

가

Evaluation of the glove designs applying length change in hand surface by hand motion

	*	**	**	**	***	**	***
*			, **			, ***	

**Abstract**

가 .  
가 , 가  
( )가 가 . ( , (1999) ).  
) 가 , ( , 1993). 가  
, 가 가 ( ( , 2003; Thomas, 1991) )  
) .  
가 24 가  
) pegboard 가  
( , 가  
( , 가 )  
. 가  
가 .  
가  
( Banks, 1979; BenseL, 1993; Bradely, 1969;  
Muralidhar et al., 1999; Nelson and Mital, 1995),  
( Bradely, 1969), ( Bishu and  
Kim, 1995; Fleming et al., 1997; Mital et al., 1994;  
Muralidhar et al., 1999; Shih et al., 2001; Tsalousidis  
and Freivalds, 1998), ( Adams, 1988),  
( Bellingar and Slocum, 1993)  
가  
가  
가  
가  
( Mital et al., 1994; Shih et al.,  
2001).  
( , )  
( : , , , )  
, , , , 가  
, 가 ( ,  
) 가  
가 24  
) ( ,  
) pegboard 가  
, 가  
가

1.

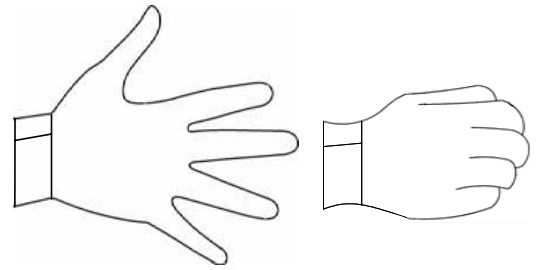
(Muralidhar et al., 1999).

가

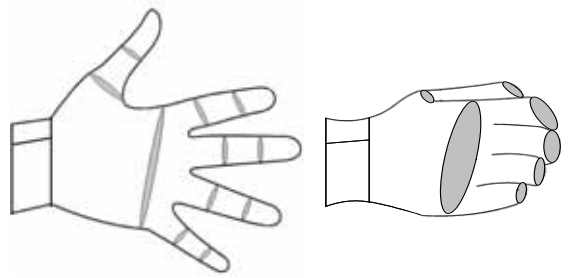
2. 가

2.1

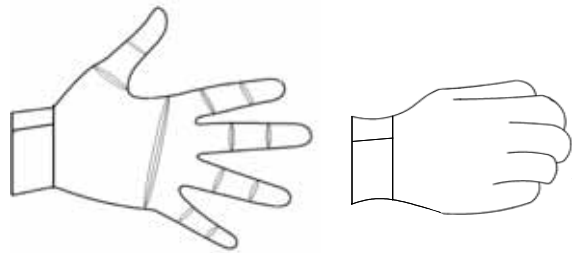
가  
 , 가  
 가 ( )  
 가 ( 1 )  
 ) 가 ( )  
 , 가  
 ( )  
 ( 100% ) 가  
 ( )가  
 가 (1)  
 가 (2)  
 ( 1 )  
 = ×  
 (1)  
 =  
 (2)



(a)



(b)



(c)

1

D1  
 가  
 D2, D3, D4, D5  
 가  
 D2~D5  
 ] 가 [ ×  
 가  
 ( 1 )  
 US Army data  
 50%ile  
 가

1. (US Army data 50%ile )\*

Digit	(cm)	(cm)	
D1	7.0	0.12	0.8
D2	7.5	0.18	1.4
D3	8.4	0.19	1.6
D4	7.9	0.22	1.7
D5	6.5	0.26	1.7
D1	6.8	0.16	1.1
D2	11.0	0.12	1.6
D3	11.1	0.14	1.6
D4	10.6	0.14	
D5	9.5	0.13	

\*:

2.2

(18.9~19.5 cm)  
 (20.8~21.4 cm) 20~29  
 24  
 ( , 1997)  
 , US Army data [50%ile -  
 0.6cm, 50%ile] 가 .  
 2  
 가 .

2.

	23.6	2.6
	176.8 cm	4.11 cm
	71.0 Kgf	5.99 Kgf
	19.2 cm	0.19 cm
	21.0 cm	0.19 cm

2.3 가

가 ( ,  
 ) pegboard  
 3 / 가  
 NK Digit-Grip  
 device Model 1030  
 가 ( ,  
 ) Borg CR-10 scale  
 가 가 .  
 pegboard  
 ,  
 .  
 가  
 . 가 visual analog  
 scale Borg CR-10 scale(Borg, 1998)  
 .0 가  
 가 ( /  
 ) ,10  
 가 ( /  
 )

3. 가

	가	
	Pegboard	

2.4

pegboard . Pegboard  
 17.3cm×15cm 2.7cm 가  
 30 (6×5)  
 0.4cm 7.7 cm  
 30  
 pegboard 71 cm 가 .

