



**UPM**  
UNIVERSITI PUTRA MALAYSIA  
BERILMU BERBAKTI

## **Effect of core strength training on C-level difficulty movements of Wushu routine athletes**

NCT number: 2021-323

Time: 8/21/2021

## Effect of core strength training on C-level difficulty movements of Wushu routine athletes

Dear Professor

Hello!

I am a doctoral student in Physical Education in UPM. This is an experimental research process on the impact of core strength training on the C- level difficulty of Competitive Wushu routines. The subjects were 18-22year old Wushu athletes. The data obtained from this survey are only for academic research. Therefore, investigators sincerely invite experts to score each stage of investigators experiment, help investigators do this experiment better. Thank you very much.

This paper designs the core strength training scheme based on the query and reference of relevant literature and the characteristics of C-level difficult movements of Wushu. The training plan of the experimental group includes three stages (weeks 1-3; weeks 4-9; and week 10-12). Each stage consists of different difficulty levels. The training program is divided into 6difficulty levels, and the specific training contents are as follows:

### Part I: Difficulty Level of Core Strength Training. (Table 1)

Table 1 Content of 6 difficulty levels

<b>6 difficulty levels</b>	<b>Content</b>	
<b>Static action under steady state</b>	Mainly to strengthen the muscle endurance and waist and abdomen strength of the body.	
<b>No load movement in steady state</b>	Mainly to strengthen the fast muscle strength and waist and abdomen	

	strength of the body.	
<b>Static action under unstable state</b>	Mainly to strengthen the muscle endurance of the body and the strength of the deep muscles of the waist and abdomen.	
<b>Movement to overcome its own resistance in an unstable state</b>	Mainly to strengthen the muscle explosive force and waist of the body in a dynamic state Abdominal control force.	
<b>Free strength exercise in unstable state</b>	Strengthen the muscle strength and coordination ability of the body in a dynamic state.	
<b>Core explosive power exercise under unstable conditions</b>	Mainly to strengthen the muscle speed and the explosive strength of the waist and abdomen in the dynamic process of the body.	

Expert score: your evaluation of the six difficulty levels of students' experiment is (the full score is 10 points: 10 points for very applicable, 9 points for more applicable, 8 points for basic applicable and 7 points for not applicable.):

- Very applicable (10 points)
- More applicable (9 points)
- Basically applicable (8 points)
- Not applicable (7 points)

Modification opinions of experts:

**Part II: Core Strength Training Plan. (Weeks 1-3; weeks 4-9; and weeks 10-12)**

(1) Basic stage of core strength training

Training time: 30 minutes three times a week for 1-3 weeks

Training content: static action in stable state, no-load movement in stable state and static action in unstable state

Number and times of training groups (Table 2)

Table 2 contents of core strength training in week 1-3 basic stage

Training Phase	Training Content	Time And Frequency
Preparation part (5 minutes)	Jogging	3 minutes 3×50m
	Neck movement (front, rear, left and right)	30S 4×8
	Shoulder movement	30S 4×8
	Waist movement	30S 4×8
	Lunge leg press	30S 4×8
Static action under steady state (12 minutes)	Flat brace	60S × 2 groups
	Single side support of flat support (left)	60S × 2 groups
	Single side support of flat support (right)	60S × 2 groups
	Reverse plate support	60S × 2 groups
	Side bridge elbow support (left)	60S × 2 groups
	Side bridge elbow support (right)	60S × 2 groups
No load movement in steady state (9 minutes)	Suspension leg lift	60S × 3 groups
	Drape knees and tuck in (left)	60S × 2 groups

	Drape, bend knees and tuck in (right)	60S × 2 groups
	Hanging upside down	60S × 2 groups
Static action under unstable state (4 minutes)	Lateral hip abduction (left)	60S × 2 groups
	Lateral hip abduction (right)	60S × 2 groups

Expert score: your evaluation of the content and structure of the students' experiment in the first stage is (the full score is 10 points, 10 points are very applicable, 9 points are more applicable, 8 points are basically applicable, and 7 points are not applicable.)

- Very applicable (10 points)  
 More applicable (9 points)  
 Basically applicable (8 points)  
 Not applicable (7 points)

Modification opinions of experts:

## (2) Core strength training consolidation stage

Training time: 30 minutes three times a week for 4-9 weeks

Training content: Static action in unstable state, movement to overcome self-resistance in unstable state, free force exercise in unstable state.

Number and times of training groups (Table 3)

Table 3 contents of core strength training in week 4-9 basic stage

Training Phase	Training Content	Time	And Frequency
Preparation part (6 minutes)	Jogging	4 minutes	4×50m
	Neck movement (front, rear, left and right)	30S	4×8
	Shoulder movement	30S	4×8
	Waist movement	30S	4×8

	Lunge leg press	30S 4×8
Static action under unstable state (6 minutes)	Lateral hip abduction (left)	60S × 3 groups
	Lateral hip abduction (right)	60S × 3 groups
Movement to overcome its own resistance in an unstable state (9 minutes)	Push down leg arm flat hip (left)	60S × 3 groups
	Push down leg arm flat hip (right)	60S × 3 groups
	Upside down abdominal retraction (bilateral)	60S × 3 groups
Free strength exercise in unstable state (9 minutes)	Prone mass body	60S × 3 groups
	Prone push-pull	60S × 3 groups
	Swiss Ball push up	60S × 3 groups

Expert score: your evaluation of the content and structure of the students' experiment in the second stage is (the full score is 10 points, 10 points are very applicable, 9 points are more applicable, 8 points are basically applicable, and 7 points are not applicable.)

- Very applicable (10 points)
- More applicable (9 points)
- Basically applicable (8 points)
- Not applicable (7 points)

Modification opinions of experts:

### (3) Core strength training improvement stage

Training time: 30 minutes three times a week for 10-12 weeks

Training contents: free strength exercise under unstable conditions, core explosive force exercise under unstable conditions, and core

special strength exercise under unstable conditions.

Number and times of training groups (Table 4)

Table 4 contents of core strength training in week 4-9 basic stage

<b>Training Phase</b>	<b>Training Content</b>	<b>Time</b>	<b>And Frequency</b>
Preparation part (4 minutes)	Jogging	2 minutes	2×50m
	Neck movement (front, rear, left and right)	30S	4×8
	Shoulder movement	30S	4×8
	Waist movement	30S	4×8
	Lunge leg press	30S	4×8
Free strength exercise in unstable state (10 minutes)	Flat brace (two points)	60S	× 2groups
	Prone mass body	60S	×2groups
	Prone push-pull	60S	×2 groups
	Swiss Ball push up	60S	× 4 groups
No load movement in steady state (8 minutes)	Suspension leg lift	60S	× 2 groups
	Drape knees and tuck in (left)	60S	× 2 groups
	Drape, bend knees and tuck in (right)	60S	× 2 groups
	Hanging upside down	60S	× 2groups
Core explosive force exercise under non-stability (8minutes)	Lie on your back and bend your knees at both ends	60S	× 2 groups

	Plate support knee lift	60S × 2 groups
	Rotation of stretch belt (both sides)	60S × 2 groups
	Lie on your back and throw the ball	60S × 2 groups

Expert score: your evaluation of the content and structure of the students' experiment in the second stage is (the full score is 10 points, 10 points are very applicable, 9 points are more applicable, 8 points are basically applicable, and 7 points are not applicable.)

- Very applicable (10 points)
- More applicable (9 points)
- Basically applicable (8 points)
- Not applicable (7 points)

Modification opinions of experts: