



ENDOSCOPIC TRAINING WITH SINO-NASAL AND SKULL BASE MODEL

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DISCLOSURE

NONE

ProDelphus

www.sinuscentro.com.br


WHERE I AM FROM




Fortaleza, 3 million

INTRODUCTION

- Medical education
- “To see – To do”
- New technologies



Cooke M, et al. American medical education 100 after Flexner report. N Eng J Med 2006; 355:1339-44


TEACHING



www.sinuscentro.com.br/museu

INTRODUCTION

- Anatomy knowledge
- Video sessions
- Surgery observation
- Surgery practice



May M, Levine HL, Mester SJ, et al. Complications of endoscopic sinus surgery: analysis of 2108 patients—incidence and prevention. Laryngoscope 1994;104:1080-1083.

INTRODUCTION



"To err is human. How to build a safer health system"



US\$ 530 million/year



Solution ? Ideas ?

Kohn LT, Corrigan JM, Donaldson MS. To Err Is Human: Building a Safer Health System. Washington, DC: National Academy Press; 1999.

INTRODUCTION

SIMULATION



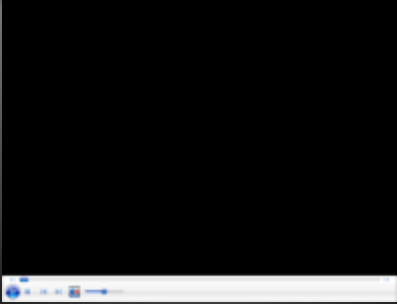
Kohn LT, Corrigan JM, Donaldson MS. To Err Is Human: Building a Safer Health System. Washington, DC: National Academy Press; 1999.

INTRODUCTION







Available simulators (video-games) for medical training - 2008

INTRODUCTION



Body Anesthesia Simulator - Freeware - DOS based

INTRODUCTION

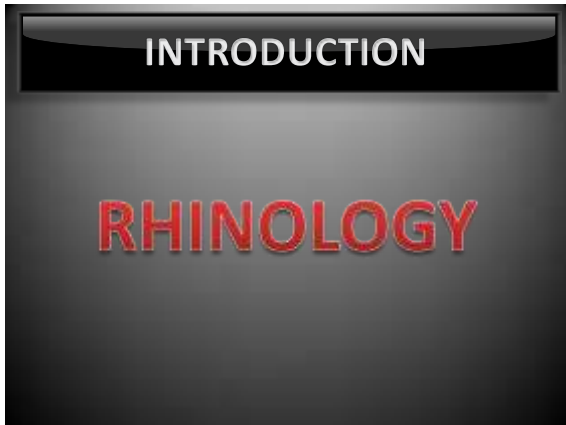
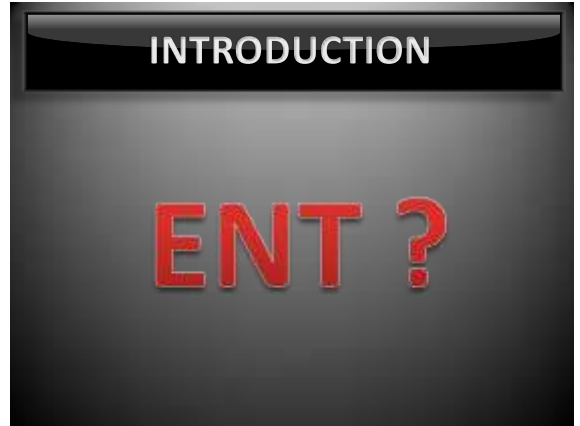


