

Experience with e – learning in the English version of the elective subject : Donation and Harvest of Cells and Tissues for Transplantation

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Elective Subject „Basis of Harvest and Preservation of Tissues for Transplantation

Included in the undergraduate study programme general medicine in the academic year 2001/2002 both in the Czech and English versions. Registered, now in the Student Information System of the Charles University in Prague under code 50012 (Czech version) and FG 500 03 (English version)

Number of enrolled students per year:


Czech version:12-18

English version:5-13

Structure of the subject: lectures 6 hours, practicals 6 hours, seminar 3hours

Number of teachers in the English version:3

Anotation of the subject in the University information system

 **Předměty** (verze: 783)
Předmět, akademický rok 2016/2017

Login : Heslo :

Hledání ... Vyučující Katedry Třídy Klasifikace Prohlížení dle oborů/plánů Nastavení

Detail

Základy odběru a konzervace tkání pro transplantace - FG50003

Anglický název: Basis of Harvesting and Preservation of Tissues for Transplantation
Zajišťuje: [Tkáňová ústředna \(15-9995\)](#)
Fakulta: [Lékařská fakulta v Hradci Králové](#)
Platnost: od 2015
Semestr: letní
Body: 0
E-Kredity: 1

Způsob provedení zkoušky: letní s.:
Rozsah, examinace: letní s.:0/9 Z [hodiny/semestr]
Počet míst: neomezen
Minimální obsazenost: 5
Stav předmětu: vyučován
Jazyk výuky: angličtina
Způsob výuky: prezenční
Úroveň:

Poznámka: předmět je možno zapsat mimo plán
povolen pro zápis po webu

Garant: [MUDr. Pavel Měříčka, Ph.D.](#)
Patří mezi: [Elective subjects General medicine](#)
Neslučitelnost: [FA0108088](#)
Prerekvizity: [FG10026](#)

Anotace - angličtina

History of tissue banks, tissue donation - ethical and legal issues, the term of tissue establishment. Tissue harvest in living and deceased donors, cell and tissue graft processing. Principles of preservation methods, hypothermic preservation, deep freezing. Cryopreservation, theory of tissue establishments. Contraindications of cell and tissue harvest, laboratory testing of donors and processed tissue grafts, importance of using clean room technology for safety of tissue transplantation. Advanced medicinal products manufacturing and clinical application.

The first e- learning course

- The first e-learning course has supported the Czech version of the elective subject since the academic year 2013/2014
- More simple English version has been available since the academic year 2014/2015
- All functions have been operated by Moodle-local application of the Medical School Hradec Králové
The course is available at the address:
<http://moodle.lfhk.cuni.cz/moodle2/course/index.php?categoryid=130>

E- learning course - common features with classic face-to face teaching/learning

Three main topics were preserved:

- 1) Cell,tissue and organ donation and harvest
- 2) Principles of low temperature preservation of cells, tissues and organs
- 3) Principles of quality and safety assurance in the tissue and procurement establishments

Number of topics of seminar theses (5-6).

E-learning course –differences from the classic face to face teaching/learning

In the Czech version the topic 4: Basic processes in the tissue establishment and principles of their validation was added

Topic 5 was represented by the database for presentation and uploading seminar theses

Short tests consisting of 5 questions were put between topics 1 and 2, 2 and 3, as well as between 3 and 4. If the student answers correctly at least 3 questions he/she can proceed to the next topic. Each topic is allowed to be repeated only twice

