench_fist	0=Possible without difficulty;1=Possible with slight difficulty;2=Possible with important difficulty;3=Impossible;	05. Are you able to clench your fist	4
FIHOA	clench_fist_score	0=Possible without difficulty;1=Possible with slight difficulty;2=Possible with important difficulty;3=Impossible	05. Are you able to clench your fist - score	4
FIHOA	cut_meat_knife	0=Possible without difficulty;1=Possible with slight difficulty;2=Possible with important difficulty;3=Impossible;	02. Are you able to cut meat with a knife	4
FIHOA	cut_meat_knife_score	0=Possible without difficulty;1=Possible with slight difficulty;2=Possible with important difficulty;3=Impossible	02. Are you able to cut meat with a knife - score	4
FIHOA	cut_scissors	0=Possible without difficulty;1=Possible with slight difficulty;2=Possible with important difficulty;3=Impossible;	03. Are you able to cut cloth or paper with scissors	4
FIHOA	cut_scissors_score	0=Possible without difficulty;1=Possible with slight difficulty;2=Possible with important difficulty;3=Impossible	03. Are you able to cut cloth or paper with scissors - score	4
FIHOA	fasten_buttons	0=Possible without difficulty;1=Possible with slight difficulty;2=Possible with important difficulty;3=Impossible;	08. Are you able to fasten buttons	6
FIHOA	fasten_buttons_score	0=Possible without difficulty;1=Possible with slight difficulty;2=Possible with important	08. Are you able to fasten buttons - score	6

		difficulty;3=Impossible		
FIHOA	handshake_no_reluctance	0=Possible without difficulty;1=Possible with slight difficulty;2=Possible with important difficulty;3=Impossible;	10. Would you accept handshake without reluctance	3
FIHOA	lift_bottle	0=Possible without difficulty;1=Possible with slight difficulty;2=Possible with important difficulty;3=Impossible;	04. Are you able to lift full bottle with hand	3
FIHOA	sew_use_screwdriver	0=Possible without difficulty;1=Possible with slight difficulty;2=Possible with important difficulty;3=Impossible;	07. Are you able to sew/use a screwdriver	8
FIHOA	tie_knot	0=Possible without difficulty;1=Possible with slight difficulty;2=Possible with important difficulty;3=Impossible;	06. Are you able to tie a knot	4
FIHOA	turn_key	0=Possible without difficulty;1=Possible with slight difficulty;2=Possible with important difficulty;3=Impossible;	01. Are you able to turn a key in a lock	3
FIHOA	write_long_period	0=Possible without difficulty;1=Possible with slight difficulty;2=Possible with important difficulty;3=Impossible;	09. Are you able to write for a long period	3
HOOS	HOOS_A01_Stairs_Desc	0=None;1=Mild;2=Moderate;3=Severe;4=Extreme	A01. Degree of difficulty descending stairs (hip)	4
HOOS	HOOS_A02_Stairs_Asc	0=None;1=Mild;2=Moderate;3=Severe;4=Extreme	A02. Degree of difficulty ascending stairs (hip)	4
HOOS	HOOS_A03_Rising_Sitting	0=None;1=Mild;2=Moderate;3=Severe;4=Extreme	A03. Degree of difficulty rising from sitting (hip)	3
HOOS	HOOS_A04_Standing	0=None;1=Mild;2=Moderate;3=Severe;4=Extreme	A04. Degree of difficulty standing (hip)	4
HOOS	HOOS_A05_Bending	0=None;1=Mild;2=Moderate;3=Severe;4=Extreme	A05. Degree of difficulty bending to floor/pick up an object (hip)	5
HOOS	HOOS_A06_Walking_Flat	0=None;1=Mild;2=Moderate;3=Severe;4=Extreme	A06. Degree of difficulty walking on flat surface (hip)	4
HOOS	HOOS_A07_Car_InOut	0=None;1=Mild;2=Moderate;3=Severe;4=Extreme	A07. Degree of difficulty getting in/out of car (hip)	4
HOOS	HOOS_A08_Shopping	0=None;1=Mild;2=Moderate;3=Severe;4=Extreme	A08. Degree of difficulty going shopping (hip)	3
HOOS	HOOS_A09_Socks_On	0=None;1=Mild;2=Moderate;3=Severe;4=Extreme	A09. Degree of difficulty putting on socks/stockings (hip)	3
HOOS	HOOS_A10_Rising_Bed	0=None;1=Mild;2=Moderate;3=Severe;4=Extreme	A10. Degree of difficulty rising from bed (hip)	4
HOOS	HOOS_A11_Sock_Off	0=None;1=Mild;2=Moderate;3=Severe;4=Extreme	A11. Degree of difficulty taking off socks/stockings (hip)	3
HOOS	HOOS_A12_Bed	0=None;1=Mild;2=Moderate;3=Severe;4=Extreme	A12. Degree of difficulty lying in bed (hip)	3
HOOS	HOOS_A13_Bath_InOut	0=None;1=Mild;2=Moderate;3=Severe;4=Extreme	A13. Degree of difficulty getting in/out of bath (hip)	6
HOOS	HOOS_A14_Sitting	0=None;1=Mild;2=Moderate;3=Severe;4=Extreme	A14. Degree of difficulty sitting (hip)	5
HOOS	HOOS_A15_Toilet	0=None;1=Mild;2=Moderate;3=Severe;4=Extreme	A15. Degree of difficulty getting on/off toilet (hip)	3
HOOS	HOOS_A16_Duties_Heavy	0=None;1=Mild;2=Moderate;3=Severe;4=Extreme	A16. Degree of difficulty with heavy domestic duties (hip)	7
HOOS	HOOS_A17_Duties_Light	0=None;1=Mild;2=Moderate;3=Severe;4=Extreme	A17. Degree of difficulty with light domestic duties (hip)	4
HOOS	HOOS_P01_Pain	1=Never;2=Monthly;3=Weekly;4=Daily;5=Always	P01. How often do you experience hip pain	4
HOOS	HOOS_P02_Straightening	0=None;1=Mild;2=Moderate;3=Severe;4=Extreme	P02. Pain experience when straightening hip fully	4
HOOS	HOOS_P03_Bending	0=None;1=Mild;2=Moderate;3=Severe;4=Extreme	P03. Pain experience when bending hip fully	6
HOOS	HOOS_P04_Walking_Flat	0=None;1=Mild;2=Moderate;3=Severe;4=Extreme	P04. Pain when walking on a flat surface	3
HOOS	HOOS_P05_Stairs	0=None;1=Mild;2=Moderate;3=Severe;4=Extreme	P05. Pain when going up or down stairs	3
HOOS	HOOS_P06_Bed	0=None;1=Mild;2=Moderate;3=Severe;4=Extreme	P06. Pain when at night while in bed	3
HOOS	HOOS_P07_Sitting_Lying	0=None;1=Mild;2=Moderate;3=Severe;4=Extreme	P07. Pain when sitting or lying	3
HOOS	HOOS_P08_Standing	0=None;1=Mild;2=Moderate;3=Severe;4=Extreme	P08. Pain when standing upright	3
HOOS	HOOS_P09_Walking_Hard Surface	0=None;1=Mild;2=Moderate;3=Severe;4=Extreme	P09. Pain when walking on hard surface	4
HOOS	HOOS_P10_Walking_Uneven Surface	0=None;1=Mild;2=Moderate;3=Severe;4=Extreme	P10. Pain when walking on uneven surface	3
HOOS	HOOS_Q1_Awareness	1=Never;2=Monthly;3=Weekly;4=Daily;5=Constantly;	Q1. How often are you aware of your hip problem	5
HOOS	HOOS_Q2_Modified_Lifestyle	0=Not at all;1=Mildly;2=Moderately;3=Severely;4=Totally	Q2. Have you modified life style to avoid potentially damaging activities (hip)	7
HOOS	HOOS_Q3_Lack_of_Confidence	0=Not at all;1=Mildly;2=Moderately;3=Severely;4=Extremely;	Q3. Are you troubled with lack of confidence (hip)	6

HOOS	HOOS_Q4_Difficulty_knee	0=None;1=Mild;2=Moderate;3=Severe;4=Extreme	Q4. How much difficulty do you have with your hip	5
HOOS	HOOS_S1_Grinding	0=Never;1=Rarely;2=Sometimes;3=Often;4=Always;	S1. Feel grinding, hear clicking	3
HOOS	HOOS_S2_Spreading_Legs	0=None;1=Mild;2=Moderate;3=Severe;4=Extreme	S2. Difficulties spreading legs wide apart	3
HOOS	HOOS_S3_Stride_Out	0=None;1=Mild;2=Moderate;3=Severe;4=Extreme	S3. Difficulties stride out when walking	4
HOOS	HOOS_S4_Wakingup	0=None;1=Mild;2=Moderate;3=Severe;4=Extreme	S4. Hip stiffness after waking up in the morning?	3
HOOS	HOOS_S5_Sitting_Lying	0=None;1=Mild;2=Moderate;3=Severe;4=Extreme	S5. Hip stiffness when sitting, lying, rest?	3
HOOS	HOOS_SP1_Squatting	0=None;1=Mild;2=Moderate;3=Severe;4=Extreme	SP1. Difficulty experienced with squatting (hip)	10
HOOS	HOOS_SP3_Twisting	0=None;1=Mild;2=Moderate;3=Severe;4=Extreme	SP3. Difficulty experienced with twisting/pivoting (hip)	9
HOOS	HOOS_SP4_Walking_Uneven_Surface	0=None;1=Mild;2=Moderate;3=Severe;4=Extreme	SP4. Difficulty experienced with walking uneven surface (hip)	5
ICOAP	constant_hip_pain_affected_QoL	0=Not at all/No constant hip pain;1=Mildly;2=Moderately;3=Severely;4=Extremely;	03. Constant hip pain affected quality of life	4
ICOAP	constant_hip_pain_affected_sleep	0=Not at all/No constant hip pain;1=Mildly;2=Moderately;3=Severely;4=Extremely;	02. Constant hip pain affected sleep	4
ICOAP	constant_hip_pain_how_frustrated	0=Not at all/No constant hip pain;1=Mildly;2=Moderately;3=Severely;4=Extremely;	04. Frustrated or annoyed constant hip pain	4
ICOAP	constant_hip_pain_how_upset	0=Not at all/No constant hip pain;1=Mildly;2=Moderately;3=Severely;4=Extremely;	05. Upset or worried constant hip pain	10
ICOAP	constant_hip_pain_intensity	0=Not at all/No constant hip pain;1=Mildly;2=Moderately;3=Severely;4=Extremely;	01. How intense constant hip pain	4
ICOAP	constant_knee_pain_affected_QoL	0=Not at all/No constant knee pain;1=Mildly;2=Moderately;3=Severely;4=Extremely;	03. Constant knee pain affected quality life	1
ICOAP	constant_knee_pain_affected_sleep	0=Not at all/No constant knee pain;1=Mildly;2=Moderately;3=Severely;4=Extremely;	02. Constant knee pain affected sleep	2
ICOAP	constant_knee_pain_how_frustrated	0=Not at all/No constant knee pain;1=Mildly;2=Moderately;3=Severely;4=Extremely;	04. Frustrated or annoyed constant knee pain	1
ICOAP	constant_knee_pain_how_upset	0=Not at all/No constant knee pain;1=Mildly;2=Moderately;3=Severely;4=Extremely;	05. Upset or worried constant knee pain	5
ICOAP	constant_knee_pain_intensity	0=Not at all/No constant knee pain;1=Mildly;2=Moderately;3=Severely;4=Extremely;	01. How intense constant knee pain	2
ICOAP	varying_hip_pain_affected_QoL	0=Not at all/No hip pain that comes and goes;1=Mildly;2=Moderately;3=Severely;4=Extremely;	09. Hip pain comes and goes affected quality life	5
ICOAP	varying_hip_pain_affected_sleep	0=Not at all/No hip pain that comes and goes;1=Mildly;2=Moderately;3=Severely;4=Extremely;	08. Hip pain comes and goes affected sleep	5
ICOAP	varying_hip_pain_frequency	0=Never/No knee pain that comes and goes;1=Rarely;2=Sometimes;3=Often;4=Very often;	07. How frequently hip pain comes and goes	5
ICOAP	varying_hip_pain_how_frustrated	0=Not at all/No hip pain that comes and goes;1=Mildly;2=Moderately;3=Severely;4=Extremely;	10. Frustrated or annoyed hip pain comes and goes	5
ICOAP	varying_hip_pain_how_upset	0=Not at all/No hip pain that comes and goes;1=Mildly;2=Moderately;3=Severely;4=Extremely;	11. Upset or worried hip pain comes and goes	5
ICOAP	varying_hip_pain_intensity	0=Not at all/No hip pain that comes and goes;1=Mildly;2=Moderately;3=Severely;4=Extremely;	06. How intense hip pain comes and goes	5
ICOAP	varying_knee_pain_affected_QoL	0=Not at all/No knee pain that comes and goes;1=Mildly;2=Moderately;3=Severely;4=Extremely;	09. Knee pain comes and goes affected quality life	2
ICOAP	varying_knee_pain_affected_sleep	0=Not at all/No knee pain that comes and goes;1=Mildly;2=Moderately;3=Severely;4=Extremely;	08. Knee pain comes and goes affected sleep	1
ICOAP	varying_knee_pain_frequency	0=Never/No knee pain that comes and goes;1=Rarely;2=Sometimes;3=Often;4=Very often;	07. How frequently knee pain comes and goes	1
ICOAP	varying_knee_pain_how_frustrated	0=Not at all/No knee pain that comes and goes;1=Mildly;2=Moderately;3=Severely;4=Extremely;	10. Frustrated or annoyed knee pain comes and goes	1
ICOAP	varying_knee_pain_how_upset	0=Not at all/No knee pain that comes and goes;1=Mildly;2=Moderately;3=Severely;4=Extremely;	11. Upset or worried knee pain comes and goes	1
ICOAP	varying_knee_pain_intensity	0=Not at all/No knee pain that comes and goes;1=Mildly;2=Moderately;3=Severely;4=Extremely;	06. How intense knee pain comes and goes	1
KOOS	KOOS_A01_Stairs_Descending	0=None;1=Mild;2=Moderate;3=Severe;4=Extreme	A01. Degree of difficulty descending stairs	3
KOOS	KOOS_A02_Stairs_Ascending	0=None;1=Mild;2=Moderate;3=Severe;4=Extreme	A02. Degree of difficulty ascending stairs	1
KOOS	KOOS_A03_Rising_Sitting	0=None;1=Mild;2=Moderate;3=Severe;4=Extreme	A03. Degree of difficulty rising from sitting	1
KOOS	KOOS_A04_Standing	0=None;1=Mild;2=Moderate;3=Severe;4=Extreme	A04. Degree of difficulty standing	2
KOOS	KOOS_A05_Bending	0=None;1=Mild;2=Moderate;3=Severe;4=Extreme	A05. Degree of difficulty bending to floor/pick up an object	5
KOOS	KOOS_A06_Walking_Flat	0=None;1=Mild;2=Moderate;3=Severe;4=Extreme	A06. Degree of difficulty walking on flat surface	3
KOOS	KOOS_A07_Car_InOut	0=None;1=Mild;2=Moderate;3=Severe;4=Extreme	A07. Degree of difficulty getting in/out of car	3
KOOS	KOOS_A08_Shopping	0=None;1=Mild;2=Moderate;3=Severe;4=Extreme	A08. Degree of difficulty going shopping	2
KOOS	KOOS_A09_Socks_On	0=None;1=Mild;2=Moderate;3=Severe;4=Extreme	A09. Degree of difficulty putting on socks/stockings	1

