

GI-BRONCH Mentor™



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A combined platform for virtual reality training of GI Endoscopy and Flexible Bronchoscopy

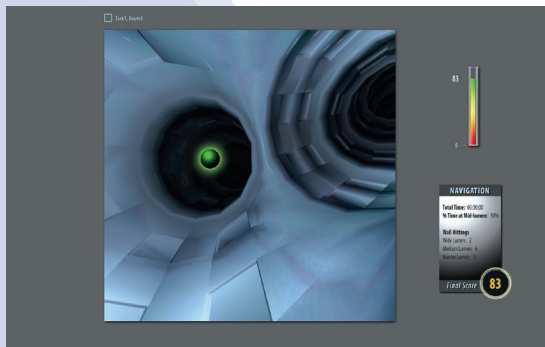
The BRONCH - Combining the virtual with the physical to create the ultimate training solution for flexible bronchoscopy, for both team and solo training.

Offering a comprehensive environment yet supporting gradual and controlled complexity and simultaneity - the BRONCH provides an optimal learning environment for motor, cognitive and coordinative skills acquisition.

As in real life, the BRONCH facilitates posterior or lateral working positions, and either oral or nasal scope introduction, using an authentic scope with tactile feedback and simulated physical behavior. Full clinical procedures of diagnostic or therapeutic nature are simulated comprehensively, offering a variety of virtual patients exhibiting real life patient environment and behavior.

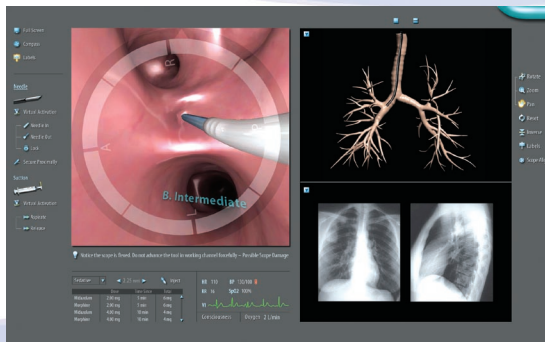
The BRONCH Application Modules

The BRONCH training system is being developed in collaboration with medical experts from around the world. The system incorporates a variety of practice opportunities providing a bronchoscopic training curriculum consisting of essential skill tasks and full clinical procedures of elective or emergency nature.



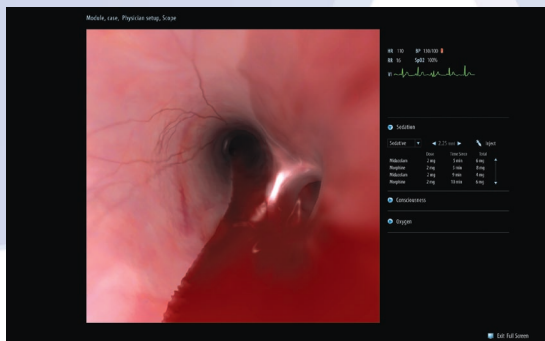
Essential Bronchoscopy Module

Designated basic skill tasks to optimize novice users' learning curve while acquiring and integrating bronchoscopic capabilities such as scope control skills, 3D cognitive perception, detailed anatomical knowledge, safe and efficient performance and tool activation.



Diagnostic Bronchoscopy Module

Practice basic diagnostic bronchoscopies, including visual inspection and various methods for tissue sampling. Utilize biopsy forceps, cytology brush, aspiration needle and bronchi alveolar lavage, for different cases where endobronchial or transbronchial sample obtaining is required. Control and maintain patient's condition throughout the procedure, including: conscious sedation, topical anesthesia, vital signs, level of consciousness, and oxygen supplement. Avoid reactive complications or solve upon occurrence.



Emergency Bronchoscopy Module

Identify and solve emergency and ICU situations requiring bronchoscopic intervention such as foreign object aspiration, hemoptysis or mucus plugs, utilizing tools such as grasping forceps, balloon, electrocautery probes and more.

Control and maintain patient's condition throughout the procedure. Avoid reactive complications, such as pneumothorax, bleeding, hypoxemia, hypotension, arrhythmia and more, or attend to complication upon occurrence.



Multiple aspects of the bronchoscopic procedure are incorporated in the BRONCH, such as conscious sedation, topical anesthesia, patient monitoring, clinical complications and more. All of these aspects are simulated in a highly reactive manner, enhancing the simulation to the full spectrum of the actual procedure.

Main Features and Capabilities

Educational aids enhancing 3D perception and anatomical knowledge:

- External visualization of the bronchial tree
- Internal orientation aids and scope maneuvering guidance
- Interactive anatomy atlas
- Labeling of endobronchial segments and mediastinal lymph nodes
- Adjoining mediastinal structures

Educational aids promoting safe and efficient performance:

- Real time guidance, warnings and alerts
- Real time efficacy feedback
- Tutorials and video clips
- Comprehensive performance metrics

Realistic simulation environment:

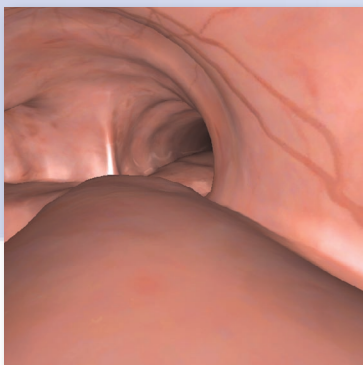
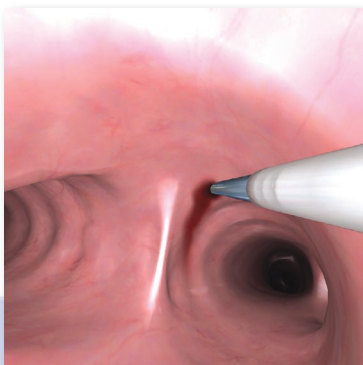
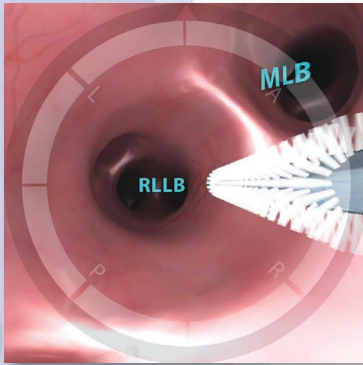
- Authentic scope with tactile feedback and simulated physics
- Flexible setup: posterior / lateral user position, oral / nasal scope introduction, team / solo practice
- Realistic visualization displayed on a 24" touch screen
- Full screen mode in which display is restricted to content available during a real procedure

True to life patient environment and behavior:

- Virtual patient cases modeled after real patients, with varying anatomies and diverse pathologies
- Simulated physiology including larynx contraction, breathing, coughing, bleeding and more
- Reactive vital signs and consciousness level affected by virtual patient characteristics and user actions
- Reactive complications, such as pneumothorax, hypoxemia, bleeding, hypotension, arrhythmia

Comprehensive ongoing medical management:

- Conscious sedation administration with varying affect on virtual patients
- Topical anesthesia administration and influence
- Patient monitoring including level of consciousness, vital signs, oxygen supplement





Simbionix - To Advance Medical Simulation

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