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Abstract

**Comparison of the Difference of Weight-bearing Distribution
Between Subjects With Low Back Pain
and Healthy Subjects**

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The purpose of this study was to compare the differences of weight-bearing distribution between subjects with low back pain and healthy subjects. Fifty-one subjects (22 men, 29 women; mean age = 42.9 years) with low back pain and 31 healthy subjects (11 men, 20 women; mean age = 35.4 years) were evaluated. The weight-bearing distribution was measured by two commercial scales during comfortable standing. The difference of weight-bearing distribution between right and left side was calculated for each subject. The differences of weight-bearing distribution in subjects with low back pain and healthy subjects were 6.0 kg and 4.5 kg, respectively. However, there were no significant differences in the weight-bearing distribution between subjects with low back pain and healthy subjects.

Key Words: Low back pain; Weight-bearing distribution.

I. 70 80% 1 2
,
80%
(Grabiner, 1990).
가 , , 가
(Anderson, 1981).
, .
(, 1987).
,
가 (, 1998; ,
1985; Frymoyer , 1985).
,
가 (

, 1986).

가

가

가

가

(Alexander

LaPier, 1998).

가

80%

가 3
1988),

3
(1986)

(Cailliet, 가
3

17.7%

, 3

1

가 82.3%

1.

3 6

31 82

51 ,

7

가

(, 1990).

가

가

(, 1985).

2.

(, 1992)

가

Oswestry

가

가

. Gill Callaghan (1998)

, VAS (Visual Analog Scale)

(0 , 10) 가가

, Oswestry

가

가
10가
Oswestry 가 , 6 , 0 (가
2) 5 (가
가) 가 . 10
0 50
(
% / × 5) × 100
() , Model 1703) 2 % 가
, 가
가 . 10
가
가 가
가

3. 3.

SPSS/Win (Version 8.0)

Oswestry 가 (descriptive)
가 (crosstab) t-test

1.

			² t	p
(%)	22(43.1)	11(35.5)		
(%)	29(56.9)	20(64.5)	.470	.493
(%)	51(62.2)	31(37.8)		
	42.92 ± 13.88	35.39 ± 13.79	2.389	.019
	162.39 ± 7.67	162.94 ± 7.92	-.307	.759
	60.83 ± 9.13	50.60 ± 7.07	1.162	.249

(VAS) Oswestry (p>.05),
t-test . (p<.05).
.05 .

2.

III.

1. 가 30 (58.8%) 가
, 12 (54.5%), 가 18
(62.1%) , (29.4%) .
51 (62.2%) ,
가 22 (43.1%), 29 (56.9%) ,
42.9 , 162.4 (p>.05).
cm, 60.8 kg .
31 가 11 (35.5 가 45 (88.2%)
(11.8 %)
, 20 (64.5%) ,
35.4 , 162.9 cm , 가 25 (49.0%)
58.6 kg (1). 가
(22.7%)가,

2. : (%)

			²	p
12(54.5)	18(62.1)	30(58.8)		
8(36.4)	7(24.1)	15(29.4)		
1(4.5)	.	1(2.0)	6.427	.169
1(4.5)	.	1(2.0)		
.	4(13.8)	4(7.8)		
3(13.6)	3(10.3)	6(11.8)		
19(86.4)	26(89.7)	45(88.2)	.131	.178
5(22.7)	3(10.3)	8(15.7)		
3(13.6)	7(24.1)	10(19.6)		
10(45.5)	15(51.7)	25(49.0)	2.180	.536
4(18.2)	4(13.8)	8(15.7)		
4(18.2)	6(20.7)	10(19.6)		
11(50.0)	18(62.1)	29(56.9)	1.490	.475
7(31.8)	5(17.2)	12(23.5)		
22(43.1)	29(56.9)	51(100.0)		

4.