KOOS	KOOS_A10_Rising_Bed	0=None;1=Mild;2=Moderate;3=Severe;4=Extreme	A10. Degree of difficulty rising from bed	2
KOOS	KOOS_A11_Sock_Off	0=None;1=Mild;2=Moderate;3=Severe;4=Extreme	A11. Degree of difficulty taking off socks/stockings	1
KOOS	KOOS_A12_Bed	0=None;1=Mild;2=Moderate;3=Severe;4=Extreme	A12. Degree of difficulty lying in bed	2
KOOS	KOOS_A13_Bath_InOut	0=None;1=Mild;2=Moderate;3=Severe;4=Extreme	A13. Degree of difficulty getting in/out of bath	5
KOOS	KOOS_A14_Sitting	0=None;1=Mild;2=Moderate;3=Severe;4=Extreme	A14. Degree of difficulty sitting	2
KOOS	KOOS_A15_Toilet	0=None;1=Mild;2=Moderate;3=Severe;4=Extreme	A15. Degree of difficulty getting on/off toilet	1
KOOS	KOOS_A16_Duties_Heavy	0=None;1=Mild;2=Moderate;3=Severe;4=Extreme	A16. Degree of difficulty with heavy domestic duties	10
KOOS	KOOS_A17_Duties_Light	0=None;1=Mild;2=Moderate;3=Severe;4=Extreme	A17. Degree of difficulty with light domestic duties	7
KOOS	KOOS_P01_Pain	1=Never;2=Monthly;3=Weekly;4=Daily;5=Always	P01. How often do you experience knee pain	6
KOOS	KOOS_P02_Twisting	0=None;1=Mild;2=Moderate;3=Severe;4=Extreme	P02. Pain experience when twisting/pivoting	3
KOOS	KOOS_P03_Straightening	0=None;1=Mild;2=Moderate;3=Severe;4=Extreme	P03. Pain experience when straightening knee fully	1
KOOS	KOOS_P04_Bending	0=None;1=Mild;2=Moderate;3=Severe;4=Extreme	P04. Pain experience when bending knee fully	2
KOOS	KOOS_P05_Walking_Flat	0=None;1=Mild;2=Moderate;3=Severe;4=Extreme	P05. Pain when walking on flat surface	1
KOOS	KOOS_P06_Stairs	0=None;1=Mild;2=Moderate;3=Severe;4=Extreme	P06. Pain when going up or down stairs	2
KOOS	KOOS_P07_Bed	0=None;1=Mild;2=Moderate;3=Severe;4=Extreme	P07. Pain when at night while in bed	3
KOOS	KOOS_P08_Sitting_Lying	0=None;1=Mild;2=Moderate;3=Severe;4=Extreme	P08. Pain when sitting or lying	1
KOOS	KOOS_P09_Standing	0=None;1=Mild;2=Moderate;3=Severe;4=Extreme	P09. Pain when standing upright	1
KOOS	KOOS_Q1_Awareness	1=Never;2=Monthly;3=Weekly;4=Daily;5=Constantly;	Q1. How often are you aware of your knee problem	4
KOOS	KOOS_Q2_Modified_Lifestyle	0=Not at all;1=Mildly;2=Moderately;3=Severely;4=Totally	Q2. Have you modified life style to avoid potentially damaging activities	4
KOOS	KOOS_Q3_Lack_of_Confidence	0=Not at all;1=Mildly;2=Moderately;3=Severely;4=Extremely;	Q3. Are you troubled with lack of confidence	4
KOOS	KOOS_Q4_Difficulty_knee	0=None;1=Mild;2=Moderate;3=Severe;4=Extreme	Q4. How much difficulty do you have with your knee	3
KOOS	KOOS_S1_Swelling	0=Never;1=Rarely;2=Sometimes;3=Often;4=Always;	S1. Do you have swelling in your knee	1
KOOS	KOOS_S2_Grinding	0=Never;1=Rarely;2=Sometimes;3=Often;4=Always;	S2. Do you feel grinding, hear clicking or any type of noise	3
KOOS	KOOS_S3_Knee_Hangup	0=Never;1=Rarely;2=Sometimes;3=Often;4=Always;	S3. Does your knee catch or hang up when moving	3
KOOS	KOOS_S4_Straighten	0=Never;1=Rarely;2=Sometimes;3=Often;4=Always;	S4. Can you straighten your knee fully	2
KOOS	KOOS_S5_Bending	0=Never;1=Rarely;2=Sometimes;3=Often;4=Always;	S5. Can you bend your knee fully	1
KOOS	KOOS_S6_Wakingup	0=None;1=Mild;2=Moderate;3=Severe;4=Extreme	S6. Knee stiffness after waking up in the morning?	1
KOOS	KOOS_S7_Sitting_Lying	0=None;1=Mild;2=Moderate;3=Severe;4=Extreme	S7. Knee stiffness when sitting, lying, rest?	4
KOOS	KOOS_SP1_Squatting	0=None;1=Mild;2=Moderate;3=Severe;4=Extreme	SP1. Difficulty experienced with squatting	5
KOOS	KOOS_SP4_Twisting	0=None;1=Mild;2=Moderate;3=Severe;4=Extreme	SP4. Difficulty experienced with twisting/pivoting	7
KOOS	KOOS_SP5_Kneeling	0=None;1=Mild;2=Moderate;3=Severe;4=Extreme	SP5. Difficulty experienced with kneeling	4
MRI	MACLBMC_K	0=none;1=present;	MOAKS: ACL - BML at insertion	9
MRI	MACLRP_K	0=none;1=present;	MOAKS: ACL - repair	9
MRI	MACLTR_K	0=0: Normal;1=1: Complete tear;	MOAKS: ACL - tear	9
MRI	MANSBUR_K	0=none;1=present;	MOAKS: per anserine bursa	9
MRI	MBMCFLA_K	0=none;0=from none within-grade worsening;1=from <33% of region within-grade improving;1=<33% of region;;1=from <33% of region within-grade worsening;2=from 33%-66% of region within-grade improving;2=33%-66% of region;;2=from 33%-66% of region within-grade worsening;3=from >66% of region within-grade improving;3=>66% of region;3=from >66% of region within-grade worsening;	MOAKS: BML pct Cystic - femur lateral anterior	9
MRI	MBMCFLC_K	0=none;0=from none within-grade worsening;1=from <33% of region within-grade improving;1=<33% of region;;1=from <33% of region within-grade worsening;2=from 33%-66% of region within-grade improving;2=33%-66% of region;;2=from 33%-66% of	MOAKS: BML pct Cystic - femur lateral central	9

		region within-grade worsening;3=from >66% of region within-grade improving;3=>66% of region;3=from >66% of region within-grade worsening;		
MRI	MBMCFLP_K	0=none;0=from none within-grade worsening;1=from <33% of region within-grade improving;1=<33% of region;;1=from <33% of region within-grade worsening;2=from 33%-66% of region within-grade improving;2=33%-66% of region;;2=from 33%-66% of region within-grade worsening;3=from >66% of region within-grade improving;3=>66% of region;3=from >66% of region within-grade worsening;	MOAKS: BML pct Cystic - femur lateral posterior	9
MRI	MBMCFMA_K	0=none;0=from none within-grade worsening;1=from <33% of region within-grade improving;1=<33% of region;;1=from <33% of region within-grade worsening;2=from 33%-66% of region within-grade improving;2=33%-66% of region;;2=from 33%-66% of region within-grade worsening;3=from >66% of region within-grade improving;3=>66% of region;3=from >66% of region within-grade worsening;	MOAKS: BML pct Cystic - femur medial anterior	9
MRI	MBMCFMC_K	0=none;0=from none within-grade worsening;1=from <33% of region within-grade improving;1=<33% of region;;1=from <33% of region within-grade worsening;2=from 33%-66% of region within-grade improving;2=33%-66% of region;;2=from 33%-66% of region within-grade worsening;3=from >66% of region within-grade improving;3=>66% of region;3=from >66% of region within-grade worsening;	MOAKS: BML pct Cystic - femur medial central	9
MRI	MBMCFMP_K	0=none;0=from none within-grade worsening;1=from <33% of region within-grade improving;1=<33% of region;;1=from <33% of region within-grade worsening;2=from 33%-66% of region within-grade improving;2=33%-66% of region;;2=from 33%-66% of region within-grade worsening;3=from >66% of region within-grade improving;3=>66% of region;3=from >66% of region within-grade worsening;	MOAKS: BML pct Cystic - femur medial posterior	9
MRI	MBMCPL_K	0=none;0=from none within-grade worsening;1=from <33% of region within-grade improving;1=<33% of region;;1=from <33% of region within-grade worsening;2=from 33%-66% of region within-grade improving;2=33%-66% of region;;2=from 33%-66% of region within-grade worsening;3=from >66% of region within-grade improving;3=>66% of region;3=from >66% of region within-grade worsening;	MOAKS: BML pct Cystic - patella lateral	9
MRI	MBMCPM_K	0=none;0=from none within-grade worsening;1=from <33% of region within-grade improving;1=<33% of region;;1=from <33% of region within-grade worsening;2=from 33%-66% of region within-grade improving;2=33%-66% of region;;2=from 33%-66% of region within-grade worsening;3=from >66% of region within-grade improving;3=>66% of region;3=from >66% of region within-grade worsening;	MOAKS: BML pct Cystic - patella medial	9
MRI	MBMCTLA_K	0=none;0=from none within-grade worsening;1=from <33% of region within-grade improving;1=<33% of region;;1=from <33% of region within-grade worsening;2=from 33%-66% of region within-grade improving;2=33%-66% of region;;2=from 33%-66% of region within-grade worsening;3=from >66% of region within-grade improving;3=>66% of region;3=from >66% of region within-grade worsening;	MOAKS: BML pct Cystic - tibia lateral anterior	9
MRI	MBMCTLC_K	0=none;0=from none within-grade worsening;1=from <33% of region within-grade improving;1=<33% of region;;1=from <33% of region within-grade worsening;2=from 33%-66% of region within-grade improving;2=33%-66% of region;;2=from 33%-66% of region within-grade worsening;3=from >66% of region within-grade improving;3=>66% of region;3=from >66% of region within-grade worsening;	MOAKS: BML pct Cystic - tibia lateral central	9
MRI	MBMCTLP_K	0=none;0=from none within-grade worsening;1=from <33% of region within-grade improving;1=<33% of region;;1=from <33% of region within-grade worsening;2=from 33%-66% of region within-grade improving;2=33%-66% of region;;2=from 33%-66% of region within-grade worsening;3=from >66% of region within-grade improving;3=>66% of region;3=from >66% of region within-grade worsening;	MOAKS: BML pct Cystic - tibia lateral posterior	9
MRI	MBMCTMA_K	0=none;0=from none within-grade worsening;1=from <33% of region within-grade improving;1=<33% of region;;1=from <33% of region within-grade worsening;2=from 33%-66% of region within-grade improving;2=33%-66% of region;;2=from 33%-66% of	MOAKS: BML pct Cystic - tibia medial anterior	9

		region within-grade worsening;3=from >66% of region within-grade improving;3=>66% of region;3=from >66% of region within-grade worsening;		
MRI	MBMCTMC_K	0=none;0=from none within-grade worsening;1=from <33% of region within-grade improving;1=<33% of region;;1=from <33% of region within-grade worsening;2=from 33%-66% of region within-grade improving;2=33%-66% of region;;2=from 33%-66% of region within-grade worsening;3=from >66% of region within-grade improving;3=>66% of region;3=from >66% of region within-grade worsening;	MOAKS: BML pct Cystic - tibia medial central	9
MRI	MBMCTMP_K	0=none;0=from none within-grade worsening;1=from <33% of region within-grade improving;1=<33% of region;;1=from <33% of region within-grade worsening;2=from 33%-66% of region within-grade improving;2=33%-66% of region;;2=from 33%-66% of region within-grade worsening;3=from >66% of region within-grade improving;3=>66% of region;3=from >66% of region within-grade worsening;	MOAKS: BML pct Cystic - tibia medial posterior	9
MRI	MBMCTSS_K	0=none;0=from none within-grade worsening;1=from <33% of region within-grade improving;1=<33% of region;;1=from <33% of region within-grade worsening;2=from 33%-66% of region within-grade improving;2=33%-66% of region;;2=from 33%-66% of region within-grade worsening;3=from >66% of region within-grade improving;3=>66% of region;3=from >66% of region within-grade worsening;	MOAKS: BML pct Cystic - tibia subspinosus	9
MRI	MBMNFLA_K	0=0;1=1;2=2;3=3;4=4;5=5;6=6;7=7;8=8;9=9;10=10+;	MOAKS: # of BMLS - femur lateral anterior	9
MRI	MBMNFLC_K	0=0;1=1;2=2;3=3;4=4;5=5;6=6;7=7;8=8;9=9;10=10+;	MOAKS: # of BMLS - femur lateral central	9
MRI	MBMNFLP_K	0=0;1=1;2=2;3=3;4=4;5=5;6=6;7=7;8=8;9=9;10=10+;	MOAKS: # of BMLS - femur lateral posterior	9
MRI	MBMNFMA_K	0=0;1=1;2=2;3=3;4=4;5=5;6=6;7=7;8=8;9=9;10=10+;	MOAKS: # of BMLS - femur medial anterior	9
MRI	MBMNFMC_K	0=0;1=1;2=2;3=3;4=4;5=5;6=6;7=7;8=8;9=9;10=10+;	MOAKS: # of BMLS - femur medial central	9
MRI	MBMNFMP_K	0=0;1=1;2=2;3=3;4=4;5=5;6=6;7=7;8=8;9=9;10=10+;	MOAKS: # of BMLS - femur medial posterior	9
MRI	MBMNPL_K	0=0;1=1;2=2;3=3;4=4;5=5;6=6;7=7;8=8;9=9;10=10+;	MOAKS: # of BMLS - patella lateral	9
MRI	MBMNPM_K	0=0;1=1;2=2;3=3;4=4;5=5;6=6;7=7;8=8;9=9;10=10+;	MOAKS: # of BMLS - patella medial	9
MRI	MBMNTLA_K	0=0;1=1;2=2;3=3;4=4;5=5;6=6;7=7;8=8;9=9;10=10+;	MOAKS: # of BMLS - tibia lateral anterior	9
MRI	MBMNTLC_K	0=0;1=1;2=2;3=3;4=4;5=5;6=6;7=7;8=8;9=9;10=10+;	MOAKS: # of BMLS - tibia lateral central	9
MRI	MBMNTLP_K	0=0;1=1;2=2;3=3;4=4;5=5;6=6;7=7;8=8;9=9;10=10+;	MOAKS: # of BMLS - tibia lateral posterior	9
MRI	MBMNTMA_K	0=0;1=1;2=2;3=3;4=4;5=5;6=6;7=7;8=8;9=9;10=10+;	MOAKS: # of BMLS - tibia medial anterior	9
MRI	MBMNTMC_K	0=0;1=1;2=2;3=3;4=4;5=5;6=6;7=7;8=8;9=9;10=10+;	MOAKS: # of BMLS - tibia medial central	9
MRI	MBMNTMP_K	0=0;1=1;2=2;3=3;4=4;5=5;6=6;7=7;8=8;9=9;10=10+;	MOAKS: # of BMLS - tibia medial posterior	9
MRI	MBMNTSS_K	0=0;1=1;2=2;3=3;4=4;5=5;6=6;7=7;8=8;9=9;10=10+;	MOAKS: # of BMLS - tibia subspinosus	9
MRI	MBMSFLA_K	0=none;0=from none within-grade worsening;1=from <33% of region within-grade improving;1=<33% of region;;1=from <33% of region within-grade worsening;2=from 33%-66% of region within-grade improving;2=33%-66% of region;;2=from 33%-66% of region within-grade worsening;3=from >66% of region within-grade improving;3=>66% of region;3=from >66% of region within-grade worsening;	MOAKS: BML Size - femur lateral anterior	9
MRI	MBMSFLC_K	0=none;0=from none within-grade worsening;1=from <33% of region within-grade improving;1=<33% of region;;1=from <33% of region within-grade worsening;2=from 33%-66% of region within-grade improving;2=33%-66% of region;;2=from 33%-66% of region within-grade worsening;3=from >66% of region within-grade improving;3=>66% of region;3=from >66% of region within-grade worsening;	MOAKS: BML Size - femur lateral central	9
MRI	MBMSFLP_K	0=none;0=from none within-grade worsening;1=from <33% of region within-grade improving;1=<33% of region;;1=from <33% of region within-grade worsening;2=from 33%-66% of region within-grade improving;2=33%-66% of region;;2=from 33%-66% of region within-grade worsening;3=from >66% of region within-grade improving;3=>66% of region;3=from >66% of region within-grade worsening;	MOAKS: BML Size - femur lateral posterior	9
MRI	MBMSFMA_K	0=none;0=from none within-grade worsening;1=from <33% of region within-grade improving;1=<33% of	MOAKS: BML Size - femur medial anterior	9

		region;;1=from <33% of region within-grade worsening;2=from 33%-66% of region within-grade improving;2=33%-66% of region;;2=from 33%-66% of region within-grade worsening;3=from >66% of region within-grade improving;3=>66% of region;3=from >66% of region within-grade worsening;		
MRI	MBMSFMC_K	0=none;0=from none within-grade worsening;1=from <33% of region within-grade improving;1=<33% of region;;1=from <33% of region within-grade worsening;2=from 33%-66% of region within-grade improving;2=33%-66% of region;;2=from 33%-66% of region within-grade worsening;3=from >66% of region within-grade improving;3=>66% of region;3=from >66% of region within-grade worsening;	MOAKS: BML Size - femur medial central	9
MRI	MBMSFMP_K	0=none;0=from none within-grade worsening;1=from <33% of region within-grade improving;1=<33% of region;;1=from <33% of region within-grade worsening;2=from 33%-66% of region within-grade improving;2=33%-66% of region;;2=from 33%-66% of region within-grade worsening;3=from >66% of region within-grade improving;3=>66% of region;3=from >66% of region within-grade worsening;	MOAKS: BML Size - femur medial posterior	9
MRI	MBMSPL_K	0=none;0=from none within-grade worsening;1=from <33% of region within-grade improving;1=<33% of region;;1=from <33% of region within-grade worsening;2=from 33%-66% of region within-grade improving;2=33%-66% of region;;2=from 33%-66% of region within-grade worsening;3=from >66% of region within-grade improving;3=>66% of region;3=from >66% of region within-grade worsening;	MOAKS: BML Size - patella lateral	9
MRI	MBMSPM_K	0=none;0=from none within-grade worsening;1=from <33% of region within-grade improving;1=<33% of region;;1=from <33% of region within-grade worsening;2=from 33%-66% of region within-grade improving;2=33%-66% of region;;2=from 33%-66% of region within-grade worsening;3=from >66% of region within-grade improving;3=>66% of region;3=from >66% of region within-grade worsening;	MOAKS: BML Size - patella medial	9
MRI	MBMSTLA_K	0=none;0=from none within-grade worsening;1=from <33% of region within-grade improving;1=<33% of region;;1=from <33% of region within-grade worsening;2=from 33%-66% of region within-grade improving;2=33%-66% of region;;2=from 33%-66% of region within-grade worsening;3=from >66% of region within-grade improving;3=>66% of region;3=from >66% of region within-grade worsening;	MOAKS: BML Size - tibia lateral anterior	9
MRI	MBMSTLC_K	0=none;0=from none within-grade worsening;1=from <33% of region within-grade improving;1=<33% of region;;1=from <33% of region within-grade worsening;2=from 33%-66% of region within-grade improving;2=33%-66% of region;;2=from 33%-66% of region within-grade worsening;3=from >66% of region within-grade improving;3=>66% of region;3=from >66% of region within-grade worsening;	MOAKS: BML Size - tibia lateral central	9
MRI	MBMSTLP_K	0=none;0=from none within-grade worsening;1=from <33% of region within-grade improving;1=<33% of region;;1=from <33% of region within-grade worsening;2=from 33%-66% of region within-grade improving;2=33%-66% of region;;2=from 33%-66% of region within-grade worsening;3=from >66% of region within-grade improving;3=>66% of region;3=from >66% of region within-grade worsening;	MOAKS: BML Size - tibia lateral posterior	9
MRI	MBMSTMA_K	0=none;0=from none within-grade worsening;1=from <33% of region within-grade improving;1=<33% of region;;1=from <33% of region within-grade worsening;2=from 33%-66% of region within-grade improving;2=33%-66% of region;;2=from 33%-66% of region within-grade worsening;3=from >66% of region within-grade improving;3=>66% of region;3=from >66% of region within-grade worsening;	MOAKS: BML Size - tibia medial anterior	9
MRI	MBMSTMC_K	0=none;0=from none within-grade worsening;1=from <33% of region within-grade improving;1=<33% of region;;1=from <33% of region within-grade worsening;2=from 33%-66% of region within-grade improving;2=33%-66% of region;;2=from 33%-66% of region within-grade worsening;3=from >66% of region within-grade improving;3=>66% of region;3=from >66% of region within-grade worsening;	MOAKS: BML Size - tibia medial central	9
MRI	MBMSTMP_K	0=none;0=from none within-grade worsening;1=from <33% of region within-grade improving;1=<33% of	MOAKS: BML Size - tibia medial posterior	9

