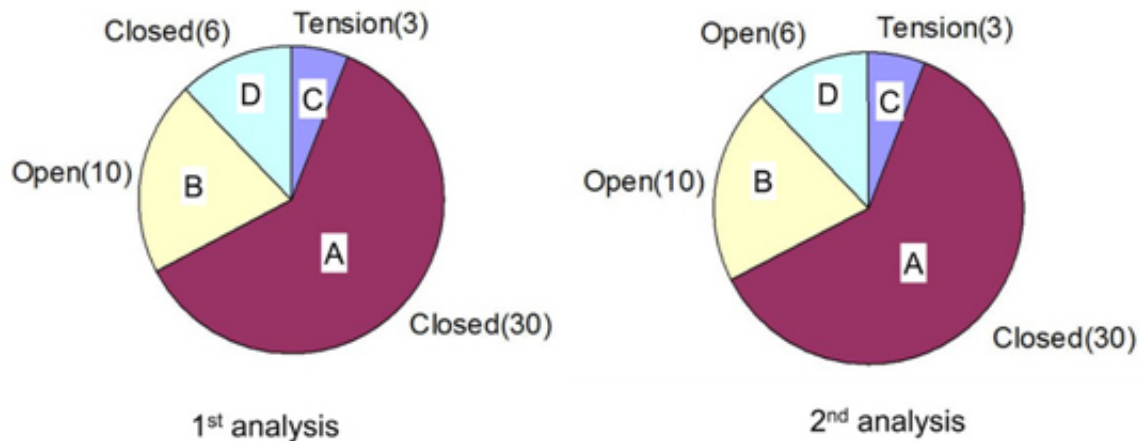


# Pneumothorax treatment gets less painful

October 2 2015



Pneumothorax diagnostic results of the 1st and 2nd chest cavity gas analysis are shown. It can be seen in group D, the 6 patients were diagnosed as closed pneumothorax in the 1st analysis and re-diagnosed as open pneumothorax in the 2nd analysis. Credit: *TECHNOLOGY*

Scientists working in Tianjin Chest Hospital, China, have developed a less painful treatment strategy for Pneumothorax treatment. By analyzing the partial pressure of oxygen and carbon dioxide in thoracic cavity gas during Pneumothorax Treatment, physicians can understand the real conditions of the pneumothorax and then update to a less painful treatment method.

Spontaneous [pneumothorax](#) is a common respiratory disease, with an abnormal collection of air or gas in the pleural space that separates the lung from the [chest wall](#) which may interfere with normal breathing. "It

is very important to design the optimal treatment strategy according to the actual severity status of the pneumothorax. However, the actual status in the chest cavity may not keep unchanged during the management of the pneumothorax," said Yuechuan Li, Professor and a chief physician in Tianjin Chest Hospital.

"For example, open and tension pneumothorax are in serious conditions that the more powerful under water-chest-drainage is preferred. While the wound in the closed pneumothorax is closed and the air leak is stopped, the situation is not that serious so manually [needle aspiration](#) is preferred."

"The most frequent complication associated with chest tubes is chest tube clogging. We have found that after remove the clogged chest tube (there is blood clot in tube), in many cases, we could use a less painful needle aspiration because the pneumothorax has changed to a closed pneumothorax."

"We designed a new diagnostic strategy to monitor the real time status of the [chest cavity](#)." Said Hui Ma M.D., an attending physician in Tianjin Chest Hospital, "By analyzing the thoracic cavity gas in real time, the partial pressure of carbon dioxide and oxygen, during the pneumothorax treatment, the therapeutic strategy is updated accordingly. In many cases, the following-up treatment can be updated to less painful management method, such as conservative management, or updated to needle aspiration instead of continue using [chest](#) tube drainage."

**More information:** *TECHNOLOGY* journal:  
[www.worldscientific.com/doi/ab ... 42/S2339547815500077](http://www.worldscientific.com/doi/ab...42/S2339547815500077)

Provided by World Scientific Publishing

Citation: Pneumothorax treatment gets less painful (2015, October 2) retrieved 6 May 2024 from <https://medicalxpress.com/news/2015-10-pneumothorax-treatment-painful.html>

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