„Medicus curat, natura sanat.”

Biochemical Basics of Preventive Medicine

(Oxidative stress, antioxidant mechanisms;
importance of nutrition, physical activity and stress management)

Elective Subject

for

2nd year medical students *(prevAOK-KA1221)*

2nd year dentistry students *(FOG-MAE091)*

3-5th year medical students (prev*AOK-KA1221K)*

in the second semester

2 hours/week

(credit: 2 points)

(5-grade exam mark)

Department of Biochemistry

Lecturers:

Tamás Csont (MD, PhD, habil.) – Dept. Biochemistry
Csaba Csonka (MD, PhD, habil.) – Dept. Biochemistry
Margit Keresztes (MD, PhD) – Dept. Biochemistry (organizer of the course)
Zoltán Novák (MD, PhD, habil.) – Dept. of Pediatrics

Time, site: Wednesday 4-6 pm, „Kis Oktatási”/ Small Eductional Bldg, Room 12

Biochemical Basics of Preventive Medicine

Curriculum

1. (3. Febr.) **Introduction to preventive medicine** (importance of nutrition, physical activity and stress in the development of „civilization diseases")

2.(10. Febr.) **Biochemistry of oxidative stress and its importance in physiological and pathological processes** (formation of free radicals and their effects)

3. (17. Febr.) **Antioxidant mechanisms** (vitamins, vitaminlike substances, enzymes and their cofactors involved in antioxidant protection)

4. (24. Febr.) **Stress adaptation of the heart (early and late preconditioning)**

5. (2. March) **General importance of balanced nutrition** (macro- and micronutrients, alimentary fibers;additives)

6. (9. March) **Balanced nutrition, diets (theory and practice)**

7. (16. March) **Metabolic syndrome, atherosclerosis, pathobiochemistry of ischemic heart disease, and importance of life style in prevention**

8. (23. March) **Role of oxidative stress in respiratory diseases**

SPRING BREAK

9. (6. April) **Background and prevention of diabetes mellitus**

10. (13. April) **Sport biochemistry: general importance of physical activity**

11. (20. April) **Psychological stress, oxidative stress, and importance of stress management**

12. (27. April) **The importance of balanced nutrition, exercise and stress management in the prevention of „civilization diseases"** (obesity, metabolic syndrome, ischemic disease, stroke, diabetes mellitus) (interactive seminar and test)

13. (4. May) **Biochemical basics of preventive medicine in the light of the most recent results of medical literature** (interactive seminar and repeat test)

14. (11. May) **Biochemical basics of preventive medicine in the light of the most recent results of medical literature** (interactive seminar and evaluation)

Biochemical Basics of Preventive Medicine

Requirements – end-semester marks

2: **- max. 3 absences (from the 14 classes)**

+ min. 50 % test result

3: **- max. 3 absences (from the 14 classes)**

+ min. 60 % test result

4 : **- max. 3 absences (from the 14 classes)**

+ min. 60 % test result

+ a copy of an article

- **with a topic related to the fields covered by the preventive medicine class**
- **published in 2015-2016**
- **in a medical journal *(not an internet homepage!)***
- **min. 3 pages article**

+ a summary of the article (min. half to 1 page) created by the student (different from the abstract/summary of the paper)

5 : **- requirements of mark 4**

+ oral presentation of the paper (in about 5 min)

+ answering questions related to the presentation

(Test: about 15 MCQ, can be repeated once; then oral repeat is possible in the exam period.)