

**TRAINING OF PHYSIOTHERAPISTS AND DOCTORS IN HOSPITALS**
**物理治疗师和医生培训教程**
**PT PROTOCOL FOR CHEST THERAPY**
**胸科物理治疗标准操作规程**
**1. General information on chest therapy 有关胸科治疗的基本信息**
**1.1. Definition 定义**

Chest therapy uses exercises to help the patient getting pulmonary secretion out of the lungs. Such therapy also includes the use of medication and nebulizers that help the expectoration of secretions.

胸科治疗通过训练帮助患者把肺部分泌物排出肺外。这种治疗也包括药物和雾化器治疗以帮助分泌物的排出。

**1.2. Purposes 目的**

The system that allows the pulmonary secretion to get out of the lungs is stimulated by the air flux inside the respiratory system (the more air travels in and out the lungs, the better the expectoration system works).

呼吸系统内的空气流动刺激肺部分泌物排出肺外。进出肺的空气越多，分泌物排出系统工作越有效。

When a patient stays in bed or suffers from paralysis or weakness of the respiratory muscles, the air flux in the pulmonary system decreases because the patient only takes small breaths (he/she doesn't breath in much and he/she doesn't exhale completely). Because of that decrease of air flu, the expectoration system doesn't work as well as normally. The consequence is that the secretions tend to stay in the lungs where they can easily get infected, which will lead to lung infection (pneumonia).

卧床、瘫痪或呼吸肌肌力减弱的患者由于呼吸较浅（吸入空气少并且呼气不充分），肺部系统内的空气流量减少。。空气流量的减少导致分泌物排出系统就不能如常工作，分泌物容易滞留在肺内的易感染部位，导致肺部感染的发生（肺炎）。

The purpose of chest therapy will be to increase the air flux, through breathing exercises, in order to help the secretions to come out. Expectoration can also be helped using clapping and medicines.

胸科治疗的目的在于通过呼吸训练增加空气流量，帮助分泌物排出。胸壁拍打法和药物也能帮助分泌物排出。

**1.3. Prescription 处方**

All the patients that have to stay in bed for a long time need chest therapy in order to prevent lung infection. Special attention should be given to the patients that are more likely to develop lung infection such as smokers and older patients.

为了预防肺部感染，所有必须长期卧床的患者都需要进行胸科治疗。另外还应该重点注意那些更容易产生肺部感染的患者，如抽烟患者和老龄患者。

Chest therapy should be done at least 2 times a day for 10 to 15 minutes.

胸科治疗应当每天至少做两次，每次10到15分钟。

## 2. Technique 技术

Here below is a description of basic techniques that can be used for chest therapy.

以下是一些胸科治疗基本技术的描述。

During breathing exercises, the therapist will stimulate the patient to take deep breathes, fast exhalation and coughing in order to help the patient get secretion out of the lungs.

在呼吸训练中，为了帮助患者把分泌物排出肺部，物理治疗师将刺激患者进行深呼吸、快速呼气 and 咳嗽。



The patient is in sitting position or half-seated position. He has to blow through a straw in a bottle with water and make bubbles.

患者处于坐位或半坐位。通过吸管往瓶子里吹气制造泡泡。



The therapist has his hands on the patient's thorax and guides him pushing on the ribs when the patient breathes out and relaxing when the patient breathes in. To do so, the therapist can be behind or beside the patient.

物理治疗师将手放在患者胸壁上引导患者呼气 and 吸气，当患者呼气时挤压肋骨，吸气时则放松。治疗时治疗师可以坐在患者的后面 or 旁边。



Once the secretions are up, fast exhalation and coughing are necessary to get them out.

一旦分泌物到达上面，需进行快速呼气和咳嗽以排出分泌物。

The patient is in the same position. The therapist asks him to take a deep breath in and then to breathe out once very fast. After, he can ask him to cough one or two times.

患者处于同一体位。物理治疗师要患者做深呼吸然后一次性快速呼出。之后叫他咳嗽一、两次。

Other kind of small material can be used to stimulate the patient to take deep breaths. For example, the therapist can use table tennis ball and have the patient trying to blow on it, aiming for a specific goal (a). Also, the therapist can use incentive spirometer (b) to stimulate the patient to take deep breaths.

可利用其他的小材料刺激患者进行深呼吸。比如，治疗师可以使用乒乓球，让患者对这一个特定的目标吹乒乓球（如图a所示）。另外，还可以使用诱导性呼吸训练器来刺激患者进行深呼吸（如图b所示）。

Clapping is a method that can be used to make the breathing exercises more efficient. The clapping should be done with the palm of the hand. The hand is not completely opened (not flat); it should be a little bit curved otherwise it would be painful (c). Clapping is done on the patient's thorax while he is in sitting position or lying on the side.

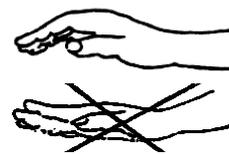
拍打的方法让呼吸训练更有效。应用巴掌来拍打。手不是完全展开的（不是平的）；应该稍微弯曲一点，否则会产生疼痛(c)。当患者坐着 or 侧卧时，拍打他的胸壁。



(a)



(b)



(c)