Hoffmann and

Halliday (1997)가  
 ,  
 90° 가  
 5~10cm 가  
 ( : 19.2×18cm, : 1cm)가  
 가 .  
 , 가  
 30  
 가  
 pegboard  
 ,  
 . 가  
 , pegboard  
 가  
 8 ( : 2 , : 1 ,  
 : 3 , : 2 ).  
 가  
 pegboard .  
 ,  
 . pegboard  
 2

가  
Grip device Model 1030  
NK Digit-Grip device Model 1030 ±100 Kgf  
가 0.04Kgf ±1%  
가 Hallbeck and  
McMullin (1993)  
가  
90°  
가 DIGIT-grip( : 4cm)  
가 DIGIT-grip  
(hand dominance),  
(Jung and Hallbeck, 2002; Hallbeck and McMullin,  
1993). 20

가 5  
DIGIT-grip 가 1 3  
Caldwell et  
al.(1974)  
grip 1 DIGIT- 3.  
120 4 가 가 4  
0.05). 가 가 (α =  
3~4 가 가 (가 3)  
45~120 (Fennigkoh et al., 1999; Hallbeck and McMullin, 1993; Jung and Hallbeck, 2002; Tsalousidis and Freivalds, 1998).  
가 2 가  
가

2.5

가  
가  
가 가 가  
(, 1

가  
가 Latin square  
( pegboard  
가 pegboard  
Latin  
square  
가 가  
가  
가  
(semantic differential scale)

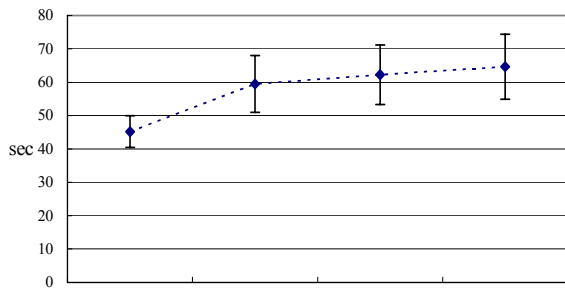
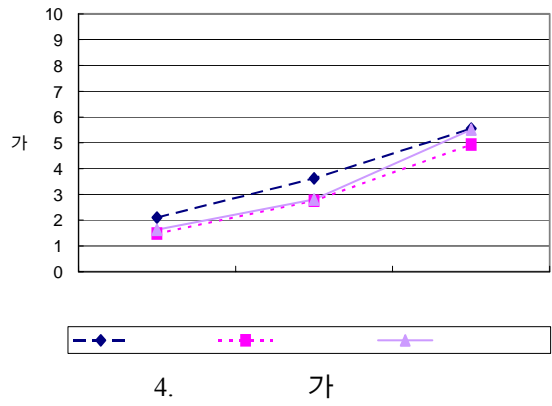
가  
3.  
가 가 4  
(α =  
가 가 )  
가 가 ( 가 3 )  
가 가  
가 2 가

4. 가

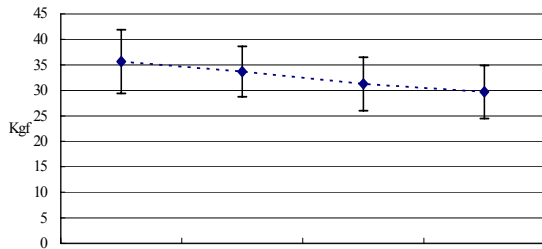
가	DF	SS	MS	F-value
	3	5466.875	1822.292	76.43*
	3	495.652	165.217	19.46*
	2	144.215	72.108	105.46*
	2	146.882	73.441	83.17*
	2	191.896	95.948	83.90*

\*: p < 0.05

가  
Newman-Keuls  
가  
( 5, 2~4 ). Pegboard  
가  
가 ( )  
가  
pegboard 가



2. Pegboard



3.

.5 가

가	<----->
Pegboard	_____
	_____
	_____
	_____
	_____

가 가  
( 6 ).  
가  
가

6. 가

(a) 가 \*

	○	○	○
	○		○
		○	○
			○

\* ○:

(b) 가 \*

	×	△	○
	○	○	×
	○	×	○
	○	○	×

\* ○: , △: , ×:

가

가  
( 7 )  
24 6

가 ( :3 , :2  
, :1 )가  
,5

7. 가

	○	○	○
	○		○
		○	○
			○

4.

( 가 )  
가

가  
가  
가  
pegboard  
59.5 62.3  
5.4%  
31.3Kgf 33.7Kgf  
10.8%  
가  
pegboard  
pegboard  
가  
가  
가  
가  
가  
pegboard  
가  
가  
100%

가 가

4. 가

( 가 )

24 가 가

( pegboard 가 )

( 가 )

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