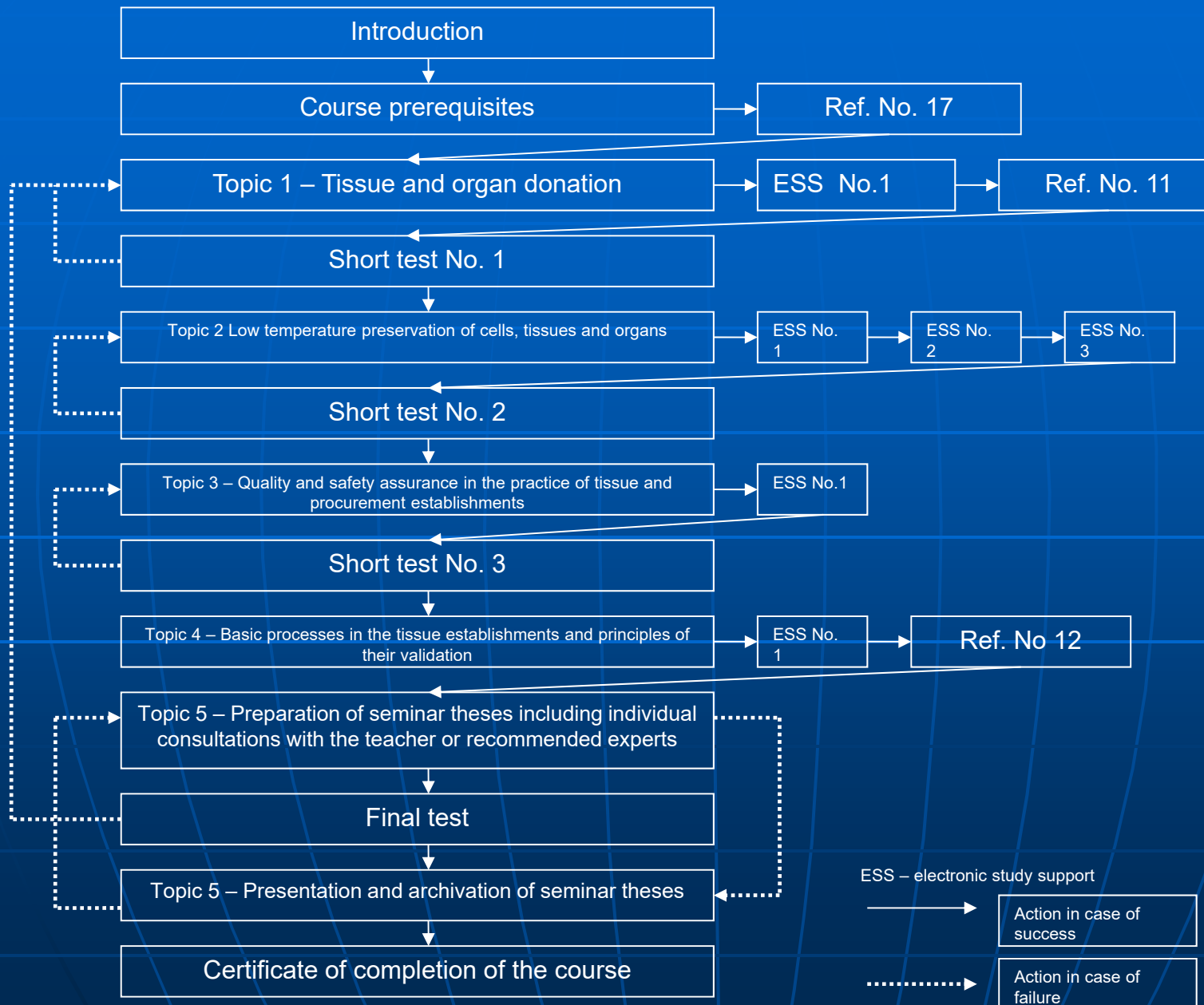
The final test consisted of 15 questions

Initial experience was published: Měříčka,P.et al.:Mefanet Journal 1, 2014,p.15-19

Publication in the Mefanet Journal, vol.1 2014



Course schedule



Verification of the course – number of students

	Number of students
Czech speaking group	32
English speaking group	14/ EU 11
EU - Greece	1
EU – Federal Republic of Germany	6
EU – Ireland	1
EU – United Kingdom	3
Norway	2
Malaysia	1

Verification of the course – number of students who completed the course

	Number of enrolled students	Number of students who completed the course	Percentage of students who completed the course
Czech speaking group	32	32	100
English speaking group	14	14	100

