

노인들의 운동

Exercise in the Elderly

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Abstracts

The health benefits from exercise, particularly in a sedentary society, have gained a compelling body of evidence in the past decade. Younger adults have a considerably bigger physiologic reserve, both in terms of muscular strength and cardiovascular capacity. The elderly, on the other hand, experience a progressive decline in many physiologic functions, including muscular strength and cardiovascular capacity. Habitual exercise, by improving strength and maximum aerobic capacity (VO_{2max}), can increase the physiologic reserve as well as enhance well-being by reducing fatigue associated with activities of daily living. Mostly importantly, it can delay the development of disability and thereby prolong active life expectancy. In addition to habitual exercise for conditioning, there is increasing evidence that resistance exercise to improve muscle strength along with tailored exercise therapies, including those designed to improve balance or to rehabilitate persons with various chronic diseases and acute ailments, may be of special value for the elderly. There is growing evidence that exercise programs offer measurable health benefits, ranging from increased life expectancy to mitigation of adverse sequelae from aging and from many chronic diseases. The greatest challenges in achieving health benefits from exercise are the limited access to effective programs and poor compliance.

Keywords : Elderly person; Exercise; Disability; Life expectancy

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858

HDL

가 .

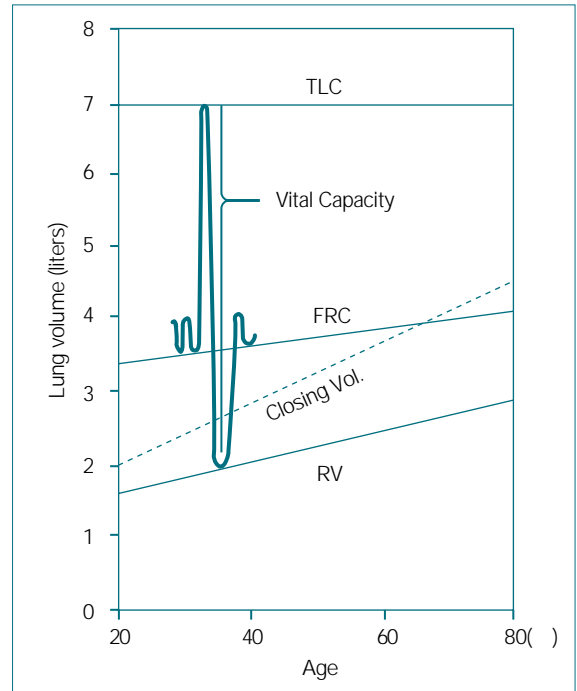
가

(3).

가 .

가

(body image) 가



TLC = total lung capacity
FRC = functional residual capacity
RV = residual volume

1. 가 ()

1.

가

가 (1).

(Flow - Volume curve) 50%

(V50) 25%(V25)

V50/V25 가 . ,

1

가

(end - dias-

가

20% tolic volume)

가 , Frank - Starling

가 가

(3).

1 가 (8).

가

가

2.

(atrial tachycardia),

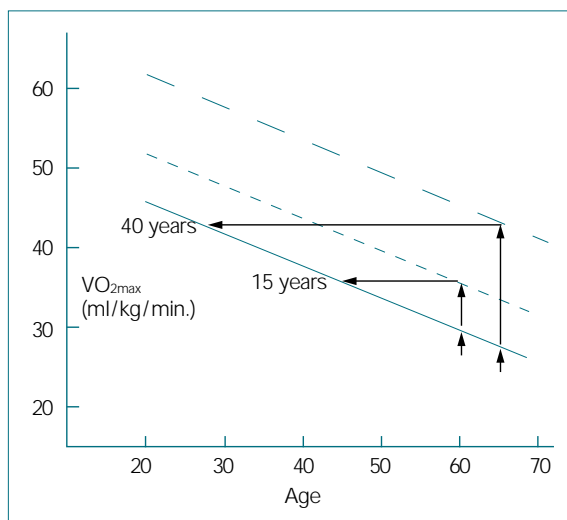
(atri-

가

al fibrillation)

가 가 ,

,



2.

가

(maximal oxygen consumption,

VO_{2max})

(2)(6, 7, 11, 13, 14).

(baroreceptor)

(reflex tachycardia)

.

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가

.

Barthel

(Barthel index), PULSES

(PULSES pro-

가

가

가

1. 가

가

가 , 가

가 .

,

가,

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가

가

가

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가

가

,

(case - finding and screen-

ing)

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가

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가

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가

(Activities of Daily Living, ADL).

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,

.

file), Katz (Katz index) FIM(functional independence measure) (1, 4).

가 .
가가 ,
가 가
(9).

2. 가

1) 가

가 가 .

가 , , ,
가 , ,
가 가 1
가 .

3)

力) 가 (握

가 . (脚筋力) (背筋

力) 가 가 .

가

(3).

(筋持久力)

treadmill

(

VO₂

max. MET) 12 ,

(anaerobic threshold, AT)

2)

(2).

1.
,
X - Ray
,
1
Hemoglobin, hematocrit,
cholesterol, GOT, GPT, alkaline phosphatase,
A/G,
, PSP
, CMI

3.

가 class A, B, 가가 .
C, D (3).

- Class A : , 1)
70 ~ 80% , 가 pH
, 가 steady state 가

- Class B : , 가 , pH
5

- Class C : 2) (rhythmical dynamic)

가
가 가
, class C A, B D

- Class D : 가 3)

4.

가 6.
가 1, 2, 3, 4, 5

, 가
, (conditioning),

5.

가 .

2.	
70%	50%
80%	60%

1 4Kcal
50 , 38 (3).

3)
1 가

1 가 1
가

3 가 .
5~6

1) 1 3 가가 .

() 가 4)
() 가
가 . 가

2 . 가
가 .

,
, , , ,
.

= 220 - ()
= 210 - () × 0.8
5) (Conditioning)

2) 50% , 60%,
70% 2 가 .

× Kcal

1 200Kcal , 1 150Kcal .

- : , (2).
 - : 가 (Endurance Activities)
 - : 10
 - 가 가 . , ,
 - : 가 가
- 6) 가

Scale Borg Rate of Perceived Exertion talk test가

가 (220 -)

(:)

(Strength Activities)

가

7. 가 10 12 2 3

- 1) 가 가 (Multidimensional Activity Program)

가 .

(Flexibility Activities)

가 가 (2).

가 .

1 2 .

(Social Support)

가 가 .

가 ,

가가 .

가 10 30 .

(Self - efficacy)

가 .

(Balance Activities)

가 가 . 가 .

가 가 , 가 .

(Active Choices)

가 (: .

(: 가, 가, .

) . 가) 가 .

(Health Contracts)

. Tai chi

가 . 가 ,

가 .

2)

가 , . , 가 (:)
가 cardiac exercise program
(Perceived Safety) 1/60,000 ,
가 treadmill walking 가
4 ~ 20%
(Regular Performance Feedback) . 4 ~ 7%
1 6 METS
가 , 가 가 ,
가 가 가
(Positive Reinforcement)
가 가 , , ,
가 2가
2)
8.
가 가
가 , 가 ,
가 (2).
(<10)
1)
가 가
. U.S Preventive Service Task

Force

가

. 가

가 .

가 ,

가

가

가

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1. , . 2 가. . Ist

ed. : , 1997: 23 - 4

2. . .

. : , 2005: 6: 32 - 49

3. . . In: , 28 . . Ist

ed. : , 1998: 144 - 52

4. . 16 . . . :

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3)

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Peer Reviewer Commentary

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