Table 1

Classification of Disc Degeneration

Grade	Signal Intensity of the Nucleus Pulposus and Structure	Distinction of Nucleus and Anulus
I	Hyperintense or isointense to cerebrospinal fluid (CSF): bright white and homogeneous	; clear
II	Hyperintense or isointense to CSF (white) and inhomogeneous	; clear
III	Intermediate to CSF (light gray) and inhomogeneous	
IV	Hypointense to CSF (dark gray) and inhomogeneous	
V	Lowintense to CSF (black) and inhomogeneous	

Table 2
Characteristics of Participants (Categorical Data)

Variables	Total			By category	
	N	mean	SD	N	%
Age (years)	270	68.4	6.3		
$\leqq$ 69				151	55.9
$\geqq$ 70				119	44.1
Gender	270				
Male				96	35.6
Female				174	64.4
BMI (kg/m^2)	270	24.0	2.8		
< 25				173	64.1
$\geqq$ 25				97	35.9
LDLc (mg/dl)	267	126.2	29.1		
< 140 (3.6 mmol/L)				183	68.5
$\geqq$ 140				84	31.5
TG (mg/dl)	267	106.9	47.3		
< 150 (1.7 mmol/L)				229	85.8
$\geqq$ 150				38	14.2
HbA1c (%)	267	5.32	0.84		
$\leqq$ 5.8				231	86.5
> 5.8				36	13.5
baPWV(cm/sec)	256	1670.2	362.8		
$\leqq$ 1400				65	25.4
> 1400				191	74.6
OSI	245	2.41	0.27		
$\leqq$ 2.4				131	53.5
> 2.4				114	46.5
History of LBP	257				
Yes				190	73.9
No				67	26.1
Current Smoking	261				
Yes				29	11.1
No				232	88.9
Current Drinking	262				
Yes				94	35.9
No				168	64.1
Occupational Lifting	245				
Yes				36	14.7
No				209	85.3
Occupational Driving	245				
Yes				15	6.1
No				230	93.9
Sports	242				
Yes				34	14.1
No				208	85.9

N = the number of subjects from which were able to get data; SD = standard deviation;
BMI = body mass index; LDLc = low-density lipoprotein cholesterol; TG = triglyceride; HbA$_{1c}$ = glycosylated haemoglobin;
baPWV = brachial-ankle pulse wave velocity; OSI = osteo sono-assessment index;
History of LBP = the experience of low back pain during lifetime; Occupational Lifting = the habit of lifting weights of more than 10 kg for more than about one third of their working hours; Occupational Driving = the participants who have worked as occupational drivers; Sports = the experience that the subjects have participated in a sporting activity more than 3 times per week for more than 5 years.

Table 3

Univariate Analysis for Disc Degeneration at Each Disc Level

	Variables	Age ≧ 70	Female	BMI ≧ 25	LDLc ≧ 140	TG ≧ 150	HbA$_{1c}$ > 5.8	baPWV > 1400
L1/2	OR	2.20*	0.70	1.47	0.95	1.10	1.34	1.88*
	P Value	0.002	0.170	0.136	0.844	0.795	0.419	0.031
L2/3	OR	2.68*	1.08	1.81*	1.25	1.06	1.66	1.76†
	P Value	<0.001	0.765	0.025	0.404	0.879	0.187	0.050
L3/4	OR	2.13*	1.26	2.11*	0.73	1.24	1.70	1.38
	P Value	0.003	0.361	0.005	0.239	0.556	0.163	0.265
L4/5	OR	1.90*	1.28	1.45	1.94*	1.73	1.89	1.51
	P Value	0.016	0.364	0.180	0.025	0.173	0.128	0.159
L5/S1	OR	1.38	1.43	1.96*	1.87*	1.31	1.35	1.27
	P Value	0.194	0.159	0.011	0.023	0.460	0.417	0.410

* P < 0.05, † P < 0.1. OR = odds ratio.
Age (years); BMI = body mass index (kg/m^2); LDLc = low-density lipoprotein cholesterol (mg/dl);
TG = triglyceride (mg/dl); HbA$_{1c}$ = glycosylated haemoglobin (%);
baPWV = brachial-ankle pulse wave velocity (cm/sec); OSI = osteo sono-assessment index;
History of LBP = the participants who have experienced low back pain during lifetime;
Occupational Lifting = the participants who have been engaged in lifting weights of more than 10 kg for more than about one third of their working hours;
Occupational Driving = the participants who have worked as occupational drivers;
Sports = the participants who have participated in a sporting activity more than 3 times per week for more than 5 years.