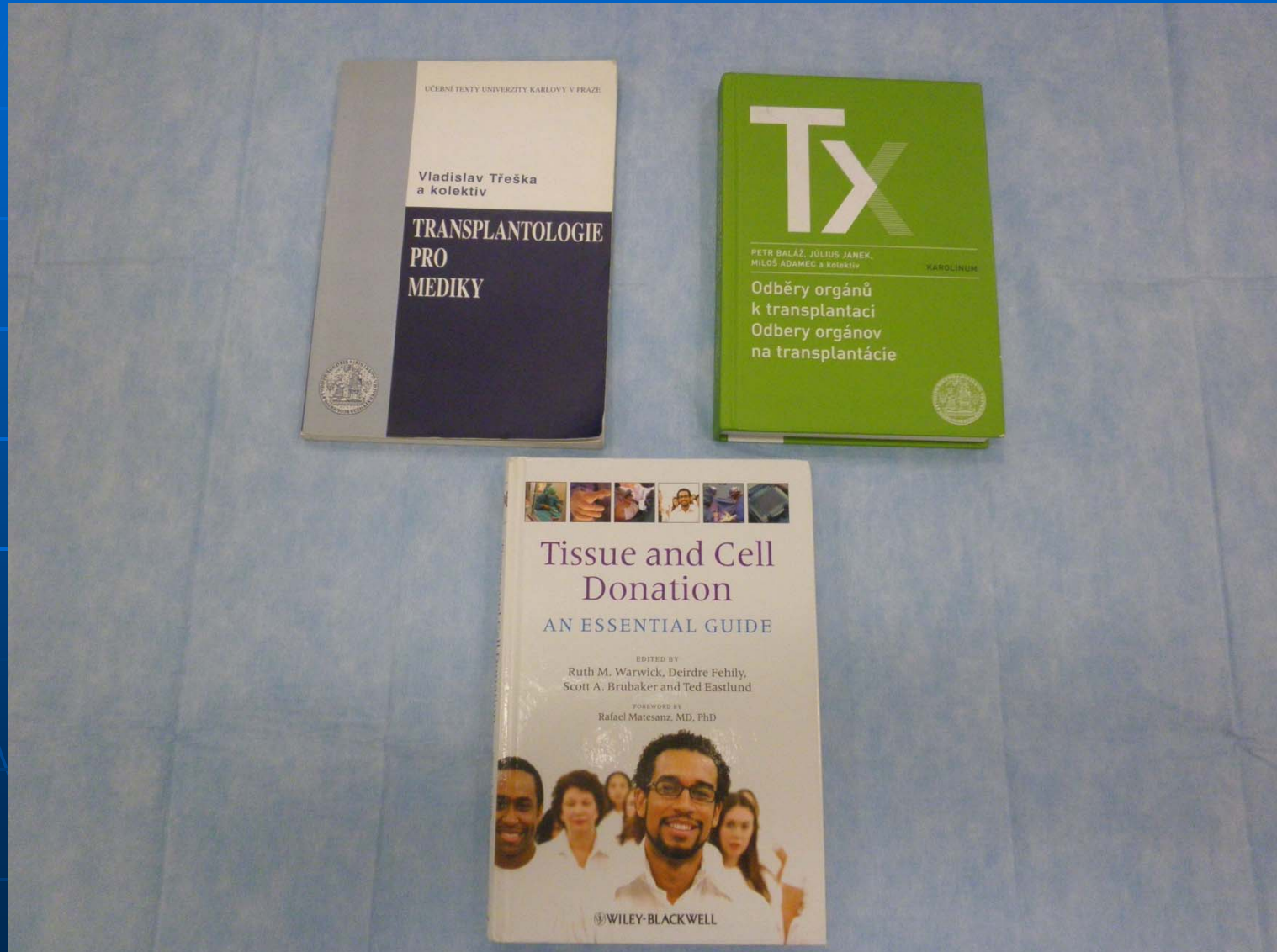
Verification of the course – number of students who repeated the short tests

Topic number	Czech speaking group	English speaking group	All students
1	4 (12,5%)	3 (21,4%)	7 (15,2%)
2	4 (12,5%)	4 (28,6%)	8 (17,4%)
3	0 (0%)	2 (14,3%)	2 (4,3%)

