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The possibilities of automatized operation in medium-sized clinical biochemistry laboratory

Bachelor thesis

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Abstract

Automation in clinical laboratories is a process that has begun in the second half of the twentieth century thanks to the progress of the instrumental techniques and information system development. Nowadays, there is a pressure on high quality in laboratories. Therefore, without automatic analyzers, information systems and their communication would not be possible to meet these requirements. The higher quality of the laboratory results leads to the higher effectivity of the whole health system because of the better and faster diagnosis and setting the proper patient therapy due to the early knowledge of the precise and true laboratory results.

The aim of this work is a brief mapping of the automatic analyzers and laboratory instruments supply on the market and suggest an instrumental solving for specific middle-size biochemical laboratory. There is an urgent need to take account of the space limits, claims to the number of analysed samples and methods. Moreover, the choice of the instrument is influenced by the fact if the laboratory analysis is aimed for the hospital, mostly the statim samples, or is processed for routine operation.

In conclusion, this work deals also with the laboratory consolidation, which is a process that has been taking place in the Czech Republic for few years and will probably continue.