

UFMG – FACULDADE DE MEDICINA

CENTRO DE PÓS-GRADUAÇÃO EM CIRURGIA E OFTALMOLOGIA

DISCIPLINA DE PÓS-GRADUAÇÃO

CIR 875 VALIDATION OF EXPERIMENTAL MODELS IN SURGICAL TECHNIQUE

Workload: 30

Credits: 02

Nature: Optional Master and PhD

Professors: Marcelo Magaldi Ribeiro de Oliveira; Sebastião Nataniel Gusmão; Augusto Barbosa

Discipline Syllabus: Publications in high impact journals related to experimental models have been increasingly frequent in the medical literature. The validation of these simulators is an essential step to justify the use in large scale. Different methodologies can be applied to this process, each achieving a specific goal. The correct application of the validation methodology, or its correct interpretation, is an important aspect in modern surgical pedagogy. The objective of this course is to enable the student to research and develop scientific validation methodology in experimental models in surgical technique with possibility of interconnection to the surgical clinic of all subdivisions of surgical specialties.

Program:

- History of simulation in surgery
- Types of simulation models
- Face validation
- Validation of content
- Constructive validation
- Concurrent validation
- Predictive validation
- Likert Scale of Values
- Statistical models applied to validation
- Objective validation

- Validation of acquired skills

Bibliographic References:

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- Delorme S, Laroche D, DiRaddo R, Del Maestro RF. NeuroTouch: a physics-based virtual simulator for cranial microneurosurgery training. *Neurosurg Sep ; 71 (I Suppl Operative)*: 32-42, 2012

- Hino, A., Training in microvascular surgery using a chicken wing artery. *Neurosurg*. 52(6): p. 1495-7; discussion 1497-8, 2003.

- Kwok JC, Huang W, Leung WC, Chan SK, Chan KY, Leung KM, et al.: Human placenta as an ex vivo vascular model for neurointerventional research. *J Neurointerv Surg* 6:394-9, 2014.

- Malone, H.R., Syed ON, Downes MS, D'Ambrosio AL, Quest DO, Kaiser MG., Simulation in neurosurgery: a review of computer-based simulation environments and their surgical applications. *Neurosurg*. 67(4): p. 1105-16, 2010.

- Oliveira MM, Araujo AB, Nicolato A, Prosdocimi A, Godinho JV, Valle AL, et Al., Face, Content, and Construct Validity of Brain Tumor Microsurgery Simulation Using a Human Placenta Model. *Neurosurg*. Sep 22. [Epub ahead of print], 2015.

- Partridge RW, Brown FS, Brennan PM, Hennessey IA, Hughes MA. The LEAPTM Gesture Interface Device and Take-Home Laparoscopic Simulators: A Study of Construct and Concurrent Validity. *Surg Innov*, Jul 14. pii: 1553350615594734. [Epub ahead of print] 2015

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- Raymond, J., Salazkin I., Gevry G., Nguyen TN., Interventional neuroradiology: the role of experimental models in scientific progress. *AJNR Am J Neuroradiol*. 28(3): p. 401-5, 2007

