

**Peer Review Conducted By : Curtis Poindexter M.D.  
Hydration Study – Water Product 1**

**March 2006**

**Clinical Trials Performed By Optimal Wellness**

**Hydration**

Almost all of the bio-chemical reactions that occur in body cells depend on water. It is vital to maintaining life but also affects physical and mental performance. Water plays many roles within the body; as a media for, and contributor to molecular interactions, as a solvent, a structure-former, a waste remover, a thermoregulator, a lubricant, a shock absorber and a vehicle to distribute nutrients, metabolites, hormones and other materials around the body and within the cells.

In 2005, The International Life Sciences Institute stated that the role of hydration in the maintenance of health is *critical*. Studies in healthy adults show that even mild dehydration can impair a number of important aspects of cognitive function such as concentration, alertness, and short-term memory. We cannot live without water for more than about 100 hours, whereas other nutrients may be neglected for weeks or months. Inadequate hydration can cause a range of symptoms from tiredness, headaches and decreased alertness to even collapse and death. No other nutrient is more essential and required in as great amounts.

When discussing hydration, however, it is important to delineate the two types of hydration that are necessary in the body which are intra cellular hydration and extra cellular hydration.

Extra cellular water is found between body cells (and is most commonly discussed when assessing hydration levels) however the water inside the cell (intra cellular) is just as critical, if not more so, to individual wellness. Research in the field of cellular hydration has shown that when individual cells become dehydrated, a catabolic state is triggered accompanied by muscle wasting, cell hypoxia (oxygen starvation), DNA damage, and accelerated aging. As a result the cell becomes more sensitive to free radicals and more susceptible to viruses and autoimmune diseases. Virtually all symptoms of aging can be traced to cellular dehydration accompanied by free radical damage

When cells are adequately hydrated, however, this triggers an anabolic mechanism in the body, which is accompanied by positive nitrogen balance, protein synthesis, and growth hormone release, even in older subjects. Improved cellular hydration also results in a reduction of cell acidity, reduced autoimmune response, increased fat burning, DNA repair, and increased resistance to viruses.

Current scientific theory shows that waters are not all created equal in their ability to increase hydration *at the cellular level*

## **Hydration Measurements**

Some current methods that are available for hydration monitoring include weight monitoring, urine and/or saliva tests and Bio Impedance methods. These methods, while easy to use and fairly inexpensive, generally lack the precision and accuracy necessary for consistent repeatable hydration monitoring and to date are not supported by strong clinical data. Blood tests which are a more accurate monitoring method are impractical due to cost, time and the invasive nature of the tests.

## **The Product**

Water Product 1 is bottled, ready to drink, purified water product. There have been no outside forces used to produce this product. The bottling plant is compliant with state and federal guidelines for ready to drink bottled water. This all-natural water product is a clear liquid with no visible solids anywhere in the bottle.

## **Testing Purpose**

The focus of this Human Clinical Study involved subjects drinking two different waters (Water Product 1 and Water Product 2) to determine if one water product can hydrate the body more effectively than the other.

The test was based on changes observed in intra-cellular hydration and whether or not drinking Water Product 1 or Water Product 2 water could move a subject closer to optimal hydration levels and to what extent.

## **The Water Product 1 Trial**

Human Clinical Trials were performed by Optimal Wellness using Water Product 1 and Water Product 2 under standard double-blind clinical testing methods. The purpose of the study was to evaluate Water Product 1 bottled water and Water Product 2 bottled water, using a scientifically proven method of measuring intracellular hydration.

The study consisted of 100 human subjects selected by the inclusion/exclusion method with varied beginning hydration levels, ages, exercise levels, race, sex, and health. Following an initial screening at the Visit 1 (week-0), subjects entered a 1 week baseline period (subjects refrained from taking any unnecessary OTC's, prescription drugs or natural products for the remainder of the study).

Subjects who met all inclusion and none of the exclusion criteria at the check at Visit 2 (week-1) were randomized thereafter into the randomized product period of the study during which they received either Water Product 1 or Water Product 2 (in un-marked bottles) in double-blind fashion. Each subject was instructed to drink one-half of their weight in ounces daily of only the provided water.

Final evaluations of test subjects were done on visit 3 (week-2) of this study. The focus of this Human Clinical Study involving subjects drinking two different waters to determine if one can hydrate more effectively than the other is done on the basis of increasing intracellular hydration.

All subjects were instructed to make no changes in their standard daily diet and compliance was monitored and maintained through bi-weekly phone calls.