				t	p
(VAS*)	6.68±1.55	7.79±.86	7.31±1.32	-3.019	.005
Oswestry#					
1.	1.86±1.81	1.93±1.79	1.90±1.78	-.133	.895
2.	1.23±1.15	1.34±.94	1.29±1.03	-.402	.689
3.	2.00±1.15	2.48±1.30	2.27±1.25	-1.378	.174
4.	1.23±1.11	1.66±1.40	1.47±1.29	-1.219	.229
5.	2.14±.99	2.00±1.28	2.06±1.16	-.414	.681
6.	1.59±1.01	2.10±1.26	1.88±1.18	-1.562	.125
7.	.73±1.12	1.07±1.58	.92±1.40	-.862	.393
8.	1.07±.96	1.08±.90	1.07±.92	-.046	.964
9.	1.95±.79	2.48±1.35	2.25±1.16	-1.750	.087
10.	1.27±1.03	1.97±1.61	1.67±1.42	-1.863	.069
(%)	41.23±13.74	47.78±16.88	44.97±15.80	-1.479	.147

* Visual Analog Scale : 0 , 10

Oswestry 가 : 0 , 5 .

1992). (, 1 step 가
 , 3 4 ,
 1987; , 1991; , 1992;
 , 1992).

가 , Alexander LaPier(1998)
 15 15

가 (, 1967).
 (1992)

가 , 4 , 가
 0 49% ,
 50 59% .
 1 step 1 step VAS

1 step 6 8 ,

6.038 ± 6.318 kg
 4.526 ± 3.827 kg 1.5 kg
 (p > .05).

6 kg 가
 4.5 kg

가
 (p > .05).

4. VAS 가
 가

(p < .01),
 (Oswestery 가)
 가
 가
 (p > .05). 가

82

VAS
 Oswestery
 (p > .05). 가

1. 82 51
 31
 가 (p > .05). 1992;13(2):93-102.
 (p < .05).

2. 가 58.8% 가
 (p > .05). 1985;6(1):1-6.
 가 45 1998;4(1):71-82.
 (88.2%) 가 25 (49.0%) 1987;22(3):707-716.
 가 가
 (p > .05). 가
 80.4%가 417. 1992;16(4):407-
 가 29 (56.9%) 1985;20:
 (p > .05). 445-453.

3.

- . 1986;285- 288.
가
. 1990;14(2):324-328.
. 1986;29(7):43-50.
. 1991;27(3):403-408.
. 1991:1- 29.
. 1987:689.
. 1995;2(4):79- 83.
. 1992;27(3):658- 669.
. 1967;10(10):31- 34.
. 1992;27(4):963- 969.
Alexander KM, TLK LaPier. Difference in static balance and weight distribution between normal subjects and subjects with chronic unilateral low back pain. JOSPT. 1998;28(6):378- 383.
Anderson GBJ. Epidemiologic aspects on low back pain in industry. Spine. 1981; 6(53):163- 168.
Cailliet R. Low Back Pain Syndrome. 4th Philadelphia, F.A. Davis Co., 1988:140- 143.
Deyo RA. Conservative therapy for low back pain. JAMA. 1983;250:1057- 1062.
Frymoyer JW, Rosea J, Pope MH. Psychologic Factors in Low Back pain Disability, Clin Ortho Related Res. 1985; 195:178- 184.
Gill KP, Callaghan MJ. The measurement of lumbar proprioception in individuals with and without low back pain. Spine. 1998; 23(3):371- 377.
Grabiner MD, Jeziorowski, Diveker AD. Isokinetic measurements of trunk extension and flexion performance collected with the biodex clinical data station. J Orthop Sports Phys Ther. 1990;11:590-598.
Hall H. Back school can overview with reference to the canadian Back Education Units. Clin Orthop. 1983;179:10- 17.
Hides JA, Richardson CA, Jull GA. Multifidus muscle recovery is not automatic after resolution of acute first episode low back pain. Spine. 1996;23(23):2763- 2769.