		region;;1=from <33% of region within-grade worsening;2=from 33%-66% of region within-grade improving;2=33%-66% of region;;2=from 33%-66% of region within-grade worsening;3=from >66% of region within-grade improving;3=>66% of region;3=from >66% of region within-grade worsening;		
MRI	MBMSTSS_K	0=none;0=from none within-grade worsening;1=from <33% of region within-grade improving;1=<33% of region;;1=from <33% of region within-grade worsening;2=from 33%-66% of region within-grade improving;2=33%-66% of region;;2=from 33%-66% of region within-grade worsening;3=from >66% of region within-grade improving;3=>66% of region;3=from >66% of region within-grade worsening;	MOAKS: BML Size - tibia subspinosus	9
MRI	MCMFLA_AREA_K	0=normal;0=from normal Area within-grade worsening;1=from 1-10% Area within-grade improving;1=1-10% Area;1=from 1-10% Area within-grade worsening;2=from 10-75% Area within-grade improving;2=10-75% Area;2=from 10-75% Area within-grade worsening;3=from >75% Area within-grade improving;3=>75% Area;	MOAKS: Cartilage Morphology - femur lateral anterior	9
MRI	MCMFLA_FT_K	0=normal;0=from normal FT within-grade worsening;1=from 1-10% FT within-grade improving;1=1-10% FT;1=from 1-10% FT within-grade worsening;2=from 10-75% FT within-grade improving;2=10-75% FT;2=from 10-75% FT within-grade worsening;3=from >75% FT within-grade improving;3=>75% FT;	MOAKS: Cartilage Morphology - femur lateral anterior	9
MRI	MCMFLC_AREA_K	0=normal;0=from normal Area within-grade worsening;1=from 1-10% Area within-grade improving;1=1-10% Area;1=from 1-10% Area within-grade worsening;2=from 10-75% Area within-grade improving;2=10-75% Area;2=from 10-75% Area within-grade worsening;3=from >75% Area within-grade improving;3=>75% Area;	MOAKS: Cartilage Morphology - femur lateral central	9
MRI	MCMFLC_FT_K	0=normal;0=from normal FT within-grade worsening;1=from 1-10% FT within-grade improving;1=1-10% FT;1=from 1-10% FT within-grade worsening;2=from 10-75% FT within-grade improving;2=10-75% FT;2=from 10-75% FT within-grade worsening;3=from >75% FT within-grade improving;3=>75% FT;	MOAKS: Cartilage Morphology - femur lateral central	9
MRI	MCMFLP_AREA_K	0=normal;0=from normal Area within-grade worsening;1=from 1-10% Area within-grade improving;1=1-10% Area;1=from 1-10% Area within-grade worsening;2=from 10-75% Area within-grade improving;2=10-75% Area;2=from 10-75% Area within-grade worsening;3=from >75% Area within-grade improving;3=>75% Area;	MOAKS: Cartilage Morphology - femur lateral posterior	10
MRI	MCMFLP_FT_K	0=normal;0=from normal FT within-grade worsening;1=from 1-10% FT within-grade improving;1=1-10% FT;1=from 1-10% FT within-grade worsening;2=from 10-75% FT within-grade improving;2=10-75% FT;2=from 10-75% FT within-grade worsening;3=from >75% FT within-grade improving;3=>75% FT;	MOAKS: Cartilage Morphology - femur lateral posterior	10
MRI	MCMFMA_AREA_K	0=normal;0=from normal Area within-grade worsening;1=from 1-10% Area within-grade improving;1=1-10% Area;1=from 1-10% Area within-grade worsening;2=from 10-75% Area within-grade improving;2=10-75% Area;2=from 10-75% Area within-grade worsening;3=from >75% Area within-grade improving;3=>75% Area;	MOAKS: Cartilage Morphology - femur medial anterior	9
MRI	MCMFMA_FT_K	0=normal;0=from normal FT within-grade worsening;1=from 1-10% FT within-grade improving;1=1-10% FT;1=from 1-10% FT within-grade worsening;2=from 10-75% FT within-grade improving;2=10-75% FT;2=from 10-75% FT within-grade worsening;3=from >75% FT within-grade improving;3=>75% FT;	MOAKS: Cartilage Morphology - femur medial anterior	9
MRI	MCMFMC_AREA_K	0=normal;0=from normal Area within-grade worsening;1=from 1-10% Area within-grade improving;1=1-10% Area;1=from 1-10% Area within-grade worsening;2=from 10-75% Area within-grade improving;2=10-75% Area;2=from 10-75% Area within-grade worsening;3=from >75% Area within-grade improving;3=>75% Area;	MOAKS: Cartilage Morphology - femur medial central	9
MRI	MCMFMC_FT_K	0=normal;0=from normal FT within-grade worsening;1=from 1-10% FT within-grade improving;1=1-10% FT;1=from 1-10% FT within-grade	MOAKS: Cartilage Morphology - femur medial central	9

		worsening;2=from 10-75% FT within-grade improving;2=10-75% FT;2=from 10-75% FT within-grade worsening;3=from >75% FT within-grade improving;3=>75% FT;		
MRI	MCMFMP_AREA_K	0=normal;0=from normal Area within-grade worsening;1=from 1-10% Area within-grade improving;1=1-10% Area;1=from 1-10% Area within-grade worsening;2=from 10-75% Area within-grade improving;2=10-75% Area;2=from 10-75% Area within-grade worsening;3=from >75% Area within-grade improving;3=>75% Area;	MOAKS: Cartilage Morphology - femur medial posterior	11
MRI	MCMFMP_FT_K	0=normal;0=from normal FT within-grade worsening;1=from 1-10% FT within-grade improving;1=1-10% FT;1=from 1-10% FT within-grade worsening;2=from 10-75% FT within-grade improving;2=10-75% FT;2=from 10-75% FT within-grade worsening;3=from >75% FT within-grade improving;3=>75% FT;	MOAKS: Cartilage Morphology - femur medial posterior	11
MRI	MCMP_L_AREA_K	0=normal;0=from normal Area within-grade worsening;1=from 1-10% Area within-grade improving;1=1-10% Area;1=from 1-10% Area within-grade worsening;2=from 10-75% Area within-grade improving;2=10-75% Area;2=from 10-75% Area within-grade worsening;3=from >75% Area within-grade improving;3=>75% Area;	MOAKS: Cartilage Morphology - patella lateral	9
MRI	MCMP_L_FT_K	0=normal;0=from normal FT within-grade worsening;1=from 1-10% FT within-grade improving;1=1-10% FT;1=from 1-10% FT within-grade worsening;2=from 10-75% FT within-grade improving;2=10-75% FT;2=from 10-75% FT within-grade worsening;3=from >75% FT within-grade improving;3=>75% FT;	MOAKS: Cartilage Morphology - patella lateral	9
MRI	MCMP_M_AREA_K	0=normal;0=from normal Area within-grade worsening;1=from 1-10% Area within-grade improving;1=1-10% Area;1=from 1-10% Area within-grade worsening;2=from 10-75% Area within-grade improving;2=10-75% Area;2=from 10-75% Area within-grade worsening;3=from >75% Area within-grade improving;3=>75% Area;	MOAKS: Cartilage Morphology - patella medial	9
MRI	MCMP_M_FT_K	0=normal;0=from normal FT within-grade worsening;1=from 1-10% FT within-grade improving;1=1-10% FT;1=from 1-10% FT within-grade worsening;2=from 10-75% FT within-grade improving;2=10-75% FT;2=from 10-75% FT within-grade worsening;3=from >75% FT within-grade improving;3=>75% FT;	MOAKS: Cartilage Morphology - patella medial	9
MRI	MCMTLA_AREA_K	0=normal;0=from normal Area within-grade worsening;1=from 1-10% Area within-grade improving;1=1-10% Area;1=from 1-10% Area within-grade worsening;2=from 10-75% Area within-grade improving;2=10-75% Area;2=from 10-75% Area within-grade worsening;3=from >75% Area within-grade improving;3=>75% Area;	MOAKS: Cartilage Morphology - tibia lateral anterior	9
MRI	MCMTLA_FT_K	0=normal;0=from normal FT within-grade worsening;1=from 1-10% FT within-grade improving;1=1-10% FT;1=from 1-10% FT within-grade worsening;2=from 10-75% FT within-grade improving;2=10-75% FT;2=from 10-75% FT within-grade worsening;3=from >75% FT within-grade improving;3=>75% FT;	MOAKS: Cartilage Morphology - tibia lateral anterior	9
MRI	MCMTLC_AREA_K	0=normal;0=from normal Area within-grade worsening;1=from 1-10% Area within-grade improving;1=1-10% Area;1=from 1-10% Area within-grade worsening;2=from 10-75% Area within-grade improving;2=10-75% Area;2=from 10-75% Area within-grade worsening;3=from >75% Area within-grade improving;3=>75% Area;	MOAKS: Cartilage Morphology - tibia lateral central	9
MRI	MCMTLC_FT_K	0=normal;0=from normal FT within-grade worsening;1=from 1-10% FT within-grade improving;1=1-10% FT;1=from 1-10% FT within-grade worsening;2=from 10-75% FT within-grade improving;2=10-75% FT;2=from 10-75% FT within-grade worsening;3=from >75% FT within-grade improving;3=>75% FT;	MOAKS: Cartilage Morphology - tibia lateral central	9
MRI	MCMTLP_AREA_K	0=normal;0=from normal Area within-grade worsening;1=from 1-10% Area within-grade improving;1=1-10% Area;1=from 1-10% Area within-grade worsening;2=from 10-75% Area within-grade improving;2=10-75% Area;2=from 10-75% Area within-grade worsening;3=from >75% Area within-	MOAKS: Cartilage Morphology - tibia lateral posterior	9

		grade improving;3=>75% Area;		
MRI	MCMTLP_FT_K	0=normal;0=from normal FT within-grade worsening;1=from 1-10% FT within-grade improving;1=1-10% FT;1=from 1-10% FT within-grade worsening;2=from 10-75% FT within-grade improving;2=10-75% FT;2=from 10-75% FT within-grade worsening;3=from >75% FT within-grade improving;3=>75% FT;	MOAKS: Cartilage Morphology - tibia lateral posterior	9
MRI	MCMTMA_AREA_K	0=normal;0=from normal Area within-grade worsening;1=from 1-10% Area within-grade improving;1=1-10% Area;1=from 1-10% Area within-grade worsening;2=from 10-75% Area within-grade improving;2=10-75% Area;2=from 10-75% Area within-grade worsening;3=from >75% Area within-grade improving;3=>75% Area;	MOAKS: Cartilage Morphology - tibia medial anterior	9
MRI	MCMTMA_FT_K	0=normal;0=from normal FT within-grade worsening;1=from 1-10% FT within-grade improving;1=1-10% FT;1=from 1-10% FT within-grade worsening;2=from 10-75% FT within-grade improving;2=10-75% FT;2=from 10-75% FT within-grade worsening;3=from >75% FT within-grade improving;3=>75% FT;	MOAKS: Cartilage Morphology - tibia medial anterior	9
MRI	MCMTMC_AREA_K	0=normal;0=from normal Area within-grade worsening;1=from 1-10% Area within-grade improving;1=1-10% Area;1=from 1-10% Area within-grade worsening;2=from 10-75% Area within-grade improving;2=10-75% Area;2=from 10-75% Area within-grade worsening;3=from >75% Area within-grade improving;3=>75% Area;	MOAKS: Cartilage Morphology - tibia medial central	9
MRI	MCMTMC_FT_K	0=normal;0=from normal FT within-grade worsening;1=from 1-10% FT within-grade improving;1=1-10% FT;1=from 1-10% FT within-grade worsening;2=from 10-75% FT within-grade improving;2=10-75% FT;2=from 10-75% FT within-grade worsening;3=from >75% FT within-grade improving;3=>75% FT;	MOAKS: Cartilage Morphology - tibia medial central	9
MRI	MCMTMP_AREA_K	0=normal;0=from normal Area within-grade worsening;1=from 1-10% Area within-grade improving;1=1-10% Area;1=from 1-10% Area within-grade worsening;2=from 10-75% Area within-grade improving;2=10-75% Area;2=from 10-75% Area within-grade worsening;3=from >75% Area within-grade improving;3=>75% Area;	MOAKS: Cartilage Morphology - tibia medial posterior	9
MRI	MCMTMP_FT_K	0=normal;0=from normal FT within-grade worsening;1=from 1-10% FT within-grade improving;1=1-10% FT;1=from 1-10% FT within-grade worsening;2=from 10-75% FT within-grade improving;2=10-75% FT;2=from 10-75% FT within-grade worsening;3=from >75% FT within-grade improving;3=>75% FT;	MOAKS: Cartilage Morphology - tibia medial posterior	9
MRI	MEFWK_K	0=physiologic amount;1=small;2=medium;3=large;	MOAKS: Effusion - whole knee	10
MRI	MFTC.ThCtAB.aMav	0-10	Medial tib-fem compartment: Maximum cartilage thickness (mm)	13
MRI	MFTC.ThCtAB.aMe	0-10	Medial tib-fem compartment: Mean cartilage thickness (mm)	13
MRI	MFTC.VCtAB	0-20	Medial tib-fem compartment: Normalized cartilage volume (mm)	13
MRI	MGCACL_K	0=none;1=present;	MOAKS: ACL ganglion cyst	9
MRI	MGCOTH_K	0=none;1=present;	MOAKS: others ganglion cyst	9
MRI	MGCPCL_K	0=none;1=present;	MOAKS: PCL ganglion cyst	9
MRI	MGCSM_K	0=none;1=present;	MOAKS: semimembranosus ganglion cyst	9
MRI	MGCTIB_K	0=none;1=present;	MOAKS: tibial ganglion cyst	9
MRI	MGSST_K	0=none;1=present;	MOAKS: semitendinosus ganglion cyst	9
MRI	MIPBUR_K	0=none;1=present;	MOAKS: infrapatella bursa	11
MRI	MLBOD_K	0=none;1=present;	MOAKS: loose bodies	9
MRI	MMCLA_K	0=none;1=present;	MOAKS: Meniscal Cysts - lateral anterior horn	9
MRI	MMCLB_K	0=none;1=present;	MOAKS: Meniscal Cysts - lateral body	10
MRI	MMCLP_K	0=none;1=present;	MOAKS: Meniscal Cysts - lateral posterior horn	9

MRI	MMCMA_K	0=none;1=present;	MOAKS: Meniscal Cysts - medial anterior horn	9
MRI	MMCMB_K	0=none;1=present;	MOAKS: Meniscal Cysts - medial body	10
MRI	MMCMP_K	0=none;1=present;	MOAKS: Meniscal Cysts - medial posterior horn	9
MRI	MMHLA_K	0=none;1=present;	MOAKS: Meniscal Hypertrophy - lateral anterior horn	9
MRI	MMHLB_K	0=none;1=present;	MOAKS: Meniscal Hypertrophy - lateral body	10
MRI	MMHLP_K	0=none;1=present;	MOAKS: Meniscal Hypertrophy - lateral posterior horn	9
MRI	MMHMA_K	0=none;1=present;	MOAKS: Meniscal Hypertrophy - medial anterior horn	9
MRI	MMHMB_K	0=none;1=present;	MOAKS: Meniscal Hypertrophy - medial body	10
MRI	MMHMP_K	0=none;1=present;	MOAKS: Meniscal Hypertrophy - medial posterior horn	9
MRI	MMSLA_K	0=0 :Normal;1=1: Signal Abnormality;	MOAKS: Meniscal Signal - lateral anterior horn	9
MRI	MMSLB_K	0=0 :Normal;1=1: Signal Abnormality;	MOAKS: Meniscal Signal - lateral body	10
MRI	MMSLP_K	0=0 :Normal;1=1: Signal Abnormality;	MOAKS: Meniscal Signal - lateral posterior horn	9
MRI	MMSMA_K	0=0 :Normal;1=1: Signal Abnormality;	MOAKS: Meniscal Signal - medial anterior horn	9
MRI	MMSMB_K	0=0 :Normal;1=1: Signal Abnormality;	MOAKS: Meniscal Signal - medial body	10
MRI	MMSMP_K	0=0 :Normal;1=1: Signal Abnormality;	MOAKS: Meniscal Signal - medial posterior horn	9
MRI	MMTLA_K	0=Normal;1=Horizontal Tear;2=Vertical Tear;3=Complex Tear;4=Maceration/Partial;5=Maceration/Complete;6=Maceration/Progressing;	MOAKS: Meniscal Tear - lateral anterior horn	9
MRI	MMTLB_K	0=Normal;1=Horizontal Tear;2=Vertical Tear;3=Complex Tear;4=Maceration/Partial;5=Maceration/Complete;6=Maceration/Progressing;	MOAKS: Meniscal Tear - lateral body	10
MRI	MMTLP_K	0=Normal;1=Horizontal Tear;2=Vertical Tear;3=Complex Tear;4=Maceration/Partial;5=Maceration/Complete;6=Maceration/Progressing;	MOAKS: Meniscal Tear - lateral posterior horn	9
MRI	MMTLR_K	0=none;1=present;	MOAKS: Meniscal Root Tear - lateral	9
MRI	MMTMA_K	0=Normal;1=Horizontal Tear;2=Vertical Tear;3=Complex Tear;4=Maceration/Partial;5=Maceration/Complete;6=Maceration/Progressing;	MOAKS: Meniscal Tear - medial anterior horn	10
MRI	MMTMB_K	0=Normal;1=Horizontal Tear;2=Vertical Tear;3=Complex Tear;4=Maceration/Partial;5=Maceration/Complete;6=Maceration/Progressing;	MOAKS: Meniscal Tear - medial body	10
MRI	MMTMP_K	0=Normal;1=Horizontal Tear;2=Vertical Tear;3=Complex Tear;4=Maceration/Partial;5=Maceration/Complete;6=Maceration/Progressing;	MOAKS: Meniscal Tear - medial posterior horn	10
MRI	MMTMR_K	0=none;1=present;	MOAKS: Meniscal Root Tear - medial	11
MRI	MMXLA_K	0=0: <2mm;1=1: 2-2.9mm;2=2: 3-4.9mm;3=3: >5mm;	MOAKS: Meniscal Extrusion - lateral meniscus anteriorly	12
MRI	MMXLL_K	0=0: <2mm;1=1: 2-2.9mm;2=2: 3-4.9mm;3=3: >5mm;	MOAKS: Meniscal Extrusion - lateral meniscus laterally	10
MRI	MMXMA_K	0=0: <2mm;1=1: 2-2.9mm;2=2: 3-4.9mm;3=3: >5mm;	MOAKS: Meniscal Extrusion - medial meniscus anteriorly	9
MRI	MMXMM_K	0=0: <2mm;1=1: 2-2.9mm;2=2: 3-4.9mm;3=3: >5mm;	MOAKS: Meniscal Extrusion - medial meniscus medially	15
MRI	MOSFLA_K	0=none;1=small;2=medium;3=large;	MOAKS: Osteophytes - femur lateral anterior	9
MRI	MOSFLC_K	0=none;1=small;2=medium;3=large;	MOAKS: Osteophytes - femur lateral central	10
MRI	MOSFLP_K	0=none;1=small;2=medium;3=large;	MOAKS: Osteophytes - femur lateral posterior	9
MRI	MOSFMA_K	0=none;1=small;2=medium;3=large;	MOAKS: Osteophytes - femur medial anterior	9
MRI	MOSFMC_K	0=none;1=small;2=medium;3=large;	MOAKS: Osteophytes - femur medial central	10
MRI	MOSFMP_K	0=none;1=small;2=medium;3=large;	MOAKS: Osteophytes - femur medial posterior	9
MRI	MOSPLI_K	0=none;1=small;2=medium;3=large;	MOAKS: Osteophytes - patella inferior	10
MRI	MOSPL_K	0=none;1=small;2=medium;3=large;	MOAKS: Osteophytes - patella lateral	10

