

Physiotherapy의 실제

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1. Cardiopulmonary Physical Therapy

- <http://kacrpt.org/>

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Korean Academy of Cardiorespiratory Physical Therapy

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아이디 비밀번호 로그인 ID/PW 찾기

학회소개 교육프로그램 자격시험 학술지 학술대회 회원공간 마이페이지

대한심장호흡물리치료학회

국민의 건강증진과 삶의 질 향상을 위해 노력하고 있습니다.

소개 바로가기

학회뉴스

공지사항 **강좌관련 공지** 더보기 +

[2019.02.25] 재발의학과 물리치료사 모집(면허취득 예정자)
[2019.02.12] 2019년 경희 심조율파 연수강좌
[2019.02.01] 정회원에서 평생회원으로의 전환 안내
[2019.02.01] 정회원 가입안내드립니다.

연수교육 이수내역

연수교육 신청하기

자격시험 안내

주요행사일정

일	월	화	수	목	금	토
					1	2

온라인 논문투고 시스템

대한심장호흡물리치료 학회지

년도별, 권/호별 논문검색이 가능합니다.
더보기 +

90%

1. Cardiopulmonary Physical Therapy



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https://www.wcpt.org/ICCPRT

The image shows a screenshot of the World Confederation for Physical Therapy (WCPT) website, specifically the page for the International Confederation of Cardiorespiratory Physical Therapists (ICCrPT). The page is divided into several sections:

- Header:** Features the WCPT logo, the text "World Confederation for Physical Therapy", and a banner for "CONGRESS 2019 Geneva". There are also social media icons and a search bar.
- Navigation:** A horizontal menu with links for "ABOUT WCPT", "NEWS & EVENTS", "ACTIVITIES", "RESOURCES & INFO", "PUBLICATIONS", "CONGRESS", and "MY WCPT".
- Main Content Area:**
 - Left Column:** Includes a breadcrumb trail "Home > About WCPT > Subgroups", the title "International Confederation of Cardiorespiratory Physical Therapists (ICCrPT)", the ICCrPT logo with the tagline "Breathe | Pump | Function", and "Contact details" for The University of Notre Dame Australia (19 Mout Street, Fremantle, WA 6959, Australia). It also lists a web address (<http://www.cardioresp.physio>), an email address (info@cardioresp.physio), and a work telephone number.
 - Right Column:** Titled "SUBGROUP OF WCPT", it lists "Date of subgroup recognition 2011" and "RELATED PEOPLE" including "WCPT primary contact Shane Patman" and "President Shane Patman".
 - Bottom Right:** A "Welcome" message: "Welcome to the International Confederation of Cardio-respiratory Physical Therapists Website" followed by a list of links: "ABOUT US", "ICCrPT COMMITTEE", "STRATEGIC PLAN", "REGISTER OF EXPERTS", "MEMBERSHIP", "LOGIN", and "CONTACT". Below this is a "GENEVA CONGRESS 2019 CONTENT" section with a photo of a person at a computer keyboard.

http://www.cardiopt.org/

CARDIOVASCULAR & PULMONARY SECTION 800-765-7848 ext. 7102 cardiopt@apta.org
American Physical Therapy Association

HOME ABOUT US EDUCATION AWARDS/ELECTIONS RESOURCES CAREERS FAQ NEWS CONTACT

We are a section of
APTA
American Physical Therapy Association

The Section has a 40-year history of promotion and advancement of cardiovascular and pulmonary physical therapy practice, education and research. Our membership spans the United States as well as four other countries and reflects diverse practice settings, perspectives and experiences.

Evidence of our contributions to the physical therapy profession can be found in our leadership, our educational programs, our publications, our specialty certification but, most importantly, in the dedication and activism of our members!

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American Physical Therapy Association

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View the Official Journal of
the Cardiovascular & Pulmonary Section

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Evidence of our contributions to the physical therapy profession can be found in our leadership, our educational programs, our publications, our specialty certification but, most importantly, in the dedication and activism of our members!

1. Cardiopulmonary Physical Therapy

- Cardiopulmonary physical therapy was the first recognized clinical specialty within physical therapy in 1978.
- Swisher, Anne K., et al. "Cardiovascular and pulmonary physical therapy specialty practice: determining the current status." *Cardiopulmonary physical therapy journal* 19.1 (2008): 11.