New English version focused on cell and tissue donation and harvest

1. Grounds: The texts covering this topic were written in the Czech language only (Třeška et al 2000, Baláž et al 2011) or were too long for a purpose of undergraduate education (Warwick et al.: Tissue and Cell Donation, Oxford 2009)
2. The new course represents an enlarged and more advanced version of the course usable also separately in teaching of clinical subjects
3. It is planned to be introduced into practice in the academic year 2016/2017

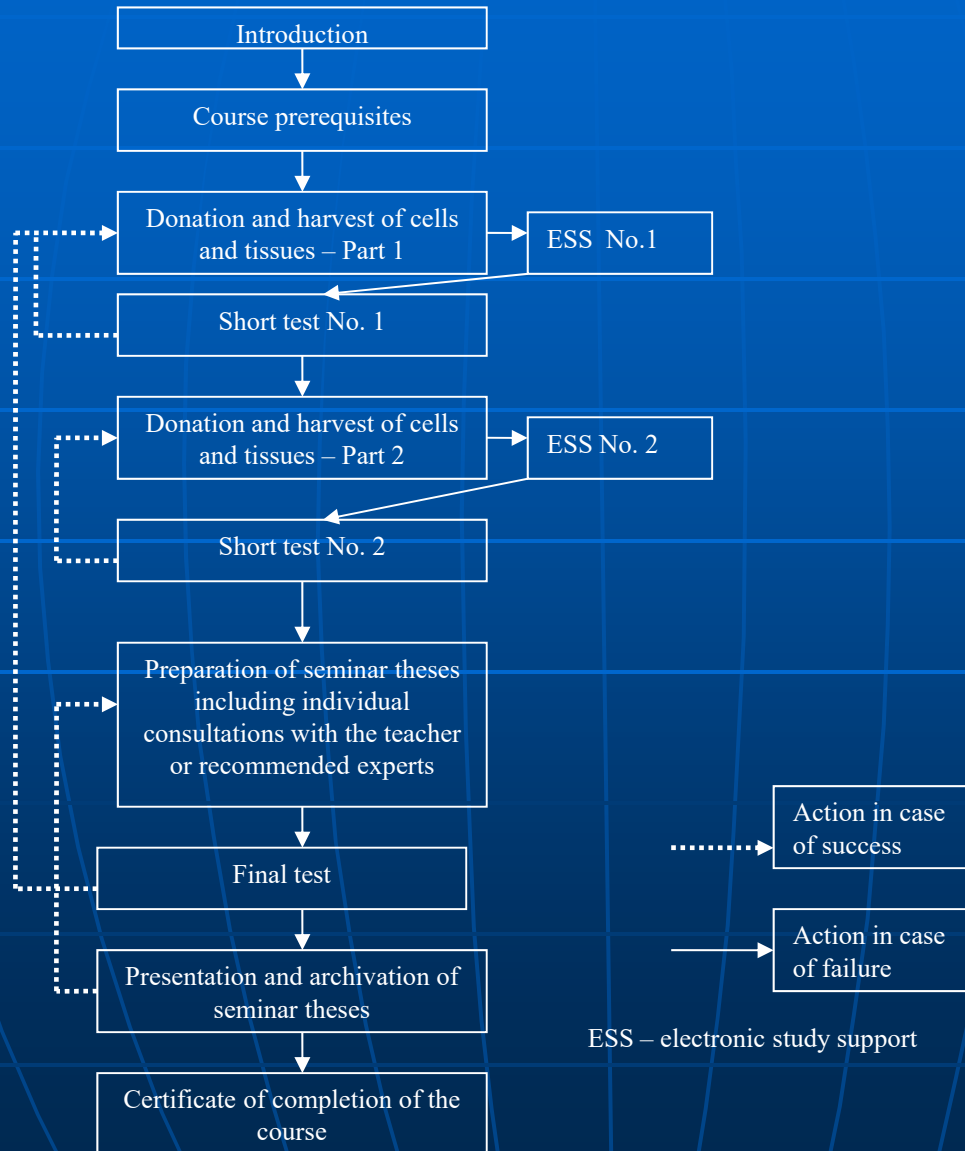
Books used as study materials of the course