MRI	MOSPM_K	0=none;1=small;2=medium;3=large;	MOAKS: Osteophytes - patella medial	10
MRI	MOSPS_K	0=none;1=small;2=medium;3=large;	MOAKS: Osteophytes - patella superior	9
MRI	MOSTL_K	0=none;1=small;2=medium;3=large;	MOAKS: Osteophytes - tibia lateral	10
MRI	MOSTM_K	0=none;1=small;2=medium;3=large;	MOAKS: Osteophytes - tibia medial	10
MRI	MPCLBMC_K	0=none;1=present;	MOAKS: PCL - BML at insertion	9
MRI	MPCLRP_K	0=none;1=present;	MOAKS: PCL - repair	9
MRI	MPCLTR_K	0=0: Normal;1=1: Complete tear;	MOAKS: PCL - tear	9
MRI	MPOPCYS_K	0=none;1=present;	MOAKS: popliteal cyst	9
MRI	MPPBUR_K	0=none;1=present;	MOAKS: prepatellar bursa	11
MRI	MPTSIG_K	0=none;1=present;	MOAKS: patella tendon signal	12
MRI	MSYIP_K	0=none;1=mild;2=moderate;3=severe;	MOAKS: Synovitis - Hoffa (infra-patellar)	11
Medical History	Med_His_OA	0=No;1=Yes	Medical and/or surgical history related to knee osteoarthritis?	0
Medication	OA_Medication	0=No;1=Yes;	Used medication for OA?	0
Pain Detect	burning_sensation	0=Never;1=Hardly noticed;2=Slightly;3=Moderately;4=Strongly;5=Very strongly	09. Do you suffer from burning sensation	5
Pain Detect	cold_heat_painful	0=Never;1=Hardly noticed;2=Slightly;3=Moderately;4=Strongly;5=Very strongly	13. Is cold or heat painful	3
Pain Detect	numbness	0=Never;1=Hardly noticed;2=Slightly;3=Moderately;4=Strongly;5=Very strongly	14. Do you suffer from sensation of numbness	4
Pain Detect	pain_attacks	0=Never;1=Hardly noticed;2=Slightly;3=Moderately;4=Strongly;5=Very strongly	12. Do you have sudden pain attacks	4
Pain Detect	pain_attacks_no_pain_inbetween	0=No;1=Yes	06. Pain attacks WITHOUT pain between them	13
Pain Detect	pain_attacks_pain_inbetween	0=No;1=Yes	07. Pain attacks WITH pain between them	15
Pain Detect	pain_average	0-10	03. Pain on average during past 4 weeks	13
Pain Detect	pain_now	0-10	01. Your pain now	13
Pain Detect	persistent_pain_attacks	0=No;1=Yes	05. Persistent pain with pain attacks	13
Pain Detect	persistent_pain_slight	0=No;1=Yes	04. Persistent pain with slight fluctuations	10
Pain Detect	pressure_painful	0=Never;1=Hardly noticed;2=Slightly;3=Moderately;4=Strongly;5=Very strongly	15. Does slight pressure trigger pain	3
Pain Detect	tingling_sensation	0=Never;1=Hardly noticed;2=Slightly;3=Moderately;4=Strongly;5=Very strongly	10. Do you have a tingling or prickling sensation	5
Pain Detect	touching_painful	0=Never;1=Hardly noticed;2=Slightly;3=Moderately;4=Strongly;5=Very strongly	11. Is light touching painful	3
Pain NRS	Hands_Max_NRS_Last_Week	0-10	Hand (left/right) Max NRS score - during the last week	9
Pain NRS	Hip_Max_NRS_Last_Week	0-10	Hip (left/right) Max NRS score - during the last week	10
Pain NRS	Knees_Max_NRS_Last_Week	0-10	Knees (left/right) Max NRS score - during the last week	5
Physical examination	BMI	16-55	Body Mass Index (kg/m ²)	1
Physical examination	PE_Doyle_Index	0-144	Doyle index score (hands)	7
Physical examination	PE_Hand_Joints_Pain	0=No;1=Yes	Patient asked for pain in hand joints last month? (hands)	0
Physical examination	PE_Hand_Osteoarthritis_Severity	0=No;1=Yes	Severity of hand osteoarthritis evaluated (hands)	0
Physical examination	PE_Knee_Valgus	0=none;1=lateral;2=bilateral	(Knee) Presence of valgus (Left/Right)	0
Physical examination	PE_Knee_Varus	0=none;1=lateral;2=bilateral	(Knee) Presence of varus (Left/Right)	0

Physical examination	PE_Knee_Warmth	0=none;1=lateral;2=bilateral	(Knee) Presence of warmth (Left/Right)	0
Physical examination	PE_Knees_Effusion	0=none;1=lateral;2=bilateral	(Knee) Presence of effusion (Left/Right)	0
Physical examination	PE_Knees_Flexum	0=none;1=lateral;2=bilateral	(Knee) Presence of flexum (Left/Right)	0
Physical examination	PE_Knees_Grinding_Pos_Test	0=none;1=lateral;2=bilateral	(Knee) Positive Grinding Test (Left/Right)	0
Physical examination	PE_Min_Hip_Flexion	1=Less than 90 degrees;2=Between 90 and 120 degrees;3=Greater than or equal 120 degrees	(Hip) Min of flexion (Left/Right)	0
Physical examination	PE_Min_Hip_Flexum	0=none;1=lateral;2=bilateral	(Hip) Presence of flexum (Left/Right)	0
Physical examination	PE_Min_Hip_Rotation_External	1=Less than 30 degrees;2=Between 30 and 45 degrees;3=Greater than or equal 45 degrees	(Hip) Min of external rotation (Left/Right)	0
Physical examination	PE_Min_Hip_Rotation_Internal	1=Less than 30 degrees;2=Between 30 and 45 degrees;3=Greater than or equal 45 degrees	(Hip) Min of internal rotation (Left/Right)	0
Physical examination	PE_Min_Knees_Flexion	1=Less than 90 degrees;2=Between 90 and 120 degrees;3=Greater than or equal 120 degrees	(Knee) Min of flexion (Left/Right)	0
Physical examination	PE_Sum_Hands_Deformities	0-10	(Hand) Sum of deformities (Left/Right)	0
Physical examination	PE_Sum_Hands_Hard_Tissue_Enl	0-30	(Hand) Sum of hard tissue enlargements (Left/Right)	0
Physical examination	PE_Sum_Hands_Inflamed_Joints	0-30	(Hand) Sum of inflamed joint (Left/Right)	0
Physical examination	PE_Sum_Hands_Osteophytes	0-18	(Hand) Sum of osteophytes (Left/Right)	0
Physical examination	PE_Thumb_MC_Subluxation_Ha	0=none;1=lateral;2=bilateral	(Hand) First thumb metacarpal subluxation	0
Physical examination	ROM_Min_Hip_Swing	0-80	(Hip) Range of motion, min of swing (Left/Right)	14
Physical examination	ROM_Min_Knee_Swing	0-80	(Knee) Range of motion, min of swing (Left/Right)	13
Physical examination	ROM_Stance_K	0-80	(Knee) Range of motion, min of stance (Left/Right)	13
SF-36	SF36_01	1=Excellent;2=Very good;3=Good;4=Fair;5=Poor	01. In general would you say your health is	1
SF-36	SF36_02	1=Much better now than one year ago;2=Somewhat better now than one year ago;3=About the same;4=Somewhat worse now than one year ago;5=Much worse now than one year ago	02. How is your health compared to one year ago	1
SF-36	SF36_03a	1=Yes, limited a lot;2=Yes, limited a little;3=No, not limited at all	03a. Does your health limit you with vigorous activities	7
SF-36	SF36_03b	1=Yes, limited a lot;2=Yes, limited a little;3=No, not limited at all	03b. Does your health limit you with moderate activities	2
SF-36	SF36_03c	1=Yes, limited a lot;2=Yes, limited a little;3=No, not limited at all	03c. Does your health limit you with lifting or carrying groceries	4
SF-36	SF36_03d	1=Yes, limited a lot;2=Yes, limited a little;3=No, not limited at all	03d. Does your health limit you with climbing several flights	3
SF-36	SF36_03e	1=Yes, limited a lot;2=Yes, limited a little;3=No, not limited at all	03e. Does your health limit you with climbing one flight	4
SF-36	SF36_03f	1=Yes, limited a lot;2=Yes, limited a little;3=No, not limited at all	03f. Does your health limit you with bending, kneeling or stopping	2
SF-36	SF36_03g	1=Yes, limited a lot;2=Yes, limited a little;3=No, not limited at all	03g. Does your health limit you with walking more than a mile	2
SF-36	SF36_03h	1=Yes, limited a lot;2=Yes, limited a little;3=No, not limited at all	03h. Does your health limit you with walking several hundred yards	3
SF-36	SF36_03i	1=Yes, limited a lot;2=Yes, limited a little;3=No, not limited at all	03i. Does your health limit you with walking one hundred yards	2
SF-36	SF36_03j	1=Yes, limited a lot;2=Yes, limited a little;3=No, not limited at all	03j. Does your health limit you with bathing or dressing yourself	2
SF-36	SF36_04a	1=All of the time;2=Most of the time;3=Some of the time;4=A little of the time;5=None of the time	04a. As a result of physical health you had to cut down amount of time you spent on work	3

SF-36	SF36_04b	1=All of the time;2=Most of the time;3=Some of the time;4=A little of the time;5=None of the time	04b. As a result of physical health you accomplished less	3
SF-36	SF36_04c	1=All of the time;2=Most of the time;3=Some of the time;4=A little of the time;5=None of the time	04c. As a result of physical health you were limited in the kind of work	5
SF-36	SF36_04d	1=All of the time;2=Most of the time;3=Some of the time;4=A little of the time;5=None of the time	04d. As a result of emotional health you had difficulty performing the work	3
SF-36	SF36_05a	1=All of the time;2=Most of the time;3=Some of the time;4=A little of the time;5=None of the time	05a. As a result of emotional health you had to cut down the amount of time you spent on work	2
SF-36	SF36_05b	1=All of the time;2=Most of the time;3=Some of the time;4=A little of the time;5=None of the time	05b. As a result of emotional health you accomplished less	2
SF-36	SF36_05c	1=All of the time;2=Most of the time;3=Some of the time;4=A little of the time;5=None of the time	05c. As a result of emotional health you did not do work as carefully	2
SF-36	SF36_06	1=Not at all;2=Slightly;3=Moderately;4=Quite a bit;5=Extremely	06. Physical health or emotional problems interfered with social activities	1
SF-36	SF36_07	1=None;2=Very mild;3=Mild;4=Moderate;5=Severe;6=Very severe	07. How much bodily pain during last week	1
SF-36	SF36_08	1=Not at all;2=A little bit;3=Moderately;4=Quite a bit;5=Extremely	08. Did pain interfere with your normal work	1
SF-36	SF36_09a	1=All of the time;2=Most of the time;3=A good bit of the time;4=Some of the time;5=A little of the time;6=None of the time	09a. How often did you feel full of life	3
SF-36	SF36_09b	1=All of the time;2=Most of the time;3=A good bit of the time;4=Some of the time;5=A little of the time;6=None of the time	09b. How often have you been very nervous	2
SF-36	SF36_09c	1=All of the time;2=Most of the time;3=A good bit of the time;4=Some of the time;5=A little of the time;6=None of the time	09c. How often you felt so down in the dumps	3
SF-36	SF36_09d	1=All of the time;2=Most of the time;3=A good bit of the time;4=Some of the time;5=A little of the time;6=None of the time	09d. How often you felt calm and peaceful	2
SF-36	SF36_09e	1=All of the time;2=Most of the time;3=A good bit of the time;4=Some of the time;5=A little of the time;6=None of the time	09e. How often did you have a lot of energy	4
SF-36	SF36_09f	1=All of the time;2=Most of the time;3=A good bit of the time;4=Some of the time;5=A little of the time;6=None of the time	09f. How often you felt downhearted and low	2
SF-36	SF36_09g	1=All of the time;2=Most of the time;3=A good bit of the time;4=Some of the time;5=A little of the time;6=None of the time	09g. How often did you feel worn out	2
SF-36	SF36_09h	1=All of the time;2=Most of the time;3=A good bit of the time;4=Some of the time;5=A little of the time;6=None of the time	09h. How often have you been happy	2
SF-36	SF36_09i	1=All of the time;2=Most of the time;3=A good bit of the time;4=Some of the time;5=A little of the time;6=None of the time	09i. How often did you feel tired	2
SF-36	SF36_10	1=All of the time;2=Most of the time;3=Some of the time;4=A little of the time;5=None of the time	10. I have physical health or emotional problems	3
SF-36	SF36_11a	1=Definitely true;2=Mostly true;3=Dont know;4=Mostly false;5=Definitely false	11a. I seem to get ill more easily than others	6
SF-36	SF36_11b	1=Definitely true;2=Mostly true;3=Dont know;4=Mostly false;5=Definitely false	11b. I am healthy as anybody	3
SF-36	SF36_11c	1=Definitely true;2=Mostly true;3=Dont know;4=Mostly false;5=Definitely false	11c. I expect my health to get worse	4
SF-36	SF36_11d	1=Definitely true;2=Mostly true;3=Dont know;4=Mostly false;5=Definitely false	11d. My health is excellent	5
Smoking	Smoking_Habits	0=Never;1=Has stopped smoking;2=Current smoker	Smoking habits	0
X-Ray	Density_Mean_Femur_K	10-90	Mean Bone density femur (mean of bone density lateral and medial femur) (mmAl)	5
X-Ray	Density_Mean_Tibia_K	10-90	Mean Bone density tibia (mean of bone density lateral and medial tibia) (mmAl)	5
X-Ray	Femorotibial_Angle_K	-25-25	Varus angle (angle between the femur and tibia determined in the frontal plane) (Degrees)	5
X-Ray	JSNLa_K_LAS	0;1;2;3	Joint Space narrowing Lateral (knee)	3
X-Ray	JSNMe_K_LAS	0;1;2;3	Joint Space narrowing Medial (knee)	3
X-Ray	JSW_Mean_K	-0.2-15	Mean JSW (mm)	5
X-Ray	KL_CMC_Max	0=None;1=Doubtful;2=Minimal;3=Moderate;4=Severe;	Kellgren-Lawrence score: carpometacarpal (max of left&right hands)	4
X-Ray	KL_DIP2_Max	0=None;1=Doubtful;2=Minimal;3=Moderate;4=Severe;	Kellgren-Lawrence score: distal interphalangeal 2 (max of left&right hands)	4
X-Ray	KL_DIP3_Max	0=None;1=Doubtful;2=Minimal;3=Moderate;4=Severe;	Kellgren-Lawrence score: distal interphalangeal 3 (max of left&right hands)	4
X-Ray	KL_DIP4_Max	0=None;1=Doubtful;2=Minimal;3=Moderate;4=Severe;	Kellgren-Lawrence score: distal interphalangeal 4 (max of left&right hands)	4