1. Cardiopulmonary Physical Therapy

- Cardiopulmonary physical therapy is devoted to helping patients improve cardiovascular health and/or lung health.
- Cardiopulmonary PTs work in all sorts of physical therapy settings, including hospitals (inpatient), outpatient clinics (hospital based and private), and possibly even home health environments.

1. Cardiopulmonary Physical Therapy

- American Board of Physical Therapy Specialties (ABPTS) and the first specialty examination was administered in cardiopulmonary physical therapy in 1985.
- Cardiovascular and Pulmonary Specialty Council and reported to the American Board of Physical Therapy Specialties in the form of the Description of Specialist Practice: Cardiovascular and Pulmonary published in 2007.



2. Evidences

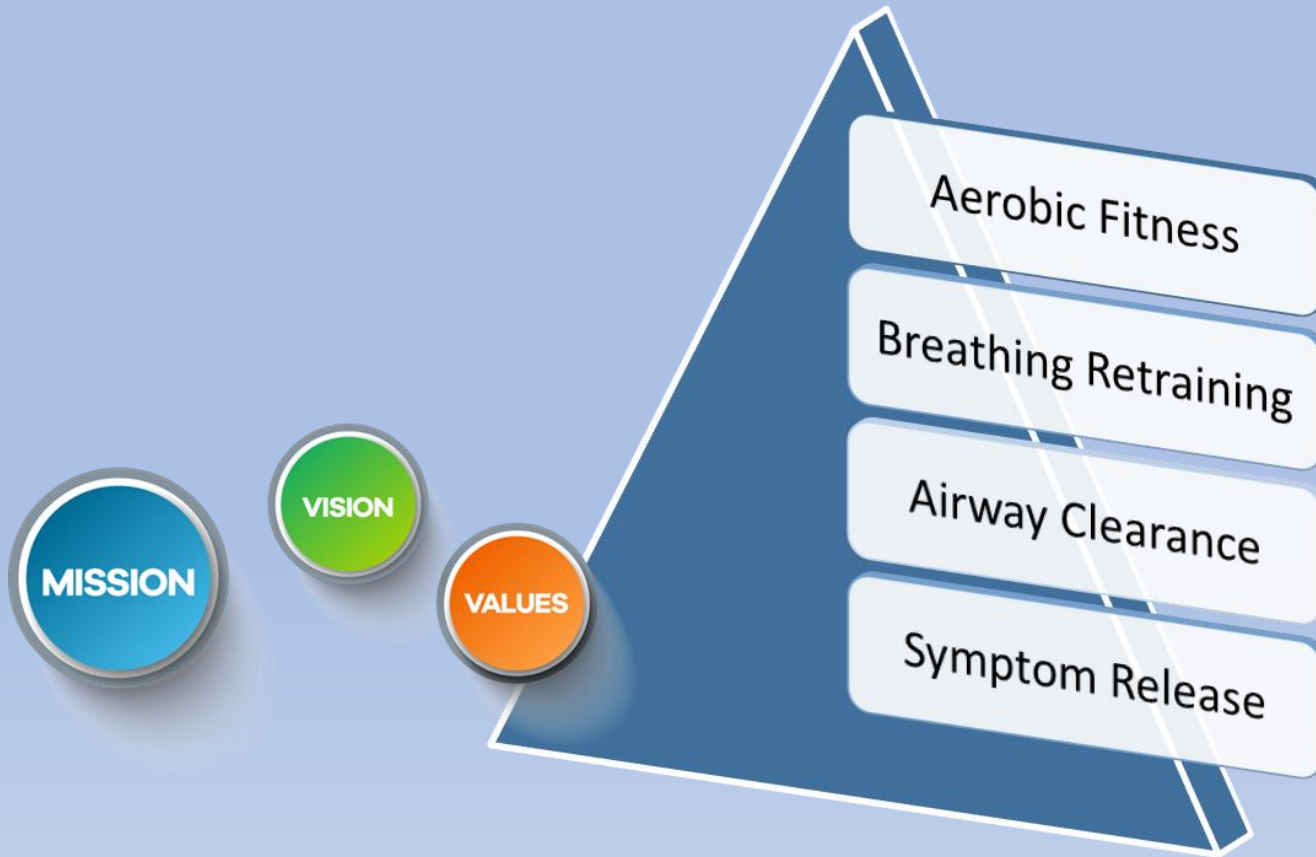
항목	evidence
운동능력의 개선	A
호흡곤란 감각 강도의 감소	A
건강 관련 QOL 개선	A
입원 횟수, 재원 일수의 감소	A
COPD에 동반하는 불안과 우울 감소	A
상지근력과 내구성 트레이닝은 팔의 기능을 개선한다	B
효과는 훈련기간 후에도 유지된다	B
생존율을 개선한다	B
호흡근 훈련은 유효함, 특히 전신근력운동과 병행하면 효과가 크다	C
심리사회적인 개입은 유용하다	C

