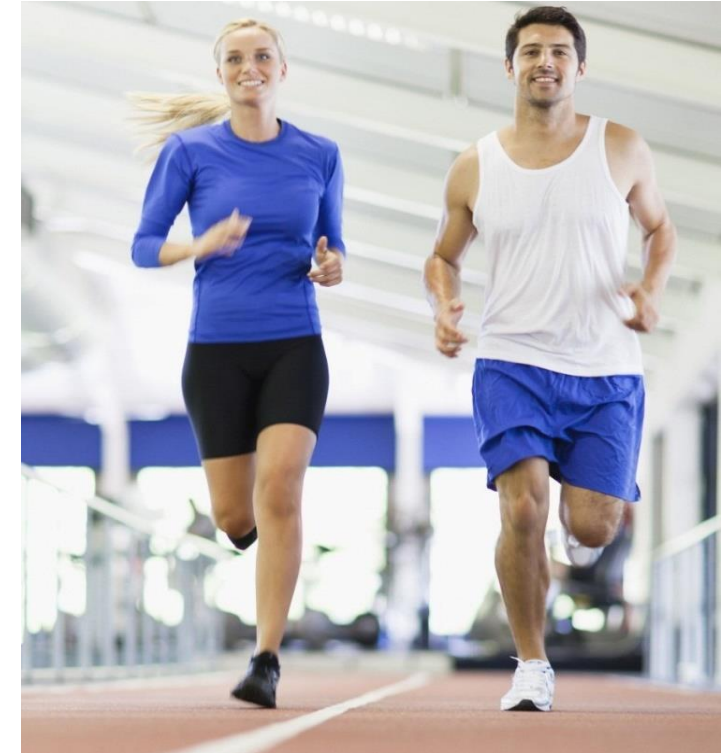




Co-funded by
the European Union



THE VALUE OF BIOIMPEDANCEOMETRY IN CLINICAL PRACTICE

KARAGANDA MEDICAL UNIVERSITY

TEAM OF KARAGANDA MEDICAL UNIVERSITY



Lyazat Ibrayeva,
MD, Professor,
Department of
Internal Medicine,
Pulmonologist



Irina Bacheva,
PhD, Associate
professor,
Department of
Internal Medicine,
Nephrologist



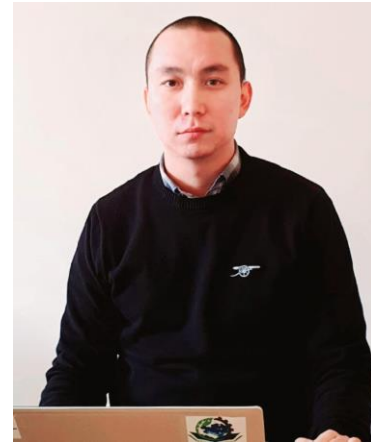
**Bayurzhan
Omarkulov**
PhD, Professor,
Department of
Family Medicine,
Gastroenterologist



Dina Rybalkina
PhD, Professor,
Department of
Internal Medicine,
Radiologist



**Tleuzhan
Abugaliyeva –**
PhD, Professor,
Department of
Family Medicine,
General
practitioner

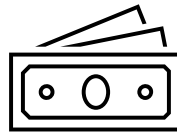


**Olzhas
Zhamantayev,**
MPH, Assistant
professor, School
of Public Health

All team members participated in the creation of this presentation

INBODY 770 EQUIPMENT

PURCHASED AS PART OF THE BERNICA PROJECT,
ERASMUS+



PRICE- 14 722,19 €

Purpose of purchase:

- Training students, residents, master's students, doctoral students, physicians
- for scientific research
- for use in clinical practice






WHAT IS INBODY 770 FOR?