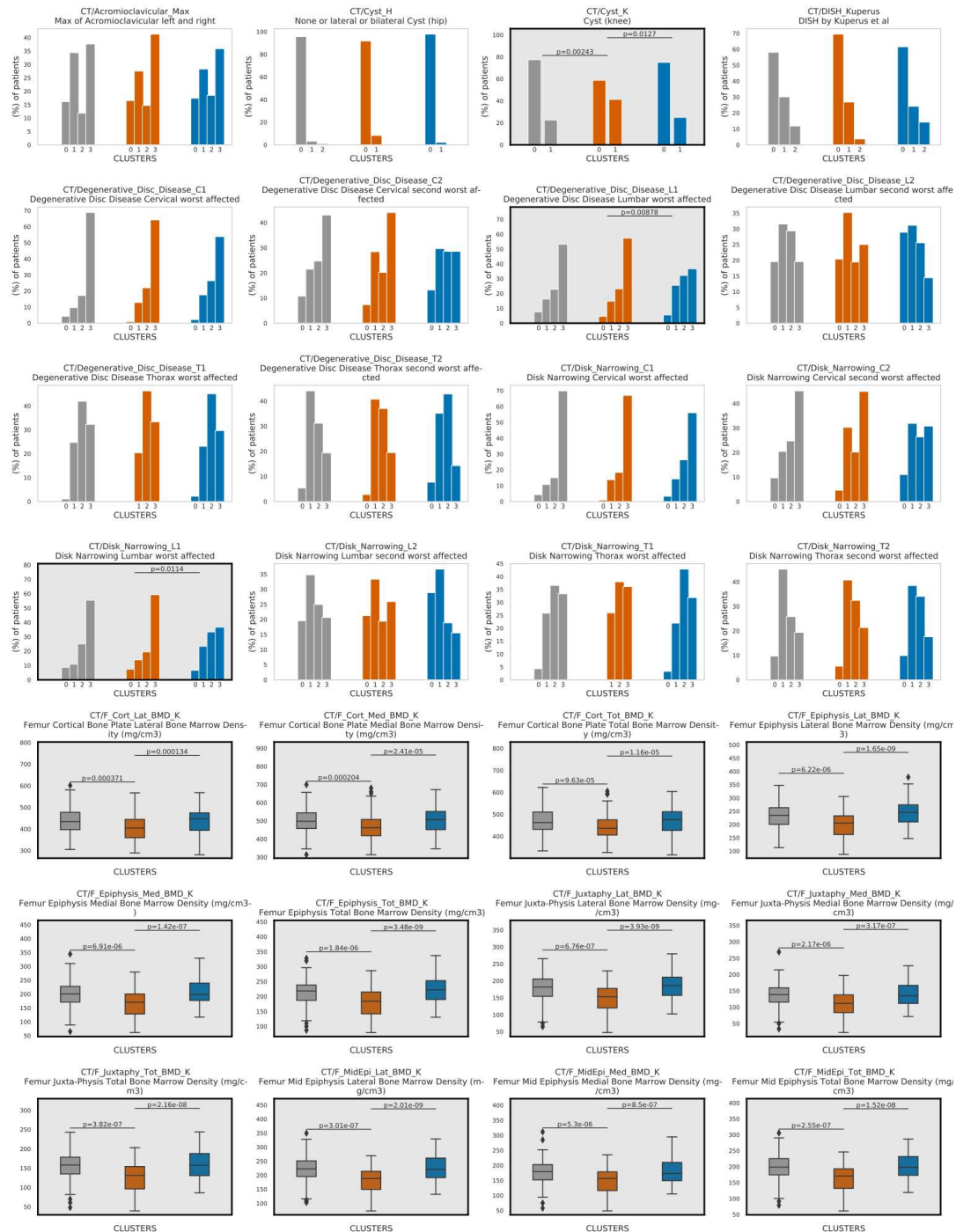
X-Ray	KL_DIP5_Max	0=None;1=Doubtful;2=Minimal;3=Moderate;4=Severe;	Kellgren-Lawrence score: distal interphalangeal 5 (max of left&right hands)	4
X-Ray	KL_IP_Max	0=None;1=Doubtful;2=Minimal;3=Moderate;4=Severe;	Kellgren-Lawrence score: interphalangeal (max of left&right hands)	4
X-Ray	KL_MCP1_Max	0=None;1=Doubtful;2=Minimal;3=Moderate;4=Severe;	Kellgren-Lawrence score: metacarpophalangeal 1 (max of left&right hands)	4
X-Ray	KL_MCP2_Max	0=None;1=Doubtful;2=Minimal;3=Moderate;4=Severe;	Kellgren-Lawrence score: metacarpophalangeal 2 (max of left&right hands)	4
X-Ray	KL_MCP3_Max	0=None;1=Doubtful;2=Minimal;3=Moderate;4=Severe;	Kellgren-Lawrence score: metacarpophalangeal 3 (max of left&right hands)	4
X-Ray	KL_MCP4_Max	0=None;1=Doubtful;2=Minimal;3=Moderate;4=Severe;	Kellgren-Lawrence score: metacarpophalangeal 4 (max of left&right hands)	4
X-Ray	KL_MCP5_Max	0=None;1=Doubtful;2=Minimal;3=Moderate;4=Severe;	Kellgren-Lawrence score: metacarpophalangeal 5 (max of left&right hands)	4
X-Ray	KL_PIP2_Max	0=None;1=Doubtful;2=Minimal;3=Moderate;4=Severe;	Kellgren-Lawrence score: proximal interphalangeal 2 (max of left&right hands)	4
X-Ray	KL_PIP3_Max	0=None;1=Doubtful;2=Minimal;3=Moderate;4=Severe;	Kellgren-Lawrence score: proximal interphalangeal 3 (max of left&right hands)	4
X-Ray	KL_PIP4_Max	0=None;1=Doubtful;2=Minimal;3=Moderate;4=Severe;	Kellgren-Lawrence score: proximal interphalangeal 4 (max of left&right hands)	4
X-Ray	KL_PIP5_Max	0=None;1=Doubtful;2=Minimal;3=Moderate;4=Severe;	Kellgren-Lawrence score: proximal interphalangeal 5 (max of left&right hands)	4
X-Ray	KL_Score_K_LAS	0=None;1=Doubtful;2=Minimal;3=Moderate;4=Severe	Kellgren-Lawrence score (knee)	3
X-Ray	KL_Score_K_ML	0=None;1=Doubtful;2=Minimal;3=Moderate;4=Severe	Kellgren-Lawrence score (knee)	3
X-Ray	OPLaFe_K_LAS	0;1;2;3	Osteophytes Lateral Femur (knee)	3
X-Ray	OPLaTi_K_LAS	0;1;2;3	Osteophytes Lateral Tibia (knee)	3
X-Ray	OPMeFe_K_LAS	0;1;2;3	Osteophytes Medial Femur (knee)	3
X-Ray	OPMeTi_K_LAS	0;1;2;3	Osteophytes Medial Tibia (knee)	3
X-Ray	Osteophyte_Femur_Lateral_K	0-100	Osteophyte area lateral femur (mm ²)	5
X-Ray	Osteophyte_Femur_Medial_K	0-100	Osteophyte area medial femur (mm ²)	5
X-Ray	Osteophyte_Tibia_Lateral_K	0-108	Osteophyte area lateral tibia (mm ²)	5
X-Ray	Osteophyte_Tibia_Medial_K	0-100	Osteophyte area medial tibia (mm ²)	5
X-Ray	SSLaFe_K_LAS	0=No;1=Yes	Subchondral sclerosis Lateral Femur (knee)	3
X-Ray	SSLaTi_K_LAS	0=No;1=Yes	Subchondral sclerosis Lateral Tibia (knee)	3
X-Ray	SSMeFe_K_LAS	0=No;1=Yes	Subchondral sclerosis Medial Femur (knee)	3
X-Ray	SSMeTi_K_LAS	0=No;1=Yes	Subchondral sclerosis Medial Tibia (knee)	3
X-Ray	TA_K_LAS	0=No;1=Yes	Tibial attrition (knee)	3
X-Ray	Tibial_Eminence_Height_Lateral_K	0-50	Height of the lateral tibial eminence (mm)	5
X-Ray	Tibial_Eminence_Height_Medial_K	0-50	Height of the medial tibial eminence (mm)	5

23 Table B2. Summary of the number of features in each category of E and of those showing statistically significant differences.
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Feature category	Features with significant differences	Total number of features
CT	62	113
Clinical assessment	4	8
Comorbidity	0	1
Demographics	1	2
FIHOA	3	14
HOOS	0	39
ICOAP	5	22
KOOS	13	40
MRI	35	138
Medical history	1	1
Medication	0	1
Pain Detect	8	13
Pain NRS	1	3
Physical examination	5	23
SF-36	22	36

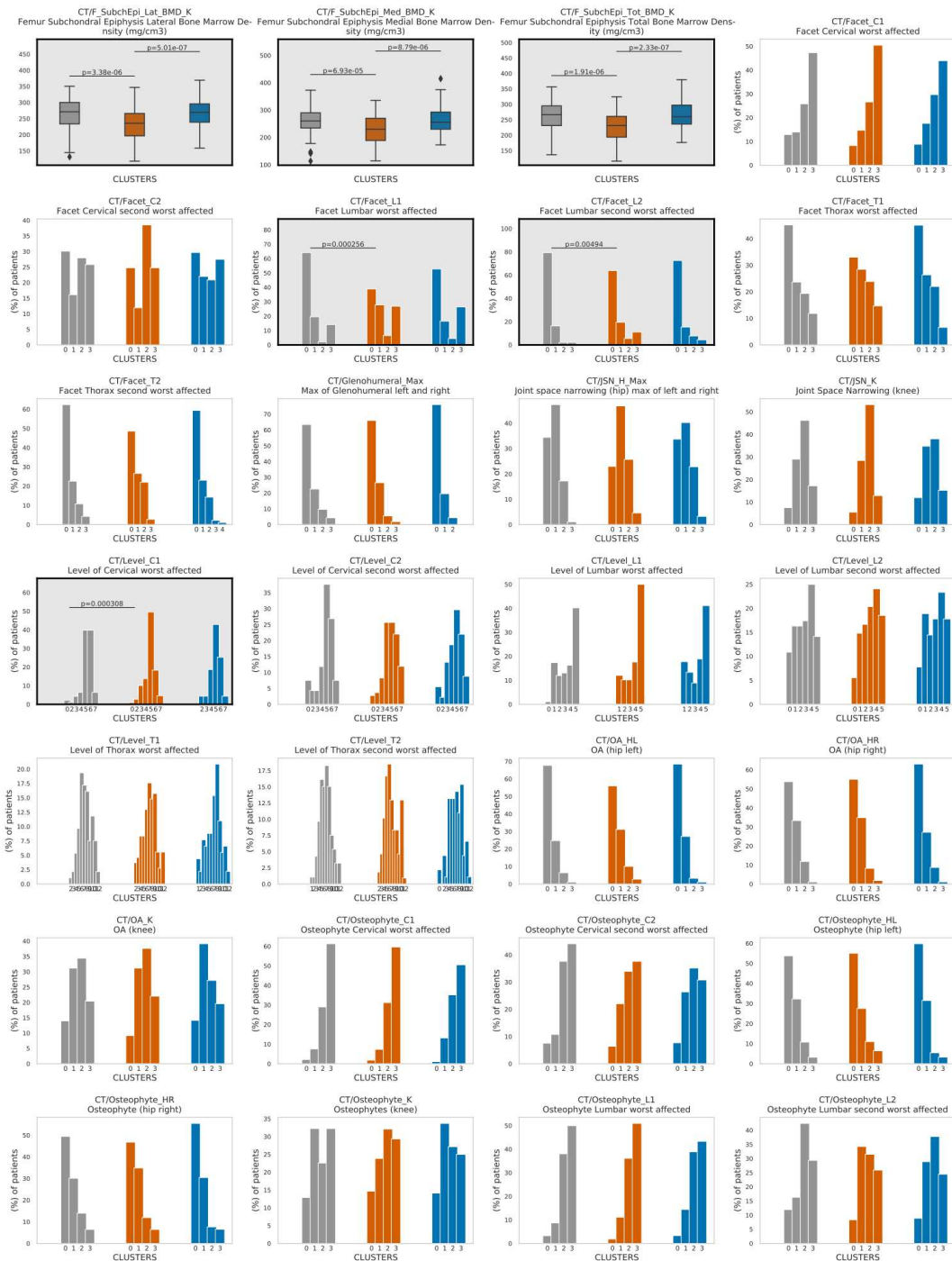
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Smoking	0	1
X-Ray	8	38



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27 Figure B1. Distribution plots by cluster for features in E (continue until Figure B18). Plots are ordered by feature
 28 name (top-bottom, left-to-right). Plots containing at least one statistically different pair are highlighted with a grey
 29 background, and p values are provided.



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Figure B2. Distribution plots by cluster for features in E (continue from Figure B1 to Figure B18). Plots are ordered by feature name (top-bottom, left-to-right). Plots containing at least one statistically different pair are highlighted with a grey background, and p values are provided.

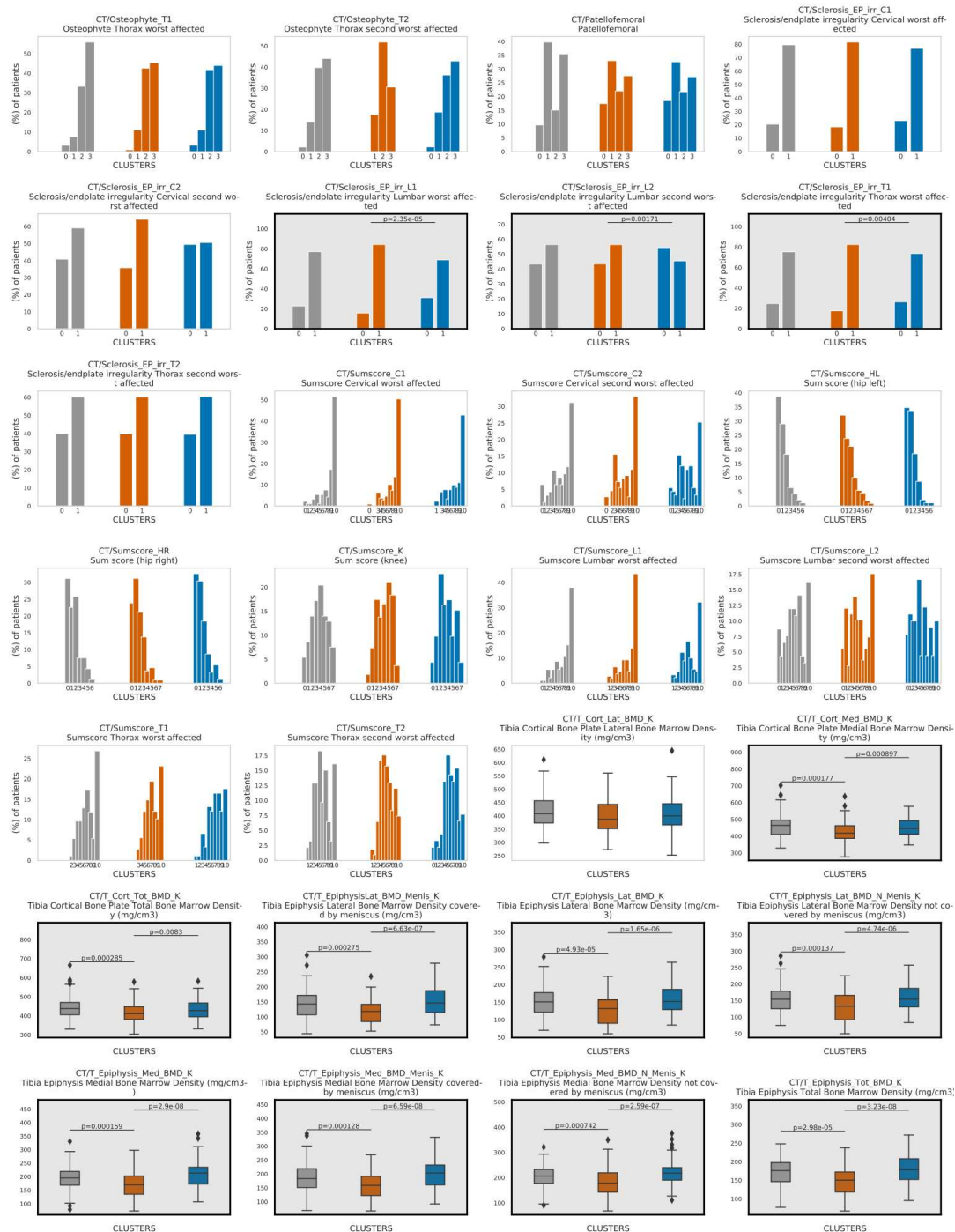
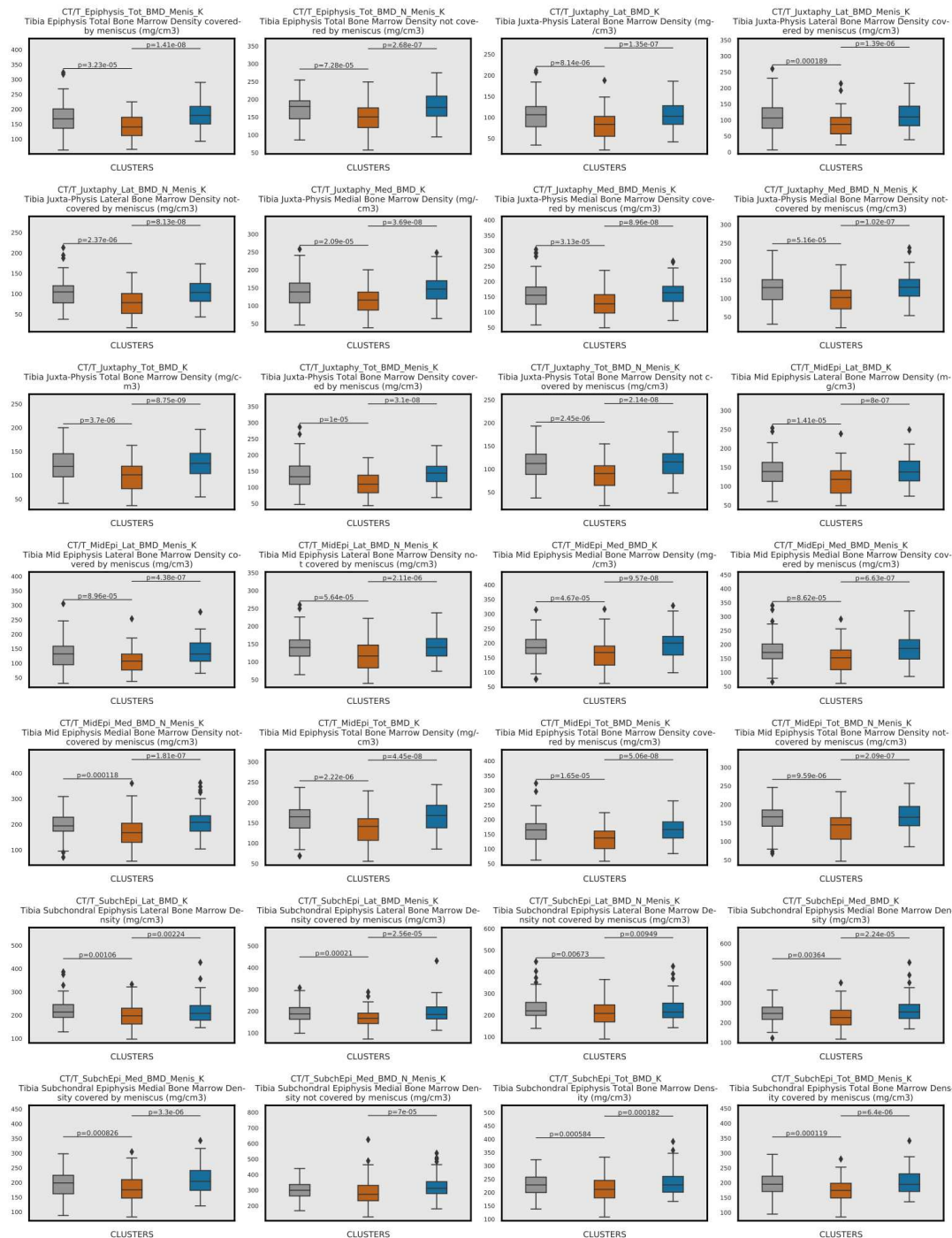


Figure B3. Distribution plots by cluster for features in E (continue from Figure B1 to Figure B18). Plots are ordered by feature name (top-bottom, left-to-right). Plots containing at least one statistically different pair are highlighted with a grey background, and p values are provided.



