BODY**GRAM**®

DASHBOARD

The most advanced and
complete software
for body composition
assessment

Science in body composition

AKERN
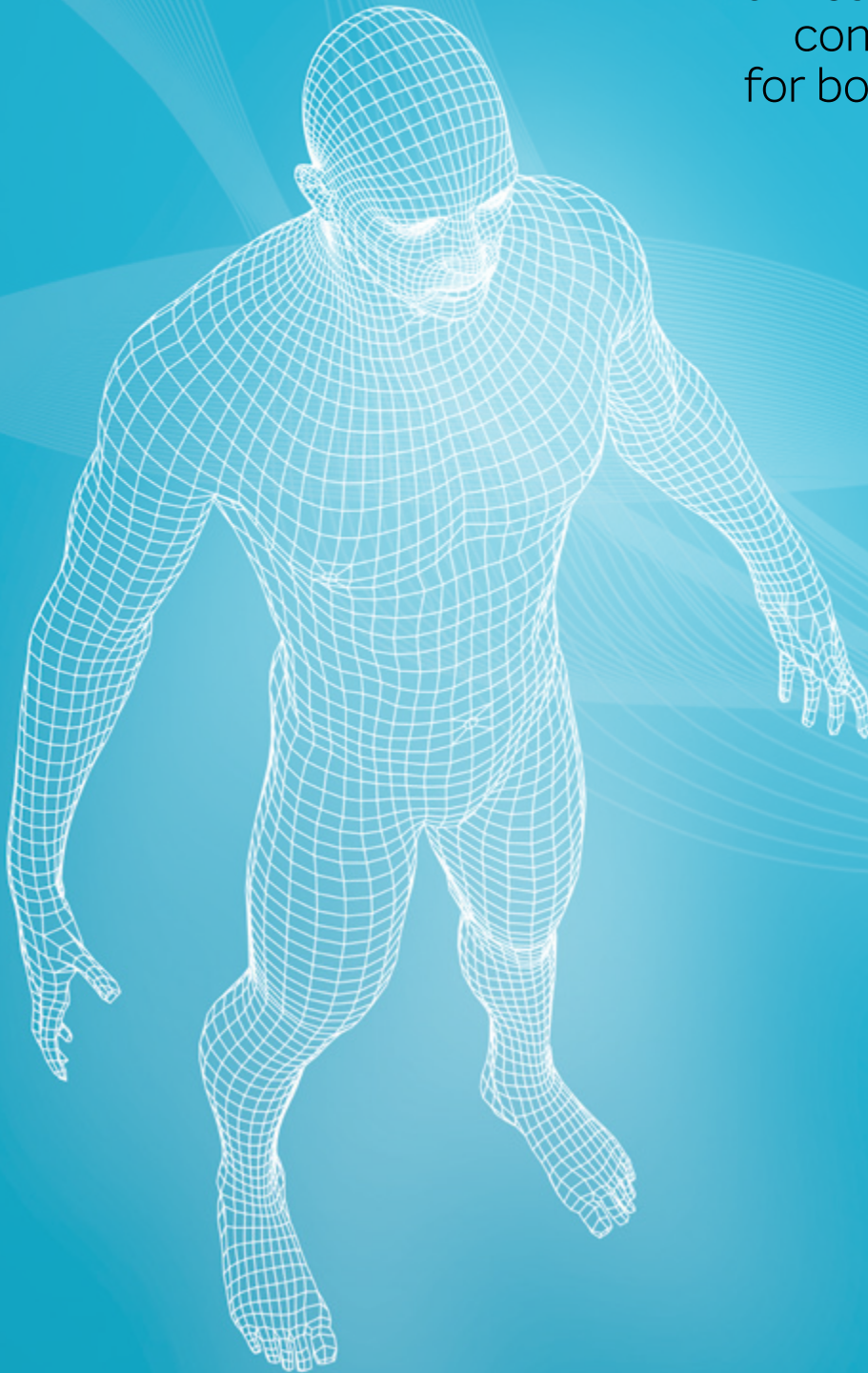
BODY**GRAM**®
DASHBOARD

The most advanced software for body composition assessment: powerful, flexible and complete.

BODYGRAM® Dashboard is the latest software version for body composition data analysis and interpretation. Developed to provide accurate, reliable and clinically relevant results, it incorporates Akern's scientific progress and knowledge in body composition.

Akern®'s progress and innovation in your hands

With more than 40 years of Research & Development, over **4000 peer reviewed articles** and a global market distribution, Akern® solution is considered the reference for body composition experts.

Reliable and clinically relevant results now even more specific with the functional APPs

BODY**GRAM**® | **APPs**

FITNESS | **APP**
For more specific results

REGIONAL | **APP**
For more specific results

KETO | **APP**
For more specific results

Main functions

BIAVECTOR® NOMOGRAM

Akern® has been the first company in 1994 to introduce the Bioelectrical Impedance Vector Analysis (BIVA) within a body composition software. The Biavector® offers a direct interpretation of the hydration and nutritional status and is based on normal bivariate statistic distribution of over 20.000 subjects. Being based only on tissue electrical properties, body mass and volume assessments are not influenced by errors derived from predictive equations (standard BIA analysis). Impedance data interpretation further evolved with the introduction of Hydragram® and Nutrigram® scales.