InBody 770

- Trusted by top professionals in their field, the accurate and precise InBody 770 body composition analyzer provides standard data like Percent Body Fat, Skeletal Muscle Mass, and BMR, plus a specialized Body Water Result Sheet for double the outputs.
- Get advanced insights from exclusive outputs like Visceral Fat Area, Whole Body Phase Angle, and Reactance.
- <https://inbodyusa.com/products/inbody770/>


[InBody770]

ID	Height	Age	Gender	Test Date / Time
John Doe	5 ft 08.4 in	22	Male	04.23.2021 10:22

SEE WHAT YOU'RE MADE OF

Body Composition Analysis

	Values	Total Body Water	Lean Body Mass	Weight
Intracellular Water (lb)	70.5	109.6	149.9	163.3
Extracellular Water (lb)	39.0			
Dry Lean Mass (lb)	40.3			
Body Fat Mass (lb)	13.4			

Muscle-Fat Analysis

Weight (lb)	163.3
SMM (lb) Skeletal Muscle Mass	87.5
Body Fat Mass (lb)	13.4

Obesity Analysis

BMI (kg/m ²) Body Mass Index	24.1
PBF (%) Percent Body Fat	8.2

Segmental Lean Analysis

		ECW/TBW
Right Arm (lb) (%)	9.04 / 124.4	0.368
Left Arm (lb) (%)	8.91 / 122.5	0.368
Trunk (lb) (%)	67.3 / 116.0	0.357
Right Leg (lb) (%)	22.51 / 111.3	0.352
Left Leg (lb) (%)	22.60 / 111.7	0.355

ECW/TBW Analysis

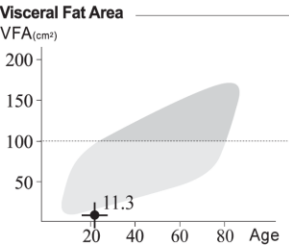
ECW/TBW	0.357
----------------	-------

Body Composition History

	02.16.21	02.21.21	03.08.21	03.19.21	03.28.21	04.02.21	04.13.21	04.23.21
Weight (lb)	164.2	163.0	163.2	163.3	163.5	162.1	162.8	163.3
SMM (lb) Skeletal Muscle Mass	88.5	89.2	87.1	87.2	88.0	87.1	86.5	87.5
PBF (%) Percent Body Fat	9.0	8.5	8.7	8.0	9.2	8.5	8.3	8.2
ECW/TBW	0.357	0.362	0.359	0.358	0.362	0.360	0.356	0.357

Recent
 Total

Visceral Fat Area



VFA (cm²)

Age

Body Fat - Lean Body Mass Control

Body Fat Mass - 0.0 lb

Lean Body Mass + 0.0 lb

(+) means to gain fat/lean (-) means to lose fat/lean

Segmental Fat Analysis

Right Arm (0.2 lb) 16.7%

Left Arm (0.2 lb) 16.7%

Trunk (6.0 lb) 62.1%

Right Leg (2.2 lb) 59.6%

Left Leg (2.2 lb) 59.5%

Basal Metabolic Rate

1838 kcal

Leg Lean Mass

45.1 lb

TBW/LBM

73.1 %

Reactance

	RA	LA	TR	RL	LL
Xc(Ω) 5kHz	18.7	19.0	2.2	19.5	18.6
50kHz	27.6	27.7	3.5	30.6	29.8
250kHz	19.8	18.4	1.6	19.5	19.6


Whole Body Phase Angle

7.3 °

	RA	LA	TR	RL	LL
φ (°) 50kHz	6.7	6.6	9.4	7.8	7.8

Results Interpretation QR Code

Scan the QR Code to see results interpretation in more detail.



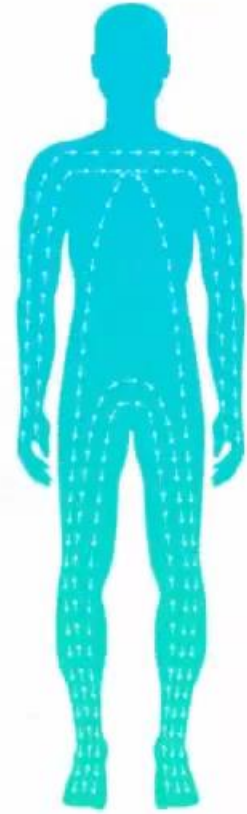
Impedance

	RA	LA	TR	RL	LL
Z (Ω) 1kHz	291.2	295.4	27.4	282.4	274.6
5kHz	282.1	286.2	26.6	273.1	266.3
50kHz	236.3	240.6	21.5	224.2	219.9
250kHz	206.3	210.6	17.1	193.9	189.8
500kHz	198.4	202.4	15.5	186.9	182.8
1000kHz	193.5	197.3	14.8	181.6	177.6

770Mym1.0 Copyright©1996 - by InBody Co., Ltd. All rights reserved. BR-USA-C7-A-131106



HOW DOES
BIOIMPEDANSOMETRY WORK?