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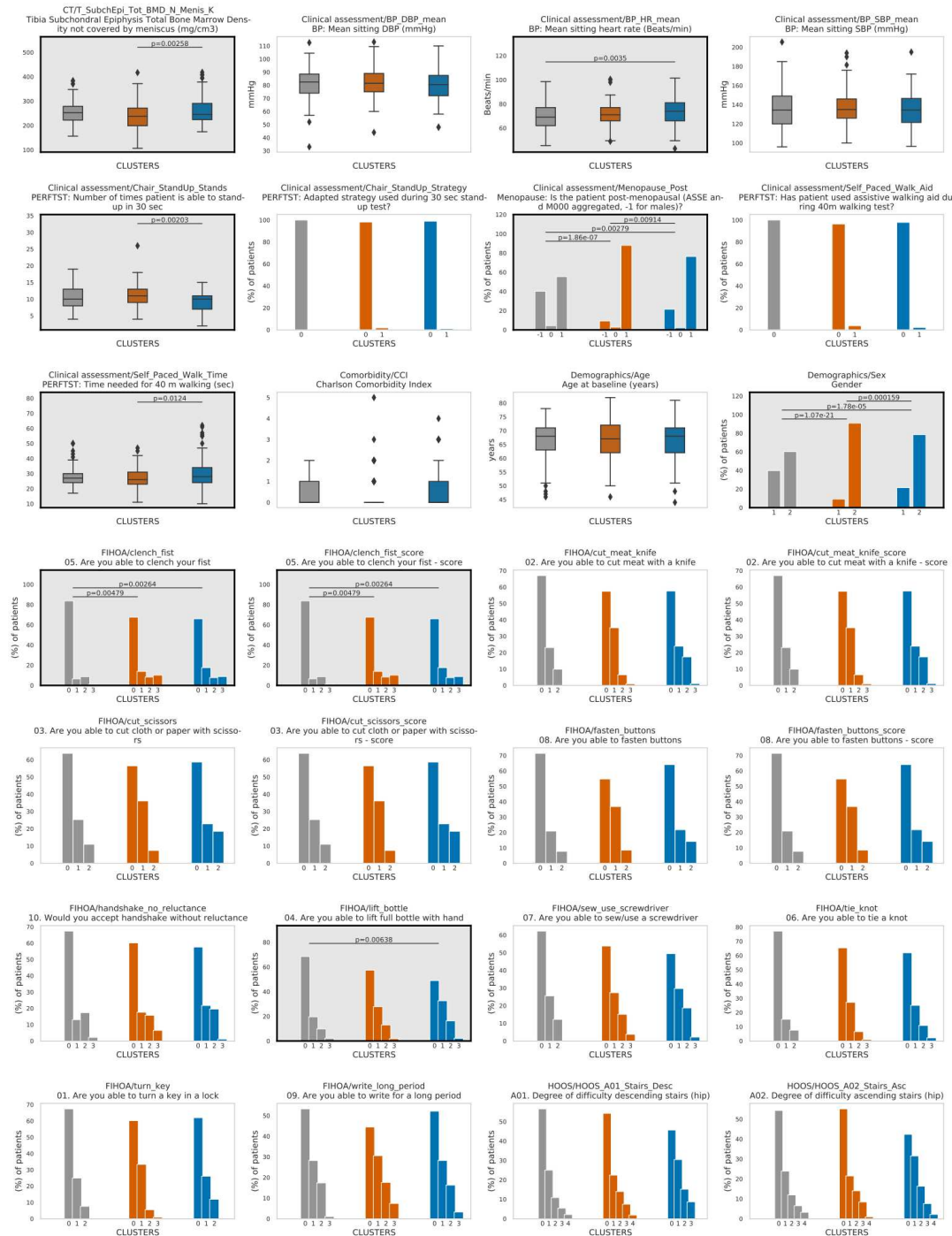
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Figure B4. Distribution plots by cluster for features in E (continue from Figure B1 to Figure B18). Plots are ordered by feature name (top-bottom, left-to-right). Plots containing at least one statistically different pair are highlighted with a grey background, and p values are provided.



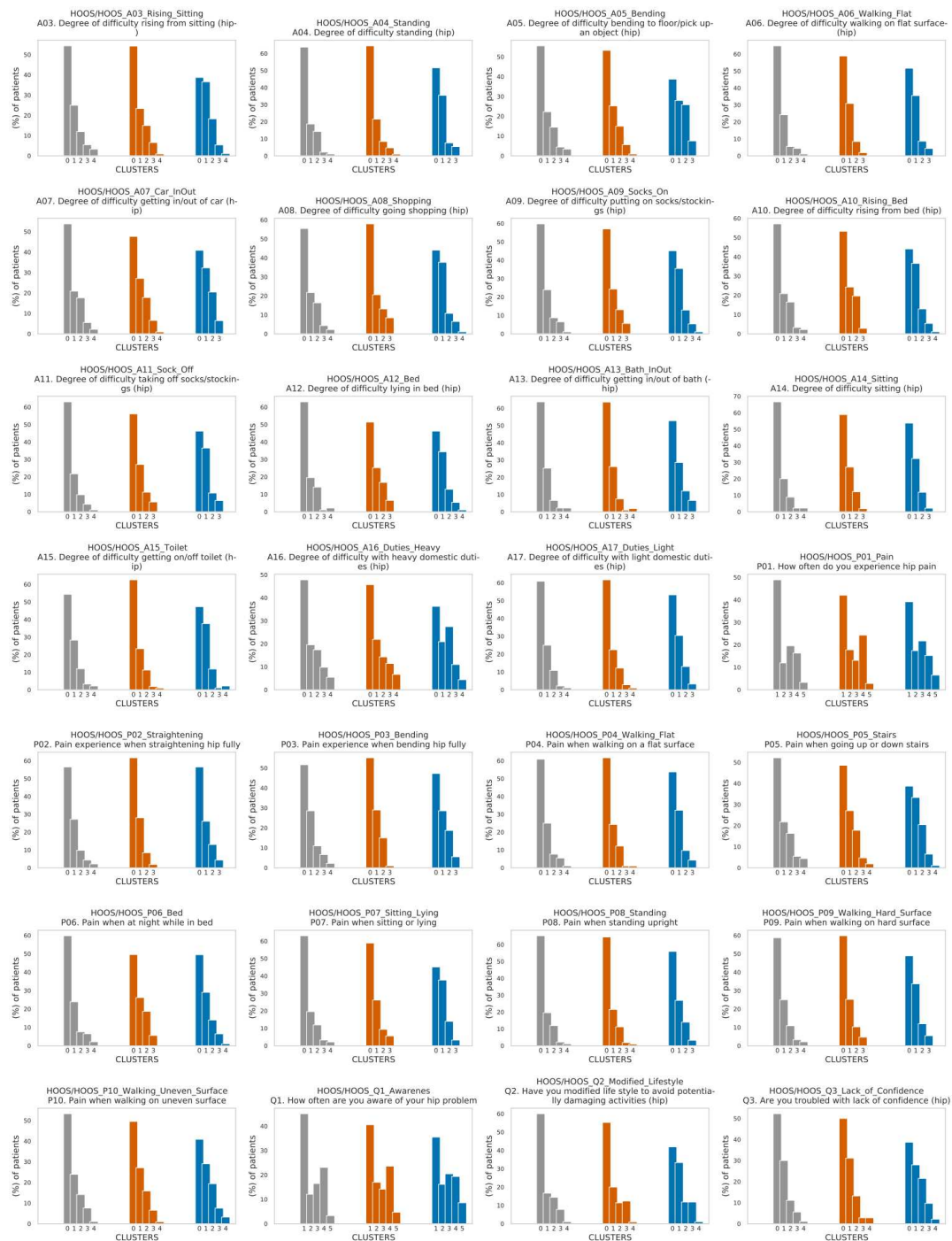
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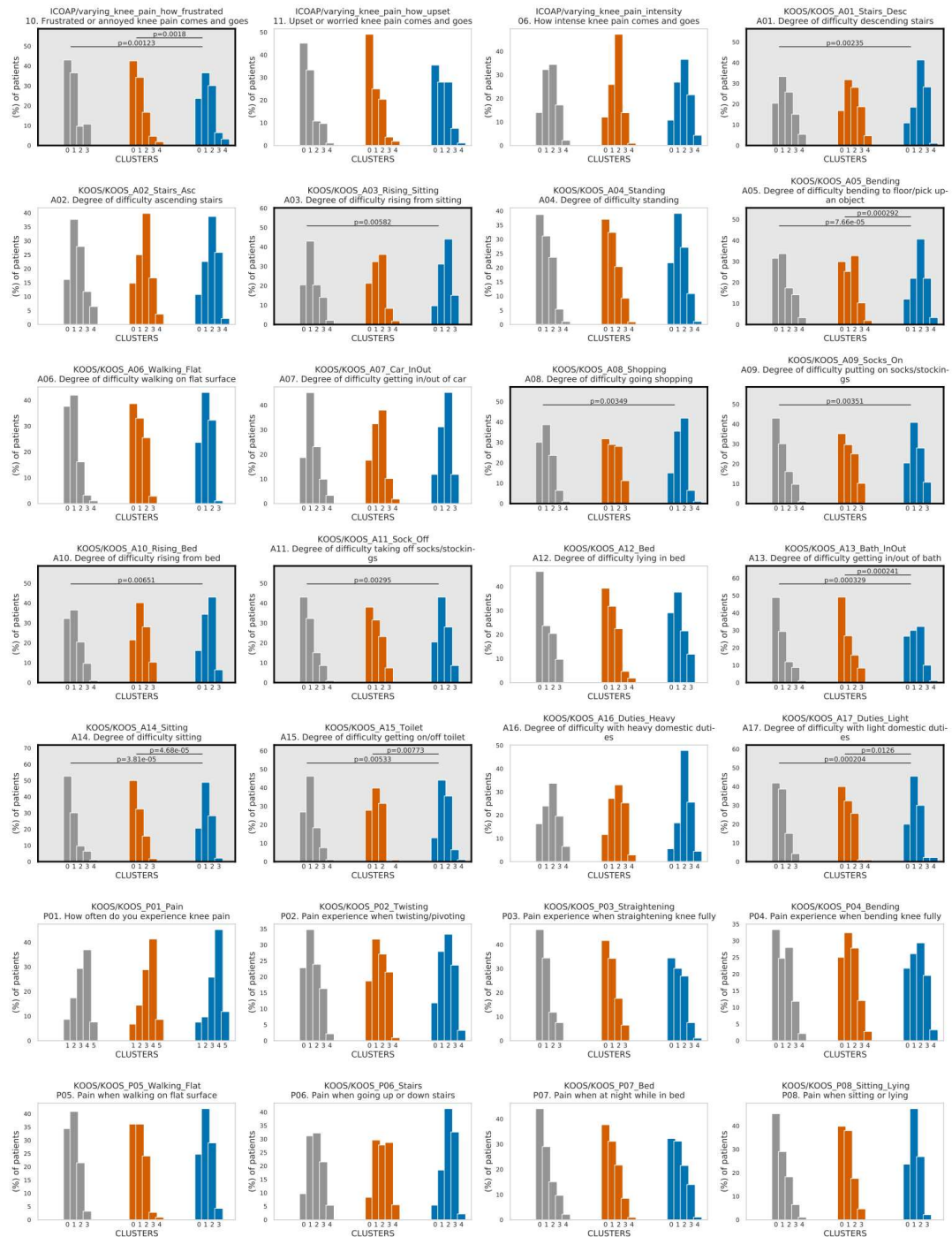
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Figure B5. Distribution plots by cluster for features in E (continue from Figure B1 to Figure B18). Plots are ordered by feature name (top-bottom, left-to-right). Plots containing at least one statistically different pair are highlighted with a grey background, and p values are provided.



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49 Figure B6. Distribution plots by cluster for features in E (continue from Figure B1 to Figure B18). Plots are
 50 ordered by feature name (top-bottom, left-to-right). Plots containing at least one statistically different pair are
 51 highlighted with a grey background, and p values are provided.



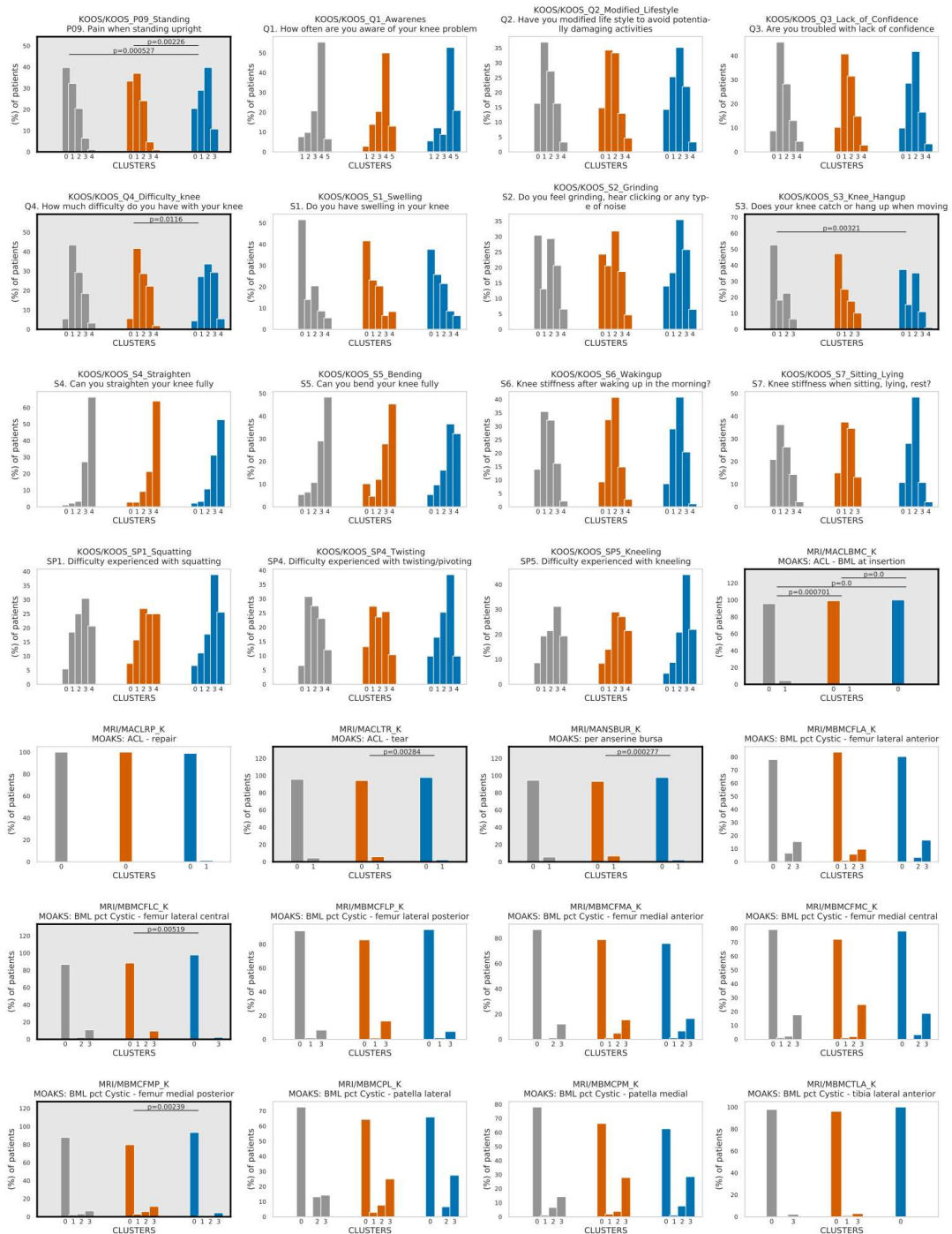
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Figure B8. Distribution plots by cluster for features in E (continue from Figure B1 to Figure B18). Plots are ordered by feature name (top-bottom, left-to-right). Plots containing at least one statistically different pair are highlighted with a grey background, and p values are provided.