2. Evidences

질환	호흡물리치료에 있어서 운동치료			ADL
	전신지구력훈련	근력훈련	컨디셔닝	
COPD	+++	+++	++	++
기관지천식	+++		+	+
기관지확장증	++	++	+	+
폐결핵우유증	++	++	++	++
신경근질환			++	+
사이질성 폐렴	++	+	++	++
수술전. 후 환자	+++	++	+++	+
기관지 절개환자	+	+	+	+

* 설명: 빈칸 = 근거 미비, + = 적음 고려. ++ = 적음 약한 근거, +++ = 적음, 강한 근거

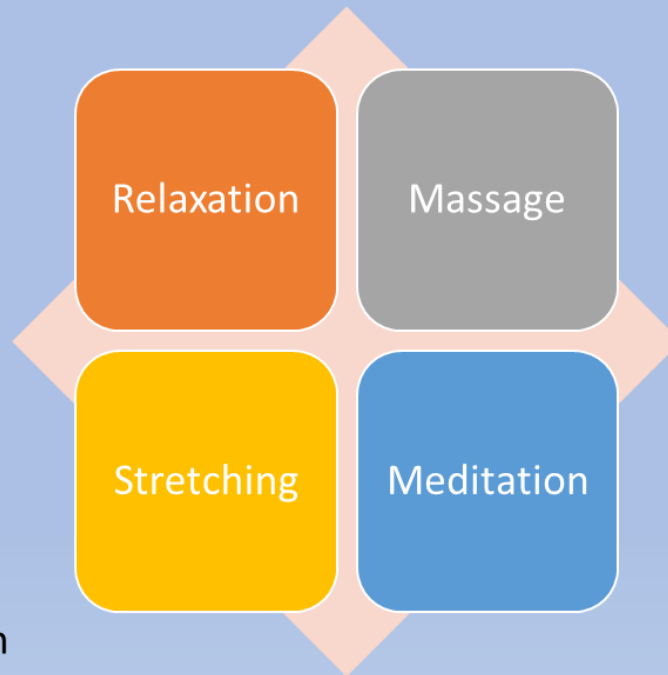
3. Service Scopes



1) Symptom Release

- Posture
- Rest
- Deep breathing

- Stiffness
- Hypertonicity
- Adhesion
- M-tendon Junction
- Trunk mobility



- Stiffness
- Hypertonicity
- N-M relation
- Myofilament activity

- Release distress
- Self-help group
- Mind control
- Life goal

1) Symptom Release

- 호흡보조근의 촉진과 마사지
- Positioning



2015년_Nagasaki 호흡재활센터



2) Airway Clearance

Manual Techniques

- Postural drainage
- Vibration
- Shaking
- Percussion



2) Airway Clearance

Vibration



Shaking



2) Airway Clearance

- Manual Hyperinflation + Assist Coughing
- Active Cycle of Breathing Techniques (ACBT)
- Autogenic Drainage
- Positive Pressure Expiratory Breathing



Acapella



Flutter

2) Airway Clearance

Manual Hyperinflation +

Assist Coughing



2) Airway Clearance

**Active Cycle of Breathing
Techniques (ACBT)**

Autogenic Drainage



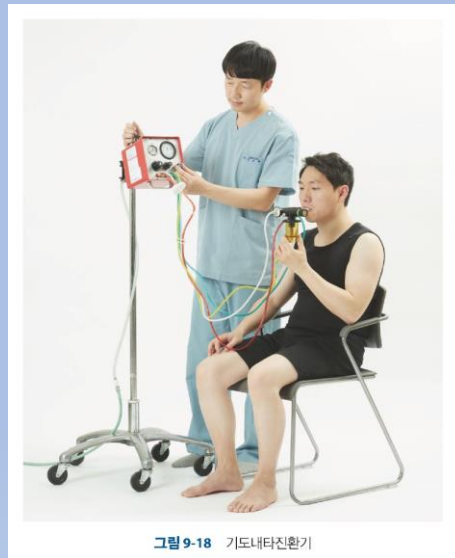
2) Airway Clearance

- ▣ Coughing
- ▣ Huff Coughing
- ▣ Assist Coughing
- ▣ Splint Coughing



2) Airway Clearance

▣ Therapeutic Devices



2) Airway Clearance

High Frequency Chest Wall Oscillation (HFCWO)

Cough Assist/Mechanical Insufflation-Exsufflation/Cough & Suction)



3) Breathing Retraining

■ Pursed Lips Breathing (PLB)



■ Diaphragmatic Breathing



3) Breathing Retraining

▷ 시행방법 : 코로 2초간 들이 마신 후 입술을 오무린 상태에서 천천히 5-6초간 내쉬는 방법

▷ 목적 :

- 호기말양압을 증가시켜 air trapping을 감소하여 날숨량을 증가
- 1회호흡량 증가
- 호흡수 감소(호흡빈도 감소는 에너지소모를 줄이는 효과)
- Acapella와 Flutter는 진동이 더해져 분비물이 중심기관지로 이동



Acapella



TheraPEP



Flutter

3) Breathing Retraining

■ Segmental Breathing

■ Lateral Costal Expansion Breathing



3) Breathing Retraining

■ Strengthen Inspirator

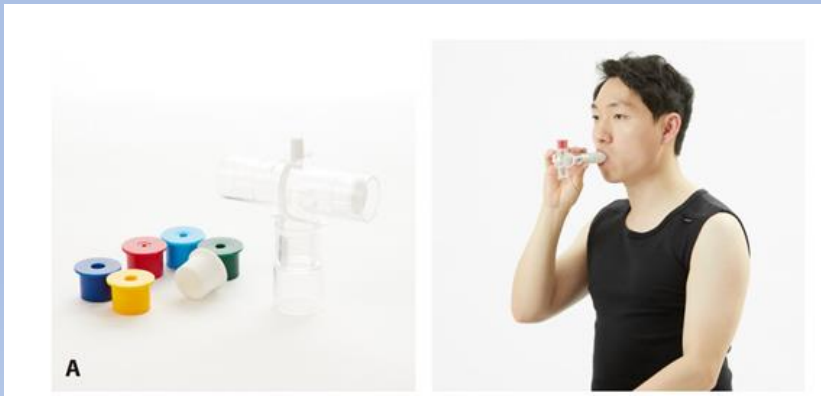
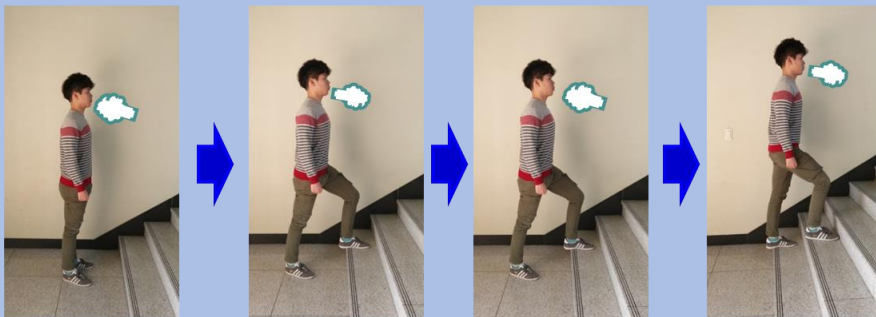


그림 9-26 들숨근운동 소도구(A. IMT, B. Threshold IMT, C. Coach IMT)
IMT, inspiratory muscle trainer

4) Aerobic Fitness

▣ Climbing Stairs (ADL)



- ▷ 계단 올라 갈 때 음기 시는 올라가지 않고, 뒷발에 체중을 실어 쉬고 호기 시만 올라간다
- ▷ 내려 갈 때는 평지보행과 같은 식으로 한다

▣ Lower extremity muscle



Physical activity improves physical function and exercise improves physical performance.*

*The Journals of Gerontology Series A: Biological Sciences and Medical Sciences, 2006

4) Aerobic Fitness

▣ 전신지구력 훈련

- ▷ F (빈도)
 - 3-5 day/week
 - > 2 day/week

- ▷ I (운동강도)
 - 저강도 부하 ($VO_2\max$ 40~60%)
 - 고강도 부하 ($VO_2\max$ 60~80%)