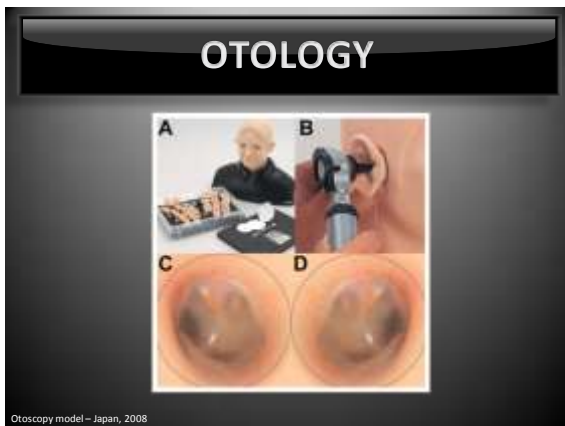
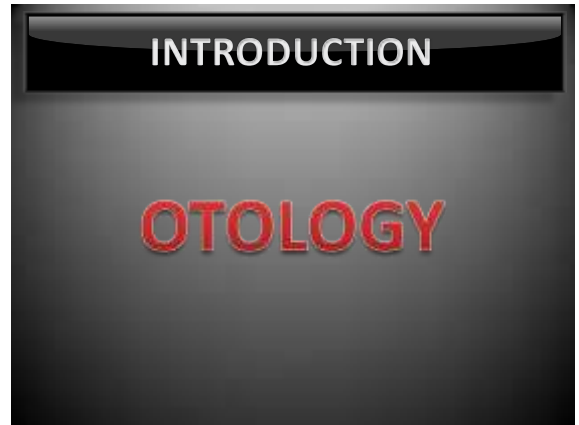
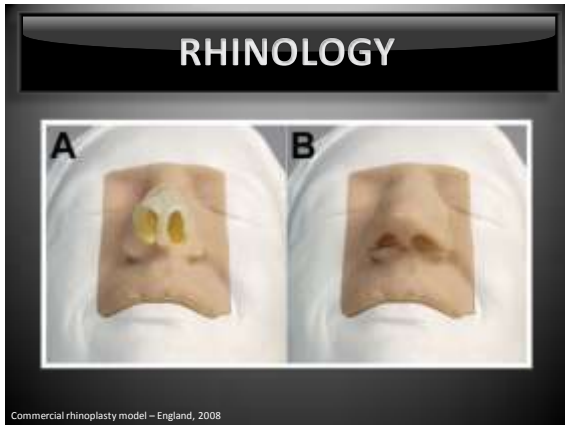
Commercial available models for medical training - 2008

INTRODUCTION



Harvey mannkin - University of Florida - Miami





OTOLOGY

Otolaryngology-Head and Neck Surgery (2009) 131, 853-859
ORIGINAL RESEARCH—PEDIATRIC OTOLARYNGOLOGY

Construct validity of a simulator for myringotomy with ventilation tube insertion

Peter G. Volsky, MD, Brian B. Haghley, MD, Shayn M. Peirce, PhD, and Bradley W. Kesser, MD, Charlottesville, VA

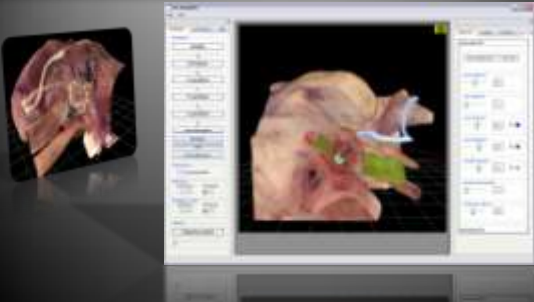
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OTOLOGY



Virtual Temporal Bone Simulator, Germany, 2007

OTOLOGY



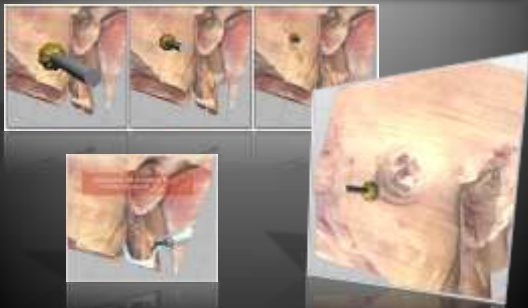
Virtual Temporal Bone Simulator, Germany, 2007

OTOLOGY



Virtual Temporal Bone Simulator, Germany, 2007

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Virtual Temporal Bone Simulator, Germany, 2007

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DOWNLOAD FREWARE:
www.sinuscentro.com.br

