

# Stem Cell Medicine Jumps to Warp Speed: The Flight of the Phoenix II

By

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As a boy I was enthralled with the premier and run of the original visionary TV series “Star Trek” (1966-1969). Naturally I welcomed the spate of movies and the various incarnations such as “ST: Deep Space Nine” and “ST: Voyager.” Like many baby boomers, Gene Roddenberry’s optimistic science-fiction on-screen world inspired some aspect of my subsequent pursuits in the sciences. If you were similarly influenced, good for you!

Whether you are a fan of Star Trek or not, I hope you saw the movie, “Star Trek: First Contact” because it bears directly on what I am about to share.

For those who have only a nodding acquaintance with ST, the focus of this particular movie is on the launch and successful flight of the first warp (faster-than-light) space craft dubbed the “Phoenix” on April 5<sup>th</sup>, 2063. In the ST world, this ship is the brainchild of a maverick (and often inebriated) genius named Zefram Cochrane, who pilots the inaugural flight despite a deep-seated dislike of flying.

Following its launch and achievement of warp speed, the Phoenix’s flight is detected by an alien (Vulcan -- remember “Mr. Spock”?) vessel which happens to be passing through our solar system on a routine scientific survey. The Vulcans trace the Phoenix to its launch site and wind up landing near-by and disembarking. This epochal “first contact” meeting, of course, decisively retires the notion that our species is alone in the universe and sets in motion societal and other changes that culminate in the birth of the “Federation of Planets”.

So what does this have to do with the price of corn? I’ll tell you.

In-a-nutshell: I have had the good fortune to be involved with a group of researchers has basically come up with the biological equivalent of warp drive. That is, they have pioneered literally revolutionarily technology that truly is poised to send stem cell (regenerative/restorative) medicine into high orbit. These patent pending brainchildren are now being used as part of experimental clinical work done with intractably and terminally ill folks in Mexico and elsewhere, where the regulatory atmosphere allows these kinds of “warp trips” much more readily than here stateside.

What makes this technology so unique? Of course, I cannot divulge proprietary information as this would “give away the store” to those who would capitalize on this work, most likely at the expense of those our group intends to benefit from it. But I can share the gist of these advances:

- ❖ One method involves taking various bone marrow stem and precursor cells including [Bone Marrow-isolated adult multilineage inducible \(MIAMI\) cells and other bone marrow derived multilineage cells](#) and program them to seek out specific tissues or organs in the human body and then take their cue from their environment (niche) and become neurons, heart cells, stomach cells, or what-have-you.
- ❖ Another involves a technologically innovative, sophisticated method for getting cells to replicate quickly but without “running wild” (as is the case with cancer). Weller’s patent attorney, who has 30+ years experience in the patent field and was a patent examiner with the [US Patent & Trademark Office](#) (USPTO) in Washington, DC for many years, stated that this technology is indisputably the most revolutionary he has ever seen.

Of course, these truly world class inventions and the cells they give rise to are only part of the story. I, in my work as a biomedical theoretician, provide input to the bench people and the clinical researchers concerning ways to make what they do work better.

Among the early clinical successes facilitated by this body of transdisciplinary work:

- **Chronic Obstructive Pulmonary Disease (Emphysema) – July 2009 – Present (2010):** A 60 year old female patient who received two (2) separate cell treatments over a seven (7) month period-of-time along with a customized and experimental support regimen including novel inhalation therapy went from using 5 lpm supplemental oxygen to zero, and had her longstanding shortness of breath abated entirely (This occurred while she was at sea level for. Some symptoms returned after her return to her mountain home). Two patients who received cells only experienced far fewer clinical improvements, which underscores the importance and therapeutic impact of Biogenesis's patient customized support regimens.
- **Primary Progressive Multiple Sclerosis – February 2010:** A male patient in his late 30s was placed on a special regimen to help ramp down the autoimmune activity and neuroinflammation at work in his body (2009). During February 2010 he was treated with a unique cocktail of stem & progenitor cells by IV, intrathecal and catheter means. Shortly after his treatment he began moving the toes on his feet for the first time in 7 years. Many additional improvements are anticipated to unfold in the weeks and months to come.

These technologies and supportive regimens will ultimately be licensed to select clinics and hospitals located in countries whose health regulatory agencies fast track getting discoveries from the lab into the clinical environment.

To me, this confluence of inventions, discoveries and complementary protocols constitutes the biological equivalent of Star Trek’s fictional warp speed technology. In honor of this, I dubbed this marriage of bench and clinical innovation the “Phoenix II.” In my mind’s eye, I can’t help but conjure up images from “Star Trek: First Contact” of the [Phoenix lifting off from its launch pad](#) and soaring into the heavens.

It is a quaint and perhaps even melodramatic bit of mental imagery, but I think the analogy holds up. What the Phoenix II stands to do for medicine – for turning the tables on many insidious and possibly later on even aging itself – is very real and no pipedream or fantasy. Have your doubts? Keep your eyes on what unfolds during the next two years or so. I fully expect skepticism to give way to unbridled enthusiasm and even astonishment in the not so distant future.

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