OWN EXPERIENCE WITH INBODY 770



CONCLUSION

Bioimpedanceometry



- is an important, relevant, accessible, reproducible method for monitoring human body composition
- a tool for managing detected abnormalities and correcting nutritional status
- its use allows trainees to expand their competencies in patient health management

REFERENCE LIST

1. Silva A.M., Campa F., Stagi S. The bioelectrical impedance analysis (BIA) international database: aims, scope, and call for data // Eur J Clin Nutr. 2023. Vol. 77, №12. P. 1143-1150. DOI: <https://doi.org/10.1038/s41430-023-01310-x>.
2. Bellido D., García-García C., Talluri A., Lukaski H.C., García-Almeida J.M. Future lines of research on phase angle: Strengths and limitations // Rev EndocrMetabDisord. 2023. Vol. 24, № 3. P. 563-583. DOI: <https://doi.org/10.1007/s11154-023-09803-7>.
3. Eyre S., Stenberg J., Wallengren O. et al; SWEBIS network. Bioimpedance analysis in patients with chronic kidney disease // J Ren Care. 2023. Vol. 49, № 3. P. 147-157. DOI: <https://doi.org/10.1111/jorc.12474>.
4. Prosecky R., Kunzova S., Kovacovicova P. et al. Association of anthropometric and body composition parameters with the presence of hypertension in the Central European population: results from KardioVize 2030 study // ActaCardiol. 2023. Vol. 78, № 5. P. 614-622. DOI: <https://doi.org/10.1080/00015385.2023.2192153>.
5. De Benedetto F., Marinari S., De Blasio F. Phase angle in assessment and monitoring treatment of individuals with respiratory disease. // Rev EndocrMetabDisord. 2023. Vol. 24, № 3. P. 491-502. DOI: <https://doi.org/10.1007/s11154-023-09786-5>.
6. Muramae N., Matsuda T., Inagaki S. et al. Determinants of phase angle in Japanese patients with diabetes // Diabetol Int. 2023. Vol. 14, № 4. P. 339-343. DOI: <https://doi.org/10.1007/s13340-023-00633-1>.
7. Gyorfí N., Gal A.R., Fincsur A. et al. Novel Noninvasive Paraclinical Study Method for Investigation of Liver Diseases // Biomedicines. 2023. Vol. 11, № 9. e. 2449. DOI: <https://doi.org/10.3390/biomedicines11092449>.
8. Lee G.R., Kim E.Y. Usefulness of phase angle on bioelectrical impedance analysis as a surveillance tool for postoperative infection in critically ill patients // Front Med (Lausanne). 2023. № 10. e 1111727. DOI: <https://doi.org/10.3389/fmed.2023.1111727>.
9. da Silva B.R., Orsso C.E., Gonzalez M.C. et al. Phase angle and cellular health: inflammation and oxidative damage // Rev EndocrMetabDisord. 2023. Vol. 24. №3. P. 543-562. DOI: <https://doi.org/10.1007/s11154-022-09775-0>.
10. Zanella P.B., Àvila C.C., Chaves F.C., Gazzana M.B., Berton D.C., Knorst M.M., de Souza CG. Phase Angle Evaluation of Lung Disease Patients and Its Relationship with Nutritional and Functional Parameters // J Am Coll Nutr. 2021. Vol. 40. № 6. pp. 529-534. doi: 10.1080/07315724.2020.1801535.
11. Tsilingiris D, Schimpfle L, Kender Z, Sulaj A, von Rauchhaupt E, Herzig S, Szendroedi J, Kopf S. Utility of bioelectrical phase angle for cardiovascular risk assessment among individuals with and without diabetes mellitus. // DiabVasc Dis Res. 2024. Vol. 21. №1/ e 14791641231223701. DOI: <https://doi.org/10.1177/14791641231223701>.
12. Hua S., Yao D., Wu S., Chen M., Li L., Li B. Association between visceral fat area and diabetic retinopathy among people with type 2 diabetes mellitus: a cross-sectional study in Ningbo, Zhejiang Province, China // Front Med (Lausanne). 2024. №11. e1327805. doi: 10.3389/fmed.2024.1327805.

