

FLOWPRESSO AND FLUID BALANCE:

Enhancing Intracellular Fluids While Reducing Extracellular Fluid Retention.

INTRODUCTION

The fluids of the body are primarily composed of water, which in turn contains a multitude of substances. As the distribution of the fluid in the body and the substances found within is critical for the maintenance of intracellular and extracellular functions, pivotal to survival, the body has developed mechanisms to control compartment composition tightly. With acute or chronic illness, ICF volume is reduced, and ECF volume is increased and may even exceed the ICF volume.

CELLULAR LEVEL

At a cellular level, the distribution of the various fluid compartments in the body is paramount for the maintenance of health, function, and survival. For the average 70 kg man, 60% of the total body weight is comprised of water, equalling 42L. The body's fluid separates into two main compartments: Intracellular fluid volume (ICFV) and extracellular fluid volume (ECFV).

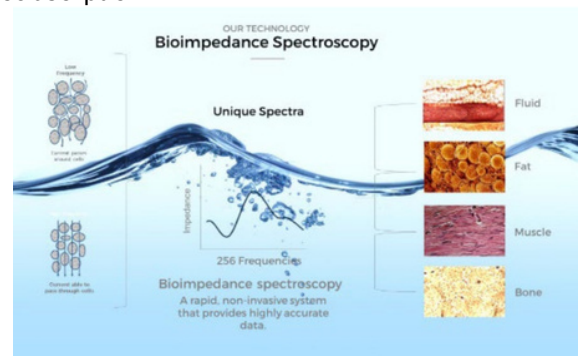
- Of the 42L of water found in the body, two-thirds of it is within the intracellular fluid (ICF) space, which equates to 28L.
- The ECFV is comprised of two spaces: The interstitial fluid volume (ISFV) and the plasma volume (PV). One-third of the total body water is the ECFV, which is equivalent to 14L. Out of the extracellular fluid volume, 75% or 10.5L of the volume is present in the interstitial space, and 25% of that water is in the plasma, which is equivalent to 3.5L.^{2 3}

Water balance is maintained by altering the intake and excretion of water. Intake is controlled by thirst, whereas excretion is controlled by the renal action of antidiuretic hormone (ADH). In health, plasma osmolarities of about 280 mOsm/kg suppress plasma ADH to concentrations low enough to permit maximum urinary dilution. Above this value, an increase in ECF tonicity of about 1–2% or a decrease in total body water of 1–2 litres causes the posterior pituitary to release ADH, which acts upon the distal nephron to increase water reabsorption.⁴

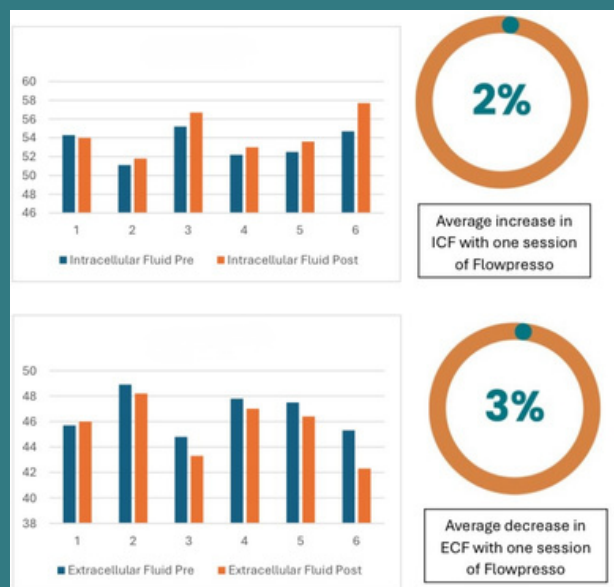
OUR METHOD

Six patients were enrolled to undertake a 40min Flowpresso Session. These patients had varying conditions ranging from sleep deprivation, long covid and post cancer surgery.

A SOZO BIS was completed pre and post therapy to measure the effects on ICF and ECF.



RESULTS



MEASUREMENT

ImpediMed's SOZO BIS technology has been studied in more than 500 peer-reviewed, published articles and over 40 different disease states or medical conditions. These studies have demonstrated the utility of BIS in monitoring fluid status and tissue composition for multiple purposes including the management of chronic diseases.

Bioimpedance measurements are taken by sending a painless electrical current through the body and measuring the body's resistance and reactance to this electrical current. ImpediMed's BIS technology uses these signals to quickly and non-invasively assess fluid and tissue status.

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3. Physiology, Water Balance. Abraham Tobias; Brian D. Ballard; Shamim S. Mohiuddin.
4. Fluid and electrolyte therapy. Anthony Delaney, Simon Finfer, Oh's Intensive Care Manual (Seventh Edition) 2014, Pages 949-959.e2