HYDRATION: THE HYDRAGRAM® SCALE

Hydragram® provides the true hydration state of the subject by giving the percentage of fluids in the fat free mass. Percentage values correlate with the position of the impedance vector on the Biavector® nomogram and follow the displacement along the major axis. Hydragram® classifies subjects as Hyperhydrated, Normohydrated, or Dehydrated according to the Moore et al curves[1]. Subjects with altered hydration can be further stratified according to the degree of fluid alteration (mild, moderate or severe). The use of the Hydragram® scale for hydration state evaluation and monitoring has been spreading increasingly also in clinical setting in association with other specific biomarkers such as BNP, ProBNP, nGAL3 [2, 3, 4].

NUTRITION: THE NUTRIGRAM® SCALE

Nutrigram® provides an estimate of creatinine excretion (Ucr / 24h) calcutaded directly from the body cell mass. Creatinine is an indirect product of muscle cells totally secreted by the kidney. The amount of creatinine detected in the 24h is used as a parameter to define the subject's cellular mass. Nutrigram® values correlate with the position of the vector on the Biavector® nomogram and follow the displacement along the minor axis. This parameter was recently validated and is of high value in the management of patients at high risk of malnutrition who require timely nutritional support [5].

INDICES FOR SCREENING AND DIAGNOSIS OF MALNUTRITION AND SARCOPENIA ASSESSMENT

Fat Free Mass Index (FFMI) and **Fat Mass Index (FMI)**: BODYGRAM® software can monitor the nutritional status over time through the use of FFMI and FMI curves for Caucasian subjects from 18 to 98 years of age.

Appendicular Skeletal Muscle Index (ASMI): This parameter represents the quantity of muscle mass in the four limbs. By applying the equation developed by prof. Sergi et al [6,7], using DXA as reference method, a highly specific and sensitive marker for low muscle condition is provided . ASMI equation by Akern has been formally recognized by the European consensus for Sarcopenia diagnosis (EWGSOP 2).

Standardized Phase Angle (SPA): This value represents the Phase angle (PA) adjusted for sex, age and BMI. The PA "normal range" (expressed in percentiles) changes according to age, sex and BMI, therefore, Standardized phase angle (SPA), allows to compare individuals with different sex and age and BMI[8].

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Enhanced features

CE MEDICAL DEVICE
CE 1370

BODYGRAM® is CE marked Class I Medical Software.

UNLIMITED ACCESS TO EXAMS ANYWHERE
BODYGRAM® is accessible from any type of device and compatible with the most popular OS: MacOS, iOS, Windows, Android on desktop, smartphone or tablet.

PERIODICAL SCIENTIFIC UPDATE
BODYGRAM® is constantly up-to-date to guarantee a professional analysis tool always aligned with the clinical research progress.

ONLINE AND OFFLINE WORKSPACES
BODYGRAM® offers two different workspaces: Online on a dedicated server platform and Offline with Desktop application (for Windows and MacOS).

GDPR COMPLIANCE
BODYGRAM® Patient data management is in accordance with the GDPR (EU regulation 2016/679).

AUTOMATIC DATABASE IMPORT
Migration to **BODYGRAM®** platform does not result in data loss. Your database will be imported automatically at you first log in.

CUSTOMIZED REPORTS
BODYGRAM® includes a new tool to create customized reports to address different patient management needs. Total freedom in choosing report elements to better guide the patient along his path.

COMPLETE STRUCTURE
The new **BODYGRAM®** software incorporates in a single application all functions included in the add-on modules of previous platform.

BACK-UP AND DATA STORAGE
BODYGRAM® includes an automatic Cloud based data back-up system and a data recovery function.

References:

1) Moore, Francis D., and Caryl Magnus Boyden. *"Body cell mass and limits of hydration of the fat free body: Their relation to estimated skeletal weight."* Annals of the New York Academy of Sciences 110.1 (1963): 62–71.

2) Valle, Roberto, et al. *"Optimizing fluid management in patients with acute decompensated heart failure (ADHF): the emerging role of combined measurement of body hydration status and brain natriuretic peptide (BNP) levels."* Heart failure reviews 16.6 (2011): 519–529.

3) Massari, Francesco, et al. *"Bioimpedance vector analysis predicts hospital length of stay in acute heart failure."* Nutrition 61 (2019): 56–60.

4) Maioli, Mauro, et al. *"Bioimpedance-guided hydration for the prevention of contrast-induced kidney injury: the HYDRA study."* Journal of the American College of Cardiology 71.25 (2018): 2880–2889.

5) Cereda, Emanuele, et al. *"Validation of a new prognostic body composition parameter in cancer patients."* Clinical Nutrition (2020).

6) Sergi, Giuseppe, et al. *"Assessing appendicular skeletal muscle mass with bioelectrical impedance analysis in free-living Caucasian older adults."* Clinical nutrition 34.4 (2015): 667–673.

7) Cruz-Jentoft, Alfonso J., et al. *"Sarcopenia: revised European consensus on definition and diagnosis."* Age and ageing 48.1 (2019): 16–31.

8) Cornejo-Pareja, Isabel, et al. *"Phase angle and standardized phase angle from bioelectrical impedance measurements as a prognostic factor for mortality at 90 days in patients with COVID-19: A longitudinal cohort study."* Clinical Nutrition (2021).

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