

International E-Learning for Assuring Ergonomic Working Conditions of Orthopaedic Surgeons: First Research Outcomes from Train4OrthoMIS

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Abstract : Orthopaedic surgeries are characterized by a high degree of complexity. This is reflected by four main groups of resources: 1) surgical team which is consisted of people with different competencies, educational backgrounds and positions; 2) information and knowledge about medical and technical aspects of surgery; 3) medical equipment including surgical tools and materials; 4) space infrastructure which is important from an operating room layout point of view. These all components must be integrated and build a homogeneous organism for achieving an efficient and ergonomically correct surgical workflow. Taking this as a background, there was formulated a concept of international project, called "Online Vocational Training course on ergonomics for orthopaedic Minimally Invasive" (Train4OrthoMIS), which aim is to develop an e-learning tool available in 4 languages (English, Spanish, Polish and German). In the article, there is presented the first project research outcomes focused on three aspects: 1) ergonomic needs of surgeons who work in hospitals around different European countries, 2) the concept of structure of e-learning course, 3) the definition of tools and methods for knowledge assessment adjusted to users' expectation. The methodology was based on the expert panels and two types of surveys: 1) on training needs, 2) on evaluation and self-assessment preferences. The major findings of the study allowed describing the subjects of four training modules and learning sessions. According to peoples' opinion there were defined most expected test methods which are single choice test and right after quizzes: "True or False" and "Link elements". The first project outcomes confirmed the necessity of creating a universal training tool for orthopaedic surgeons regardless of the country in which they work. Because of limited time that surgeons have, the e-learning course should be strictly adjusted to their expectation in order to be useful.

Keywords : international e-learning, ergonomics, orthopaedic surgery, Train4OrthoMIS

Conference Title : ICSRD 2020 : International Conference on Scientific Research and Development

Conference Location : Chicago, United States

Conference Dates : December 12-13, 2020