Virtual Temporal Bone Simulator, Germany, 2007

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Voxelman Simulator, Germany, 2007

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Virtual Temporal Bone - Ohio State University, 2007

OTOLOGY

AUGMENTED REALITY

INTRODUCTION

LARYNGOLOGY

LARYNGOLOGY



Larynx anatomy - Second Life

LARYNGOLOGY



INTRODUCTION

The image shows three overlapping academic papers. The top paper is titled "Construct Validity of the Endoscopic Sinus Surgery Simulator" by H. J. [unclear]. The middle paper is titled "Assessment of Construct Validity of the Endoscopic Sinus Surgery Simulator" by Aylton Y. Gi and Marvyn P. Fi. The bottom paper is titled "Impact of the Endoscopic Sinus Surgical Simulator on Operating Room Performance" by Yuhui Y. Zhang, J. [unclear].

INTRODUCTION

The image shows a 3D model of a surgical simulator device, which consists of a grey base and a handle with a circular end. The URL www.sensible.com is visible at the bottom.

INTRODUCTION

- Brazil regulation laws
- Biohazards
- Lack of cadaveric specimens

- Other countries
 - Religious problems

MODEL

The image is a collage of anatomical models and a surgical specimen. It includes four small images of anatomical models (top-left, top-right, bottom-left, bottom-right) and one larger image of a surgical specimen (right).

INTRODUCTION

The image shows medical images including four CT scans of the head and neck region (top-left) and a 3D model of a human face (bottom-right).

MODEL

The image shows four endoscopic views of the nasal cavity, arranged in a 2x2 grid. The top-left view shows the nasal passage, the top-right view shows the nasal mucosa, the bottom-left view shows the nasal passage with a surgical instrument, and the bottom-right view shows the nasal mucosa.



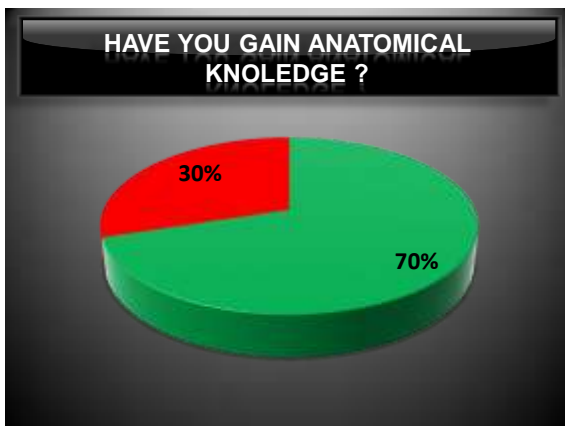
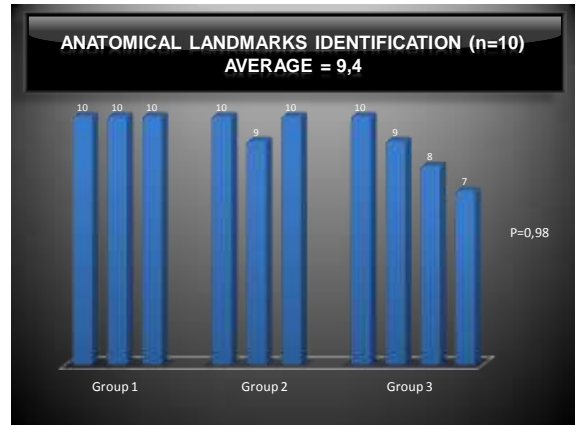
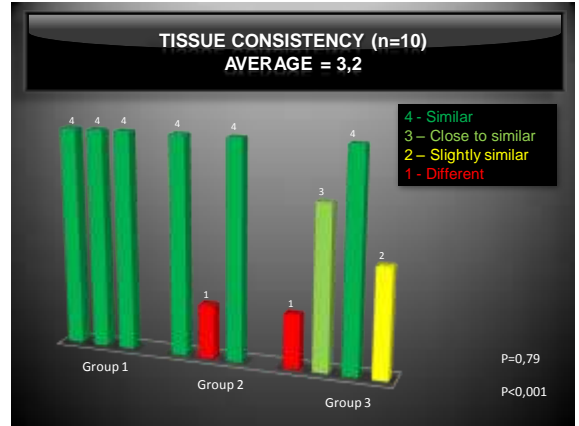
STUDY

