

13<sup>th</sup> World Congress on**INFECTION PREVENTION AND CONTROL**

December 14-15, 2017 | Rome, Italy

**Hospital infections and epidemiology****Mehak zahira**  
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The terrible statistics about hospital acquired infections point out the necessity of improving the infection control in health care facilities. This implies that it is necessary to search for new methods and techniques of design. The aim of this paper is to describe all known measures of the infection control and to consider a new approach in its optimizing the use CFD modeling. The CFD modeling possibilities are demonstrated by an analysis of one factor impact on the infection risk. The analyzed factor is the use of local exhaust unit in the airborne infectious isolation room. The report includes the detailed description of all steps of the simulation: collection of the initial data, the modeling process, setting the solver and analysis of the results. The results of the simulation allow estimating the impact of the analyzed factor and giving certain recommendations for the design of airborne infectious isolation rooms. Everyone suppose that hospital is the place, where we recover from a disease. However, there is a high risk to acquire a serious infection instead of recovery. The term nosocomial infection or hospital acquired infection (HAI) is used when a patient gets infected in hospital. Hospital is a place of concentration of infection and the main aim of designers and administration is to isolate and prevent the spread of the infection to protect patients. Unfortunately, the statistics shows that this aim is not fully achieved. Because of the collection and processing of the statistical data, provided in the Appendix A, the estimated morbidity associated with HAI for US and EU together is about 6 million per year, and the mortality is about 300.000 per year. This terrible statistic reveals the importance of the problem of nosocomial infections and suggests the necessity of a concerted approach to solutions of specialists from different fields: architects, engineers, health workers. However, the theoretical justification is followed by detailed description of all steps of simulation: collection of the initial data, the modeled process description, creation of the model, setting the solver and analysis of the results. The results of the simulation not only allow showing the power of CFD, but also allow giving a certain recommendation.

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