Structure of the new course

1. The main topic is divided into two parts:
2. The first one deals with ethical and legal aspects and organization of donation, influence of traditions and religion on practice of donation ,donation and harvest for manufacturing of advanced medicinal products and presentation of donation issues to the public
3. The second part deals with donor suitability assessment, techniques of cell and tissue harvests and evaluation of donation activities
4. The third part of the course is represented by a database for preparation, presentation and archivation of seminar theses

Schedule of the new course



Editing, reviewing and address of the course

Editing of English was performed by Eureka Science Ltd.,
Dubai, United Arab Emirates

The course was reviewed by
Prof. B. Fuller, MD., Ph.D.
University College, London.
United Kingdom



Ass.Prof. L. Klein, MD, Ph.D.,
Dept of Surgery University
Hospital Hradec Králové,
Czech Republic



The course was published in the Mefanet Portal in 2016:
<https://mefanet.lfhk.cuni.cz/index-en.php>

Publication in the Mefanet Portal

The screenshot displays the Mefanet Portal website, which is dedicated to multimedia support in the education of clinical and health care disciplines. The portal is part of the Faculty of Medicine in Hradec Králové.

Header: The top banner features the text "Multimedia support in the education of clinical and health care disciplines" and "Portal of Faculty of Medicine in Hradec Králové". Navigation links include "Peer reviewed" and "For authors". The Mefanet logo and university seals are on the right.

Left Sidebar: Contains links for "Czech version", "Search", "Educational websites", "Digital video", "Presentations", "Elearning courses", "Login", "Submit contribution", "Download", "Text version", and "Printable version".

Main Content Area:

- Welcome!** Content categorized according to fields of medicine. A grid lists various medical disciplines with icons, such as Anesthesiology and Intensive Care Medicine, Geriatrics, Hematology, and more.
- E-LEARNING COURSE: DONATION AND HARVEST OF CELLS AND TISSUES**: A detailed article about an e-learning course. It describes the course's purpose, content, and structure. The author is Pavol Hrabovský, and it was published on 20.4.2016.
- Topographical anatomy of limbs**: An article about an e-learning course for foreign students, focusing on topographical anatomy. The author is Pavol Hrabovský, and it was published on 9.11.2011.
- Selected infectious diseases of viral or bacterial origin**: A short article about infectious diseases. The author is Janka Bobáková, and it was published on 20.9.2015.
- medicalmedia.eu**: A section for the MedicalMedia.eu project, which aims to create a digital library of medical videos. The author is Pavol Hrabovský, and it was published on 9.11.2011.
- Lung cancer**: A section for lung cancer information.

Footer: The bottom of the page shows the website's address, "https://mefanet.fhkuni.cz/index-en.php", and a list of open applications like "klein2.jpg", "stažený soubor.jpg", "DAN", "Doručená pošta - M...", "Microsoft PowerPoi...", and "Educational Portal LF...".

Aim of the course

1. To make possible for the student:
2. 1. To obtain current and regularly updated information on the theoretical basis of the subject supplemented by examples from the practice of the tissue establishment.
3. 2. To obtain skill in preparation and presentation of seminar theses

Quantification of the aim

The student must complete the knowledge tests:

In the short he/she must answer correctly at least 3 questions from 5 ones selected randomly from the bank of questions

In the final test he/she must answer correctly at least 10 questions from 15 ones selected randomly from the bank of questions (8 questions belonging to the first, 7 to the second part of the main topic)

All questions are based on selection of only one correct answer from 4 options, if it is not specified otherwise

Study materials and bank of questions

The study materials are divided to obligatory and optional and are represented by:

- PPT presentations
- Full texts prepared at the authors workplaces
- Audio and video presentations
- List of recommended references and websites

The bank of questions consists of 22 questions covering the first part of the course and 20 questions covering the second one.

Study materials - Topic 1-Donation and Harvest: obligatory/optional

	Electronic study supports	Published texts	Audio and video presentations	Website addresses
First Czech version	1/0	1/0	1/0	0/1
First English version	2/0	1/0	1/0	0/0
Advanced English version	2/0	0/0	1/0	0/2

Content of electronic study supports

	First Czech version	First English version	Advan- ced English version
Total number of slides with text	31	58	66
Total number of static pictures	2	15	15
Total number of references	1	8	9

Discussion and conclusions

- The previous experience showed that the e-learning course may be a suitable support of the elective subject both in a Czech and English version
- The students accepted the new form of learning better than we expected
- In construction of the new version the parts covering practical aspects were enlarged (donor suitability, technique of harvest, laboratory testing etc.).