Otolaryngology-Head and Neck Surgery (2008) 136, 727-729
CLINICAL TECHNIQUES AND TECHNOLOGY
Building a real endoscopic sinus and skull-base surgery simulator
 João Flávio Nogueira, MD, Aldo Cassol Stamm, MD, PhD,
 Marcos Lyra, MD, Fernando Oto Balleiro, MD, and
 Fernando Souza Leão, MD, São Paulo, Brazil

STUDY

N=10 - GROUPS
QUESTIONARY
 - OBJECTIVE
 - SUBJECTIVE
STATISTICAL ANALYSIS

STUDY



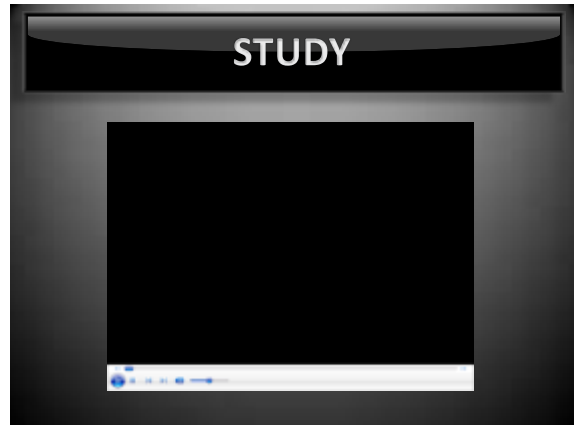
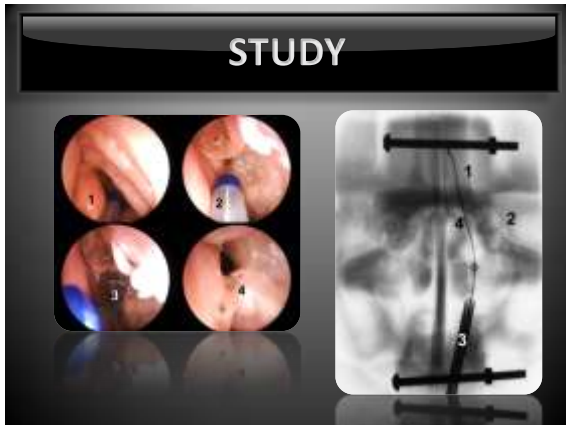
STUDY

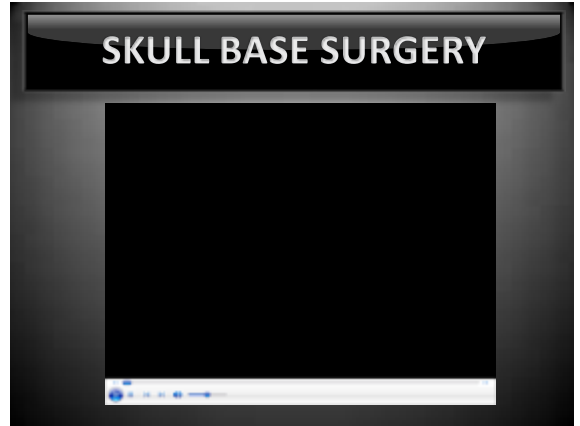
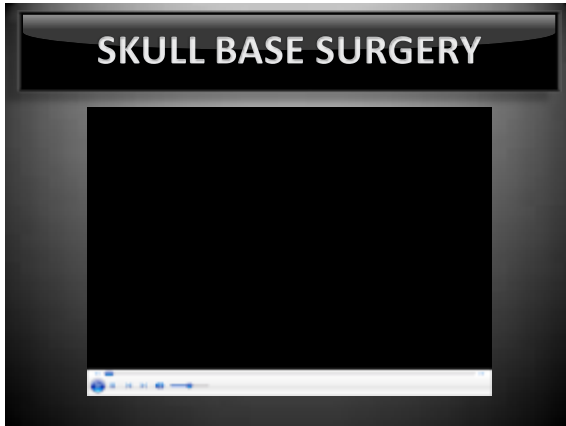
Chirurgia (Head and Neck Surgery) 2009; 14(2): 223