- ▷ T (운동시간)
 - 20-30분간

- ▷ T (운동의 종류)
 - treadmill



4. Assessment & Evaluation

검사 종류	신체검사 (시진, 촉진, 청진 타진)	증상평가 (호흡곤란, 피로감 등)	폐기능 검사 (기도 및 폐알량)
검사 목적	호흡의 패턴	삶의 질 평가	안정시 폐알량
	기도 공기 흐름	호흡곤란 정도 평가	기도 협착 유무
	폐포 내 공기 유무	만성폐쇄성폐질환 가능성	호흡근육의 근력 (MIP, MEP)

4. Assessment & Evaluation

• 필수항목

- ▷ 병력
- ▷ 신체검사(시진, 촉진, 청진, 타진)
- ▷ 방사선 검사
- ▷ 심전도
- ▷ 전혈구계산(CBC)DL평가
- ▷ 산소포화도(안정시, 보행시)
- ▷ 증상평가: 호흡곤란정도, 피로감등
- ▷ 운동능력평가(6MWT)
- ▷ 폐기능검사(Pulmonary Function Test: PFT)

• 부가항목

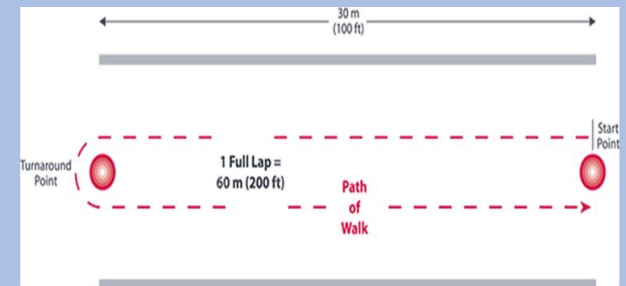
- ▷ 심폐운동부하검사, 셔틀보행검사
- ▷ 호흡근 근력검사(MIP, MEP)
- ▷ 사지근력평가
- ▷ ADL 평가
- ▷ QoL 평가
- ▷ 심리평가
- ▷ 영양평가
- ▷ 심장소음파, 울터검사등

4. Assessment & Evaluation

▣ 6 Minutes Walk Test (6MWT)

- 길이 10m의 평지에서 양끝에서 0.5m 안쪽에 표시용 콘을 놓고, 자신의 능력에 맞추어 보행하며, 6분동안 왕복거리를 측정

★ 증상이 나타나지 않게 안전하게 실시, 임상에서 유용



6 minute walk test : Normal Reference value

Men

$$6MWD = (7.57 \times \text{height}_{\text{cm}}) - (1.76 \times \text{weight}_{\text{kg}}) - (5.02 \times \text{age}) + 309 \text{ m}$$

Subtract 150 to get Lower limit of Normal

Women

$$6MWD = (2.11 \times \text{height}_{\text{cm}}) - (2.29 \times \text{weight}_{\text{kg}}) - (5.78 \times \text{age}) + 667 \text{ m}$$

Subtract 140 to get Lower limit of Normal

Modified from Enright et al. Am J Respir Crit Care Med 1998; 158: 1384.