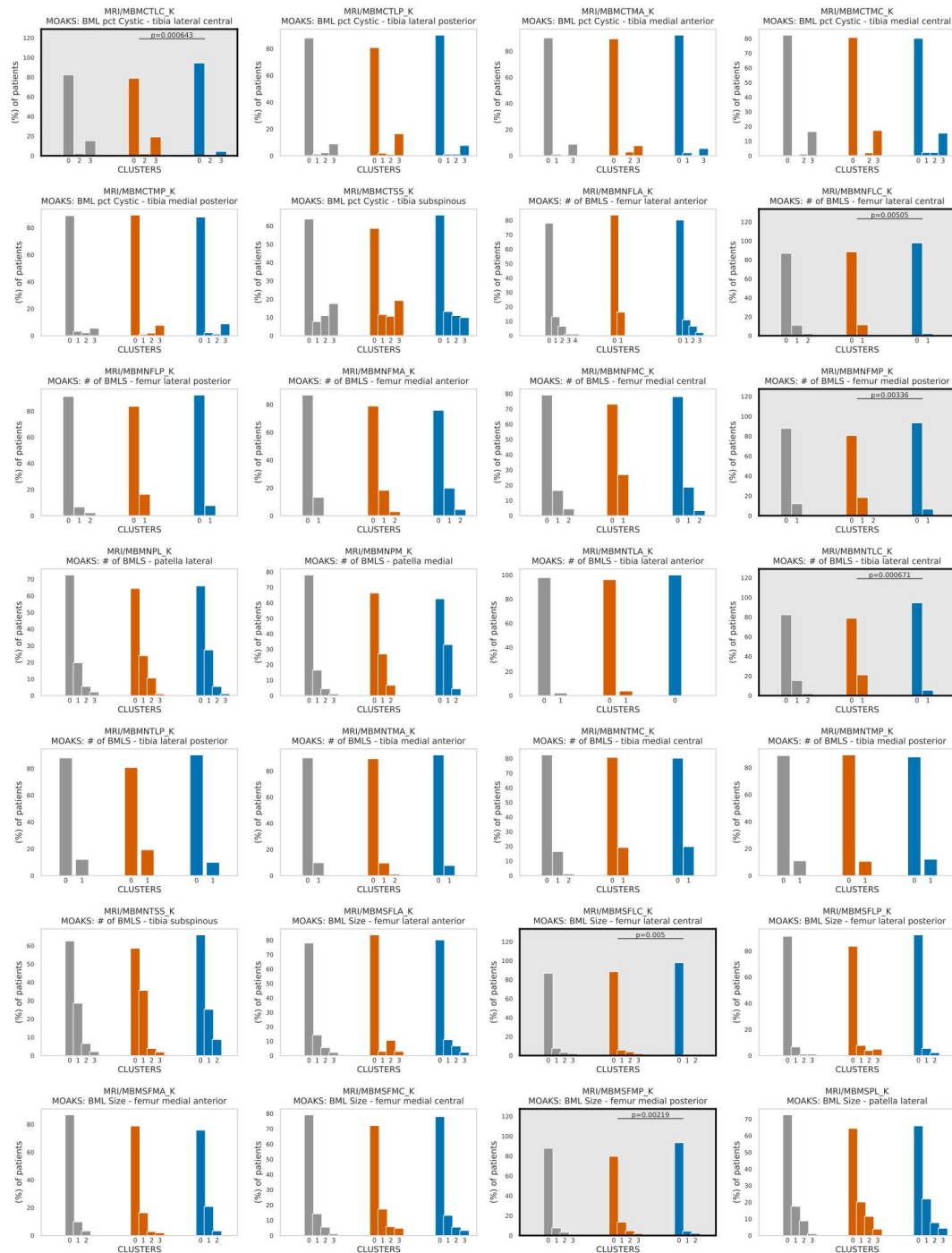
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Figure B9. Distribution plots by cluster for features in E (continue from Figure B1 to Figure B18). Plots are ordered by feature name (top-bottom, left-to-right). Plots containing at least one statistically different pair are highlighted with a grey background, and p values are provided.



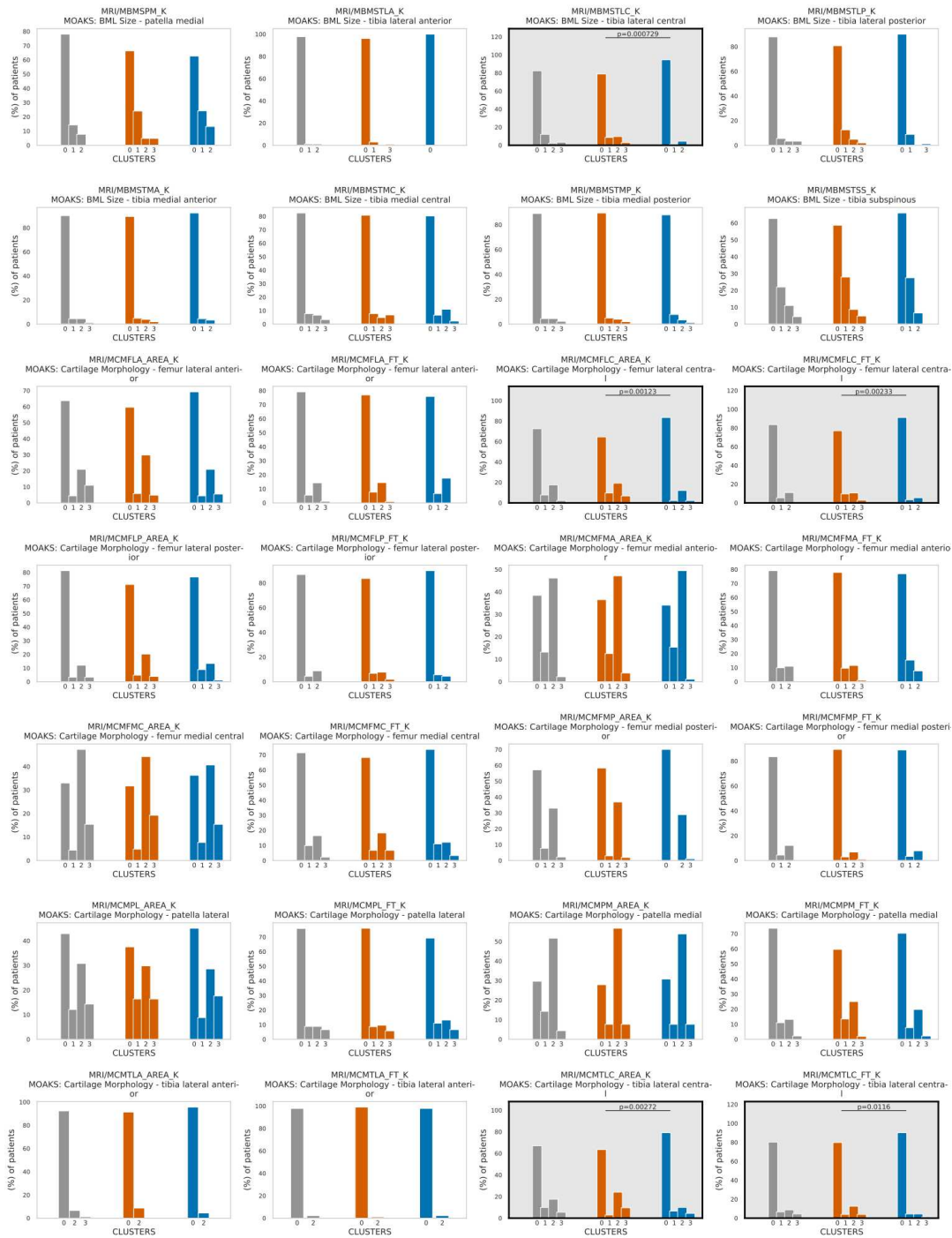
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Figure B10. Distribution plots by cluster for features in E (continue from Figure B1 to Figure B18). Plots are ordered by feature name (top-bottom, left-to-right). Plots containing at least one statistically different pair are highlighted with a grey background, and p values are provided.



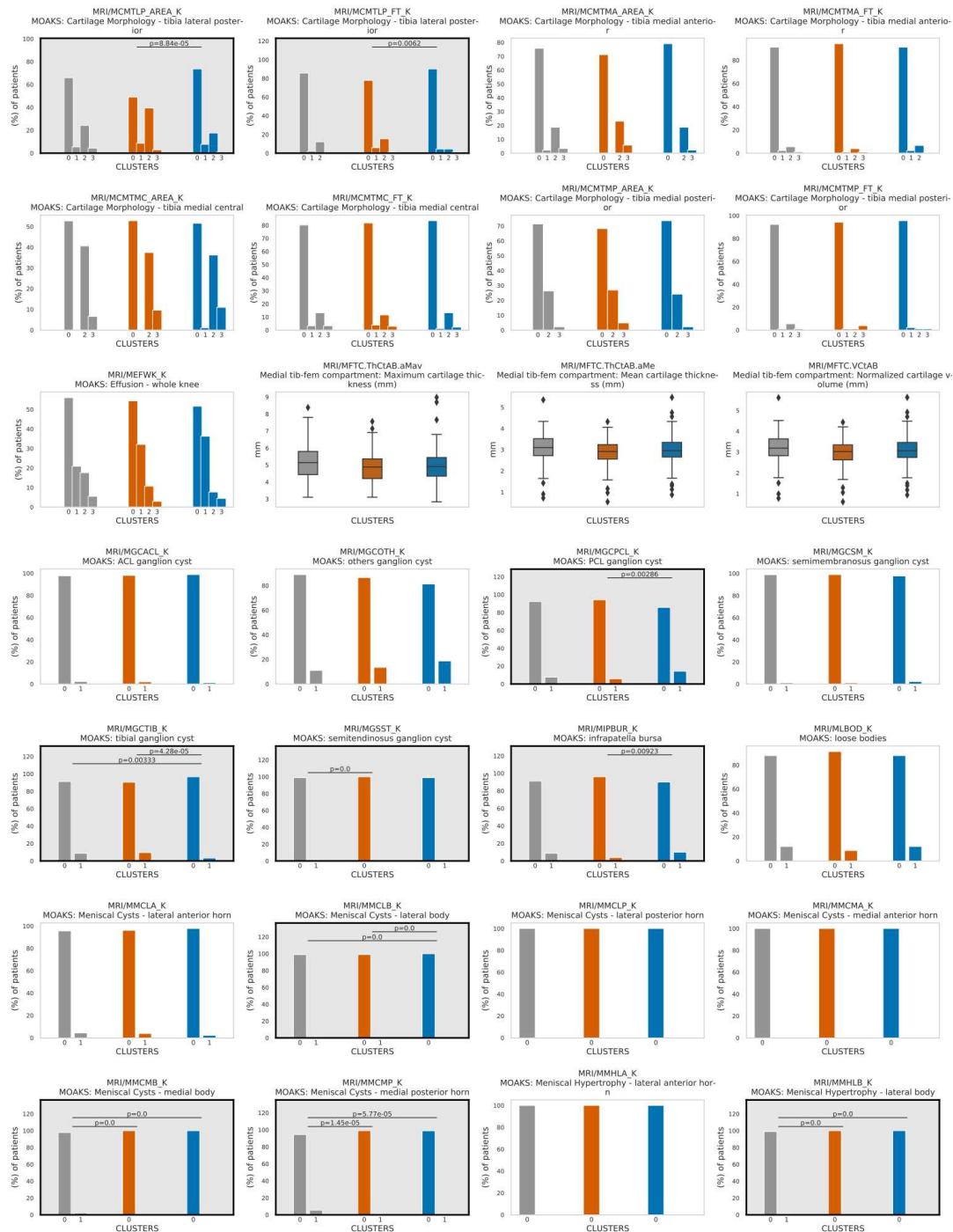
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Figure B11. Distribution plots by cluster for features in E (continue from Figure B1 to Figure B18). Plots are ordered by feature name (top-bottom, left-to-right). Plots containing at least one statistically different pair are highlighted with a grey background, and p values are provided.



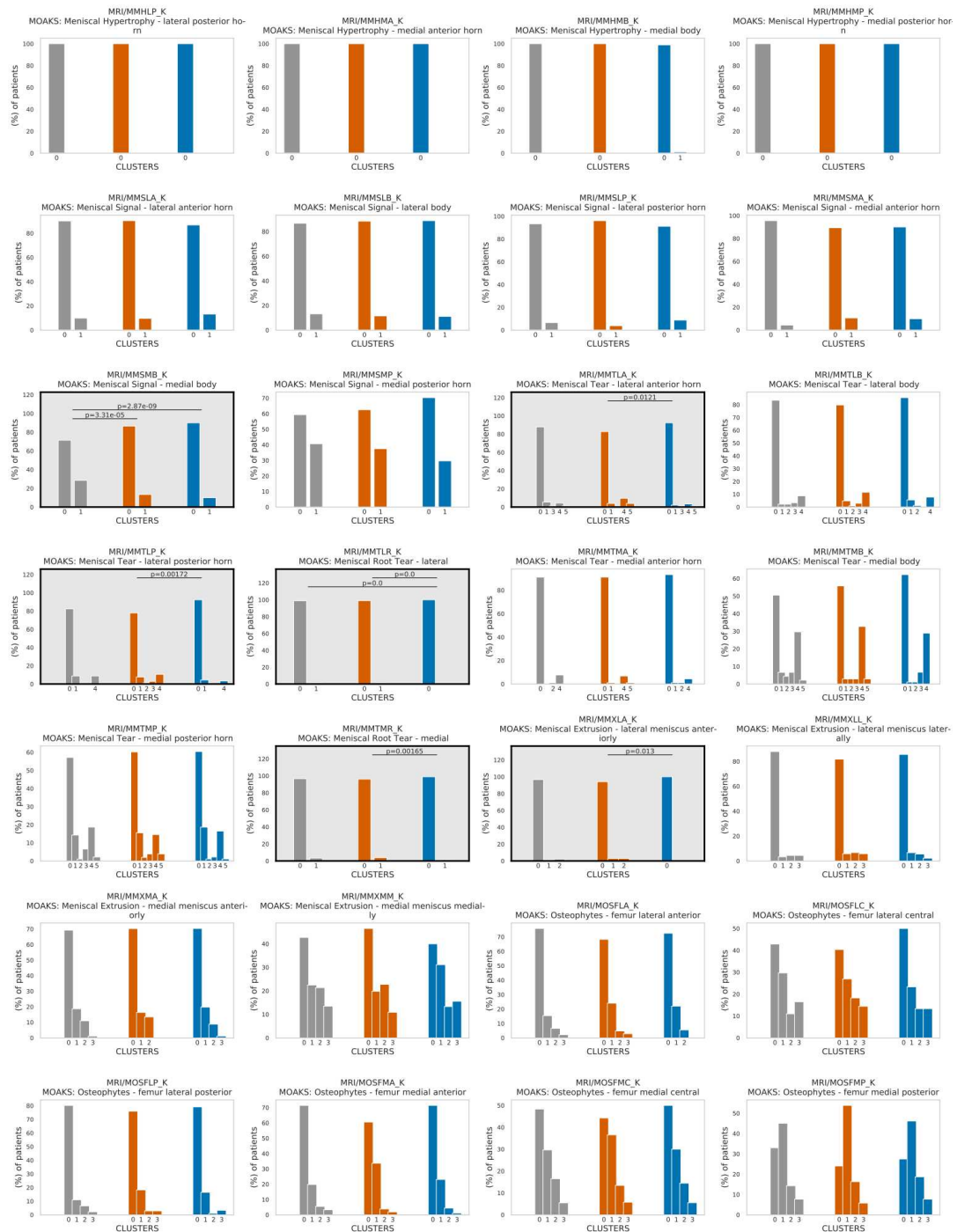
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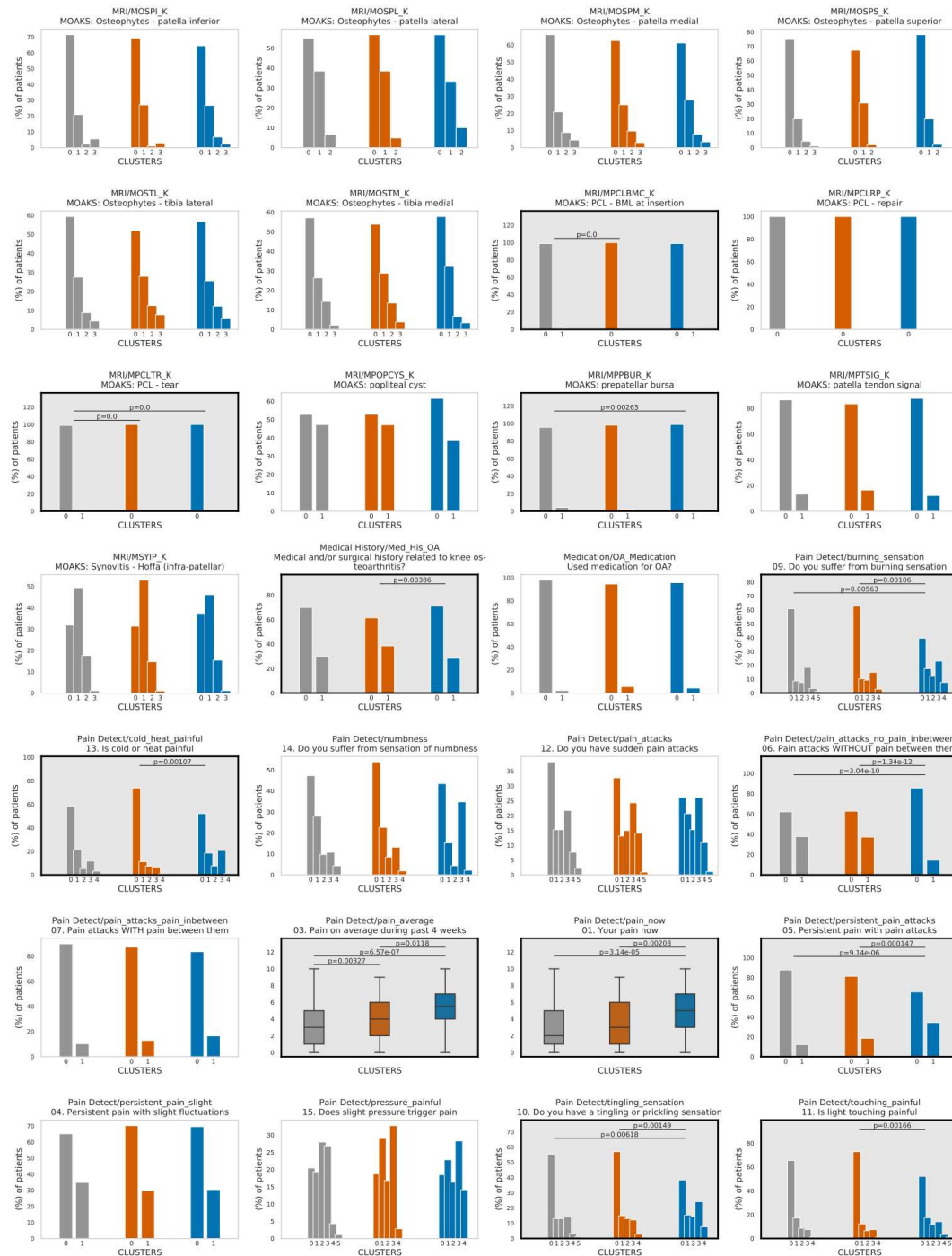
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Figure B12. Distribution plots by cluster for features in E (continue from Figure B1 to Figure B18). Plots are ordered by feature name (top-bottom, left-to-right). Plots containing at least one statistically different pair are highlighted with a grey background, and p values are provided.



