Transilluminating Obturator

Published date: Aug. 15, 2016

Technology description

This patent pending technology is a kit comprising of a trocar (or needle), an obturator, and a waveguide with the purpose of aiding medical procedures of the larynx. This is accomplished by using the trocar to facilitate passage into an anatomic structure. A modified obturator with fiber optics is powered by a waveguide and then inserted into the trocar order to provide the light source. This illumination increases visibility of laryngeal anatomy which consequentially improves safety and accuracy of injections and diagnostic procedures. Sites targeted for therapy directed by this transillumination technique include the vocal folds, paraglottic space, and posterior larynx. The usefulness of this technology has been proven through tests on canine and human cadavers.

Background Information

Transillumination is a commonly used technique in healthcare whereby light shines through a structure in order to confirm the location of an instrument with a lighted tip. Use of transillumination to help direct interventions has been common medical practice for many decades. It can also be used to determine the optimal location for piercing a hole or making an incision in tissue before performing the activity. Common medical applications of transillumination to localize instrumentation within the body have addressed cavities naturally filled with air (trachea/paranasal sinuses), gas insufflated cavities (abdomen) and fluid filled joint spaces. Currently, therapeutic injections—including neurotoxins—are deployed to the vocal cord and larynx region with limited visualization which can lead to complications. Researchers at the University of Iowa have developed a technology to improve the visibility in these procedures.

Technology Summary

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University of Iowa Research Foundation

To review additional technologies developed at the University of Iowa, please visit: http://www.research.uiowa.edu/uirf/pages/technologies/

Advantages

· Increased visualization
· Improved injection accuracy and safety
· Can be used for a wide range of laryngeal therapies

Institution

University of Iowa

Inventors

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