# NOVÁ STRATEGIE VÝUKY STOMATOLOGIE PRO VŠEOBECNÝ SMĚR NEW STRATEGY FOR TEACHING MEDICAL STUDENTS STOMATOLOGY

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#### Abstrakt

Výuka stomatologie pro všeobecný směr na Dětské stomatologické klinice 2. lékařské fakulty UK probíhá ve 4. ročníku ve 10denním cyklu v rozsahu 60 výukových hodin. Výuka probíhá v českém (8 cyklů) i anglickém jazyce (3 cykly). Na výuce se podílejí zaměstnanci kliniky, kteří přednášejí, vedou semináře a cvičení. Studenti mají k dispozici tištěnou učebnici "Stomatologie" a v přípravě je její anglická verze, dále možnost využívat elektronickou verzi učebnice formou e-learningu, ke které nyní připravujeme přednášky, kazuistiky a otázky pro evaluaci znalostí pomocí systému ExaMe. Jedná se o interaktivní propojení nabytých znalostí a zároveň přípravu ke zkoušce. Při udání špatné odpovědi systém ukáže odpověď správnou, jedná se tak o rychlou zpětnou vazbu. ExaMe systém bychom rádi v budoucnu využívali i ke zkoušení studentů v rámci povinné zkoušky. Výsledkem bude propojení serverů Univerzity Karlovy a Akademie Věd ČR, které umožní studentům stomatologie získání aktivních znalostí včetně jejich zpětné kontroly formou interaktivního zkušebního testu systémem ExaME na internetu.

Klíčová slova: stomatologie, vzdělávání, e-learning, ExaMe

#### Abstract

Subject Stomatology at The Second Medical School of Charles University is being taught in the fourth year of the curriculum as a 10 days course (60 classes) – in Czech and in English. Our new teaching strategy encompasses classical lessons and practical training, paper and electronic text book and possibility of acces to self evaluating system ExaMe. As a result we would like to interconnect servers of Charles University with Academy of Science and so enable to our students to gain active knowledges in the field of stomatology.

Keywords: stomatology, education, e-learning, ExaMe

### Introduction

Stomatology is that part of medicine that relates to the mouth and its diseases. It includes evaluation, diagnosis, prevention, and treatment of diseases, disorders and conditions of the soft and hard tissues of the jaws, the oral cavity, maxillofacial area and the adjacent and associated structures and their impact on the human body. Dentistry is a part of stomatology and is widely considered necessary for complete overall health.

The Second Medical School has an enrolment of about 150 students/year of general medicine, including 30 foreigners/year who are studying in English language. Stomatology is taught in the fourth year of curriculum as compulsory subject.

The educational goal of the Department of Paedostomatology is to provide medical students with general knowledge on maxillodental diseases and their treatment. This includes the initial evaluation of tooth/facial skeleton emergencies, treating dental caries and its complications as well as overview of orofacial tumours (carcinomas/sarcomas).

## **Current stomatology teaching**

The period of studies covered two weeks (10 days - 60 classes), with hours of lectures and hours of practical training. All the lectures are taught by University employees.

All students are expected to be present at each session unless they have an excused absence and approval from head of stomatology.

Aside from lessons and practical training at University, students have Stomatology paper coursebook [1] which covers all the basic themes and includes some pictures for better understanding as well.

This above described is more or less teacher-oriented curriculum, emphasis is placed on classroom lectures to disseminate factual knowledge, and students are entirely passive in learning.

### New teaching strategy

The goal of this new program was to create an integrated and more sophisticated stomatological curriculum.

Our student have at disposal not only paper coursebook in Czech and English version but also its electronic version. So we implemented in our teaching type of e-learning. E-learning is becoming very important part of stomatology. Computer aided learning has been shown to be an effective method of learning in dental education [2] and it is obvious that this type of learning is now the rule rather than the exception in most schools in developed countries [3].

To enrich stomatology teaching and for better understanding and preparing for the exam we implemented system ExaMe. This evaluation system is based on generalized multiple-choice questions [4]; there is at least one answer correct and one wrong. All the questions (knowledge base) were developed according our book. The system consists of hundreds of questions and answers. What our students can use is an automated test which is appropriate for self-evaluation; the actual results of the test are displayed immediately together wit explanation of wrong answers. This e-learning tool has great advantages – is easily available for 24 hours a day, explanations of wrong answers lead to better understanding of problems.

Access to a course is for free to our students. Medical students can return to text or ExaMe any time they want to.

# Conclusion

These interactions enhance the learning and teaching process for both teachers and students. The development of information and communication technology can be use to provide asynchronous learning where individuals can asses it at times convenient to them.

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# References

- [1] [1] Dostálová T. and Seydlová M., "Stomatologie", *Grada Publishing a.s.*, ISBN 9788024727004, 2008.
- [2] [2] Rosenberg H. et al., "The effectiveness of computer-aided learning in teaching orthodontics: a review of the literature", *Am J Orthod Dentofacial Orthop.*, vol. 127, pp. 599-605, 2005.
- [3] [3] Gussy M. G. et al., "Theoretical and practical considerations for the development of online international collaborative learning for dental hygiene students", *Int J Dent Hygiene*, vol. 4, pp. 154-159, 2006.
- [4] [4] Zvarova J. et al., "Evaluation of knowledge using ExaMe program on the internet. In: Iakovidis I, Maglaveras N, Trakatellis A (eds)." User acceptance of health telematics applications, Amsterodam, IOS Press, pp. 145-151, 2000.