Examples from the practice of the tissue establishment



PRŮVODNÍ LIST ODEBRANÉ TKÁŇE PRO TKÁŇOVÉ ZAŘÍZENÍ

Místo odběru: _____ Odběrový tým: _____ Datum identifikace dárce a posouzení zdravotní způsobilosti: _____

IDENTIFIKACE DÁRCE

Jméno a příjmení dárce: _____		Rodné číslo: _____	
Příčina úmrtí: _____			
Datum úmrtí: _____	Race/etnická skupina a Rh faktor: _____	Pojistovna: _____	
Hodina úmrtí: _____	Hmotnost: _____	Výška: _____	

Virologie a serologie

HbSAg: _____	Anti-HCV: _____	RRR: _____
Anti-HbCAg: _____	CMV IgG: _____	TPLA/TPHA: _____
HIV 1,2, p24: _____	CMV IgM: _____	

ODBĚR

Specifikace tkáně: ☐ SRODCE ☐ CÍVNÍ ŠTĚP _____

JINÉ: _____

Datum a hod odběru: dne . / . 20 . . v . . hod. . . min.

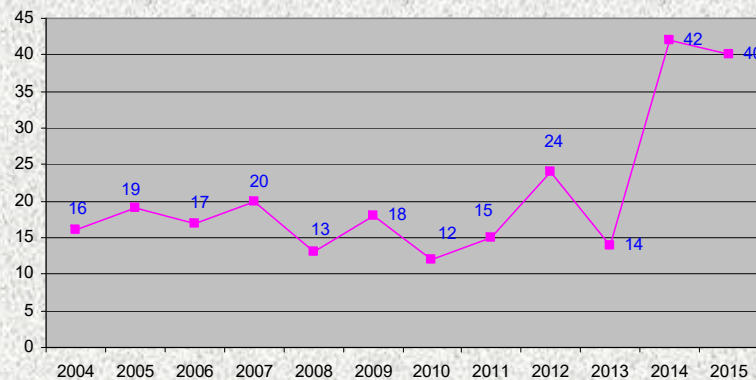
Odebrající chirurg: _____	MUDr. _____	Pracovník: _____
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Tělo zemřelého dárce bude převezeno na oddělení patologie/ soudního lékařství (jedna): _____

Posouzení způsobilosti dárce

	ANO	NE	Není známo
Neurální příčina úmrtí	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Arterická choroba nehmotné aterosklerotické povahy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cardiovaskulární onemocnění	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Arterická chronická systémová aterosklerotická onemocnění	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Arteriosklerotické onemocnění aterosklerotické povahy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Donation of tissues - deceased donors



Discussion and conclusions

- The experience from construction of the advanced English version was used in upgrading the first Czech version of the course
- We expect that this new version aimed at donation and harvesting issues will have a good potential of use in teaching clinical subjects

Financial support of the course

- Czech version was supported by the project:
- Innovation and development of the study programme general medicine at the Medical School Hradec Králové by means of information technologies (IT Medik) - CZ.1.07/2.2.00/15.0164
- There was not any special support for the English version. The project of support the study programmes in English is in the preparation, however.

Acknowledgement

- The authors wish to thank Ass Prof. J. Hanus, Ph.D. Head of the Chair of Biophysics and his team for the support in preparation of courses and the reviewers for valuable advice

References

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- Měřička,P.,Vít,P. : První zkušenosti s použitím audiovizuálního programu na praktických cvičeních z anatomie Sbor.věd prací LFKU v Hradci Králové, Suppl.17, 1974, p.207-216*
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- Warwick, R.M., Fehily, D., Brubaker, S.A., Eastlund, T.: Tissue and Cell Donation – an Essential Guide, Wiley-Blackwell Ltd., Oxford 2009, 277 p.*