4. Assessment & Evaluation

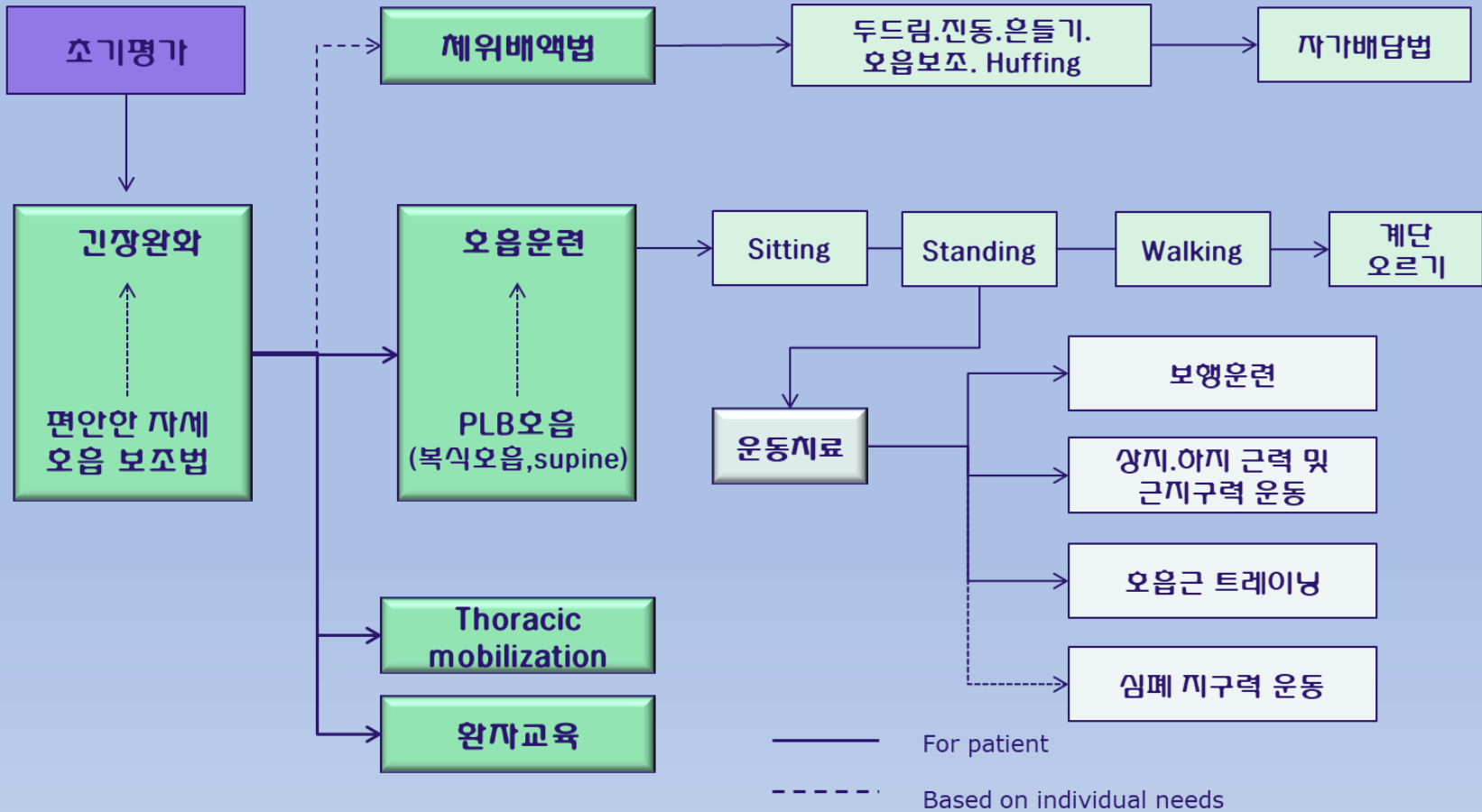
▣ Shuttle walking Test (SWT)

- 길이 10m의 평지에서 양끝에서 0.5m 안쪽에 표시용 콘을 놓고, CD에서 흘러나오는 일정 간격의 발신음에 맞추어 보행하며, 1분마다 속도가 증가하는 점증 부하 검사

★ 환자의 호흡계물리치료 후 운동능력 변화를 잘 반영

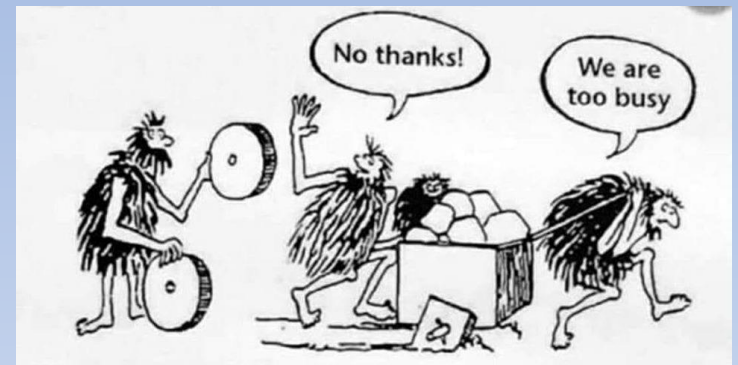


5. Clinical Workflow



6. Discussion

- Multidisciplinary Approach
- Cardiopulmonary Physical therapist
- Certified Cardiopulmonary Physical Specialty
- Leadership & Partnership



7. Conclusion

- Pulmonary rehabilitation is a multidisciplinary program of treatment for patients with respiratory impairments.*
- Cardiopulmonary physical therapy can improve physical function in patients with respiratory impairments.
- * Nici, Linda, et al. "American thoracic society/European respiratory society statement on pulmonary rehabilitation." American journal of respiratory and critical care medicine 173.12 (2006): 1390-1413.

감사합니다.

학회 로고



학회미션
“국민건강증진”

<http://www.kacrpt.org>

대한심장호흡물리치료학회