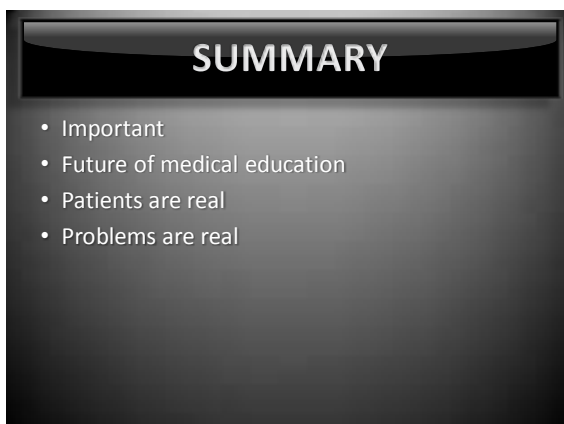
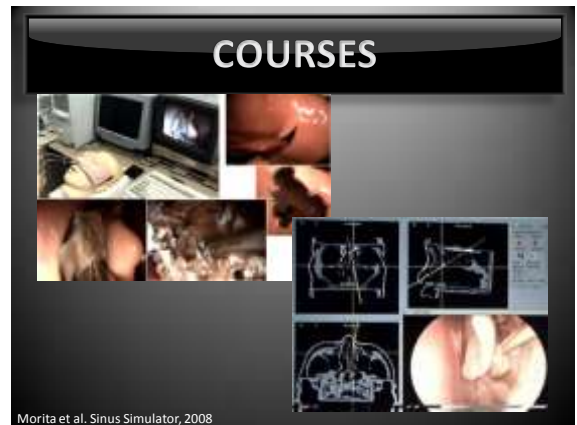
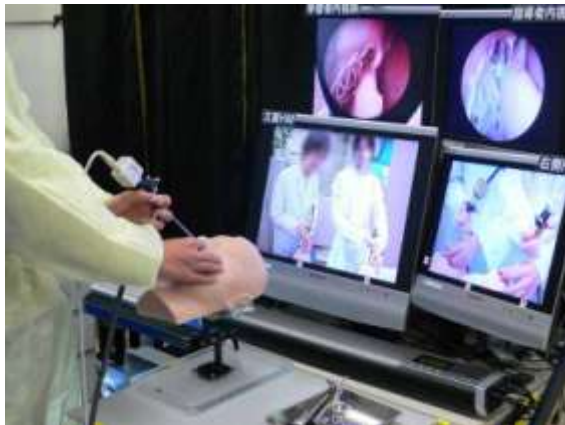
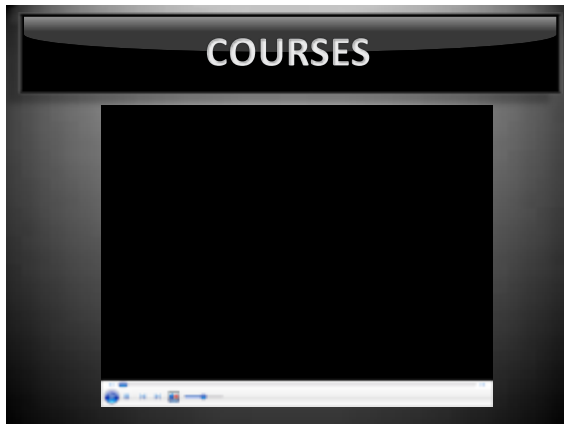
ORIGINAL RESEARCH – SINUSNASAL DISORDERS

Feasibility of balloon dilatation in endoscopic sinus surgery simulator

Aldo Stamm, MD, PhD, Joao Flavio Nogueira, MD, and Marcos Lyra, MD, São Paulo, Brazil







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joaoflavioce@hotmail.com