

Tissue and cells transplantation from research to clinical use.

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In the Republic of Moldova, frozen or freeze-dried bone transplants, for the replacement of bone defects following various dysplastic, tumoral or post-traumatic processes, were imported from the laboratories of the Orthopedic - Traumatology Centers in Kiev, Kharkiv and Moscow, and have been practiced since 1960.

In 1962, at the initiative of Prof. L. Gladârevaschii and Prof. N. Testemițanu, the Tissue Preservation Laboratory was founded within the Republican Blood Transfusion Station in accordance with the order of the Ministry of Health of the Republic of Moldova, no. 46 of 28.02.1962, later, in 1966, this Laboratory was transferred to the Traumatology and Orthopedics Clinical Hospital. During the period 1962-1992 as the head of the laboratory Mr. Igor Ivanenco worked, and during the period 1993-2011 as the head of the Tissue Preservation Laboratory Mr. Dr. in medical sciences Ion Baciuc worked.

From November First, 2011, with the request of the Ministry of Health (directive of 06.10.2011), the process of creating the Human Tissue and Cell Bank within the IMSP SCTO was started, Viorel Nacu, Ph.D., university professor. The bank was placed in the premises of the Republican Combustion Center by designing and placing it in rooms adapted for this type of activity (input filter, reception, processing sector, clean room (sterile processing), storage sector, distribution sector, etc.), being equipped with equipment that allows the diversification of conservation methods and the broadening of the spectrum of grafts taken, processed and preserved (skeletal tissues, corneas, skin, amniotic membrane, auto cells from bone marrow, etc.). It is the only Bank of Human Tissues and Cells in the Republic of Moldova and is intended to provide IMSPs with transplants necessary for the treatment of patients with tissue deficiencies.

Within the Department of Operative Surgery and Topographic Anatomy of *Nicolae Testemițanu* SUMPh (V. Parfentieva, D. Razvodovschii, V. Dmitrienco) a method of preserving tissues in 0.5% formaldehyde with pH 7.3 was proposed. The scientific argumentation of the use of formalinized grafts for different regions of the locomotor system was elucidated in multiple doctoral theses and doctoral habilitation theses completed within the Department of Operative Surgery and Topographic Anatomy: I. Brus, doctoral thesis (1972), O. Bedencov doctoral thesis (1980), B. Topor, doctoral thesis and doctoral habilitation thesis (1980, 1992), L. Chiroșca, doctoral habilitation thesis (1989)

V. Remizov, doctoral habilitation thesis (1979), V. Nacu, doctoral thesis and doctoral habilitation thesis (2001, 2010), and within the Department of Orthopedics and Traumatology: I. Marin, doctoral habilitation thesis (1984), L. Iacunina doctoral habilitation thesis (1983).

During 10 years of activity of the HTCB in the Clinical Hospital of Orthopedics and Traumatology, diverse types of grafts from various tissues have been implemented and prepared:

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Numar total		180	145	243	327	431	582	551	648/649	551	462	700	558
Os cortical	53	137/119	165/144	225/173	384/234	91/201	285/173	149/188	122	130	50	116	96
Os prosopt congelat	0	0	0	0	0	0	0	135/104	646/524	203	134	327	306
Autogrefe osoase	0	0	0	0	0	0	1	3/2	44	0	0	0	0
Tendon		14/6	19/1	16/2	18/5	7/12	10/11	31/11	18/7	2	0	6	1
Cornee	0	0	0	63/40	45/44	40/19	42/28	35/36	27/25	45	14	6	20
Piele	0	0	0	27/2550 14/950	82/6763 87/7293	138/1665 9 78/9355	238/3318 3 133/1602 0	183/2601 7 143/2201 1	118/129	69	118/ 17128 cm2	77/ 8393cm2	0
Aznon	0	0	0	0	33/0	107/1377 3 84/6633	114/9757 114/1393 6	150/8399 69/3324cm2	102/74	101	129 (4110cm2)	147 9186cm2	115 (5255 cm2)
Maduva osoasă autologă	0	0	0	0	0	3/3	5/5	19/18	35/35	32	17	21	8
Fibroblaste autologă	0	0	0	0	0	3/0	0/0	2/0	1/1	0	0	0	0

The tissue bank is a component part of Orthopedic Hospital, but its purpose is not only the storage of bone grafts intended for transplantation, but also the collection, processing and preservation and distribution to National Medical Institutions the other types of grafts that were not accessible until 2011. In 2013, on March 22, the first allogeneic corneas were taken at the IMSP "St. Trinity", and on March 27, the first corneal transplant taken from HTCBB was performed. On March 28, 2013, the Human Tissue and Cell Bank was officially opened. Also, this year, on September 4, the first allogeneic skin sampling was performed, which was processed and preserved in 80% glycerin solution. On October 3, 2013, in the National Combustion Center in Orthopedic Hospital, to a 58-year-old patient underwent the first allogeneic skin transplant, covering 10% of the skin defects.

Conclusion. The modern tissue bank must be an adequately financed unit, equipped with modern equipment for harvesting, preservation and storage of tissue grafts that meet the requirements put forward by the profile structures of the European Union and the National Public Health services.

Key Words: Human Tissue and Cells Bank, Allogeneous Grafts, Tissue Bankin

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