## **Optimal Wellness - The Technology**

The owner of Optimal Wellness, Melonie Montgomery, is the developer of proprietary analysis technology, *The Fenestra Analyzer*, which uses a mathematical formula for calculating intra-cellular hydration. This technology has already been accepted and endorsed by both natural product and specialized water industries as a superior form of testing. It measures four key parameters:

**Conductivity** – how well cells communicate with each other.

**Resistivity** – how well cells receive nutrients and discard waste.

**Surface Tension** – how well water is flowing in and out of cells.

**Specific Gravity** – how much foreign matter is introduced to the body by water.

This technology uses cutting-edge science to evaluate health at the cellular level. Objective testing procedures are the basis for this analysis and there is no subjective input from the tester. A computer-based software program provides print-outs with any cellular imbalances brought to light.

## **The Test Results**

The results of the study were as follows:

	<b>Water Product 1</b>	<b>Water Product 2</b>
<b>Overall Intracellular Hydration</b>	<b>+24.5%</b>	<b>+5.3%</b>
<b>Components:</b>		
<b>Conductivity</b>	<b>+6.0%</b>	<b>0%</b>
<b>Resistivity</b>	<b>+5%</b>	<b>-4%</b>
<b>Surface Tension</b>	<b>+3%</b>	<b>+4%</b>
<b>Specific Gravity</b>	<b>0%</b>	<b>-9%</b>

The Water Product 1 product exhibited an average 24.5% increase in intracellular hydration improvement whereas the commercially available water product (Water Product 2) showed only a 5.3% increase in hydration, consistent with other previously tested commercially available waters.

In this Human Clinical Study of Water Product 1 VS Water Product 2 water there is a clear separation between the two products in regards to their Conductivity, Resistivity, Surface Tension, and Specific Gravity measurements (both invetro and the samples taken from the 100 test subjects).

Other significant findings were; pH results from the group drinking Water Product 2 were decreased by 6%, resistivity results from the Water Product 2 group were also increased past Wellness ranges by 4%, and conductivity numbers in the group drinking Water Product 1 were improved by 6%.

From my review of all available documentation, I can confirm that the technology, evaluation process, and methodology used in this trial are sound, and consequently can support the results obtained by Fenestra Research Labs.

**As a result, I am confident that there has been a clear demonstration that Water Product 1 Water currently exhibits hydration properties which are superior to the Water Product 2 Water.**

# Curriculum Vitae

Curtis W. Poindexter M.D

**Date of Birth:** December 7, 1960

**Birthplace:** San Antonio TX

**Business Address:**

Mountain Rehabilitation Services  
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**Phone:** (702) 732-8558

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**College:** University of Texas at San Antonio, BS in Biology (1978)

**Medical School:** University of Texas Health Science Center, San Antonio Texas  
M.D. (May 1987)

**Internship/Residency:** Combined Internal medicine and physical medicine and  
rehabilitation. Director Joseph Biundo MD (July 1987 – June 1991)

**Certification:** Diplomat of FLEX (Federal Licensure Examination) 1987  
Diplomat of American Academy of Pain Management

**Medical Licensure:** Nevada #6334 1991  
Louisiana #019753, 1988 – Not active

**Positions Held:** Medical Director – Outpatient therapy services, Healthsouth  
Corporation (1993 – 2003)

Medical Director – Horizon Specialty Hospital (1993 – 1996)

Medical Director – Outpatient Traumatic Brain Injury Services,  
Nevada Community Enrichment Program (NCEP) (1993 – Present)

Director of Rehabilitation LifeCare Center (1995 – 1998)

Co-Medical Director Summerlin Medical Center – Rehabilitation  
Unit (1997 – 1999)

Medical Director – In House Home Health (2002 – Present)

**Hospital Privileges:** Desert Springs Hospital  
HealthSouth Rehabilitation Hospital  
Horizon Specialty Hospital  
Sunrise Hospital  
LifeCare Center (East and West)  
Summerlin Medical Center  
Sunrise Mountain View Hospital  
University Medical Center  
Valley Hospital

**Affiliations:** American Congress of Rehabilitation Medicine (2004 – 2005)  
American Academy of Pain Management  
American Medical Association  
Clark County Medical Society  
Nevada State Medical Association

**Post Graduate:** Annual Combined Meetings  
American Congress of Rehabilitation Medicine and American  
Academy of Physical Medicine Rehabilitation, San Antonio Texas  
(1989)

Annual Combined meetings  
American College of Rehabilitation Medicine and American  
Academy of Physical Medicine and Rehabilitation, Phoenix Arizona  
(1990)

American Medical Directors Association, March 1995  
Back Conference, Las Vegas, NV 1994

Association of Disability Examiners, 1995

American Academy of Physical Medicine and Rehabilitation Review  
Course 1996

American Academy of Pain Management Conference 1997, 1998,  
2000, 2004

**Peer Reviews:** Workers Compensation Insurance  
United Healthcare