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77 Figure B13. Distribution plots by cluster for features in E (continue from Figure B1 to Figure B18). Plots are
 78 ordered by feature name (top-bottom, left-to-right). Plots containing at least one statistically different pair are
 79 highlighted with a grey background, and p values are provided.



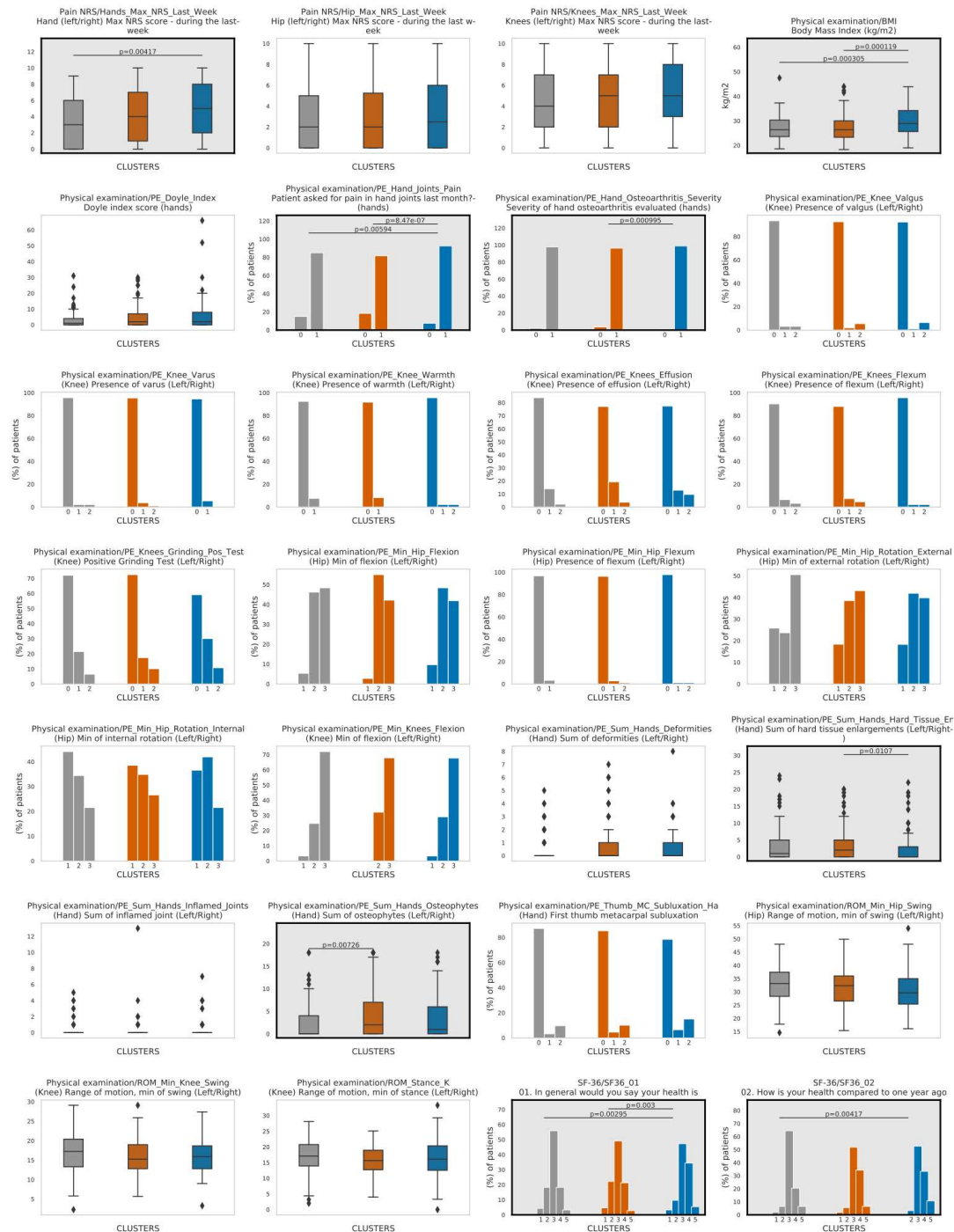
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Figure B14. Distribution plots by cluster for features in E (continue from Figure B1 to Figure B18). Plots are ordered by feature name (top-bottom, left-to-right). Plots containing at least one statistically different pair are highlighted with a grey background, and p values are provided.



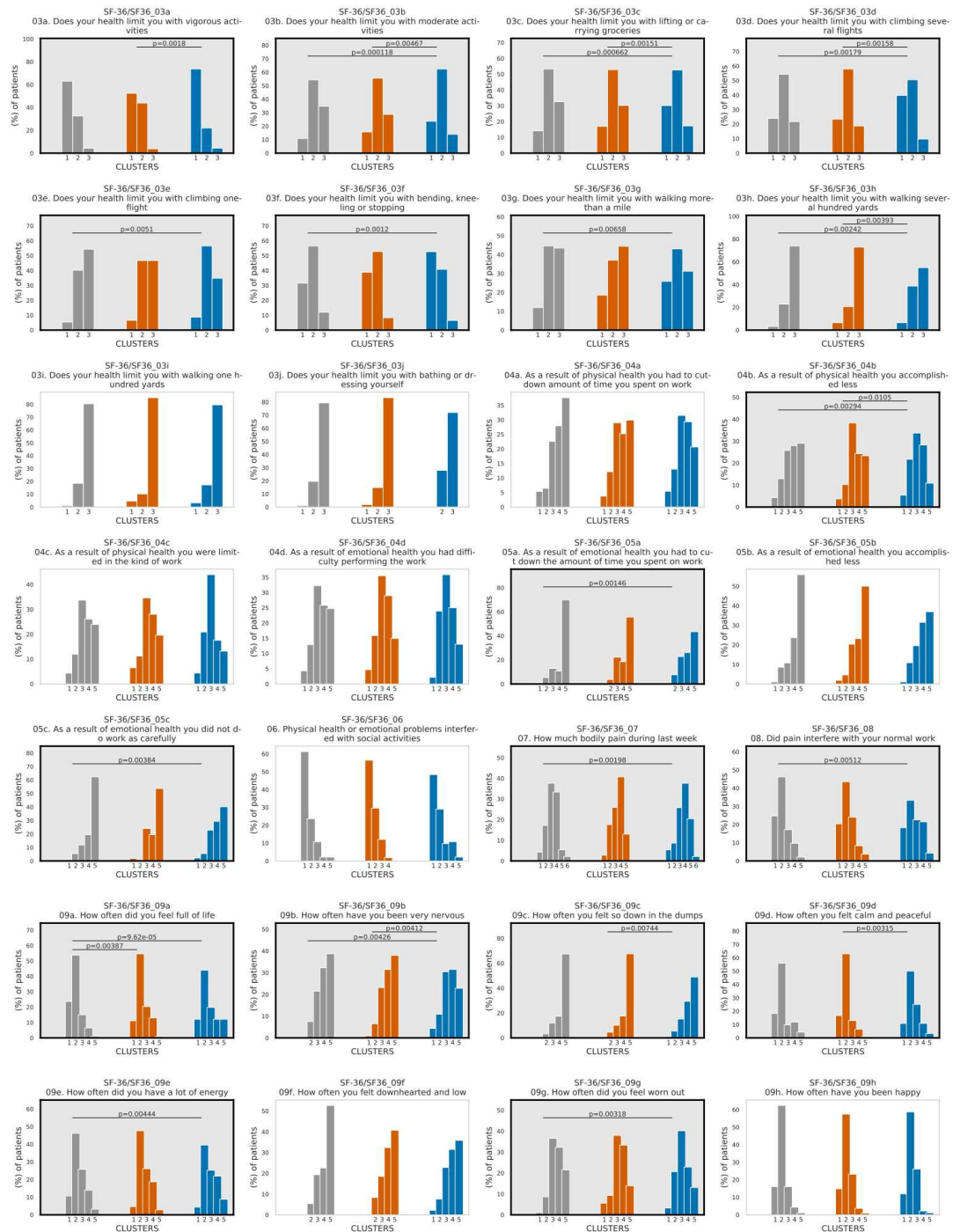
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Figure B15. Distribution plots by cluster for features in E (continue from Figure B1 to Figure B18). Plots are ordered by feature name (top-bottom, left-to-right). Plots containing at least one statistically different pair are highlighted with a grey background, and p values are provided.



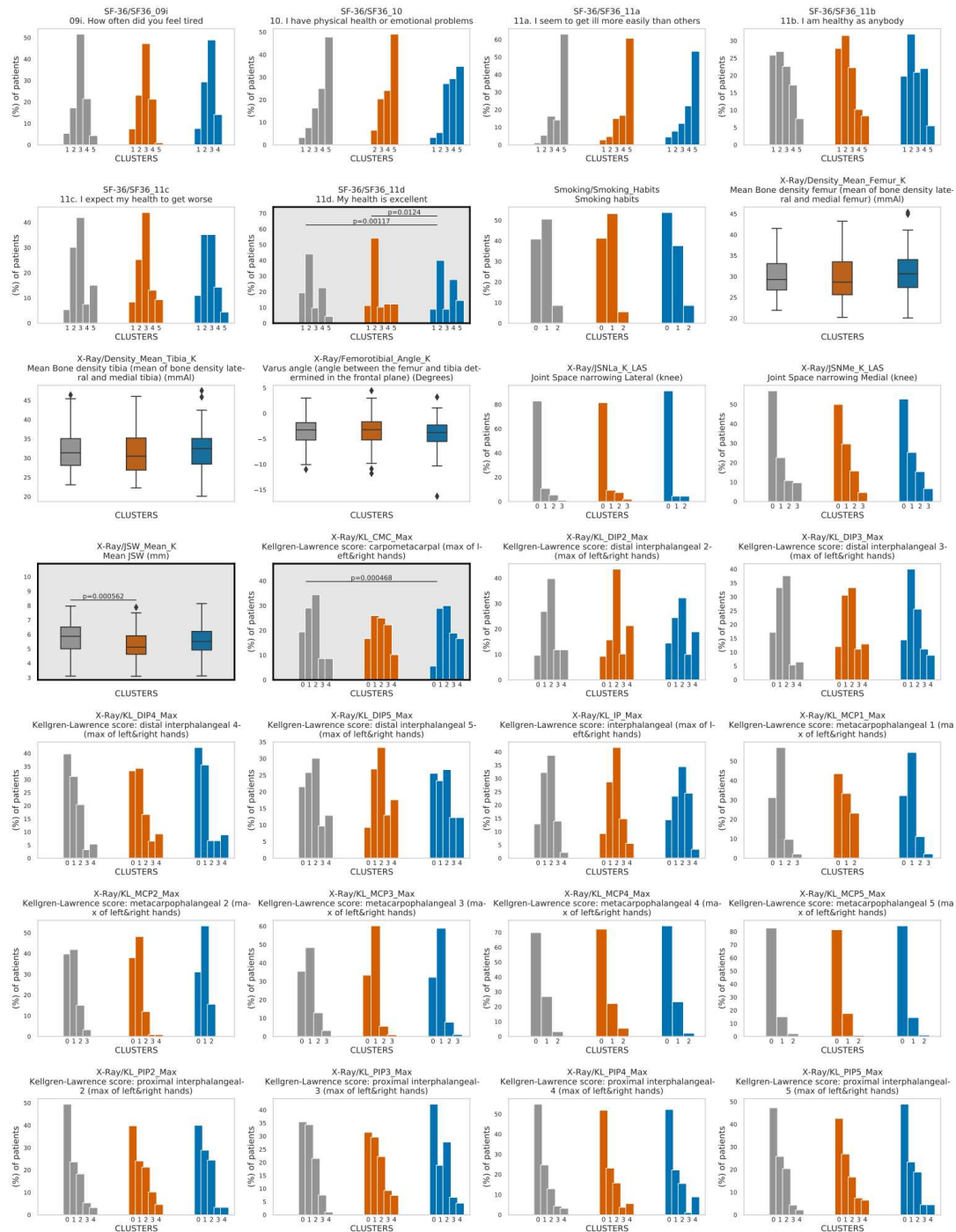
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Figure B16. Distribution plots by cluster for features in E (continue from Figure B1 to Figure B18). Plots are ordered by feature name (top-bottom, left-to-right). Plots containing at least one statistically different pair are highlighted with a grey background, and p values are provided.



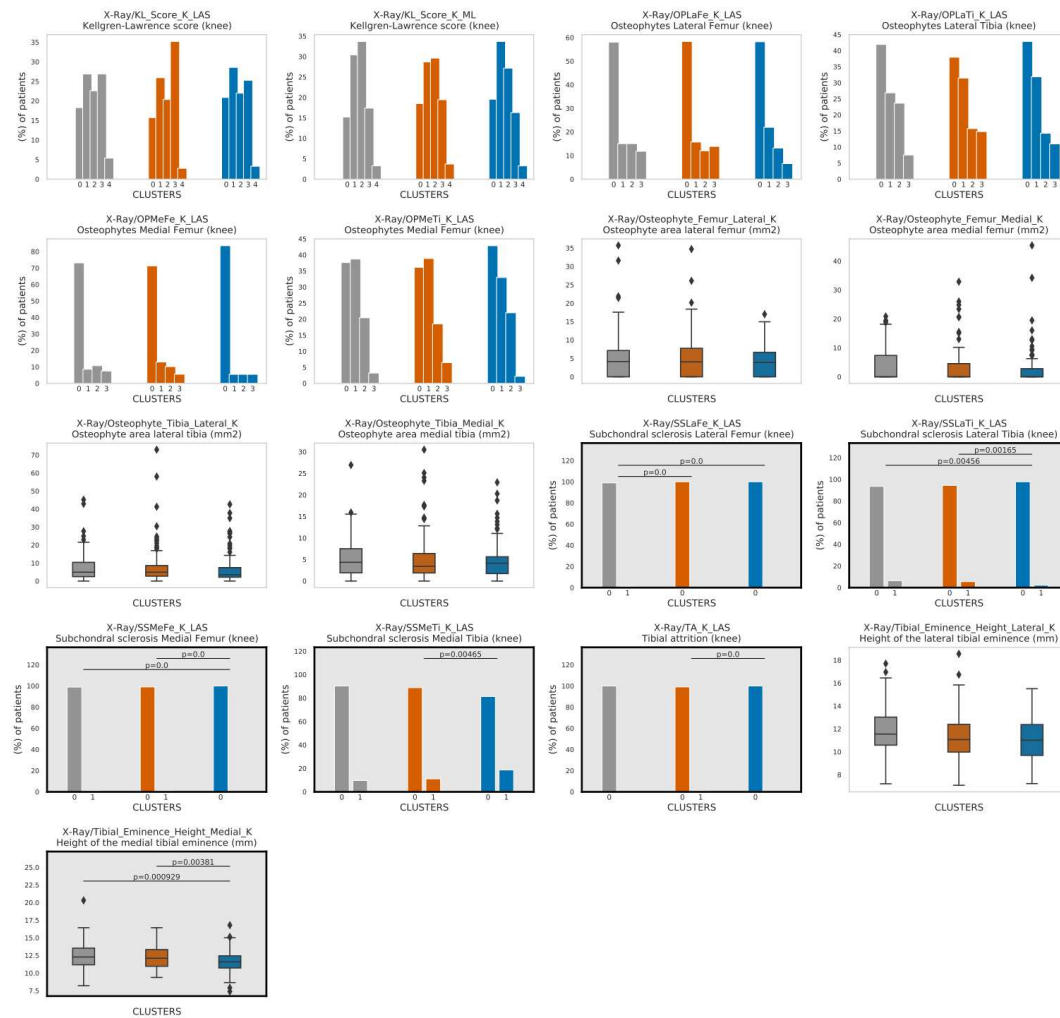
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93 Figure B17. Distribution plots by cluster for features in E (continue from Figure B1 to Figure B18). Plots are
 94 ordered by feature name (top-bottom, left-to-right). Plots containing at least one statistically different pair are
 95 highlighted with a grey background, and p values are provided.

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Figure B18. Distribution plots by cluster for features in E (continue from Figure B1 to Figure B18). Plots are ordered by feature name (top-bottom, left-to-right). Plots containing at least one statistically different pair are highlighted with a grey background, and p values are provided.