Table 3

Continued

Variables	OSI > 2.4	History of LBP	Current Smoking	Current Drinking	Occupational Lifting	Driving	Sports
L1/2 OR	1.00	1.14	1.39	1.11	3.15*	1.03	0.91
P Value	0.985	0.652	0.406	0.681	0.004	0.958	0.793
L2/3 OR	0.66	1.40	1.70	1.14	1.91	1.01	0.85
P Value	0.111	0.251	0.207	0.630	0.101	0.989	0.658
L3/4 OR	0.71	0.95	1.39	0.88	1.34	0.46	0.81
P Value	0.188	0.856	0.424	0.621	0.435	0.146	0.567
L4/5 OR	0.78	1.14	0.98	0.99	2.22†	1.36	1.04
P Value	0.353	0.669	0.963	0.985	0.067	0.610	0.925
L5/S1 OR	0.64†	0.82	1.09	0.74	1.48	0.44	3.18*
P Value	0.087	0.495	0.825	0.246	0.298	0.127	0.007

The reference group for the variable "Age $\geqq$ 70" is the group "Age $\leqq$ 69." For "Female," "Male."
For "BMI $\geqq$ 25," " BMI $<$ 25." For "LDLc $\geqq$ 140," "LDLc $<$ 140." For "TG $\geqq$ 150," "TG $<$ 150."
For "HbA1c $>$ 5.8," "HbA1c $\leqq$ 5.8." For "baPWV $>$ 1400," "baPWV $\leqq$ 1400." For "OSI $>$ 2.4," "OSI $\leqq$ 2.4."
For "History of LBP," "No History of LBP." For "Current Smoking," "No Current Smoking." For "Current Drinking," "No Current Drinking." For "Occupational Lifting," "No Occupational Lifting." For "Occupational Driving," "No Occupational Driving." For "Sports," "No Sports."

Table 4

Multivariate Analysis for Disc Degeneration at Each Disc Level

	Variables	Age ≧ 70	Female	BMI ≧ 25	LDLc ≧ 140	baPWV > 1400	OSI > 2.4	Occup. Lifting	Sports
L1/2	OR	2.14*	0.72	1.46	1.13	1.22	1.00	4.25*	0.94
	95%CI	1.15-3.99	0.36-1.45	0.78-2.77	0.60-2.13	0.60-2.48	0.52-1.92	1.60-13.48	0.39-2.25
	P Value	0.016	0.362	0.242	0.714	0.586	0.989	0.007	0.886
L2/3	OR	3.56*	0.74	2.98*	1.41	0.91	0.54	1.74	1.11
	95%CI	1.86-7.03	0.35-1.54	1.52-6.05	0.73-2.77	0.44-1.85	0.27-1.05	0.65-5.27	0.45-2.82
	P Value	<0.001	0.418	0.002	0.308	0.804	0.072	0.291	0.819
L3/4	OR	2.84*	1.42	3.58*	0.72	0.79	0.57	1.35	0.90
	95%CI	1.50-5.50	0.69-2.95	1.85-7.21	0.37-1.39	0.39-1.59	0.29-1.10	0.54-3.56	0.37-2.18
	P Value	0.002	0.335	<0.001	0.332	0.513	0.095	0.533	0.809
L4/5	OR	3.05*	2.05	2.32*	2.65*	1.12	0.99	1.66	1.13
	95%CI	1.55-6.16	0.99-4.32	1.18-4.72	1.33-5.52	0.54-2.30	0.50-1.98	0.61-5.05	0.47-2.84
	P Value	0.002	0.056	0.017	0.007	0.755	0.982	0.339	0.784
L5/S1	OR	1.24	1.64	3.34*	1.65	0.93	0.55	1.84	3.36*
	95%CI	0.65-2.37	0.80-3.39	1.70-6.81	0.85-3.24	0.45-1.93	0.28-1.08	0.72-5.19	1.31-9.90
	P Value	0.519	0.178	<0.001	0.140	0.853	0.086	0.220	0.017

*$P < 0.05$. OR = odds ratio; 95%CI = 95% confidence interval.

Age (years); BMI = body mass index (kg/m^2); LDLc = low-density lipoprotein cholesterol (mg/dl);

baPWV = brachial-ankle pulse wave velocity (cm/sec); OSI = osteo sono-assessment index;

Occup. Lifting = the participants who have been engaged in lifting weights of more than 10 kg for more than about one third of their working hours;

Sports = the participants who have participated in a sporting activity more than 3 times per week for more than 5 years.

The reference group for the variable "Age ≧ 70" is the group "Age ≦ 69." For "Female," "Male."

For "BMI ≧ 25," " BMI < 25." For "LDLc ≧ 140," "LDLc < 140." For "baPWV > 1400," "baPWV ≦ 1400."

For "OSI > 2.4," "OSI ≦ 2.4." For "Occupational Lifting," "No Occupational Lifting." For "Sports," "No Sports."